

To Public Submissions at ERA
Subject Submission on Triennial Review of the effectiveness of the WEM 2022
Date 24 August 2022

Good Afternoon

Thank you for the opportunity to provide comments on the recently published *Triennial review of the effectiveness of the Wholesale Electricity Market 2022* (the **Review**). The ERA has clearly put substantial effort into developing this discussion paper and, as such, it has considerable value for development of the Wholesale Electricity Market (the **WEM**).

We fully support the decision to make this review forward looking and support future reviews also being forward looking to support the rapidly evolving and transitional changes occurring within the WEM. We provide some general comments as background and have then addressed the three questions that are posed in the report.

The increasing importance of the reserve capacity mechanism

The RCM worked effectively during the initial years of the WEM but over the past ten years the vast bulk of new generating plant investment has been driven primarily by energy revenue and renewable energy certificates (RECs). As your Review points out, RECs are scheduled to finish in 2030 and both energy and ESS payments are expected to decline as more renewable generation and storage is brought on-line. This places a much stronger emphasis on revenue from the reserve capacity mechanism.

The planned closure of Synergy's coal fired power stations will require the installation of around 1000 MW of new generating capacity by 2030. This figure will be higher if Synergy's aging gas fired plant, or other coal fired plant, also retires. Given this requirement, it is essential that the reserve capacity mechanism provides the necessary incentives for investment in new plant. Without these incentives, the system faces either supply shortfalls or deferral of scheduled coal-fired plant closures.

In order to maintain sufficient capacity to sustain supply reliability, investors in the WEM must have a reasonable assurance that that they can secure a fair rate of return. The revenue streams that provide this in the WEM are:

- Reserve Capacity Payments;
- Energy revenue;
- ESS payments; and
- External income, such as RECs.

As more reliance is placed upon windfarms as the key energy producing plant their annual variability becomes more significant. The semi-scheduled resource changes over time and sufficient capacity must be installed to ensure that adequate generation, both their reserve capacity contribution and energy production, is provided in a “low-wind” year. This means that in a “normal” or “high-wind” year, which will be most years, there will be excess capacity available which will depress energy prices emphasising the need for adequate capacity income to be provided.

A point that Perth Energy has raised before is that the unpredictable reductions in the reserve capacity price, due to excess capacity, is a significant risk to investors. As noted above, the Government has announced significant plant reductions coupled with a substantial replacement program. Any modest overshoot in this program, due to the lumpiness of investment or potentially encouraged by Government’s desire to avoid shortfalls, could see significant reductions in the reserve capacity price. This is a risk that investors cannot manage and thus represents a significant barrier to investment.

It should also be stressed that the need for adequate returns on new generating plant is not just an issue for private investors. The Government has indicated that it plans to invest some three billion dollars, through Synergy, into renewable generation and storage facilities. This massive investment needs to make an appropriate return to the shareholder through electricity revenue. If not, and Synergy’s revenue is then insufficient to provide appropriate dividends, other areas of Government activity will need to be curtailed or modified. This loss is more significant than a private investment loss, in that the Western Australian public must bear this loss, not just a group of private investors.

It is our understanding that ESS has been the major revenue source for batteries in the NEM driven, presumably, by the much higher energy price differentials that are available. This is unlikely to be the situation in the WEM because of the much lower price caps. Also, as noted in your Review, income for batteries from ESS will fall away quickly as more batteries enter the market.

The Review suggests that to comply with their short run marginal cost obligations, batteries will be required to price their market offers on the basis of the cost of energy purchased to charge them up. This is likely to be very low so the potential for operating profits is limited. This also means that reserve capacity revenue will be critical to this energy source.

ERA Questions:

What other investment support mechanisms might be needed to support investment in large-scale renewable generation and battery storage?

The Government has announced that it will cut its emissions by 80% by 2030. As part of achieving this, it could require that all electricity used by its departments and agencies be provided by renewable energy plus batteries; that is, no use of carbon off-sets or time off-sets. Electricity retailers would then need to secure supplies from both renewable energy and / or storage systems to be able to meet these contract obligations.

Two issues that can slow investment in new generation is finding suitable sites and securing network access. Government could pre-emptively develop renewable energy hubs, with network access provided, and lease these locations to renewable energy and battery investors. This would reduce the time and effort required to install new facilities and potentially allow costs to be shared across several projects. With the planned closure of coal fired plant at Collie there may be sites in the south-west where energy hubs can be developed using the existing network with limited new investment.

The Government has foreshadowed a policy whereby generators with high greenhouse emission levels may be penalised, with that money being directed to low emission plant. There are still many details to be worked through, but an approach such as this may provide the right incentives. However, the benefit of this is likely to fall away quickly, as the highest emission coal fired plant is retired, thereby reducing the quantum of penalties. Perth Energy prefers a mechanism where different plant types have appropriate capacity prices which support the investment required (see below).

What changes might be needed to the pricing of capacity credits in the SWIS? For example, what framework is to be used for determining the reference technology for setting the price of capacity credits?

Perth Energy considers that breaking the relationship between excess capacity and the reserve capacity price (RCP) would be a significant improvement. Over the coming few years, with so much plant switching in and out of the WEM, there is a high likelihood of excess capacity being in place for some years during the transition. This is likely to be accentuated by Government policies such as encouraging green hydrogen-based generation and other dispatchable systems. The chunkiness of some potential investments, such as pumped storage, may also cause temporary excess capacity.

Investors and financiers cannot hedge against such events. This uncertainty is a significant barrier to new investments, especially those with a substantial up-front capital cost. Perth Energy would prefer to see this linkage removed but, if not, the current five-year price guarantee for new investment should be extended to at least 10 years to provide investors more certainty.

The power system is facing a massive and uncertain transition with closure of the bulk of low-cost base load plant. It is appropriate to consider using temporary mechanisms to ensure that this process runs smoothly and can be adjusted as required. Perth Energy considers that it would be appropriate to consider different RCP levels for different types of renewable and storage plant, with prices tailored to the desired technology types required by the system.

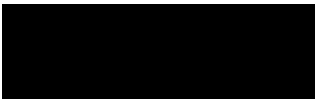
The RCM review working Group has identified a separate requirement for flexible plant with its own target MW capacity. We suggest that there may also be benefit in setting targets for both storage and renewable capacity to ensure that an appropriate balance is achieved during the transition process. This approach could be adopted for a nominated time period, say five years, or a nominated MW quantity to encourage appropriate investment. Targets could be reviewed once this initial transition has been completed. Perth Energy has suggested that this approach could be considered to foster development of dispatchable plant fuelled by green hydrogen.

What benefits would locational marginal pricing bring to the WEM and how could the cost of locational pricing – uncertainty and price volatility – be managed?

Perth Energy supports consideration of locational pricing and in a submission to the Public Utilities Office, in April 2018, strongly supported this approach. The SWIS can be naturally divided into several sub-regions each of which has different characteristics. The requirements within the North Country Region, with its high wind resource, differ markedly from those of the Goldfields, with its large industrial loads or the Metropolitan Region with its strongly meshed transmission network connecting both loads and generation. However, this should only be contemplated if it can be clearly shown that benefits to end-use customers will exceed any set-up and administrative costs.

Should you have any questions please do not hesitate to contact me at p.peake@perthenergy.com.au or on 0437 209 972. This submission may be made public.

Kind regards



Patrick Peake

Senior Manager WA EMR

m: 0437 209 972

e: p.peake@perthenergy.com.au

I am based in the Perth Office and work Tuesday, Wednesday and Thursday