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## New Battery Trial Findings Point to Partnerships Between Networks and Consumers

A ground-breaking study released today shows that customers can provide untapped support to the electricity grid from their residential battery systems - for potentially significant financial returns.

AusNet Services' three-year battery storage trial tested new ways to use residential batteries, including exporting electricity into the grid at peak demand times that may delay or offset costly network investment.

The trial found that a typical residential customer with solar panels could save \$1,500 over five years by adding a battery storage system. But the potential benefit for a network from the same system, depending on its location, could be \$3,000 over five years, or double the direct customer benefit.

"The findings show that network businesses have real incentives to support the take-up of this new technology. The trick is to find ways to share those benefits with customers so that both parties have the incentive to move forward together," said AusNet Services' General Manager Asset Management Alistair Parker.

"There are an estimated 1.4 million solar systems in Australia that, if paired with residential battery systems, could revolutionise the role these customer assets play at the macro-grid level.

"But facilitating the widespread take-up of these technologies smoothly, fairly and efficiently is a massive challenge for the industry, governments and consumers alike," he said.

"Network businesses must understand how to integrate these technologies into the existing grid before they penetrate the mass market, potentially causing massive network disruption. It's only early days, but this trial is a milestone along that path."

Established in December 2012, the trial explored the potential of residential batteries to:-

- flatten residential customer demand profiles (and hence electricity bills),
- manage the peaks in network demand that are driven by residential customers,
- improve the integration of residential solar power into the network, and
- assess the financial benefits of battery storage to both the network and to customers.

AusNet Services installed solar panels and inverters, batteries, a system controller and a communications module in 10 homes, in different locations and with varying consumption patterns, and monitored energy consumptions and flows over two summers.

The trial tested the battery systems using five different ways of providing demand management, including varying the source of battery charging (off peak grid electricity or solar) and varying the balance between targeting customer benefits or network benefits.

The high level findings of the trial are that:-

- Residential battery storage is capable of providing significant benefits to customers on their electricity bills, and to networks in helping manage peak demand and solar PV uptake.

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- Battery system costs are still generally uneconomic at this time, even when customer benefits and network benefits are able to be captured and combined.
- The battery storage market is rapidly evolving and the technology may become economic in the near future, either through the development of business models that unlock additional value, or through continuing technology cost reduction.

“It was evident in this trial that there are a wide range of possible benefits from residential battery storage. Part of the exercise in future will be to define what goals Australia wants to achieve, and for us and others to develop products, services and tariffs that deliver those goals for the mutual benefit to all customers,” said Mr Parker.

“AusNet Services is sharing our findings to enhance industry and community understanding of how residential battery systems can work, and some of the options that will become available.

“We will now seek to build on what we’ve learnt, through activities including:-

- local aggregation of storage and potential exchange of energy through “mini grids”;
- the investigation of potential new demand-based tariffs or other financial benefits for customers;
- facilitating the deployment of storage to address network issues; and
- testing backup power supply capability that could maintain supply to customers in the event of a network outage.

“AusNet Services will continue to actively undertake research and development of these new opportunities for Australia,” Mr Parker said.

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