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ASX ANNOUNCEMENT **2ND SEPTEMBER 2021**

VANADIUM REDOX FLOW BATTERY SHIPMENT TO KICKSTART INDUSTRY

Three V-Flow Tech 5kW/30kWh vanadium redox flow batteries (VRFBs) due to arrive in Perth, Western Australia for commercial and residential installations

KEY POINTS

- **Three 5kW/30kWh VRFBs manufactured by AVL's Singaporean partner V-Flow Tech have been shipped to Perth with delivery anticipated in September.**
- **Vanadium electrolyte required for the batteries has already been received by the VSUN Energy sales team and is awaiting installation.**
- **Customers include the Beverley Caravan Park, an off-grid residential customer in WA, and a test site being developed by one of WA's energy utilities.**
- **VSUN Energy is leading the way in market development for VRFBs throughout Australia. Focus is on sales across a range of project sizes, from small scale rural residential customers through to large scale projects for mining, agriculture, commercial, and utility customers.**
- **AVL was recently awarded a $3.69M grant under the Resources Technology and Critical Minerals Processing National Manufacturing Priority Scheme to advance high purity vanadium production, construction of a commercial electrolyte plant, and manufacture of residential and stand alone power systems based on VRFB technology.**

Australian Vanadium Limited (ASX: AVL, "the Company" or "AVL") is pleased to announce that its 100% owned renewable energy and energy storage subsidiary VSUN Energy is receiving three 5kW/30kWh VRFBs from Singaporean manufacturer V-Flow Tech Pte Ltd (V-Flow). The batteries are due to arrive in Fremantle during September.

AVL and VSUN Energy have previously signed a Memorandum of Understanding with V-Flow for vanadium pentoxide offtake, vanadium electrolyte supply, VRFB sales, installation, service and maintenance.[1]

[1] See ASX announcement dated 1st December 2020 *'Vanadium Offtake, Electrolyte Supply and Battery Sales MOU'*

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Managing Director Vincent Algar comments, *"VSUN Energy and AVL have developed a strong relationship with V-Flow Tech and we are excited to be receiving V-Flow's first batteries in Australia. The three installations will further increase our experience and provide valuable local operating examples of this Australian-invented storage technology. AVL's manufacturing grant from the Australian Government enables us to accelerate the construction of Australia's first vanadium electrolyte plant, to provide the key supply element to this emerging industry. The Australian Vanadium Project is at the forefront of this emerging market and driving its growth."*



Figure 1 VSUN Energy branded V-Flow Tech 5kW/30kWh VRFBs

The first of the three batteries is destined for Beverley Caravan Park which is operated by the Shire of Beverley. The caravan park currently offers 19 powered sites and the VRFB will help the Shire to shift daytime renewable production to evening and night time use for the park's customers. VSUN Energy has already installed the 26kW solar array that will be paired with the battery. Under current feed in tariffs, any excess energy not used by the park is fed back to the grid, with no financial benefit to the Shire. Shifting this otherwise "wasted" energy will allow an increase in renewable consumption for the park and also allow it to reduce energy costs over the next 25 years and beyond.

The second battery will be installed at a rural residential property in regional Western Australia as part of a standalone power system (SPS). The client has decided to run his site with an SPS, rather than connect to the Western Power network, due to the high outages traditionally seen in his area,

as well as the significant costs associated with a grid connection. The customer selected the VRFB SPS due to its long lifespan, lack of degradation, robustness and non-flammability.

The final battery of the three will be used in a test project with a WA energy utility. Its installation will enable both VSUN Energy, external engineers, and potential clients to use a local working example of a VRFB, rather than examining installations and data from other countries. This will provide further proof of concept and the learnings required to support decisions on energy storage technology options.

The supply of the three batteries is not material to the Company, but is part of development of the binding agreement with V-Flow as outlined in the MOU.

VSUN Energy's core objective is the growth of the market for VRFBs in Australia in conjunction with renewable energy. Australian market demand for VRFBs as a long duration, safe, and sustainable storage technology is limited only by the market's understanding and sufficient operating examples. Further sales will lead to an increase in VRFB use.

AVL plans to produce high quality vanadium pentoxide from its mining operation south of Meekatharra and processing plant located east of Geraldton. AVL's vanadium electrolyte plant is to be located in WA and then duplicated elsewhere as demand grows. AVL has recently been awarded a $3.69M grant from the Australian Government[2] to support the roll out of VRFBs and manufacture of vanadium electrolyte.

The 5kW/30kWh battery from V-Flow Tech is well suited to provide long duration energy storage, driven by abundant renewable energy for Australian rural residential properties and small commercial and agricultural sites.

VSUN Energy aims to collaborate with V-Flow Tech to develop the capability to undertake the majority of the manufacture of V-Flow VRFB systems in Australia, with key elements such as the cell stacks being brought in from Singapore.

For further information, please contact:
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This announcement has been approved in accordance with the Company's published continuous disclosure policy and has been approved by the Board.

[2] See ASX announcement dated 22nd July 2021 *'AVL Awarded $3.69M Federal Government Manufacturing Grant'*

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ABOUT AUSTRALIAN VANADIUM LTD

AVL is a resource company 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. AVL is advancing the development of its world-class Australian Vanadium Project at Gabanintha. The Australian Vanadium Project is currently one of the highest-grade vanadium projects being advanced globally, with 208.2Mt at 0.74% vanadium pentoxide (V_2O_5), containing a high-grade zone of 87.9Mt at 1.06% V_2O_5, reported in compliance with the JORC Code 2012 (see ASX announcement dated 4th March 2020 *'Total Vanadium Resource at the Australian Vanadium Project Rises to 208 Million Tonnes'* and ASX announcement dated 22nd December 2020 *'Technical and Financial PFS Update'*).

VSUN Energy is AVL's 100% owned subsidiary which is focused on developing the market for vanadium redox flow batteries for energy storage.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

ABOUT V-FLOW TECH

V-Flow Tech (VFT) is a spin-off from Nanyang Technology University in Singapore, capitalising on 7 years of research to address all the issues faced by flow batteries. The VFT vanadium redox flow battery outperforms in terms of round-trip efficiency, energy density and thermal window. VFT's storage solution has an expected life span of 25 years and is proven to be one of the safest and most environmentally friendly battery technologies. VFT's founders have deep experience in the renewable space, and vanadium redox flow technology in particular. VFT has packaged its unique technology into three product ranges: 1) 20-50kWh batteries for telecom towers or individual homes; 2) 100-250kWh batteries for commercial & industrial applications and micro-grids for remote communities; 3) larger utility-scale deployments to meet the growing need of energy storage.

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APPENDIX 1

The Australian Vanadium Project – Mineral Resource estimate by domain and resource classification using a nominal 0.4% V_2O_5 wireframed cut-off for low-grade and nominal 0.7% V_2O_5 wireframed cut-off for high-grade (total numbers may not add up due to rounding).

2020 Feb	Category	Mt	V_2O_5 %	Fe %	TiO_2 %	SiO_2 %	Al_2O_3 %	LOI %
HG	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.7
	Indicated	25.1	1.10	45.4	12.5	8.5	6.5	2.9
	Inferred	52.7	1.04	44.6	11.9	9.4	6.9	3.3
	Subtotal	**87.9**	**1.06**	**44.7**	**12.2**	**9.2**	**6.8**	**3.2**
LG 2-5	Indicated	44.5	0.51	25.0	6.8	27.4	17.0	7.9
	Inferred	60.3	0.48	25.2	6.5	28.5	15.3	6.7
	Subtotal	**104.8**	**0.49**	**25.1**	**6.6**	**28.0**	**16.1**	**7.2**
Trans 6-8	Inferred	15.6	0.65	28.4	7.7	24.9	15.4	7.9
	Subtotal	**15.6**	**0.65**	**28.4**	**7.7**	**24.9**	**15.4**	**7.9**
Total	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.7
	Indicated	69.6	0.72	32.4	8.9	20.6	13.2	6.1
	Inferred	128.5	0.73	33.5	8.8	20.2	11.9	5.4
	Subtotal	**208.2**	**0.74**	**33.6**	**9.0**	**19.8**	**12.1**	**5.6**

The Australian Vanadium Project - Ore Reserve Statement as at December 2020, at a cut-off grade of 0.7% V_2O_5

Ore Reserve	Mt	V_2O_5%	Fe_2O3%	TiO_2%	SiO_2%	LOI%	V_2O_5 production kt
Proved	9.8	1.08	59.9	12.4	8.7	3.5	63.2
Probable	22.4	1.04	61.7	11.8	8.3	2.8	158.9
Total Ore	**32.1**	**1.05**	**61.2**	**12.0**	**8.4**	**3.0**	**222.1**

Ore Reserve	Mt
Waste	244.5
Total Material	276.7
Strip Ratio	7.6

COMPETENT PERSON STATEMENT — MINERAL RESOURCE ESTIMATION

The information in this announcement that relates to Mineral Resources is based on and fairly represents information compiled by Mr Lauritz Barnes, (consultant with Trepanier Pty Ltd) and Mr Brian Davis (consultant with Geologica Pty Ltd). Mr Barnes and Mr Davis are both members of the Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geoscientists (AIG). Both have sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as

defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Specifically, Mr Barnes is the Competent Person for the estimation and Mr Davis is the Competent Person for the database, geological model and site visits. Mr Barnes and Mr Davis consent to the inclusion in this announcement of the matters based on their information in the form and context in which they appear.

COMPETENT PERSON STATEMENT — ORE RESERVES

The technical information in this announcement that relates to the Ore Reserve estimate for the Project is based on information compiled by Mr Ross Cheyne, an independent consultant to AVL. Mr Cheyne is a Fellow of the Australasian Institute of Mining and Metallurgy. He is an employee and Director of Orelogy Mine Consulting Pty Ltd. Mr Cheyne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a competent person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Cheyne consents to the inclusion in the announcement of the matters related to the Ore Reserve estimate in the form and context in which it appears.

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