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Media Release

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AEMO and ARENA demand response trial to provide 200 megawatts of emergency reserves for extreme peaks

The Australian Renewable Energy Agency (ARENA) and the Australian Energy Market Operator (AEMO) today jointly announced 10 pilot projects have been awarded funding under the demand response initiative to manage electricity supply during extreme peaks.

In total, the \$35.7 million initiative will deliver 200 megawatts (MW) of capacity by 2020, with at least 143 MW to be available for this upcoming summer.

Over three years, the pilot projects will be trialled in Victoria, South Australia and New South Wales to free up temporary supply during extreme weather - such as prolonged summer heatwaves - and unplanned outages.

On behalf of the Australian Government, ARENA has committed \$28.6 million in total to fund set-up and operational costs for the projects, with \$7.2 million to be matched by the NSW Government for NSW-based projects.

Successful funding recipients include energy retailers, a Victorian energy distributor, a demand response aggregator, a Victorian smart thermostat developer and a South Australian metal foundry.

Demand response involves paying an incentive for energy users to reduce their power consumption, switch to backup generation or dispatch their energy storage for short periods when electricity reserves reach critically low levels.

From Texas to Taiwan, demand response is commonly used overseas to avoid unplanned or involuntary outages, ease electricity price spikes and provide grid support services. In other countries, up to 15 per cent of peak demand is met with demand response.

The pilot projects will engage large scale industrial and commercial businesses - such as cold storage facilities, manufacturing plants and commercial buildings. Tens of thousands of households are also expected to voluntarily sign up to participate in exchange for incentives.

In the coming months, the pilot projects will be engaging customers and installing hardware to remotely monitor and control their energy usage. Household hardware will have optional user overrides.

This program, which was launched in May and run as a competitive round, is the flagship initiative of ARENA and AEMO's collaboration to test proof of concept projects to support grid security and stability.

AEMO Managing Director and Chief Executive Officer Audrey Zibelman said the projects would undergo testing by AEMO in November and would be up and running by December

2017.

“These demand response projects will help manage spikes in peak demand in a cost effective way using our existing electricity infrastructure and clever new technology.

“It is clear that demand response has untapped potential to manage demand during extreme peaks in Australia, just as it does in other countries,” Ms Zibelman said.

“We’re hopeful this will create the proof of concept for a new market mechanism that will ultimately be to the benefit of Australian consumers,” she said.

ARENA Chief Executive Ivor Frischknecht said the funding round had well exceeded the 160 MW initially hoped for, and cost less than expected.

“Through this initiative, we’ve been able to build a virtual power plant the size of two of Tesla’s giant 100 MW batteries in a matter of months for a fraction of the cost of building new supply.

“We are also trialling an innovative range of technologies and behaviour change programs from voltage control to intelligent thermostats to app notifications,” Mr Frischknecht said.

“Demand response will not only ease the strain on the electricity grid and prevent blackouts. These projects will also put money back into the pockets of Australian businesses and households, helping to reduce their energy costs and emissions,” he said.

ENDS

See below for the full list of funded projects.

For further information, visit arena.gov.au/demand-response or arena.gov.au/blog

Demand Response Projects - Victoria & South Australia

Funding Recipient	Max Capacity	Capacity in 2017-18	Total ARENA Funding (\$)	Type of Project
Energy Australia	30 MW	11 MW (Vic) 9 MW (SA)	\$6.9 million	Energy Australia will sign up commercial and industrial businesses and residential customers. Energy Australia will use WattWatchers’ remote

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				monitoring and load curtailment devices and GreenSync's VPP technology for aggregation along with Redback Technology's smart battery storage systems.
EnerNOC	30 MW (Vic Only)	30 MW	\$5.4 million	EnerNOC, one of the world's leading demand response aggregators, will install its own hardware to automatically and remotely control and curtail energy use in 30 large commercial and industrial businesses, with 1 MW available per site. These businesses will include cold storage facilities, manufacturing plants, metalworkers, water pumps, gas production facilities, commercial buildings, mills, paper/timber/forest mills and glass manufacturers. The demand response will be 100 per cent generated by curtailment of loads. EnerNOC will also provide FCAS services demonstrating how customers can receive multiple revenue streams from their reserves..
Zen Ecosystems	15 MW	5 MW	\$2 million	Zen Ecosystems is a Victorian smart thermostat developer which has previously exported its innovative technology in the United States. Zen Ecosystems will deploy its smart, connected and controllable network of Zen thermostats. The demand response capacity will be delivered by controlling air conditioning, heating and ventilation. Zen Ecosystems will roll this out at business customers, and through a combination of voluntary and load control programs aimed at residential customers run in partnership with insurers and retailers.
Powershop	5 MW (Vic Only)	5 MW	\$1 million	Powershop plans to run a behavioural demand response program called Curb Your Power using a mobile notification system for its Victorian retail customers. It will invite customers to reduce energy consumption in exchange for a financial incentive. By reducing energy usage for 1-4 hours, customers may receive the equivalent of a weekend of free electricity. Powershop will also be able to draw on 1 MW of Reposit enabled batteries installed in Powershop customers' homes and on a 1 MW co-generation facility at Monash University as a backup.

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United Energy	30 MW (Vic Only)	12 MW	\$5.8 million	United Energy intend to use voltage control devices installed at substations across its entire distribution network in Melbourne and Mornington Peninsula to deliver demand response. During a peak event, United Energy will slightly lower the voltage across its whole network of 600,000 households and businesses, and will use smart meters to ensure the voltage remains at a safe allowable limit.
Intercast & Forge	10 MW (SA Only)	10 MW	\$323,654	Intercast & Forge is a South Australian metal foundry which manufactures metal castings. This local business has installed sophisticated energy systems that allows it to provide dispatchable demand response by powering down furnaces during peak events.

Demand Response Projects - NSW

Funding Recipient	Max Capacity	Capacity in 2017-18	NSW Government ARENA Funding	Type of Project
AGL	20 MW	18 MW	\$5.2 million	AGL will provide 17 MW of capacity from large commercial and industry customers, and 3 MW from 10,000 NSW residential households with smart meters using a combination of behavioural demand response and controllable load/storage.
Energy Australia	20 MW	18 MW	\$2.9 million	Energy Australia will sign up commercial and industrial businesses and residential customers. Energy Australia will use WattWatchers' remote monitoring and load curtailment devices and GreenSync's VPP technology for aggregation along with Redback Technology's smart battery storage systems.
EnerNOC	20 MW	20 MW	\$3.6 million	EnerNOC will install their own hardware to automatically and remotely control and curtail energy use in 20 large commercial and industrial businesses, with approximately 1 MW available per site. The demand response will be 100 per cent generated by curtailment of loads. EnerNOC will also provide FCAS services demonstrating how customers can receive multiple revenue streams from their reserves.

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Flow Power	20 MW	5 MW	\$2.6 million	Flow Power will create a program called Energy Under Control which involves roll out of their own kWatch Intelligent Controller (designed and manufactured in Victoria) to 100 commercial and industrial energy customers across NSW. This will target manufacturing, agricultural businesses and cool storage.
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