

UltraBattery smooths the way for King Island clean energy

An Australian-developed energy storage technology known as UltraBattery is at the heart of a leading-edge renewable energy initiative, the [King Island Renewable Energy Integration Project \(KIREIP\)](#).



Credit: Ecoult

The aim of KIREIP is to replace the island's high diesel fuel consumption with the use of renewable energy sources, such as solar and wind energy. The project will also act as a blueprint for renewable energy systems worldwide that face the challenges of 24/7 supply, grid compatibility, and comparatively high costs.

According to Dr Peter Coppin from CSIRO's Energy Transformed Flagship, the UltraBattery was designed to solve two key problems: how to 'shift' energy, such as storing high solar energy levels from the midday sun for peak energy use in the evening; and how to smooth out the fluctuating energy levels that occur, for example, when the sun is hidden suddenly by a cloud, which causes instability in the grid.

'The UltraBattery can solve these two very different problems - it is fast enough and robust enough to cope in the one device. This significantly lowers the costs,' he said.

Compared with traditional lead-acid batteries, the CSIRO-developed battery has a longer life cycle and is able to cope with more current, equipping it for a range of new applications. And because its basic design is based on the standard lead-acid battery, a mature technology, it is also relatively cheap to produce.

At present, UltraBattery technology is being used in three other renewable energy projects worldwide: at an energy-regulation facility in Pennsylvania and a solar energy facility in New Mexico, both in the US; and at a wind farm in New South Wales.

The UltraBattery was invented by CSIRO's [Dr Lan Trieu Lam](#) and is supplied by [Ecoult](#), a CSIRO spinoff company owned by the US-based East Penn Manufacturing Co.

For stationary energy storage applications in global markets outside Japan and Thailand, the technology is supplied by Ecoult.

In Japan and Thailand, the technology is licensed to Furukawa Battery Co. for use in stationary energy storage applications. East Penn Manufacturing Co. and Furukawa also hold licences for use of UltraBattery in various global automotive and motive battery markets.

Source: CSIRO & KIREIP

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