

Rapid uptake of rooftop solar changing WEM paradigm

The uptake of rooftop solar continues to impact operational and peak demand, accelerating a paradigm shift for the energy industry, according to an Australian Energy Market Operator (AEMO) analysis.

Rooftop solar is estimated to have reduced 2016-2017's peak demand in the SWIS by 265 MW or 7.2 percent to 3,670 MW on 1 March 2017, the lowest summer peak observed in the SWIS since 2009, AEMO's 2017 Electricity Statement of Opportunities (ESOO) for the Wholesale Electricity Market (WEM) has found.

"The rapid adoption of rooftop solar is not only slowing annual operational consumption growth but also eroding the mid-day grid demand and shifting peak demand to later in the day," AEMO's Executive General Manager – Western Australia, Cameron Parrotte, said.

AEMO expects this will result in peak demand growing at a faster rate than operational consumption as consumers continue to take greater control of their energy use through the adoption of new technologies such as rooftop solar.

With the strong growth in rooftop solar installations anticipated, AEMO expects demand in the middle of the day to shrink further, resulting in a rapid increase in demand in the lead up to the evening peak once the sun sets," Mr Parrotte said.

Typically known as the "duck curve", this type of load profile requires generation to start and shut down more often in a very short space of time to meet demand.

"The 'duck curve' is a factor that may contribute to a shifting market paradigm where thermal generators are facing higher operational costs alongside reduced demand. Market and system reforms will need to be put in place to maintain system security and enable this transition at the lowest cost to consumers," Mr Parrotte said.

Consistent with previous years, the Individual Reserve Capacity Requirement (IRCR) saw its highest IRCR response observed to date, further contributing to the lowest summer peak in the last seven years. 53 customers, incentivised to reduce load during high demand periods, reduced load by 124 MW.

The 2017 WEM ESOO determined the Reserve Capacity Target (RCT) for the 2018-2019 and 2019-20 Capacity Years to be 4,620 and 4,660 MW respectively.

"While the current WEM is working well, we need to plan ahead holistically in anticipation of a low carbon future with increased intermittent generation from renewable sources.

“AEMO continues to support the ongoing review of the Wholesale Electricity Market, working closely with policy makers and regulators to ensure future market reforms address this new reality,” Mr Parrotte said.

About the WEM ESOO

The report determines the RCT, the amount of generation capacity required to meet the forecast peak demand in the SWIS for the 2018-19 and 2019-20 Capacity Years. The RCT is an important input to determine the Reserve Capacity Price, the price paid to capacity providers in the WEM.

It presents longer-term electricity peak and operational consumption forecasts for the SWIS over a 10-year forecast period from 2016–17 to 2026–27, and provides information on generation and demand side management capacity operating in the SWIS, as well as planned capacity, capacity requirements and network development opportunities.

ENDS

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About AEMO

AEMO is responsible for operating Australia’s largest gas and electricity markets and power systems, including the National Electricity Market and interconnected power system in Australia’s eastern and south-eastern seaboard, and the Wholesale Electricity Market and power system in Western Australia.

AEMO also operates the Victorian Declared Wholesale Gas Market and the Victorian gas transmission system; the wholesale gas Short Term Trading Market hubs in Adelaide, Sydney and Brisbane; the Wallumbilla Gas Supply Hub in Queensland; and the Moomba Gas Supply Hub in South Australia.

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