

March 2022

FACT SHEET

The Wholesale Electricity Market

The Wholesale Electricity Market (WEM) operates across the South West Interconnected System (SWIS), which supplies electricity to over 1.1 million Western Australian households and businesses each year.

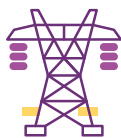
FAST FACTS



Approximately 20 terrawatt (TW) hours of electricity traded and used annually through the SWIS.



Collectively, rooftop solar is the largest generator in the SWIS, with installations on one in three households.



The SWIS, covering 260,000km, includes 7,750km of transmission and 93,350km of distribution powerlines, owned and operated by Western Power.



The Reserve Capacity Mechanism, unique to the WEM, ensures sufficient capacity is available to meet peak demand periods.

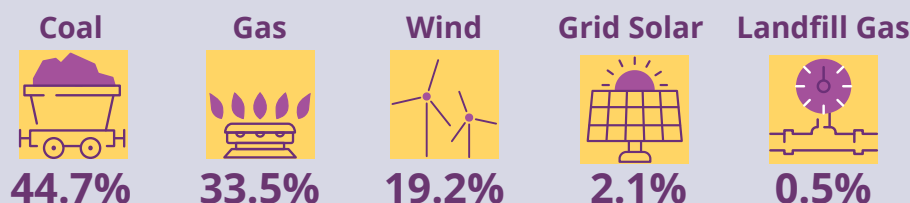
The WEM enables wholesale electricity sales within the SWIS between sellers and buyers.

Electricity retailers purchase electricity from generators either directly or indirectly through the WEM. AEMO is responsible for operating the WEM in accordance with the WEM Rules and the WEM Procedures. The WEM Rules are governed by the Minister for Energy and Coordinator of Energy, with the Economic Regulation Authority responsible for overseeing compliance with the rules.

The SWIS recorded a **maximum demand record of 4,006 megawatt (MW)** on 8 February 2016, and a **minimum demand record of 761 MW** on 14 November 2021 driven by mild weather and rooftop solar generation.

THE GENERATION MIX

There are currently 71 generation facilities registered in the WEM. Annual generation by fuel type (March 2021 – Feb 2022):



THE TRANSITION

Commercial and residential solar is expected to reach an estimated 4,069 MW of installed capacity by 2030-31, **providing around 45% of total expected generation capacity.**



AEMO'S WEM FUNCTIONS

AEMO's primary role is to safely operate Australia's energy systems and markets, balancing supply and demand in real-time, to provide safe, reliable, and affordable energy to all Australians. In Western Australia, AEMO's functions are:

MARKET OPERATIONS

Operating and settling the Reserve Capacity Mechanism and managing the buying and selling of electricity in the following markets:

- the Short Term Energy Market
- the Load Following Ancillary Service (LFAS) Market
- the Balancing Market

POWER SYSTEM OPERATIONS

Maintaining the SWIS in a secure and reliable operating state, working alongside the network operator (Western Power) and generation facility owners

HOW THE WEM WORKS

The WEM is a wholesale electricity market in which generators sell electricity to retailers who buy it to on-sell to consumers.

Market generators are participants that operate generation facilities such as scheduled generators (coal and gas) and intermittent generators (wind and solar). There are currently around 70 generation facilities registered in the WEM, operating a combined ~ 6 gigawatt (GW) of generation.

Market customers are retailers, large scale consumers and Demand Side Participants – which is a load or group of loads which reduce consumption, substituting the requirement for additional electricity generation. There are currently around 30 market customers registered in the WEM.

THE WEM OBJECTIVES



To promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the SWIS



To encourage competition among generators and retailers in the SWIS, including by facilitating efficient entry of new competitors



To avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions



To minimise the long-term cost of electricity supplied to customers from the SWIS



To encourage the taking of measures to manage the amount of electricity used and when it is used

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.



MORE INFO

To find out more, please visit aemo.com.au or email us at media@aemo.com.au.