AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Request for Expressions of Interest for the 2021 Reserve Capacity Cycle

1 July 2021

A report for the Wholesale Electricity Market

Important notice

PURPOSE

The Australian Energy Market Operator (AEMO) has prepared this Request for Expressions of Interest (REOI) under sections 4.2 and 4.3 of the Wholesale Electricity Market Rules (WEM Rules). The purpose of the REOI is to invite existing and new Market Participants to notify AEMO of the amount of new Energy Producing System and Demand Side Management capacity they intend to make available as Reserve Capacity in the South West interconnected system (SWIS) in the Capacity Year to which the REOI relates.

DISCLAIMER

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VERSION CONTROL

Version	Release date	Changes
#1	1/7/2021	

Executive summary

This 2021 *Request for Expressions of Interest* (REOI) invites existing and new Market Participants to provide information to the Australian Energy Market Operator (AEMO) regarding new Energy Producing System and/or Demand Side Management (DSM) capacity they intend to make available as Reserve Capacity in the South West interconnected system (SWIS) for the 2023-24 Capacity Year[1].

A Market Participant must submit an Expression of Interest (EOI) as a condition of being eligible to seek certification of Reserve Capacity under section 4.8 of the Wholesale Electricity Market Rules (WEM Rules) for any new capacity, which includes an upgrade of a Facility, in the 2021 Reserve Capacity Cycle for the 2023-24 Capacity Year.

EOIs, including all supporting documentation, must be submitted to AEMO by **5:00 PM (Australian Western Standard Time (AWST))** on **16 August 2021**[2]**.**

In addition to submitting an EOI, Market Participants are encouraged to engage with AEMO to understand the various aspects of the Reserve Capacity Mechanism (RCM), and to commence processes required to secure all necessary approvals. AEMO encourages engagement regarding network access requirements, which are critical to the assignment of Certified Reserve Capacity.

The RCM ensures that sufficient capacity is available to meet future peak demand, plus a reserve margin. An important part of this process is to forecast peak demand for the relevant Capacity Year. For the 2023-24 Capacity Year, the total capacity required to meet the forecast peak demand, plus a reserve margin, is determined through the Long Term Projected Assessment of System Adequacy (Long Term PASA). This was published in the WEM Electricity Statement of Opportunities (ESOO) on 17 June 2021.

Capacity Credit assignments for the 2023-24 Capacity Year are expected to be finalised in April 2022. The latest information on the capacity available in the SWIS is from the Capacity Credit assignment for the 2020 Reserve Capacity Cycle (for the 2022-23 Capacity Year). Information about the three previous Reserve Capacity Cycles for the 2020-21, 2021-22, and 2022-23 Capacity Years is included in this REOI.

The preliminary Reserve Capacity Requirement (RCR) for the 2023–24 Capacity Year is 4,396 megawatts (MW)[3]. Based on the 2021 WEM ESOO forecasts, it is estimated that there will be 411 MW of excess capacity for the 2023-24 Capacity Year. This assumes the level of Capacity Credits assigned for the 2022–23 Capacity Year remains unchanged at 4,807 MW[4]. Based on previous Capacity Cycles, AEMO expects the entire 4,807 MW of assigned Capacity Credits to be bilaterally traded.

A total of 30 MW of new generation capacity (26 MW of Capacity Credits) will enter the SWIS for the 2022-23 Capacity Year.

For information on any aspect of the RCM, proponents are encouraged to contact Reserve Capacity (WA) at wa.capacity@aemo.com.au.

[1] The 2023-24 Capacity Year is for capacity available on Trading Days from 1 October 2023 to 1 October 2024.

[2] Section 1.36A of the WEM Rules modifies the date and time specified in clause 4.1.5 of the WEM Rules for the 2021 Reserve Capacity Cycle.

[3] Key references for data in this document can be found in the "References, measures and abbreviations" section.

[4] Assignment of Capacity Credits since the commencement of the WEM in 2006 is available at https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Assignment-of-capacity-credits.

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1. Introduction

This *Request for Expressions of Interest* (REOI) relates to the Wholesale Electricity Market (WEM), which operates in the South West interconnected system (SWIS). The SWIS covers the south-west of Western Australia (WA), extending north to Kalbarri, south to Albany, and east to Kalgoorlie, as represented in Figure 1.

All data in this section is presented in Capacity Years unless otherwise specified.

Figure 1 Map of the SWIS

1.1 Reserve Capacity Mechanism

The SWIS is an isolated system with a high summer peak demand relative to the average load. To ensure sufficient generation and Demand Side Management (DSM) capacity is available to meet future peak demand in the SWIS, the WEM features a capacity market called the Reserve Capacity Mechanism (RCM).

The RCM is built around the concept of a 'Capacity Credit', a notional unit of capacity that can be traded via bilateral contracts among Market Participants, and between Market Participants and the Australian Energy Market Operator (AEMO). Capacity Credits are assigned to Energy Producing Systems and Demand Side Programmes (DSPs), and are valid for a single Capacity Year[5]. Any Energy Producing System and Demand Side Management (DSM) capacity, regardless of technology type, that can meet the timelines and requirements outlined in the Wholesale Electricity Market Rules (WEM Rules)[6] may participate in the RCM.

[5] A Capacity Year is defined in Chapter 11 (Glossary) of the WEM Rules as a period of 12 months commencing at the start of the Trading Day which commences on 1 October and ending on the end of the Trading Day ending on 1 October of the following calendar year.

[6] Available at https://www.wa.gov.au/organisation/energy-policy-wa.

Obligations are imposed on Capacity Credit holders in return for receiving payments for Capacity Credits. The most significant obligation is that capacity must be offered into the WEM at all times unless the Facility is subject to an approved Planned Outage. If capacity is not offered into the WEM, such as during a Forced Outage, the Capacity Credit holder is required to pay Reserve Capacity refunds to the market.

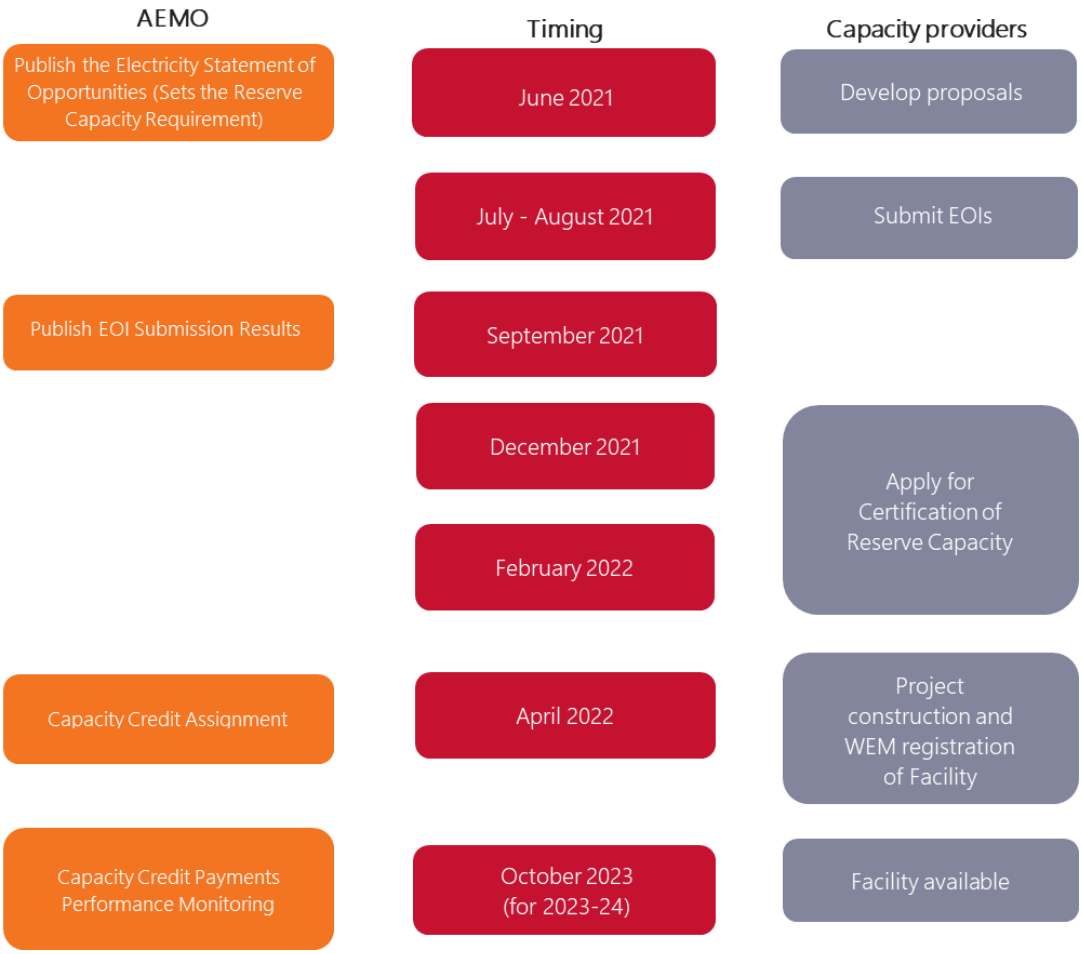
Market Customers must purchase Capacity Credits based on their consumption at system peak times in the previous year, through the Individual Reserve Capacity Requirement (IRCR). Market Customers can either purchase Capacity Credits through bilateral contracts with capacity providers or through AEMO at the administered Reserve Capacity Price (RCP).

Each year, AEMO forecasts the Reserve Capacity Target (RCT)[7] required to meet forecast peak demand, while ensuring system reliability criteria are met for the following 10 years. This RCT is calculated as the peak demand forecast of 'one-in-10-year' conditions[8], plus a margin to cover any unplanned Facility outages and provide frequency stability.

The Reserve Capacity Target for the 2023-24 Capacity Year sets the Reserve Capacity Requirement (RCR) for the 2021 Reserve Capacity Cycle at 4,396 MW, as published in the 2021 WEM Electricity Statement of Opportunities (ESOO).

A summary timeline for the process of the 2021 Reserve Capacity Cycle is shown in Figure 2.

Figure 2 Timeline for bringing new capacity to the SWIS for the 2023-24 Capacity Year



[7] AEMO's estimate of the total level of generation or DSM capacity required in the SWIS to satisfy the Planning Criterion.

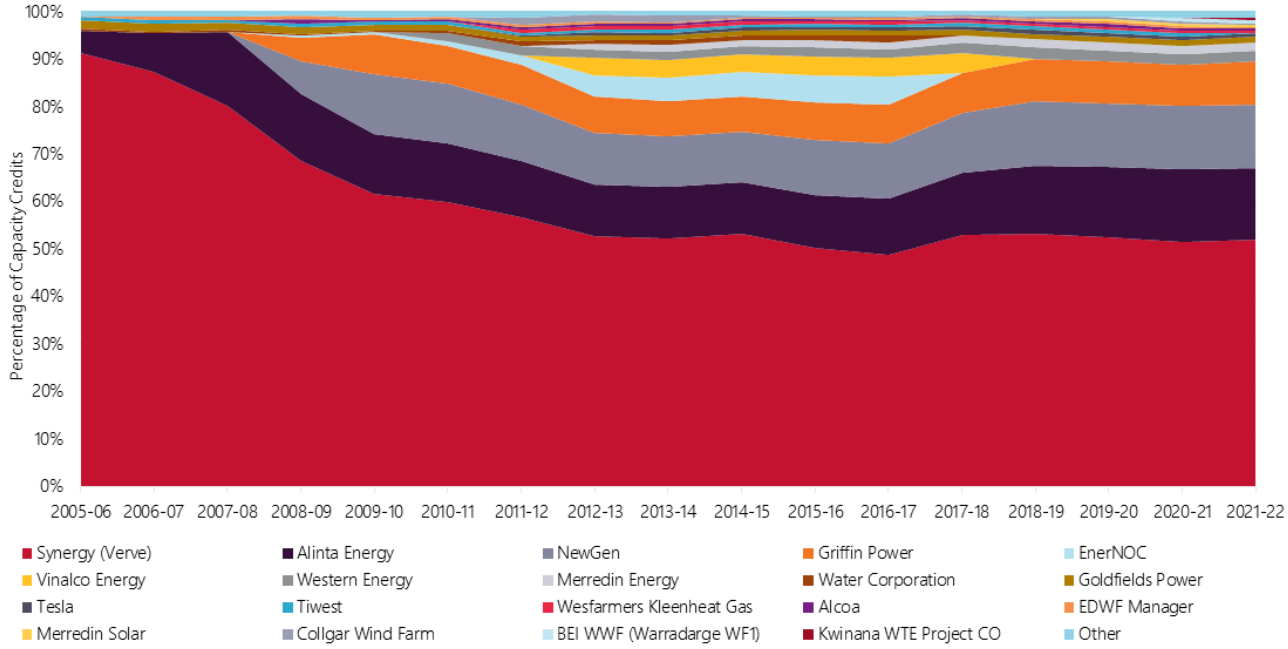
[8] One-in-10-year demand conditions are a common benchmark in electricity markets when considering reserve margin levels, including in major US electricity markets, such as those operated by PJM (regional transmission organisation for all or parts of 13 states and the District of Columbia), the New York Independent System Operator, and the New England Independent System Operator.

1.2 Existing generation and DSM capacity

The number of Market Participants participating in the WEM has more than tripled since the commencement of the WEM in 2006[9]. The proportion of capacity of the total SWIS capacity provided by Synergy[10] has fallen from 91% in 2005-06 to 49% in 2022-23, as shown in Figure 3.

With the retirement of Muja C unit 5, Synergy's share of Capacity Credits reduced by 3% compared to 2021-22. TiWest Cogeneration was assigned Certified Reserve Capacity (CRC) in 2022-23 (0.7% of total capacity), and the East Rockingham waste-to-energy facility was assigned CRC equivalent to 0.5%. For the remaining Market Participants, Capacity Credits have been maintained at similar levels in the 2022-23 Capacity Year compared to the previous Capacity Year.

Figure 3 Proportion of Capacity Credits by Market Participant, 2005-06 to 2022-23 Capacity Years[A]



A. Capacity Credits since the commencement of the WEM in 2006 up to 2022-23 are available at https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Assignment-of-capacity-credits.

1.3 Future electricity demand and supply-demand balance

The historically assigned Capacity Credits and the forecast RCT are shown in Figure 4. Excess capacity increased slightly from 8.7% for the 2022-23 Capacity Year to 9.4% for the 2023-24 Capacity Year. This is due to 30 MW of new generation capacity (26 MW[11] of Capacity Credits) entering the SWIS for the 2022-23 Capacity Year.

The RCR decreased between the 2022-23 and 2023-24 Capacity Years, as shown in Figure 4. The decrease is attributed to a lower 10% probability of exceedance (POE) peak demand forecast in the 2021 WEM ESOO because of:

- Continued rapid uptake of behind-the-meter photovoltaic (PV).
- Increased Market Customer IRCR response.
- Variation in weather patterns.

[9] For Capacity Credits by fuel type since the commencement of the WEM in 2006, see *2018 Request for EOI* at http://aemo.com.au/-/media/Files/Electricity/WEM/Reserve_Capacity_Mechanism/EOI/2018/2018-Request-for-Expressions-of-Interest.pdf.

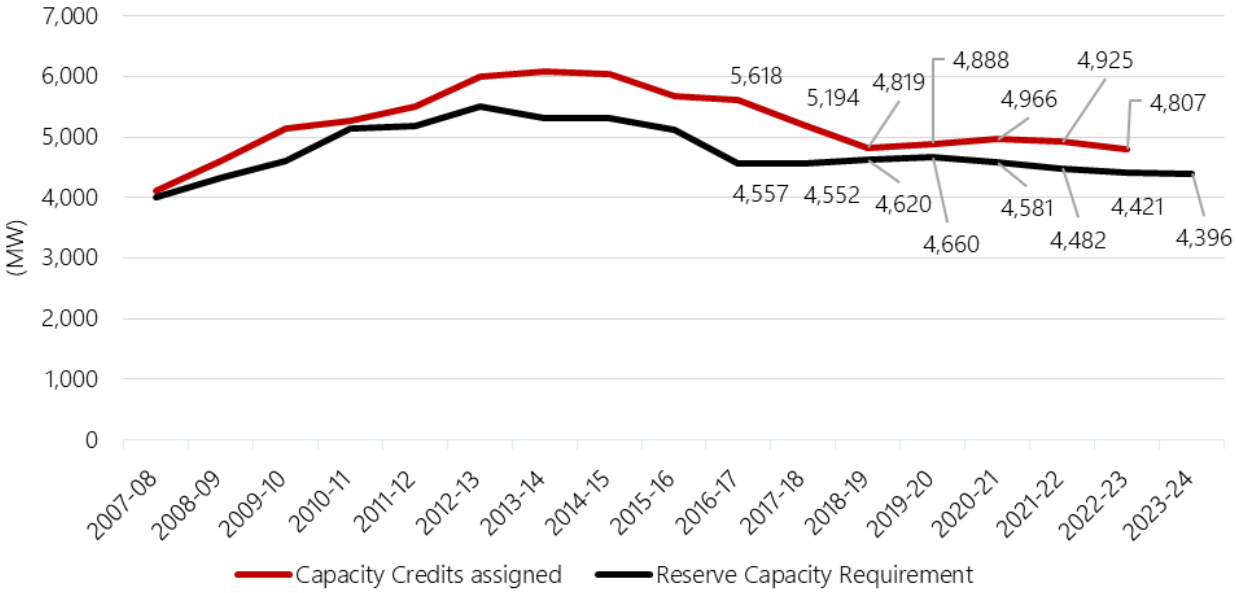
[10] This includes the generation capacity previously provided by Verve Energy and DSM capacity provided by Synergy. The two entities merged on 1 January 2014.

[11] Rounded to the nearest whole MW of Capacity Credits.

- Potential uptake of battery storage.
- Ongoing energy efficiency improvements.

The estimated RCR for the 2023-24 Capacity Year is 4,396 MW, as reported in the 2021 WEM ESOO.

Figure 4 Assigned Capacity Credits[A] and the RCR[B], 2007-08 to 2023-24



A. Included in accordance with clause 4.3.1(c)(iv) of the WEM Rules.
B. Included in accordance with clause 4.3.1(c)(i) of the WEM Rules.

Following the retirement of Muja C unit 5 (195 MW of CRC for the 2021-22 Capacity Year and 195.8 MW nameplate capacity) from 1 October 2022, approximately 4,807 MW of capacity is expected to be in service for the 2023-24 Capacity Year. This includes 4,721 MW[12] of generation capacity and 86 MW of DSM capacity. The second unit expected to close 1 October 2024 is Muja C unit 6 (193 MW of CRC assigned for the 2022-23 Capacity Year and 193.6 MW nameplate capacity). Effects of this closure will be considered for the 2024-25 Capacity Year.

Assuming there are no changes to the current level of installed and committed capacity, excess capacity is forecast to decrease to 411 MW for the 2023-24 Capacity Year (9.4% of the RCR) which indicates no capacity is expected to be required from new Facilities[13].

This is almost the same as the 386 MW for the 2022-23 Capacity Year[14]. However, the level of excess capacity is likely to differ from the preliminary value, due to changes in forecast electricity demand and new generation and DSM capacity being considered.

Both the historical and the 10% POE forecast peak demand for different demand growth scenarios are shown in Figure 5. The low, expected and high scenarios reflect different economic growth forecasts, as well as changes in rooftop PV and battery storage assumptions. In accordance with clause 4.5.9 of the WEM Rules, peak electricity demand is forecast to grow around 0.2% per annum under the 10% Probability of Exceedance (POE)[15] scenario from 3,917 MW in 2021-22 to 4,000 MW in 2030-31.

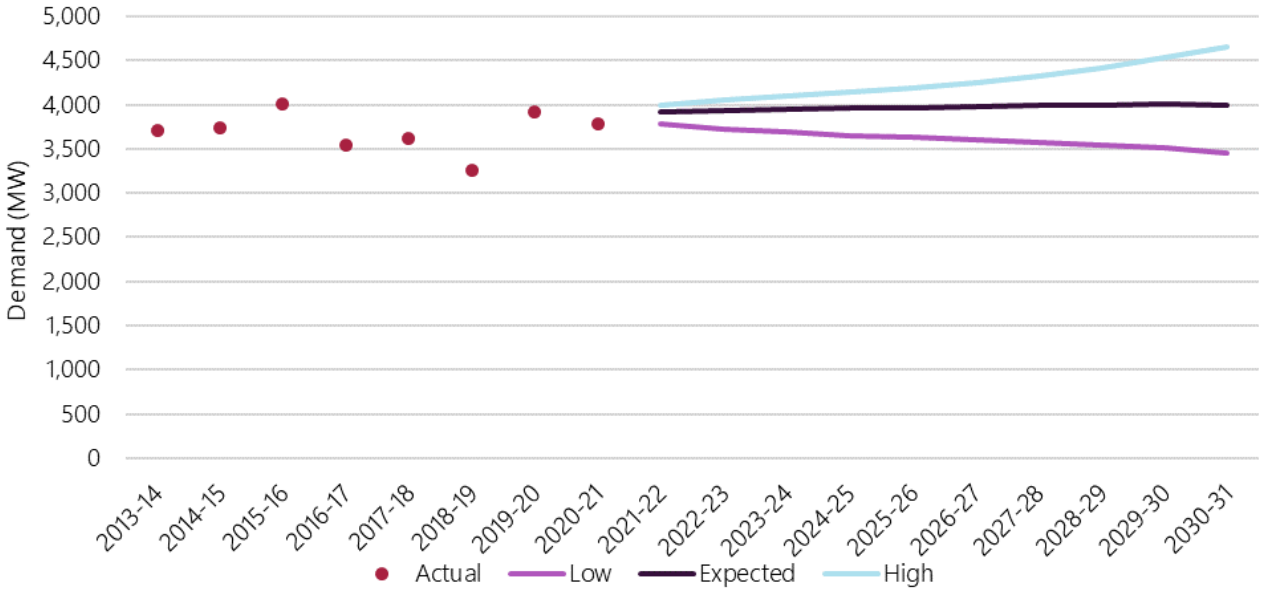
[12] Expected to be traded bilaterally in accordance with clause 4.3.1(d) of the WEM Rules.

[13] In accordance with clause 4.3.1(e) of WEM Rules.

[14] Assuming that the level of Capacity Credits assigned for the 2022-23 Capacity Year remains the same.

[15] POE means the likelihood a peak demand forecast will be met or exceeded. A 10% POE peak demand forecast is expected to be exceeded, on average, only one year in 10. A 10% POE forecast assumes more extreme weather.

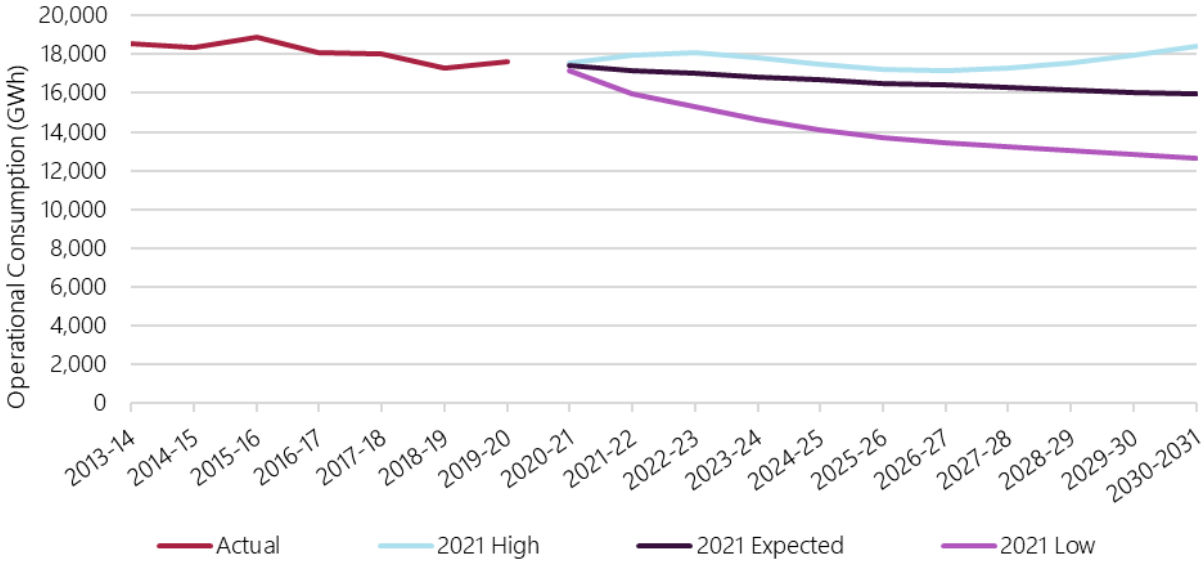
Figure 5 10% POE forecast peak demand compared to actuals, 2013-14 to 2030-31



Source: 2021 WEM ESOO.

The operational consumption forecasts under different demand growth scenarios are presented in Figure 6. The 2021 WEM ESOO forecasts suggest that operational consumption supplied by the SWIS in the expected demand scenario will decrease by 0.8% between 2020-21 and 2030-31, from 17,395 gigawatt hours (GWh) in the 2020-21 Capacity Year to 15,987 GWh in the 2030-31 Capacity Year. The energy output is forecast to be 16,842 GWh in the 2023-24 Capacity Year.

Figure 6 Operational consumption[A] forecasts under different demand growth scenarios



A. Operational consumption refers to electricity used over a period of time that is supplied by the transmission grid.
Source: 2021 WEM ESOO.

1.4 Capacity Credit payment and expected DSM dispatch quantity

Information on the RCP signals can be found on Energy Policy WA's website[16].

Table 1 outlines the Benchmark Reserve Capacity Prices (BRCP), the Reserve Capacity Prices and the corresponding quantities of Capacity Credits for the 2019-20 to 2023-24 Capacity Years.

Table 1 BRCPs[A], Reserve Capacity Price[B] and Monthly Reserve Capacity Price[C] in the WEM

Capacity Year	BRCP ($/MW/year)	RCP ($/MW/year)	Monthly Reserve Capacity Price ($/MW/month)	Capacity Credits assigned (MW)	Transitional RCP ($/MW/year)	Transitional Monthly Reserve Capacity Price ($/MW/month)	Capacity Credits assigned (MW)	Fixed Price RCP ($/MW/year)	Fixed Price Monthly Reserve Capacity Price ($/MW/month)	Capacity Credits assigned (MW)
2017-18	$164,800	$111,752.53	$9,312.71							
2018-19	$159,800	$138,760.39	$11,563.37							
2019-20	$149,800	$126,683.47	$10,556.96							
2020-21	$153,600	$114,134.15	$9,511.18	4,965.551						
2021-22	$154,200	$78,573.33	$6,547.78	117.500	$114,000.00	$9,500	4,807.347	$0.00	$0.00	0.00
2022-23	$141,900	$85,294.19	$7,107.85	144.134	$115,425.00	$9,619	4,663.103	$0.00	$0.00	0.00
2023-24	$151,700	To be determined								

A. Included in accordance with clauses 4.3.1(c)(v) and 4.3.1(f) of the WEM Rules.
B. Included in accordance with clause 4.3.1(c)(vi) of the WEM Rules.
C. Included in accordance with clause 4.3.1(c)(vii) of the WEM Rules.

[16] Improving Reserve Capacity Pricing Signals, at https://www.wa.gov.au/government/document-collections/improving-reserve-capacity-pricing-signals.

2. Key CRC requirements

AEMO undertakes an annual certification process to:

- Assess the quantity of capacity a Facility is capable of delivering to the SWIS.
- Confirm that a new Facility (or additional capacity at an existing Facility) that is yet to commence operation will be able to provide capacity to the SWIS by 1 October, at the latest, in the Capacity Year it is due to start operating.

All Market Participants (new and existing) wishing to receive Capacity Credits must apply for certification of their Facility during the application window. The principles applied by AEMO when assessing the level of Certified Reserve Capacity (CRC) to be assigned to a Facility are outlined in clause 4.11.1 of the WEM Rules.

The quantity of Capacity Credits assigned to a Facility is equal to the sum of the Network Access Quantity (NAQ) and the Capacity Credit Uplift Quantity, and an additional specified quantity if the Facility is subject to a Network Control Service Contract, as determined in accordance with clause 4.20.5B of the WEM Rules[17]. Capacity Credits are assigned in accordance with clause 4.20.5A of the WEM Rules[18].

An existing or a new Market Participant may apply to AEMO for CRC for the 2023-24 Capacity Year between 1 December 2021 and 10 February 2022. To be eligible for CRC, new Facilities must be capable of meeting Reserve Capacity Obligations by no later than 1 October 2023 for the 2023-24 Capacity Year.

Sections 4.9 to 4.11 of the WEM Rules describe the CRC application process and the process for determining the level of CRC to be assigned to Facilities. Information that must be provided for the CRC application process[19] is listed in clause 4.10.1 of the WEM Rules and the WEM Procedure: Certification of Reserve Capacity[20]. Details of registration as a Market Participant with AEMO, network access, and environmental approvals are provided in the sections below.

2.1 Indicative Facility Class and indicative Facility Technology Type

Where a Market Participant submits an EOI for a new Facility or a Facility upgrade, AEMO must assign an indicative Facility Class and an indicative Facility Technology Type to the new Facility or Facility upgrade. AEMO may request additional information from the Market Participant to make this assessment. AEMO must assign the indicative Facility Class and indicative Facility Technology Type before the CRC application window opens (1 December 2021 for the 2021 Reserve Capacity Cycle).

AEMO is currently developing the WEM Procedure: Indicative Facility Class and RCM Facility Class Assessment, required to commence on 1 August 2021.

2.2 Participant Registration and Facility creation

A brief summary of the eligibility requirements for certification of Reserve Capacity[21] follows:

[17] A new clause 4.20.5B of the WEM Rules (an amending rule in Schedule C of the Wholesale Electricity Market Amendment (Tranches 2 and 3 Amendments) Rules 2020) will come into operation at a time specified by the Minister in a notice published in the *Gazette*.

[18] An amended clause 4.20.5A of the WEM Rules (an amending rule in Schedule C of the Wholesale Electricity Market Amendment (Tranches 2 and 3 Amendments) Rules 2020) will come into operation at a time specified by the Minister in a notice published in the *Gazette*.

[19] See *Certification of Reserve Capacity* available at https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Certification-of-reserve-capacity.

[20] See *Market Procedure: Certification of Reserve Capacity* available at https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/wa_wem_consultation_documents/2020/aepc_2020_02/report/crc-market-procedure-v90---final-clean.pdf?la=en&hash=54082162C2DBFFD063970E9BB97ED7F8.

[21] See sections 4.8, 4.9, 4.10 and 4.11 of the WEM Rules.

- The CRC applicant must be registered as a Market Participant in the WEM. The Market Participant registration process, including the application for Wholesale Electricity Market System (WEMS) access, is outlined in the Rule Participant Registration and De-Registration WEM Procedure[22].
- The Facility must have been created in WEMS. It is important to note that Facility creation is different from Facility registration. Facility creation merely creates a Facility name in WEMS and reflects the Market Participant's intention to register a Facility under the WEM Rules in the future. The Facility creation process is outlined in section 3.11 of the Facility Registration, De-Registration and Transfer WEM Procedure[23].

Satisfying these registration conditions, from the lodgement of an application for WEMS access to the creation of a Facility, generally takes between 15 and 30 business days. However, this process can take longer, depending on the completeness of the information provided. AEMO encourages existing or new Market Participants who intend to apply for CRC for a new Facility to refer to the Reserve Capacity Fact Sheets[24] and to contact the Market Operations (WA) team at wa.operations@aemo.com.au as early as possible to ensure they can satisfy these requirements prior to submitting a CRC application.

2.3 Network access

A CRC applicant is required to provide evidence of access to Western Power's network for each Facility covered by the application.

Clause 4.10.1(bA) of the WEM Rules requires the application to include documented evidence of (among other things) an entitlement to network access from a specified date. The specified date must be before the date when the Facility will be subject to Reserve Capacity Obligations. In general terms, documented evidence of an entitlement to network access from a specified date is typically a signed Electricity Transfer Access Contract and, for a new Facility, a signed Interconnection Works Contract or connection contract. Clause 4.10.1(bA) also requires information regarding the Declared Sent Out Capacity for the Facility at the relevant connection point (except where the Facility is a Demand Side Programme)[25].

The timeframe to receive network access for a new Facility varies with the type of generation, location, and existing queue of applicants. Network access is a critical pre-condition for CRC. In many cases, access to the network may take longer than the two-year time horizon of the RCM. For this reason, AEMO encourages existing or new Market Participants who intend to apply for CRC for a new Facility to contact Western Power as early as possible to ensure that their project can progress through the RCM process.

2.4 Environmental Approvals

Clause 4.10.1(c)(ii) of the WEM Rules requires a CRC application to include evidence with respect to any necessary Environmental Approvals.

As the first step in securing Environmental Approvals, developers of Energy Producing Systems must conduct environmental impact assessments and determine whether referrals to the Environmental Protection Authority (EPA) are required for their projects. The EPA provides information that may help in making this assessment on its website. Proponents are encouraged to read this information and to allow enough time to obtain any necessary Environmental Approvals[26].

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[22] See https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Procedures.

[23] See *Market Procedure: Facility Registration, De-Registration and Transfer* available at https://www.aemo.com.au/-/media/Files/Electricity/WEM/Procedures/2017/MOMarket-Procedure-Facility-Registration-DeRegistration-and-Transfer--clean--18Apr2017.pdf.

[24] Available at https://aemo.com.au/energy-systems/electricity/wholesale-electricity-market-wem/wa-reserve-capacity-mechanism/reserve-capacity-fact-sheets.

[25] See network access requirements at http://aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Certification-of-reserve-capacity.

[26] See http://www.epa.wa.gov.au.

3. Changes to the RCM

3.1 WA Government's Energy Transformation Strategy

In December 2020, the Wholesale Electricity Market Amendment (Tranches 2 and 3 Amendments) Rules 2020[27] (2020 Amending Rules) were published in the WA Government Gazette. The 2020 Amending Rules affect the 2021 and 2022 Reserve Capacity Cycles as follows:

- **2021 Reserve Capacity Cycle** – includes changes to the registration framework and introduces certification methodologies for Electric Storage Resources (ESR).
- **2022 Reserve Capacity Cycle** – includes the introduction of Network Access Quantities (NAQ) and associated provisions (such as Network Augmentation Funding Facilities).

Further information about these changes can be found in the 2020 Amending Rules.

3.2 WEM reviews

The Economic Regulation Authority (ERA) must complete several five-yearly reviews of methods underpinning various processes and calculations in the WEM Rules, including Relevant Level Methodology and BRCP.

The ERA completed a review of the Relevant Level Methodology (RLM) (used to certify capacity for Intermittent Generators) in March 2019[28]. This review concluded that the current methodology does not provide an accurate forecast of the capacity contribution of Non-Scheduled Generators to reliability in the SWIS, and that a new method is required. The ERA has proposed a new method, to be developed as a Rule Change Proposal specifying the details. Further information on the ERA's five-yearly reviews is available on the ERA's website[29].

The Coordinator of Energy, with the assistance of AEMO, must review the Planning Criterion and the process specified in the relevant WEM Procedure by which AEMO forecasts SWIS peak demand. The review must be carried out at least once in every five-year period from 1 July 2021, as specified in clause 4.5.15 of the WEM Rules[30].

3.3 Rule Change Proposals

There are multiple Rule Change Proposals currently under development that may affect the RCM, including:

- The Relevant Demand calculation (RC_2019_01).
- Capacity Credit Allocation Methodology for Intermittent Generators (RC_2019_03).
- Reduced frequency of the review of the Energy Price Limits and the Maximum Reserve Capacity Price (RC_2014_05).

Further information about these Rule Change Proposals can be found on the Rule Change Panel's website[31]. As of 1 July 2021, the Rule Change Panel functions have moved to EPWA[32].

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[27] Available at https://www.erawa.com.au/cproot/21670/2/Wholesale-Electricity-Market-Amendment-Tranches-2-and-3-Amendments-Rules-2020.pdf.

[28] See https://www.erawa.com.au/cproot/20328/2/Relevant%20level%20method%20review%202018%20-%20Final%20report.pdf.

[29] See https://www.erawa.com.au/electricity/wholesale-electricity-market/methodology-reviews.

[30] An amended clause 4.5.15 of the WEM Rules (an amending rule in Schedule B of the Wholesale Electricity Market Amendment (Governance) Rules 2021 comes into operation on 1 July 2021.

[31] See https://www.erawa.com.au/rule-change-panel/market-rule-changes.

[32] See https://www.wa.gov.au/government/announcements/was-energy-sector-governance-arrangements-are-changing.

4. EOI requirements

4.1 Submitting an EOI for the 2021 Reserve Capacity Cycle

To submit an EOI for the 2021 Reserve Capacity Cycle, a current or new Market Participant is required to complete the 2021 EOI application form available under the 2021 Expressions of Interest section[33].

The Market Participant must email the completed 2021 EOI application form and additional documentation **by 5:00 PM (Australian Western Standard Time (AWST))** on **16 August 2021**[34] at wa.capacity@aemo.com.au.

Any queries in relation to this REOI may be addressed to the Reserve Capacity team on (08) 9469 9800 or at wa.capacity@aemo.com.au.

4.2 Certified Reserve Capacity applications

CRC applications for the 2021 Reserve Capacity Cycle may be submitted through WEMS from 1 December 2021 and **must be lodged by 5:00 PM (AWST)** on **10 February 2022**[35]. A Market Participant applying for CRC must provide all the information specified in clause 4.10.1 of the WEM Rules before the CRC window closes.

An application for a Facility, or component of a Facility, that will be assessed using the Relevant Level Methodology and has not operated for the full period specified in step 1(a) of Appendix 9 of the WEM Rules (or that otherwise meets the criteria specified in clause 4.10.3 of the WEM Rules) must include an independent expert report[36]. This includes components of Semi-Scheduled Facilities that are Intermittent Generating Systems, and Non-Scheduled Facilities[37].

The current timeline for the 2021 Reserve Capacity Cycle is shown in Table 2 below.

This timetable is intended to confirm dates for Year 1 of the Reserve Capacity Cycle only. Please refer to section 4.1 of the WEM Rules for key events occurring in Years 2, 3, and 4 of this Reserve Capacity Cycle. AEMO may amend certain dates in the Reserve Capacity timetable under clause 4.1.1C of the WEM Rules.

[33] Available at https://www.aemo.com.au/energy-systems/electricity/wholesale-electricity-market-wem/wa-reserve-capacity-mechanism/expressions-of-interest.

[34] Section 1.36A of the WEM Rules modifies the date and time specified in clause 4.1.5 of the WEM Rules for the 2021 Reserve Capacity Cycle.

[35] Section 1.36A of the WEM Rules modifies the dates and times specified in clause 4.9.1 of the WEM Rules (and, by extension, the dates and times specified in clauses 4.1.7 and 4.1.11 of the WEM Rules) for the 2021 Reserve Capacity Cycle.

[36] See Relevant Level Methodology information. AEMO. *Certification of Reserve Capacity*. Available at https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Certification-of-reserve-capacity.

[37] Except for Non-Scheduled Facilities comprising only an Electric Storage Resource that has not been in operation for the period specified in step 1(a) of Appendix 9 of the WEM Rules.

Table 2 2021 Reserve Capacity Cycle timetable[A] for the WEM[B]

Date	Time	Action
Thursday 17 June 2021	5:00 pm	AEMO publishes the 2021 WEM ESOO and Reserve Capacity Information Pack.
Thursday 1 July 2021	5:00 pm	AEMO publishes the Request for EOI and Benchmark Reserve Capacity Price.
Monday 16 August 2021	5:00 pm	EOI submissions close.
Thursday 30 September 2021	5:00 pm	AEMO publishes a summary of the results of the EOI.
Wednesday 1 December 2021	9:00 am	Market Participants may apply for CRC.
Thursday 10 February 2022	5:00 pm	CRC applications close.
Monday 11 April 2022	5:00 pm	AEMO advises assignment of CRC.
Tuesday 26 April 2022	5:00 pm	Market Participants who hold CRC must notify AEMO as to how their Reserve Capacity will be dealt with as follows: • Advise the total amount of Reserve Capacity they intend will be traded bilaterally; or • Advise the total amount of Reserve Capacity that they have decided will not now be made available to the market. If required, Market Participants must provide Reserve Capacity Security (RCS) or DSM RCS. Market Participants may nominate an eligible Facility as a Candidate Fixed Price Facility.
Wednesday 27 April 2022	5:00 pm	AEMO confirms the quantity of CRC that can be traded bilaterally.
Thursday 28 April 2022	5:00 pm	AEMO: • Publishes CRC for each Facility. • Assigns Capacity Credits. • Determines whether the Reserve Capacity Requirement (RCR) has been met or exceeded with the Capacity Credits for which no RCS was required. • Publishes Reserve Capacity Price information.
Friday 29 April 2022	5:00 pm	Market Participants may apply to AEMO for a recalculation of the amount of RCS or DSM RCS required to be held for a Facility (applications may be made after this date/time).
Monday 30 May 2022	5:00 pm	Market Participants must notify AEMO of the number of Capacity Credits that are to be associated with each component of a Facility, where applicable.

A. In accordance with clause 4.3.1(i) of the WEM Rules.
B. Available at https://aemo.com.au/-/media/files/electricity/wem/reserve_capacity_mechanism/timetable/2021-and-2022-reserve-capacity-timetables.pdf?la=en.

A1. Results from previous Reserve Capacity Cycles

The following information is presented in accordance with clause 4.3.1(c)(ii) of the WEM Rules. The Availability Curve information for the last three Reserve Capacity Cycles is given in Table 3.

Two Availability Classes are defined in accordance with clause 4.11.4 of the WEM Rules, as follows:

- Availability Class 1 – all generation capacity, and any other capacity that is expected to be available to be dispatched for all Trading Intervals in a Capacity Year, allowing for Outages or other restrictions on availability, under clause 4.11.4(a) of the WEM Rules.
- Availability Class 2 – other capacity that is not expected to be available to be dispatched for all Trading Intervals in a Capacity Year, under clause 4.11.4(b) of the WEM Rules.

Table 3 Availability Curve data for the relevant Capacity Years for the last three Reserve Capacity Cycles[A]

Availability Curve Information Clause 4.5.12(b) of the WEM Rules	2021-2022 (MW) (2019 WEM ESOO)	2022–23 (MW) (2020 WEM ESOO)	2023-2024 (MW) (2021 WEM ESOO)
Capacity associated with Availability Class 1	3,657	3,371	3,496
Capacity associated with Availability Class 2	825	1,050	900

A. Included in accordance with clause 4.3.1(c)(ii) of the WEM Rules.

The figures presented for each year are for the relevant Reserve Capacity Cycles. The latest Availability Curve data can be found in the 2021 WEM ESOO (p. 59).

A2. References, measures and abbreviations

Key references for data in this document

Topic	Source
RCR/RCT	2021 WEM ESOO, p. 62 Available at https://www.aemo.com.au/-/media/files/electricity/wem/planning_and_forecasting/esoo/2021/2021-wholesale-electricity-market-electricity-statement-of-opportunities.pdf
Capacity Credits assigned	Capacity Credits since the commencement of the WEM in 2006 up to 2022-23. Available at https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Assignment-of-capacity-credits
Energy consumption forecasts for the SWIS	2021 WEM ESOO, p. 53
Peak electricity demand forecasts for the SWIS	2021 WEM ESOO, p. 48
Estimated excess capacity	2021 WEM ESOO, p. 14 and p. 61
Total Unserved Energy, expected DSM dispatch quantity, activation price, estimated RCP	2018 WEM ESOO, Tables 16 and 19; 2019 WEM ESOO, Tables 17 & 23; 2020 WEM ESOO, Tables 26 and 27
Availability Curve data	2018 WEM ESOO, Table 15, p. 46; 2019 WEM ESOO, Table 16, p. 58; 2020 WEM ESOO, Table 21, page 75 and 2021 WEM ESOO Table 13, page 59

Units of measure

Abbreviation	Unit of measure
MW	Megawatts
GWh	Gigawatt hours

Abbreviations

Abbreviation	Expanded name
AEMO	Australian Energy Market Operator
BRCP	Benchmark Reserve Capacity Price
CRC	Certified Reserve Capacity
DSM	Demand Side Management
DSP	Demand Side Programme
EOI	Expressions of Interest

Abbreviation	Expanded name
EPA	Environmental Protection Authority
ERA	Economic Regulation Authority
ESOO	Electricity Statement of Opportunities
EPWA	Energy Policy WA
NSFs	Non-Scheduled Facility
IRCR	Individual Reserve Capacity Requirement
POE	Probability of Exceedance
PV	Photovoltaics
RCM	Reserve Capacity Mechanism
RCP	Reserve Capacity Price
RCR	Reserve Capacity Requirement
REOI	Request for Expressions of Interest
RCT	Reserve Capacity Target
RCS	Reserve Capacity Security
SWIS	South West interconnected system
WA	Western Australia
WEM	Wholesale Electricity Market
WEMS	Wholesale Electricity Market System