# WESTERN AUSTRALIA FACTSHEET

Western Australia has three major electricity networks that cover different regions of the state:

- **South West Interconnected System (SWIS):** is detailed below.
- **North West Interconnected System (NWIS):** covers part of the Pilbara region, a key area for mining and mining communities, and spans 400 km from east to west and 350 km from north to south. State government-owned and vertically integrated Horizon Power oversees the operation of the NWIS. There are over 15,000 retail accounts within the NWIS.
- **Regional power:** Due to the vast size of the state, regional and remote electricity generation varies between interconnected systems and 'micro' grids. Outside of the NWIS, Horizon Power is responsible for the operation of systems in approximately 31 regional towns and remote communities across the state, and maintains three interconnected systems servicing the East Kimberley (Kununurra, Wyndham, Lake Argyle) and the rural areas of Esperance, and Hopetoun.

## South West Interconnected System

The SWIS is WA's primary electricity system. Over one million electricity customers live in the area supplied by the SWIS, while around 46,000 customers live in other parts of the state.

The SWIS has a network of over 7,800 km of transmission lines. It includes Perth and spans from Albany (south) to Kalgoorlie (east), up to Kalbarri (north). State government-owned Western Power is the main licensed distributor and state government-owned Synergy is the largest licensed retailer within the SWIS. Synergy is the only retailer permitted to supply electricity to small-use residential and business customers who consume less than 50MWh per year.

## The SWIS Wholesale Electricity Market

In 1998 the Australian Government reformed the electricity industry, at which point wholesale electricity in eastern and southern Australia began trading through the National Electricity Market (NEM).
WA and the Northern Territory are not connected to the NEM. The vast size of Australia and the spread between heavily populated areas means that it is not economically feasible to have a completely interconnected national electricity grid.

In September 2006 the Wholesale Electricity Market (WEM) commenced within the SWIS. Electricity cannot be easily stored, so the WEM acts as a centrally coordinated market where electricity generation and consumption is matched in real-time to supply in the SWIS.

The WEM encourages competition among generators and retailers within the SWIS, which in turn, results in competitive prices for consumers. The design has similarities to the National Electricity Market in the east coast (see NEM fact sheet) however there are also differences: for example, the WEM has a "reserve capacity mechanism" which guarantees all eligible generators income regardless of whether they are running, whereas the NEM is described as an "energy-only market".

AEMO is responsible for the WEM's operation in accordance to its market rules, which establish the structure and processes of the WEM.

## Uniform Tariff Policy and Retail Competition in the SWIS

Small-use customers who consume less than 160MWh per year (most households and small businesses) are eligible for regulated tariffs, and customers who consume more than 50MWh per year are open to retail competition. Regulated tariffs are set by the state government. The Economic Regulation Authority also regulates the costs of some gas and electricity transmission and distribution networks.

Under the state's Uniform Tariff Policy, both Horizon Power and Synergy small-use customers are able to access regulated tariffs. The costs of supplying electricity to small-use customers in regional and remote areas is usually higher compared to the SWIS. This means that regulated retail prices are



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usually lower than the expenses Horizon Power incur for servicing remote and regional communities, but the shortfall is recouped in the following way:

**The Tariff Equalisation Contribution** funds the difference between cost and supply, by adding an amount to electricity network charges for customers in the SWIS; and,

In many of the small remote grids, Horizon Power is discovering that renewable energy, particularly solar, combined with battery storage presents a cheaper option than relying entirely on small diesel generators. This is also true for customers on rural feeders.

Similarly Western Power is finding that in some of the more remote parts of the SWIS, it can be cheaper to disconnect customers from the main grid and use these new technologies to operate them as remote micro grids or stand-alone power systems.

**More Information:** Western Australia factsheet



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