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Dr Kerry Schott AO

Independent Chair

Energy Security Board

Submitted by email: info@esb.org.au

19 July 2018

Dear Dr Schott

National Energy Guarantee Consultation Regulation Impact Statement

AGL Energy (**AGL**) welcomes the opportunity to make a submission in response to the Energy Security Board's (**ESB**) National Energy Guarantee Consultation Regulation Impact Statement (**Consultation RIS**).

AGL is one of Australia's largest integrated energy companies and the largest ASX listed owner, operator and developer of renewable generation. Our diverse power generation portfolio includes base, peaking and intermediate generation plants, spread across traditional thermal generation as well as renewable sources. AGL is also a significant retailer of energy, providing energy solutions to around 3.5 million customers across Australia.

In addition, AGL is continually innovating our suite of distributed energy services and solutions for customers of all sizes. These behind-the-meter energy solutions involve new and emerging technologies such as energy storage, electric vehicles, solar PV systems, digital meters, and home energy management services delivered through digital applications.

AGL's view on the Guarantee

AGL welcomes the ESB's proposed approach to integrate emissions reductions policy with energy policy through the draft design of the National Energy Guarantee (**Guarantee**). The Guarantee has the potential to establish a clear long-term policy framework to reduce Australia's greenhouse gas emissions in the energy sector consistent with Australia's long-term climate change commitments. Most importantly, by providing policy certainty, further investments can occur in generation infrastructure which will place downward pressure on electricity prices.

The piecemeal introduction of carbon reduction and renewables policies has produced unintended consequences for wholesale energy markets, as incentives for development and price signals have shifted over time. The lack of a long-term mechanism to address emissions reductions that has bipartisan political support has been a significant contributor to increased risks and costs for energy market participants and has had material impacts on the Australian energy sector overall.

With careful consideration to the detailed design and a focus on key policy principles, we believe the Guarantee can contribute to a more sustainable energy market for the long-term benefit of customers.

However, care needs to be taken not to attempt to resolve all of Australia's energy market concerns through the proposed policy architecture. We note that the Guarantee is primarily a mechanism to provide certainty on investment during a period of transition to lower emissions generation sources, with an associated safeguard to ensure system reliability, and that its design should therefore focus on these two imperatives.

The electricity sector has already experienced significant disruption over the last decade, most notably because of declining demand that was poorly forecast, and the disorderly exit of thermal plant replaced by subsidised large-scale renewables.[1] In our view, further change and a continuing transition is inevitable, and the Guarantee must support this transition by providing clear signals to market participants regarding expectations on the future state of the sector.

The Guarantee should not further disrupt the transition by imposing very onerous conditions on energy market participants and investors or introducing heavy constraints on market participation. The objectives of security, affordability, and sustainability in a carbon-constrained future should be met at least cost, which will occur with minimal disruption on the operation of markets.

Guiding policy principles

The energy sector is principally concerned with delivering an essential service to consumers, which is the primary consideration in developing effective policy and setting strategic objectives over the long-term. Within this context, however, the integration of energy and emissions reduction policies is also a fundamental imperative, and the mechanisms to achieve emissions reductions in the electricity sector should be aligned and integrated with the design and operation of the energy market.

To meet customers' energy delivery requirements, system reliability must also be maintained at a reasonable price. Within the parameters of prospering in a carbon constrained future and promoting the centricity of customer's requirements, keeping system security and reliability to an acceptable standard while also addressing the cost of energy to end users are constraints within which energy markets must be operated and managed.

We therefore consider that the design of any mechanism must principally address:

1. **Cost** - The Guarantee should be designed with the greatest regulatory efficiency possible, which consists of minimal disruption to existing markets and at the lowest net cost to customers.
2. **Emissions** - The Guarantee should ensure that the electricity sector can contribute to ensure Australia can meet its international commitments on emissions reductions with a view to ramping up to a potential of net zero emissions by 2050 (consistent with the Paris Agreement).
3. **Reliability** - The Guarantee should provide direction on the appropriate mechanisms by which reliability can be maintained because of increasing amounts of intermittent generation.
4. **Certainty** - Objectives of the Guarantee must enhance the existing operation of the market and consider other market reforms and reviews.
5. **Competition** - Competitive, transparent, efficient, and liquid markets for energy and other products must be encouraged and enhanced to drive lowest cost outcomes.

The development of the detailed design by the ESB needs to balance these objectives. A focus on reliability may see adverse outcomes for affordability and meeting the principal aim of reducing emissions. The Guarantee must provide certainty, not impose further risk and costs.

The ESB's Consultation RIS

AGL has considered the ESB's Consultation RIS, which we elaborate in the Attachment to this submission. Our observations reflect our recent submission in response to the ESB's National Energy Guarantee Draft Detailed Design Consultation Paper (**Draft Design**).[2]

[1] See http://www.sciencedirect.com/science/article/pii/S0313592615000156

[2] See further AGL, Submission to the Energy Security Board in response to the National Energy Guarantee Draft Detailed Design Consultation Paper, Available at https://thehub.agl.com.au/articles/2018/07/submission-to-the-energy-security-board.

Section 1 outlines our views on the policy design of the Guarantee. We note the ESB's articulation of the policy problem to be addressed, in particular that climate policy uncertainty has complicated long-term investment decisions in the NEM.

We are supportive of the ESB's proposal to limit emissions in the electricity sector in accordance with targets that align with Australia's international obligations. We consider that a mechanism to drive emissions reductions in alignment with a long-term investment trajectory is critical to Australia's energy future.

We are also generally supportive of the ESB's consideration towards maintaining system reliability through a mechanism that ensures enough dispatchable firm generation remains in the market to meet overall system adequacy settings, although we note that under AEMO's forecasts, there are no projected system reliability issues in any NEM area for at least the next 5 years. We consider that there may be alternates to the proposed reliability guarantee which may allow reliability targets to be met at lower cost to customers and at lower risk of disruptive market intervention. Similarly, policy mechanisms that are aimed at driving liquidity and transparency in wholesale markets may be more appropriate to consider separately to the Guarantee.

Section 2 elaborates our views on the emissions requirement of the Draft Design. Transparency and simplicity are key to the development of an efficient emissions reduction mechanism. In our view, imposing a simple limit on emissions for retailers will work to drive reductions in emissions as it will naturally create a secondary market for retailers to buy and sell entitlements that are tied to emissions, in the event that they significantly outperform or underperform on their annual requirement. In our view, the emissions registry proposal in the Draft Design supports this concept.

Finally, Section 3 details our views on the reliability guarantee of the Draft Design. AGL understands that the ongoing ability of the NEM to respond to capacity shortfalls has been questioned, and concerns do exist about the increased penetration of non-firm intermittent generation and the loss of existing thermal generation from the market without adequate notice.

We therefore consider that the focus of the reliability component of the NEG should be to set very clear arrangements about the value of reliability and how reserve capacity will be procured and dispatched, while developing the basic structure for a safeguard to significant capacity shortfalls, which we consider are very unlikely to eventuate. In our view, this will be best achieved by allowing the trigger for the reliability guarantee to be limited to extremely rare projections of serious reliability issues.

We note that the Consultation RIS analyses the Guarantee against the options of business as usual (**BAU**) and physically backed contacts. We agree with the ESB's conclusion that the net benefit to the community of the Guarantee compared to BAU will be higher than the net benefit of physically backed contracts.

In our view, the incorporation of innovative approaches to meeting reliability will be critical to the successful operation of the Guarantee, through the development of new generation, the creation of new financial instruments for reliable energy, and the emergence of innovative products such as demand response that can meet point-in-time reliability at the lowest overall cost. We support an approach that allows for a broad range of contracts to be used to show compliance with the Guarantee, and we therefore strongly support the proposal to adopt a framework rather than a prescriptive approach for determining whether contracts qualify for compliance under the reliability obligation.

We have also separately provided feedback to the Commonwealth on the Commonwealth elements of the Guarantee.[3]

[3] See further AGL, Submission to the Commonwealth on the National Energy Guarantee Draft Detailed Design (6 July 2018), Available at https://thehub.agl.com.au/articles/2018/07/submission-to-the-commonwealth-on-the-national-energy-guarantee-draft-detailed-design.

Should you have any questions in relation to this submission, please contact Kurt Winter, Manager, Policy and Research on 03 8633 7204, or myself on 02 9921 2516.

Yours sincerely

Associate Professor Tim Nelson

Chief Economist

ATTACHMENT

1. The National Energy Guarantee policy design

Emissions requirement

The transition to a sustainable electricity market that utilises substantial amounts of renewable energy must be orderly. Australia is in need of a long-term carbon policy that drives investment in low-emissions sources and can steer the electricity sector smoothly through the process of replacing aging thermal plant with less emissions-intensive generation, while also meeting other electricity sector objectives.

The energy sector has an important role to play in meeting Australia's international commitment to reduce greenhouse gas emissions. The generation of electricity accounts for a third of Australia's total greenhouse gas inventory, and the decarbonisation of other sectors, such as transport and manufacturing, is heavily dependant upon clean energy sources becoming available.

If indeed an effective Guarantee can be designed that adequately maintains system reliability, AGL supports the Commonwealth's commitment to the Paris Agreement and has established plans to work towards achievement of the Government's commitments, as we elaborate in our Greenhouse Gas Policy.[4]

Meeting more ambitious targets through an efficient mechanism that does not disrupt wholesale electricity markets, however, is reliant on bipartisan support and long-term policy stability that has been lacking in Australian climate policy thus far.

While incentives under the current Renewable Energy Target (**RET**) and other State-based targets have delivered notable investment in new renewable generation, the absence of long-term policy certainty has created ongoing risks that Australia will not deliver on its long-term emissions reduction ambitions, and magnifies uncertainties for investors looking to make long-term financial commitments in the NEM.

We are supportive of the ESB's proposal to limit emissions in the electricity sector in accordance with targets that align with Australia's international obligations. We consider that a mechanism to drive emissions reductions in alignment with a long-term investment trajectory is critical to Australia's energy future. While there are many ways in which an emissions reduction target could be structured, we support the ESB's recommendation to set a limit on the electricity sector's emissions by imposing a limit on the overall emissions of retailers and large customers.

Although the obligation to reduce emissions would seem to more naturally sit on generators, as parties who are in direct control of their assets and in the best position to reduce the production of emissions at their facilities, there is a nexus between retailers and generators through the underlying contract market that operates in the electricity sector, which can be utilised to drive emissions reductions through retailer obligations.

This connection between electricity market participants, in the form of underlying financial instruments and ownership structures that support the production and supply of electricity, is a key design element of the NEM. Ultimately, retailers are the entities that purchase energy from the wholesale market and have the capacity (either directly or through financial intermediaries) to enter into agreements for the volume and type of energy that is produced.

The interaction of the Guarantee with the existing financial markets is a key component of the ESB's proposed design. The maintenance of a liquid and transparent market for energy is critical to the Guarantee's

[4] See https://content.agl.com.au/wp-content/uploads/2017/04/AGL_Greenhouse_Gas_Policy.pdf.

success, both in terms of the proposed emissions requirement and the reliability guarantee, as efficient financial markets drive lowest-cost outcomes for consumers.

The obligations imposed by the Guarantee should build on the existing design strengths of the NEM and continue to improve on current levels of contract liquidity in respect of energy market products and derivatives, while also seeking to drive down retailer risks or compliance overheads that may lead to unnecessary cost increases. Promoting multiple options for compliance through direct retailer investment in generation, innovative financial instruments and arrangements will lead to the objectives of reducing emissions and maintaining reliability being met at lowest cost.

Reliability guarantee

We are generally supportive of the ESB's consideration towards maintaining system reliability through a mechanism that ensures enough dispatchable firm generation remains in the market to meet overall system adequacy settings, although we note that under AEMO's forecasts, there are no projected system reliability issues in any NEM area for at least the next 5 years.

We also consider that there may be alternatives to the proposed reliability guarantee which may allow reliability targets to be met at lower cost to customers and at lower risk of disruptive market intervention. Similarly, policy mechanisms that are aimed at driving liquidity and transparency in wholesale markets may be more appropriate to consider separately to the Guarantee.

In developing a reliability guarantee, due regard should therefore be given to the role of existing market settings that already drive investment for greater capacity in the market. Numerous market mechanisms, price signals, and operating paradigms already contribute towards the objective of increased reliability in the NEM, and the Guarantee will need to both enhance and efficiently interact with each of them.

While ongoing scrutiny and appropriate reform of these existing market settings (which is occurring through existing market reviews, rule and procedure changes) will provide better long-term outcomes for customers, in our view there may not be a compelling need to make significant structural changes to the existing operation of the NEM to drive better reliability outcomes as a part of the policy architecture of the Guarantee, particularly when forecast capacity shortfalls seem to be less of a problem than the risk of outages due to other reasons.

Keeping these principles as a focus will ensure that the primary focus of the Guarantee is met and subsequent market reform in the NEM is also addressed in an efficient manner.

2. The Emissions Requirement

Obligation to respond to climate change

AGL supports the Commonwealth's commitment to the Paris Agreement. AGL accepts the Intergovernmental Panel on Climate Change conclusion that the risks associated with climate change are reduced substantially if warming is limited to less than 2 degrees Celsius above pre-industrial levels.

In ratifying the Paris Agreement, Australia committed to a nationally determined contribution (**NDC**) to reduce domestic emissions to 26-28 % on 2005 levels by 2030. Australia's obligations under the Paris Agreement also include a requirement to ratchet up ambition. Accordingly, as implied by this commitment made by the Commonwealth, Australia's public policy settings need to establish a durable pathway, not only to meet its current NDC, but also to ratchet up ambition over time.

AGL notes the Commonwealth's proposal to set the emissions reduction targets in Commonwealth legislation as a table of annual emissions per megawatt hour (MWh) targets (known as electricity emissions targets) for the financial years ending 2021 to 2030. We note that the Commonwealth proposes to set the annual electricity emissions targets as a pro rata share of Australia's overall emissions reduction commitment, that is achieving a 26 per cent reduction on 2005 levels by 2030.

In seeking to meet Australia's emissions reduction targets, we consider that the energy sector is in a unique position to act first and to unlock substantial emissions reductions in other sectors of the economy. Whilst electricity generation currently accounts for approximately one third of Australia's greenhouse gas emissions inventory and represents the single largest source of domestic emissions, technological substitutes to fossil fuels are available and increasingly cost effective. As noted above, our analysis has shown that the economics of traditional thermal generation is rapidly changing, and renewable investments are now cost competitive.[5] Significant emissions are generated by a small number of individual assets. Moreover, electricity generation also has the potential to facilitate emission reduction in other sectors, notably transport with electrification powered by renewable energy and manufacturing.

AGL is committed to playing a leading role in developing a pathway to a modern, decarbonised generation sector. As our Greenhouse Gas Policy[6] elaborates, we have made a commitment to a range of measures that will drive the decarbonisation of the energy sector in line with the commitments made by the Commonwealth, including the closure of all of our existing coal-fired power stations by 2050 and continued investment in new renewable and near-zero emissions technologies.

In order to ensure investor confidence in the long-term trajectory, we would also encourage the Commonwealth to legislate a ratchet obligation with respect to the electricity emissions targets. Such a mechanism may assist in ensuring that the trajectory remains consistent with the Paris Agreement architecture committed to by the Commonwealth. We note that similar provisions have been legislated in Victoria's *Climate Change Act 2017.* In our view, this would increase investor confidence.

The proposed emissions registry

Transparency and simplicity are key to the development of an efficient emissions reduction mechanism. In our view, imposing a simple limit on emissions for retailers will work to drive reductions in emissions as it will naturally create a secondary market for retailers to buy and sell contracts that are tied to emissions, in the event that they significantly outperform or underperform on their annual requirement. We consider that the emissions registry proposal in the Draft Design supports this concept.

[5] See https://www.sciencedirect.com/science/article/pii/S1040619017303500
[6] See https://content.agl.com.au/wp-content/uploads/2017/04/AGL_Greenhouse_Gas_Policy.pdf.

Allowing an exchange-based market to continue to function will enable retailers to develop tradable products that arise from the primary obligation to source a percentage of energy from low emissions generation, where they are not able to enter into primary contracts for the purchase of low-emissions generation, for example, by owning these generation facilities directly. As such, free contracting should be encouraged in an efficient market to produces a lowest-cost outcome for customers.

AGL supports the proposed design that does not restrict the possibility of a contract market emerging where retailers can purchase entitlements to the emissions component of dispatched low-emissions energy, and similarly sell excess rights to low-emissions energy where a surplus has been found to be sourced.

Registry operations

We support AEMO operating and maintaining the register for the reasons as outlined in the Draft Design and developing a more detailed guideline on how the registry will be utilised following more consultation with industry.

Nevertheless, we consider that the registry should be accessible by financial intermediaries in addition to market customers and generators. In our view this would assist in creating a more efficient and liquid market. Access could be provided to those firms registered under the "Trader" category, with its associated financial licensing regime.

While the registry should disclose sufficient information to enable market customers to meet their obligation, it must also protect commercially sensitive information. As such, while it would be prudent to publish the emissions intensity of each generator to be used in the compliance year, the registry should not reveal individual emissions transactions. Moreover, while aggregated information could be published, we do not consider it would be appropriate to publish information on individual generator and retailer positions at a given time, for example in the form of the the emissions intensity of individual market customers (at any time) or the unallocated emissions of individual generators on a rolling basis or at the end of the compliance year.

We consider that industry should be able to establish the means by which they have sourced adequate low-emissions generation, whether that is through directly owned generation, a direct contract with a generation source, or through the purchase of entitlements to the emissions component of energy contracts after those contracts have been fulfilled. Similarly, retailers that overperform on their requirement must be incentivised to transfer an excess of entitlements to other retailers to allow for a lowest-cost outcome through an efficient market for these entitlements.

We therefore strongly support the proposal to ensure that a retailer must not have excessive allocations above its load by the reporting deadline of each compliance year. This reduces the risk of gaming and adverse behavior that would adversely impact retailers meeting their requirements.

Process to calculate emissions intensity

Emissions calculations of dispatched energy should be linked to the existing National Greenhouse and Energy Reporting Scheme (**NGERS**), which already comprises a single national framework for reporting and company information about greenhouse gas emissions, energy production, and energy consumption.

To avoid duplication of effort and ensure that no unnecessary costs are borne by customers, the NGERS methodology could be utilised to identify the actual emissions intensity of generation facilities over a financial year based on real data. Utilisation of existing processes will reduce cost and complexity for participants.

We support the inclusion of embedded generation into the calculation of emissions intensities and agree that only non-market embedded generation above a threshold should be included in the emissions mechanism, which includes an export output threshold. We agree that embedded generation exports should be included in determining total NEM emissions and generation in the same way as non-embedded generators.

In the case of non-market embedded generation, we would suggest that the ESB consider an opt-in framework to allow these asset owners the choice to participate in and receive potential benefits from the Guarantee.

In principle, we are also supportive of including behind the meter solar generation in calculations on that basis that it supports the broader policy objectives of promoting low-emissions generation. We would be supportive of counting all output from solar PV (i.e. a gross generation calculation) and allocating this to relevant retailers, although we concede that this would require some level of estimation or deeming arrangement to occur, at least with the current limitations of information available regarding metering of small-scale solar generation. This is perhaps an element that could improve over time, as information regarding behind-the-meter generation becomes clearer. In the interim, we do not oppose the proposal to count net exports only from solar generation in the calculations for both retail and generation load utilising the methodology proposed in the design paper.

Nevertheless, we would also encourage a cost benefit analysis on implementing an opt-in scheme with respect to these assets, given that the asset owners should be given some choice as to how their assets are allocated. While an opt-in scheme could entail substantial administrative costs, it could also incentivize retailers to develop innovative new products to secure the attribution of these assets.

We support the principles regarding behind the meter storage that are consistent with the broader objectives of the Guarantee and principles that relate to generation facilities behind the meter generally.

We also support the ESB's intention to facilitate the treatment of GreenPower as additional in the emissions reduction requirement and that the ESB develop this approach with the National GreenPower Steering Group. Although the GreenPower program is not legislated through the RET, the program relies on the use of large-scale generation certificates under the RET, which is due to lapse in 2030. As such, we consider that it may be prudent to develop a mechanism that facilitates additional emissions reduction to support in broader terms than the narrow focus of the GreenPower program. This would ensure that customers continue to have the option to commit additional voluntary emissions reduction action.

We note that the ESB intends to consider further whether renewable generation built before 1997 should be included in the emissions reduction requirement. In our view, this category of generation should be included as the Guarantee is intended to take a technology neutral approach. While we appreciate that the RET provided a baseline for pre-1997 renewables to drive additional renewable energy, we consider that the Guarantee is intended to capture the emissions profile of all generation in the market. Indeed, excluding this category of generation would be an arbitrary approach that would increase the cost of achieving the emissions reduction target, to the detriment of consumers.

Should the Commonwealth proceed with some form of exemption for emissions-intensive trade-exposed (**EITE**) activities, we support the proposed approach to sharing any EITE load across non-EITE load and the mechanics associated with scaling retailer load to account for exempt load.

As we noted in our submission to the Commonwealth, the costs of decarbonisation should be shared equitably across the Australian economy in the long-term.

While it is important that our EITE activities are not internationally disadvantaged, we also observe that continuing to exempt these industries from climate policies results in higher costs for non-exempt businesses and households.

Accordingly, we would urge the Commonwealth to carefully consider the nature and extent of an EITE exemption. We acknowledge that there may be costs associated with this transition in the short-term to certain businesses, and we understand that the Commonwealth policy may reduce any transitional expenses on qualifying businesses.

We note the proposal the exempt the first 50,000 MWh of any market customer's load and spread it across other market customers' load. We appreciate that this measure has been developed to support retail market competition by assisting small market customers meet the emissions reduction requirement.

Calculating retail load

The calculation of a retailer's load can be easily observed using existing methodologies employed by AEMO using actual energy dispatched to the market from generators. We are supportive of retailer load being determined by the number of MWh as recorded by AEMO as being purchased by the retailer on the wholesale spot market in the relevant compliance year. It makes sense for the volumes in the registry will be defined as metered energy volume at the node by applying distribution loss factors and transmission loss factors to the metered volume, as proposed in the Draft Design.

Using NGERS and AEMO settlement data as a base, the process for retailers to calculate the emissions per MWh of their load should again be made as simple as possible, through an ex-post calculation of actual measured emissions and energy dispatched by generators. As an ex-post calculation of energy actually delivered to the market by generators and purchased by retailers, retailers should be able to provide evidence of fulfilled contracts with generators, including in-house generation, as well as any residual energy purchases from other participants or from the wholesale pool by way of allocation in the registry.

There is a question on the timing of the inputs to the calculation for retail loads and emissions intensities. In this regard we favour the suggested approach in the Draft Design that utilises actual NGERS emissions data from a previous financial year and actual AEMO loss factors. This allows for more certainty of information in the registry for the benefit of liable parties. While the emissions intensity of generators will be a delayed input into this model, we do not consider that the settings of individual generation units will vary enough that this will be a material issue. Where an emissions intensity does vary materially (for example in the case of a hybrid generation facility) this can perhaps be monitored and a scheme for true-ups or utilisation of more accurate emissions intensities considered.

It may be the case that some amendments to NGERS need to be considered to allow for its application to the Guarantee. We would be supportive of further amendments being considered, such as clear separation of generation facilities and clarification on reporting timeframes.

Development of exchange-based low emissions contracts

In our view, the approach to calculate emissions described above is likely to stimulate the development of new financial instruments that are useful for retailers, driving investment in low-emissions generation. For example, we consider that a useful product for retailers to source would be the emergence of a 'wind-firm' style product.[7]

Such a product would see the bulk of contracted energy provided by intermittent wind generation sources, which contribute to a retailer's obligation to meet a prescribed level of emissions intensity. However, the intermittency of the wind generation facility could be supported by a stapled firm generation contract, for example, from a gas-fired turbine, which would contribute to the retailer's obligation to show sufficient firm contracts in periods of projected capacity shortfall.

Where novel products are being developed (for example, a contract that considers plants with different energy sources such as wind and gas-fired generation), it should be relatively straightforward to assess ex-post the portion of energy that was delivered under both limbs of the contract. The contract would of course also instruct the generator to specify if the energy they are dispatching is being provided to a customer

[7] See further Richard Wrightson, 'Making wind energy dispatchable energy (6 April 2018), Available at https://thehub.agl.com.au/articles/2018/04/making-wind-energy-dispatchable-energy.

in terms of contributing to their emissions intensity obligations, which could then be allocated to the retailer according to NGERS reporting.

Meeting the emissions requirement

Any scheme should enable banking of contracted entitlements to enable dynamic efficiencies in markets and meet long-term targets at lowest cost. Participants should be able to sell their entitlements to low-emissions generation to other participants that are unable to source low-emissions generation. In this way, the overall limitation on emissions is met at the lowest cost over time and smooths out annual variances at lowest cost to customers.

We note the proposal in the Detailed Design that each year retailers would be able carry forward up to 5 per cent of the first year's emissions intensity target per MWh retail load for a corporate group plus a fixed amount of 60,000 MWh of zero emissions load.

We consider that there is merit in increasing the percentage of allowable banking of contracted entitlements to enhance the investment signal established through the Guarantee and encourage greater long-term investment in low emissions generation. We consider that a slightly higher limit may be appropriate whilst also mitigating any risk of anti-competitive stockpiling.

In our view, limited borrowing of emissions entitlements (i.e. deferred compliance) should also be allowed to enable dynamic efficiencies in the market for emissions entitlements. However, borrowing levels should be limited to an amount that allows for flexibility and lowest-cost outcomes, rather than allowing participants to consistently fall short of their requirement.

We therefore support the proposed solution to allow retailers to defer 10 per cent of the emissions intensity target per MWh of retail load to provide flexibility without impacting on whether the target is achieved. The proposal to make good on this obligation by the third year following the deferral seems reasonable.

Inclusion of offsets or emissions certificates created outside of the NEM wholesale market to make up shortfalls should be treated cautiously. Primarily, emissions certificates or credits outside of the NEM should not substitute for the progressive decarbonisation of the NEM, and instead should be limited to those which could assist in providing price stability and liquidity and include only those sources considered reputable to industry and relevant market bodies. As a driver for investment, offsets do not carry the same benefit as sourcing low-emissions energy from the NEM.

The design of the emissions requirement and registry does not easily lend itself to the use of offsets in the calculation of emissions obligations. Offsets, however, could be used as a tool to facilitate compliance and enforcement with the scheme.

Compliance and enforcement with the emissions requirement

With regard to compliance, we consider that only the minimum amount of information required to demonstrate compliance should need to be provided to the regulator rather than detail of all financial and contractual positions. In this respect, the information that contributes to the register should be easy to compile and assess compliance against.

Specific generation contracts should only need to be disclosed in the event of error or registry imbalance. Similarly, individual data regarding retailers' trading strategies or contract positions should not be published or otherwise made available outside market institutions. However, aggregated information on the emissions intensity of retailers could be published to incentivise compliance without this adding an additional burden on participants as has been proposed in the Draft Design.

Further information about the detailed design of compliance with the mechanism could be outlined in a carefully developed compliance and enforcement framework developed by the AER, in consultation with

AEMO, the AEMC and the CER. However, as per other obligations under the National Energy Rules, the AER would naturally have significant powers of investigation to assess compliance.

We do not consider that these powers would need to be generally expanded for the purposes of the Guarantee, and that the AER is likely to have at its disposal sufficient powers of information provision, investigation, and audit, to be able to show scheme compliance to a high degree.

Changes to upper limits for civil penalties would seem to be outside of the scope of the policy objectives of the design of the Guarantee at this stage, especially in the order of magnitude that has been suggested in the Draft Design. The COAG Energy Council has already directed a review of compliance and enforcement in the NEL, and any outcomes from this review can feed into the broader compliance framework under which the Guarantee would also be captured.

Penalties of up to $100 million would be a very significant deterrent against retailer non-compliance, but may be so extreme as to drive against participation in the market by existing smaller retailers and prospective new entrants. Compliance and enforcement of the emissions requirement should not act as a barrier to competition.

In order to facilitate the development of a liquid secondary market for retailers to buy and sell contracts that are tied to emissions, we would urge the development of clear penalty guidelines rather than the proposed AER discretion to pursue a range of enforcement options. We would prefer to see a clearly defined penalty price per unit for non-compliance with the emissions reduction requirement. This would be essential in facilitating forward contract markets to develop and in turn drive the market towards compliance with the emissions reduction requirement.

Utilisation of offsets

As referred to above, we consider that offsets should be treated cautiously, especially as they do not lend themselves to integration into the proposed design of the emissions registry and will not contribute to the broader objective of new investment in the NEM.

As we elaborated in our submission to the Commonwealth, while we acknowledge that the use of offsets may present a lower cost option to meet compliance obligations under the emissions requirement of the Guarantee, we also consider that the ability to utilise offsets may dilute the policy intent of the Guarantee and risks deferring the necessary structural adjustment of Australia's energy sector.

Accordingly, AGL would urge the Commonwealth to take a cautious approach to the use of offsets. Should the Commonwealth take the view that offsets will have a role in the Guarantee, it is imperative that public policy effectively manage the risks associated with their use by providing certainty around allowable quality and quantity. The quality of allowable offsets should be limited to those which are created from genuine sources and held to a high standard of accreditation.

Anti-avoidance and unreasonable withholding

We note that the ESB is considering the merits of introducing an anti-avoidance regime in the NEL that relates to the Guarantee to prohibit an entity which has a potential obligation under the Guarantee from restructuring or taking other action for the purposes of avoiding or minimising that liability. We appreciate that this proposal may, in part, anticipate risks associated with the 50 GWh liability-free threshold, although the Draft Design appears to envisage it applying across the NEL.

We also note the proposals to introduce new legal requirements that retailers not "unreasonably withhold" allocations of generation from each other, and generators not "unreasonably withhold" allocations of generation to retailers.

In AGL's view, competition is a fundamental element in the effective design of the Guarantee. Competitive, transparent, efficient, and liquid markets for energy and other products must be encouraged and enhanced to drive lowest cost outcomes. Nevertheless, we would urge careful consideration of the need and potential risks associated with these proposed safeguards.

In particular, we do not consider that it is necessary to establish new legal requirements on unreasonable withholding as any concerns regarding market behavior under the Guarantee would already be captured by the *Competition and Consumer Act* and the existing powers of the Australian Competition and Consumer Commission (**ACCC**).

Extension of the emissions requirement to Western Australia and the Northern Territory

As we observed in our submission to the Commonwealth, long-term nationally consistent policy is the most desirable policy outcome for the energy sector, given the long-term investment horizons and large upfront costs involved. We consider that the market for emissions abatement should be defined as geographically wide as possible. The emissions obligation should be set across the NEM and where possible extended to non-NEM regions, including Western Australia and the Northern Territory. As a commitment that reflects a national obligation, significant efficiencies will be obtained by applying the operation of the requirement as broadly as possible. Nationally coordinated targets would also ameliorate some of the economic risks associated with setting emissions reductions targets at the State level.

Nevertheless, we appreciate that States will continue to set their own emissions reductions targets in an effort to propel ambition beyond the Commonwealth's current goal. While we strongly favour a nationally consistent emissions reduction mechanism, the dynamics of Australian jurisdictional energy policy means that emissions targets need to be compatible with State-based emissions targets, noting that State-based targets operate under other models.

3. Reliability Guarantee

Enhancing the existing design of the NEM

In developing a detail design for a reliability guarantee, due consideration should be given to existing market settings that drive investment and promote reliability. Numerous market mechanisms, price signals, and operating paradigms already contribute towards the objective of increased reliability in the NEM, and the Guarantee will need to both enhance and efficiently interact with each of them.

The spot, contract, and ancillary services markets that value and reward dispatchability and flexibility already provide useful price signals for generation to be dispatched into the market at an efficient price. Forecasting information and the setting of the reliability standard and market price cap provides additional long-term price signals that have created new investment in generation where it has been needed. Finally, the operation of the underlying futures and over-the-counter contract market provides additional options for participants to hedge their exposure to the volatility of the spot market and enter into long-term agreements that reduce risk and help finance new projects.

We consider that substantial changes to the existing wholesale market processes to increase capacity may not be warranted. Rather, it is our view that the existing market settings, which are aimed at delivering new capacity to the market, have the potential to operate more efficiently through policy certainty and an increased focus on maintaining the accuracy of long-term price signals through more efficient markets, better and more transparent forecasts, and improvements in system planning and operation. These options are worthy of investigation prior to more significant market reform.

Along with other recent market reforms that are seeking to improve reliability[8], a number of concurrent reviews are also already addressing market concerns regarding reliability in terms of capacity that is available in the market. Most importantly, some of these reforms are aimed at overcoming the issues related with a disorderly transition. In a forthcoming article published in the Australian Journal of Agricultural and Resource Economics, AGL economists note that the most effective form of policy is likely to be the proposal to require participants to give adequate notice of plant closure. This would allow requisite new capacity to be delivered within the timeframe of notice.

There is a real question as to the problem the reliability guarantee is intended to address. Despite perceptions to the contrary, no NEM region has failed to meet the Reliability Standard since 2009, and AEMO's 2017 ESOO forecasts that after the 2017-18 summer, no NEM region will fall short of the standard across the outlook period. Furthermore, the Reliability Panel has recommended, in their four-yearly review which contemplates current conditions, no change to the Reliability Standard and settings.

We therefore question the need to finalise a detailed design and introduce a reliability guarantee that may promote market intervention in reliability settings as early as 2019, as proposed by the ESB. We would caution against an approach that does not duly consider other ongoing market reforms and their likely effect, to ensure unintended consequences do not eventuate.

Any mechanism must principally recognise that shortfalls of capacity need to be addressed in a way that comes at lowest cost to customers and does not adversely impact the operation of existing efficient markets for the trading of energy that already reduce long-term costs for retailers.

At a high-level, we are doubtful that the reliability guarantee is likely to provide significant increases in reliability without imposing additional costs. Rather, we consider that simpler principles to ensuring sufficient capacity is available should be developed in the first instance; namely, more accurate forecasting and

[8] For example, the five-minute settlement rule change, the reliability frameworks review, the frequency control frameworks review, and the generator performance standards rule change.

dispersion of information to the market, and processes that are more transparent and efficient to procure and dispatch reserves of last resort in the event that unexpected capacity shortfalls are identified due to very low probability but high consequence events.

While there may be policy arguments to incentivise longer term contracting between participants or require a greater level of transparency and liquidity in the market, we do not consider that those objectives naturally follow from the development of a mechanism that is principally aimed at increasing renewable generation development and maintaining a reliable system.

Nevertheless, AGL understands that the ongoing ability of the NEM to respond to capacity shortfalls has been questioned, and concerns do exist about the increased penetration of non-firm intermittent generation and the loss of existing thermal generation from the market without adequate notice.

We therefore consider that the focus of the reliability component of the NEG should be to set very clear arrangements about the value of reliability and how reserve capacity will be procured and dispatched, while developing the basic structure for a safeguard to significant capacity shortfalls, which we consider are very unlikely to eventuate. In our view, this will be best achieved by allowing the trigger for the reliability guarantee to be limited to extremely rare projections of serious reliability issues.

A more robust forecasting process

Concern about the reliability of the NEM has mostly arisen from events that were not well forecast or signalled to the market. For example, the downturn in demand over the last decade was not anticipated by the market operator's forecasts. Similarly, under-utilisation of several coal plants, leading to their closure on a timeframe that was earlier than was expected, has led to an unexpected period of tight supply in recent years (despite some economists warning it may occur[9]).

While most market participants also develop their own forecasts, it is principally the market operator's forecasts which are often used as the benchmark for public policy decisions, and confidence in those public forecasts is essential to the operation of the reliability settings more generally.

Through the existing Electricity Statement of Opportunities (**ESOO**) and medium-term projection of system adequacy (**MT PASA**) processes, AEMO already provides information to market participants on the outlook for supply and demand and the likelihood of breaching the reliability standard in each region over 10 years for the ESOO and two years for the MT PASA. These forecasts use a combination of industry inputs as well as modelling of supply and demand.

AEMO then undertakes a forward assessment of the amount of capacity that is forecast to exist in each NEM region on a 10% POE[10] day, based on its projections, at various points in the future. This takes into account closure announcements by participants, the likelihood that a particular resource will be there in a peak period, and other information provided by market participants in relation to planned maintenance and outage. Importantly, AEMO also considers the amount of demand forecast for a 10% POE day.

In our view, this existing ESOO and MT PASA methodology should be leveraged as much as possible to determine a gap for the reliability guarantee, as this is already the purpose for which those reports are prepared. We support AEMO utilising the ESOO to determine whether the reliability standard is likely to be met or not in any NEM region over a 10-year outlook period. Since AEMO's ESOO forecast could form the

[9] See http://www.sciencedirect.com/science/article/pii/S0313592615000156

[10] POE, or probability of exceedance, refers to the likelihood that a demand forecast will be met or exceeded. For example, a 10% POE forecast refers to that level of demand that is likely to be exceeded only once in every 10 years, and therefore indicates demand under 1-in-10 year conditions

basis of a regulatory obligation, we are also supportive that they be subject to a robust and transparent process along with an annual performance review.

AEMO forecasts in recent years has been poor, with forecasts incorrect by a wide margin.[11] While we consider that existing forecasting methodology could be bolstered by all participants providing input into the calculations, there is a strong case to put in place more safeguards for accurate forecasting.

To this end, we strongly support the suite of proposals in the Draft Design to improve the robustness and transparency of AEMO's forecasting. These include that:

- AEMO will provide additional descriptive information and further context to support these USE forecasts;
- Sufficient information will be made available so that the ESOO forecast is reproducible (or close to) by an independent forecaster or reviewer;
- AEMO will be required to consult on its forecasting process with stakeholders through a more formal consultation process (set out in published guidelines);
- AEMO will consult with stakeholders on defining performance metrics and consider back-casting as part of the performance monitoring. Forecast performance would be reported and published at least on an annual basis;
- AEMO will be required to publish and consult on a proposed improvement program, and then report on it as part of the next ESOO; and
- AEMO's ESOO forecasting be subject to an annual performance review.

In AGL's view, all of these are important steps to ensure transparency of information for the longer-term development of generation.

Definition of a material gap

We appreciate that the Guarantee will be based on using unserved energy (**USE**) forecasts reported in the ESOO to assess reliability in each region for the next ten years. We therefore support that additional descriptive information is required to be made available to provide further context to support these USE forecasts. However, the ESOO is based on probabilistic modelling, which produces a range of stochastic outcomes, meaning it is only possible to provide indicative information related to simulated forecast outcomes, which will not provide direct solutions to forecast shortages.

The identification of a reliability gap expressed as USE will signal to the market the additional MWh of generation output or demand response required over the period in question, but, as a probabilistic determination, it will not make clear the capacity required to address point in time peaks in demand.

While translating the gap between the reliability standard and expected USE into another figure (such as MW or MWh) might provide a useful headline figure of the magnitude of new generation or demand response required to resolve the breach of the standard, great care needs to be taken in comparing USE with capacity. The contributors to USE may indeed may not be easily resolved by increased capacity and could perhaps be better resolved by interconnection or other improvements.

Large forecast supply shortfalls in the near term are likely to be unexpected events, perhaps as a result of withdrawal of thermal plant without notice (which is being addressed through other proposed reforms by the AEMC). In the event of a robust 10-year ESOO that highlights projected shortfalls, we consider that participants are likely to invest in the right mix of generation as signalled by the market settings for investment in capacity.

[11] For example, the 2010 ESOO predicted a medium-case case for demand in 2015 that was approximately 40,000 GWh (or more than 20%) more than the actual NEM demand of ~190,000 GWh. This is a significant degree of error.

In contrast, it is probable that the conditions of the reliability standard being exceeded will be at times marginal. For example, the probability of exceedance may be only slightly higher than the 0.002% standard, and resolving the exceedance may require only slightly less uncertainty regarding certain market settings, or a very particular market response (for example relating to the treatment of a particular generator).

Some element of pragmatism will therefore be required in assessing how to trigger the reliability guarantee and what the subsequent steps to that trigger might entail. Each scenario of forecast shortfall will vary, and the suitable market response and subsequent compliance requirements on participants will be dependent on the problem that the forecast gap has identified.

We would also urge further consideration to developing an appropriate mechanism to untrigger the reliability obligation should further forecast revisions indicate a change in the reliability gap such that no material gap persists. We envisage that changing market fundamentals outside of a liable market customers' control could close a material gap, leaving a market customer exposed to the compliance burden associated with the reliability obligation unless this obligation is able to be untriggered. The precise circumstances in which this might occur need be carefully defined.

Reaction to forecast capacity shortfalls

If indeed there is no forecast shortfall, there will be no work for the reliability obligation to do, and existing market settings will provide the signal for new generation to be built. The current market price signals and settings will ensure that energy is dispatched efficiently in accordance with market price settings, and USE will be limited to the amount that is set by the reliability panel. In this respect, the reliability obligations will overlay the existing market and not add additional costs unless real risks to reliability are forecast.

However, if there is a serious forecast capacity shortfall that does not receive an adequate market response, the reliability obligation will be triggered, ensuring that retailers source a proportion of their energy from firm and reliable generation sources, or from reductions in demand through contracted demand response.

This relies heavily on the definitions of a material gap and how that is expressed, and we would strongly support supplementary information being provided such as: the drivers of forecast supply demand imbalances, the likelihood of shortfalls per region; how these risks were expected to change over time; plausible scenarios under which load shedding may occur; and the likely magnitude and duration of shortfall events.

This supplementary information will be critical in allowing the independent entity to make a full assessment of whether or not the reliability obligation should be triggered.

Independent trigger as a last resort

Each trigger of the reliability guarantee could come at significant cost to consumers. In an energy-only market, if investors over-build capacity then it is they who suffer the consequences, not energy consumers. However, if the broader market is directed to build capacity or enter into contracts that are not subsequently dispatched, this may flow through to customers in the form of increased prices.

A critical step is therefore transferring the responsibility for triggering the Guarantee to a third party or existing independent expert body provide confidence to stakeholders that the information and processes informing any decision to trigger the reliability obligation is robust, given concerns about relying on forecasts to determine the required level of capacity in the market.

We consider it imperative that the response to forecasts is not able to be influenced or controlled by parties that do not have as their primary consideration the efficiency of the market and the impact on customers both in terms of reliability and cost. In this regard, the AER may not be best placed to interrogate forecasts and determine whether or not to trigger the Guarantee based on the inputs before it, both in terms of their expertise and their specific role as energy market regulator.

In our view, the Reliability Panel would be far better placed to make this assessment. Indeed, the very purpose of the Reliability Panel is to review forecasts and make a fair assessment on the value of reliable compared to the risk and impact of outages on customer. This is exactly what the reliability obligation is aimed at delivering.

We do not consider that claims associated with members of the Reliability Panel being conflicted are justified. The Reliability Panel has operated effectively for a number of years without any allegations of its members acting under undue influence or for reasons not aligned with the best interests of the industry. To further alleviate any such concerns, it may be the case that a subset of the Reliability Panel with particular expertise or a degree of independence could make an assessment on the information before them, or that the Governance structure of the Panel could be updated to further reduce the risk of a conflict arising.

As was noted in the technical working paper on this matter, while the AER has significant energy market regulation capabilities, it would need to develop in-house technical capabilities and potentially procure external services to perform the forecasting and reliability gap analysis review. We note the proposal that the AER could seek expert advice from the Reliability Panel on particular matters, including in relation to calculating a material reliability gap, interpreting measures against a Reliability Standard, or conducting reliability gap analysis.

In our view, it would be more appropriate to empower the Reliability Panel directly with the independent review function. This would ensure that appropriate technical expertise is brought to bear on any determination to trigger the reliability obligation.

Problem to be solved

The appropriate action to resolve a risk of exceedance of the Reliability Standard will need to be clearly identified, as it flows through to the compliance standard expected for liable entities. For example, even though USE is likely to occur at times of peak demand, not all retailers and large customers have the same load profile and peaks. Adding up the peak demand for all liable entities over a compliance year will therefore result in an overall peak demand that is much higher than is likely to occur.

Requiring all entities to hedge to their individual forecasts of a 50% POE demand day therefore has the risk of leading to an overbuild of capacity if those individual forecasts are considered to be coincident.

It is impossible to predict with any certainty the actual load profiles of liable entities during a period of time where load shedding may occur. Therefore, some element of pragmatism needs to be allowed with predicting each liable entity's share of this quantity, while allowing retailers to manage their exposure to the spot market.

If each retailer can show coverage to their own forecast 50% POE demand, this should be sufficient to show compliance with the reliability obligation. The process to prove compliance after any reliability gap eventuates then will be able to highlight which retailers and liable entities underestimated their demand or were not appropriately covered.

AEMO book build process

In response to the forecast materiality gap, we consider that the market will be best placed to resolve any capacity shortfall, both through the incentivise of market exposure risk and also compliance with the reliability obligation. With that in mind, we are wary of AEMO proceeding with the proposed book build process.

As the national system planner and body responsible for connection of generation, we consider that while AEMO is in a good position to suggest how new resources could be developed to resolve the materiality gap, conducting a book build is likely to lead to serious conflicts that may result in centralised, non-market driven outcomes that inevitably are likely to come at much higher costs to customers.

We support the limitations on AEMO that are proposed in the Draft Design paper. Numerous governance issues and conflicts are highlighted in the Draft Design relating to potential concerns with the behaviour of

parties to the proposed book build and our preference would be to avoid these concerns by allowing private investors to develop projects using established commercial arrangements.

Depending on whether the proposal to develop the market liquidity obligation proceeds, we consider that the book build process may have a limited value in triggering further investment. Should the need arise into the future, we consider that market participants, particularly investment intermediaries, would be better placed to develop this function.

Liable Entities

We are supportive of the design of the reliability obligation applying to retailers as well as large customers. The Guarantee principally acts as a mechanism to drive longer-term contracting in the NEM to ensure sufficient capacity is available to meet demand. While small customer load is fairly consistent, a significant proportion of retail load consists of large customer demand, which can be highly variable. As the intention of the Guarantee is to fix the amount of load and adequately cover to that demand in advance, there must be an obligation on large customers to carry an obligation to contract as well given the significant proportion of NEM energy that can be allocated to them.

A threshold of 5MW, measured as peak demand, at a single site (**NMI**) was chosen by the ESB as the threshold for customers to become liable entities. As per information in the Draft Design, this threshold would include approximately 100 sites with total load of 36TWh, and when combined with existing large consumers who are market customers, would cover approximately 30% of NEM load.

While there may be some concerns about customers splitting NMIs to avoid being captured by the obligation, we consider the threshold is reasonable and that any concern about eligibility can be amended by future reviews of the scheme.

We support the principles regarding new entrants and retailer of last resort events as described in the paper.

Facilitating contracting after the trigger

We are supportive of liable entities being able to update their contract position after T-1 to incorporate new large customer contracts and load growth. The paper suggests that this will only be compliant where there is a material change in circumstances that was reasonably outside their control, but from a compliance perspective we see no basis for penalising a retailer if they are found to have sufficient contracts in place to cover any additional load they have procured in the 12 months prior to a projected shortfall.

We consider that a pragmatic approach to compliance is important. Too onerous of an approach could incentivise retailers to not take on any additional load in the 12 months prior to a predicted shortfall in a period where contracts are already likely to be scarce. In our view, retailers should not be penalised for taking on additional load if they can show that this load can be adequately managed as per the principles in the Guarantee.

Qualifying instruments to establish the guarantee

In our view, the incorporation of innovative approaches to meeting reliability will be critical to the successful operation of the Guarantee, through the development of new generation, the creation of new financial instruments for reliable energy, and the emergence of innovative products such as demand response that can meet point-in-time reliability at the lowest overall cost.

We support an approach that allows for a broad range of wholesale contracts to be used to show compliance with the Guarantee, and we therefore strongly support the proposal to adopt a framework rather than a prescriptive approach for determining whether contracts qualify for compliance under the reliability obligation.

The simple framework in the Draft Design that recommends defining qualifying contracts as “any wholesale contract with a direct link to the electricity market which a liable entity uses to reduce exposure to high spot prices” seems appropriate to meet this objective.

As acknowledged by the Draft Design, this approach provides flexibility for liable entities to purchase a range of products to comply with the reliability requirement while allowing continued innovation in contracting products. Allowing a broad range of qualifying products is likely to support efficient and innovative contracting which ensures compliance will be met at least cost to consumers.

However, the proposal to calculate a net firm position in MW by allocating a "firmness factor" could be a significant compliance overhead.

We would seek further guidance from the ESB on the rationale for this process and how retailers might best be able to show compliance to hedging requirements using a combination of various financial instruments. It may be the case that a more light-touch method could be enacted that would not require such a high degree of prescriptiveness, which would likely stifle contracting and impose compliance costs on businesses.

Demand response

Increasingly, demand response will play a critical role in balancing supply and demand. This is made apparent by the reliance on demand response solutions in AEMO's existing RERT mechanism.

In principle, we consider that the inclusion of demand response in the reliability obligation should be as flexible as possible. We do not consider that the Draft Design should anticipate the establishment of any demand response mechanism, as any such mechanism may create market distortions that entail further cost implications for customers. As far as possible, efficient demand response should be incentivised by the terms of the reliability obligation but without distorting the operation of the wholesale market.[12]

We support the proposal that the assessment about the integrity of DR contracts will reside with liable entities and the preferred approach that DR contracts will qualify under the reliability requirement providing they meet the general requirements for Qualifying Contracts. We also support that DR contracts would be registered with AEMO via the Demand Side Participation Portal and note that this function has been utilised by AEMO in the context of DR procured under the RERT.

We note the proposal that liable entities that rely on DR contracts to cover their share of system peak demand will need to ensure they are registered with AEMO at T-1. While we agree DR contracts should be registered at this time, we also consider that liable entities should have a degree of flexibility at time T to enter into further DR contracts to meet their compliance obligations. In our view, in market DR resources should be as flexible as possible to encourage low dispatch payments and high availability.

We note the concerns associated with measuring a liable entity's actual demand at time T due to uncertainty about the amount of DR that was activated at that time and the associated scaling factor. We support the proposed approach to accounting for DR under the reliability requirement which provides that for the proportional liable load calculation of each individual liable entity, only its own activated DR contracts will be added back on the gross load of the region for that liable entity. Nevertheless, we consider that liable entities should have a right to propose the methodology applied to calculate the gross load of the region for that liable entity. In our view, this would present a lower cost outcome whereas a market wide methodology risks encouraging liable entities to contract in excess of actual demand and may entail additional compliance costs.

Liquidity, transparency and competition

The satisfaction of any obligations under the Guarantee should primarily be met through efficient markets without distortions. This is a further driver for the trigger of the obligation to be as a last resort only, as the potential for the Guarantee to be triggered is likely to act as a significant distortion to the market. Similarly, we do not consider that the Guarantee should dictate how a retailer structures their portfolio, for example, by requiring retailers to be fully hedged to low-probability high demand events as a response to projected shortfalls. Such adjustments are likely to adversely impact on the efficient operation of the contract market and may have significant unintended consequences.

We support the position in the design paper that requiring vertically integrated generators to sell all generation through exchanges or trade repositories is not a useful response to driving improvements in access to

[12] See http://onlinelibrary.wiley.com/doi/10.1111/1467-8462.12151/abstract

contracts and greater visibility of markets during periods of tight supply. The central clearing approach would restrict innovation and flexibility to hedge in an efficient manner. Burdensome trade repositories can add significant costs without any clear improvement in liquidity metrics, and are not likely to drive innovation among market participants. Indeed, it is unclear how either of these proposals would contribute to driving additional investment or directly adding liquidity to the contract market. In our view, vertically integrated energy companies build new generation which reduces investment risks and in turn lowers the cost of that generation to consumers.

Indeed, we do not consider that it is the role of the Guarantee to develop expansive compliance obligations on participants as a result of the trigger. If there are concerns regarding transparency and liquidity in the contract market, we consider that mechanisms to address these concerns should be addressed more broadly, with the objective of addressing those issues directly.

Market Liquidity Obligation

One of the key design principles of the reliability obligation is the proposal to develop a market liquidity obligation (**MLO**). In our view, this is likely to be a better solution to improving liquidity than forced exchanges or repositories, however, again its role in meeting the overall objectives on the Guarantee seem unclear. The Guarantee is primarily a mechanism to drive emissions reductions and maintain reliability. While there are genuine concerns about how any new obligations might impact on levels of investment across the NEM, it seems overly cautious to develop the detail of a market mechanism for a problem that does not yet exist.

If indeed there are issues with liquidity in the NEM, then steps should be taken to improve those outcomes regardless of the policy objectives of the Guarantee. In our view, a market liquidity obligation could be developed outside of the architecture of the Guarantee and in parallel with other reviews that specifically look at those issues.

Advantageously, there are currently no projections that the NEM will breach the reliability standard, allowing policy makers to examine the operation of the emissions requirement and develop a more targeted response any future reliability concerns or liquidity concerns.

Nevertheless, in the context of the design of the reliability obligation and the concerns raised in the Draft Design, we support the concept of a market liquidity obligation above other proposed mechanisms to improve access to traded volumes.

We do, however, have some concerns with the obligation as proposed in the Draft Design. While we appreciate that the working papers provide an example MLO and its potential features, we consider that more detailed consultations will be required to weigh the merits of each of these features. Any such obligation would need to be tightly defined in terms of the circumstances in which it would apply (and cease to apply). We also consider that to be effective in addressing a perceived liquidity concern, its application may need to extend to all counterparties. This would ensure a concerted effort to address liquidity across the market.

Experience with market making obligations in other jurisdictions has found similar market making mechanisms have driven some improvements with liquidity metrics, but concerns remain about impacts on overall market distortion, the effectiveness of market operation outside of prescribed trading windows, and a significant compliance and cost burden on participants.[13]

We note that the ACCC, in its *Retail Electricity Pricing Inquiry Final Report* (2018) has also recommended that the AEMC introduce market making obligations in the South Australia region. Regardless of the Detailed Design of the Guarantee, we support further investigation into such a mechanism by the AEMC and would welcome ongoing consultation with industry.

AGL recognises the issues of contract liquidity in the South Australian market. As a major buyer of contracts in the South Australian market, the lack of contract liquidity is major concern for AGL. In South Australia, unlike other states in the NEM, the large majority of dispatchable generation is provided by gas generators. Given the difficulty of sourcing gas, for a market making requirement to be placed on generators in South Australia, some consideration must be given to the resulting impacts on the gas market. From an energy cost

[13] For example, relating to Ofgem's Secure and Promote Policy, see https://www.ofgem.gov.uk/ofgem-publications/126404

and efficiency point of view it would make little sense for generators in South Australia to hoard gas in case they were required to provide contract cover through their liquidity obligations. One potential solution to this problem would be to place an equivalent liquidity obligation on the gas producers that operate in the southern States. AGL would have little concern if this obligation were extended to the owners of gas import facilities that may in the future operate in the southern States.

The cost of reliability

If a failure to establish sufficient qualifying instruments continues to leave a forecast gap, then the cost of meeting any risk to reliability needs to be considered. The assessment of the value of reliability is already operationalized through the 0.002% reliability standard and the setting of the market price cap, which currently sits at $14,200/MWh.

As outlined in AEMO's 2017 ESOO, this threshold is unlikely to be exceeded in the near term, and the reliability panel has acted in accordance with this view by not adjusting the current reliability settings. The cost of closing the reliability gap in the event of a projected capacity shortfall could be significant, and should not come at a cost to customers that is excessive.

Procurer of last resort

If AEMO does intervene in the market, we consider that every available opportunity should be made by participants to seek an appropriate market solution at the lowest available price, including facilitating demand response contracts, developing storage, acquiring generation external to the NEM, or recovering mothballed generators. Intervention that forces a party to acquire additional supply at significant expense should only be a last resort solution, and even then, we consider should be used exceedingly sparingly.

A clear comparison is the current operation of the RERT mechanism. There is significant cost associated with procuring reserves in the market, which may in fact never be called on to be dispatched. Similarly, if they are dispatched, which generally comes at significant cost, it may not be clear after the event if in fact sufficient capacity to avoid any load shedding was available without them.

If retailers are required to be hedged to certain demand forecast and have made representation that they are, then RERT should not be called on upon before this threshold is met. This would erode hedged market positions and could significantly distort the market. Retailers and generators would not be able to obtain the benefit of financial cover that they have put in place to meet expected demand levels.

The Draft Design states that the RERT has a focus to secure sufficient resources to avoid unacceptable levels of USE arising from extra-ordinary demand or other operational issues such as plant outages. The key here is the concept of 'unacceptable USE'. Already the Reliability Panel makes assessments on the value of reliability for participants, and sets the USE accordingly. If AEMO is further reducing the amount of USE at significant cost to customers, then the role of the Reliability Panel in managing overall costs to customers needs to be reviewed.

In our view, very clear directions on when the RERT should be called upon and how much USE is considered unacceptable are required for a transparent discussion to occur on the cost of reliability for customers.

If there are no transparent triggers and price signals relating to the RERT this will build in significant risks for participants in terms of formulating contract cover during extremely high-price events that may flow through to increased costs for customers, on top of the costs of potentially extremely expensive RERT contracts that will be passed through to consumers.

Allocation of risk

This dilemma could perhaps be resolved by allocating risk to parties in accordance to the incentives they can best manage. AEMO, in charge of forecasting and dispatching available supply to meet demand, may be required to procure reserves at its own cost, although as outlined before, the process to procure reserves

should occur through a transparent market-driven process that reaches a lowest-cost outcome, and not through market intervention that forces the development of generation in accordance with AEMO's central planning function, as this creates a serious conflict for the market operator.

If reserves that are procured by AEMO, then AEMO should be responsible for meeting that cost. We note, however, that the ultimate cost of procuring reserves will be passed through to consumers through participant market fees and therefore this cost should be minimised. Again, we note that the best way of minimising this cost might be by ensuring that more risk to wholesale market exposure is carried by participants.

This would incentivise adequate cover from all retailers, and further incentivise the procurement of reserves that have a very low availability cost for AEMO but a high dispatch cost (much higher than the market price cap). This preserves the operation of the existing contract market.

Compliance and Penalties

The downside risk for being exposed to the pool price or to the cost of RERT that is dispatched for liable entities that fail to be appropriately covered may already be very significant. With a spot price at the market price cap, unhedged positions will accrue an extreme liability on retailers. Similarly, the cost allocation for RERT that is dispatched could be many tens of millions of dollars.

Further onerous penalties therefore seem unnecessarily punitive. Retailers have a natural incentive to be financially covered and the additional burden of having RERT costs allocated to them will be further stimulus to ensure that shortfalls do not arise.

In terms of assessing compliance, we consider that the investigation into contracted positions of five-minute periods, taking into account generator availability and bidding behaviour, as well as demand response and information available to participants at the point of dispatch could make it very hard to apportion fault to participants.

Nevertheless, financial amounts at stake could be significant, and therefore a means of compliance must be developed. We would suggest, however, that the onus would need to be on the AER to establish non-compliance rather than there being a presumption of non-compliance on the retailer if a RERT is dispatched.