GOVERNMENT OF WESTERN AUSTRALIA

Department of Energy and Economic Diversification

Energy Policy WA

WEM Investment Certainty Review Working Group (WICRWG) - Minutes

Date:	14 August 2025
Time:	9:30am – 11:30 am
Location:	Microsoft Teams online

Attendees	Representing	Comment
Dora Guzeleva	Chair, Energy Policy WA	
Tim Robinson	Robinson Bowmaker Paul (RBP)	
Richard Bowmaker	RBP	
Rohan Zauner	Jacobs	
Patrick Peake	Perth Energy	
Paul Arias	Shell Energy	
Oscar Carlberg	Alinta Energy	
Rhiannon Bedola	Synergy	
Richard Cheng	Economic Regulation Authority	
Timothy Edwards	Metro Power	
Liz Aitken	Empire Carbon and Energy	
Jake Flynn	Collgar Renewables	
Daniel Kurz	Bluewaters Power 1 Pty Ltd	
Noel Schubert	Expert Consumer Panel	
Luke Skinner	Expert Consumer Panel	
William Street	Entego Group Pty Ltd	
Tom Frood	Bright Energy Investments	
Francis Ip	BLT Energy Pty Ltd	
Lekshmi Jaya Mohan	BP Australia	
Shelley Worthington	Energy Policy WA	
Mark McKinnon	Western Power	
Fraser Maywood	Sustainable Energy Now	
Troy Forward	TransAlta Energy (Australia)	
Warren King	Frontier	
Max Collins	Neoen	

Lizzie O'Brien	APA Group	
Ben Tan	Tesla Corp (Observer)	
Other attendees	**From**	**Comment**
Gerry Devereux	AEMO	
Laura Koziol	EPWA	WICRWG Secretariat
Rory Hannon	EPWA	WICRWG Secretariat
Apologies	**From**	**Comment**
Graham Pearson	Australian Energy Council	
Peter Huxtable	Water Corporation	
Mena Gilchrist	AEMO	
Rachael Smith	Australian Gas Infrastructure Group	

1. WELCOME

Ms Koziol opened the meeting with an Acknowledgement of Country and welcomed members and observers.

Ms Koziol noted the Competition and Consumer Law obligations of the WICRWG members.

Ms Koziol noted that EPWA had engaged RBP and Jacobs to support the Coordinator's Benchmark Capacity Provider Review and that they would present their analysis in this meeting.

2. SCOPE AND APPROACH

Mr. Robinson presented slides 1-5.

- Mr King asked where the 0.55t/MWh emissions threshold, that had been applied for determining the short list of technologies, had come from.

The Chair clarified that:

- In 2022, the Minister for Energy (Minister) directed the Coordinator to develop a mechanism to introduce penalties for high carbon emission electricity generation technologies in the wholesale electricity market in the South West Interconnected System.
- This penalty was considered as part of the Coordinator's WIC Review together with four other reforms related to investment certainty.
- Over several meetings, the WICRWG considered various options for implementing such a penalty resulting in the recommendation for emissions thresholds for the Reserve Capacity Mechanism. Similar thresholds are implemented in other jurisdictions.
- In March 2024, EPWA consulted with the MAC on a draft Consultation Paper that included a proposal for the emissions thresholds.
- The proposed emissions thresholds used in the analysis for this Benchmark Capacity Provider Review reflect the most recent draft policy.

- The Government will decide how the draft proposal for the emissions thresholds will be further progressed in the context of other policies. However, EPWA has not received any direction that indicates that the thresholds will not be implemented eventually. Alternative approaches to valuing emissions reductions in line with the State Electricity Objective were not considered owing to the open WIC policy position.
- The draft thresholds are used in the assessment of the Benchmark Capacity Provider to reflect that a reasonable investor would take the possible implementation of a threshold into account when making an investment decision. In particular, considering the Government's net zero by 2050 target and the State Electricity Objective which now includes the environment limb, including the reduction of greenhouse gas emissions.

In response to further questions on the nature of the emissions thresholds and how they would be implemented, the Chair offered to discuss the Market Advisory Committee (MAC) papers from March 2024 with Mr King offline.

- Mr King agreed to that approach.

3. TECHNOLOGY LONGLIST

Mr Robinson presented slides 7 and 8, noting that the long list is substantively the 2023 review long list, but different terminology is used for some technologies.

In response to a question from Mrs Bedola, Mr Robinson clarified that the level of Capacity Credits per nameplate capacity for wind was assumed as somewhere in the 20% range, the level for solar was assumed to be lower.

4. CAPACITY SERVICE REQUIREMENTS

Mr Robinson presented slide 14.

- Mr Schubert enquired if a 35-year economic life for gas fired generation has been modelled as an alternative. He considered that the possibility of 'green' fuels being readily available at that point in time should be considered.

Mr Robinson noted that all modelling for the Benchmark Capacity Providers is based on reasonable assumptions for an investor looking to enter the WEM in the 2028/29 Capacity Year. Due to the high uncertainty associated with the availability of 'green' fuels, it is reasonable to assume that investors would not factor in their future use when making an investment decision now.

- Mr Schubert considered that potential gas turbine operators would have a strong incentive to find alternative fuels post 2050 for the 2% of the year this technology is expected to run. He considered that this was worth investigating.
- Mr Schubert suggested to assess if a 35-year economic life for the gas fired generators, would affect the rankings in any meaningful way. He noted that, if it did, this may be worth further consideration.

Mr Zauner replied that, if such sensitivity was assessed, the economic life of the BESS units should also be adjusted in such a scenario.

Mr Robinson noted that the project team would consider Mr Schubert's suggestion.

- Mr Carlbeg asked if the option of using carbon offsets, with which technologies could meet the emissions threshold, had been considered in the analysis.

Mr Robinson answered that the considered emissions threshold was a limit on carbon output per MWh of energy generated and that this could only be reduced by using 'green' fuel and not by carbon offsets.

- Mr Skinner agreed that there is great uncertainty about what will qualify as 'green' fuels, how they can be sourced and how carbon offsets could be applied in future. He noted that synthetic fuels may not necessarily be zero emission at the point of using them to produce electricity and there is much debate over the efficacy of carbon offset programs. He agreed that, should adjustments be made to the economic life of gas turbines in this analysis, the same should be done for batteries to allow for cell upgrades and/or replacements.
- Mr Arias supported the presented assumptions used for economic life. He considered that with a national goal of Net Zero by 2050 and this review considering turbine projects commencing in 2028, 25 years is a fair assumption.
- Mr Street noted in the comments that none of the developers Entego Group is currently working with is contemplating an economic life for a gas plant longer than 25 years.
- Ms Aitken noted that the outcome of this review will impact the BRCP for the 2028/29 Capacity Year. She considered that it is currently impossible to install a new gas turbine before 2030 unless it is already ordered due to long delivery timelines. She considered that, therefore, gas turbines, other than Reciprocating Engines which are currently available, should not be considered for the BCP.

Mr Robinson noted that accounting for the long lead time of gas turbines would increase the capital costs of turbines. He noted that the outcome of the analysis that would be presented on the remaining slides was to propose battery electric storage systems (BESS) for the Benchmark Capacity Providers. Therefore, pricing in the risk of longer delivery times for gas turbines would not change the proposed Benchmark Capacity Providers.

The Chair further clarified that the Benchmark Capacity Providers don't determine which technologies will be built in the SWIS. It is about determining the most efficient new entrant and setting a benchmark for the lowest fixed costs technology.

5. EVALUATION

Mr. Robinson presented slides 16 and 17.

- Mr King asked how build times had been considered in the analysis noting that, in his experience, build times in the SWIS were longer than those presented on slide 17.

Mr Zauner clarified that the build times on the slide represented construction time only, not the time between the notice to proceed and the commercial operation date.

- Mr King noted that he understood that the purpose of the Benchmark Capacity Providers was to set a fair price for capacity providers. He considered that the build costs used in the analysis are not reflective of real-life projects and that the considered gas plants could not be built in the time frame and would therefore not receive that price.

Mr Zauner explained that the ERA's methodology for setting the Benchmark Reserve Capacity Price will be based on a hypothetical plant commencing in 2028. He added that the ERA's consideration of interest during construction was simplistic and so Jacobs had included a fair estimate of build times to account for build costs. He acknowledged that,

in reality, for most projects, investors would have ordered equipment and gained approvals far before this time. However, this was not relevant to this analysis.

The Chair noted that developers commence several project development steps, such as negotiating network access and applying for environmental approvals, well before the certification process. She stated that the underlying assumption for the analysis is that any of the proponents of the technologies assessed would have started project development long before applying for Capacity Credits.

The Chair reiterated that the purpose of the review was to find the least fixed costs technologies to set the Benchmark Capacity Prices, and not to assess the timelines of the Reserve Capacity Mechanism or Western Power's process for network access.

The Chair asked Mr King and Ms Aitken if they still had concerns around lead times given the proposed reference technologies are BESS. She noted that recent BESS projects have been delivered in the WEM in under two years.

- Mr King and Ms Aitken considered that, to connect at 330kV, the timeline for a project would still be longer than two years due to the time required for network connection.
- Mr King considered that there were additional issues with the Western Power connection process as Western Power requires proof of project funding that smaller developers can only achieve if they had Capacity Credits.

The Chair acknowledged the challenges in progressing projects but noted that the BRCP cannot address these issues. She considered that Mr King's concerns were not concerns about the proposed Benchmark Capacity Providers.

Mr Robinson presented slide 18, noting dollar figures are not included for the Y axis of the bar chart. This is because the goal of the analysis was to compare technologies by making consistent assumptions, and not to inspect specific costs.

Mr Robinson presented slides 19-24.

- Mr Devereux asked what charging considerations were made for the BESS units in relation to the Fixed Operation and Maintenance (FOM) costs on slide 20. He noted the move away from negative prices in the WEM and added that AEMO has concerns that not enough generation facilities are entering the WEM and that incentives are needed to build them.

Mr Robinson clarified that the FOM calculations were based on capacity and did not consider dispatch. Additionally, this analysis looks at the marginal provider of capacity meeting the peak, it does not consider how the Electric Storage Resources are charged. He noted that variable costs are not considered for the BRCP and are, therefore, not included in the analysis.

- Mr Devereux reiterated AEMO's concern that not enough generation facilities are entering the WEM and noted that AEMO considers that it is important to ensure that the BRCP is set high enough to attract such investment.

The Chair acknowledged that new renewable generation facilities must be incentivised. However, this cannot be addressed through the BRCP because renewable generation receive only a portion of their nameplate capacity in Capacity Credits. However, Energy Policy WA was working on incentives for renewable generation through other workstreams.

The Chair also noted that the ESM Rules have been recently amended to allow AEMO to calculate shortfalls in Capability Class 1 and 3 and then give those facilities a higher

priority when assigning Network Access Quantities. She invited Mr. Devereux to share any other proposals to incentivise Capability Class 1 and 3 facilities with EPWA.

- Mr King asked how the uncongested network location was determined for the analysis and how these locations were accounted for in working out the reference technologies.

Mr. Robinson responded that the analysis did not consider a specific location but whether uncongested locations currently exist in the SWIS. Determining more specific locations and costing them for the BRCP was a matter for the ERA.

- Mrs Bedola considered that a BESS providing Flexible Capacity would be subject to greater wear and deterioration. She asked if the assumption was that any additional costs associated with this could be recovered through the Essential System Services markets instead of including them in the fixed costs.
- Mr Cheng confirmed that allowing the recovery of costs to address capacity degradation as variable costs was in line with the ERA's position and that this was outlined in its Offer Construction Guideline.

In response to questions asked in the meeting chat, Mr Robinson clarified that:

- On slide 23, the fixed costs for the 4 hour BESS was adjusted to reflect that the facility would only get 4/6ths of its nameplate capacity in Capacity Credits due to the new 6 hour ESR Duration Requirement (ESRDR).
- As a result, and because a number of the cost assumptions (electrical connection, corporate overheads, transmission maintenance, etc) do not vary with storage duration, the 6 hour BESS costs are estimated to be lower per Capacity Credit than the 4 hour BESS.
- The cost analysis assumes no Network Access Quantity reduction for any of the technologies considered.
- Mr King noted that AEMO's 2025 ESOO states that the ESRDR is likely to increase to 7 hours for the 2026 Reserve Capacity Cycle and that this potential change would apply for the Reserve Capacity Cycle for which the new Benchmark Capacity Provider was determined. He raised concerns that this could result in a higher BRCP that would increase costs to consumers.

Mr Robinson noted that, if the ESRDR was increased in the 2027 ESOO, under the ESM Rules the Coordinator would have to review the Benchmark Capacity Providers again in 2027.

The Chair clarified that the BRCP for the 2026 Reserve Capacity Cycle will be determined before the ESRDR for that cycle will be determined. The 2026 ESRDR would then be considered for the 2027 BRCP. This one year lag means that consumers may pay less in the year before the BRCP is adjusted.

- Mr King raised concerns that the lag would lead to procuring more capacity which would increase costs.

The Chair acknowledged that an increase in ESRDR would lead to an increase of the Reserve Capacity Target (which has now been provided for under the ESM Rules) and therefore the amount of Capacity Credits needed. However, this is not related to the BRCP or the Benchmark Capacity Provider but is caused by the fact that ESR are protected against an increase in ESRDR for the first 10 years of receiving Capacity Credits.

In response to a question from Mr Cheng, the Chair confirmed that the expectation was that the 6 hour BESS would receive Capacity Credits on the basis of its nameplate capacity because the ESRDR is now 6 hours.

In response to questions asked in the meeting chat, Mr Zauner clarified that:

- The analysis considered capacity in the first Capacity Year and was not including assumptions on degradation for any of the technologies assessed.
- Capital expenditure to maintain the capacity was not considered as the ERA has confirmed that these kinds of maintenance costs would be allowed as variable costs.
- A BESS would typically have around 70% of its nameplate capacity left after 20 years due to degradation, if it was cycling once daily, and a gas turbine would only lose up to 4% before a major refurbishment. He noted that at a 10.45% Weighted Average Cost of Capital he suspected that the impact of those later year degradations would be reduced.

- Mr Cheng confirmed that maintenance costs to address degradation of the capacity would be allowed as variable costs. He noted that ERA's relevant WEM Procedure included an extra land allowance for BESS to account for overbuilding capacity so that a BESS could receive its nameplate worth of Capacity Credits for its entire life. He noted that this was standard practice globally.
- Mrs Bedola enquired if the analysis accounted for any certification risk for a BESS in the final five years of its economic life, once the 10-year capacity price protection has expired, as this could impact the amortisation of costs across 15 years.

Mr Robinson answered that the analysis did not consider the risk to of the BESS receiving less Capacity Credits in the last 5 years of the economic life due to a possible increase for the ESRDR.

- Mr Schubert agreed with the approach assuming that a new facility would be sized to avoid setting the largest contingency. He sought clarification if changes in the current largest contingency would affect the outcome of the analysis. For example, if a network contingency would become the largest contingency.

Mr Robinson considered that this would not change the outcome of the analysis.

The Chair noted that currently the largest contingency during peak demand was set by the largest generation unit.

6. GROSS/NET COST OF NEW ENTRY (CONE)

Mr Robinson presented slides 25-28.

- Mr Schubert, considered that BESS were currently making substantial revenue through arbitrage and Essential System Services (ESS), though he acknowledged that this wouldn't continue as more BESS enter the market. He acknowledged that applying Gross CONE is simpler and that the review is on a tight timeframe but expressed a concern that BESS would still be earning significant revenue in the next few years while also being paid a capacity price based on Gross CONE.

Mr Bowmaker noted that RBP's modelling considered the impact of planned BESS units entering before 2028 on energy prices and that there was uncertainty how the revenue of BESS would be affected.

The Chair noted that the 2023 Benchmark Capacity Provider Review determined that the uncertainty of the future revenue was too high to apply Net CONE. She noted that EPWA

could not justify applying Net CONE as the gap between Net CONE and Gross CONE revenues was much narrower in this year's review.

The Chair noted that another review supported by another MAC Working Group will investigate how BESS technologies impact power system reliability and security.

7. NEXT STEPS

Ms Koziol presented slide 30.

Ms Koziol thanked all members for their comments and contributions to the discussion. '