



Lumea 

Wallgrove Grid Battery

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# NSW's first grid battery

The 50MW/75MWh Wallgrove Grid battery is made up of Tesla Megapacks, and stores the equivalent power of approximately 125,000 solar panels.

Located in South-West Sydney, the Transgrid and LUMEA™ Wallgrove Grid Battery Energy Storage System (BESS), is the first grid-scale battery in NSW. It is one of a handful of batteries that has successfully piloted the use of synthetic inertia and fast frequency response as a network service.

These network services help to stabilise the grid, and will become increasingly integral to enable the increase of renewable generation to safely connect to the shared network.

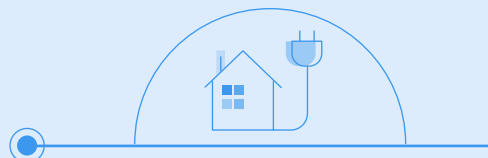
As well as grid-scale synthetic inertia, the battery will offer energy arbitrage and FCAS market services that generators need to optimise and firm up energy supply.

Research and results from the trial will be shared to support future projects and help demonstrate that battery technology is a low cost and technically viable solution to the emerging challenge created by the transformation of the energy generation sector.

## Project benefits



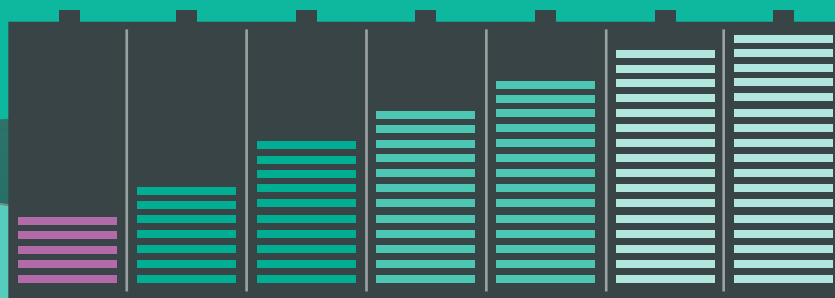
The battery will provide a **new source** of system stability services



**Finding lowest-cost** ways to maintain frequency, while also increasing the supply of dispatchable power to the market, puts downward pressure on energy bills



The trial will provide **valuable technical** and **economic insights** which will be shared across the energy industry – helping to identify the lowest cost technologies for future network needs



**Iberdrola Australia** provides the battery's commercial services, including dispatch control of the battery for energy arbitrage and Frequency Control Ancillary Services (FCAS).

These uses are complementary to the network services and ensure the full capacity of the battery is optimally utilised – which helps provide network services at the lowest possible cost to customers.

# Why do we need this project?

Coal, gas and hydro generators currently provide the power system with inertia through their large spinning turbines. Inertia enables the system to maintain a consistent 'speed', known as frequency, to ride out any disturbances.

As we move to a future with more wind and solar generators, and fewer coal generators, alternative sources of inertia will be needed at the grid level.

Older technologies such as synchronous condensers – which are large spinning motors – can be installed into the grid to provide inertia. However, a fast injection of power from batteries is potentially a much cheaper

way to provide inertia services and bring electricity frequency back on track.

Also, unlike synchronous condensers, batteries can supply their stored energy into the grid. Iberdrola will control when the battery's power is dispatched into the wholesale energy market.

## Key dates



- ✓ **Detailed design work – completed**  
November 2020 – February 2021
- ✓ **Start of construction – completed**  
February 2021
- ✓ **Start of battery commercial operations**  
December 2021
- ✓ **Completion of construction work**  
January 2022
- ✓ **Testing program**  
2022
- ✓ **VMM commissioned**  
December 2022

## Find out more

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