

A glimpse of the future

Forecasting Western Australia's electricity consumption trends over the next ten years to 2025–26

Australia's energy industry is undergoing an unprecedented transformation. Consumers are benefiting from technological advancements in energy efficiency and energy storage systems, changing the way Australians are consuming electricity from the grid.

This infographic explores the key themes of the Deferred 2015 Wholesale Electricity Market Electricity Statement of Opportunities (WEM ESOP), primarily electricity peak demand and the operational consumption outlook for the South West inter-connected system (SWIS) in Western Australia (WA) over a 10-year forecast period, from 2016–17 to 2025–26.

What is the WEM ESOP?

The WEM ESOP contains peak demand and operational consumption forecasts across a range of weather and economic scenarios over a 10-year forecast period from 2016–17 to 2025–26.

In particular, the report highlights the 10% probability of exceedance peak demand forecast to determine the Reserve Capacity Target (RCT) for the 2017–18 Capacity Year.

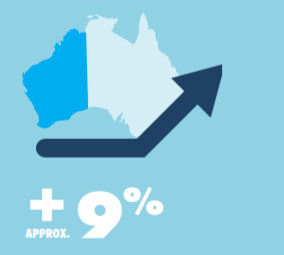
The WEM ESOP also provides information on:

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

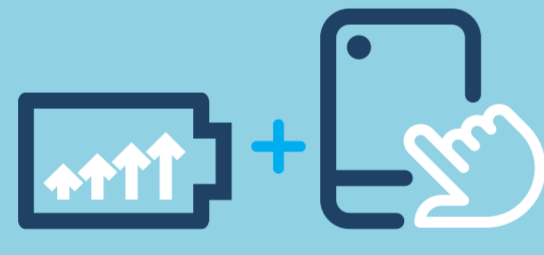
RCT = 4,552
megawatts (MW)

The Reserve Capacity Target for the 2017–18 Capacity Year

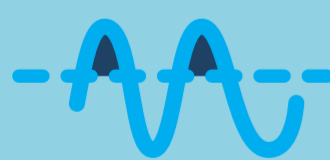
What will Western Australia's electricity consumption look like in 10 years' time?



Consumption from the SWIS is forecast to grow ~9% over the 10-year forecast period.



Increasing uptake of new technology is forecast to flatten the peak demand and shift it later into the day.



Annual peak demand is becoming harder to predict.



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.

At present, roughly one in five (22.5%) residential customers in the SWIS has rooftop photovoltaic (PV) installed, making WA the third highest state for dwellings with rooftop PV (as a proportion of total dwellings).[†]



[†] Due to differences in methodologies, rooftop PV is excluded from sales in Western Australia.

Western Australia



Residential consumption (excluding rooftop PV) in WA's SWIS is forecast to increase from ~5,144 gigawatt hours (GWh) to ~5,518 GWh over the 10-year forecast period.



Commercial** consumption in WA's SWIS is forecast to increase from ~13,414 GWh to ~14,731 GWh over the 10-year forecast period.



Peak demand in WA's SWIS is forecast to increase from ~4,073 megawatts (MW) to ~4,606 MW over the 10-year forecast period.

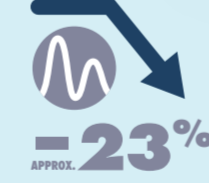
South Australia



Residential consumption in South Australia is forecast to decrease from ~3,836 GWh to ~3,165 GWh over the 10-year forecast period.



Business* consumption in South Australia is forecast to decrease from ~8,858 GWh to ~8,815 GWh over the 10-year forecast period.



Peak demand in South Australia is forecast to decrease from ~3.2 gigawatts (GW) to ~2.6 GW over the 10-year forecast period.

Tasmania



Residential consumption in Tasmania is forecast to decrease from ~2,022 GWh to ~1,813 GWh over the 10-year forecast period.

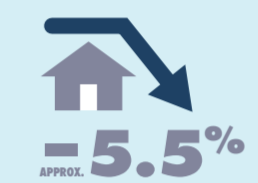


Business* consumption in Tasmania is forecast to increase from ~8,513 GWh to ~8,645 GWh over the 10-year forecast period.



Peak demand in Tasmania, currently the only winter peaking state in the country, is forecast to remain flat over the 10-year forecast period, at around ~1.8 GW.

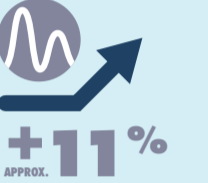
Queensland



Residential consumption in Queensland is forecast to decrease from ~12,831 GWh to ~12,121 GWh over the 10-year forecast period.

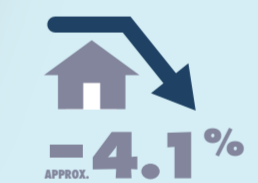


Business* consumption in Queensland is forecast to increase from ~38,531 GWh to ~43,169 GWh over the 10-year forecast period.

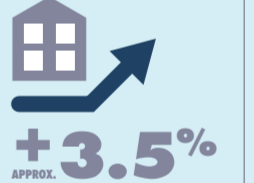


Peak demand in Queensland is forecast to increase from ~9.3 GW to ~10.3 GW over the 10-year forecast period.

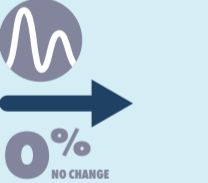
New South Wales



Residential consumption in New South Wales is forecast to decrease from ~19,667 GWh to ~18,853 GWh over the 10-year forecast period.



Business* consumption in New South Wales is forecast to increase from ~49,252 GWh to ~50,979 GWh over the 10-year forecast period.



Peak demand in New South Wales is forecast to remain flat over the 10-year forecast period, at around ~14.1 GW.

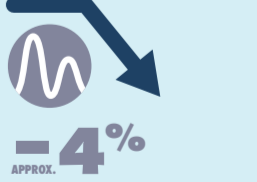
Victoria



Residential consumption in Victoria is forecast to decrease from ~12,718 GWh to ~12,576 GWh over the 10-year forecast period.



Business* consumption in Victoria is forecast to increase from ~31,442 GWh to ~32,876 GWh over the 10-year forecast period.



Peak demand in Victoria is forecast to decrease from ~9.9 GW to ~9.6 GW over the 10-year forecast period.

* Business as defined in AEMO's NEFR includes all electricity consumers other than residential.

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