WHOLESALE ELECTRICITY MARKET: REQUEST FOR EXPRESSIONS OF INTEREST

FOR THE 2018 RESERVE CAPACITY CYCLE,
2020–21 CAPACITY YEAR

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AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

IMPORTANT NOTICE

Purpose

AEMO has prepared this document to invite proponents to provide Expressions of Interest for the provision of new generation and/or Demand Side Management capacity into the Wholesale Electricity Market in Western Australia, as at the date of publication.

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EXECUTIVE SUMMARY

This *Request for Expressions of Interest* (EOIs) invites proponents to provide information to AEMO regarding new generation and/or Demand Side Management (DSM) capacity that will be available for commercial service for the 2020–21 Capacity Year[1] for the South West interconnected system (SWIS).

EOIs with supporting documentation are due to be submitted to the Australian Energy Market Operator (AEMO) by **5:00 PM** on **1 May 2018.**

The main purpose of this *Request for EOIs* is to inform prospective investors about the Reserve Capacity Mechanism (RCM) and allow proponents to provide information to AEMO regarding projects under consideration for the 2018 Reserve Capacity Cycle for the 2020–21 Capacity Year. Submitting an EOI ensures the proponent receives all information and updates relating to the RCM process.

In addition to submitting an EOI, project proponents are encouraged to engage with AEMO to understand the various aspects of the RCM cycle, and to commence processes required to secure all relevant approvals, particularly network access and environmental approvals. These processes are critical to the assignment of Certified Reserve Capacity (CRC).[2]

The RCM ensures sufficient CRC 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 2020–21 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, which is expected to be published in the upcoming *Electricity Statement of Opportunities* (ESOO) for the Wholesale Electricity Market (WEM) in June 2018.

The assignment of Capacity Credits for the 2019–20 Capacity Year will not be finalised until March 2018, because the window for CRC applications relevant to the 2017 Reserve Capacity Cycle was extended for six months to 29 December 2017.[3] The latest information on the capacity available in the SWIS is from the Capacity Credit allocations for the deferred 2016 Reserve Capacity Cycle (for the 2018–19 Capacity Year). Hence, the information about the three previous Reserve Capacity Cycles required for inclusion in this report (according to clause 4.3.1(c) of the Wholesale Electricity Market Rules (WEM Rules))[4] is for the 2016−17, 2017–18, and 2018–19 Capacity Years.

Based on the 2017 ESOO[5] for the WEM (2017 ESOO) forecasts, it is estimated that there will be excess capacity of 86 megawatts (MW) for the 2020–21 Capacity Year as shown in Table 1 below. This assumes the level of Capacity Credits assigned for the 2018–19 Capacity Year remains unchanged at 4,819 MW.

1 The 2020–21 Capacity Year is for capacity available from 1 October 2020 to 1 October 2021.
2 AEMO. *Reserve Capacity Mechanism*. Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism.
3 AEMO, 2017. *2017 Reserve Capacity Timetable*. Available at: https://www.aemo.com.au/-/media/Files/Electricity/WEM/Reserve_Capacity_Mechanism/Timetable/RCM-timetable-2017-cycle.pdf.
4 Economic Regulation Authority (WA), 2017. *Wholesale Electricity Market Rules – 13 October 2017 (WA)*, Available at: https://www.erawa.com.au/rule-change-panel/wholesale-electricity-market-rules.
5 AEMO, 2017. *2017 Electricity Statement of Opportunities for the Wholesale Electricity Market.* Page 57. Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Planning-and-forecasting/WEM-Electricity-Statement-of-Opportunities.

Table 1 Estimated Reserve Capacity Requirement for the 2020–21 Capacity Year

2017 ESOO	Reserve Capacity Requirement (MW)*	Capacity Credits for the 2018–19 Capacity Year (MW)**	Estimated excess capacity (MW)***
2020–21 Capacity Year	4,733	4,819	86

* AEMO, 2017. *2017 ESOO*. Page 57. Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Planning-and-forecasting/WEM-Electricity-Statement-of-Opportunities.
** AEMO, 2017. *Capacity Credits since market start up to 2018–19.* Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Assignment-of-capacity-credits.
*** The reductions in Synergy's capacity have been accounted for in the calculations.

In line with the Electricity Market Review (EMR) reforms (see Section 3), in May 2017, the Western Australian (WA) Government announced that Synergy would reduce its SWIS generation capacity to meet a cap of 2,275 MW by 1 October 2018.[6] To meet the generation cap, four non-renewable generation assets, with total Capacity Credits allocation of 387 MW (437 MW nameplate capacity), were designated for retirement.[7] Two of the four units at the Muja AB coal-fired generation facility (240 MW nameplate capacity) were retired on 30 September 2017, while the remaining two units will likely be retired in April 2018. Three gas-fired electricity generation assets, with nameplate capacity totalling 197 MW, are designated for retirement by 1 October 2018. These gas-fired generation facilities are primarily used for peak demand periods, emergency supply, and system restart services.[8]

In response to the Federal Government's Renewable Energy Target,[9] a total of 16 MW new renewable Capacity Credits (31 MW nameplate capacity) will enter the SWIS for the 2018–19 Capacity Year. It is expected that new renewable generation will continue to connect to the SWIS, which will offset Synergy's generation reduction by an amount presently unknown.

According to the 2017 ESOO forecast, energy consumption in the SWIS is expected to grow at approximately 1.2% per annum between 2017–18 and 2026–27, while peak electricity demand is forecast to grow around 1.6% per annum under the 10% Probability of Exceedance scenario for the same period.[10]

AEMO will update the demand forecasts and publish the Reserve Capacity Requirement (RCR) for the 2020−21 Capacity Year in the 2018 ESOO, due to be published by 18 June 2018.

For information on any aspect of the RCM, proponents are encouraged to contact Reserve Capacity (WA)[11] at wa.capacity@aemo.com.au.

Electricity Market Review

Since 2014, the WA Government has been considering and implementing changes to the WEM through the EMR. The EMR objective for reforming the RCM is to reduce the cost of procuring capacity to meet the RCR[12] and to reduce the current level of excess capacity in the WEM. In the long term, the Public Utilities Office (PUO) has considered the introduction of a Reserve Capacity Auction to ensure consumers are paying a price that is more reflective of the value of incremental capacity in achieving

[6] Government of Western Australia, 2017. "Synergy to reduce electricity generation cap by 2018", Media statement, 5 May. Available at: https://www.mediastatements.wa.gov.au/Pages/McGowan/2017/05/Synergy-to-reduce-electricity-generation-cap-by-2018.aspx.
[7] These include Muja AB units (1, 2, 3 and 4), Mungarra gas turbine units (1, 2 and 3), Kwinana gas turbine unit (1), and West Kalgoorlie gas turbine units (2 and 3). See Synergy, 2017. "Synergy to Reduce Generation Capacity by 380 MW", Media release, 5 May. Available at: https://www.synergy.net.au/About-us/News-andannouncements/Media-releases/Synergy-to-Reduce-Generation-Capacity-by-380-MW.
[8] Ibid.
[9] Australian Government – Department of the Environment and Energy. *The Renewable Energy Target (RET) scheme.* Available at: https://www.environment.gov.au/climate-change/government/renewable-energy-target-scheme. Viewed: 8 January 2018.
[10] AEMO, 2017. *2017 Electricity Statement of Opportunities for the WEM.* Pages 3 and 4. Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Planning-and-forecasting/WEM-Electricity-Statement-of-Opportunities.
[11] Previously called System Capacity.
[12] The RCR for a Reserve Capacity Cycle is the Reserve Capacity Target for the cycle-related Capacity Year as reported in the ESOO for that cycle.

SWIS reliability targets.[13] A number of transitional reforms, designed to reduce excess capacity and promote a smooth transition to the auction, have commenced.[14]

The RCM transitional changes introduced a separate pricing structure for DSM capacity, which commenced on 1 October 2017.[15]

On 23 August 2017, the Minister for Energy announced several electricity sector reform initiatives with work to be completed by the PUO,[16] including:

- Implementation of a constrained network access model for Western Power's network.
- Advice on a new model for capacity pricing in the WEM.
- Design of a regulatory regime to facilitate third parties' access to Horizon Power's network in the Pilbara region.

The PUO will consult with industry to consider the suitability of implementing an auction to determine capacity pricing, as well as other appropriate alternative pricing arrangements. The roadmap for the reform work states that a Final Recommendations Report on capacity pricing will be submitted to the WA Government in September 2018.[17] The Minister for Energy has indicated that a capacity auction, if it is chosen as a preferred mechanism, will not be implemented before 2021, to limit uncertainty for Market Participants.

The continued EMR reforms to the RCM will have substantial impacts on current and future Reserve Capacity Cycles. More information on the proposed EMR reforms is available on the Department of Treasury's website.[18]

[13] On 31 January 2017, the PUO outlined the final design of the Reserve Capacity auction. PUO, 2017. *Reserve Capacity Auction – Final Design and Implementation*, 23 January. Available at: https://www.treasury.wa.gov.au/uploadedFiles/Site-content/Public_Utilities_Office/Industry_reform/Reserve-Capacity-Auction-Final-Design-and-Implementation.pdf.

[14] Government Gazette, 2016. *Wholesale Electricity Market Amending Rules 2016, Schedule B Part 3 (Reserve Capacity Administered Price Table)*, 31 May. Available at: https://www.slp.wa.gov.au/gazette/gazette.nsf/searchgazette/88678F21CF39740648257FC300220F5A/$file/Gg089.pdf. Viewed: 8 January 2018.

[15] Ibid.

[16] PUO. *Electricity Sector Reform Initiatives*. Available at: http://www.treasury.wa.gov.au/Public-Utilities-Office/Industry-reform/Electricity-Sector-Reform-Initiatives/. Viewed: 8 January 2018.

[17] A Draft Recommendations Report will be released in July 2018. See PUO, 2017. *Electricity Sector Reform Initiatives: A roadmap for the current reform work program*, 23 August. Available at: https://www.treasury.wa.gov.au/uploadedFiles/Site-content/Public_Utilities_Office/Industry_reform/Roadmap-reform-work-program.pdf.

[18] See http://www.treasury.wa.gov.au/.

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FIGURES

1. INTRODUCTION

This *Request for Expressions of Interest* (EOIs) 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 (Figure 1).

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 includes a capacity market, 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 among Market Participants, and between Market Participants and the Australian Energy Market Operator (AEMO). Capacity Credits are assigned to individual generation and DSM Facilities and are valid for a single Capacity Year.[19] All types of generation and DSM capacity that can meet the timelines and requirements outlined in the WEM Rules[20] may participate in the RCM.

In return for receiving payments for Capacity Credits, a number of obligations are imposed on Capacity Credit holders. The most significant obligation is that certified capacity must be offered into the SWIS at all times, unless the Facility is undergoing an approved outage. If capacity is not offered into the SWIS, 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

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

[20] Economic Regulation Authority, 2017. *Wholesale Electricity Market Rules – 13 October 2017 (WA)*, Available at: https://www.erawa.com.au/rule-change-panel/wholesale-electricity-market-rules.

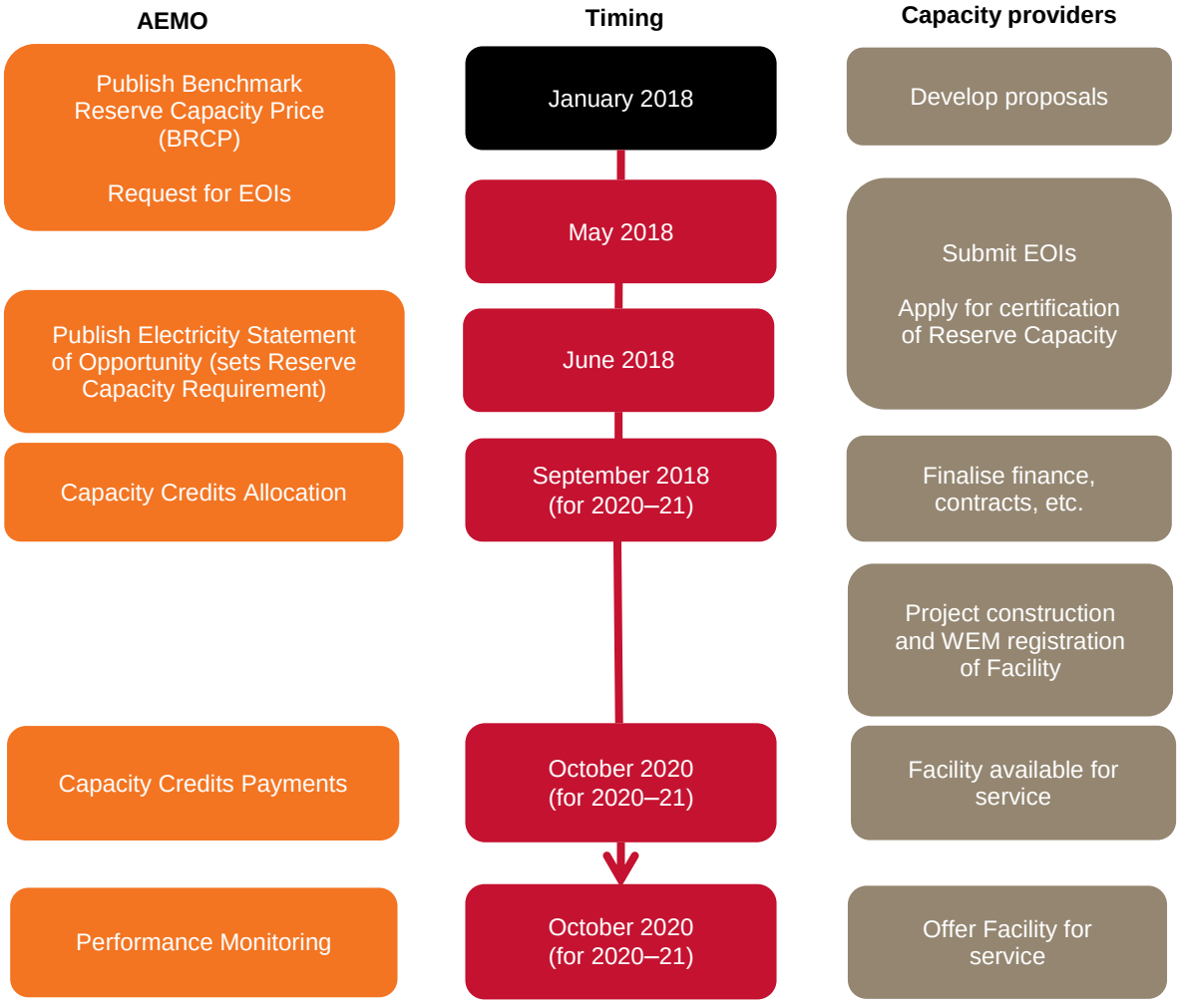
can either purchase Capacity Credits through bilateral contracts with capacity providers or through the AEMO at an administered price, the Reserve Capacity Price (RCP).

If the level of capacity offered through bilateral trades is insufficient to meet the Reserve Capacity Requirement (RCR) for a Reserve Capacity Cycle, AEMO will conduct a Reserve Capacity Auction to procure additional capacity.

Each year, AEMO forecasts the Reserve Capacity Targets (RCT) [21] 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,[22] plus a margin to cover any unplanned Facility outages and provide frequency stability.[23]

A summary timeline for the process of the 2018 Reserve Capacity Cycle is shown in Figure 2.

Figure 2 Timeline for bringing new capacity to the SWIS for the 2020–21 Capacity Year



Assuming there are no further deferrals, the RCR for the 2018 Reserve Capacity Cycle will be published in the upcoming ESOO by 18 June 2018.

[21] The RCR for a Reserve Capacity Cycle is the Reserve Capacity Target for the Capacity Year commencing on 1 October of Year 3 of the Reserve Capacity Cycle as reported in the ESOO for that Reserve Capacity Cycle.
[22] One-in-ten-year demand conditions are a common benchmark in electricity markets when considering reserve margin levels, including in the National Electricity Market (NEM) and major US electricity markets including PJM, New York Independent System Operator, and New England Independent System Operator.
[23] As specified in clause 4.5.9 of the WEM Rules.

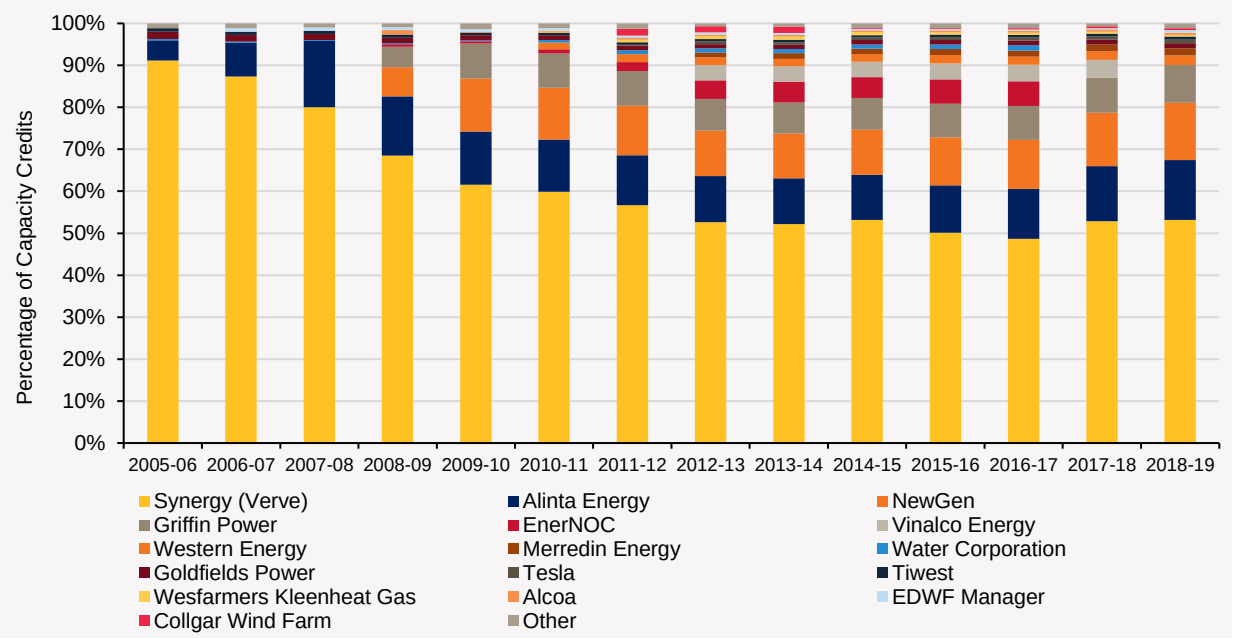
1.2 Existing generation and DSM capacity

In line with the aim of the Electricity Market Review (EMR) reforms (see Section 3), in May 2017, the Western Australian (WA) Government announced that Synergy would reduce its SWIS generation capacity to meet a cap of 2,275 MW by 1 October 2018.[24] To meet the generation cap, four non-renewable generation assets, with total Capacity Credits allocation of 387 MW (437 MW nameplate capacity), were designated for retirement.[25]

Two of the four units at the Muja AB coal-fired generation facility (240 MW nameplate capacity) were retired on 30 September 2017, while the remaining two units will likely be retired in April 2018. Three gas-fired electricity generation assets, with nameplate capacity totalling 197 MW, are designated for retirement by 1 October 2018. These gas-fired generation facilities are primarily used for peak demand periods, emergency supply, and system restart services.[26]

The number of Market Participants has increased more than three-fold since the commencement of the WEM in 2005. The proportion of capacity provided by Synergy[27] has fallen from 91% in 2005–06 to 53% of the total SWIS capacity in 2018–19 (Figure 3). Capacity Credits shares for Market Participants have been maintained at similar levels or increased slightly in the 2018–19 Capacity Year, compared to the 2017–18 Capacity Year, except for Vinalco Energy. The share of Capacity Credits for Vinalco Energy has reduced to zero due to the retirement of the Muja AB units.

Figure 3 Proportion of Capacity Credits by Market Participant, 2005–06 to 2018–19 Capacity Years



Source: AEMO, 2017. *Capacity Credits since market start up to 2018–19.* Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Assignment-of-capacity-credits.

[24] Government of Western Australia, 2017. "Synergy to reduce electricity generation cap by 2018", Media statement, 5 May. Available at: https://www.mediastatements.wa.gov.au/Pages/McGowan/2017/05/Synergy-to-reduce-electricity-generation-cap-by-2018.aspx.

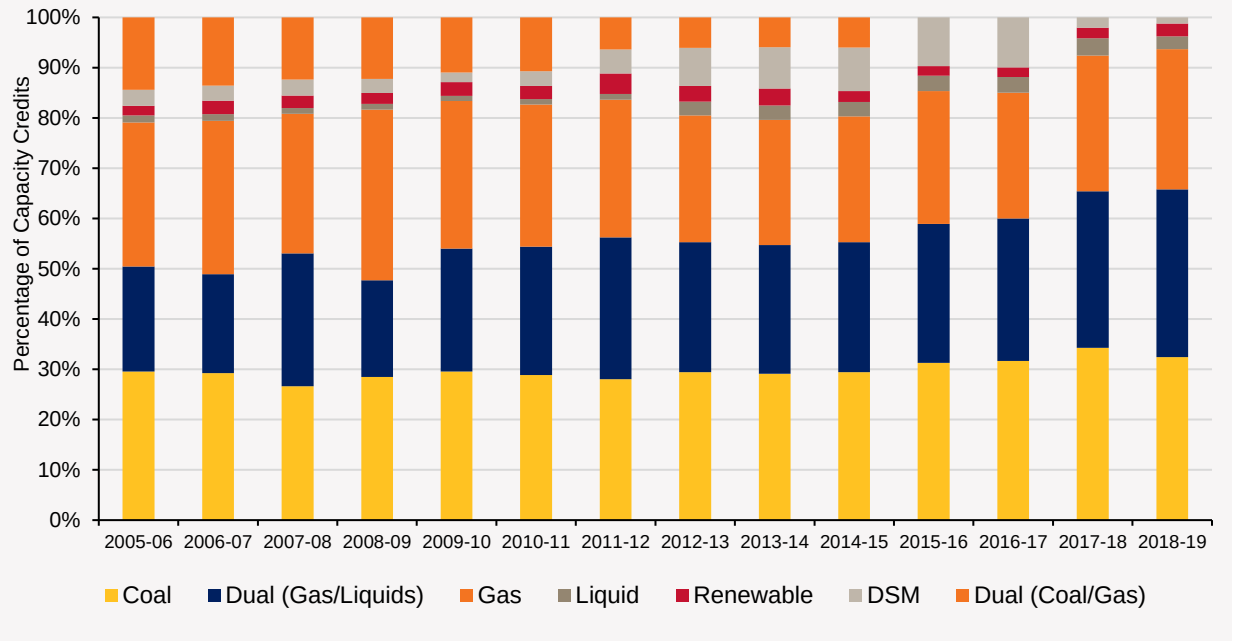
[25] These include Muja AB units (1, 2, 3 and 4), Mungarra gas turbine units (1, 2 and 3), Kwinana gas turbine unit (1), and West Kalgoorlie gas turbine units (2 and 3). Synergy, 2017. "Synergy to Reduce Generation Capacity by 380 MW", Media release, 5 May. Available at: https://www.synergy.net.au/About-us/News-andannouncements/Media-releases/Synergy-to-Reduce-Generation-Capacity-by-380-MW.

[26] Ibid.

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

The capacity shares of dual-fuelled gas/liquids (+2.3%), gas (+0.9%) and renewable (+0.4%) Facilities increased from 2017–18 to 2018–19 (Figure 4).[28] Coal-fired capacity's share fell by 1.9%, stemming from the retirement of Synergy's Muja AB units.

Figure 4 Proportion of Capacity Credits by fuel[a], 2005–06 to 2018–19 Capacity Years



[a] Generation plant fuel type is based on facility registered fuel capability information with AEMO.
Source: AEMO, 2017. *Capacity Credits since market start up to 2018–19.* Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Assignment-of-capacity-credits.

DSM capacity reduced by 49%, from 106 MW in the 2017–18 Capacity Year to 57 MW in the 2018–19 Capacity Year. The changes to certification requirements and payments for DSM capacity as a result of the EMR (see Section 3) commenced on 1 October 2017.[29] These changes have caused the continued reduction of some DSM capacity in the 2018–19 Capacity Year, as shown in Figure 3 and Figure 4.

In future, large loads associated with the reduced DSM capacity may choose to reduce their capacity liability as an IRCR liable customer. AEMO will continue to monitor the effects that reduced DSM capacity has on the IRCR response.

More information on generation and DSM capacity in the SWIS is available in the *2017 Electricity Statement of Opportunities* for the Wholesale Electricity Market (2017 ESOO).

1.3 Future electricity demand and supply-demand balance

The historical assigned Capacity Credits and the forecast RCR are shown in Figure 5.

Excess capacity in the WEM reached the maximum level of 1,061 MW (23% of the RCR) for the 2016–17 Capacity Year. This level has dropped significantly to 199 MW (4% of the RCR) for the 2018–19 Capacity Year, lower than the level of 268 MW (6% of the RCR) ten years ago for the 2008–09 Capacity Year (Figure 5).

[28] Dual-fuelled coal and gas capacity reduced to zero following the retirement of Synergy's Kwinana G5, 177.5 megawatts (MW) in 2014 and Kwinana G6, 184 MW in 2015.

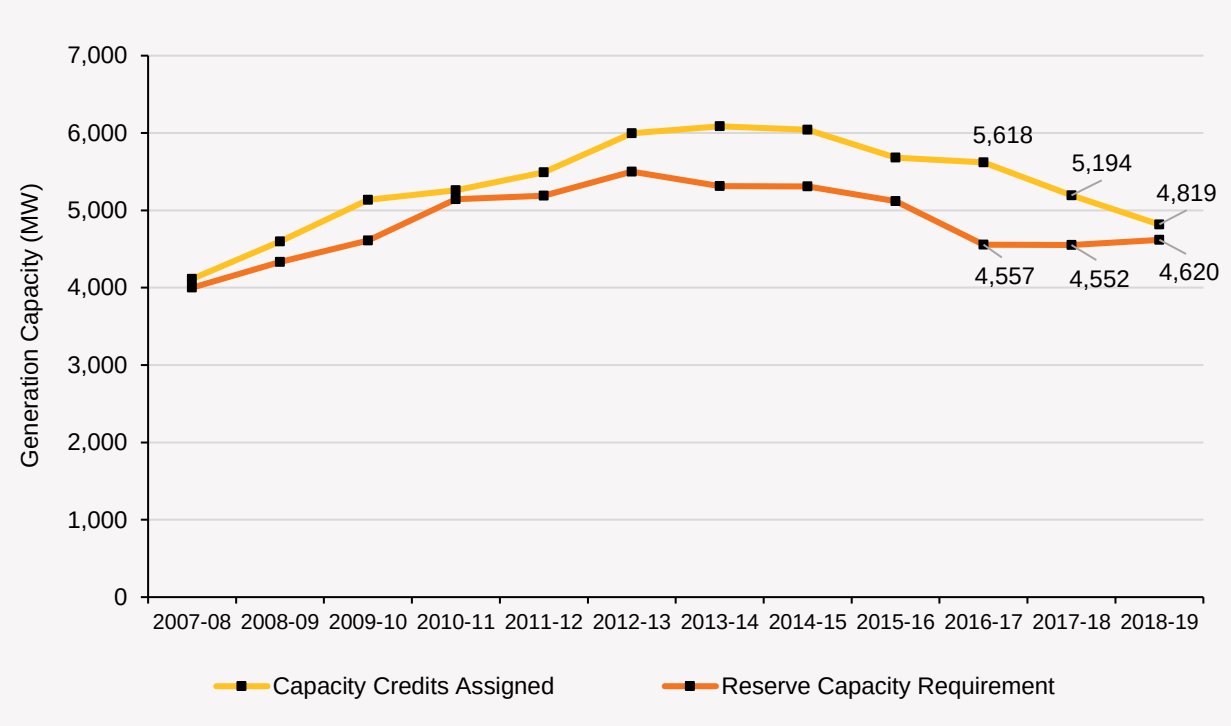
[29] Government Gazette, 2016. *Wholesale Electricity Market Amending Rules 2016, Schedule B Part 3 (Reserve Capacity Administered Price Table),* 31 May. Available at: https://www.slp.wa.gov.au/gazette/gazette.nsf/searchgazette/88678F21CF39740648257FC300220F5A/$file/Gg089.pdf. Viewed: 8 January 2018.

This fall of excess capacity is due to:

- The Government's decision to retire Synergy's non-renewable generation assets (437 MW nameplate capacity) by 1 October 2018.
- The reduction of DSM capacity due to changes to the certification requirement and pricing structure.

However, total capacity in the SWIS is expected to rise over the next year due to new renewable generation connecting to the SWIS in response to the Federal Government's Renewable Energy Target.[30]

Figure 5 Assigned Capacity Credits and the RCR, 2005 to 2016 Reserve Capacity Cycles



Note: Capacity Credits may be reduced from the originally assigned level due to certain circumstances, such as Reserve Capacity Tests or a voluntary Capacity Credit reduction request.
Source: AEMO. *2005–2017 ESOO*.

There has been an increase in the RCR in the SWIS from the 2017–18 Capacity Year to 2018–19, reversing the declining trend over the previous five years (Figure 5). This is the result of an increase in peak demand forecasts. The unpredictable nature of peak demand affects the accuracy of the RCR, which is based on the 10% Probability of Exceedance (POE) peak demand forecast. Factors that contribute to making peak demand harder to forecast include:

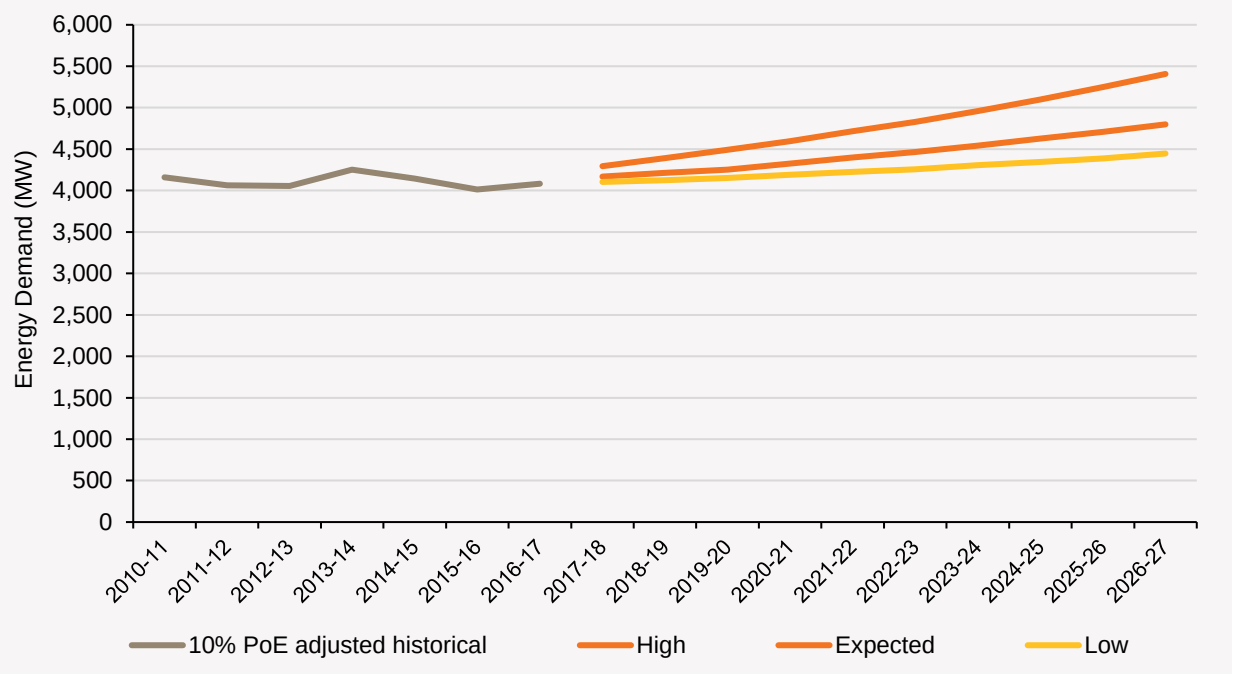
- Continuing rapid uptake of rooftop photovoltaics (PV).
- Increased customer IRCR response.
- Variation in weather patterns.

Both the historical and the 10% POE forecast peak demand for different demand growth scenarios are shown in Figure 6. The low, expected and high scenarios reflect different economic growth forecasts as well as changes in rooftop PV and battery storage assumptions.

[30] Australian Government – Department of the Environment and Energy. *The Renewable Energy Target (RET) scheme.* Available at: https://www.environment.gov.au/climate-change/renewable-energy-target-scheme.Viewed: 8 January 2018.

The 2017 ESOO forecast that the 10% POE peak demand in the expected demand growth scenario will increase at an average annual rate of 1.6% for the next 10 years, 2017–18 to 2026–27. It increases from 4,169 MW in 2017–18 to 4,799 MW in 2026–27, a 15% increase over the 10-year forecast period. For 2020–21, the peak demand is forecast to be 4,326 MW.

Figure 6 Historical and forecast peak demand, 10% POE, under different demand growth scenarios



Source: AEMO, 2017. *2017 ESOO*.

The operational consumption forecasts under different demand growth scenarios are presented in Figure 7. The 2017 ESOO forecasts suggest that annual operational consumption in the expected demand growth scenario will grow at a rate of 1.2% per annum on average for the 2017–18 to 2026–27 period.

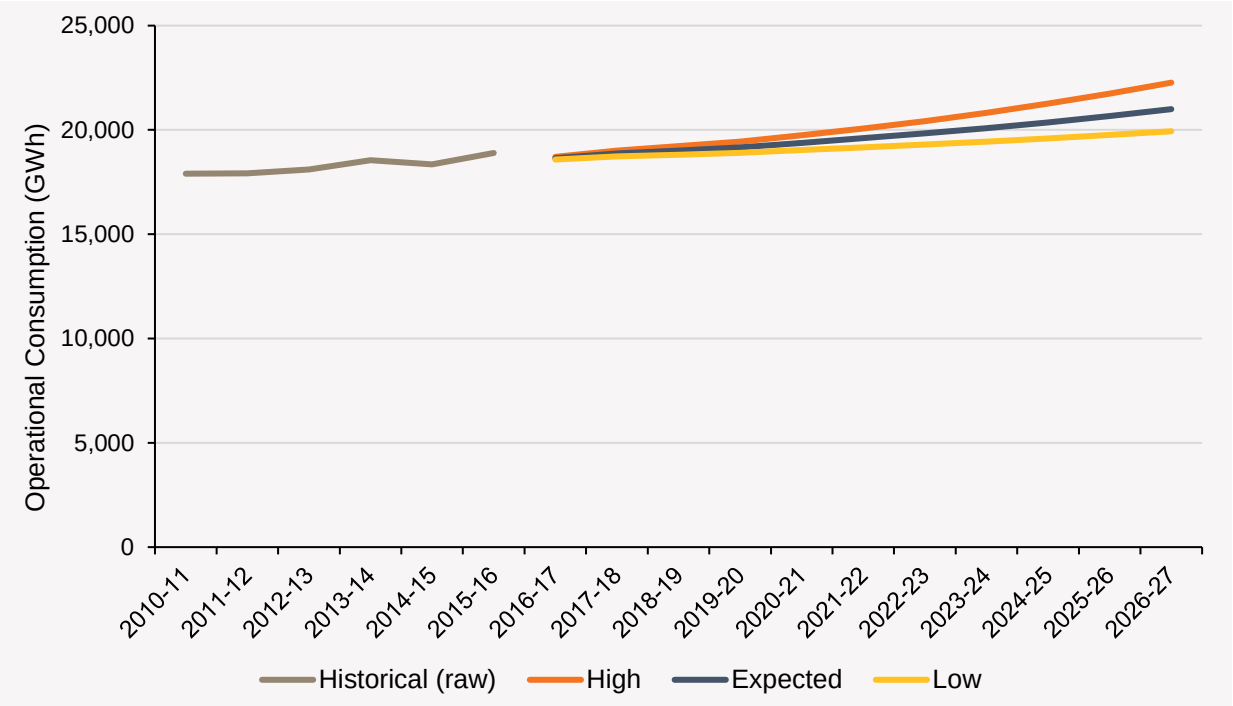
The 2017 ESOO forecast that energy output supplied by the grid in the expected demand scenario will increase 11.3% over the forecast period, from 18,865 gigawatt hours (GWh) in the 2017–18 Capacity Year to 20,996 GWh in the 2026–27 Capacity Year. The energy output is forecast to be 19,382 GWh in the 2020–21 Capacity Year.

The 2017 ESOO forecasts of operational consumption in the expected demand scenario are consistent with those presented in the Deferred 2015 ESOO,[31] with slightly higher forecasts for 2019-20 to 2025-26. This change in the 2017 ESOO can be contributed to:

- The inclusion of EVs in AEMO's forecast for the first time, which are expected to increase consumption from the grid.
- A slight increase in WA's economic forecasts and population growth.
- The forecast impact of EVs and economic growth being partly offset by an expected continuing increase in rooftop PV systems.

[31] AEMO, 2016. *Deferred 2015 Electricity Statement of Opportunities for the WEM*, June. Available at: https://www.aemo.com.au/-/media/Files/Electricity/WEM/Planning_and_Forecasting/ESOO/2015/Deferred-2015-Electricity-Statement-of-Opportunities-for-the-WEM.pdf.

Figure 7 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: AEMO, 2017. *2017 ESOO*.

The preliminary estimated RCT for the 2020–21 Capacity Year in the 2017 ESOO reported that the RCR will be 4,733 MW for the 2018 Reserve Capacity Cycle.[32] Assuming the level of Capacity Credits assigned for the 2018–19 Capacity Year remains unchanged for the 2020–21 Capacity Year, approximately 4,819 MW of capacity is expected to be in service in that Capacity Year. This includes 4,762 MW of generating capacity and 57 MW of DSM capacity.

AEMO anticipates that all of the 4,819 MW of Reserve Capacity expected to be in service in the 2020−21 Capacity Year will be traded bilaterally between Market Participants.

The RCR reported in the 2017 ESOO indicates an estimated excess capacity of 86 MW for the 2020–21 Capacity Year. The reduction of 387 MW Capacity Credits (437 MW nameplate capacity) of Synergy's generation capacity as part of the EMR (see Section 1.2) contributed to the decline of the estimated excess capacity from 4.3% of the RCR in the 2018–19 Capacity Year to 1.8% of the RCR in the 2020–21 Capacity Year.

The quantity of excess capacity for the 2018 Reserve Capacity Cycle is likely to differ from the preliminary value presented above due to changes in forecast electricity demand, new generation and DSM capacity being considered, retirement of Facilities, or a reduction of DSM capacity by Market Participants.

Proposed projects will be included in future supply-demand balance determinations based on data gathered through this *Request for EOIs* process, to be summarised in the upcoming ESOO to be published in June 2018.

[32] AEMO, 2017. *2017 ESOO,* Page 57. Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Planning-and-forecasting/WEM-Electricity-Statement-of-Opportunities.

2. KEY REQUIREMENTS FOR THE CERTIFICATION OF RESERVE CAPACITY

AEMO undertakes an annual certification process to confirm that:

- An existing Facility is capable of delivering the capacity (in MW) that the Market Participant has applied for.
- 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 starts operating.

All Market Participants (new and existing) wishing to receive Capacity Credits must apply for certification of their Facility during the certification period. The principles AEMO applies to assess the level of Certified Reserve Capacity (CRC) assigned to a Facility are outlined in clause 4.11.1 of the WEM Rules.

Typically, the quantity of Capacity Credits assigned to a Facility are equal to the quantity of CRC assigned by AEMO to a Facility, through either the trade declaration process or the Reserve Capacity Auction if one is held.

From 1 May 2018 until 29 June 2018, a Market Participant may apply to AEMO to have the capacity of its Facility certified for the 2020–21 Capacity Year. The Market Participant must demonstrate its Facility will be able to deliver capacity into the SWIS for that Capacity Year. To be eligible for CRC, new Facilities must be capable of meeting Reserve Capacity Obligations no later than 1 October 2020 for the 2020–21 Capacity Year.

Sections 4.9 to 4.11 of the WEM Rules describe the CRC application process and the process for determining the quantity of CRC to be assigned to Facilities. Information that must be provided for the CRC application process[33] is listed in clause 4.10.1 of the WEM Rules and provided in the Market Procedure: Certification of Reserve Capacity.[34] Details of Participant Registration with AEMO, network access, and environmental approvals are provided in the following sections.

Table 2 outlines Maximum Reserve Capacity Prices (MRCP) for Capacity Credits for the 2015–16 and 2016–17 Capacity Years, and the Benchmark Reserve Capacity Prices (BRCP) for the subsequent four Capacity Years. Prior to 1 June 2016, the BRCP was referred to as the MRCP.

Table 2 BRCPs and Capacity Credit prices in the WEM

Start date	End date	Reserve Capacity Auction Requirement	MRCP/BRCP ($/MW/year)	RCP ($/MW/year)	Monthly Reserve Capacity Price ($/MW/month)
1 October 2015	1 October 2016	No Auction	$157,000	$120,199.31	$10,016.61
1 October 2016	1 October 2017	No Auction	$176,800	$121,888.94	$10,157.41
1 October 2017	1 October 2018	No Auction	$164,800	$111,752.53	$9,312.71
1 October 2018	1 October 2019	No Auction	$159,800	To be determined	To be determined
1 October 2019	1 October 2020	Not Applicable	$149,800	To be determined	To be determined
1 October 2020	1 October 2021	Not Applicable	$153,600	To be determined	To be determined

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

[34] AEMO. *Market Procedure: Certification of Reserve Capacity*. Available at: https://www.aemo.com.au/-/media/Files/Electricity/WEM/Procedures/2017/Certification-of-Reserve-Capacity.pdf.

Payments for Capacity Credits not traded bilaterally are made monthly, equal to the number of Capacity Credits assigned to a Market Participant multiplied by the monthly Reserve Capacity Price.

2.1 Participant Registration with AEMO and Facility creation

To be eligible for CRC:

- The proponent must be registered as a Market Participant in the WEM.
- The Facility must have been created in the Wholesale Electricity Market System (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.

Market Participant registration and Facility creation must be completed before applying for CRC.

Satisfying these registration conditions, from the lodgement of an application for WEMS access to the creation of a Facility, generally takes between 15 to 30 business days. However, this process can take longer, depending on the information provided by the proponent. AEMO encourages project proponents 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.

The Market Participant registration process, including the application for WEMS access available on the AEMO website, is outlined in the Market Procedure: Rule Participant Registration and De-Registration.[35] The Facility creation process is outlined in Section 4.1 of the Market Procedure: Facility Registration, De-Registration and Transfer.[36]

2.2 Network Access

For certification of a Scheduled Generator or a Non-Scheduled Generator, a proponent is required to provide evidence of network access for each Facility granted by Western Power.

The documentation must outline the terms of access and details of any constraints, such as runback schemes or Declared Sent Out Capacity arrangements that apply, as required by clause 4.10.1(bA) of the WEM Rules. It must contain information that validates the ability of the network to accommodate the connection of the Facility to the SWIS grid.

The timeframe for a proponent to receive network access varies with the type of generation, location, and existing queue of applicants. In many cases, access to the network may take longer than the two-year time horizon of the RCM. AEMO encourages project proponents to contact Western Power as early as possible to ensure that their project can progress through the RCM process.

2.3 Environmental approvals

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

Developers of generation Facilities must conduct environmental impact assessments and determine whether referrals to the Environmental Protection Authority (EPA) are required for their projects as the first step in securing environmental approvals. The EPA provides information on its website. Proponents are encouraged to read this information and to allow sufficient time to obtain any necessary environmental approvals.[37]

[35] AEMO. *Procedures*. Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Procedures.
[36] AEMO. *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.
[37] EPA. *Environmental Protection Agency, Government of Western Australia*. Available at: http://www.epa.wa.gov.au. Viewed: 8 January 2018.

2.4 Key steps following the certification of Reserve Capacity

2.4.1 Assignment of Capacity Credits

Following the CRC process, AEMO assigns Capacity Credits to Facilities after the trade declaration process. Market Participants with Facilities other than DSM that have been assigned CRC must declare whether they intend to enter into bilateral contracts for their CRC, withdraw their capacity, or offer it into the Reserve Capacity Auction. Market Participants with DSM Facilities that have been assigned CRC must declare the quantity of CRC they intend to supply to AEMO, and the quantity that they intend to withdraw.

Once trade declarations are complete, AEMO assigns Capacity Credits to Facilities in accordance with Appendix 3 of the WEM Rules.

Capacity Credits are first assigned to all committed or operating capacity intended to be bilaterally traded or supplied to AEMO.

If the total quantity of committed or operating capacity is sufficient to meet the RCR, no additional Capacity Credits are assigned.

However, if the RCR level has not been met, AEMO will assign Capacity Credits to proposed Facilities (not yet committed) where the Market Participant has indicated its intention to trade bilaterally or supply capacity to AEMO.

If further capacity is required for a Capacity Year, AEMO will run a Reserve Capacity Auction in accordance with sections 4.15 to 4.19 of the WEM Rules. No Reserve Capacity Auction has been required since the commencement of the WEM.

Applicants must submit trade declarations by 31 August 2018. When submitting trade declarations, Market Participants are only required to declare whether they intend to trade Capacity Credits and are not required to have bilateral contracts in place at that time. Market Participants must register new Facilities prior to the Capacity Year in which their Reserve Capacity Obligations commence.

2.4.2 Payment for Capacity Credits

If the quantity of Capacity Credits assigned exceeds the RCR level, AEMO sets the price for all uncontracted Capacity Credits using the following formula (clause 4.29.1 of the WEM Rules as amended[38]):

$$\text{RCP} = \text{MIN}\left\{\left(\frac{BRCP \times 1.141}{1 - \left((surplus + 0.03) \times -4.7\right)}\right), BRCP \times 1.1\right\}$$

where

- BRCP is the Benchmark Reserve Capacity Price determined in accordance with section 4.16 of the WEM Rules; and
- surplus is the pro rata excess capacity calculated as follows

$$surplus = \frac{CC - RCR}{RCR}$$

- where
  - CC is the total number of Capacity Credits assigned by AEMO in accordance with clause 4.20.5A for the Reserve Capacity Cycle.
  - RCR is the Reserve Capacity Requirement for the Reserve Capacity Cycle.

Proponents should note that this exact formula only applies to the 2020–21 Capacity Year.[39] Changes to the RCP formula include a progressively steeper price curve for subsequent Capacity Years, making

[38] The amendment to clause 4.29.1 of the WEM Rules commenced on 1 October 2017.
[39] Clause 4.29.1 of the WEM Rules.

the RCP more responsive to the level of Capacity Credits, resulting in improved signals for investment in new capacity.

2.4.3 DSM Dispatch Quantity and Activation Price

A separate pricing mechanism for DSM Facilities was introduced as part of the EMR, which commenced on 1 October 2017.[40] This requires AEMO to calculate the Expected DSM Dispatch Quantity and the DSM Activation Price in accordance with a Market Procedure.[41] These are then used to determine the DSM RCP as follows:

$$DSM\ RCP = (Expected\ DSM\ Dispatch\ Quantity + 0.5) \times DSM\ Activation\ Price$$

The Expected DSM Dispatch Quantity is estimated based on clause 4.5.14E of the WEM Rules[42] and the Market Procedure: Determination of Expected DSM Dispatch Quantity and DSM Activation Price.[43] The DSM Activation Price is based on clause 4.5.14F and the Market Procedure: Determination of Expected DSM Dispatch Quantity and DSM Activation Price.[44] The Expected DSM Dispatch Quantity and the DSM Activation Price for the 2018 Reserve Capacity Cycle will be published in the 2020 ESOO as required by clause 4.5.13(h) and (k) of the WEM Rules.

The results of this calculation are shown in Table 3. AEMO has assumed that the 57.426 MW of Capacity Credits assigned to DSM for the 2018–19 Capacity Year will stay the same in the 2020–21 Capacity Year. The DSM RCP for the 2016 and 2017 Reserve Capacity Cycles has not yet been determined, and will be published in the 2018 and 2019 ESOOs, respectively. The preliminary DSM Activation Price for the 2020–21 Capacity Year is $33,460/MWh.

Table 3 Expected DSM Dispatch Quantity and DSM RCP*

Reserve Capacity Cycle	Capacity Year	Total Unserved Energy deemed to be avoided by dispatch of Facilities with DSM Capacity Credits (MWh)	Expected DSM Dispatch Quantity (MWh)	Estimated DSM RCP ($/MW)
2015	2017–18	0.21	0.01	17,050
2018	2020–21	1.90	0.12	20,774

* See Table 25, Appendix B of *2017 ESOO*. Available at: https://www.aemo.com.au/-/media/Files/Electricity/WEM/Planning_and_Forecasting/ESOO/2017/2017-Electricity-Statement-of-Opportunities-for-the-WEM.pdf. The DSM RCP for the 2017−18 Capacity Year was published in the *2017 ESOO*, p. 3.

2.4.4 Reserve Capacity Security

When AEMO assigns Capacity Credits to a Facility that has not entered service (or is yet to re-enter service after significant maintenance or having being upgraded), the Market Participant must provide AEMO with Reserve Capacity Security (RCS).

RCS covers the risk of new capacity not coming online by 1 October of each Capacity Year. RCS can be provided in the form of a bank guarantee or a cash deposit, and is set at 25% of the BRCP for each Capacity Credit assigned to that Facility.

RCS is required at the time of:

- Bilateral Trade Declarations, for capacity that will be traded bilaterally or supplied to AEMO.

[40] Clauses 4.5.14A to 4.5.14F of the WEM Rules.
[41] AEMO. *Market Procedure: Determination of Expected DSM Dispatch Quantity and DSM Activation Price*. Available at: https://www.aemo.com.au/-/media/Files/Stakeholder_Consultation/Consultations/WA_WEM_Consultation_Documents/2017/PCP/Determination-of-Expected-DSM-Dispatch-Quantity-and-DSM-Activation-Price.pdf.
[42] Where the Expected DSM Dispatch Quantity for Capacity Year is calculated by dividing the Total Unserved Energy deemed to be avoided by dispatch of Facilities with DSM Capacity Credits (MWh) by the total of all DSM Capacity Credits assigned to DSM as at 1 October of Year 3 of the relevant Reserve Capacity Cycle.
[43] AEMO. *Market Procedure: Determination of Expected DSM Dispatch Quantity and DSM Activation Price*. Available at: https://www.aemo.com.au/-/media/Files/Stakeholder_Consultation/Consultations/WA_WEM_Consultation_Documents/2017/PCP/Determination-of-Expected-DSM-Dispatch-Quantity-and-DSM-Activation-Price.pdf.
[44] Ibid.

- Offers being submitted for the Reserve Capacity Auction, for capacity offered into the auction.

RCS is returned to the Market Participant:

- If the Facility fails to secure Capacity Credits.
- During the Capacity Year, if the Market Participant applies for the return of the RCS, and the Facility has been assessed to be in commercial operation and reached 100% of the required output level, thus satisfying its capacity obligations.[45]
- At the end of the Capacity Year, if the Facility has been assessed as in commercial operation and achieved 90% of the required output level.[46]

Alternatively, the RCS may be drawn upon by AEMO if the Facility fails to achieve 90% of the required output level after the end of the Capacity Year. If AEMO draws on the RCS, it is used to offset the cost of any Supplementary Reserve Capacity required. The remainder is refunded to Market Customers in proportion to their IRCR. Information on RCS is in section 4.13 of the WEM Rules and in the Market Procedure: Reserve Capacity Security.[47]

2.4.5 Obligations on Facilities receiving Capacity Credits

All certified Facilities that have been assigned Capacity Credits must make their capacity available during the periods specified at the time of certification. Facilities (with the exception of DSM) are required to demonstrate this by offering their capacity into the Short Term Energy Market (with the exception of Non-Scheduled Generators).

The allocation of Capacity Credits does not guarantee that a Facility will be dispatched in the energy market.

A Facility that fails to meet its availability obligation (except for approved Planned Outages) will be required to pay Reserve Capacity refunds to the market in accordance with section 4.26 of the WEM Rules.

In addition, Facilities holding Capacity Credits are required to:

- Submit to regular Facility tests undertaken by, or on behalf of, AEMO.
- Participate in the centralised outage planning arrangements, where applicable.
- Respond to Dispatch Instructions or a Dispatch Plan from System Management.

[45] See clause 4.13.10 of the WEM Rules. Economic Regulation Authority, 2017. *Wholesale Electricity Market Rules – 13 October 2017 (WA)*, Available at: https://www.erawa.com.au/rule-change-panel/wholesale-electricity-market-rules.
[46] See clause 4.13.13 of the WEM Rules. *Ibid*.
[47] AEMO. *Procedures*. Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Procedures.

3. ELECTRICITY MARKET REVIEW AND POTENTIAL RULE CHANGES

In 2014, the Minister for Energy launched the WA Government's EMR. The EMR examines the structures of the electricity generation, wholesale, and retail sectors in the SWIS, and the incentives for industry participants to make efficient investments and minimise costs.

The EMR objective for reforming the RCM is to reduce the cost of procuring capacity to meet the Reserve Capacity Requirement (RCR)[48] and to reduce the current level of excess capacity in the WEM. In the long term, the Public Utilities Office (PUO) has considered the introduction of an annual Reserve Capacity Auction to ensure consumers are paying a price that is more reflective of the value of incremental capacity in achieving SWIS reliability targets.[49] A number of transitional reforms, designed to reduce excess capacity and promote a smooth transition to the auction, have commenced.[50]

The RCM transitional changes introduced a separate pricing structure for DSM capacity, which commenced on 1 October 2017.[51]

On 23 August 2017, the Minister for Energy announced several electricity sector reform initiatives with work to be completed by the PUO,[52] including:

- Implementation of a constrained network access model for Western Power's network.
- Advice on a new model for capacity pricing in the WEM.
- Design of a regulatory regime to facilitate third parties' access to Horizon Power's network in the Pilbara region.

The PUO will consult with industry to consider the suitability of implementing an auction to determine capacity pricing, as well as other appropriate alternative pricing arrangements. The roadmap for the reform work states that a Final Recommendations Report on capacity pricing will be submitted to the WA Government in September 2018.[53] The Minister for Energy has indicated that a capacity auction, if it is chosen as a preferred mechanism, will not be implemented before 2021, to limit uncertainty for Market Participants.

The continued EMR reforms to the RCM will affect the current and future Reserve Capacity Cycles. For more information on the proposed changes to the RCM, proponents are encouraged to refer to the Department of Treasury website[54] or contact the PUO[55] directly.

[48] The RCR for a Reserve Capacity Cycle is the Reserve Capacity Target for the cycle-related Capacity Year as reported in the ESOO for that cycle.

[49] On 31 January 2017, the PUO outlined the final design of the Reserve Capacity auction. PUO, 2017. *Reserve Capacity Auction – Final Design and Implementation*, 23 January. Available at: https://www.treasury.wa.gov.au/uploadedFiles/Site-content/Public_Utilities_Office/Industry_reform/Reserve-Capacity-Auction-Final-Design-and-Implementation.pdf.

[50] Government Gazette, 2016. *Wholesale Electricity Market Amending Rules 2016, Schedule B Part 3 (Reserve Capacity Administered Price Table),* 31 May. Available at: https://www.slp.wa.gov.au/gazette/gazette.nsf/searchgazette/88678F21CF39740648257FC300220F5A/$file/Gg089.pdf. Viewed: 8 January 2018.

[51] Ibid.

[52] PUO. *Electricity Sector Reform Initiatives*. Available at: http://www.treasury.wa.gov.au/Public-Utilities-Office/Industry-reform/Electricity-Sector-Reform-Initiatives/. Viewed: 8 January 2018.

[53] A Draft Recommendations Report will be released in July 2018. See PUO, 2017. *Electricity Sector Reform Initiatives: A roadmap for the current reform work program*, 23 August. Available at: https://www.treasury.wa.gov.au/uploadedFiles/Site-content/Public_Utilities_Office/Industry_reform/Roadmap-reform-work-program.pdf.

[54] Department of Treasury, 2017. *Electricity Market Review*. Available at: https://www.treasury.wa.gov.au/Public-Utilities-Office/Industry-reform/Electricity-Market-Review . Viewed: 8 January 2018.

[55] Department of Treasury. *Contact Us*. Available at: https://www.treasury.wa.gov.au/ContactUs. Viewed: 8 January 2018.

4. PROPONENT REQUIREMENTS

4.1 Submitting an Expression of Interest for the 2018 Reserve Capacity Cycle

To submit an EOI for each respective Reserve Capacity Cycle, the proponent is required to develop a proposal outline for a specific generation Facility or a specific DSM Facility for the Capacity Year in which the Facility is expected to commence.

The proponent's EOI must be submitted **by 5:00 PM (Australian Western Standard Time) on 1 May 2018**, as required by clause 4.1.5 of the WEM Rules.

The EOI submission must include:

- A completed EOI form for each Facility, available in Appendix A of this Request for EOIs and also in Microsoft Excel format on the AEMO website.[56]
- Relevant supporting documentation.

Proponents who wish to submit an EOI are advised to read the Important Notice in Appendix A of this Request for EOIs.

EOI forms must be submitted:

a) Electronically to wa.capacity@aemo.com.au; or

b) Via mail to

Manager, Reserve Capacity (WA)

Australian Energy Market Operator

PO Box 7096

Cloisters Square

PERTH WA 6850

AUSTRALIA.

4.2 Certification of Reserve Capacity

The current timeline for the 2018 Reserve Capacity Cycle is shown in Table 4 and on the AEMO website.[57]

Applications for CRC with respect to the 2018 Reserve Capacity Cycle may be lodged with AEMO from 1 May 2018, and **must be lodged by 29 June 2018**, in accordance with clause 4.9.1 of the WEM Rules.

A Market Participant applying for CRC must provide the information specified in clause 4.10.1 of the WEM Rules.

An application for a Non-Scheduled Generator that is yet to enter service must also be accompanied by an independent expert report[58] as described in clause 4.10.3 of the WEM Rules.

[56] AEMO. *Expressions of Interest*. Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Expressions-of-interest.

[57] AEMO. *Reserve Capacity Timetable*. Available at: https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Reserve-capacity-timetable.

[58] 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.

Table 4 2018 Reserve Capacity Cycle Timetable for the WA WEM

Timetable for 2018 Reserve Capacity Cycle (All times are Australian Western Standard Times)			
Wednesday	31 January 2018	5:00 PM	AEMO publishes Request for Expressions of Interest (EOIs).
Tuesday	1 May 2018	9:00 AM	Participants may apply for certification of Reserve Capacity.
Tuesday	1 May 2018	5:00 PM	Close of the submission period for EOIs.
Tuesday	15 May 2018	5:00 PM	Announcement of the results of the EOIs.
Monday	18 June 2018	5:00 PM	On the WA AEMO website, AEMO publishes the: • Electricity Statement of Opportunities for the WEM. • Reserve Capacity Information Pack.
Friday	29 June 2018	5:00 PM	Applications for certification of Reserve Capacity close.
Friday	17 August 2018	5:00 PM	AEMO advises assignment of Certified Reserve Capacity (CRC).
Friday	31 August 2018	5:00 PM	Market Participants: • Provide Reserve Capacity Security for new capacity that they intend to bilaterally trade; • Provide Reserve Capacity Security for new Demand Side Programme capacity that they intend to trade through AEMO. • Advise how much of their CRC will be traded bilaterally and how much will be offered into the auction.
Monday	3 September 2018	5:00 PM	AEMO confirms to Market Participants the amount of CRC that can be traded bilaterally.
Tuesday	4 September 2018	5:00 PM	AEMO: • Publishes the CRC for each Facility; • Advises whether the Reserve Capacity Auction is required or cancelled. • Assigns Capacity Credits (if Reserve Capacity Auction is cancelled). • Determines whether the RCR has been met or exceeded with Capacity Credits for which no RCS was required to be provided.
Wednesday	5 September 2018	9:00 AM	Lodgement of Reserve Capacity Offers opens (if Reserve Capacity Auction is required).
Friday	14 September 2018	5:00 PM	• Lodgement of Reserve Capacity Offers closes (if Reserve Capacity Auction is required). • Market Participants provide Reserve Capacity Security for new capacity entered into the Reserve Capacity Auction.
Monday	17 September 2018	5:00 PM	AEMO runs the Reserve Capacity Auction and publishes the results (if Reserve Capacity Auction is required).
Friday	21 September 2018	5:00 PM	Market Participants: • Advise AEMO how many Capacity Credits each Facility will provide and of any Long Term Special Price Arrangements to be accepted (if Reserve Capacity Auction is required). • May apply to AEMO for a recalculation of the amount of Reserve Capacity Security required to be held for a Facility (applications may be received after this date/time). AEMO: • Assigns Capacity Credits (if Reserve Capacity Auction is required). • Determines whether the RCR has been met or exceeded with Capacity Credits for which no RCS was required to be provided.

This timetable is intended to confirm dates for Year 1 of this Reserve Capacity Cycle only. Refer to clause 4.1 of the Wholesale Electricity Market (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 pursuant to clause 4.1.32 of the WEM Rules.

APPENDIX A. EXPRESSION OF INTEREST FORM

Important Note: As part of your EOI submission, please provide additional accompanying documentation and relevant information that supports your project, in addition to the completed EOI form.

Proponent	Response	Option
Application date		
Proponent name		
Contact person		
Contact person's position		
Address of company		
Phone		
Email		
Fax		
Registered in WEMS?		Yes
(Please cross the option which applies)		No

Facility	Response	
Facility name		
Location of Facility		
Is the Facility:		An intermittent generator.
(Please cross (X) the option which applies)		A non-intermittent generator serving an intermittent load.
		A non-intermittent generator not serving an intermittent load.
		A form of demand side management.
Primary fuel to be used in the facility		
Quantity of primary fuel expected to be available to the facility (number of days)		
Back-up fuel to be used by the facility (if any)		
Quantity of back-up fuel expected to be available to the facility (if any)		
Hours during a typical week when the facility will not be available to be dispatched		
Maximum capacity available (MW)		
For non-intermittent generators: capacity at 41°C (MW)		
For non-intermittent generators serving an intermittent load: capacity required to serve intermittent load (MW)		
For intermittent generators, anticipated Capacity Credit assignment (MW)		
For demand side management, expected hours of availability per year		
Expected earliest date that the facility will be available to be fully operational		
Offer for network access:		Has been made by Western Power Networks.
(Please cross the option which applies)		Has been applied for and is being processed.
		Has not been applied for.
Environmental approvals:		Have been granted.
(Please cross the option which applies)		Have been applied for and are being processed.
		Have not been applied for.

APPENDIX B. RESULTS FROM PREVIOUS RESERVE CAPACITY CYCLES

The following information is presented in accordance with clause 4.3.1(c) of the WEM Rules. Table 5 shows Availability Curve information.

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

- Availability Class 1 assigned by AEMO to CRC that includes all generation capacity, and any other capacity that is expected to be available to be dispatched for all Trading Intervals in a Capacity Year, under clause 4.11.4(a) of the WEM Rules.
- Availability Class 2 assigned by AEMO to CRC 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 5 Availability Curve data for the relevant Capacity Years for the last three Reserve Capacity Cycles

Availability Curve Information Clause 4.5.12(b) of the WEM Rules	2017–18 (MW) (Deferred 2015 ESOO)	2018–19 (MW) (2017 ESOO)	2019–20 (MW) (2017 ESOO)*
Capacity associated with Availability Class 1	3,792	3,995	3,823
Capacity associated with Availability Class 2	760	665	837

*The 2017 ESOO report contains an additional year of data covering two Long Term Projected Assessment of System Adequacy (PASA) Study Horizons and set the RCR for both the 2016 and 2017 Reserve Capacity Cycles.

The figures presented for each year are those for the relevant Reserve Capacity Cycle. The latest Availability Curve data can be found in the 2017 ESOO (pgs. 57-58).

MEASURES AND ABBREVIATIONS

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
EMR	Electricity Market Review
EOI	Expressions of Interest
EPA	Environmental Protection Authority
EMR	Electricity Market Review
ESOO	Electricity Statement of Opportunities
EV	Electric Vehicles
IRCR	Individual Reserve Capacity Requirement
MRCP	Maximum Reserve Capacity Price
POE	Probability of Exceedance
PUO	Public Utilities Office
PV	Photovoltaics
RCM	Reserve Capacity Mechanism
RCP	Reserve Capacity Price
RCR	Reserve Capacity Requirement
RCS	Reserve Capacity Security
SWIS	South West interconnected system
WA	Western Australia
WEM	Wholesale Electricity Market
WEMS	Wholesale Electricity Market System