



LEAD BATTERIES: ENERGY STORAGE CASE STUDY



Ecoult Energy Storage Solutions **Music From The Sun**

Melbourne, Australia

Off the Grid was a 100% renewable energy music festival held in Melbourne in December 2015.

Using an UltraFlex® lead battery storage system provided by Ecoult, Australia's first fully solar-powered music festival demonstrated an innovative mobile renewable power plant, developed by renewable power specialist Green Power Solutions (GPS).

Designed to be easily transported to off-grid or weak-grid sites, the plant was an ideal solution for event organizer Finding Infinity.

"While this is a fun event, its got a great and very serious message – that we can live and work using renewable power using today's technology. Events like Off.The.Grid make it clear that a power station in a shipping container can give you instant, clean, green power just about anywhere."

John Wood, CEO, Ecoult

Technical Specification

The festival's only energy source was a 7 kW photovoltaic array, which powered the festival during daylight hours whilst also charging Ecoult's UltraFlex. This in turn powered the festival through cloud cover and after sundown, ensuring the back-up biodiesel generator was never used.

GPS chose Ecoult's UltraFlex for its renewable power plant because of its high-powered UltraBattery® technology, which comes with advanced remote monitoring.

The solution developed by GPS comprised 7 kW solar panels, 50 kVA rated biodiesel generator, Ecoult's 48 V, 20+ kW UltraFlex energy storage system and a Selectronic SP Pro Inverter.

The load included the entire music festival site including sound equipment, lighting and food stalls. The peak load used was under 20 kVA.

Fuel reduction for this event was 100%.



Technical Summary

Battery specification	4 strings – UltraBattery
Capacity	608 Ah
System	7 kW PV Panels
Inverters	Selectronic SP Pro Inverter
Biodiesel Generator	50 kVA
Overall Power Output	7 kW

UltraFlex

Ecoult developed UltraFlex to offer a mid-range, fully remotely monitored and controlled battery energy system to suit the multiple applications and environments of our clients.

Powered by the UltraBattery, invented by CSIRO, it offers high charge and discharge power rates, constant cycling for weeks continuously with no rest or float periods, DC-DC efficiency of more than 92%, world-beating recyclability and sustainability and the ability to provide the deep discharge of the world’s best lead batteries.

The UltraBattery is a hybrid energy storage device which combines the fast charging and long life of an ultracapacitor with the energy storage capability of a lead battery in one unit with a common electrolyte.

About the Company

Ecoult is the global energy storage arm of the world’s largest single-site lead battery manufacturing facility, East Penn Manufacturing (EPM), known worldwide for its quality and environmental excellence.

Ecoult provides software, hardware, systems integration and engineering to monitor and control the energy storage systems and maximize their capabilities. EPM manufactures the Deka UltraBattery cells inside every system.

“Music sounds better when it comes from the sun.”

Ross Harding, Principal, Finding Infinity

