

# Australian Vanadium Ltd

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## Australian Vanadium shares rise after signing collaboration agreement with Chinese residential vanadium redox flow battery producer

Australian Vanadium Ltd (ASX:AVL) has signed a collaboration agreement for product development and vanadium pentoxide and electrolyte supply with Chinese residential vanadium redox flow battery (VRFB) producer Gui Zhou Collect Energy Century Science and Technology Co Ltd, (trading as CEC VRFB Co. Ltd).

AVL has developed a local production capability for ultra-high purity vanadium electrolyte, which forms a key component of VRFBs. The company is actively marketing the VRFB through its 100% owned subsidiary VSUN Energy Pty Ltd.

The MOU with CEC sets the parameters for discussions to progress to one or more binding formal agreements around:

- The supply of vanadium pentoxide from AVL's planned Australian Vanadium Project at Gabanintha for CEC's VRFB installations in Australia and internationally, with an initial sum of 2,000 tonnes of V2O5 (vanadium pentoxide) per annum as the basis for finalising a binding offtake agreement;
- The supply of vanadium electrolyte for CEC's Australian installations;
- Product development of CEC's residential VRFB for the Australian market; and
- Exclusive sales of CEC's residential VRFBs into the Australian market by VSUN Energy for an initial 12 month period, with the option to renew.

### "Integration throughout the value chain"

AVL managing director Vincent Algar said: "VSUN Energy has seen a significant number of inbound enquiries for a grid connected, long duration residential VRFB to fill a space that is currently met by short life, short duration, less flexible and less safe energy storage solutions.

"Using solar energy at a time that suits the householder is the ideal application for VRFB energy storage.

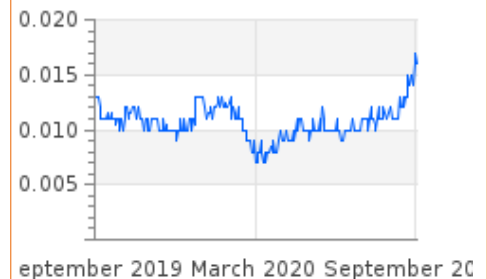
"We look forward to developing this first residential VRFB in Australia with CEC and leveraging the future battery industry growth in Western Australia.

"Our goal to vertically integrate from mining vanadium, all the way through the value chain to onshore production of electrolyte and battery manufacturing in Australia, will allow AVL to benefit both commercially and ethically in helping the transition to a low carbon future and driving jobs growth in both the renewables and mining sectors."

**Price:** 0.016

**Market Cap:** \$41.06 m

### 1 Year Share Price Graph



### Share Information

**Code:** AVL

**Listing:** ASX

**52 week High Low**  
0.0185 0.007

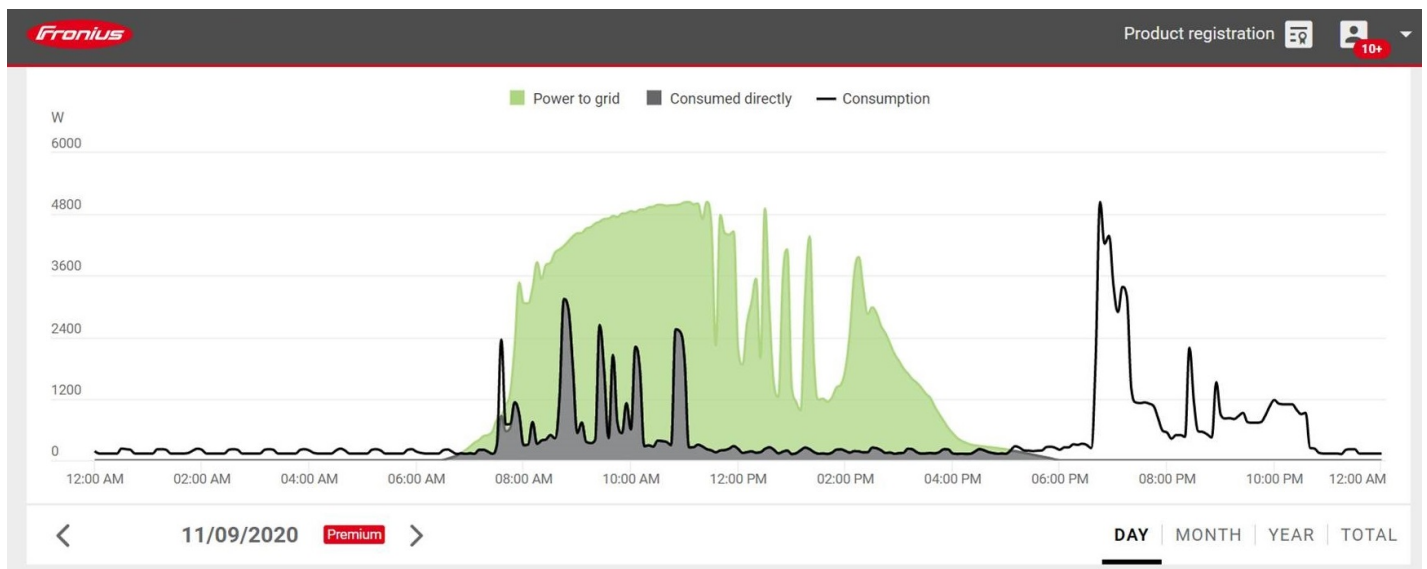
**Sector:** Mining

**Website:** [www.australianvanadium.com.au](http://www.australianvanadium.com.au)

### Company Synopsis:

*Australian Vanadium Ltd (ASX:AVL) is focused on vanadium, seeking to offer investors a unique exposure to all aspects of the vanadium value chain - from resource through to steel and energy storage opportunities.*

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Typical weekday household solar installation showing power exported to the grid

### Residential VRFB ordered

To facilitate the development of CEC's residential VRFB, VSUN Energy has ordered a 5 kilowatt/30 kilowatt hour system which is due to arrive at the Port of Fremantle, Western Australia in late October 2020.

In a first for Australia, the battery comes with an inverter approved by the Clean Energy Council for grid connection.

This means that the CEC VRFB will be able to store energy to use for self-consumption or to enable the export of domestically generated renewable energy when connected to an existing or new solar system.

The first VRFB from CEC will be installed at a property in Perth, where testing and feedback for future product development will occur.

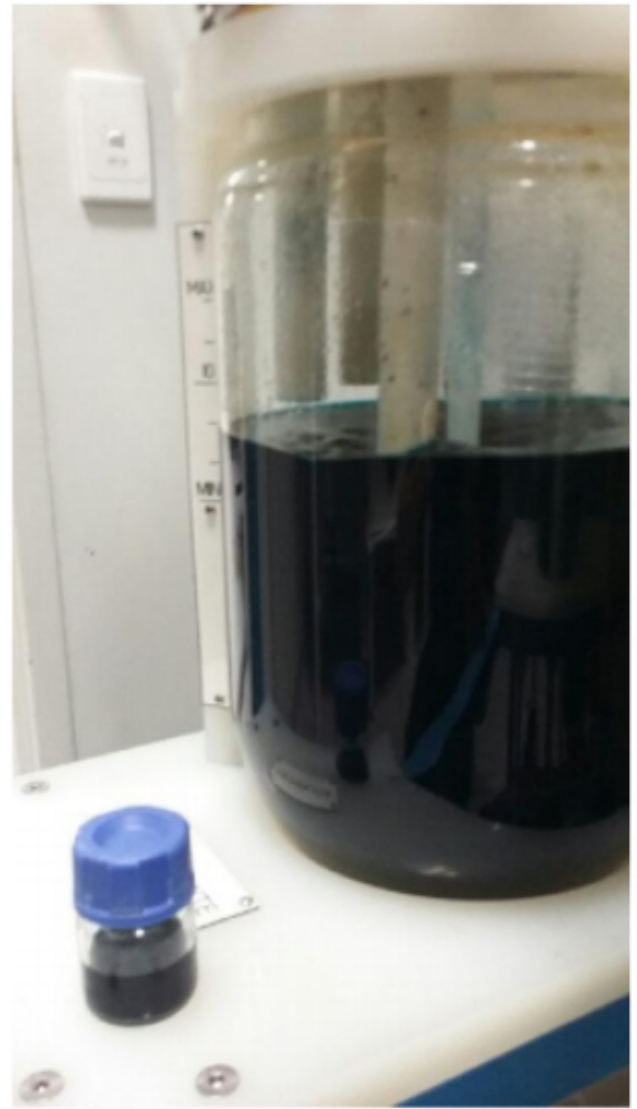
The companies are aiming to refine a market-ready residential and small business VRFB for the Australian energy storage market, for release in 2021.

### Exclusive sale rights

In return for product and market development assistance, the MOU includes the intent for VSUN Energy to have an exclusive right of sale over the products in Australia for an initial period of 12 months, with the option to renew.

The arrival of a grid-connect ready VRFB in Western Australia is well timed, with the Western Australian Government's recent announcement of a new residential programme for solar buyback.

WA residents will be able to sign up to the Distributed Energy Buyback Scheme (DEBS) programme, which allows households to export to the grid at the higher rate of 10 cents per kilowatt hour during the late afternoon and evening.



AVL's vanadium electrolyte pilot plant

### Vanadium supply agreements

AVL's MOU with CEC covers the negotiation of a binding vanadium offtake agreement from the Project to CEC in China.

Availability of high purity V<sub>2</sub>O<sub>5</sub> is constrained in China, particularly for VRFB applications, due to the country's high demand on vanadium for micro-alloy steel manufacturing.

CEC seeks to secure a high purity vanadium supply channel from AVL to support the growth of its Chinese VRFB business and to enable it to offer the product into the wider market.

The agreement will consider a minimum of 2,000 tonnes V<sub>2</sub>O<sub>5</sub> per annum.

### Manufacturing vanadium electrolyte locally

AVL has previously reported its capacity and understanding of vanadium electrolyte production and is investigating a

vanadium electrolyte production facility in conjunction with the development of the Project.

AVL is planning to supply vanadium electrolyte directly into the CEC batteries sold in Australia.

As part of the test process for the first residential VRFBs, AVL will look to manufacture and test electrolyte locally at its Perth based pilot electrolyte plant using vanadium sourced from the Project which is currently being refined in the pilot process in the United States.

Manufacturing vanadium electrolyte locally is expected to help drive down the cost of VRFBs due to reduced electrolyte transportation costs.

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