

2022

Wholesale Electricity Market (WEM) Electricity Statement of Opportunities (ESOO)

Forecasting electricity demand and operational consumption trends for the next 10 years for the South West Interconnected System (SWIS).

Key findings

Supply



Sufficient electricity supply is expected to meet forecast demand until at least 2024-25.

The Reserve Capacity Requirement (RCR) has been determined as 4,526 megawatts (MW) for 2024-25.

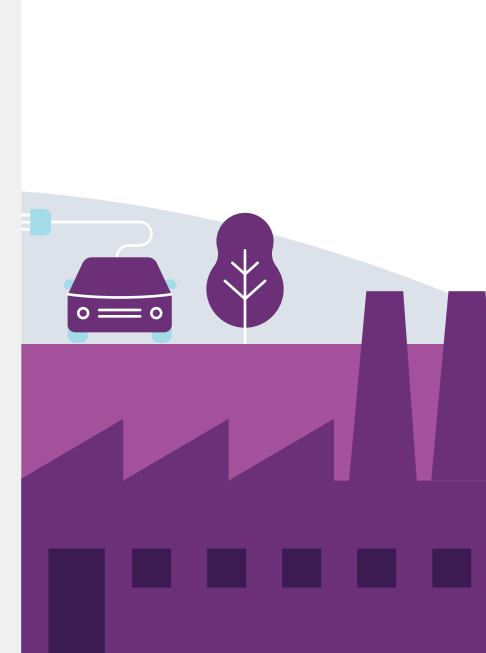


Demand



Peak demand is forecast to grow at an average annual rate of 0.9% over the outlook period.

Driven by forecast stronger growth from large industrial loads, residential customers, and uptake of electric vehicles.

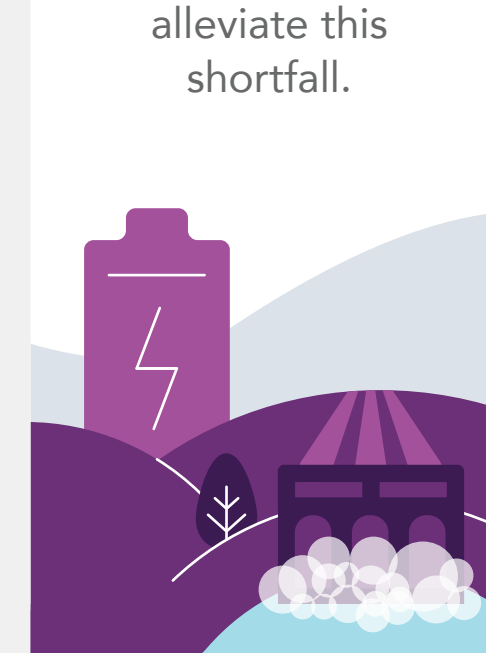


Capacity



Capacity shortfalls are projected from 2025-26 (0.5% increasing to 6.3% by 2031-32), assuming no new capacity becomes committed.

A number of anticipated generation and storage projects may alleviate this shortfall.

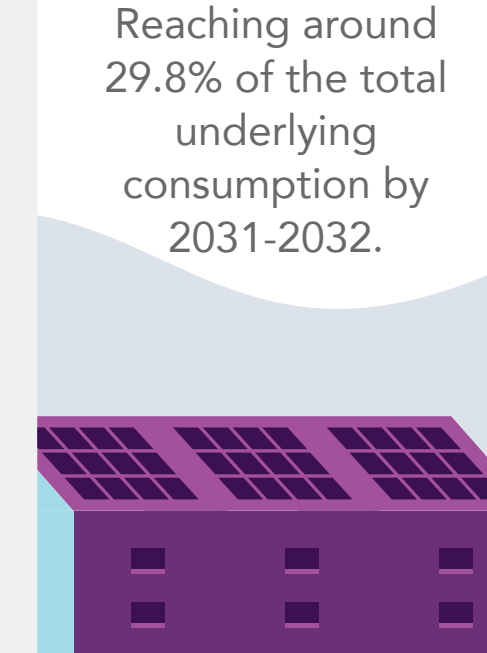


DPV



Distributed photovoltaic (DPV) is forecast to grow at an average annual rate of 7% (238 MW per year), to reach an estimated 4,716 MW of installed capacity by the end of the outlook period.

Reaching around 29.8% of the total underlying consumption by 2031-2032.



Consumption



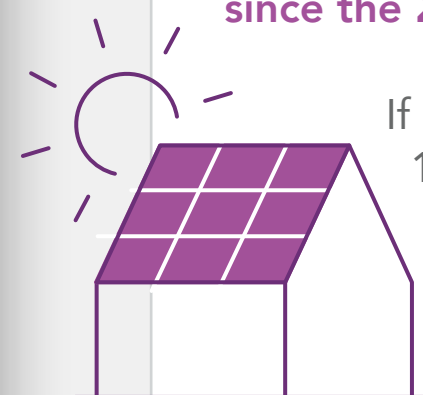
Annual operational consumption is forecast to decline at an average annual rate of 0.3%.

This is forecast to decline in the first half of the outlook period and slightly increase in the second half.



Minimum Operational Demand

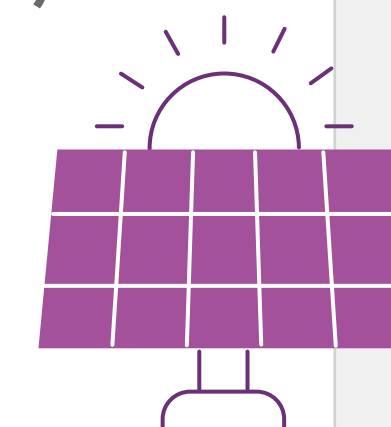
The minimum operational demand record has been broken five times since the 2021 WEM ESOO was published.



If left unconstrained, minimum demand is forecast to fall as low as 11 MW by 2026-27 due to continued growth in DPV. Mitigation actions are either in place or being investigated by AEMO to address operational challenges. These actions support the WA Government's Energy Transformation Strategy (ETS) to enable the transition to more renewables.

Distributed photovoltaic (DPV)

DPV includes residential and commercial rooftop solar systems less than 100 kilowatts (KW) and other smaller non-scheduled PV capacity ranging between 100 KW and 10 megawatts (MW).



What is the Reserve Capacity Mechanism (RCM)?

The SWIS is geographically isolated, unlike the National Electricity Market of Australia’s eastern and south eastern states, and therefore needs to be self-sufficient. The RCM, unique to the WEM, ensures sufficient generation is available to meet demand.



RCM Review

Energy Policy WA’s Coordinator of Energy is currently undertaking a review of the RCM in accordance with the WEM Rules. The RCM review outcomes may influence capacity changes or the manner in which the RCR is determined.

SWIS fast facts

- The SWIS supplies electricity to over **1.1 million** WA households and businesses.
- Approximately **20,000 gigawatt-hours** (GWh) of electricity traded and used annually through the SWIS.
- The SWIS has **2,042 MW of DPV** already connected (as at March 2022). Collectively, it is the largest generator in the SWIS.
- The SWIS, covering 260,000 km, includes 7,750 km of transmission and 93,350 km of distribution powerlines.

The changing generation mix

Maximum Capacity for facilities with Capacity Credits assigned for 2023-24 compared to 2022-23

