

## TNG TO ASSESS THE USE OF HYDROGEN REDUCTANT TO REDUCE MOUNT PEAKE CARBON EMISSIONS

*Metso Outotec engaged to evaluate the use of hydrogen reduction within the TIVAN® Process to reduce carbon emissions from processing operations at the Mount Peake Project*

### Key Points

- TNG has engaged Metso Outotec to conduct a study for the Mount Peake Project to assess the use of hydrogen reduction within the TIVAN® Process and the integration of Metso Outotec's Circored™ technology into the TIVAN® flowsheet.
- The use of hydrogen is a key part of the Company's medium to longer term strategy to reduce its net carbon footprint from processing operations at the Mount Peake Project.
- The study follows positive testwork undertaken by Metso Outotec that confirmed the suitability of Mount Peake titanomagnetite concentrate to hydrogen reduction.
- The work with Metso Outotec is being undertaken in parallel with TNG's strategic partnership with leading German-based engineering firm, SMS group, on the development of hydrogen production technology at the Mount Peake mine site.

Australian resource company TNG Limited (ASX: TNG) ("TNG" or the "Company") is pleased to provide an update on activities focused on reducing the carbon footprint of its 100%-owned Mount Peake Vanadium-Titanium-Iron Project ("Mount Peake Project" or "Project") in the Northern Territory, Australia.

TNG is advancing a number of green energy initiatives as part of its strategic approach to reducing net carbon emissions from the Mount Peake Project, including both pre-development optimisation and medium to longer-term initiatives to be implemented post development and operational start-up.

The Company is cognisant that the Commonwealth Government is targeting a significant net reduction in carbon emissions by 2030, including an ultimate goal of "Net Zero" by 2050, which requires TNG to consider medium and longer-term strategic planning horizons for its carbon emissions management.

A key focus for TNG is on reducing carbon emissions from planned processing operations at Mount Peake. TNG has been progressing work on the potential development of green hydrogen production technology for application at the Mount Peake mine site, with the potential for hydrogen to be used as the reduction agent in the TIVAN® Process.

TNG's innovative TIVAN® hydrometallurgical process provides for the extraction of three high-quality products from titanomagnetite ore bodies. Following processing through the Beneficiation Plant, the titanomagnetite concentrate is transferred to a rotary kiln, with coke traditionally added as the reduction agent to reduce the iron oxides in the concentrate to metallic iron.

TNG has engaged Metso Outotec to investigate the feasibility of using hydrogen gas as a single reductant, in replacement of coke. The purpose of the investigation is to assess if Metso Outotec's Circored™ technology can be integrated into the TIVAN® process flowsheet with the aim of reducing the Project's net carbon footprint.

Metso Outotec has completed an initial testwork program utilising Mount Peake titanomagnetite concentrate as a feedstock for a preliminary assessment of the suitability of a hydrogen reductant.

The testwork program, which was a precursor to a more detailed commercial and technical evaluation, was a success, delivering the following results:

- Achieved iron metallisation targets across a range of testwork parameters.
- Demonstrated the viability of processing Mount Peake titanomagnetite concentrate with Metso Outotec's Circored™ technology.
- Generated samples for downstream validation testwork.

As a result, Metso Outotec has now been engaged to undertake a study to further define the process flowsheet for the Mount Peake Project and prepare a preliminary capital cost and operating cost (+/- 30%) for a Circored™ Plant to enable TNG to evaluate the hydrogen reduction processing option in more detail.

In parallel, TNG is engaging with Australian testwork laboratories to test the downstream flowsheet with the hydrogen-reduced concentrate generated by Metso Outotec.

TNG is also continuing to progress work to establish a supply of green hydrogen that could be used in a Metso Outotec Circored™ Plant. TNG has a strategic partnership with leading German-based engineering firm, SMS group, to develop a CO<sub>2</sub>-neutral technology for the production of green hydrogen by means of plasma pyrolysis, utilising green electrical energy. SMS group has an advanced understanding of plasma pyrolysis technology and is progressing an updated development program for TNG following delays caused by the COVID-19 pandemic.

#### **Management Comment:**

TNG Managing Director & CEO, Paul Burton, said:

*“Building on the positive results from the preliminary testwork program, we’re very encouraged by the opportunity to potentially reduce carbon emissions from the processing operation at Mount Peake by using Metso Outotec’s Circored™ technology. This study also complements our existing partnership with SMS group to investigate green hydrogen production at Mount Peake.*

*“TNG aspires to make the Mount Peake Project a class leader in terms of carbon emissions and the use of renewable energy, and we’re actively assessing opportunities across the mining and processing operation to help us achieve this objective.”*

Authorised by the TNG Board of Directors

**Paul E Burton**  
**Managing Director & CEO**

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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 Australian Federal Government and the Northern Territory Government.

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

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