



EnergyAustralia

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Dear Sir/Madam,

EnergyAustralia's response to a proposed NSW Energy Security Target and expansion of the ESS to become the Energy Security Safeguard

We welcome the opportunity to contribute to the development of sound energy security and energy efficiency policy in New South Wales (NSW) through our response to The Energy Security Target and Safeguard consultation paper (the Consultation Paper).

EnergyAustralia is one of Australia's largest energy companies, providing gas and electricity to 2.4 million household and business customer accounts across Eastern Australia. EnergyAustralia controls over 5,000 MW of electricity generation, including around 850 MW of renewable energy and 80 MWh of grid scale batteries across the National Electricity Market. We own and operate the Mt Piper 1,400MW black coal fired power station near Lithgow, the Tallawarra 420MW combined cycle gas fired power station near Wollongong, as well as holding the rights to more than 600MW in offtake power purchase agreements from wind and solar farms within NSW.

EnergyAustralia is developing a portfolio of over 1GW of new dispatchable electricity generation projects in NSW. This represents a capital investment of around \$1.5bn and includes the expansion to our Tallawarra gas facility.

We are also a leader in household demand response, and already have over 20,000 customers opted-in to our PowerResponse program.

Being an experienced, prudent and responsible market participant, we are working to integrate new cleaner and flexible generation into the NSW energy system, without compromising reliability and affordability as older coal generation retires. Our goal is to reduce emissions and be carbon neutral by 2050. We plan to give at least five years' notice before closing our coal-fired power stations where circumstances remain within our control.

Overview

In this three-part submission, we make the following observations:

- The Energy Security Target (EST) sets a very high threshold for firm electricity supply while relying on private sector investment to fund growth. Combining an n-2 supply contingency requirement with scaled down legacy asset capacity measures, consistent with recent summer performance, multiplies the contingency and will signal a need for construction that the market doesn't value. Further, it may result in excess supply at increased cost for consumers. The EST must be

supported by market changes that ensure there is sufficient revenue available to attract investment and support ongoing operation of new and existing assets to meet the target on a sustainable basis.

- We support the set of available actions described on p.11 of the Consultation Paper for consideration by the NSW Government if the EST log indicates a possible future breach of the EST. We maintain a preference for market-led investment to meet demand over taxpayer-funded intervention
- The EST should be framed in terms of MWh, or energy at risk, rather than MW with no reference to duration. In this context, utility-scale electricity storage should be included as a source of firm EST supply
- The Energy Security Safeguard (ESS) should accelerate efforts to foster the accreditation and commercialisation of energy efficiency activities beyond commercial lighting while commercial lighting continues to contribute volume. This will help to ease the supply contraction resulting from the COVID 19 pandemic. It will then be critical for changes to be sequenced slowly and carefully, with time allowed for new technologies to be commercialised, so as to avoid compound market shock
- We seek further consultation on the introduction of a Peak Energy Reduction Certificate scheme after more comprehensive modelling has been undertaken. We support the development of a scheme that ensures that energy customers only pay for peak reduction performance rather than carrying the bill for the assumed benefits of technologies that might not be realised, as we have seen with other schemes that deem values upfront. We suggest that in other respects, the SRES scheme, inclusive of a 'clearing house' function, provides a useful template.

We prefer national reform over State-based interventions

There is overlap between the objectives of the NSW Government and the Energy Security Board (ESB) market redesign agenda for 2025 and beyond. We ask that the NSW Government works to promote and advance the need for market reform with the ESB as a critical enabler of its own reliability objectives, such that we achieve a nationally consistent set of rules and dynamics.

The National Electricity Market (NEM) must evolve to satisfy the reliability, security and decarbonisation challenges that we face today, as well as ensuring our readiness to incorporate changing sources and energy consumer needs over the coming decades. EnergyAustralia believes that most of the existing NEM design functions well, and that continuing competition and market-based exchanges provide most efficient customer outcomes. That said, we have been clear that the market, in its current form, deals inadequately with some of the challenges we face including providing signals for new dispatchable capacity investment.

EnergyAustralia is hopeful that the review that is currently underway to address national post-2025 market design will deliver the changes we need. With the growing role of interconnectors evident across State boundaries, most notably linking NSW, Victoria and South Australia, we must pursue a single set of rules and changes with commitment.

More broadly, and beyond National Electricity Law, our preference has long been for a national bipartisan policy approach that emphasises markets over interventions, and that integrates energy policy with emissions reduction.

We acknowledge, however, that limited progress has been made with national energy policy over the past decade and that individual State jurisdictions are providing leadership and policy direction in its absence. Where State-level enhancements are delivered ahead of broader market design changes they should be designed in such a way as to align and integrate once new market features are operational. We commend Minister Kean and the NSW Government for working to advance the sector's orderly transition.

For further information please contact Anna Hancock on 03 9976 8798 or at anna.hancock@energyaustralia.com.au.

Best regards,

A handwritten signature in blue ink, appearing to read 'R Edwards', with a stylized flourish at the end.

Ross Edwards
Markets Executive

Part One: The proposed Energy Security Target (EST)

The reliability target is notably high

Consistent with the NSW Government's desire to bolster resilience of electricity supply, the n-2 target proposed under this scheme, which gives a reserve margin of 1,360MW, sets a high target for supply availability. This target exceeds the AEMO reserve margin used in the Electricity Statement of Opportunities¹, and its conservatism is amplified by the derating of legacy assets where their recent summer performance has been reduced, which may not be indicative of future performance and capacity. This implies a desire to build up electricity supply sources, including generation, for frequent, infrequent and rare use, and presents a need for commensurate private-sector investment to fund construction.

The wholesale electricity market as it stands does not fully reward the role played by technologies that are able to offer controllable, dispatchable electricity supply, whether gas, coal or utility-scale electricity storage. For assets that are only required under infrequent demand and supply conditions, the financial return under our energy-only market is harder to achieve. This weakens the investment signal for new builds even as the EST might require growth in electricity generation. With the market delivering uncertain returns on capacity builds, asset risk premiums rise further, and this increases the costs to consumers.

This weak investment signal is further complicated by the risk of exiting generators deferring their closure. New entrants would then compete with them while they continued generating which erodes the fundamental commercial case for the new investment. While the AER requires large generators to give 42 months' notice of their intended closure, generators can continue to operate indefinitely after their notice period. The market needs to see when generators are expecting to close or when they become so unreliable that they may fall short of community expectations to keep the lights on.

A current, real-life example of these two challenges in NSW is our development of the Tallawarra B fast-start open cycle peaking gas plant adjacent to our existing Tallawarra facility on the shores of Lake Illawarra. This is a 300-350MW gas plant that would partially fill the gap from the exit of Liddell in 2023 and would complement and firm the continued build of intermittent renewables in NSW. It has an investment value of \$300-\$400m depending on the final technology chosen and would create 300 new jobs during construction.

While we are very much committed to progressing the project and NSW clearly requires such new capacity investment, the current market settings have not historically provided sufficient returns for these types of assets and EnergyAustralia is progressing on the basis that these will improve moving forward.

There is a rising gap between government reliability requirements and what the market can deliver under current settings. The absence of major dispatchable investment over the past seven years is a sign of the difficulties in investing in dispatchable generation. The outcome is an increased reliance upon the AEMO Reliability and Emergency Reserve Trader (RERT) function, the introduction of the Retailer Reliability Obligation (RRO), and the COAG Energy Council agreeing to a new Strategic Reserve based on 0.0006% annual Unserved Energy trigger, which is much more difficult standard to meet than the current

¹ We note also that AEMO modelled the composite Value of Customer Reliability (VCR) in NSW at \$41,534, which represents a customer's expected price on supply reliability, and this is purposefully distinct from the \$14,700 applicable as the wholesale price cap today.

Reliability Standard used to trigger RERT of 0.002%. All these emergency reliability options place significant costs on consumers.

According to the AEMO Draft 2020 Integrated System Plan², the fundamentally transitioned NEM will need up to 21GW of additional flexible and dispatchable supply, including generation and storage, over the next 20 years.

This requires a rate of investment in dispatchable generation not before achieved by the private sector in the NEM. However, with the right improvements to the current NEM design, the private sector can achieve these new rates of investment.

A commitment to securing high system reliability at the lowest cost would explicitly oblige retailers and generators to keep the lights on. To this end, we recommend transforming the RRO into a market-based long-term capacity mechanism. Under this proposal, which bears comparison to the French decentralised capacity market, retailers would be required to buy physical units in advance equal to the electricity volume that they require to meet their load on a given day. If the market interprets that supply will meet demand then these units might trade at \$0, but as supply inadequacy is identified, unit revenue would flow to new generation projects of any type so long as they can be dispatched, including leveraging demand response.

We discussed this idea (we call it the RRO+) with the Department in February and would be very happy to continue the conversation.

We ask that the NSW Government works to promote and advance this need for market reform with the ESB as a critical enabler of its own reliability objectives.

Energy at risk is a better measure than MW, and utility-scale storage counts

We note that the Consultation Paper proposes an EST set in terms of MW rather than maximum MWh. The risk of unserved energy is better expressed in MWh terms as it expresses a duration of availability that is needed to satisfy the peak. Framing the EST in MWh at peak times might simplify the task of overlaying sources of short-term dispatch that will be important when demand spikes and allows the risk to be valued using the Value of Customer Reliability (VCR) parameters. This introduces the concept of peak demand day shape into the analysis, which can also then recognise how the contribution of intermittent renewable generators may change over time³.

The proposal moves to catalogue sources of firm supply to be paired against the EST total to indicate whether a shortfall exists. In preparing this total, it will be important for utility-scale electricity storage to be counted as a relevant source. Electricity storage is not mentioned in this context within the Consultation Paper.

Batteries of different composition and pumped hydro energy storage facilities can play an important role in sending electricity to the pool as it is needed. While different technologies have the capability to serve energy for relatively longer and shorter durations, all utility storage technologies should be counted.

Inclusion of demand response and behind the meter batteries

The Consultation Paper proposes that demand response and behind the meter batteries should contribute to the firm supply log.

² Australian Energy Market Operator, Draft 2020 Integrated System Plan, 12 December 2019, p.45.,

³ As discussed on Page 5 of the Consultation Paper, recognising that the contribution factors for solar and wind may change over time and need to be monitored, as does the hour of peak demand within the day.

P10 demand conditions typically last for 4-5 hours. Utility-scale storage services will increasingly be able to play a role over these durations, with pumped hydro already capable for this duration and lithium ion increasingly stacked, while behind the meter batteries might only serve half the duration of the need. Again, metrics defined in terms of MWh would respond best to these differences.

Demand side participation and virtual power plant operations are maturing but remain somewhat hard to measure and validate. In light of the less than firm capacity measures, the Government might consider de-rating the capacity brought to the log through these methods.

Interconnectors can't solve all reliability problems

The Consultation Paper nominates the importation of electricity from neighbouring States over interconnectors as one means of delivering firm capacity supply to meet peak demands. We caution that in practice interconnection can be far from firm, and that interconnection can be a more expensive way of delivering capacity supply than the construction of in-market generation.

Interconnectors enable the growth of generation in other States and efficient sharing of energy, and those States are only incentivised to export it for use in NSW when the NSW wholesale electricity price exceeds that in the exporting State and when they themselves have spare capacity. While interconnection can be beneficial and can support greater flexibility and diversity of supply, there are several ways in which interconnection is less robust and potentially more costly than in-market solutions:

- The exporting State may run out of surplus energy to export to meet the needs of NSW. Intermittent wind and solar energy tend to be correlated across our southern States, and as already acknowledged in the Consultation Paper, typically low levels of wind and solar capacity are available at periods of peak demand. Additional interconnection would therefore not guarantee firm supply in the event of co-incident extreme weather conditions across two or more States
- Interconnection supply cannot be considered physically or financially 'firm', and the treatment under the Retailer Reliability Obligation remains uncertain (and may in fact lead to higher prices for consumers)
- The physical reliability of the transmission assets themselves (lines, transformers and substations), and their exposure to climate change induced risks including fires should be considered
- Participant behaviour and intra-regional constraints - such as from Bannaby to Sydney, or Hunter Valley to Sydney - can create perverse market outcomes forcing critical NSW supply into neighbouring regions under some conditions
- A reduction in firm generation in NSW, with demand served instead by interconnection, might cause a reduction in system stability through reduced supply of grid services such as inertia and voltage support. Additional investment in synchronous condensers or other solutions may be required to stabilise the grid, adding to the delivered cost of the interconnector
- The cost of transmission is underwritten and directly passed through to electricity customers while generation investment risk is born by the private sector
- There would be no new sources of ongoing long-term employment fostered within NSW by investing in transmission over local new and replacement generation. Indeed, investment in other States would be partly funded by NSW

- Further, if the exporting State were to experience an energy security emergency, it can require that electricity export to other States is stopped at the direction of the relevant Minister.

Based on these limitations, we recommend that interconnected volumes registered towards the EST be scaled down when included in the register of firm sources captured towards the EST.

EnergyAustralia has concerns with how AEMO's draft 2020 ISP appears to overstate the role and benefits of interconnection on the basis of assumptions around the co-optimised development of substantial amounts of deep storage pumped hydro. We query whether AEMO has modelled sufficient fast flexing and dispatchable capacity to operate the power system on a day to day basis, particularly at times of peak demand such as envisaged for the EST. We also note the increase in costs (+30%) of these projects that AEMO will take into the finalisation of the ISP and note that this suggests the business case and timing of investment in new interconnectors is much more uncertain than earlier drafts imply.

Actions available to the NSW Government if the EST will be unmet

We accept the remedies listed as available to the NSW Government if it appears that medium-term electricity supply will fall short of the EST. We maintain a strong preference for the market to meet demand over taxpayer-funded interventions and expect that the inclusion of criteria, such as minimising "cost to taxpayers and consumers"⁴, will ensure this.

One of the proposed remedial actions is to make a "priority transmission project declaration to remove capacity constraints in the transmission system"⁵. Where this declaration might extend to interconnection, as highlighted above, we caution that interconnectors can't always address reliability issues.

We recommend the use of existing data sources

We acknowledge the NSW Government's desire to achieve a single source of data to inform analysis and recognise that the long-term nature of the EST gives a valuable insight beyond existing mechanisms. The EST will be most efficient if it leverages existing AEMO data sources and uses those same sources as the means by which market participants are updated. If the Department finds that AEMO data is insufficient or inconsistent, it should specify the additional information requirement, and in turn pursue the extension of AEMO processes to harvest data.

New rules from October 2019⁶ place an obligation on AEMO to routinely update its listing of early stage new generation projects at the point of 'connection enquiry' and 'application', with transmission providers obliged to pass through information relating to connection applications, enquiries and modifications. This list includes:

- a) name, ABN and ACN of the proponent of the connection;
- b) type of plant in respect of each relevant generating unit;
- c) site location or preferred site location;
- d) maximum power generation of whole plant;

⁴ The Energy Security Target and Safeguard consultation paper, p.11.,

⁵ *Ibid.*,

⁶ <https://www.aemc.gov.au/rule-changes/transparency-new-projects>

- e) forecast completion date of the proposed connection; and
- f) technology of each relevant generating unit.

Developers also have an obligation to notify the transmission provider if the information they provided has changed.

The provision of Demand Side Participation Information already falls under rules requiring providers of demand response services to report their capabilities to AEMO, including customers on pool pass through or time of use tariffs, solar, batteries and other distributed energy resource capabilities. AEMO publishes some related statistics⁷, and draft rules, currently subject to consultation⁸, indicate that AEMO may be called to publish more comprehensive data. We ask that these existing data sources be leveraged.

We agree that the EST register should be maintained confidentially

To the extent that the Department accesses privileged asset-specific information, failure to hold the EST register confidential would cause two material problems:

- While generators are required to give 42 months of advanced notice of closure (3.5 years) the EST would signal the anticipated closure of generation facilities up to 6 years in advance. This might induce companies to announce their exits before their replacement strategies are advanced, or might compel those exiting to delay sharing their plans irrespective of the EST, impacting the quality of the EST tally
- For years in which a shortfall is indicated, publication may have the positive effect of stimulating private entry and investment in the supply side. However, in those years in which supply and demand appear better balanced, disclosure of this fact may cause the slowing and even withdrawal of construction.

Preparing for the eventual closure of the EST

At a date in the future, we hope that the market will have matured and rebalanced and that market signals will satisfy investment and reliability needs. At this future date it will be appropriate to unwind the mechanisms proposed in the Consultation Paper.

We ask that the Department consider the conditions precedent to unwinding the proposed methodology and how an orderly cessation could be achieved. We suggest that the conclusion of the EST might coincide with the introduction of market rule changes post-2025, perhaps after an initial observation and review period.

⁷ <https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/nem-electricity-demand-forecasts/2017-electricity-forecasting-insights/key-component-consumption-forecasts/demand-side-participation>

<https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/scenarios-inputs-assumptions-methodologies-and-guidelines/forecasting-and-planning-guidelines/demand-side-participation-information-guidelines>

⁸ <https://www.aemc.gov.au/rule-changes/wholesale-demand-response-mechanism>

Part Two: The proposed Energy Security Safeguard (ESS)

We support the continuation of energy efficiency activities in NSW

It is important that our customers benefit from improving energy efficiency and the resultant reduction in energy consumption, and we therefore support the role of this scheme.

Customer affordability is more important than ever

Households and businesses in NSW are under significant economic pressure following the Black Summer fires and as a result of the COVID-19 pandemic. We must not allow energy efficiency scheme costs to cause electricity bills to increase by more than a few dollars per year⁹.

As a major electricity retailer and wholesaler in NSW, EnergyAustralia will need to purchase ESS certificates according to a strict hedging policy. The cost of those certificates will be passed through to electricity customers as part of their total bill cost, as is the case for the Energy Savings Certificates (ESCs). Where there is a policy failure, such as a certificate price spike resulting from a lack of deployed supply opportunities for certificates, customers end up paying more through their bills for a level of consumption efficiency that can't be fulfilled. We therefore cautiously support a highly graduated change to the scheme design.

For the ESC to migrate into the ESS and continue successfully, it will be important that consumers can have confidence that additional charges that may be levied through the scheme are efficient. A gradual scaling up of the scheme's parameters over time will be most effective in facilitating this. EnergyAustralia therefore favours the energy saving target be grown very gradually between 2025 and 2030, with a constant rate of increase each year.

We express caution until normal installation conditions return

Any changes that restrict accredited activities or add to obligations under the scheme should be deferred to commence after mid-2021, anticipating that by then the supply-side restrictions resulting from the COVID19 pandemic may have eased.

Certificate producers were impacted by low stock availability from around February as international supply chains began to face restrictions associated with COVID19. We then became aware of certificate producers being unable to complete installations as access to premises was reduced as COVID19 spread to Australia. Installations of energy efficiency items frequently takes place indoors, including at businesses such as aged care, health services, and food manufacturing facilities. These businesses have had to restrict the number of people allowed on site, and ESC producers have been unable to keep up with their usual rate of installations.

The current ESS scheme is fulfilled by a combination of spot purchases and contracted counterparties who promise a given volume at a future date. These forward contracts typically have volumes due throughout the year, not just timed for the April acquittal. If a counterparty is unable to supply their contracted volume, they would be forced to buy on the spot market (placing further upward pressure on spot prices towards the penalty

⁹ The AEMC's annual 2019 Residential Electricity Price Trends report highlights the current ESS is ~\$7-8/year per account (Page 7).

price). For small and mid-sized operators, the financial burden of having to buy ESCs on the spot market may be too much.

If electricity retailers are required to make up the shortfall, rather than our counterparties, we will spend more money to meet our ESC obligation, and our customers will ultimately be charged more on their electricity bills for the scheme at a time when many customers are experiencing financial hardship.

Spot market prices rose by around 30% between January and April reflecting tightening supply-side conditions and, we estimate, more spot-based purchasing activity as contracted volumes fall short. As the forward contract market dries up, as a function of supply-side uncertainty, there will be more spot market trades and, most probably, continuation of rising prices.

Counterparties will need more time to complete their installations. If we are not granted leniency to surrender certificates later, using certificates that were produced later, we are not supported to offer the leniency that smaller installers will require.

We propose that the 2020 vintage volume be extended into the first half of 2021, so that producers have more time to complete installations and retailers are afforded the same extension to match their purchases and acquit their certificates. A delay would preserve the central mechanics of the ESC scheme with greater integrity than an outright reduction in retailer/wholesaler certificate purchase obligations. The 2021 certificate vintage year might then start on 1 July 2021, and henceforth follow a fiscal year rhythm.

It would be at this point that the market might be stable enough to tolerate very gradual and careful change to implement the proposed ESS scheme.

The avoidance of market shocks will remain important

The Consultation Paper envisages the transition of activities accredited to produce certificates under the ESS. Changes in eligible activities must be smoothed such that new methods are developed, and time is assigned for their deployment and commercialisation, ahead of the retirement of legacy activities.

Our experience in Victoria serves as an example: In 2011, the VEEC scheme experienced unusually high volatility in price because there was no methodology yet approved that could fulfil the demand for certificates after certificates generated through energy efficient lighting installations had been discontinued. Prices increased from \$15 per VEEC to \$40 per VEEC in 2011, only to recover to \$15 per VEEC in 2012 once Standby Power Controllers were introduced as a new methodology and deployment channels had matured to produce sufficient volumes. Customers were subject to unnecessarily high prices in 2011 caused by regulations that failed to provide for activities that would replace lighting.

We note that the Department proposes only increasing the efficiency target after 2025, anticipating that some large activity transitions including commercial lighting will have already occurred, and we support this staged approach.

Technologies being wound down under the SRES should be included

We encourage the NSW Government to facilitate the lowest cost abatement under this scheme. For this reason, we believe it would be prudent to include solar hot water, heat pump hot water and rooftop PV as eligible sources of efficiency, dovetailing with the SRES scheme as it winds down.

We suggest that the efficiency value ascribed to each of these technologies be deemed in advance, and that the value should decline linearly with each year, consistent with planned withdrawal of ESS revenue over time as the technologies can increasingly stand alone.

Fuel switching

Our preference is for the efficient and lowest-cost production of carbon dioxide abatement under the scheme rather than for the specific inclusion or exclusion of a given fuel conversion activity. We support the specification of hydrogen as 'clean' or 'green' so that only hydrogen from renewable sources might be considered within the scheme.

All electricity sellers must be required to participate, irrespective of their size

The Consultation Paper suggests that small electricity retailers/ wholesalers may face disproportionately high administrative costs in establishing and running scheme compliance systems and might therefore be excused from participating.

It is important to recognise that the largest three retailers operating in NSW provide electricity to the State's most vulnerable consumers. We are the retailers of last resort; we administer concessions and we provide hardship support that smaller retailers with streamlined service offerings do not. It would be unfair to add to our cost stack, which must be carried by all our customers, while allowing smaller retailers to offer lower cost bundles to less vulnerable customers. We must achieve an even playing field for our customers.

Non-electricity energy suppliers should share liability

As the ESS contemplates broadening the efficiency embodied in fuel conversions of all types, we encourage the NSW Government to broaden the definition of liable entities to include all businesses involved in selling energy, irrespective of form. This would see petrol, diesel and gas retailers and wholesalers falling within the scheme.

Part Three: The proposal to introduce a peak demand reduction scheme

Request for further consultation

EnergyAustralia fundamentally supports demand side participation and the value and efficiencies that demand side elasticity brings to markets. We acknowledge also that technology equipped for demand response participation can sell at a premium price and that giving some form of support will deliver more equitable and widespread uptake.

However, at this early stage it is difficult to assess the likely implications of the proposed scheme, and difficult also to weigh the likely costs and benefits to electricity consumers. As noted in our response to the EST earlier, the demand response services and technologies are evolving, and our ability to predict participation rates cannot be considered firm. The baseline setting process is very difficult: an inappropriate baseline will invalidate the linkage between the proposed certificates and their real-world impact.

Similarly, the range of technologies and peak demand participation models, and the pace of development, mean that any scheme resting upon assumptions will be problematic.

The scheme should value actual performance and contributions made rather than assumptions that deem rewards upfront.

We ask that, as further modelling is progressed by the NSW Government, including how it may overlap with principles in the AEMC's recent Wholesale Demand Response rule change mechanism, we be offered a further opportunity to engage and consult. We support the objective of reducing peak energy demand but, as noted in our broader response to the proposed ESS changes, we seek measured and contained impacts to consumer pricing, whether at the commercial and industrial or residential level.

The STC market provides a good example

We ask that the Department considers following the format of the STC scheme, which includes a Clearing House through which participants can purchase certificates when supply-side conditions are tight, and which includes a linear drop in value over time.

Consistent with this, we would advocate that liable entity obligations should follow Option 3:

Maximum target with a ceiling price: Under this option, the NSW Government would set a target every compliance year based on the estimated number of certificates that will be generated for that year and certificate surplus / undersupply from the previous year. This approach would be similar to the Small-scale Renewable Energy Scheme. Certificates can be traded in the open market, but a clearing house will be established to set a ceiling price for certificates. The proportion of the total number of certificates each liable party must surrender would be relative to their contribution to liable activities.

This approach reduces the risk of PERC certificate liability holders being subject to penalty pricing, noting that carrying penalty costs in turn increases the costs passed through to electricity consumers.

PERCs attached to a participation contract must only be administered by a customer's incumbent electricity retailer

Where the issuance of a PERC is attached to a customer's participation through an active Peak Demand Response or Peak Demand Shifting¹⁰ contract, that contract should only be established and administered through the customer's electricity retailer. Any other implementation model creates unproductive complexity and implementation delays, with challenges relating to intermediary value transfer, duplication, reconciliation and billing.

A customer's electricity retailer is best placed to observe a shift in electricity consumption and can directly reward the customer for their participation with reference to the retailer's reduced use of network charges, reduced exposure to high, peak demand wholesale costs, and reduced need for hedging to cover their load at peak times. Implementation models that consider providers external to the wholesale market providing demand response services unavoidably lead to imprecise assumptions about baselines, from which the peak usage is reduced, inequitable risk and reward, and staggering implementation complexity.

The introduction of the wholesale demand response rule change across the NEM overlays the complexity of a parallel scheme with differing methodology and inefficiencies that should not be replicated in the residential sector.

¹⁰ The Energy Security Target and Safeguard consultation paper, p.26

Interaction with existing schemes

It is unclear how the proposed PERC would integrate with existing policy commitments, such as 'Empowering Homes', which commits up to \$0.5bn in interest-free loans for behind the meter batteries. We seek clarity on whether such similar schemes would continue, and whether participants might be eligible under both schemes.

Definition of liability

With our suggestion, further above, that non-electricity energy sellers should share liability under the ESS, it is important to specify that liability under the proposed PERC should be limited to sellers of electricity only.

Consistent with our earlier comments on the ESS proposal, we stress the importance of holding all electricity retailers and wholesalers liable to participate under the proposed PERC scheme. Allowing smaller electricity businesses to fall outside the scheme would burden the larger retailers with higher costs on a per account basis. Noting the higher share of vulnerable and concession-eligible customers served by the largest retailers, such inconsistent application of the PERC would exacerbate inequality.

We accept the extension of exemptions to emissions intensive trade exposed industries.

All participants will need time to prepare

The introduction of a certificate scheme of this nature will be complex and will require alignment across delivery channels and liable entities and should be accompanied by the deployment of consumer literacy programs. We have proposed the deferral of the introduction of the ESS until 1 July 2021 at the earliest. The introduction of a PERC scheme, should it be progressed, would come with greater complexity and should be sequenced for development after the successful integration of the changes to the ESS, and after the completion of the major implementation assignment associated with forthcoming Five-Minute Settlement rules.

Location-based multipliers and activities should be avoided

Use of location-based multipliers and activities would further complicate an already complex scheme and would make it more difficult to implement and administer. This applies at the point of technology purchase for portable devices, the point-of installation for wired devices, and for retailer (and retailer's agent) contracts that might drive the use of peak reduction devices. Particularly if PERCs associated with Demand Response and Demand Shifting are issued only where a contract is in place to activate the technology installed, we ask that retailers be granted the flexibility to establish rewards and set the terms needed to optimise their offerings, without reference to locational differences.

How the EST is ultimately unwound

We propose that the subsidy available to behind the meter installations under the proposed PERC should decrease annually, according to a linear adjustment. This will allow the smooth dissolution of the scheme over time and will allow also for the competitive market to grow as the technology matures and requires less commercial support.