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Energy savings on Australia's largest flexible demand trial

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced \$9.75 million in funding to utility services provider Intellihub to launch a Demand Flexibility Platform (the Project) targeting 510 MW of aggregated load under control through the enrolment of over 140,000 customer devices.

Intellihub's \$22 million Project will initially target integration with residential hot water systems and solar PV, before expanding to incorporate other customer energy resources (CER) such as batteries, electric vehicle chargers and pool pumps over a two-year period.

Electricity retailers will be able to sign up households to the Demand Flexibility Platform and use it to manage their customers' CER as part of a Virtual Power Plant (VPP). Intellihub will provide the interface between electricity retailers and customer-owned devices.

Participating CER can then be turned on or off to better manage supply and demand across electricity networks and wholesale markets. Intellihub estimates that this could help reduce household energy costs by over a hundred dollars per year for each device enrolled on its platform.

The Project will leverage two recent Intellihub acquisitions: the deX CER integration and aggregation software developed by GreenSync and remote pool monitoring, optimisation and control technology called 'Pooled'.

Intellihub will leverage its network of 2 million smart meters across the National Electricity Market and retailer relationships to interface with a range of CER devices with the goal of enrolling more than 140,000 devices in the medium term.

The vast majority of CER is currently 'inflexible', meaning it's not possible to harness the benefits of flexibility from the gigawatts of energy that they generate or consume. To date, the industry has not been able to efficiently aggregate these resources at scale due to the cost and complexities of integrating multiple device types and device manufacturers.

ARENA CEO Darren Miller said Intellihub's Project could change the way CER is monitored and controlled, providing a potential solution at scale that can deliver widespread customer benefits.

"The continued growth in CER including hot water systems, rooftop solar and battery storage present the industry with both challenges and opportunities. Without the ability to monitor and control energy flows, these devices can create challenges for the grid, however, when aggregated and controlled, these resources can provide much needed demand flexibility, unlocking benefits for retailers, networks and consumers."

"Intellihub's Demand Flexibility Platform represents an opportunity to create a smarter energy grid, where consumers are at the forefront of the energy transition, through the utilisation of their owned energy resources, being able to better match supply and demand on the grid while also making cost savings."

Intellihub CEO Wes Ballantine said: "We now have the smarts to manage the energy these devices consume, so they become a flexible energy resource."

"They will work like a large battery energy system, soaking up excess daytime solar energy and avoiding consumption during peak demand periods to reduce stress on the system."

"There is enormous benefit from being smarter about how we manage these resources, not just for the energy system but for consumers and local communities."

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Flexible Demand

Flexible demand is the coordinated orchestration of electrical usage to ease pressure on the grid. As variable renewable sources like wind and solar produce a greater share of Australia's electricity generation, solutions are required to help match up supply and demand.

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's report "The Role of Flexible Demand in Australia's Energy Future" identified potential sources of demand flexibility that included new retail 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.

Intellihub

Intellihub is an Australian and New Zealand based utility services company that delivers innovative metering, data and behind the meter solutions that maximise digital and new energy services. Intellihub specialises in asset management, installation, financing, and the day-to-day operations of smart meters, managing more than 2 million smart meters. Intellihub is the only independent smart metering provider across ANZ, supplying smart meters to more than 30 energy retailers such as Mercury, Contact, Nova, Meridian, Origin Energy, Aurora Energy, AGL, EnergyAustralia, Simply Energy, Red Energy and ActewAGL.

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