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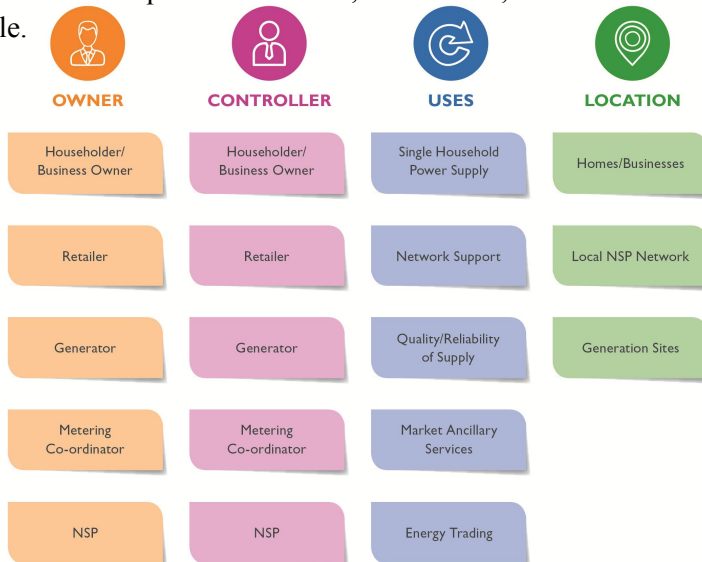
COMPETITION & REGULATION UPDATE

STORAGE IN THE NATIONAL ELECTRICITY MARKET - IS THE GRID MOVING IN?

Electricity storage at or above household scale will likely become economic within the next few years, as the cost of batteries come down and generous feed in tariffs slowly expire. Australia could be one of the world's leaders in deploying such technology due to its sunny climate, low population density and prevalence of rooftop solar (already at more than 1.4 million homes). This update considers the impact of the existing regulatory framework on who is likely capture the value from battery storage.

In contrast to most assets in the National Electricity Market (NEM), batteries can be deployed by all participants (including generators, network businesses and consumers) and can be located in a variety of places (including homes, substations and generation sites).

The diagram below shows some potential owners, controllers, uses and locations of storage. Various combinations are possible.



However, the value created by battery technology is subtractable and cannot be claimed by everyone. The regulatory structure is an important determinant of which parties will reap the greatest value, and how quickly this will occur.

In October 2015, the Australian Energy Market Commission (AEMC) published a report on the regulatory implications of batteries (Storage Report) which concluded that the current regulatory frameworks are based on an underlying principle of technology neutrality and can accommodate storage.

Neutrality is of course very difficult to achieve in practice. Despite the principle, the practical reality is that the existing market structure advantages distribution businesses (DBs) over retailers and generators in respect of the installation of storage. This is for reasons including the current prevalence of accumulation meters, the 5/30 rule and the potential for DB owned storage to be funded by regulated revenue. We address each of these matters below.

Accumulation meters remain the prevalent metering infrastructure for residential premises in the NEM (save for Victoria). Accumulation meters do not record the time of use, and thus cannot differentiate between electricity used at times of high prices and that used at times of low prices. In consequence, consumers (and their retailers) cannot lower their average electricity price by curtailing their use of electricity from the grid during times of high prices. The AEMC has separately issued a draft rule determination to facilitate the market led deployment of advanced meters by introducing competition in "metering services" (Metering Draft Determination). Advanced meters may well be ultimately be packaged with batteries and metering co-ordinators could play a significant role in the deployment of storage. However, the deployment of advanced meters is likely to take time.

The 5/30 rule hinders customers (and retailers) from capturing the full benefit of storage. This is because the spot price is not known until nearly the end of each trading interval (as it is made up of the price in each of the six dispatch intervals). In consequence, consumers cannot accurately determine when to switch from grid power to battery power.

Under the existing regulatory structure, DBs can potentially earn multiple revenue streams from the deployment of storage (including both regulated revenue for storage providing direct control services and unregulated revenue for storage providing other services). Indeed the shared asset mechanism is designed to regulate returns where DBs are earning both regulated and unregulated revenue from the same asset.

For example, the Australian Energy Regulator (AER) has opined that batteries (in homes or outside) could form part of the distribution system - and thus become a part of a DB's regulatory asset base. Indeed, for proposed large network augmentation projects, the Regulatory Investment Test - Distribution (RIT-D) compels DBs to consider non-network alternatives (which the AER has observed includes storage). The installation of storage could occur as capital expenditure, operating expenditure (if owned by a third party) or under the Demand Management Innovation Allowance (DMIA). Some DBs have already commenced trialling storage as a substitute for further augmentation of their network using funding approved pursuant to the DMIA. Even if a DB does not have express approval in a regulatory determination, the Efficiency Benefit Sharing Scheme (EBSS) or Capital Expenditure Sharing Scheme (CESS) provide an incentive for DBs to install storage if it achieves cost savings.

Whether DBs can obtain regulated revenue from batteries will depend upon how they are used. Batteries in a home could be used to provide stored electricity to the homeowner, to convey electricity to other customers in the same neighbourhood or for both purposes. Indeed the use of a battery in a home could vary from one day to another. In consequence, control of a battery, and its settings, will likely be an important determinant to its regulatory treatment. Customers are likely to have different views as to who should control a battery that is installed in their home, and what settings should be applied.

DBs may also be able to earn unregulated revenue from batteries that do not provide direct control services (for example by providing market ancillary services). In doing so, they would need to comply with the ring fencing guidelines that govern the accounting and functional separation of the provision direct control services from the provision

of other services. The existing ring fencing guidelines, which are State based and thus inconsistent across the NEM, are likely to be replaced in 2016 with a new AER guideline. Given the potential for fluidity in the use of batteries, those ring fencing guidelines could become an important element in determining the competitive landscape for the installation and management of storage devices.

DBs will not be the only participants considering the deployment of storage. Generators, retailers, metering co-ordinators and customers themselves may wish to install, or control, storage. Storage is a substitute for generation and retailers may be able to bundle storage with electricity contracts. One gentailer has already launched a battery storage initiative for its retail customers.

Although storage technology represents a commercial opportunity open to all, we consider that the regulatory structure (both the existing structure and the upcoming changes likely to arise from the Metering Draft Determination and new ring-fencing guidelines) will play an important role in determining how storage is deployed throughout the NEM.

MORE INFORMATION

We welcome the opportunity to discuss these issues in further detail. For more information, please contact:



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