

Treatment of solar exports in load profiles



A note for the Australian Energy Regulator (AER) | 21 May 2024

Background

The AER is required to set the default market offer (DMO) annually. A key aspect to determine the wholesale energy cost (WEC) component for this year's determination is the treatment of solar exports in load profiles. This was a key issue raised by stakeholders during the draft determination consultation, and the AER Board has requested viewpoints on the treatment of solar exports in the final determination.

Our engagement

We have been engaged to provide our view and advice on how solar exports should be treated in the load profiles for this year's DMO determination, and to provide our logic to support this view.

Load profile criteria

In our view, there are a number of criteria that should be met by a load profile used to estimate a retailer's reasonable wholesale energy costs. Key criteria include:

1. The load profile data is reliable, timely and available on a consistent basis over time.
2. The load profile reflects the group of customers that is regulated. For instance, if a single regulated tariff is set for all residential customers in a particular network area, then ideally the load profile should be an aggregation of load for all (or a representative sample of) residential customers in that network area.
3. The available historical data for the load profile is sufficient to provide a basis for forecasting the load profile for the regulatory period, as well as being sufficient to provide a basis for forecasting the relationship between the load profile and spot prices for the regulatory period.
4. The load profile enables the preferred treatment of imports of electricity and exports of electricity by customers with solar PV.

We have been asked for our advice on how exports should be treated in the load profiles for this year's DMO determination. That is, we are being asked for our advice on the fourth of these criteria. In providing our advice on the load profile, we do not consider the effect that other criteria might have on the AER's decision about the appropriate load profile; the only criteria we consider is the preferred treatment of solar exports.

Treatment of solar exports

Considering only the preferred treatment of solar exports, our view is that the load profile used for the DMO should exclude solar exports.

The fundamental reason for this view is that the DMO is a price that applies only to customers' imports from the grid, and applies to all customers' imports from the grid. Retailers do not net



off a customer's exports to the grid from that customer's imports from the grid when applying the DMO tariff. It is reasonable that the WEC is calculated on the basis of the chargeable quantities to which that WEC is applied; in the case of the DMO the chargeable quantity is imports, not imports less exports.

It is certainly the case that retailers do face settlement payments to AEMO for both a customers' imports from the grid and a customers' exports to the grid. Generally, a retailer will pay AEMO for a customers' imports, at the relevant spot price, and a retailer will be paid by AEMO for a customers' exports, also at the relevant spot price (although when spot prices are negative the direction of cashflows will reverse). Excluding exports from the load profile for the DMO doesn't mean that retailers are left exposed to the settlement payments to AEMO for those exports. Those settlement payments can be reflected in the feed-in tariffs that retailers offer to customers that export to the grid. In the same way that it is reasonable that the WEC is calculated on the basis of the chargeable quantities to which that WEC applies (that is, imports), it is reasonable to expect that the feed-in tariff would be calculated on the basis of the chargeable quantities to which the feed-in tariff applies (that is, exports).

Similarly, it may well be the case that retailer's hedging position (to manage the risk of their exposure to spot payments) is developed having regard to the retailer's aggregate position. In the context of a customer with solar, this position would be imports less exports. However, in our view, what load a retailer hedges and what load should be used to determine WEC are different questions. Retailers can achieve lower costs by hedging across their entire retail book, rather than by hedging separately for imports and exports, by hedging separately for individual customers or by hedging separately for individual customer categories. But the fact that hedging across an entire retail book can deliver lower costs (sometimes known as portfolio benefits) doesn't mean that all loads or all customers have to be priced the same, or should be priced the same. To do so would be to ignore the fact that some loads and some customers are more expensive to serve than others, even within a single portfolio. For instance, it would generally be expected that customers that mostly consume electricity during the morning and evening hours (like many residential customers) would be most expensive for a retailer to hedge, This is because consumption by these customers mostly occurs when electricity prices are highest and because these customers have a relatively peaky load shape. An aggregate portfolio that consists of some of these customers, but also some customers that mostly consume electricity during the day (like many large business customers), would generally be expected to be less expensive to hedge on average. Achieving the portfolio benefits of combining these customers with different load shapes, however, needn't imply that both types of customers are offered the same tariff. Rather, the portfolio benefits can be passed through to customers while maintaining lower tariffs for the lower cost customers and higher tariffs for the higher cost customers. This can be achieved by allocating relatively less of the aggregate hedging cost to lower cost customers and relatively more of the aggregate hedging cost to higher cost customers.

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