

RedFlow Limited

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Company Announcements Office
Australian Securities Exchange Limited

Media Release – Launch of ZCell home energy storage system

Please see the attached media release in relation to Redflow's launch today of its residential energy storage system.

Redflow Ltd



News release: March 30, 2016

Redflow launches ZCell home energy storage system

Australian battery innovator Redflow today launches its first residential energy storage solution, ZCell, a breakthrough system that includes a battery made from easily recyclable or reusable components.

ZCell can store 10 kilowatt hours (kWh) of energy, allowing people to 'timeshift' solar power from day to night, store off-peak power for peak demand periods and support off-grid systems.

Residential installations are scheduled to start mid year, kicked off by an introductory rebate offer for eligible Redflow shareholders. Full details of ZCell and the opportunity to reserve a ZCell battery are available at www.zcell.com. International availability will be announced in coming months.

Redflow Executive Chairman Simon Hackett said ZCell was a breakthrough system. "ZCell breaks many of the rules that apply to legacy batteries, making it ideal for the home market," he said.

"ZCell lets you discharge 100 per cent of its total stored energy every day, whereas other battery types can require a significant amount of their underlying storage capacity to be locked out to prevent battery damage and to extend battery life. ZCell is a unique flow battery that loves to be fully charged and discharged daily.

"ZCell is warranted to deliver its full 10 kWh of stored energy each day for as long as 10 years. During that period, lead acid and lithium batteries can lose a significant portion of their storage capacity.

"Importantly, ZCell enables you to reduce your carbon footprint and reliance on fossil fuel-generated electricity by storing energy harvested from your solar panels. ZCell is primarily made of plastic, aluminium and steel, elements that are easily recycled, while its fluid electrolyte can be reused or repurposed."

ZCell benefits

The core of ZCell is a Redflow ZBM2 flow battery, an innovative product developed by Redflow that is operating at sites worldwide, including Australia, Africa, Asia, America and Europe.

ZCell uses the Redflow ZBM2 in a custom-designed outdoor-rated enclosure that sits on the ground, connecting to a battery inverter/charger unit that delivers stored energy to your home.

ZCell comprises a smart battery, managed and protected by a sophisticated on-board computer control system, with an integrated ZCell Battery Management System (BMS) which enables easy on-site battery commissioning, monitoring and control using a smartphone-compatible WiFi interface.

Overall ZCell offers an attractive, easy-to-install, robust and long-life energy storage system for home use. ZCell's innovative BMS lets the battery deliver benefits that may not be available to users of legacy battery types such as lead acid and lithium. ZCell's benefits include:

- **Large capacity** with daily delivery of 10 kWh of energy at a 100 per cent depth of discharge.
- **Greater safety** inherent in ZCell's flow battery design. Mechanical damage does not risk explosion, dangerously high current output from short-circuit, or 'thermal runaway'. Indeed, ZCell's electrolyte is a fire retardant
- **Robust performance** in even hot and demanding remote locations without the need for external cooling until an ambient outside temperature of at least 45 degrees Celsius, and
- **Recyclable or reusable:** Most components, including plastic, aluminium, steel and ZCell's electrolyte, are recyclable or reusable.



ZCell installations

Simon Hackett said those benefits made ZCell the ideal home energy storage system for Australia. “Redflow has launched this new product under the name ZCell to distinguish it as a fully formed, residential-ready product that is easily integrated by your chosen installer into your home’s solar and energy system,” he said.

“Redflow does not set the total installed system price as we supply only part of the overall system. Final system cost will be set by your system installer, depending on your requirements and upon any additional items, such as solar panels, you may elect to include. We expect the fully installed cost of a 10 kWh ZCell-based energy storage system will start from \$17,500 - \$19,500 including GST.

“Due to ZCell’s sustainable 10kWh energy discharge capability, the cost per installed kWh – that is, the purchase cost divided by output capacity in kWh – is highly competitive with other systems on the market, while offering superior technical features.

“Of course, it is easy to construct larger systems that use multiple ZCells where more energy is required, such as in larger homes or commercial installations. Indeed, the ZBM2 core battery is already delivered in systems all the way up to Redflow’s grid-scale Large Scale Battery (LSB), which features as many as 60 batteries in a single LSB.”

Redflow is installing some exemplar ZCell systems between now and June and is also inviting energy storage system designers and installers to register their interest to become a qualified installation partner at www.zcell.com.

ZCell introductory discount offer to Redflow shareholders

Redflow is offering eligible Redflow shareholders a \$1000 rebate for installation of a ZCell-based energy storage system. Full details are available at www.zcell.com.

Why ZCell?

ZCell is the ‘missing link’ in the renewable energy revolution, letting you timeshift energy from when your solar panels harvest it to when you need it. ZCell delivers Redflow’s proven, industrial-strength ZBM2 battery in an attractive, easy-to-install enclosure for your home energy storage system. Purpose-built for the stationary energy storage market, ZCell is designed to work hard every day to store your energy and then return it to you when you need it. ZCell raises the bar in home energy storage by offering large energy storage capacity, inherent safety and robust performance.

To reserve a ZCell or to learn more about ZCell, please visit www.zcell.com.

For media assistance, please call John Harris on 0414 789 995 or email john@impress.com.au.

About Redflow www.redflow.com

Redflow Limited is an energy storage specialist that has developed the world’s smallest flow batteries. Redflow’s unique flow batteries are designed for stationary energy storage applications ranging from its [ZCell](#) home battery to its ZBM battery range for commercial, telecommunications and grid-scale deployment. Redflow is a publicly-listed company (ASX: RFX) that operates R&D facilities in Australia, as well as offices in the US and Europe. Produced in North America by Flex, one of the world’s largest manufacturing companies, Redflow’s high energy density batteries are sold, installed and maintained by a global network of system integrators.