

<http://www.afr.com/news/batteries-ready-to-avert-sa-style-power-crises-says-ross-garnaut-20160802-gqiwwv9>

FINANCIAL REVIEW

Batteries ready to avert SA-style power crises, says Ross Garnaut

- Aug 2 2016 at 5:55 PM



Adelaide radio host Leon Byner with his 20KWh home battery system installed by ZEN Energy. The company says batteries are ready for large scale deployment to shore up the power grid. *David Mariuz*

by **Ben Potter**

Large scale batteries are ready to be deployed in the electricity grid to avert future power crises stemming from increasing dependence on wind and solar power, climate change expert Ross Garnaut says.

Battery storage is one of a range of potential solutions for the power crisis that [sent South Australia's wholesale electricity prices soaring](#) last month to \$14,000 a megawatt hour – more than 100 times typical levels.

Conventional wisdom sees batteries as [still too costly for mass deployment](#) – despite their potential to shore up the grid as increasing volumes of intermittent wind and solar power drive out coal and gas-fired power.

But Professor Garnaut, chairman of ZEN Energy, an Adelaide-based company that aims to roll out grid-scale battery storage from next year, writes in *The Australian Financial Review* that "battery storage is ready for immediate deployment".



18MW/9MWh battery storage system installed by Greensmith for transmission company PJM to stabilise the grid in rural Illinois. *Eddie Hackelton*

"The grid-level battery is highly suitable for stabilising against short-term variations in frequency and price that were a large part of the July problem [in South Australia]," the architect of Labor's climate policies writes.

The crisis passed with the restoration of a high-voltage interconnector to Victoria but "the questions remain," he writes.

ZEN Energy has formed a partnership with Virginia-based Greensmith, which installs battery storage systems in the US and Canada, to build storage systems cheaply. It also supplies home storage batteries.

Raymond Spencer, co-founder of Greensmith and shareholder of ZEN Energy, said it could build large-scale battery storage in Australia for as little as \$US600 per kilowatt hour for an "energy-centric" system – one designed to provide multiple hours of backup power.



2MW/6MWh battery storage system installed by Greensmith for a privately owned utility in San Juan Capistrano, near Orange County, California - to provide peaking power and defer grid investment SUPPLIED PHOTO

So-called "power centric" systems – designed to produce short bursts of power to stabilise the grid – would be more costly at \$US1000-\$US1200kWh.

By comparison, [Lyon Solar is working off \\$2000-\\$2500kWh](#) (\$US1500-\$US1875) for batteries for its Kingfisher project, which would marry 100 megawatt of solar panels with 50-60MWh of battery storage at Roxby Downs, near BHP Billiton's Olympic Dam mine.

Mr Spencer said ZEN Energy's battery systems were tried and tested. Greensmith has installed about 50 grid-scale battery systems, including a grid-support system between Los Angeles and San Diego, and a system in Illinois used to stabilise the grid.

"I think we can move forward and probably the timing is right to get one of those large-scale systems into play in somewhere like South Australia," Mr Spencer said.

ZEN Energy is talking to energy companies and large users and aims to start work on a grid-scale project in the first half of next year.

Batteries are competing with high-voltage interconnectors in the race to stabilise the grid. Last week [Transgrid backed a \\$500 million interconnector](#) from South Australia to NSW as an alternative lifeline for SA's Victorian interconnector.