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Monash exploring energy storage market design

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced \$495,000 in funding to the Grid Innovation Hub at the Monash Energy Institute, Monash University, to conduct a desktop study exploring the integration of storage into energy markets with an aim to design efficient incentives for storage operators to enable clearer investment signals for storage.

Researchers at the Grid Innovation Hub will conduct the desktop study to explore alternative market designs that could better support energy storage technologies and to design efficient incentives for storage operators to create clearer investment signals for storage. This includes assessing how day-ahead markets combined with balancing markets, similar to parts of the US and European markets, could be more suitable for a market transitioning towards more bulk storage.

The \$1.18 million study intends to inform policy makers and market participants, rather than to formulate prescriptive policy recommendations.

Energy storage technologies are critical to supporting uptake of variable renewable energy, with more storage required to continue Australia's transition to renewables. Market rules for storage technologies currently don't help to promote efficient allocation of energy storage resources. In addition, the study will investigate market structures for new system services such as inertia, and study the risk of market manipulation by owners of storage assets.

This project aligns with the findings from the Energy Security Board's [Post-2025 Electricity Market Design](#), which recommended further investigation of the longer term need for ahead-markets and development of an inertia spot market.

The grid storage market study could help to outline potential market design solutions and rule changes that could provide benefits including an improved valuation of energy storage services, increased investment in storage across the National Electricity Market, reducing barriers to high shares of renewable energy, and improved grid reliability.

ARENA CEO Darren Miller said studying different energy market designs for storage would help to lead to the changes required to achieve an efficient transformation of Australia's electricity system towards our net zero goals.

"Further investment in storage solutions such as pumped hydro, large and small-scale batteries is vital to continue Australia's uptake of variable renewable energy into the grid.

"As traditional generation retires, we need storage to play a bigger role in firming up and balancing our electricity system."

"The team at Monash University Energy Institute's Grid Innovation Hub has already achieved important insights in previous studies, and we see the Grid Storage Market study as just as important in highlighting the potential market changes required to incentivise industry to further invest in renewable energy storage." Mr Miller said.

Professor Tony Marxsen OAM, Chairman of the Monash Grid Innovation Hub said: "For a successful transition to a low carbon energy future, energy markets must reflect the full value of all the services modern technology offers. Services from battery storage are not valued clearly at present, and this exciting research will reveal ways in which markets can better reflect their value to guide investment."

For more information on the project, visit arena.gov.au/projects. To learn more about Monash University Energy Institute's Grid Innovation Hub, visit monash.edu/energy-institute/grid-innovation-hub.