

Redflow batteries keep the power on for Longevity Medical Centre

After unexpected power cuts disrupted patient care at Longevity Medical Centre in the Melbourne suburb of Doncaster East, its owner turned to Redflow for an energy storage solution.

Since they were installed in early 2017 by Standard Solar, the two 10 kilowatt-hour (kWh) ZBMs have kept the lights, computers and diagnostic equipment running at Longevity Medical Centre without interruption – even during power cuts. The four-doctor medical centre, which installed rooftop solar panels the year before, has also seen its already low energy costs halve, as the ZBMs prioritise use of solar-generated and off-peak power.

“If the power goes out, it could delay getting the pathology, radiology or other medical results or reports for someone who may need urgent medical treatment ... For all medical centres or hospitals, keeping the power on can be a matter of life or death.”

– James Bishop, Owner, Longevity Medical Centre

10kWh HIGH ENERGY DENSITY

48V 48 VOLT

3kW POWER RATING

COMMERCIAL SOLUTION

CONSTANT POWER

UNPARALLELED SAFETY



PROJECT OVERVIEW

- + **Location:** Doncaster East, Victoria
- + **Client:** Longevity Medical Centre
- + **Storage size:** 2 x ZBM2 flow batteries
- + **Energy storage capacity:** 20 kWh
- + **Inverter:** GoodWe ES series bi-directional energy storage inverter
- + **Renewable source:** 5.3 kWp solar array in two strings
- + **Installation partner:** Standard Solar
- + **Application:** Energy security against power cuts and costs savings through peak shaving

+ ZBMS KEEP POWER ON FOR LONGEVITY MEDICAL CENTRE

Longevity Medical Centre in Melbourne decided it needed to install a ZBM energy storage system from Redflow after unexpected power cuts began to interfere with patient care.

Founding owner James Bishop said the main reason for installing the ZBM batteries was to provide the medical centre with a full-building uninterrupted power supply. "When we had power cuts, we had consultation by candlelight which was a bit of a disaster," he said. "At times, we had extension cords running into our offices from other premises. Medical centres are almost entirely electronic these days, so a power blackout that shuts you down for hours or a day can cost tens of thousands of dollars. We regularly have more than \$15,000 worth of vaccine stored in our fridge – with more than \$20,000 at the moment due to flu season. "But even more important for us is the impact on patients who come to see us on those days. If the power goes out, it could delay getting the pathology, radiology or other medical results or reports for someone who may need urgent medical treatment.



That sort of impact can't be measured financially. For all medical centres or hospitals, keeping the power on can be a matter of life or death. "Now, when the power goes off, the ZBMs kick in automatically without missing a beat. With the Hazelwood power station closing, it's likely we'll get more blackouts or brownouts, so we're happy that ZBMs guarantee our emergency power.

For business use, batteries are a laydown misère. Putting batteries in place will go gangbusters for a good reason – they keep businesses working rather than having employees sitting on their hands when the lights go out." Mr Bishop and his wife Dr Emmy Pai established Longevity Medical Centre at the Jackson Court shopping centre in the northeast Melbourne suburb of Doncaster East in 2004. With four doctors and on-site pathology services, the centre cares for thousands of patients annually from neighbouring suburbs including Manningham, Box Hill, Whitehorse and beyond.

Mr Bishop said installing ZBMs had immediately reduced energy costs for Longevity Medical Centre. "We're an energy-intensive business, so we use all the solar power we can generate during the week," he said. "Now, the solar power harvested on Saturday and Sunday goes straight into our batteries. Our latest power bill shows that power consumption has reduced even further as the batteries timeshift solar power and off-peak power to peak demand periods. "Our original power bill was \$1200 per month, which our solar panels cut to about \$300 per month. Now, with the ZBMs, that's cut in half again. And, as power costs go up, we will get faster payback." Mr Bishop said the ZBM batteries had operated flawlessly since they were installed. "James Graham from Standard Solar and Redflow have configured the ZBM Battery Management System (BMS) to deliver the outcomes I want, so the batteries are now just 'set and forget'," he said.

Mr Bishop said he chose ZBM zinc-bromine flow batteries because they were more stable and did not have the fire risk associated with lithium-ion batteries. "When I looked for maximum power delivered during the full battery life, lithium just didn't stack up," he said. "The lithium batteries in my laptop need to be replaced every year or two because their charge drops off. By contrast, zinc-bromine flow batteries will last the distance. They will keep their 10 kilowatt hours of energy storage capacity for 10 years. They are also relatively simple, so we can utilise them without having to worry about too much going wrong."

To find out more about Redflow or our zinc-bromine flow battery please visit redflow.com

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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