



ZCell energy storage

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Breeann Bates



Bates family ZCell benefits

When Scott and Breeann Bates built a new house on their Queensland cattle and grain property near Wallumbilla, they chose a ZCell-based energy storage system to give them independence from the power grid and freedom from having to pay electricity bills. Their six-battery system – the 60 kilowatt-hour energy storage system is Redflow's largest ZCell residential deployment in Australia – ensures complete off-grid operation for their home, which is 2.7 kilometres from mains power.



OFF-GRID
CASE STUDY

WALLUMBILLA
QUEENSLAND

PROJECT OVERVIEW

- Location: Near Wallumbilla, 40km east of Roma, Queensland
- ZCell installation partner: Off-Grid Energy Australia www.offgridenergy.com.au
- Storage: 6 x 10 kWh ZCell batteries www.zcell.com
- Inverters: 2 x Victron Quattro 48/10000/140-100/100 inverter/chargers
- Solar: 72 x 260-watt Tindo Karra multicrystalline solar panels (18.72 kWp)
- ZCell energy storage system price was comparable to connecting to the local power grid
- ZCell allows self-consumption of solar energy by the Bates household
- ZCell allows full daily energy discharge without any damage to the battery
- ZCell tolerates high-temperature days, unlike lithium-based alternatives
- ZCell means receiving no mains power bills ever.

Queensland property chooses ZCell over power bills



A Queensland family has chosen energy independence with ZCell batteries for their new home, 2.7km from the nearest electricity grid connection. Rather than pay tens of thousands of dollars per kilometre to run mains power to the new building, Breeann and Scott Bates bought a ZCell energy storage system from Off-Grid Energy Australia.

"We are really impressed with it," said Breeann. "It's all new, so we will learn more as we go along. We're looking forward to observing how our system performs throughout different times of the year."



The Bates family built their new home at Bardlomey, a cattle and grain property near Wallumbilla, a town in the Maranoa Region of Queensland, about 40km east of Roma. They previously lived at adjoining property Winnathoola, where their home was supplied by mains power.

"Scott wanted to be able to do everything on batteries that we could do on mains power and not compromise our way of living," explained Breeann. "It's cold in the morning, so we're running the heaters to keep our three kids warm, and we keep them on until the day warms up."

The Bates family made a conscious decision to live off-grid, so they designed their 400-square metre single-storey four-bedroom home with insulation in the floor, walls and ceiling.



"We were initially interested in solar because running mains power the required distance to our site was going to be an expensive exercise," said Breeann. "The added benefits of uninterrupted power and no power bills made the decision easy.

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The Bates family energy storage system comprises six Redflow ZCell zinc-bromine flow batteries, two Victron Quattro 48/10000 inverter/chargers and 72 260-watt Tindo solar panels, with an 18.72 kilowatt peak (kWp) capacity, installed on a nearby shed. This 60 kilowatt-hour (kWh) energy storage system is Redflow's largest ZCell residential installation in Australia.

Breeann said the system was successfully supplying enough energy to handle the changeable weather of inland Queensland. "Our variable climate can mean that we can have the air conditioning cooling one day and then heating the next," she said.



"For example, it was 34 degrees today – and we're in the middle of winter. Even through these challenging conditions, the system has managed to seamlessly fulfil our power needs."

Breeann praised the service from Off-Grid Energy and Redflow. "They have been extremely professional and easy to deal with," she said. "They really care about what they're doing and how we use our system. Off-Grid Energy and Redflow keep in touch regularly and can remotely monitor our system, giving us peace of mind. We are very happy with the experience so far."

To learn more about Redflow's ZCell energy storage system, visit <http://redflow.com/products/zcell/>



About Redflow

Redflow's unique zinc-bromine flow batteries are designed for stationary energy storage applications ranging from its **ZCell** residential battery to its scalable **ZBM2** batteries for industrial, commercial, telecommunications and grid-scale deployment. Redflow Limited, a publicly-listed company (ASX: RFX), produces high energy density batteries that are sold, installed and maintained by an international network of system integrators. Redflow batteries offer unique advantages including 100 per cent depth of discharge, tolerance of ambient temperatures as hot as 50 degrees Celsius and sustained energy storage of 10 kilowatt-hours (kWh) throughout their operating life.

