

Tesla's enormous battery amazes in quick outage response

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Tesla Motors' grid storage battery in South Australia, switched on at just the beginning of December, has already shown it is up to the job of serving as a backup system in South Australia. Its quick response is the stuff of which energy-watching headlines are made.

Steve Hanley in *CleanTechnica* looked at the Tesla [battery](#) chronicle of

events in Australia.

At the beginning of December, the giant 129 MWh system was activated. Mid-month, the Loy Yang coal [power](#) plant went offline. The Tesla system kicked in within 140 milliseconds [0.14 seconds].

Elon Musk's massive [backup](#) battery responding so fast with 100 megawatts of juice was a surprise. Less than a month after this backup power system in South Australia was unveiled, the battery is showing its merit, said supporters.

International Business Times quoted State Energy Minister Tom Koutsantonis, who had remarked that "the national operators were shocked at how quickly and efficiently the battery was able to deliver this type of [energy](#)."

The world's largest lithium-ion battery is called the Hornsdale Power Reserve battery system. "Hornsdale's backup solution has ended up stabilizing the electrical [grid](#)," said *Green Matters*.

"The battery is paired to the neighbouring Hornsdale Wind Farm, owned by French company Neoen," said *The Guardian*, in a previous report. It will store and dispatch energy generated by a nearby wind farm. (The electricity stored in the Hornsdale Power Reserve comes from wind turbines.) *Fast Company* in early December described the battery as the size of a football field and capable of powering 30,000 [homes](#).

Brian Fung, *The Washington Post*, noted that the Hornsdale battery system uses the same energy-[storage](#) tech found in Tesla's electric cars.

Hanley reported that power suddenly surged into the grid, "buying valuable time for other power sources to come to the rescue."

CleanTechnica also made the point that, while battery systems like the

one supplied by Tesla cannot [handle](#) all the chores of a stable grid, "its presence within the grid structure prevented a cascading grid failure that could have left hundreds of thousands of customers without power."

Their injections are long enough for other backup systems to take over when ready.

Andrew Thorpe in *The Observer* made a similar point. "The Hornsdale Power Reserve isn't designed to provide large-scale, base load power—but rather to [kick](#) in quickly to stabilise the energy grid—the point is an important one."

Brian Spaen in *Green Matters* said in that 0.14 seconds, the battery was able to inject over seven megawatts into the national grid. "Normally, the Gladstone power station hosting a backup generator would kick in, taking anywhere from 10 to 30 minutes to put power into the [electrical grid](#). Tesla's batteries, located 621 miles away from the Loy Yang plant, was able to [accomplish](#) this task in a fraction of a second."

Spaen said the response was faster than the Australian Market Energy Operator's ability to record it. "It takes up to six seconds for the emergency shift at the backup coal generator to respond, and the battery's action ran circles around it."

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