

# A glimpse of the future

## Forecasting Western Australia's electricity consumption trends over the next ten years to 2026–27

Unprecedented transformation continues to shape Australia's energy industry. Improvement in energy efficiency and the uptake of distributed generation such as rooftop photovoltaics (PV) is slowing growth in operational consumption, while moving peak demand to later in the day.

This infographic explores the key themes of the 2017 Wholesale Electricity Market Electricity Statement of Opportunities (WEM ESOO), primarily electricity peak demand and the operational consumption outlook for the South West interconnected system (SWIS) in Western Australia (WA) over a 10-year forecast period, from 2017–18 to 2026–27.

### What is the WEM ESOO?

The WEM ESOO contains peak demand and operational consumption forecasts across a range of weather and economic scenarios over a 10-year forecast period.

In particular, the report highlights the 10% probability of exceedance peak demand forecast to determine the Reserve Capacity Target (RCT) for the 2018–19 and 2019–20 Capacity Years.

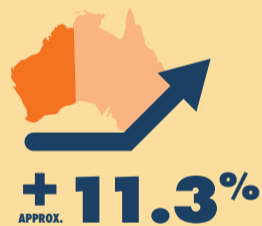
The WEM ESOO also provides information on:

- Generation and Demand Side Management capacity in the SWIS.
- Planned capacity, capacity retirements, and development opportunities.

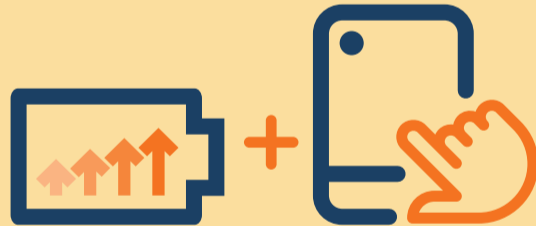
**RCT** 2017–18 | 2018–19 | 2019–20  
 = 4,552MW | = 4,620MW | = 4,660MW

The Reserve Capacity Targets for the 2018–19 and 2019–20 Capacity Years

### What will Western Australia's electricity consumption look like in 10 years' time?



Consumption from the SWIS is forecast to grow ~11.3% over the 10-year forecast period.



Increasing uptake of new, more efficient technology continues to flatten the peak demand and shift it later into the day.



The timing and size of peak demand is becoming harder to predict, partly because of strong growth in rooftop PV and large consumers reducing load during peak demand periods to minimise electricity costs.



Reforms to the WEM following the WA State Government's Electricity Market Review aim to reduce electricity production and supply costs and facilitate the long-term stability of the SWIS.

WA has seen strong growth in rooftop PV installations over the past year and this trend is expected to continue over the forecast period. WA has the third highest rooftop PV penetration among the Australian states (as a proportion of total dwellings),<sup>†</sup> with approximately 739 MW of commercial and residential rooftop PV installed. This is forecast to grow to 1,850 MW by mid-2027.



<sup>†</sup> Due to differences in methodologies, rooftop PV is excluded from sales in Western Australia.

## Western Australia



**+2.7%**  
APPROX.

Residential consumption (excluding rooftop PV) in WA's SWIS is forecast to increase from ~5,102 gigawatt hours (GWh) to ~5,239 GWh over the 10-year forecast period.



**+14.5%**  
APPROX.

Commercial\* consumption in WA's SWIS is forecast to increase from ~13,763 GWh to ~15,756 GWh over the 10-year forecast period.



**+15.1%**  
APPROX.

Peak demand in WA's SWIS is forecast to increase from ~4,169 megawatts (MW) to ~4,799 MW over the 10-year forecast period.



### ABOUT AEMO

This infographic has been developed by the independent Australian Energy Market Operator (AEMO), using information from the 2017 Electricity Statement of Opportunities for the Wholesale Electricity Market.

AEMO plans, develops, and operates markets that are responsive to energy sector needs and support investment for the long-term benefit of Australian consumers.

© 2017. The material in this publication may be used in accordance with the copyright permissions on AEMO's website.

\* Commercial as defined in AEMO's WEM ESOO includes all electricity consumers other than residential.