TMT Key Investor in Future Battery Industries CRC's Electrolyte Project

HIGHLIGHTS

- TMT to work with the Government backed Future Battery Industries Cooperative Research Centre (FBICRC) to enhance the performance of Vanadium Redox Flow Batteries (VRFBs)
- TMT is the largest shareholder in the Project and demonstrates the company's commitment to downstream vanadium processing
- Product from TMT's Murchison Technology Metals Project (MTMP) to be utilised as feedstock for vanadium electrolyte research
- TMT's vanadium electrolyte subsidiary vLYTE to leverage off the findings of the Project

30 August 2022

Advanced vanadium developer, Technology Metals Australia Limited (ASX: **TMT**) (**Technology Metals**, or **the Company)** is pleased to announce that it will be a key investor in the FBICRC's Development of Electrolytes Project.

As a key investor, the Company will gain valuable insights that can be leveraged by the Company's electrolyte subsidiary, vLYTE, as well as further support the development of the Murchison Technology Metals Project (MTMP) as a supplier of critical minerals vanadium and titanium.

TMT's Managing Director, Ian Prentice, commented:

"Society needs longer duration energy storage to reach net zero and TMT is committed to vanadium redox flow batteries as a solution. Vanadium electrolyte is a key component of a VRFB and as a potential downstream product of the MTMP, knowledge gained through this Project will enable TMT to produce a cost competitive, high-quality product for customers.

"TMT's technical team is excited to work together with the FBICRC team to advance the technology and I would like to thank the FBICRC for creating such an opportunity."

FBICRC Chief Executive Officer, Shannon O'Rourke, said:

"By 2050, in a net zero scenario, 70% of all renewable spend will be on batteries. Vanadium batteries are compact, durable, and infinitely recyclable making them excellent for long duration storage. The technology was invented in Australia, and we're pleased to be looking at ways to lower costs and improve quality.

"We're very pleased to have TMT onboard in this co-operative project and we are looking forward to helping TMT add more value to their mineral resources."

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PROJECT DETAILS

The Development of Electrolytes Project has been established by the FBICRC to optimise electrolyte performance within VRFBs. The study will involve experimenting with additives and stabilizing agents and measure the effect of impurities to ultimately determine the optimal concentrations for VRFB electrolyte. Much of the work will be completed at the Engineering and Energy Department Laboratories as part of the Harry Butler Institute (Centre for Water, Energy and Waste) at Murdoch University, Western Australia.

TMT as a major participant in the Project has committed a cash contribution, access to its technical team and provision of material such as magnetite concentrate and vanadium pentoxide from the 100% owned MTMP.

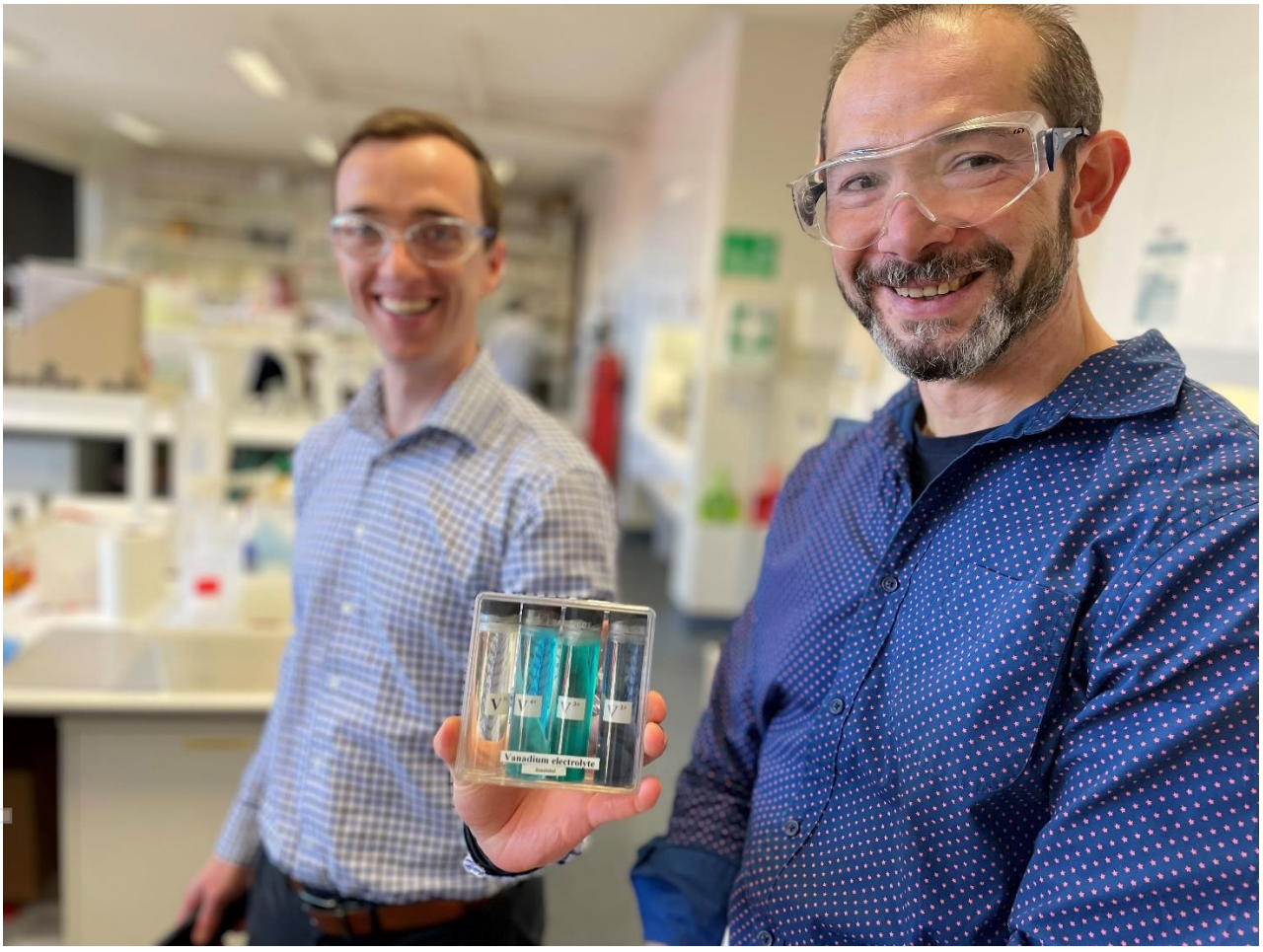

Figure 1. TMT's Senior Metallurgist Brett Morgan with Project Lead, Professor Aleks Nikoloski of Murdoch University

The Project is expected to run over three years with set milestones scheduled to mark progress and provide feedback to participants.

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ABOUT vLYTE

The Company has established a 100% owned subsidiary, vLYTE Pty Ltd. vLYTE's aim is to add value to the high-quality feedstock from the MTMP through downstream processing opportunities such as vanadium electrolyte production and support the development of large-scale stationary storage VRFB applications.

vLYTE is working with global battery manufacturers and renewable energy suppliers as it progresses its downstream processing strategy. Feedback from industry participants indicates the emergence of significant demand for vanadium electrolyte as longer duration energy storage applications are increasingly brought online.

ABOUT VANADIUM REDOX FLOW BATTERIES (VRFBS)

VRFBs are one of the most promising large-scale stationary energy storage systems due to its robustness to operating conditions, its safety, the fact that its power and energy ratings are independent of each other, and it can have long discharge and long storage times. The VRFB electrolyte is 100% recyclable for reuse in another battery system or converted to useful vanadium compounds[1].

The Australian Energy Market Operator (AEMO) compared the VRFB with other storage technologies, and found it was able to provide medium-duration storage without the geographic restrictions, high cycling storage without the significant cycling degradation of lithium batteries, as well as a better safety profile[2].

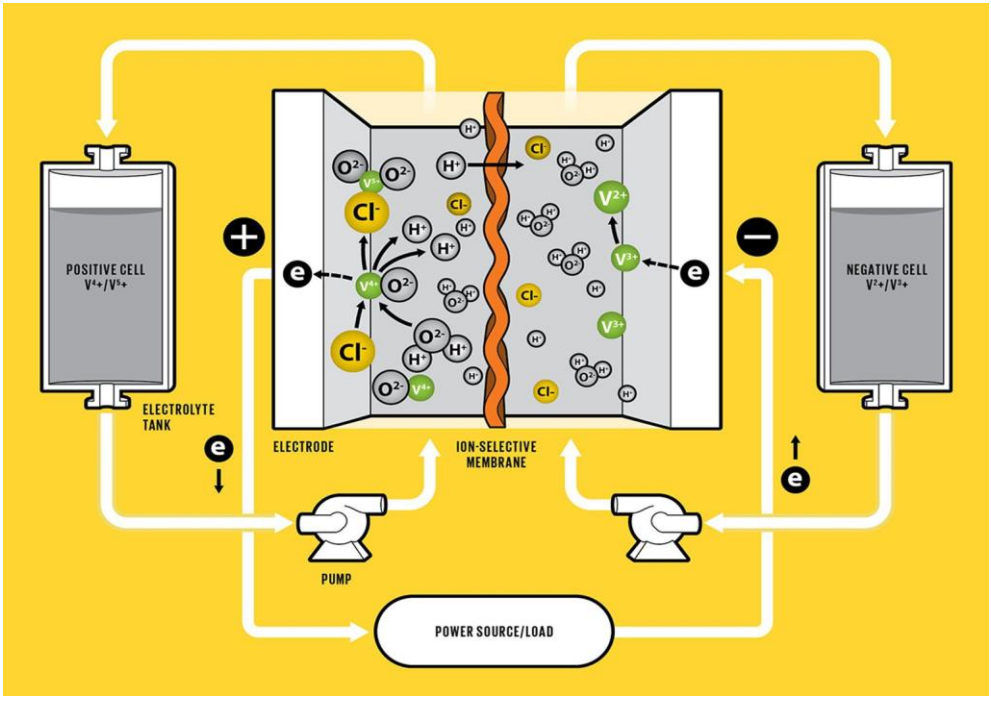

Figure 2. Schematic of a Vanadium Redox flow Battery (VRFB) Source www.vanitec.org

[1] Skyllas-Kazacos, M., Performance Improvements and Cost Considerations of the Vanadium Redox Flow Battery. ECS Transactions, 2019. 89(1): p. 29–45.

[2] Co-located Vanadium Flow Battery Storage and Solar. 2021; Available from: https://arena.gov.au/projects/co-located-vanadium-flow-battery-storage-and-solar/.

The number of VRFB installations around the world is growing enormously, as the demand for storing the energy generated from renewables is increasing every year. VRFBs are expected to represent 30% of the energy storage market by 2025.

A recent white paper on VRFBs by research group Guidehouse Insights forecast increasing global deployment, with over 300,000 tonnes of V_2O_5 needed to supply the deployment of VRFBs in year 2031[3]. TMT's production will be ~12,500 tonnes of V_2O_5.

ABOUT THE FUTURE BATTERY INDUSTRIES CRC

The FBICRC was established in 2019 through the Australian Government's Cooperative Research Centre Program. The FBICRC is the largest partnership of industry, government organisations and research partners focused on battery industries in Australia with over 70 participants across 15 research projects and a total project value of $120 million. To find our more visit www.fbicrc.com.au

AUTHORISED FOR RELEASE ON THE ASX BY THE COMPANY'S BOARD OF DIRECTORS

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Forward-Looking Statements

This document includes forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Technology Metal Australia Limited's planned exploration programs, corporate activities, and any, and all, statements that are not historical facts. When used in this document, words such as "could," "plan," "estimate," "expect," "intend," "may", "potential," "should" and similar expressions are forward-looking statements. Technology Metal Australia Limited believes that it has a reasonable basis for its forward-looking statements; however, forward-looking statements involve risks and uncertainties, and no assurance can be given that actual future results will be consistent with these forward-looking statements. All figures presented in this document are unaudited and this document does not contain any forecasts of profitability or loss.

About Technology Metals Australia

Technology Metals Australia Limited (ASX:TMT) is an ASX-listed company focused on the exploration and development of its flagship, 100 per cent owned Murchison Technology Metals Project (MTMP) located 40km southeast of Meekatharra in the mid-west region of Western Australia. The MTMP is one of the highest-grade vanadium projects in the world and will have lowest quartile operating costs once developed.

The Company has finalised an Integration Study for the MTMP, bringing in high-grade ore from the satellite Yarrabubba deposit into the central processing hub at Gabanintha. The Integration Study completion has facilitated the progression of the Implementation Phase of the MTMP leading to a Decision to Develop expected in late 2022.

[3] Guidehouse Insights 2022., Vanadium Redox Flow Batteries, Identifying Market Opportunities and Enablers. Available from https://vanitec.org/images/uploads/Guidehouse_Insights-Vanadium_Redox_Flow_Batteries.pdf

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About Vanadium

Vanadium is a hard, silvery grey, ductile and malleable speciality metal with a resistance to corrosion, good structural strength and stability against alkalis, acids and salt water. The elemental metal is rarely found in nature. The main use of vanadium is in the steel industry where it is primarily used in metal alloys such as rebar and structural steel, high-speed tools, titanium alloys and aircraft. The addition of a small amount of vanadium can increase steel strength by up to 100% and reduces weight by up to 30%. Vanadium high-carbon steel alloys contain in the order of 0.15 to 0.25% vanadium while high-speed tool steels, used in surgical instruments and speciality tools, contain in the range of 1 to 5% vanadium content. Global economic growth and increased intensity of use of vanadium in steel in developing countries will drive near term growth in vanadium demand.

An emerging and very significant use for vanadium is the rapidly developing energy storage (battery) sector with the expanding use and increasing penetration of the vanadium redox flow batteries (VRFB's). VRFB's are a rechargeable flow battery that uses vanadium in different oxidation states to store energy, using the unique ability of vanadium to exist in solution in four different oxidation states. VRB's provide an efficient storage and re-supply solution for renewable energy – being able to time-shift large amounts of previously generated energy for later use – ideally suited to micro-grid to large scale energy storage solutions (grid stabilisation).

Some of the unique advantages of VRFB's are:

- a lifespan of 20 years with very high cycle life (up to 20,000 cycles) and no capacity loss,
- rapid recharge and discharge,
- easily scalable into large MW applications,
- excellent long-term charge retention,
- improved safety (non-flammable) compared to Li-ion batteries, and
- can discharge to 100% with no damage.

Global economic growth and increased intensity of use of vanadium in steel in developing countries will drive near term growth in vanadium demand.

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