

BIG BATTERY BULLETIN BOARD
Projects operational or underway in October 2017
(not including existing pumped hydro plants, complete trials or projects not committed)

	PROJECT	PURPOSE	\$ + TIMING	MAIN PARTNERS	MORE INFO
NETWORK					
AusNet	Mooroolbark Minigrid Suburban embedded network 3-4.5kW rooftop solar + 10kWh battery storage on 14 homes	<i>Trial</i> of new tech related to minigrids and switching between 3 modes: <ul style="list-style-type: none"> • Grid-interactive • Individual offgrid • Islanded minigrid 	2016-17	GreenSync Power Technology Engineered Solutions	https://www.ausnetservices.com.au/Community/Mooroolbark-Mini-Grid-Project http://www.greensync.com.au/mooroolbark-community-mini-grid http://reneweconomy.com.au/utility-to-take-part-of-melbourne-suburb-off-grid-with-solar-storage-94822 AusNet Services' Mooroolbark Mini Grid trial wins innovation award
Endeavour	West Dapto 1MWh grid-connected battery on site of future substation	<i>Trial</i> to "... defer the construction of a costly new substation, and reduce network investment by up to \$1 million a year." See Supply 600 new homes Reduce network investment by ~\$1M pa	2018	MPower	http://www.endeavourenergy.com.au > media > media releases > 2017 > NSW's largest grid support battery to be installed at West Dapto
Energex	Battery Energy Storage Systems 1. A pilot demonstration of residential and commercial BESS installations at different sites, including the initial site at the EsiTrain facility at Rocklea. 2. A market-based trial in cooperation with vendors who are selling BESS to customers in selected areas in SEQ.	<i>Trials</i> 1. To provide insights into how customers configure and use battery systems. 2. To explore the possibility of accessing and remotely controlling BESS at certain peak times (DLC).	1. 2016-2018 2. From late 2016	1. Sunverge Tesla Reposit SolarEdge 2. ?	https://www.energex.com.au/home/control-your-energy/smarter-energy/battery-storage/battery-energy-storage-systems-trial
Ergon	Grid Utility Support System 17 X 100 kWh containerised units	<i>Former trial, now BAU?</i> Managing peak load, power quality + reliability on remote SWER lines	2014-2016?	S&C Electric (US)	https://www.ergon.com.au/about-us/news-hub/talking-energy/technology/ergon-battery-energy-storage-systems-roll-out
Ergon	Centralised Energy Storage System (CESS), Cairns 1. Hybrid system: 60kW PV + 200kWh batteries + diesel genset 2. 83kW/200kWh battery	<i>Trials</i> 1. <ul style="list-style-type: none"> • power quality improvement • demand management • micro-gridding 	2017-?		https://www.ergon.com.au/about-us/news-hub/talking-energy/technology/peek-into-the-biggest-battery-in-cairns

		<ul style="list-style-type: none"> market response <p>2. Quality of supply + reliability on fringe of grid</p>			
Essential	Networks Renewed Collombatti (NW of Kempsey) + Bellingen 2 stages: 40-150 households	<p><i>Trials</i></p> <p>In response to an emerging network constraint:</p> <ul style="list-style-type: none"> Developing a set of guidelines for future uptake to ensure such technology is optimally integrated and does not result in costly network expenditure Exploring the possible value such technology can provide on a least cost basis to address network constraints <p>See</p>	2016-18 \$2M	ARENA ISF Reposit SMA	http://www.essentialenergy.com.au/content/invertertrial http://www.essentialenergy.com.au/content/batterytrial Part of larger ARENA-funded project: see https://arena.gov.au/projects/networks-renewed
Horizon	Onslow 5.25 MW gas-fired power plant, with a mix of distributed and utility-scale solar, to be coupled with [unspecified] battery storage.	<p>Microgrid</p> <p>Local energy trading</p> <p>Reliability</p> <p>See</p>	2018	\$100M \$70 M from WA Govt plus \$? from Chevron Wheatstone Downer EDI	http://www.abc.net.au/news/2017-05-11/horizon-power-has-success-with-solar-power-system-in-regional-wa/8518622
Horizon	Carnarvon 2x1MWh at Horizon Power's Mungullah Power Station	<p><i>Trial</i></p> <ul style="list-style-type: none"> Enhance generating capacity Optimise spinning reserve Manage peak demand (local grid at saturation point for rooftop PV) Simulation of hosting capacity 	2016-17		Horizon Power to trial latest in battery storage technology in Carnarvon “If the trial is successful, Horizon Power will purchase the batteries at the end of the 12 month trial period”: see
SA Power Networks	Salisbury 100 x 6.4 kW Tesla & Samsung batteries, installed in PV households, with software from Reposit	<p><i>Trial</i></p> <p>Peak demand reduction to prevent need for network upgrades.</p>	2016+	Internal?	
TasNetworks	CONSORT Bruny Island 40 homes; solar + batteries + EMS	<p><i>Trial</i></p> <ul style="list-style-type: none"> Relieve stress on the undersea cable supplying the island. Reduce the need for expensive diesel-fuelled generators. Reduce TasNetworks' operational costs on the island. 	2016+ \$8M	\$2.9M ARENA ANU U Tas U Syd Reposit Power	http://brunybatterytrial.org Bruny Island trials “electricity grid of the future”

		<ul style="list-style-type: none"> Stabilise network voltages within acceptable levels. Enable householders to make optimal use of their own solar power generation. 			
TransGrid	Alexandria substation 250kW/500kWh using Tesla Powerpacks	<i>Trial</i> Demand management Store onsite PV			TransGrid to use Tesla batteries in Sydney trial
United	4KW PV + storage at 42 homes	<i>Trial</i> “...to test the ability of solar and storage technology to defer or eliminate the requirement for traditional network augmentation.”	\$1.2M inc \$450,000 from ARENA	ARENA	https://www.unitedenergy.com.au/united-energy-partners-with-arena-to-drive-electricity-network-innovation
Western Power	White Gum Valley 80 apartments, 150kW of solar and 300kWh of battery storage in embedded network	<i>Trial</i> <ul style="list-style-type: none"> Allow residents to balance their energy use between their local grid and the main electricity network. Test P2P energy trading. 	ARENA \$1M	Curtin University Landor Western Power Low Carbon Living CRC City of Fremantle Solar Balance	https://westernpower.com.au/energy-solutions/projects-and-trials/white-gum-valley-energy-sharing-trial
Western Power	Perenjori 1MWh	<i>Trial</i> Improve reliability in isolated areas of grid		Balance Utility Decmil	https://westernpower.com.au/about/media/western-power-to-install-first-utility-scale-battery-in-mid-west
Western Power	Kalbarri \$10 million microgrid integrating distributed solar, a 1.7MW wind farm, & 2MWh battery system	Increase the reliability of electricity supply to the holiday location	2017		Western Power launches 5MW microgrid project for Kalbarri
RETAILER					
AGL	Adelaide virtual power plant (VPP) 1000 home & business batteries	Arbitraging Network support (peak demand) Grid stability See for more	2017-18 \$19M inc \$5M ARENA	ARENA	SA power: 'World's largest virtual power plant' switched on at West Lakes in Adelaide AGL suspends household battery installations for Adelaide's cutting-edge Virtual Power Plant

AGL	Liddell power station 50MW/250MWh	Firm capacity to meet peak demand			AGL outlines Liddell power station exit plan
Origin	Lakeland, Queensland 10.8 MW Lakeland solar project also incorporates 5.3 MWh of battery storage.	<p>“The project consists of a 13MWp/10.8MWac solar power PV ground-mounted array (featuring 41,440 solar panels), with a 1.4MW/5.3MWh Conergy ‘CHESS’ storage solution that combined will create a consistent power supply, even during times of cloud cover.</p> <p>It has been designed to consistently feed renewable energy into the grid and demonstrate the capability for large-scale solar and storage to provide reliable future power quality and supply at fringe-of-grid locations.”</p> <p>See for more Fringe of grid with network constraints Features islanding capability</p>		\$42M ARENA \$17.4M Conergy Lyon (formerly?)	
GOVERNMENT					
ACT	Next Generation Energy Storage Grants	<p>Address [renewable] energy intermittency issues</p> <p>Allow fossil fuel plants to be retired</p> <p>Capture benefits of storage for homes, businesses + institutions</p> <p>Part of plan for Canberra to become RE hub</p>	<p>Round 1 – 200 homes + businesses - \$600,000</p> <p>Round 2 – 600 - \$2M</p> <p>Round 3 - \$4M</p>		http://www.environment.act.gov.au/energy/cleaner-energy/next-generation-renewables
Queensland	Renewables 400 400MW large scale renewables + 100MW storage (reverse auction)	<p>“Diversify the sources of Queensland's electricity generation.</p> <p>Support system security and reliability.</p> <p>Accelerate the deployment of energy storage in Queensland.</p> <p>Support local businesses and employment.”</p>			Part of Powering Queensland Plan: https://www.dews.qld.gov.au/electricity/powering-queensland-plan/transition/renewables-400
South Australia	Tesla-Neoen Adjacent to Hornsdale wind farm 100MW/129MWh	<p>Meet peak demand</p> <p>“Provide stability services for renewable energy”</p> <p>“Provide emergency backup power if a shortfall in energy is predicted.”</p>	By 1 Dec 2017		Part of \$150M Renewable Technology Fund: http://ourenergyplan.sa.gov.au/battery.html http://hornsdalepowerreserve.com.au

Victoria	Storage Initiative Western Victoria 2X20MW, 100MWh	"... to enhance the reliability of our grid and unlock economic growth in areas experiencing network constraints."	By Jan 2018 \$25M ANOUNCEMENT OVERDUE		https://www.energy.vic.gov.au/batteries-and-energy-storage
PRIVATE					
Lyon Group	Kingfisher Project Near Roxby Downs, SA Stage 1: 20MW PV, 2MWh battery Stage2: 100MW PV, 20MWh battery (or 100MW, battery?)	"The combination of solar and storage means the facilities can provide high quality, reliable power to large energy users while also potentially avoiding the costs of grid upgrades." See	2017 \$100-150M	AES	
Lyon Group	Riverland Project SA 330MW solar, 100MW/400MWh battery		2017 \$200-300M		Lyon Group announces \$1b battery and solar farm for South Australia's Riverland
Lyon Group	Cook Shire North Queensland 13MW PV, 1.4MW/5.4MWh battery	"...connected to the fringe grid in Australia and will test the boundaries of operation of utility scale solar battery storage in these conditions." See		Worley Parsons Griffith & James Cook Universities Ergon Energy Ernst & Young (ROAM) Conergy	
Lyon Group	Nowingi Project North-west Victoria 250MW PV, 80MW/160MWh battery	"Electricity users will be able to bid for storage at the facility to use during power shortages or when prices are high." See "...a range of services including price arbitrage, load shifting, ramp control, frequency control and network control" See	\$660M (whole project)		Lyon plans battery tender for \$1.88bn solar plus storage projects Nowingi solar project could help meet rising demand for battery storage
Neoen	Bulgana wind farm Western Victoria 202MW wind, 20MW/34MWh battery	10% energy used onsite, 90% fed into grid	2017-19 \$350M (whole project)	Nectar Farms	http://bulganawindfarm.com.au

Neoen and/or ElectraNet	Wattle Point wind farm Yorke Peninsula, SA 30MW/8MWh battery	<ul style="list-style-type: none"> • Supplying Fast Frequency Response (FFR) • Providing contingency power for the Dalrymple service area during a loss of supply. • Demonstrating that utility scale batteries can aggregate and “value stack” multiple revenue streams 	\$30M \$12M from ARENA		Federal Energy Minister Josh Frydenberg to announce \$30 million, 30MW battery on Yorke Peninsula https://arena.gov.au/news/30-million-dollar-30mw-sa-battery
Solar Reserve	Aurora solar thermal plant Carriewerloo Station, north of Port Augusta, SA 135MW solar, 135MW/1100MWh molten salt storage	Supply 100% of SA Govt’s energy needs (125MW max @ \$75/MWh over 20 years) with surplus sold to other customers	2018-2020 \$650M inc \$110 Fed Govt concessional loan		Solar thermal power plant announced for Port Augusta 'biggest of its kind in the world' Aurora: What you should know about Port Augusta’s solar power-tower
Telstra	(various sites) ~1GW Swap-over of existing “truck” batteries over next 5-7 years	Manage peak demand Provide grid security Arbitraging			Telstra unveils its big battery – it’s nearly 10 times bigger than Tesla’s
Windlab	Kennedy Energy Park Hughenden, North Queensland Stage 1: 43MW wind, 15MW PV, 2MW/4MWh Tesla battery	Provide 40MW of renewable energy closer to the point of use, relieving demand on long transmission lines. Test the viability of the combined wind, solar, storage approach “to see if the plant can provide dispatchable power over a 24 hour period.” Lay the foundations for a planned second phase, ‘Big Kennedy’. See	\$170M (total project) inc \$18M from ARENA and \$94M from CEFC	Eurus Energy EQ 10 year PPA with CS Energy	Construction of Kennedy Energy Park underway, as CEFC tips in another \$94m https://www.windlab.com/our-projects/kennedy-energy-park

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