

RETAILER RELIABILITY OBLIGATION REFORM

ISSUES & DISCUSSION PAPER

MAY 2021



PREFACE

This paper aims to shed light on the Energy Security Board Post 2025 Market Design Options paper and proposed reforms to Physical Retailer Reliability Obligations. These reforms, if adopted, would ultimately result in an increase in costs to consumers, impose increased barriers to retail competition, increase market concentration and stifle innovation.

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EXECUTIVE SUMMARY

The Energy Security Board (ESB) is proposing to introduce a new obligation for retailers to buy and surrender physical generation certificates. In effect, this will force retailers to pay revenue to dispatchable generators, the majority of which are fossil-fuelled powered.

The proposed scheme is referred to as a Physical Retailer Reliability Obligation (PRRO) in the recently released ESB Post 2025 Market Design Options Paper¹ (ESB Options Paper). However, it is clear the proposal intends to replace the existing Retailer Reliability Obligation (RRO) with a decentralised capacity market under the guise of a PRRO.

The ESB argues the scheme would address reliability concerns, despite providing no evidence these concerns aren't already being addressed by the influx of renewables and storage.

In practice, this proposal is only going to result in energy consumers subsidising ageing thermal generators; a virtual tax on electricity aimed at prolonging the operation of coal generators beyond their efficient commercial lifetime. Investors do not see the proposed scheme will deliver new resources, and in fact implementing a complex new market would chill investment. With existing safety nets and new essential system services being implemented by the ESB, the market has and will continue to provide pricing and incentives for capacity and will be well suited to adapt to a rapidly changing environment.

The negative effects of this proposal are expected to fall most heavily on small retailers, harming innovation and slowing the growth of demand flexibility. Further, this proposal is likely to add significant new uncertainty to business cases for new dispatchable capacity, undermining new investment in storage needed to complement renewables. Not only will this be costly for energy consumers, but it will make meeting state environmental targets more difficult and costly and detract from long-term climate ambitions in Australia.

The key challenges presented by the transition to a low carbon power system can be addressed through a number of processes already in place or underway. The ESB and Australian Energy Market Commission (AEMC) are exploring and designing new markets for essential system services, such as system strength and inertia, which will be required as thermal generators retire. This will reward new technologies like batteries, which are able to provide fast frequency response and other valuable services. Therefore, we strongly urge Energy Ministers to oppose the introduction of a PRRO as proposed by the ESB.

¹ [1619564199-part-a-p2025-march-paper-esb-final-for-publication-30-april-2021.pdf \(aemc.gov.au\)](https://www.aemc.gov.au/1619564199-part-a-p2025-march-paper-esb-final-for-publication-30-april-2021.pdf)

BACKGROUND

The National Electricity Market (NEM) is undergoing a fundamental transition, driven by rapid technological change as we move to a lower emissions electricity system.

Up to 50GW of new large-scale variable renewable generation and 24GW of distributed PV is forecast to come online by 2040. This large influx of intermittent renewables along with recent and upcoming closures of thermal generators means we need to take extra measures to ensure the reliability of electricity supply.

Firstly, we need to make sure we have enough supply to meet demand, which is referred to as the Resource Adequacy Mechanism (RAM) under the ESB Options Paper². This includes having enough electricity generated in any given moment to supply the needs of customers, which requires enough capacity in the system to ensure this real-time balance can continue to be met all year round, through changes in weather, climate and power system conditions.

This capacity has historically been provided by a large fleet of inflexible coal-fired power stations plus a fleet of flexible peaking generation (including gas and hydro plant). However, as these aged assets are reaching their end of life, continuing to rely on them is no longer physically, economically or environmentally adequate. As such, we will need market signals that will encourage new generation and firming technologies to come into the market to replace traditional firm sources as they exit the market (due to either technical or commercial factors). PRRO is not an effective RAM that will achieve this.

Secondly, Federal and State Government need confidence in the security of supply to ensure the lights stay on. The power system will be in various stages of flux as coal-fired power stations become less reliable as they near the end of their technical life and retire, offset by more investment in renewables, storage and demand response. The challenge for the ESB and industry is identifying solutions to provide government with a comfortable level of certainty, while avoiding options that compromise efficiency and add costs to consumers.

² [1619564199-part-a-p2025-march-paper-esb-final-for-publication-30-april-2021.pdf \(aemc.gov.au\)](https://www.aemc.gov.au/1619564199-part-a-p2025-march-paper-esb-final-for-publication-30-april-2021.pdf)

THE OPTIONS

The ESB has been tasked to look at more stringent reliability measures to maintain reliability across the NEM.

It has focused on two options for a modified Retailer Reliability Obligation (RRO):

- a small but qualitatively significant design by removing the T-3 trigger; and
- a more significant proposal to replace the RRO with a decentralised capacity market or 'Physical Retailer Reliability Obligation' (PRRO) as referred to by the ESB.

A PRRO would likely require electricity retailers to buy and surrender certificates from generators with a specified level of dispatchability and contract firmness for times of the year when reliability is a concern. This would most likely be for expected peak days in summer.

In practice, the likely outcome would be requiring the retailers that don't have large generators to buy certificates from the coal generators that dominate the market. The ESB says without the change, the closure of coal generators will be unpredictable or disorderly, creating price shocks and reliability risks.

The ESB has also recommended a Status Quo option that is coupled with the Essential Security Services (ESS) workstream recommendations. This basically recognises that the existing Retailer Reliability Obligation with the proposed system strength and frequency service rule changes that are currently underway is more than adequate to address future security concerns.

As a result, more emphasis needs to be put on conducting a proper cost-benefit analysis of the options to support one over another. It is critical this is completed before recommendations are made to Ministers.

CONCERNS WITH THE PROPOSAL

There are several concerns with the proposed modifications to the RRO. Even the ESB concedes the recommendation comes with considerable risks, noting in their paper that it would:

- add costs to consumer bills
- impose increased barriers to retail competition and product innovation
- lead to possible overcompensation of existing coal and gas generators and reduce liquidity in financial markets.

As electricity retailers would face a new requirement to buy these certificates, they would need to pass on the cost of these certificates to consumers, no matter how much energy that household or business actually used and even if the consumer is engaging in demand response. This would ultimately increase electricity prices for energy consumers.

The PRRO would also increase market concentration and stifle innovation. The market is currently dominated by three large ‘gentailers’ - AGL, EnergyAustralia and Origin Energy – which own both generators and the retail companies that sell electricity. The PRRO would disadvantage smaller electricity retailers, which in many cases would be forced to buy certificates from generators owned by their competitors. These small retailers are often the ones driving innovation in the market and working to incorporate new technologies like electric vehicles and smart homes. By undermining innovative retailers, we are risking price increases for consumers and an underdevelopment of demand flexibility.

The PRRO, as proposed, implies a fixed cost or payment to the aging and increasingly unreliable coal fleet. This results in a revenue source enabling these coal plants to remain open even when cheaper renewable energy makes them unprofitable. Australia’s gentailers are heavily invested in these coal power stations. The proposed change would further concentrate their market power while propping up coal.

All in all, this represents a significant, highly complex new mechanism that would be introduced over the top of the existing arrangements. Critically, there is no reason to believe that the PRRO will deliver higher levels of investment or reliability. Conversely, it will create new sources of uncertainty which will chill new investment cases in flexible, modern solutions. This has been seen historically during reviews of the Renewable Energy Target, where investors pause to understand the new risks.

The PRRO would therefore lock in increasingly unreliable, ageing coal assets, stall new investment in new renewable energy storage, such as batteries and pumped hydro, and increase market concentration. This increases consumers’ exposure to plant failures, with no replacement capacity available.

More importantly, there is no evidence the PRRO will support the National Electricity Objective through improved consumer outcomes.

NO EVIDENCE WE NEED REFORM

There is no evidence to suggest security above and beyond the existing measures is required to manage reliability in the NEM. Despite persistent concerns, reliability and resource adequacy do not appear to be imminent challenges.

History has shown even when there are forecasts of reliability challenges, the market is able to respond and address these risks. As highlighted in the 2018 Energy Statement of Opportunities (ESOO), AEMO forecast a breach of the Reliability Standard in Victoria from FY 2021/22 and a breach of the Interim Reliability Measure (IRM) in Victoria over the 10-year ESOO period.

Figure 2 Forecast USE outcomes – Neutral demand, only existing and committed projects

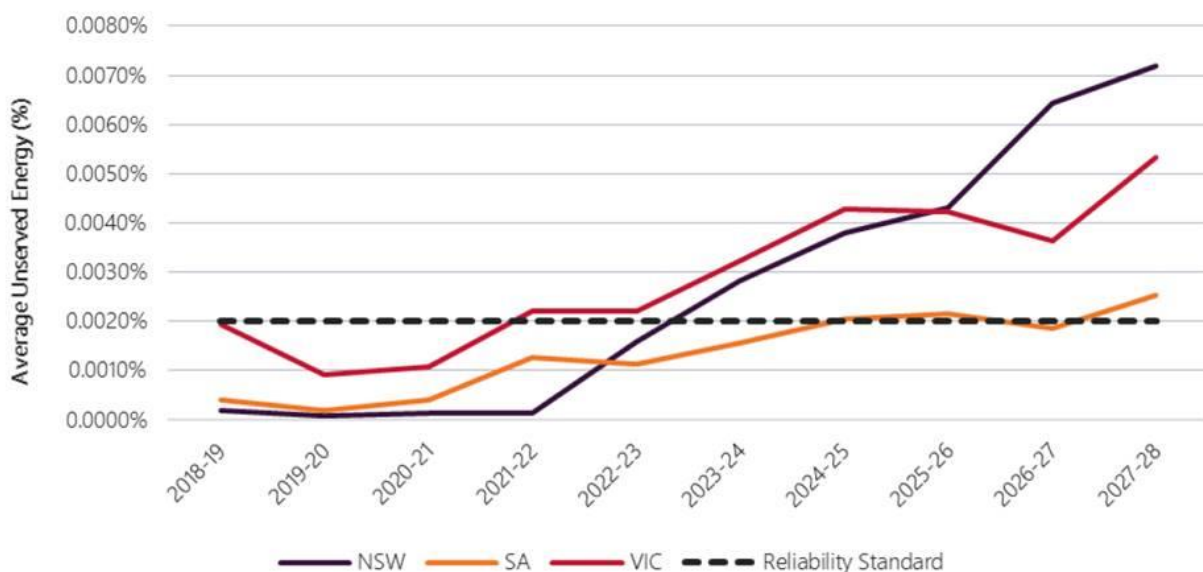


Figure 2: Forecast Unserved Energy outcomes from 2018

Today, the Medium-Term Projected Assessment of System Adequacy (PASA) indicates no breach of the Reliability Standard or IRM over the next two years in any region. The 2020 ESOO Update indicates no breach of the Reliability Standard in Victoria until 2028/29.

So, what's changed? Many renewable energy projects that were yet to be committed less than three years ago have now been constructed and commissioned. The reality is investment in renewable projects has been progressing rapidly and, in some jurisdictions, exceeding the expectations.³

There is no evidence to suggest the industry will fail to deliver. There is a long and strong list of advanced projects on AEMO's Generation Page⁴. Some projects are expected to be generating before 2025, including the 300MW Tallawarra B hydrogen/gas fired power plant proposed in Wollongong in New South Wales, and even more projects are getting ready to come online over the next decade.

Unlike Wallerawang, Northern and Hazelwood power stations, which retired more than 3000 MW of scheduled generation in quick succession with little notice, today's generators must give 3.5 years' notice of intent to retire a service. This allows the industry sufficient time to respond by providing new supply or demand side capacity.

³ The Clean Energy Council project tracker notes there are (as of 25 May 2021) 98 large scale renewable energy projects and 21 large scale battery storage projects in construction, accounting for 11,761MW, 13,502 jobs and over \$19.6B in capital investment. See: <https://www.cleanenergycouncil.org.au/resources/project-tracker>

⁴ [AEMO | Generation information](#)

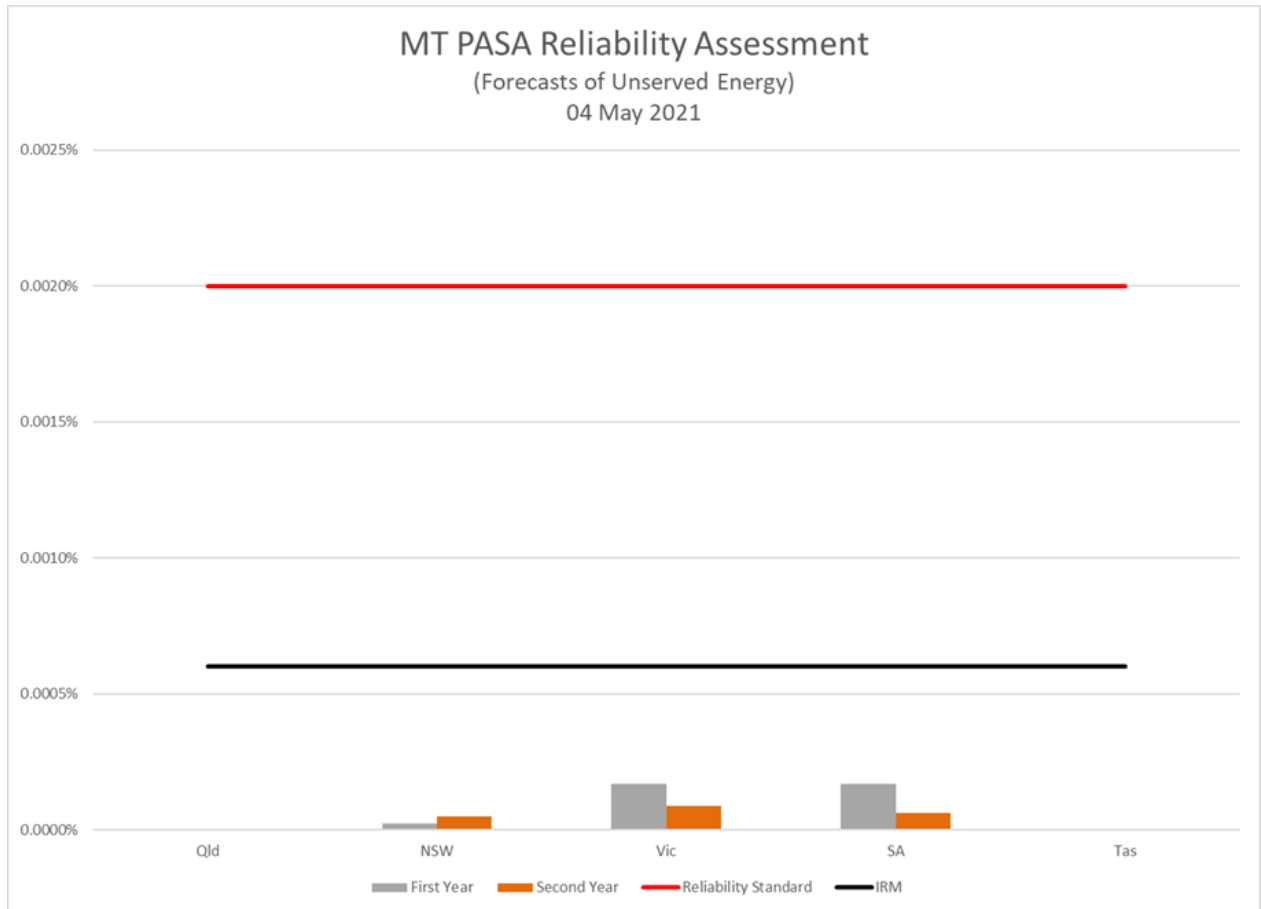


Figure 3: Medium Term Projected Assessment of System Adequacy Forecasts of Unserved Energy

MANAGING RELIABILITY IN THE NATIONAL ELECTRICITY MARKET

The NEM already has a comprehensive set of mechanisms in place to manage reliability through strong market incentives and a combination of safety nets.

The market incentives relate to the wholesale price for electricity and the associated contract market, and the safety nets include the current RRO and the Reliability and Emergency Reserve Trader (RERT).

The combination of a market-based approach with safety nets should provide confidence that the lights will stay on, and consumers will benefit from efficient investment.

In addition to the comprehensive existing frameworks, there is no evidence these frameworks do not work. Our best forecasts suggest we will achieve our reliability targets.

MARKET INCENTIVES

Wholesale market

The NEM has a wholesale price which moves within a broad range. This wholesale price provides a strong signal to generators to provide electricity in peak periods and encourages consumers to use electricity outside of peak periods when possible.

The strong financial incentives associated with our wholesale price play a key role in keeping the lights on in the short term by balancing supply and demand. The introduction of five-minute settlement, which is set to commence in October 2021, will strengthen this financial incentive, and support new, dispatchable capacity.

The changing nature of the power system is reflected in the wholesale price. As more renewables enter the system, the prices fall in sunny and windy periods, and rise as sun and wind lower. This signals the value of firm resources which are technology neutral, that are able to earn in these higher priced periods.

It has been shown that the dispatchability/firming premium in South Australia has significantly grown with the influx of renewable generation (see figure on the following page). These market incentives also help manage minimum demand and negative spot prices.

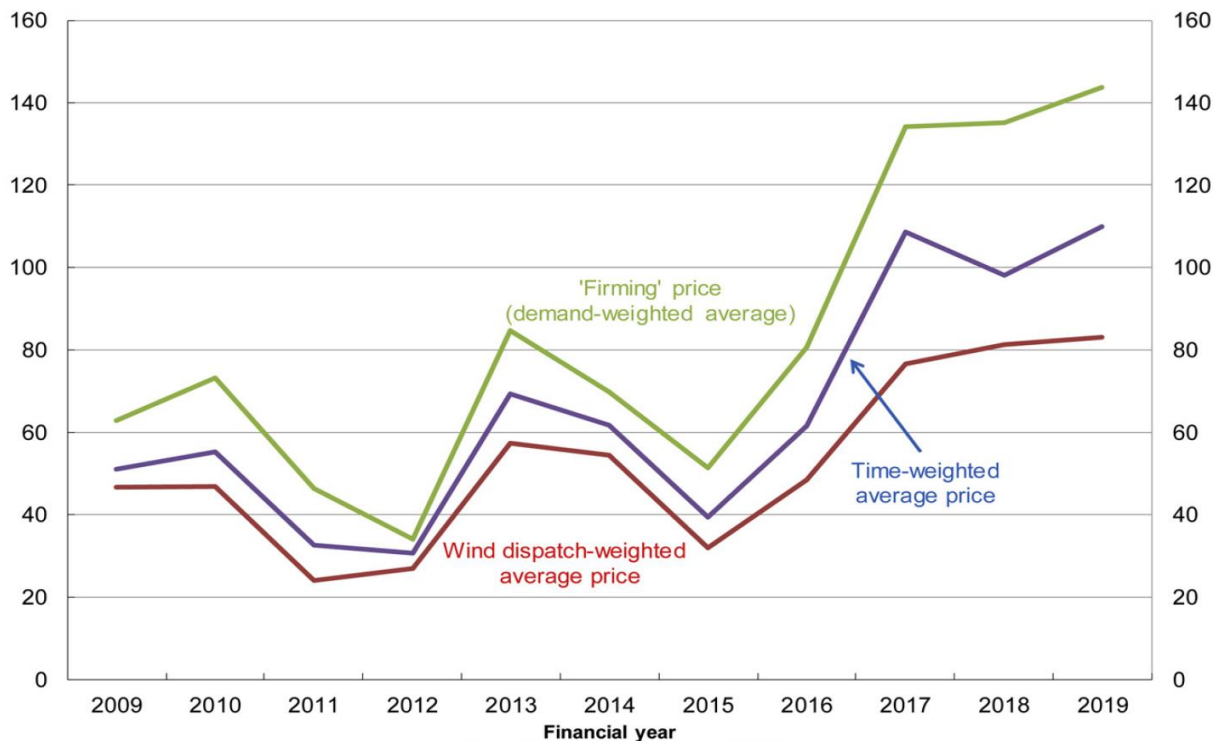


Figure 1: Three dispatch-weighted spot prices in South Australia (\$/MWh).⁵

Contract market

A contract market exists to help market participants manage their exposure to the wholesale market. To manage their exposure to the spot market, participants typically seek to enter contracts which convert uncertain future spot prices into more certain wholesale prices.

In the longer term, the contract market supports reliability by facilitating efficient generation investment and retirement decisions. It does this through two mechanisms by:

- providing information on expected future market prices; and
- providing a mechanism through which new generation can be financed.

These financial products provide incentives for dispatchable capacity to remain online and available to generate.

The contract market evolves as the market changes. For example, participants are entering into 'super-peak' contracts, that show the market value of firm resources⁶. Additionally, new products are being developed on the basis of the value provided by storage⁷.

Both the contract market and the wholesale market are changing to place greater incentives on firm capacity, supporting new investments in storage and demand response. Initiatives in place to support this include:

- increased wholesale prices in the morning and evening encouraging dispatchable capacity and providing a financial incentive for peaking plant to remain available

⁵ Rai, A., Nunn, O., 2020. *Is there a value for "dispatchability" in the NEM? Yes**, The Electricity Journal, vol 33, no. 2, p. 7.

⁶ <https://www.afr.com/companies/energy/snowy-super-peak-contract-to-fill-solar-downtime-20200409-p54in7>

⁷ <https://www.afr.com/companies/energy/hydro-macquarie-shell-in-game-changer-storage-deal-20210119-p56vby>

- \$300 cap product, a listed and tradable product, where generators can earn revenue for protecting counterparties against high prices. Because it is available on the ASX, it also avoids the constraints of having to deal directly with (un)willing counterparties

These initiatives have been available for nearly 25 years, signalling the need for and delivering capacity as peak demand grew rapidly in the 2000's.

SAFETY NETS

The NEM has two major safety nets to make sure the lights do not go out: The Reliability and Emergency Reserve Trader (RERT) and Retailer Reliability Obligation (RRO).

In the tumultuous period following the retirement of the Hazelwood Power Station, the RERT was strengthened and the RRO was introduced, both intended to support the reliability of the NEM as future generators retire and more renewables come online.

Reliability and Emergency Reserve Trader (RERT)

The RERT is a mechanism which allows the Australian Energy Market Operator to contract additional capacity (reserves) not otherwise available in the market when reserve shortfalls are projected. This gives AEMO greater certainty it will have the resources available to manage potential shortfalls. The RERT has also supported the development of demand response resources.

Current Retailer Reliability Obligation (RRO)

The RRO started on 1 July 2019. It was designed to support reliability in the National Electricity Market (NEM) by incentivising retailers and some large energy users to contract or invest in dispatchable and 'on demand' resources. It is important to note that the Council of Australian Governments Energy Council agreed to implement the RRO to help manage the risk of declining reliability⁸.

On 4 June 2019, the Council unanimously agreed to amendments to the National Electricity Rules needed to implement the RRO by 1 July 2019.

⁸ <https://energyministers.gov.au/sites/prod.energycouncil/files/publications/documents/RRO%20Bulletin%20-%2020190701.pdf>

EXERCISING THE RETAILER RELIABILITY OPTION

The current RRO remains untested to date.

Despite being triggered by Ministerial fiat in South Australia for quarter one of 2022, 2023 and 2024, and in NSW for Jan-Feb 2024 under the Interim Reliability Measure, it is notable that:

- The RRO has never been triggered under its actual design, based on the actual Reliability Standard as set by the AEMC Reliability Panel .
- The RRO has never been observed in operation, to judge its necessity, effectiveness or (unintended) consequences.

It is not clear the RRO is required in any form, let alone be modified from its current design. This is evident in the most recent release of the ESOO. Refer to graph below.

Figure 30 Reliability impact of actionable ISP projects

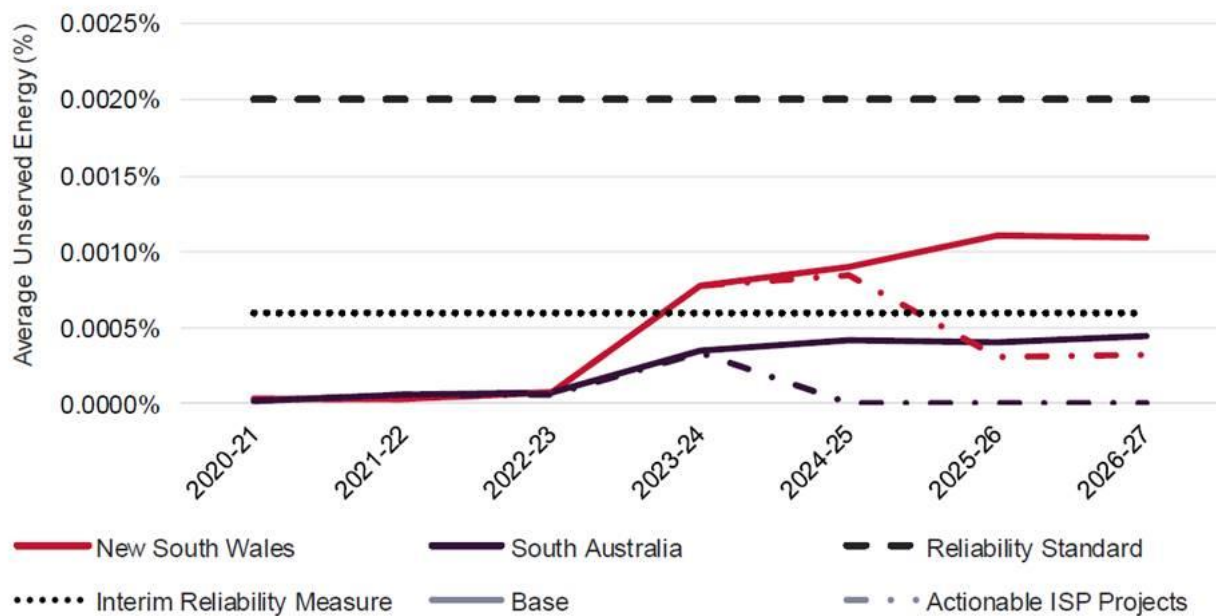


Figure 4: Reliability impact of actionable ISP projects, 2020 Energy Statement of Opportunities (Page 65)

REFORM DRIVEN BY POLITICAL AGENDA

Political intervention is undeniably a key challenge. The increased willingness of both the Federal and State Government to intervene in the market creates challenges for market participants and investors.

However, it is a misnomer to think the PRRO is going to break this cycle. The state governments are driven to intervene in the market because of a lack of federal leadership on climate change, not reliability. The federal government uses the state policies as justification for its preferred policies, which delay the retirement of coal-fired power stations and in turn harm the states' ability to achieve their climate goals.

This vicious cycle will not be broken through a, complex and expensive, policy that is unlikely to provide an adequate additional investment signal to the market for new green generation sources.

More importantly, this policy if introduced, will have significant adverse price impacts on consumers due to the fixed cost that will be passed through on consumer bills.

STAKEHOLDER FEEDBACK ON A DECENTRALISED CAPACITY MARKET

A program which seeks to redesign the energy market for beyond the next decade, which will have long-term impacts on the electricity sector and consumers, needs to allow for sufficient consultation into the program. Instead, the ESB's rushed process meant the recommended solution options, if implemented by the States, will have long-term ramifications on the industry and consumers. Of particular concern is that the ESB does not appear to have considered the overwhelming opposition to their recommendation as highlighted in the table below. This is a summary of the recent submissions by Industry to the ESB.

SEGMENT	DEGREES OF NOT IN FAVOUR			DEGREES OF IN FAVOUR		
	DEFINITE	QUALIFIED	LEANING	LEANING	QUALIFIED	DEFINITE
Industry Associations	<p>Clean Energy Council (Sub Link) <i>The proposed physical Retailer Reliability Obligation (RRO), which we are concerned could entrench revenue streams for incumbent thermal generators potentially beyond their operational or economic life, while at the same time potentially deter new investment in lower cost dispatchable generation.</i></p> <p>Clean Energy Investor Group Darebin Climate Action (Sub Link) <i>"Of particular concern to us is the ESB's proposal of a 'Physical Retailer Reliability Obligation' (PRRO). The existing RRO is untested and complicated. A PRRO could add significant costs to consumers whilst, even more concerningly, extending the life of coal power stations"</i></p> <p>Environment Victoria Nature Conservation Council</p>			<p>Australian Energy Council</p> <p><i>"AEC sees this as a fundamental change to the NEM, yet the Options Paper has presented it as an incremental adjustment to the FRRO. This is an unreasonable characterisation"</i></p>		
Traditional Retailers / Gentrailers	<p>Snowy Hydro (Red, Lumo) (Sub Link) <i>"result in a less dynamic NEM and higher costs for consumers, as the level of capacity investment is increasingly centrally-determined, rather than being driven by market outcomes."</i></p> <p>Stanwell (Sub Link) <i>"potential to increase barriers to retail competition and negative impacts on the liquidity of financial markets...ultimately increase the cost of electricity, borne by customers"</i></p> <p>CS Energy</p>	<p>Aurora Origin Energy</p>	<p>AGL Energy (Sub Link) <i>"we do not consider that a sufficiently strong case has been made to rapidly progress either the proposed changes to the RRO or to development a market for physical generation certificates (i.e., the Physical RRO) at this time, especially as both of these mechanisms are based on reliability forecasts, which are relatively positive at the moment."</i></p>	<p>Shell Energy Alinta (Sub Link) <i>"we do not believe the current PRRO design is workable when measured against the above objectives. Nevertheless, it has conceptual merit, and could be molded with further enhancements"</i></p>		<p>EnergyAustralia (Sub Link) <i>"A physical RRO can supplement the current market by placing continuous physical obligations on participants, and be based on actual consumption and generation."</i></p> <p>Delta (Sub link) <i>"A physical RRO is an important reform that will provide a necessary stronger signal for medium to longer term capacity needs."</i></p>
New Energy Gentrailers	<p>Iberdrola(Sub Link) <i>The ESB has not articulated how this would actually drive investment in the long-term. For example, if developers are currently</i></p>		<p>Engie</p>			

	<p>unable to secure long-term contracts for energy, it is unlikely they will secure long-term trades for new capacity products. Conversely, unless the ESB considers that consumers should pay higher costs for energy, capacity credits should not be designed to transfer additional profits to otherwise cost-effective projects.</p> <p>Tilt Renewables (Sub Link) “Concerned the proposed physical RRO, which appears unnecessary and costly and which may simply entrench revenue streams for incumbent thermal generators beyond their otherwise operational or economic lives, while at the same time deterring new investment in lower cost dispatchable generation”</p> <p>Neoen Enel Green Power WindLab ACCIONA</p>					
<p>EMERGING & NEW ENERGY RETAILERS</p>	<p>Flow Power (Sub Link) We are strongly opposed to the ESB’s proposals to expand the RRO or to introduce a decentralised capacity market (through the physical RRO). These proposals risk hard-fought gains in retail competition and innovation and will significantly add to consumer bills.</p> <p>Enel X (Sub Link) “The physical RRO appears to be a heavy handed, costly and administratively complex instrument to deal with a transitional problem that may not even arise. We do not believe that the ESB has fully explored all other options”</p> <p>Enova Energy Energy Locals Tango ReAmped GE Australia SACOME Tesla (Sub Link) Tesla does not support the introduction of a PRRO or any other mechanism that would artificially extend the life of the existing thermal fleet of generation.</p> <p>Powershop/ Meridian (Sub Link) “unintended consequence of the proposed Physical RRO option is to provide a mechanism that could postpone the economic/technical closure of existing thermal generation; and delay the introduction of new generation capacity which would serve to increase reliability within the NEM’s generation fleet.”</p>					
<p>NETWORK SERVICE PROVIDERS</p>	<p>Energy Queensland (Sub Link) “Energy Queensland remains of the view that a compelling case has not been made for a requirement to enhance the current Retailer Reliability Obligation (RRO), particularly if the proposed modifications will impose uncommercial obligations, risks and penalties on retailers that are likely to reduce retail competition and drive</p>					

	<p><i>unfavourable outcomes for customers in the form of price increases.”</i></p> <p>Transgrid</p>					
CONSUMER GROUPS	<p>Major Energy Users (Sub Link) <i>MEU considers the ESB has failed to reflect that the current RRO is an option and that the two options provided have serious flaws.</i></p> <p>EUAA (Sub Link) <i>“We do not consider the additional costs of either Option are in the long term interests of consumers. We do not support any change to the existing RRO. “</i></p> <p>ACOSS</p> <p>PIAC (Sub Link) <i>“A P-RRO cannot reduce the risks of ageing thermal generators breaking down suddenly: it does nothing to improve the capacity factor or engineering integrity of ageing generators. Rather, by leaning on these increasingly unreliable resources as a long-term fix it increases risks to consumers. “</i></p> <p>Community Power Agency</p>					
Other	<p>ACCC (Link) <i>“an enhanced RRO could negatively impact retailers and retail competition.”</i> <i>the design of the physical RRO should ensure that the market for certificates is competitive and does not raise barriers to small retailers and new market entrants”</i></p> <p>Monash University (Sub Link) <i>We do not agree that there is an economic rationale for the RRO, or that it is the best solution to any market failure it is intended to correct. o There is a distinct risk that the RRO will undermine the development of an active demand side of the market.</i></p> <p>Solar Citizens</p>		<p>ASX (Sub Link) <i>“ concerned that replacing the existing financial RRO with a physical RRO certificate may well impact the transparency and liquidity that has built up in the financial contract market under the current scheme. “</i></p>			

IF NOT A PRRO, THEN WHAT?

We have a robust regulatory framework already in place that is intended to meet the objectives of managing entry and exit of resources, keeping costs down and providing certainty to regulators, governments, and consumers. The key challenges presented by the transition to a low carbon power system can be addressed through a number of processes already in place or underway.

The ESB and AEMC are exploring and designing new markets for essential system services. These new markets will make sure necessary essential system services required as thermal generators retire, including system strength and inertia. This will reward new technologies like batteries that are able to provide fast frequency response and other valuable services.

Investments in transmission are unlocking new renewable resources. Renewable energy zones, new interconnectors and other transmission upgrades will unlock new renewable resources that can provide new supply into the market.

Further, there will be continued growth in demand side participation. There is a new wholesale demand response mechanism being introduced that will come into effect in November 2021 by the AEMC. A consultant working for the ESB found there was about 4GW worth of demand flexibility in the market and that this would continue to grow⁹. Innovative retailers and aggregators will continue exploring opportunities for helping to maintain the reliability using demand flexibility, distributed energy resources and smart homes.

The current reliability framework supplemented by new markets for essential system services, new transmission infrastructure and demand flexibility is a far better approach for managing resource adequacy compared to the physical RRO.

⁹ Energy Synapse, *Demand response in the National Electricity Market*, December 2020. Commissioned for the Energy Security Board. Available at: <https://esb-post2025-market-design.aemc.gov.au/32572/1608712640-energy-synapse-demand-response-in-the-nem-final-report-14-dec-2020.pdf>