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Increasing customer participation in distributed energy

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has announced \$446,000 in funding to technology company UPowr Pty Ltd (UPowr) to explore how customer insights can be used in the design of Distributed Energy Resources (DER) initiatives.

The project aims to demonstrate how a deeper understanding of customers can be used to increase their willingness to participate in DER orchestration programs by reshaping the design, engagement, communication and presentation of these programs to customers.

DER orchestration programs enable aggregators, such as an electricity retailer or virtual power plant (VPP), to control and optimise behind-the-meter assets like rooftop solar and batteries. Orchestration enables more efficient use of these assets, like providing systems to optimise the charging of home batteries, tap into revenue streams such as network services, and provide more convenience to customers. Orchestration provides greater benefits to the grid by providing services and also better commercial returns to owners who gain more value from their assets.

The \$943,155 project will encourage customers from Victoria, New South Wales, and potentially Queensland and South Australia to participate.

UPowr will leverage their own existing digital platform to offer third-party battery assets and battery orchestration programs to rooftop solar customers interested in purchasing a household battery. Behavioral science will be used to develop a customer segmentation framework to tailor a unique product offering and customer journey based on their motivations, values and thought processes. UPowr aims to practically demonstrate how customer insights can be used in the development and delivery of orchestration programs – an end-to-end approach that has not been demonstrated in the industry.

If the trial is successful, UPowr expects to see increased household participation in orchestration programs and a business case for using customer insights and modelling in DER product design and offerings to support a greater uptake of DER.

A study conducted by AECOM on behalf of ARENA highlighted that residential behind-the-meter batteries that are not controlled may end up costing the system and consumers more, whereas controlled home batteries would lead to benefits to the grid as well as cheaper energy prices for the consumer.

ARENA CEO Darren Miller said that with our world-leading penetration of rooftop solar PV, consumers are at the centre of the transformation of the electricity that is being driven by technology. It is therefore crucial that consumers are at the centre of how we design DER initiatives like VPPs.

“Despite our record-breaking solar installations, only 73,000 household batteries have been installed alongside them to store solar energy and dispatch it later. It is estimated that only 10 per cent of these batteries are controlled by energy providers including retailers, aggregators and networks who can optimise the charging and discharging of batteries, so it’s vital that we continue to find ways to incentivise customers to join these programs.

“As DER will play an increasingly important role in our electricity grid, we need to put consumers at the centre as it is their behind-the-meter assets including rooftop solar, home batteries, electric vehicles, smart appliances and home energy management systems that will be crucial to scaling up VPPs and demand response,” he said.

“It is important that residential customers are made aware of the benefits from enrolling in these initiatives, and we look forward to seeing UPowr’s results in further understanding the customer journey and experience and how the findings can be used to increase participation rates in future projects,” Mr Miller said.

UPowr’s project is now underway and is expected to be completed by early 2022. More information can be found [here](#).