

## TNG ENGAGES AUSTRALIAN ENGINEERING FIRM FOR AUSTRALIAN FIRST VANADIUM ELECTROLYTE PRODUCTION FACILITY

*Technology and process design study forms part of TNG's accelerating green energy strategy*

### Key Points

- TNG has engaged Perth-based mineral process engineering group METS Engineering ("METS") to undertake a technology and process design study ("VE Study") for a vanadium electrolyte ("VE") production facility for the Company's vanadium redox flow battery ("VRFB") business unit.
- The VRFB business unit was established to capitalise on growing demand for green energy generation and storage solutions for the decarbonisation of the global economy, and to support the Company's vertical integration strategy for its 100%-owned flagship Mount Peake Vanadium-Titanium-Iron Project.
- The scope of the VE Study includes development of the process flowsheet, design criteria and equipment list for a VE production facility, as well as indicative capital and operating expenditure estimates.
- Process design will be supported by a technology review and metallurgical testwork program.
- Following completion, the Company intends to progress with further pre-development planning, including site evaluations, engineering, feasibility assessment, permitting and approvals, and determination of the development and funding strategy.
- TNG has produced its own high specification VE and intends to patent and produce this to become an Australian commercial supplier of VRFBs.

Australian resource and mineral processing technology company TNG Limited (ASX: TNG) ("TNG" or the "Company") is pleased to announce that it has taken another important step forward in its green energy strategy after engaging a leading Perth-based mineral process engineering group to undertake a technology and process design study for the development of a vanadium electrolyte ("VE") production facility ("VE Study").

METS Engineering ("METS"), which co-developed the Company's proprietary TIVAN<sup>®</sup> downstream processing solution with TNG, has been engaged to commence the study on behalf of TNG's newly-established vanadium redox flow battery ("VRFB") business.

TNG produced high specification commercial grade VE in 2016 (see ASX Announcement of 10 October 2016). The VRFB business was established as a result and forms part of a vertical integration strategy to capitalise on TNG's plans to produce its own vanadium product from the 100%-owned Mount Peake Vanadium-Titanium-Iron Project ("Mount Peake Project" or "Project") in the Northern Territory, and on growing global demand for green energy solutions to drive decarbonisation.

The Company is targeting production of 6,000 tonnes per annum of high-purity vanadium pentoxide from the Mount Peake Project, in addition to titanium dioxide pigment and iron ore fines products.

The VE Study being undertaken by METS will deliver Australian preliminary process design documentation for the VE facility, which will include process flow diagrams, process design criteria, mass balance, product specifications, mechanical equipment lists, capital and operating costs estimates, and supporting infrastructure requirements.

The Australian process design will be driven by a comprehensive technology study that will evaluate available technologies, optimisation opportunities and previous work completed by TNG in producing high-purity VE in order to determine the most appropriate processing route.

A metallurgical testwork program will also be developed and implemented to help validate the process design and VE production specifications.

METS is an independent specialist consulting group that provides a comprehensive range of mineral processing, hydrometallurgy, pyrometallurgy and engineering design services to Australian and overseas clients. METS has consulted to TNG on the Mount Peake Project and played a key role in the development of the TIVAN® Process.

VRFBs use VE to store energy from renewable power generation and are highly scalable for use in a variety of settings. Reliable supply of high-purity VE is critical to the continued growth of the global VRFB market.

VRFBs offer a number of distinct advantages for sustainable large-scale energy storage, having long lifespans of potentially 20-plus years without performance degradation, the ability to discharge without battery damage, the non-flammability of the VE and the ability to recover and re-use the VE at the end of the battery life.

The VE Study is expected to take up to three months to complete and will support a decision to move into the design and planning phase – which will include the evaluation of potential sites for the facility, engineering works, validation of cost estimates, financial modelling, progression of necessary Government permitting and approvals (where required), and development of the project execution model.

TNG is also developing the funding strategy for its VE facility, which includes evaluation of available green energy Government funding and grant opportunities.

The planned development of a VE production facility forms part of TNG's green energy strategy, which is focused on opportunities in battery storage and green hydrogen production technology.

The facility will underpin TNG's VRFB business unit, directly supporting its collaboration with Singaporean-based battery technology development company V-Flow Tech (see ASX Announcement of 13 April 2021), and the collaboration for both VRFB and green hydrogen opportunities with Malaysian-based green hydrogen technology company AGV Energy & Technology (see ASX Announcement of 21 June 2021).

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## About TNG

TNG is a Perth based resource and mineral processing technology company focussing on building a world-scale strategic metals business based on its flagship 100%-owned Mount Peake Vanadium-Titanium-Iron Project in the Northern Territory. Located 235km north of Alice Springs, Mount Peake will be a long-life project producing a suite of high-quality, high-purity strategic products for global markets including vanadium pentoxide, titanium dioxide pigment and iron ore fines. The project, which is expected to be a top-10 global producer, has received Major Project Status from the Northern Territory and Federal Governments.

TNG is also advancing a green energy strategy with the dual objective of offsetting carbon emissions from its planned future operations and generating new business opportunities in the alternative energy market to create additional shareholder value, with a focus on green hydrogen and vanadium redox flow batteries.

## Forward-Looking Statements

This report has been prepared by TNG Limited. This report is in summary form and does not purport to be all inclusive or complete. Recipients should conduct their own investigations and perform their own analysis in order to satisfy themselves as to the accuracy and completeness of the information, statements and opinions contained.

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## Competent Person's Statements

The information in this report related to the Mount Peake Mineral Resource estimates is extracted from an ASX Announcement entitled "Additional Information on the Mount Peake Resource" dated 26 March 2013 in accordance with the JORC Code (2012) and is available to view on [www.tngltd.com.au](http://www.tngltd.com.au) and [www.asx.com.au](http://www.asx.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 Mineral Resource 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 represented have not been materially modified from the original market announcement.

The information in this report related to the Mount Peake Ore Reserve estimates is extracted from an ASX Announcement entitled "Mount Peake Feasibility Results" dated 31 July 2015 in accordance with the JORC Code (2012) and is available to view on [www.tngltd.com.au](http://www.tngltd.com.au) and [www.asx.com.au](http://www.asx.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 Ore Reserve 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 represented have not been materially modified from the original market announcement.

## Production Targets and Financial Information

Information in relation to Mount Peake production targets and financial information included in this report is extracted from an ASX Announcement dated 11 September 2019 called "Optimised Delivery Strategy for Mount Peake" available on the Company's website on [www.tngltd.com.au](http://www.tngltd.com.au). The Company confirms that all material assumptions underpinning the production target and financial information set out in the announcement released on 11 September 2019 continue to apply and have not materially changed.