Australian VANADIUM LIMITED

ASX ANNOUNCEMENT **9 DECEMBER 2024**

KEY APPOINTMENTS TO SUPPORT VANADIUM FLOW BATTERY DEVELOPMENT

KEY POINTS

- **Australian Vanadium Limited's wholly owned subsidiary, VSUN Energy Pty Ltd (VSUN Energy) is progressing Project Lumina, the development of a modular, scalable, turnkey, utility-scale battery energy storage system (BESS) using vanadium flow battery (VFB) technology, for use in Australian energy markets.**
- **The GenusPlus Group[1] (Genus) has been appointed to provide early contractor involvement (ECI) services to develop the electrical connection of the VFB BESS and Sedgman Pty Ltd[2] (Sedgman) has been appointed to provide ECI services in relation to the balance of plant design.**
- **Austrian VFB manufacturer Enerox GmbH (trading as CellCube) has been appointed as VFB technology provider.**
- **Building long term relationships with high-quality, strategic engineering and technology specialists de-risks the future deployment of VFB BESS units by VSUN Energy.**

Australian Vanadium Limited (ASX: AVL, the Company or AVL) is pleased to announce significant progress in the next phase of Project Lumina[3] with the strategic appointment of engineering, procurement and construction (EPC) contractors, Genus and Sedgman, to provide ECI services and the appointment of Austrian VFB manufacturer CellCube as technology provider. Project Lumina targets the development by VSUN Energy of a VFB BESS for Australian energy markets that is modular, scalable, turnkey and suitable for medium to long duration battery storage applications at utility scale, employing well-established VFB technology optimised for local conditions.

AVL's Chief Executive Officer, Graham Arvidson comments, "*VSUN Energy is rapidly progressing the next phase of Project Lumina, which incorporates the detailed design of a 100MW 4 and 8 hour BESS using VFBs. We are pleased to be working with highly credible parties such as Genus, Sedgman and CellCube and look forward to working together to develop energy storage solutions for utility scale use across the country.*"

Genus constructs and maintains critical power and communications infrastructure. Its projects have included EPC for the recently completed 100MW/200MWh Kwinana BESS lithium-ion battery

[1] Through its wholly owned subsidiary, KEC Power Pty Ltd
[2] A CIMIC Group company
[3] See ASX announcement dated 6 November 2024 *'Realising AVL's Utility-Scale Vanadium Flow Battery Strategy'*

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installation for Synergy, WA's largest electricity generator and retailer of gas and electricity. Genus brings design and construction capability to the power conversion and transformer systems for Project Lumina.

Sedgman is a leading provider of processing and infrastructure solutions for the global resources industry. Sedgman is contributing its design and construct experience to the vanadium electrolyte storage and auxiliary systems and providing battery system integration for the project.

CellCube is a global leader and pioneer in VFB technology. With over 20 years of experience in designing and deploying its battery systems worldwide, CellCube is engaged to contribute its expertise to design VFB power units, develop associated engineering documentation and provide technical guidance. Cellcube is expected to provide critical VFB componentry including the supply of power units in the implementation of Project Lumina.

VSUN Energy recently completed Phase 1 of Project Lumina, an analysis to assess whether a VFB BESS solution is competitive in the energy storage market. The outcome supported the merits of a modular, scalable, turnkey, utility-scale 100MW VFB BESS solution capable of delivering levelised cost of storage (LCOS) of A$274/MWh for a 4-hour VFB BESS and LCOS of A$251/MWh for an 8-hour VFB BESS.[4]

Phase 2 of Project Lumina is the delivery of the detailed design of a VFB BESS solution, which is expected to refine the Phase 1 assumptions and develop an executable delivery strategy. Key aims of Phase 2 include the:

- Development of a construction-ready, detailed design and delivery strategy for modular, commercial, turnkey, utility-scale 100MW VFB BESS on a 4-hour (100MW/400MWh) and 8-hour (100MW/800MWh) duration.
- Delivery of a definitive basis for estimates of LCOS, capital cost, operating cost and revenue opportunities, refining from the Phase 1 accuracy of ± 30%.
- Exploration of the option of a 'deconstructed' VFB BESS to drive optimised economic returns and to potentially extend operational life to 40 years and beyond.
- Optimisation of the design with a cost-effective means of independently scaling either power (MW) or duration (MWh of discharge) to capture opportunities emerging from the evolution of the Australian energy markets and deliver a competitive advantage via in-built optionality.

Related activities include continuing discussions with potential energy offtakers for the deployment of energy storage solutions, progressing land access arrangements for the future deployment of energy storage solutions, developing a funding strategy (debt and equity) to allow for the rapid

[4] The LCOS calculations used scoping study level capital and operating cost estimates and inputs to calculate a LCOS at ±30%. See ASX announcement dated 6 November 2024 *'Realising AVL's Utility-Scale Vanadium Flow Battery Strategy'*.

deployment of energy storage solutions and determining the merits of deploying a VSUN Energy Build-Own-Operate (BOO) business model, as well as delivering on an EPC basis.

It is intended for Phase 2 to enable the Company and potential third-party investors to make a final investment decision (FID) on the deployment of utility scale VFB BESS solutions by VSUN Energy in Q3 CY2025. The Company recognises that, as the work progresses and options are explored, the timeline may change.

The utilisation of well-established technology and building long term relationships with experienced providers such as Genus, Sedgman and CellCube will contribute to de-risking the deployment of VFB BESS units by VSUN Energy, providing confidence for end users of the technology.

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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.

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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 395.4Mt at 0.77% vanadium pentoxide (V_2O_5), containing a high-grade zone of 173.2Mt at 1.09% V_2O_5, reported in compliance with the JORC Code 2012 (see ASX announcement dated 7 May 2024 *'39% Increase in High Grade Measured and Indicated Mineral Resource'*).

VSUN Energy is AVL's 100% owned renewable energy and energy storage subsidiary which is focused on developing the Australian market for VFBs for long duration energy storage. VSUN Energy was set up in 2016 and is widely respected for its VFB expertise. AVL's vertical integration strategy incorporates processing vanadium to high purity, manufacturing vanadium electrolyte and working with VSUN Energy as it develops projects based on renewable energy generation and VFB energy storage.

ASX Listing Rule 5.23

The information in this announcement relating to mineral resource estimates for the Australian Vanadium Project is extracted from the announcement entitled '39% Increase in High Grade Measured and Indicated Mineral Resource' released to the ASX on 7 May 2024 which is available on the Company's website www.avl.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

Some statements in this announcement regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future matters. Forward-looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "could", "nominal", "conceptual" and similar expressions. Forward-looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies

which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions.

Forward-looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward-looking statements may be affected by a range of variables that could cause actual results to differ from estimated results and may cause AVL's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward-looking statements. These risks and uncertainties include but are not limited to liabilities inherent in technology development, mine development and production, technology advancement, battery development, geological, mining and processing technical problems, skilled personnel, incorrect assessments of the value of acquisitions, changes in commodity prices and exchange rate, currency and interest fluctuations, various events which could disrupt operations a including labour stoppages, the ability to secure adequate financing and management's ability to anticipate and manage the foregoing factors and risks. These and other factors should be considered carefully and readers should not place undue reliance on such forward-looking information. There can be no assurance that forward-looking statements will prove to be correct.

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