

ASX ANNOUNCEMENT

26<sup>TH</sup> MAY 2022

## MOU WITH NHCE FOR ENERGY MARKET VANADIUM BATTERY PROJECT DEVELOPMENT

*VSUN Energy and clean energy developer NHCE to collaborate on Australia wide long duration energy storage projects*

### KEY POINTS

- **North Harbour Clean Energy (NHCE) developer of renewable energy and energy storage projects**
- **MOU signed for collaboration on development and installation of vanadium redox flow battery (VRFB) projects and vanadium electrolyte supply**
- **NHCE is part of the \$50M University of New South Wales and University of Newcastle Australian Government Trailblazer partnership recently awarded**

Australian Vanadium Limited (ASX: AVL, “the Company” or “AVL”) is pleased to announce that its 100% owned subsidiary VSUN Energy has signed a Memorandum of Understanding (MOU) with North Harbour Clean Energy (NHCE). NHCE is involved in the identification, investigation, development and operation of renewable energy and energy storage projects. It is particularly focused on long duration energy storage, including pumped hydro and vanadium redox flow batteries (VRFBs) for stationary energy applications. NHCE is also involved in a joint collaboration with the University of New South Wales (UNSW) in the research and commercialisation of VRFBs. UNSW is the birthplace of the VRFB, with Emeritus Professor Maria Skyllas-Kazacos and her team still working on the product which was invented in the 1980s.

The MOU will allow VSUN Energy to help to facilitate development of VRFBs into existing and future projects being developed by NCHE. NHCE sees the need for long duration energy storage in the Australian market as being embryonic, but significant in size and that the VRFB is a proven, commercialised product that can help complement the company’s use of pumped hydro energy storage. NHCE is interested in supply of vanadium electrolyte from AVL, product selection and project development support from VSUN Energy and the ability to position Australia as a centre of excellence and key player in the global VRFB supply chain.

Managing Director, Vincent Algar comments, *“In working together on VRFB projects, VSUN Energy and NHCE will have the opportunity to support the development of large projects through access to*

*a company with strong funding capability. Jointly the companies aim to grow the Australian vanadium energy storage sector and do justice to this Australian invented technology.”*

NHCE Managing Director, Tony Schultz comments, *“We look forward to partnering with VSUN Energy to help accelerate the implementation of VRFBs at industrial scale into the Australian energy market, allowing the rapid uptake of renewable energy to continue. This technology is perfectly suited to long duration stationary energy storage, has a number of advantages over alternative technologies, and Australia has a unique opportunity given its invention of the technology in the 1980s, coupled with our large share of known vanadium resources.”*

NHCE is also part of a group of entities involved in the \$50M investment from the Australian Government to create a new business and research partnership through the Trailblazer program. UNSW and the University of Newcastle will lead the partnership, working with 27 industry partners which includes NHCE. In addition, NHCE is also working with UNSW on the optimisation of VRFB cell design.

The MOU provides a framework for the two companies to assess market opportunities for VRFB installations including potential for local manufacture or assembly of VRFBs and leasing facilities for vanadium electrolyte.

The MOU is non-exclusive and is valid for a period of 2 years and may be terminated by either party on giving notice of at least one month.

For further information, please contact:

**Vincent Algar, Managing Director** +61 8 9321 5594

*This announcement has been approved in accordance with the Company's published continuous disclosure policy and has been approved by the Board.*

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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 one of the most advanced vanadium projects being developed globally, with 239Mt at 0.73% vanadium pentoxide ( $V_2O_5$ ), containing a high-grade zone of 95.6Mt at 1.07%  $V_2O_5$  and an Ore Reserve of 30.9Mt at 1.09%  $V_2O_5$  comprised of a Proved Reserve of 5Mt at 1.11%  $V_2O_5$  and a Probable Reserve of 20.4Mt at 1.07%  $V_2O_5$ , reported in compliance with the JORC Code 2012 (see ASX announcement dated 1<sup>st</sup> November 2021 '*Mineral Resource Update at the Australian Vanadium Project*' and ASX announcement dated 6<sup>th</sup> April 2022 '*Bankable Feasibility Study for the Australian Vanadium Project*').

VSUN Energy is AVL's 100% owned subsidiary which is focused on developing the market for vanadium redox flow batteries for energy storage. The companies are also working together to produce and supply vanadium electrolyte for the batteries.

## APPENDIX 1

The Australian Vanadium Project – Mineral Resource estimate by domain and resource classification using a nominal 0.4% V<sub>2</sub>O<sub>5</sub> wireframed cut-off for low-grade and nominal 0.7% V<sub>2</sub>O<sub>5</sub> wireframed cut-off for high-grade (total numbers may not add up due to rounding).

| Zone        | Category        | Mt           | V <sub>2</sub> O <sub>5</sub> % | Fe %        | TiO <sub>2</sub> % | SiO <sub>2</sub> % | Al <sub>2</sub> O <sub>3</sub> % | LOI %      |
|-------------|-----------------|--------------|---------------------------------|-------------|--------------------|--------------------|----------------------------------|------------|
| HG          | Measured        | 11.3         | 1.14                            | 43.8        | 13.0               | 9.2                | 7.5                              | 3.7        |
|             | Indicated       | 27.5         | 1.10                            | 45.4        | 12.5               | 8.5                | 6.5                              | 2.9        |
|             | Inferred        | 56.8         | 1.04                            | 44.6        | 11.9               | 9.4                | 6.9                              | 3.3        |
|             | <b>Subtotal</b> | <b>95.6</b>  | <b>1.07</b>                     | <b>44.7</b> | <b>12.2</b>        | <b>9.1</b>         | <b>6.8</b>                       | <b>3.2</b> |
| LG          | Indicated       | 54.9         | 0.50                            | 24.9        | 6.8                | 27.6               | 17.1                             | 7.9        |
|             | Inferred        | 73.6         | 0.48                            | 25.0        | 6.4                | 28.7               | 15.4                             | 6.6        |
|             | <b>Subtotal</b> | <b>128.5</b> | <b>0.49</b>                     | <b>24.9</b> | <b>6.6</b>         | <b>28.2</b>        | <b>16.1</b>                      | <b>7.2</b> |
| Transported | Inferred        | 14.9         | 0.66                            | 29.0        | 7.8                | 24.5               | 15.1                             | 7.8        |
|             | <b>Subtotal</b> | <b>14.9</b>  | <b>0.66</b>                     | <b>29.0</b> | <b>7.8</b>         | <b>24.5</b>        | <b>15.1</b>                      | <b>7.8</b> |
| Total       | Measured        | 11.3         | 1.14                            | 43.8        | 13.0               | 9.2                | 7.5                              | 3.7        |
|             | Indicated       | 82.4         | 0.70                            | 31.7        | 8.7                | 21.2               | 13.5                             | 6.2        |
|             | Inferred        | 145.3        | 0.71                            | 33.0        | 8.7                | 20.7               | 12.0                             | 5.4        |
|             | <b>Subtotal</b> | <b>239.0</b> | <b>0.73</b>                     | <b>33.1</b> | <b>8.9</b>         | <b>20.4</b>        | <b>12.3</b>                      | <b>5.6</b> |

The Australian Vanadium Project - Ore Reserve Statement as at April 2022, at a cut-off grade of 0.7% V<sub>2</sub>O<sub>5</sub>.

| Ore Reserve      | Mt          | V <sub>2</sub> O <sub>5</sub> % | Fe%         | TiO <sub>2</sub> % | SiO <sub>2</sub> % | LOI%       | V <sub>2</sub> O <sub>5</sub> production kt | Ore Reserve    | Mt    |
|------------------|-------------|---------------------------------|-------------|--------------------|--------------------|------------|---|----------------|-------|
| Proved           | 10.5        | 1.11                            | 61.6        | 12.8               | 9.5                | 3.7        | 70.9  | Waste          | 238.5 |
| Probable         | 20.4        | 1.07                            | 63.4        | 12.2               | 9.2                | 3.0        | 152.9                                       | Total Material | 269.4 |
| <b>Total Ore</b> | <b>30.9</b> | <b>1.09</b>                     | <b>62.8</b> | <b>12.4</b>        | <b>9.3</b>         | <b>3.2</b> | <b>223.8</b>                                | Strip Ratio    | 7.7   |

## **ASX CHAPTER 5 COMPLIANCE AND CAUTIONARY AND FORWARD LOOKING STATEMENTS**

### ***ASX Listing Rules 5.19 and 5.23***

#### **ASX Listing Rule 5.19**

The information in this announcement relating to production targets, or forecast financial information derived from a production target, is extracted from the announcement entitled 'Bankable Feasibility Study for the Australian Vanadium Project' released to the ASX on 6<sup>th</sup> April 2022 which is available on the Company's website [www.australianvanadium.com.au](http://www.australianvanadium.com.au).

The Company confirms that all material assumptions underpinning the production target, or the forecast financial information derived from a production target, in the original market announcement continue to apply and have not materially changed.

#### **ASX Listing Rule 5.23**

The information in this announcement relating to exploration results and mineral resource and ore reserve estimates for the Australian Vanadium Project is extracted from the announcement entitled 'Bankable Feasibility Study for the Australian Vanadium Project' released to the ASX on 6<sup>th</sup> April 2022 which is available on the Company's website [www.australianvanadium.com.au](http://www.australianvanadium.com.au).

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 that all material assumptions and technical parameters underpinning the estimates in the original 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.

### **Forward-Looking Statements**

This release may contain certain forward-looking statements with respect to matters including but not limited to the financial condition, results of operations and business of AVL and certain of the plans and objectives of AVL with respect to these items.

These forward-looking statements are not historical facts but rather are based on AVL's current expectations, estimates and projections about the industry in which AVL operates and its beliefs and assumptions.

Words such as "anticipates," "considers," "expects," "intends," "plans," "believes," "seeks," "estimates", "guidance" and similar expressions are intended to identify forward looking statements and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, particularly those risks or uncertainties inherent in the industry in which AVL operates.

These statements are not guarantees of future performance and are subject to known and unknown

risks, uncertainties, and other factors, some of which are beyond the control of AVL, are difficult to predict and could cause actual results to differ materially from those expressed or forecasted in the forward-looking statements. Such risks include, but are not limited to resource risk, metal price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the countries and states in which we sell our product to, and government regulation and judicial outcomes. For more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other filings.

AVL cautions shareholders and prospective shareholders not to place undue reliance on these forward-looking statements, which reflect the view of AVL only as of the date of this release.

The forward-looking statements made in this announcement relate only to events as of the date on which the statements are made.

AVL will not undertake any obligation to release publicly any revisions or updates to these forward-looking statements to reflect events, circumstances or unanticipated events occurring after the date of this announcement except as required by law or by any appropriate regulatory authority.