MEDIA RELEASE

ARENA
Australian Government
Australian Renewable Energy Agency

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Dynamically managing energy loads for a smarter electricity grid

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced $864,000 in funding to AGL to develop and trial a price intensity forecasting tool to support dynamic load flexing in the commercial and industrial sectors.

AGL's $1.78 million project will initially recruit four Melbourne-based customer sites and utilise their price intensity forecasts to manage energy loads, freeing up around 25 MW of combined flexible load which can be used to ease pressure on the energy grid.

Melbourne Airport, a warehouse and logistics company, a tier 1 supermarket chain and a water utility company will take part in the project, representing key addressable industries of cold stores, supermarkets, water treatment and airport market segments. Together these sites offer up a potential of 385 MW load management across the National Electricity Market (NEM).

ARENA's report "The Role of Flexible Demand in Australia's Energy Future" identified potential sources of demand flexibility that included new retail and commercial products such as energy-as-a-service, dynamic tariffs and demand-based market hedges, as well electrification and control of commercial and industrial loads such as heat pumps, electric furnaces and thermal storage for cold stores and commercial property. AGL's project will look to address these sources of demand flexibility.

Shifting demand away from peak times and reducing demand at critical times can complement energy storage and reduce the overall cost of energy and support integration of more renewables into the grid.

ARENA CEO Darren Miller said flexible demand offers a viable solution to the evolving requirements of the electricity grid.

"Unlocking flexible demand at commercial and industrial sites can free up electricity capacity at times of high demand and consume electricity when renewable electricity is abundant. This will help us create a truly smart, adaptable and efficient energy grid."

"Through AGL's trial, the development of the price intensity forecasting tool will help to reduce barriers for industry to take up renewable energy, shifting usage to times which can lower power bills and reduce strain on the grid. We look forward to seeing the end results of the project which will assist other sectors in their own energy transition."

AGL's tool will work by developing a pre-dispatch forecast of solar and wind generation, and thermal generator availability to produce 30-minute interval price forecasts for the next seven days. The customer sites' process management system will plan the operation of their energy usage based on the forecast by moving load in or out of the 30-minute blocks.

Through the tool, the trial customers will be able to respond to price signals and demonstrate the benefits of load flexibility without exposure to wholesale market risk.

AGL Chief Customer Officer, Jo Egan, said the two-year project with support from ARENA will allow AGL to assess the implications of dynamic flexible loads on energy pricing and the potential benefits of load flexing.

"Flexible demand projects like this enable AGL to develop our technological expertise in harnessing renewable energy while also exploring novel ways to reduce customer costs. We look forward to sharing the knowledge of the trial with ARENA and our participating partners to optimise the transition to renewable energy."

To enable sites to respond to the tool, trial participants will develop and implement hardware and software modifications to the energy management systems at their respective sites.

AGL's price intensity forecasting tool commences with the development of the software and hardware in early 2024, with findings to be shared mid-2025.

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