

Synergy



Supply 55%
of the electricity
supplied to homes and
business in the SWIS



8,000 GWh
of electricity
generation
from 15 sites



1 million
Residential and
business customers



760+
employees

**Provide safe,
reliable power**

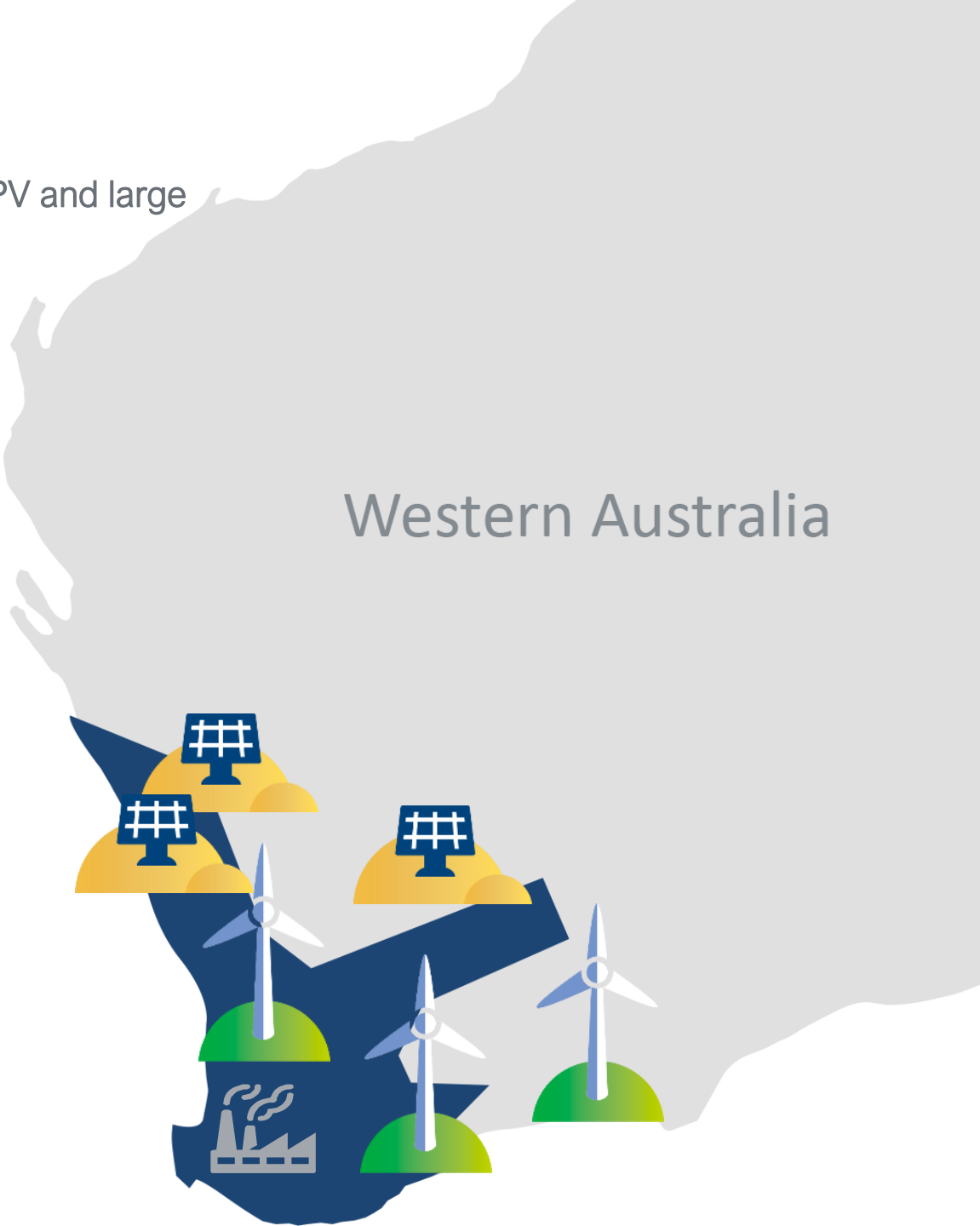
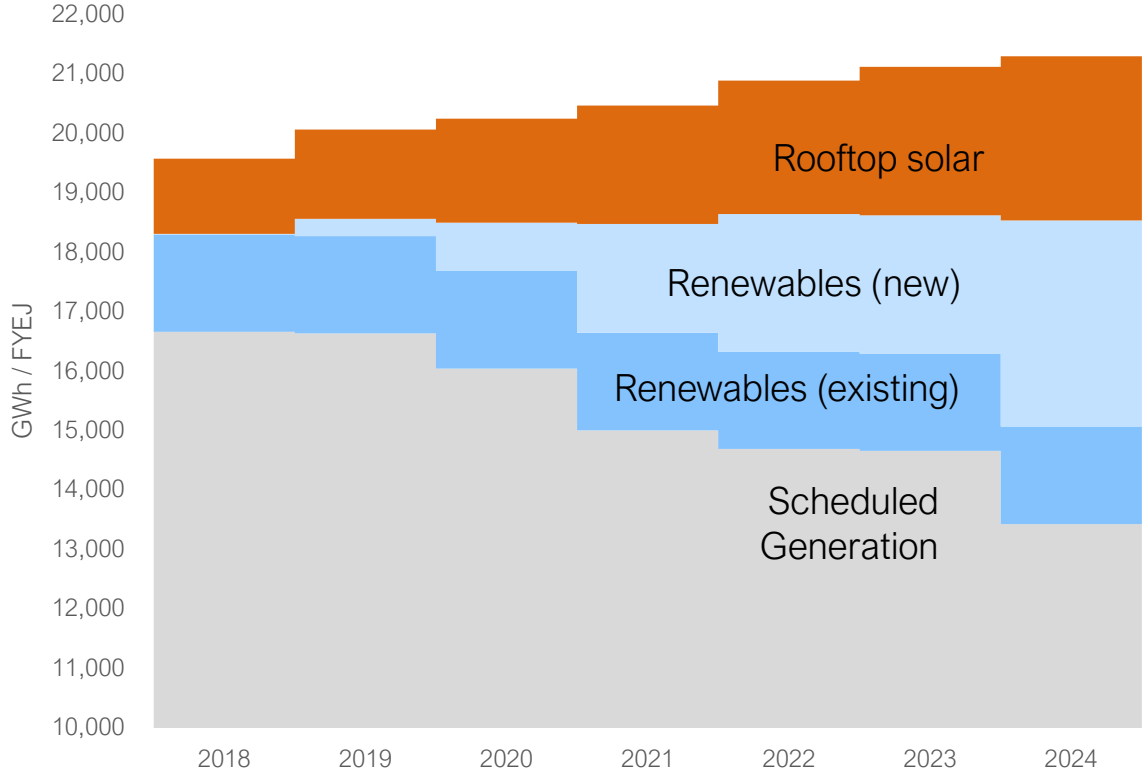
**Innovative
and renewable
energy**

**Making your
life easier**
At work and at home

**New Energy
Solutions
today**

Industry Transition

Overall, utility scale demand is flat. Growth is met by rooftop PV and large scale renewables is threatening baseload supply



Solar PV now installed at 220MW per year

Increasing uptake of rooftop PV is creating a 'duck curve' in the daily demand profile, creating significant shifts in operations

Historical & forecast roof-top & commercial solar PV Capacity MW, Financial Year

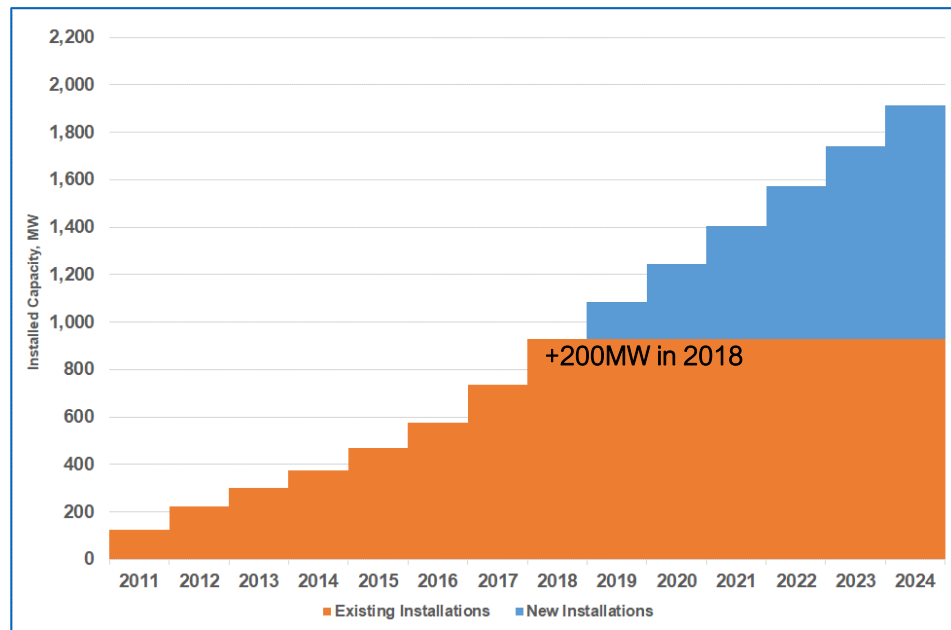
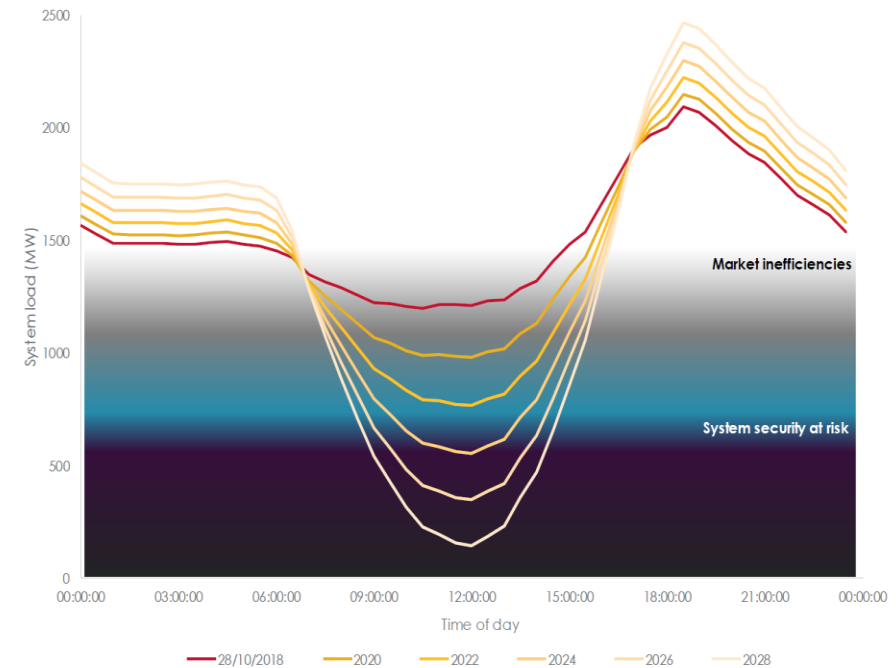


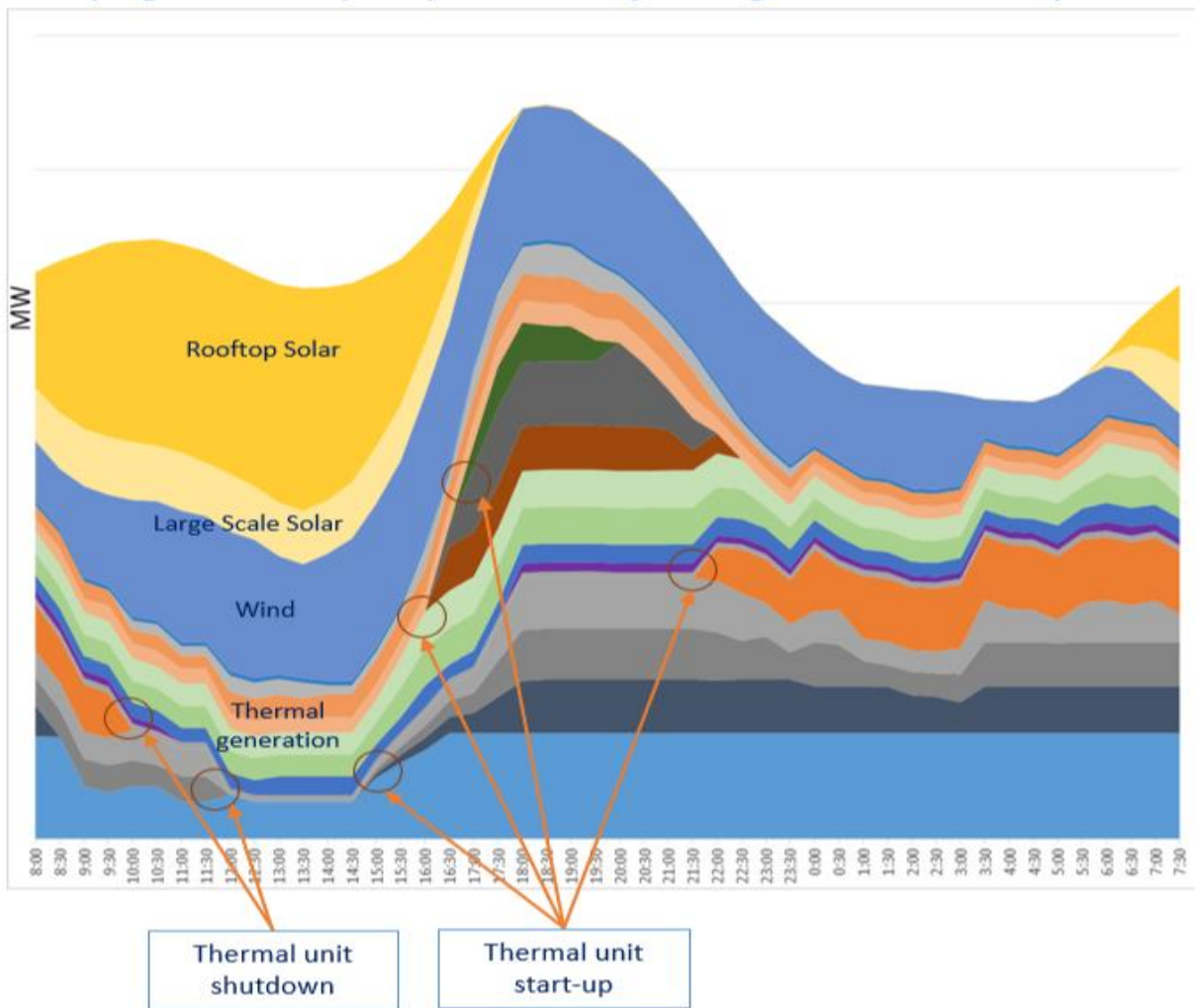
Figure 10 AEMO's analysis on the shape of the load curve on the minimum demand day, 2018 actuals forecast to 2028, based on a persistence PV forecast



Cycling and fast ramp up now the norm

The impacts on generation are real

Example generation dispatch profile on a day with high wind and solar output



In Q1 2019 the WEM reached the highest ever level of generation from grid-scale non-scheduled generation (NSG) of 564MW on 3 February.

This was surpassed in Q2 on 18 April when 578MW of grid-scale NSG was online.

- Increased running costs
- Increased stress on units
- Increased maintenance
- Risk of not starting
- Reduced economic value of units

Building new skills





Synergy

Thank you

Graeme Ross



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