

The Australian Coalition Government's proposed new energy policy would place obligations on retailers to contract with dispatchable generation and to meet carbon emissions standards. While the policy proposes the use only of existing contractual mechanisms, the effect is to create a separate bilateral market for dispatchable capacity and a form of emissions market. The proposed policy could provide a framework within which the sector can evolve sensibly to meet its current challenges. However, the detailed approach to implementation matters, and current information indicates that there is a risk that the proposals may decrease liquidity in energy contract markets (through the creation of sub-markets), incentivise vertical integration and reduce competition in energy retailing.

Introduction

Australia's Coalition Government announced its proposed new energy policy on 17 October 2017, based on advice from the recently constituted Energy Security Board (ESB). The proposed policy is to introduce a National Energy Guarantee (NEG) comprising (1) a reliability guarantee (RG) and (2) an emissions guarantee (EG).

The RG would place an obligation on retailers to demonstrate to the Australian Energy Regulator (AER) that they have contracts for dispatchable resources in place to cover a specified proportion of their peak load. The EG would require retailers to demonstrate to the AER that the average carbon emissions level of electricity procured is below a specified level consistent with Australia's international emissions reduction commitments.

The proposal provides the potential to achieve Australia's energy policy objectives. There is explicit focus on both the reliability needs of the system and emissions reduction, with retailers able to recover the costs of meeting the obligations from customers. The core dispatch and pricing approach in the wholesale market would remain unchanged.

There is sufficient flexibility in the proposals to allow implementation to evolve in response to circumstances or changing policy objectives while maintaining the overarching framework. All this makes the policy an elegant way potentially to resolve what has become a thorny policy and political issue.

At the time of writing the available information on the policy is an eight-page letter (the "Advice Letter"),¹ a two-page news release and various comments by Government Ministers and ESB members. Key elements of the policy remain unclear, and will be developed as discussions with other stakeholders proceed. However, analysis of what information is available indicate some important issues that need to be addressed including:

- It appears that the policy would rely on the existing type of forward energy contracts which are financial, not physical, and without obligations for resources to be available or to be dispatched. The Advice Letter confirms that trading of these contracts would occur to comply with the RG and EG.
- If the policy design is effective, it would create bilateral and secondary markets for capacity and emissions based on retailer obligations rather than using explicit instruments. We would expect the market to respond by developing specific capacity and emissions instruments to facilitate efficient compliance, and that the AER's approach to monitoring should accommodate this.
- However, the Advice Letter also suggests that there will be specific time- and location-based incentives for dispatchable capacity for the RG, and compliance with the RG will be assessed through monitoring actual generator output and availability. These suggest more transparent market mechanisms may also be envisaged.



- The liquidity in the two sub-markets created, one for dispatchable contracts and one for non-dispatchable contracts, is likely to be lower than under a single market.² It is likely this would favour vertically integrated and larger established market participants, reducing competition in the retail market. This is before the contracts are further differentiated by emission levels.
- Regulatory oversight and associated powers would increase. Ideally mechanisms would be introduced so that regulators are accountable to market participants for their compliance decisions.
- Two different bodies will set the levels for the RG and EG. However, the targets will interact, and coordination in setting them would be appropriate.

It is likely that the government and its advisors at the ESB have anticipated these issues and will have strategies for addressing them.

In the Advice Letter, the ESB stated that it expects that the policy would lower prices, although its members subsequently noted that detailed modelling needs to be undertaken.³ Detailed modelling of the policy would be needed to verify this claim for which sufficient information is not yet

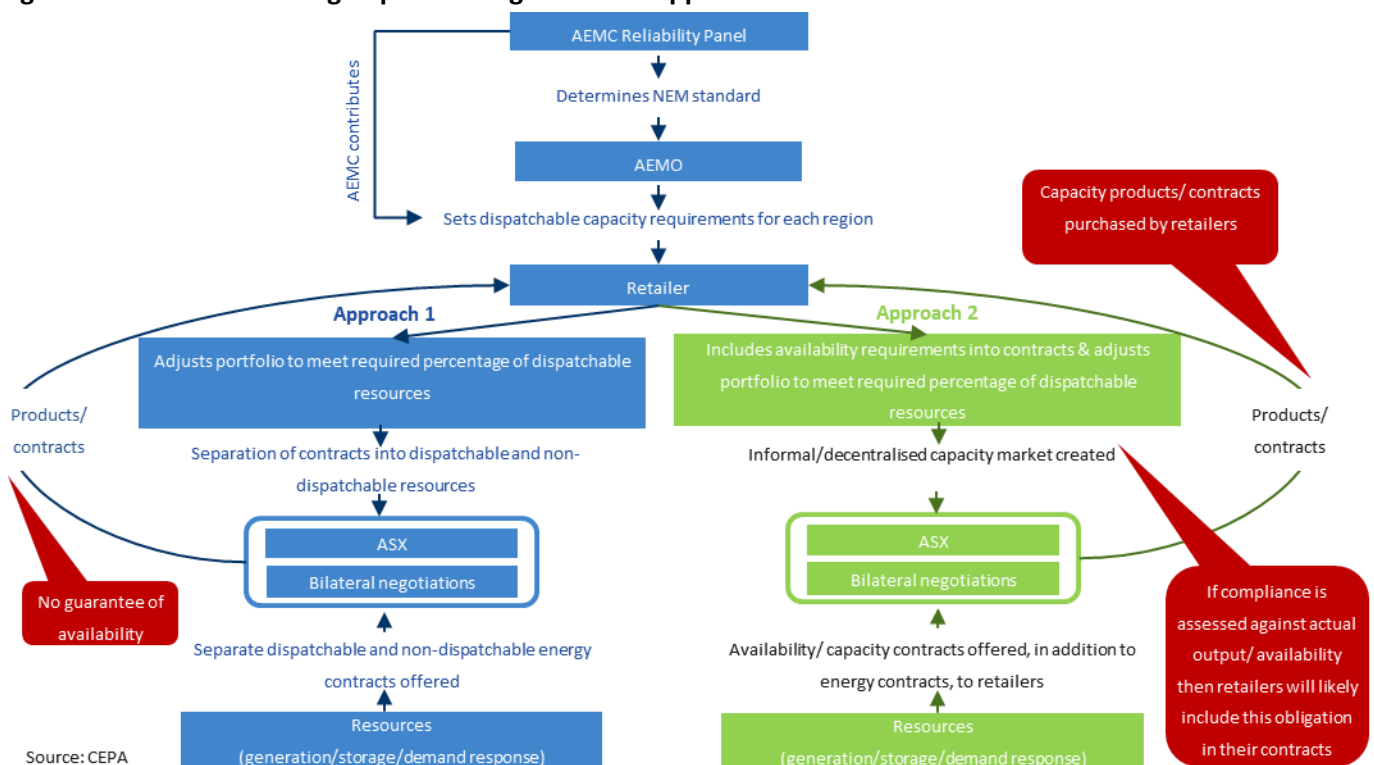
available, and our discussion below therefore focuses on policy design issues.

Reliability Guarantee (RG) – a new type of capacity mechanism?

The RG obligation on retailers will be set by the Reliability Panel at the AEMC. This would require retailers to demonstrate to the Australian Energy Market Operator (AEMO) that they have contracts to cover a specified proportion of their peak load. What is not clear from the available information is whether this is a capacity contract (i.e., retailers simply need to have resources available for dispatch) or an energy contract (i.e., that contracted sources must generate). Both approaches would achieve the policy objective of having dispatchable resources available, but there would be very different market implications. The guidance indicates that the spot market is to be unchanged, which implies that resources will still be dispatched in merit order, suggesting that the obligation will be for capacity not energy.

Current contracts in the electricity market are financial rather than physical, so forcing retailers to hold a portfolio of financial contracts may not achieve the policy objective of guaranteed availability. We have illustrated in Figure 1 below.

Figure 1: Our understanding of possible high-level RG approaches



Source: CEPA



Under 'Approach 1', the energy market is largely unchanged. The retailer would need to enter into 'tagged' dispatchable resource contracts to demonstrate compliance with its obligations. The generators would have financial pressures placed on them to incentivise availability. Whether this approach is efficient and holds in the long-run hinges on the specific compliance measure of "actual output and availability". Additionally, liquidity in the energy market could be impacted through the creation of 'sub-markets' for dispatchable and non-dispatchable contracts. If retailers need to demonstrate that dispatchable resource is available at a certain time then the retailers are likely to need additional 'availability' requirements in the contracts. This requirement is likely to lead to Approach 2.

Under 'Approach 2', the contractual arrangements would reflect the availability requirements and the RG therefore essentially creates a capacity market, albeit specifically related to capacity that can be instructed to be dispatched. Rather than a centralised capacity auction, the framework appears to be focussed on decentralised bilateral contracts. The NEM will therefore no longer be an energy-only market, regardless of whether the new RG mechanism is called a capacity market or not. The obligation is intended to create a market, as the Advice Letter notes that "to the extent that [retailers] were over-subscribed it would be expected that they would enter into contracts with retailers who needed additional resources to meet their obligations".⁴

The Advice Letter also states that the "actual requirement for flexible, dispatchable capacity would be dynamic, varying dispatch period by dispatch period as the generation mix, customer demand and network situation changes."⁵ This implies that the obligation on retailers will be to enter into rather flexible contracts that will be offered up to AEMO to dispatch in a market for a new product. Similar mechanisms have been used elsewhere, such as the new requirements for flexible capacity being introduced in California's Resource Adequacy framework. But care will be needed to ensure that there are no unintended consequences. The only proposed penalty noted in the Advice Letter for not meeting the standard is severe: deregistration of the retailer.

We note that the Finkel Review⁶ recommended the adoption of a generator reliability obligation, which

would impose obligations on non-dispatchable generators to also bring forward new dispatchable capacity to maintain reliability of the system. We would see the RG as a way of achieving the intention of this recommendation in a more efficient way. Retailers would have an incentive to contract for such capacity, without placing the obligation on parties that may not be best placed to deliver.

For us, the discussion above raises a number of questions about the RG, including:

- What will the contractual obligation be on retailers? Capacity, specified at particular times and locations? Will AEMO design a new product which will be the target of the contracts?
- How far into the future does the retailer need to demonstrate compliance? The time horizon will impact investment decisions and change barriers to entry (with smaller retailers likely to find it difficult to secure contracts further into the future).
- If retailers only need to demonstrate that a proportion of their peak load is covered, how will AEMO deal with any peak load that is not covered? Regulators in other jurisdictions, where reliability obligations are in place (often referred to as Resource Adequacy criteria), almost always require the load serving entities to cover their peak demand.
- As generators will likely receive availability payments (at least under Approach 2), will the cap on scarcity payments in the energy market be reduced?
- How will demand response be treated?
- How will embedded generation be treated?
- What will be the process for monitoring and penalising non-compliance? Deregistration may not be considered a credible threat except for small retailers, so an alternative mechanism to penalise non-compliance may be required.

A number of jurisdictions have bilateral capacity markets because centralised capacity markets were not considered palatable, most notably two US markets MISO (the Midcontinent Independent System Operator) and CAISO (the California Independent System Operator).⁷ However, bilateral markets did not work well in states where there was retail competition, and in those states a forward capacity market is now being introduced.



Australia – at the moment – has a competitive retail electricity market. The policy, in its current form, may work well for large incumbent retailers that own a portfolio of generators. However, for new-entrant retailers without generation it may well act as a barrier to entry, or even force small retailers to exit.

Emission guarantee (EG) – emissions trading without the certificates?

Renewable energy in Australia is currently incentivised under the Renewable Energy Target (RET). Retailers and large electricity users are required to purchase a certain percentage of their power from renewable energy sources, demonstrating that they have done so through a certificate mechanism or alternatively paying a penalty. This scheme would continue, with the RET expected to be met in 2020, and the scheme continuing to operate until 2030.

The EG would be introduced from 2020 and operate alongside the RET, setting a maximum level of carbon emissions from the portfolio of generation that retailers buy. Rather than using certificates, retailers would demonstrate compliance to regulatory authorities (the AER in this case) through their contracting arrangements. As with the RG, the Advice Letter makes clear that market participants would be able to enter into contracts to ensure that those with higher emissions than the target could trade with those with lower emissions to achieve compliance.

The two key issues here are:

- Can a non-certificated market work?
- What is the impact of targeting carbon emissions rather than renewable generation?

No certificates?

The non-certificated approach seems rather problematic. In the physical daily spot market, the source of electricity purchased is not identified. Longer term contracts are not physical, but financial contracts expressed as a contract for difference (CfD) against the regional reference wholesale electricity price. Such contracts can be freely traded, so that there may be no correspondence between the CfDs that a retailer purchases and the actual generation on the system. In contrast, a certificated mechanism ensures that there is a contractual link between retailers and renewable generators.

Under the EG, retailers would need to submit contracts to the AER, who would then need to determine compliance taking account of active trading of positions. It is likely to be difficult to keep track of contracts, and would be considerably simplified with the use of standard emissions trading products. In other markets, efficiency is enhanced through the use of standardised products. Market participants have clarity on what they are receiving, regulators can know the volume and implications of the products without having to dig through the fine print each time, and new entrants know what is available.

In order to allow trading between parties to take place, we think it is inevitable that market participants will themselves develop a secondary market in emissions credits, with standardised contract forms. We would expect the AER to develop procedures to accept delivery of a range of such standard contracts by independent private sector emissions registers.

Emissions target

The other feature of the EG is that it targets total emissions by electricity generators rather than generation by renewable energy. Increasing the proportion of wind and solar generation would help achieve the target, as would replacement of brown coal with black coal, or a switch from coal to gas-fired generation. This is to be welcomed.

While the strength of the EG is that it covers all generation, and so incentivises improvements in existing generators (including coal) to reduce emissions, it will require the development of a more comprehensive and enforceable measurement and verification protocol for generators.

These considerations raise a number of questions:

- There will be less transparency for smaller and new entrant retailers aiming to comply with the EG. How can barriers to entry be reduced?
- Would secondary markets provide sufficient clarity on the cost of compliance to market participants including new entrants?
- Could the AER provide initial coordination of standard product design to facilitate more efficient outcomes?
- How would international carbon units be used to meet emissions standards?



- Is licence deregistration a credible penalty? For example, if one of the big three retailers continually missed their targets is deregistration realistic?

Policy issues for consideration

The NEG provides a new framework for energy policy which could support the sensible evolution of the sector. Many of the existing arrangements for the sector remain unchanged, and it is possible that the changes would not be as significant as some commentators are suggesting. However, there are key policy issues that we suggest need to be considered as the policy is developed further.

Market mechanisms

The policy favours the use of opaque bilateral and secondary markets for capacity and emissions. For capacity, a bilateral market may be possible, but it is likely to be less efficient than defining clear dispatchable products that meet AEMO's needs. For emissions markets, we suggest that compliance will need the AER to accept secondary emissions trading instruments for the policy to work at all.

Avoidance of "certificates" places an unnecessary hurdle in the effectiveness of policy. We would anticipate that the government and its advisers understand this, and that relaxation of this restriction would be a natural evolution of the policy as it moves to implementation. Alternatively, there are approaches that could be developed for the AER to allow privately verified instruments as evidence of compliance.

Scale and structural advantages

It will likely be harder for smaller retailers and retailers without generation to trade to meet capacity or emissions obligations. This will place larger vertically integrated incumbents at an advantage, and may increase concentration in the market. This is at a time when the ACCC is highlighting the importance of retail competition for the benefit of customers.

Governance

Regulatory oversight will increase. Decisions will be made by the AER on compliance with the RG and EG. If obligations on retailers are clear then this will not be problematic. However, if obligations require the use of judgement, to ensure confidence in the process transparency will be important along with

the opportunity to challenge decisions. The variety in bilateral contracts may make the policy complex to administer.

Penalties

Australia and other jurisdictions have used financial penalties very effectively to act as a deterrent for breaching obligations on capacity and energy, and for this to influence the pricing of those obligations in the market. The current proposal only mentions the threat of deregistration. This makes it hard to place a financial value on meeting obligations.

Interaction between the RG and EG

The Reliability Panel will set the RG, and the Commonwealth and States the EG. In setting the targets there will be a fine balance to be achieved between a workable level of dispatchable resources, ensuring that investment in renewables continues and taking account of the development and price changes in new, particularly storage, technology. If the targets are not aligned they will almost certainly impose additional costs on customers, as retailers may be required to have contracts well above their peak demand to meet both obligations.

Distributed resources and demand response

Distributed energy resources (DER), including generation and storage located on distribution networks, and dynamic demand response are becoming increasingly important in the electricity system. These technological changes are leading to the development of new business models. For example, small scale DER may contract separately for demand response with an aggregator, or contract directly with a network owner for the provision of storage-related services.

Consideration will need to be given as to how contracts supporting demand response in critical peak periods count towards the RG, and how new and emerging contract frameworks would be accommodated in the guarantee frameworks.

In addition, could, and should, contracts supporting improvements in energy efficiency count towards the EG?



CONTACT US



Jonathan Mirrlees-Black, Director

Jonathan is Director of CEPA Pty, our Australian business. He has over 25 years of experience as an economist and finance professional in infrastructure, as a sell-side and buy-side investment analyst and as an advisor to global infrastructure companies, regulators, international organisations, and private equity investors.

Jonathan.Mirrlees-Black@cepa.net.au



Joel Cook, Principal

Joel is a Principal, based in Sydney. He specialises in regulatory issues and has worked for a number of UK, Irish and Australian clients on regulation and incentive design considerations. His expertise covers a wide range of other issues including benchmarking, financial modelling and business plan assessment.

Joel.Cook@cepa.net.au

CEPA is an economics, finance, regulation and competition advisory firm with offices in Sydney and London, UK. Our staff and associates have extensive experience in developing and implementing policy and regulatory frameworks in a variety of sectors across Australia, the UK, Europe and other international jurisdictions. We combine intellectual rigour in applied economics with practical experience of advising a variety of stakeholders – governments, regulators, regulated and competitive companies, and major consumers.

Call us: 02 9006 1307

Visit our website: www.cepa.net.au

¹ Energy Security Board, Energy Security Board (ESB) Advice on a retailer reliability, emissions guarantee and affordability, A letter to the Minister for Environment and Energy, 13 October 2017.

² Liquidity refers to the extent that the contracts can be bought and sold at stable prices.

³ Press Conference with the Minister for the Environment and Energy and Members of the Energy Security Board, 17 October 2017, transcript available here: <http://www.pm.gov.au/media/2017-10-17/press-conference-minister-environment-and-energy-and-members-energy-security-board>

⁴ Supra n1, page 4.

⁵ Supra n1, page 3.

⁶ Independent review into the future security of the national electricity market – Blueprint for the future. 9 June 2017. <https://www.energy.gov.au/government-priorities/energy-markets/independent-review-future-security-national-electricity-market>

⁷ Platts, *FERC rejects MISO forward capacity auction proposal*, accessed 19 October 2017, <https://www.platts.com/latest-news/electric-power/houston/ferc-rejects-miso-forward-capacity-auction-proposal-21794324>