



28 February 2024

## Tivan to commence Vanadium Electrolyte Testwork Program with Sumitomo Electric Industries

The Board of Tivan Limited (ASX: TVN) (“Tivan” or the “Company”) is pleased to advise that the Company is advancing planning for its proposed vanadium electrolyte (“VE”) manufacturing facility (“VE Facility”) at the Middle Arm Sustainable Development Precinct (“MASDP”) in Darwin, with commencement of a testwork program targeting production of high-purity vanadium electrolyte in collaboration with Sumitomo Electric Industries (“SEI”), a Japanese headquartered global manufacturer of electronics. SEI is a leading manufacturer of large-scale, long-life vanadium redox flow batteries (“VRFB”).

Tivan announced in October 2023 its plans to deliver a VE Facility at MASDP, using vanadium from the Speewah Vanadium Project as the proposed feedstock, to facilitate deployment of VRFB in northern Australia. VE is used to store energy in VRFB. In support, Tivan signed a Letter of Intent with Larrakia Energy for the supply of up to 30 MW of renewable energy from a proposed 300 MW solar farm to be located on Larrakia Country (see ASX announcement of 31 October 2023).

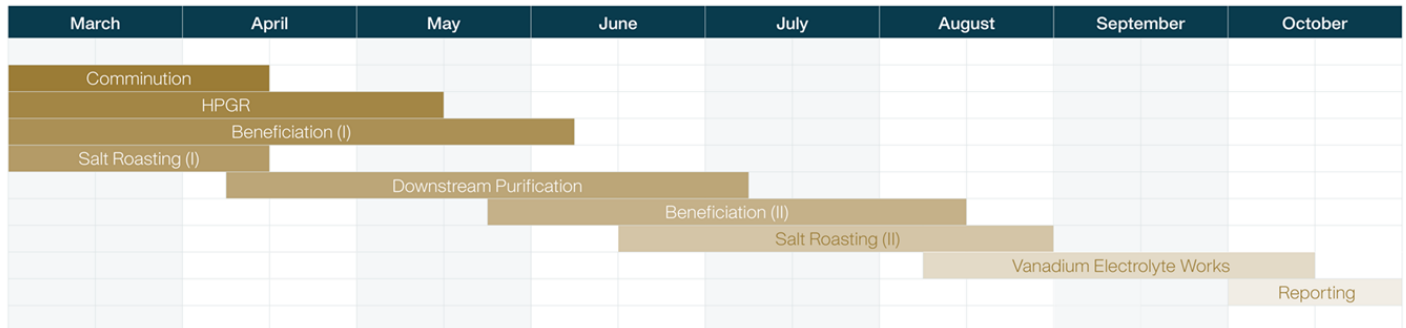
Tivan and SEI have been working in collaboration since mid-2023. Executive Chairman, Mr Grant Wilson, has visited SEI in Osaka to introduce the Speewah Vanadium Project and to further due diligence on VE and VRFB technology. In support of the testwork program, SEI has provided Tivan with its VE specification on a commercial-in-confidence basis. Tivan has designed the resulting testwork program, shown in Figure 1 below.

The Company has established a working group to oversee planning and execution of the program, which includes Emeritus Professor Maria Skyllas-Kazacos from the School of Chemical Engineering at the University of New South Wales, a member of Tivan’s Technical Advisory Group and also the inventor of VRFB.

The objective of the testwork program is to produce VE, using vanadium produced from Speewah samples, which meets the specifications provided by SEI. The program is planned to be completed within a nine month timeframe, supported by work being progressed with Hatch as part of the pre-feasibility study (“PFS”) for the Speewah Vanadium Project (see ASX announcement of 22 February 2024). The scope of the PFS also includes development of a concept design for the VE Facility.

VRFBs are widely viewed as a preferred technology for long duration energy storage. Advantages include:

- Longevity: extended lifespan of greater than 20 years, with minimal performance degradation.
- Cycle: capability for greater than 20,000 cycles.
- Discharge: capability for full discharge without shortening battery life.
- Duration: long duration optimised up to 24 hours of energy storage and power output.
- Cost-competitive: lower maintenance and long life provides for lower levelised cost of energy storage.
- Safety: use of aqueous electrolyte removes susceptibility of thermal runaway events.
- Recyclability: VE can be reused and recycled indefinitely.



**Figure 1: Tivan’s testwork program for production of vanadium electrolyte**

### Middle Arm Sustainable Development Precinct

Concurrently, since October 2023, Tivan has advanced discussions with owners of large-scale industrial facilities located in the Darwin area and key project proponents at MASDP, as well as the proponents of large-scale solar projects in the Northern Territory, regarding the development pathway for Long Duration Energy Storage (“LDES”).

Tivan is working in close collaboration with the NT Government to further this opportunity and to contribute to the informed, evidence-based planning and delivery model at MASDP. Tivan has been formally advised by the Department of Infrastructure, Planning and Logistics that an extension to its ‘Do Not Deal’ commitment for the southern lode of Section 1817, Hundred of Ayers is to be finalised in ‘the near future’.

Tivan’s engagement program has confirmed the robust commercial opportunity for LDES across the Northern Territory and at MASDP, in support of the NT Government’s net zero emissions target by 2050. Tivan will continue to progress this pathway throughout 2024.

### Comment from Tivan Executive Chairman

Mr Grant Wilson commented:

*“We are pleased to be working with Sumitomo Electric Industries, a global leader in the manufacturing of VRFB. Achieving their Vanadium Electrolyte specification is a key step in validating the Speewah ore body, and ensuring the design basis for the Speewah Vanadium Project is compatible.*

*The superior characteristics of Speewah as a vanadium resource, including grade, strip, proximity and size, underpin Tivan’s durable competitive advantage in developing the LDES market, commencing in Darwin. This advantage will be evident in our Pre-Feasibility Study later this year.”*



**tivan**  
a critical minerals company

asx announcement

This announcement has been approved by the Board of the Company.

**Inquiries:**

**Tony Bevan**

Company Secretary: + 61 8 9327 0900

Email: [corporate@tivan.com.au](mailto:corporate@tivan.com.au)

**Ends**

**Forward looking statement**

This announcement contains certain “forward-looking statements” and comments about future matters. Forward-looking statements can generally be identified by the use of forward-looking words such as, “expect”, “anticipate”, “likely”, “intend”, “should”, “estimate”, “target”, “outlook”, and other similar expressions and include, but are not limited to, the timing, outcome and effects of the future studies, project development and other work. Indications of, and guidance or outlook on, future earnings, financial position, performance of the Company or global markets for relevant commodities are also forward-looking statements. You are cautioned not to place undue reliance on forward-looking statements. Any such statements, opinions and estimates in this announcement speak only as of the date hereof, are preliminary views and are based on assumptions and contingencies subject to change without notice. Forward-looking statements are provided as a general guide only. There can be no assurance that actual outcomes will not differ materially from these forward-looking statements. Any such forward looking statement also inherently involves known and unknown risks, uncertainties and other factors and may involve significant elements of subjective judgement and assumptions that may cause actual results, performance and achievements to differ. Except as required by law the Company undertakes no obligation to finalise, check, supplement, revise or update forward-looking statements in the future, regardless of whether new information, future events or results or other factors affect the information contained in this announcement.