Tariff reform and integrating distributed energy resources (DER)

The uptake of distributed energy resources (DER) such as solar panels and batteries has far exceeded expectations. While it has accelerated the decarbonisation of electricity, it has led to distributors' networks nearing their capacity to support (host) DER. Already, some consumers have been restricted from exporting their excess solar power, preventing them from realising the full value of their investments. This risk will continue to grow as DER penetration increases.

Using price signals to support DER integration

Price signals mitigate these constraints by encouraging more efficient use of distribution networks. This helps distributors to integrate more DER onto networks without the need to invest in further capacity. Different prices throughout the day incentivise consumers to use less electricity or export more electricity during evening peaks when demand is high and use more electricity during the day when demand is low. Examples of price signals include time-of-use, demand and export tariffs, and complementary initiatives such as prices for devices, demand management rebates and distributors procuring network support services.

Distributors could also upgrade their networks to enable more DER. However, consumers ultimately pay for this additional network infrastructure through higher network prices, so it is important that distributors use the right balance of price signals and investment.

As a result of the Australian Energy Market Commission's recent determination on the *Access, pricing and incentive rule change requests*, the National Electricity Rules (NER) now require distributors to explain the interrelationship between their tariffs and their regulatory proposals. Distributors should consult consumers on these aspects to identify an appropriate balance of network investment and price signals to support DER integration. The types of price signals used should reflect the NER pricing principles, consumer preferences, network requirements, their jurisdictional context and learnings from tariff trials.

Where we think tariff reform is heading

Network price signals should continue to evolve to realise the anticipated long-term benefits of lower network investment costs and optimised DER. Cost reflective tariffs, including two-way pricing such as solar export pricing, can empower consumers to provide network support services to distributors and to participate in wholesale markets. For instance, consumers can participate through 'virtual power plants' (cloud-based DER control systems which allow for trading and smart energy distribution) facilitated by retailers or third party aggregators.

Distributors should view both tariff reform and network support service procurement as alternatives to expensive network investment. Cost reflective tariffs will drive broad retailer and consumer responses while targeted procurement can address local needs.

In the future, we expect distributors to focus on designing new and innovative tariffs that are informed by tariff trials. They should work with retailers, aggregators and governments to create new service models. We also expect them to help consumers participate in new energy markets as part of the Energy Security Board's two-sided markets reform work.

In order for these reforms to happen, distributors should consult widely at every step. It is with consumer and other stakeholders' buy-in that the benefits of network tariff reform can be realised.