

Optus telecommunications tower reduces diesel generator operating time by 65%

With the constant challenge of ensuring reliable power to remote telecommunications towers across Australia, Optus was looking for an energy storage solution that would support their new remote off grid site.

Optus was looking for a more sustainable and environmentally friendly solution to power their new mobile phone tower, located in the world heritage listed Daintree Forest.

Off-grid mobile phone towers are often powered by diesel generators which are costly to run and require routine maintenance and refuelling. With a low site load, generators also often run inefficiently which can affect their fuel consumption and life span.



AUTOMATED OPERATIONAL OVERSIGHT



ENVIRONMENTALLY FRIENDLY



10 kWh



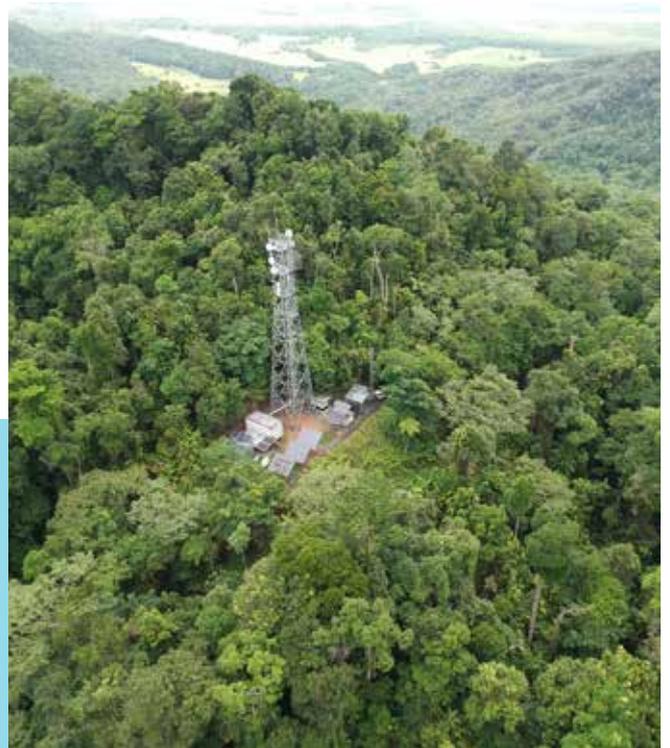
48 VOLT



SAFE / NO HVAC REQUIRED



AUTO POWER MANAGEMENT



PROJECT OVERVIEW

- + **Location:** Alexandra Range Daintree rainforest, Queensland, Australia
- + **Client:** Optus
- + **Storage size:** 6 x ZBM batteries
- + **Energy storage capacity:** 60 kWh
- + **Application:** Offset diesel
- + **Inverter:** 48 V Huawei rectifier

Redflow's zinc-bromine flow battery was the perfect solution to meet one of the most remote site's needs and reduce the generators running time.

Now, the diesel generator is used at an efficient load level to charge the six Redflow batteries. The Battery Management System then turns the generator off and the site is solely powered by the batteries.

Since installation in 2019, Redflow's ZBM2 batteries have reduced generator operation time by 65%.

Through the combination of generator and battery storage, it has increased efficiency of generator operating time by 17% and saves almost 6,000 litres of fuel each year (16 tons of CO₂ per year).

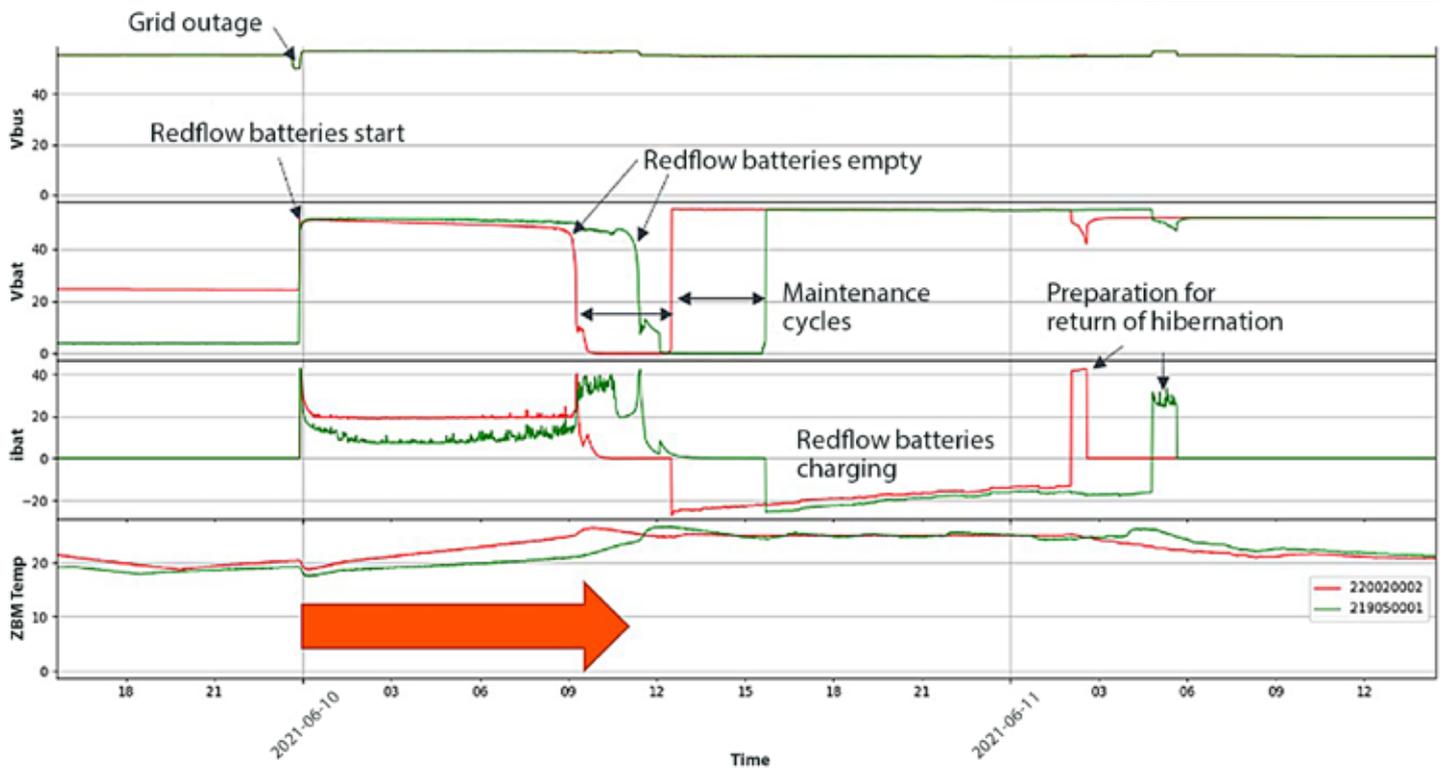
Additional cost saving is also realised on generator maintenance, including labour, travel, filters, fuel stabilizer, disposal costs etc.

To date at this site, Redflow's ZBM batteries have undertaken 3260 cycles and produced 32,600 kWh or 32.6 MWh of power.

The success of this trial site, which is part of the government funded Bush Fire Resiliency Program, means more sites will be rolled out across Australia.

Redflow ZBM batteries currently support 56 fire-prone Optus sites, with more than 100 instances where batteries have come out of hibernation mode and supported the sites for up to 11 hours (see graph).

Redflow continues to support Optus sites through our various energy storage modes (resiliency, back up, diesel offset and hybrid energy sources) to achieve optimal configurations across the varied and often challenging site locations.



About Redflow

Redflow Limited, a publicly listed Australian company (ASX: RFX), produces zinc-bromine flow batteries for stationary energy storage applications. Redflow batteries are designed for high cycle-rate, long time-base energy storage, and are scalable from small commercial systems through to grid-scale deployments. Redflow's smart, self-protecting batteries offer unique advantages including secure remote management, 100 per cent daily depth of discharge, tolerance of high ambient temperatures, a simple recycling path, no propensity for thermal runaway and sustained energy delivery throughout their operating life.



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