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By email: info@esb.org.au

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Dear Ms Collyer,

Capacity mechanism High-level Design Paper

ENGIE Australia & New Zealand (ENGIE) appreciates the opportunity to respond to the Energy Security Board (“the Board”) in response to the Capacity Mechanism High-level Design Paper (“the Paper”).

The ENGIE Group is a global energy operator in the businesses of electricity, natural gas and energy services. In Australia, ENGIE has interests in generation, renewable energy development, and energy services. ENGIE also owns Simply Energy which provides electricity and gas to more than 740,000 retail customer accounts across Victoria, South Australia, New South Wales, Queensland, and Western Australia.

The capacity mechanism should be complementary to the existing energy only market

As the Paper sets out, there is an existing capacity mechanism in the NEM – the energy only market (EOM) with its existing market price cap (MPC), in conjunction with an effective financial contracts market. ENGIE recognises that the Board has decided that the energy transition will be facilitated by the introduction of a more explicit mechanism and considers that it is important that the new mechanism augments rather than supplants the existing market design.

To that end, ENGIE considers that the introduction of an explicit capacity mechanism (“the mechanism”) should have no bearing on the level of the NEM’s key reliability settings. This will ensure that market participants continue to place primary reliance on participation in the EOM to earn revenue which will maintain strong incentives for plant to be available at periods of high prices which in turn will typically correspond to the greatest system need.

Furthermore, it is clear that variable renewables are unlikely to be able to make significant revenue from the mechanism, rightly so, and so will rely on the EOM for revenue adequacy. Some thermal plant may also be fully dependent on the EOM, if they are in regions where the jurisdictional government has intervened to exclude them from the mechanism.

Accordingly, ENGIE considers it is less important whether future reliability settings reviews incorporate the mechanism in their scope than the question of how the mechanism’s settings will be evaluated. It should be

explicit that the mechanism is a complement to the EOM, similar to say the interim reliability reserve, the settings for which do not impinge on the EOM.

If the capacity mechanism is to achieve its goals of delivering something over and above the EOM outcomes, then it will by necessity entail some extra costs. However, while consumer fear of “double payment” under a market with both a capacity mechanism and the existing reliability settings is understandable, it is largely unfounded. The auction should allow the market to self-solve between the two revenue streams. Firstly, this will occur as bidders will bid with reference to their potential earnings in the energy market. Secondly, if the capacity mechanism attracts more available capacity, then the spot market will on average clear at lower prices, which will in turn feed through to contract prices.

Nonetheless, ENGIE is not suggesting that it is a “zero-sum” situation so a key goal of the design is to deliver a mechanism that can procure capacity efficiently so that consumers bear no more cost than is necessary for the additional level of “insurance” considered prudent by State Governments. On this basis, while the fear of double paying is largely misconceived the capacity mechanism should include a price cap, based around the forecast cost of new entry less expected spot market revenues (i.e., Net CONE), and the option to under procure or over procure where there is a benefit in doing so should be permitted, to give consumers greatest confidence.

The mechanism’s design should effectively target the availability of dispatchable power when it is most needed

As the Paper explains, a key concern of the Board with the current market settings is that the collective decision-making of participants and policymakers might get “the mix wrong (not enough dispatchable capacity, including long-duration storage, to firm VRE)”. Accordingly, minimising this risk should be the key goal of the mechanism – to augment the existing investment signals of the EOM in a manner oriented to securing sufficient dispatchable capacity as older thermal plant exits the system. Some of this capacity will need to be capable of being dispatched across several hours or even days during periods of low renewables, and so it will not be sufficient to deploy lithium-ion batteries and other short-term storage (notwithstanding that such resources will play a very valuable role in the system).

Thus, in setting the mechanism price cap, the CONE remains a relevant benchmark, providing it is the CONE of long-duration resources. Otherwise, if short-duration resources are used as the benchmark, then long-duration resources may be priced out of the market. There is obviously an element of arbitrariness in defining long-duration, but AEMO can advise on likely requirements in times of renewable drought¹.

The increasing dynamism of the system with its growing proportion of variable renewables means that the times of peak system need (i.e., when the maximum dispatchable capacity available is required) may not coincide with peak demand and may not occur at predictable times of day or year. So, the criteria for when qualifying capacity is available (compliance periods) needs to be dynamic. The Paper’s choice of LOR events as the compliance periods is one possible method and has merit, although there are strong arguments against any significant compliance requirements should the MPC be retained in its current form or similar.

¹ For example, the AEC’s [paper on Zero emissions dispatchability](#) gives an example of a recurring period of low renewables where some dispatchable plant may need to run for up to 16 hours a day every day for a week. Page 2

Nevertheless, there is value in having a predictable benchmark for the purposes of assessing derating levels, whether this is determined administratively or left to bidders to self-nominate. The paper's suggestion of using past data on times of peak power system need, such as RERT deployment has some merit as it is a simple and objective metric, but the Board should be cognisant of the possibility that the past may cease to be a good guide to the future. For example, if there is a material switch from gas to electricity for heating requirements, then peak demand season in Southern regions could switch decisively from summer to winter.

Derating is a challenging area. A single metric is used to reflect a wide range of impacts on plant availability, some of which vary by technology and from plant to plant of the same technology. They can include weather (especially for variable renewables), risk of unplanned outage, temperature derating, transmission constraints, fuel constraints, etc. A centrally determined, ex ante allocation of derating levels is bound to be an extremely blunt instrument. Accordingly, it would be preferable to let participants "self-select" their derating level through the proportion of nameplate capacity they are prepared to bid in, providing the mechanism can be designed to achieve this. For this to be effective there would need to be balanced incentives to forecast plant availability as accurately as possible. To this end, ENGIE notes that high penalties for non-performance (i.e., non-availability during the relevant periods) risk pushing bidders to bid an inefficiently low level of capacity into the auction, or even to forego the auction altogether.

Therefore, compliance obligations should primarily be focussed on availability for dispatch. The spot market will determine which resources actually get dispatched, and presumably the compliance periods (be it a time-based window or the entire year) will be such that most participating resources, including demand response will be dispatched during at least some of the compliance periods in any given year. Plant should not receive payment for periods of unplanned unavailability, but as noted above, this should not be compounded by a heavy penalty regime. Instead, penalties should be focused on misleading conduct, where heavy penalties are appropriate.

Technology neutrality is an important principle, and all technologies capable of delivering dispatchable resources at times of peak need should be able to participate, including appropriately specified demand response. If availability is the key test of performance, then participating demand response should also be a participant in the wholesale demand response mechanism to ensure visibility of availability.

It's also important that the mechanism has clear and focused objectives. Attempting to incorporate environmental objectives for example, or encouraging specific new technologies are best achieved through other mechanisms. Nor should explicit price outcomes in the EOM be targeted.

Retailers can play a valuable role in securing capacity efficiently

The paper is correct to consider ways to make the mechanism more efficient by harnessing the power of competitive markets to drive down costs. But retailers can only be expected to do what is commercially efficient. So, under-procurement of capacity should not be a general concern as there are strong incentives for retailers to procure adequate contract coverage to avoid the risks of being under-hedged. However commercial efficiency will drive retailers to procure on a just-in-time basis, whereas the Paper highlights that the Board seeks to use the mechanism to mitigate the risks of unexpected early closure (or

unavailability) of thermal generation. In other words, the mechanism is likely to include a margin of error that seeks to bridge the financial gap needed to bring forward replacement resources a year or two earlier, but this may not be the commercially rational approach of retailers. Similarly, the desire to create longer term contracts for new entrants than are generally available in the market is not something that retailers are well-positioned to deliver themselves unless their customers become more willing to enter into longer-term retail contracts to back contracts with new entrants.

Nonetheless, these factors don't preclude retailers participating in the mechanism, whether via direct procurement that can be validated as being equivalently firm to the capacity procured by AEMO, or via purchasing capacity from AEMO as the Paper envisages. The former approach may be more complex but is more likely to deliver competitive benefits, although as explained in the previous paragraph, AEMO is still likely to need to buy some capacity to meet the stated goals of the mechanism. Given the latter implies AEMO is still the single buyer of capacity through the auction it is unclear what the benefits are, except to the extent the retailers' purchase requirements are leveraged to refine AEMO's forecasts. ENGIE considers further work is required to understand how such models could work in practice over and above participants contracting bi-laterally to hedge future capacity market exposure outside the mechanism.

ENGIE agrees with the Board's proposed approach to allocate costs to retailers according to their customers' demand. This is evidently necessary under a hybrid approach where retailers can procure their own capacity but is still preferable under a fully centralised procurement approach.

Other design issues

The paper correctly observes that an efficient capacity mechanism should be open to existing plant as well as new plant. While the initial investment in existing plant is sunk, as plant gets older it becomes increasingly likely to require refurbishment capex periodically and sometimes to fix unanticipated problems where the risk of disorderly exit is greatest.

Nonetheless the observation that new plant is likely in greater need of a longer-term revenue signal is correct, and so ENGIE sees no objection to offering some longer-term contracts for new plant only. Providing payment is only for performance (i.e., availability as required), this should create adequate incentive for contracted developments to be commissioned on schedule, and thus there may be little need for complex eligibility criteria and milestone requirements beyond some basic test of project credibility.

ENGIE notes the risk of distorted incentives given that commissioning dates may be impacted by a project's ability to agree its technical capabilities with AEMO and AEMO will also be the central procurer of capacity.

The advantage of new plant only contracts should only be their contract length, i.e., they should not need to be more valuable on a \$/MW/year basis. A price premium for new plant contracts would indicate the balance of contract types is weighted too heavily towards new plant and is thus costing consumers more than necessary.

Separately, ENGIE appreciates that the States ultimately may determine a different approach on which assets are included or excluded from the capacity mechanism. In simple terms, should existing dispatchable plant be largely excluded from the mechanisms, for example coal and gas, the rationale for proceeding with

the model as envisaged by the Board would appear limited. Under such a scenario, the mechanism would effectively become an underwriting scheme for forms of new plant only and if that is the case it should potentially be structured differently and explicitly focus on individual State preferences.

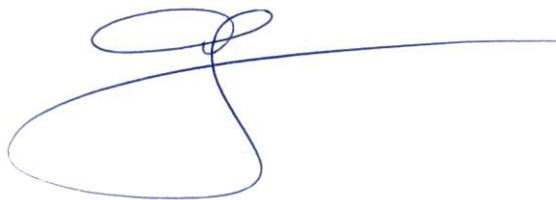
Preferable to the above, ENGIE sees scope for a functioning capacity mechanism that augments the existing EOM design and encourages investment based on both the existing MPC and the potential for capacity payments allocated through a competitive auction. By including all technologies and maintaining the existing settings the NEM will be recognising the need for a multitude of drivers for efficient investments. For example, with a capacity mechanism augmenting the existing MPC a battery investment could equally be driven by energy or capacity revenues. A slower start gas generator would capture additional energy revenue if it combined its operation with a battery while a solar farm would firm its offerings and capture capacity value with the same asset. This is a desirable outcome as all revenue sources will (and should) continue to provide investment signals. The creation of the capacity mechanism will not limit or stop investment driven by energy signals but will provide additional investment signals based on capacity. This would be a positive outcome for the NEM.

Interregional interactions

The Paper correctly identifies that the mechanism needs to account for transmission constraints and the ability of interconnectors to deliver power across regional boundaries. ENGIE's preference is for regional auctions to be kept separate but for AEMO to consider interregional support in determining the required volumes of capacity for each region's auction. Interregional revenues will still be available through the EOM.

Should you have any queries in relation to this submission please do not hesitate to contact me on, telephone, 0488 701 339.

Yours sincerely,



Ryan Auger

Head of Corporate Affairs