



Resources Stocks Down Under

🗣️ *You may have to fight a battle more than once to win it.* 🗣️

- Margaret Thatcher (1925 - 2013), British politician

TNG LTD

Move over lithium,
vanadium is here

FUTURE METALS

Better late than never

KINGSTON RESOURCES

Placer Dome, eat your
heart out

TNG LTD

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Stocks Down Under rating: ★★★★★

ASX: TNG
Market cap: A\$105M

52-week range: A\$0.055 / A\$0.145
Share price: A\$0.072

Near-term vanadium producer TNG Ltd wants a share of the growing vanadium battery space by unlocking production at its flagship Mount Peake Vanadium-Titanium-Iron Project in the Northern Territory and is developing relationships with vanadium battery producers to raise adoption. As vanadium prices continue to rise, the company has now secured offtake contracts for 100% of Mount Peake's high-value products, a step in the right direction for its funding strategy and green energy battery production interests.

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ASX: FME
Market cap: A\$63M

52-week range: A\$0.014 / A\$0.275
Share price: A\$0.18

As its name suggests, Future Metals is pursuing new generation metals at its Panton PGM Project in Western Australia. PGM stands for Platinum Group Metals. Panton has plenty of platinum in what is a historic, but relatively underexplored resource. However, it's palladium, that 21st century metal, that is dominant here. With both the company and the project undergoing new transformations, Future Metals sees palladium's price rise as the trigger to finally start production at what we think is a unique asset.

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ASX: KSN
Market cap: A\$54.4M

52-week range: A\$0.165 / A\$0.325
Share price: A\$0.19

Gold explorer Kingston Resources has a strategy to become a mid-tier Asia-Pacific producer with two projects, one in Western Australia, the other in Papua New Guinea. While the company is effectively starting from scratch in WA, defining new targets by building its understanding on historical gold workings, PNG offers a tried and tested gold asset with enough scope to create a long-life mine. And without the same controversial pushback experienced at some other PNG mines.

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Share price chart



Source: Tradingview

Peake supply

The Mount Peake Project may be in the middle of nowhere – its 230 km north of Alice Springs – but it's a world-class vanadium resource and the backbone of TNG's eventual vanadium battery business and upstream processing plant. Mount Peake's high-priority vanadium, titanium and iron product is the company's answer to vanadium batteries (or VRFBs – Vanadium Redox Flow Batteries), which can compete with lithium-ion batteries because of their increased safety, longevity and recyclability. Mount Peake currently has a JORC resource of 160 million tonnes grading 0.28% vanadium, 5.3% titanium, 23% iron, making it one of the largest undeveloped vanadium-titanium-iron projects in the world.

Because of the Mount Peake Project's remoteness, TNG had plans to serve the market by constructing its magnetite processing facility at Darwin Harbour, but environmental concerns from the NT's Environmental Protection Authority mean that the company has scrapped that proposal in favour of building on-site. Despite this small hiccup, TNG has completed plans for its front-end engineering and design (FEED) study for the plant and is actively working on its financing options with the help of supporting engineering partners including German supplier SMS Group and Australia's Federal science agency, the CSIRO.

It's a big job

TNG's entrance to the vanadium supply chain relies on its own patented TIVAN technology, developed in conjunction with the CSIRO. TIVAN allows the removal of the bulk of the iron prior to leaching to create three high-value products – titanium dioxide, vanadium pentoxide and iron oxide – while improving grades and reducing costs. Take one tonne of titano-magnetite concentrate from Mount Peake and TIVAN can turn that into US\$726 worth of product. The conventional pyrometallurgical process just gets you US\$115 of vanadium pentoxide.

Although the vanadium battery market is still relatively niche (representing about 30% of the battery storage market), vanadium's role in the steel industry means that TNG has already secured offtake agreements with Korea's second biggest provider of ferro-vanadium, Woojin Metals, and the Singapore-based commodity trader Gunvor at a 60/40% split. The Swiss chemical distributor DKSH and India's Vimson Group will take 100% of the titanium dioxide and iron oxide respectively.

Since TNG has changed its Darwin plans and Mount Peake's cost to construction rests at \$853m, there is an opportunity to reduce costs by consolidating processing and mining, especially as TNG also has a long-term plan to integrate a green hydrogen facility and explore opportunities to commercialise AVR Energy's HySustain technology as a supplier of VRFBs.

While the company progresses negotiations with AVG Energy and V-Flow Tech (a Singapore-based VRFB producer) to minimise TIVAN's environmental footprint, funding remains a key issue even with those binding offtake agreements in place. TNG has appointed KPMG to raise US\$600m (A\$850m) with an equity strategy involving strategic investors, but as Mount Peake has been granted Major Project Status there is an opportunity for NAIF funding.

Slow support for the energy transition thematic

With the market outlook for its products remaining strong – titanium dioxide has a FOB price of US\$3,335 a tonne in China and vanadium pentoxide has reached US\$8.80 a lb – TNG expects to produce an annual output of 11,000 tonnes vanadium, 150,000 tonnes titanium and 500,000 tonnes of iron ore via conventional open pit for an initial life of 37 years. Aside from Mount Peake's two vanadium pits, the company does have exploration licences for its Kulgera vanadium-titanium project at the SA/NT border, which could provide additional feedstock under the TIVAN process.

TNG finished the June 2021 quarter with \$11.4m cash and raised \$12.5m in an oversubscribed share placement on 9 November 2021, and that will tide the company over as it completes its FEED work and final permitting for the processing plant, as well as its Environmental Impact Assessment (EIA). Despite the Mount Peake Project's large resource, investors don't yet seem convinced of Mount Peake's potential with shares trading at \$0.072 given the funding required as well as the scope of the work. But with demand for vanadium growing, TNG is hopeful of a start to construction in early CY22. Four stars.

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Source: Tradingview

Back to the future

Panton is back! This truly ancient Platinum Group Metal project, 60 km north of Halls Creek in the Kimberley Region of WA, has a JORC 2012 Mineral Resource Estimate (MRE) these days of 14.32 million tonnes at 4.9 g/t PGM. That's a not inconsiderable 2.4 million ounces of platinum and palladium as well as the other four elements in the group. And then there's 0.3 g/t gold, 0.27% nickel and 213 ppm cobalt. And there's more where that came from. Panton remains open at depth in all directions with plenty of room to explore. Future Metals' maiden diamond drill campaign to prove up that resource is now underway.

When we called the Panton PGM deposits ancient, we weren't referring to the Paleoproterozoic age of the Halls Creek Orogen in which they occur. We meant that we've known about this deposit since forever. As in, they were first identified in the 1960s and a resource was first estimated in 1989. The timing has never been quite right for Panton because low platinum or palladium prices have tended to get in the way when someone tried to develop it. Future Metals hopes that this time it's different.

The Red Emperor has moved into the Future

Both Panton and Future Metals are undergoing renewals: the company (which previously went as Red Emperor Resources) has been involved in various oil, gold and copper projects since 2007, but in June it relisted after acquiring Panton for \$17.5m in shares. Panton may have had many owners in the past, including Panoramic Resources, but it has had limited exploration over the last 20 years due to underwhelming PGM prices. As palladium prices are three times what they were 20 years ago, Future Metals believes it's about time for production at the project.

Back in the early 2000s, the owner at the time, the unimaginatively named Platinum Australia, went as far as a Bankable Feasibility Study, but at that time the basket price for PGMs was around \$410 per ounce compared to today's \$2,100, or so, per ounce. While that BFS will get a refresher, Future Metals' immediate focus is growing the resource, as the contained resource only covers 3.5 km of 12 km mapped outcropping reef. In parallel with that, Future Metals will be doing metallurgical test work to determine the feasibility of conventional crush, grind and flotation for high-grade PGM concentrate.

In August the company began its 10,000-metre diamond drill campaign to test continuity and strike extensions to the MRE and parallel zones of outcropping chromite reef where anomalous PGM soil exists. Previous test work conducted by Platinum Australia concentrated only on the Top and Middle reefs of layered mineralisation, leaving 8.5 km of largely unexplored terrain.

As this is an entirely new company, Future Metals raised \$10m on re-entry to the ASX with \$8m set aside for the diamond drilling, with first assays expected in late October. The most recent news flow from the current campaign tentatively confirms Panton's growth potential with the first hole intersecting mineralisation at 300 metres and logging indicating the presence of further nickel-cobalt sulphide mineralisation within the intrusive. Another reconnaissance surface program has uncovered high-grade rock chips with peak values of 15.37 g/t and 12.75 g/t PGM plus Au.

Put the kettle on

Future Metals resumed trading on 22 June at about \$0.23 and it has more or less traded sideways since. but we believe that share price could easily get a lot higher as PGM demand (especially palladium demand) grows and supply dwindles from major PGM-supplying nations, like South Africa, China and Russia. World-class palladium projects are extremely hard to find, with most PGM projects platinum dominant. That palladium deficit gives Panton added potential with its 50% contained palladium. And we probably don't have to remind you that palladium is very much a 21st century product due to its main use in catalytic converters for cars.

The trouble for investors right now is that palladium is in a downtrend. It was close to US\$3,000 an ounce back in April. It's now closer to US\$1,900 an ounce. We wouldn't be game to push this one harder until palladium stabilised. But when that happens, Future Metals is worth a look. Compared to its Australian peers, Panton is one of the highest grade PGM projects around with that extra growth giving the company re-rating potential, with the cobalt and nickel by-products offering some added value.

As it's such early days in the process, interested investors will be watching Future Metals' momentum as it builds the resource, with the next feasibility study expected sometime in early CY22. Three stars for now.



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Source: Tradingview

Following Misima's footsteps

Kingston has its work cut out for it at two gold projects: the historic Misima Gold Project in Papua New Guinea and the Livingstone Gold Project in WA. The former is located on Misima Island 625 km east of PNG's capital Port Moresby.

The original Misima gold mine has a long history with gold first discovered in 1888. While plenty of Australian prospectors tried their luck over the next few decades, the big money went to the Canadians in the form of Placer Dome – you know, the company that once upon a time was a serious player for leadership of the world's gold industry before Barrick took it over. Beginning in the late 1980s and continuing for the next 15 years or so Placer Dome produced 230,000 ounces of gold a year at Misima. However, there's more where that came from. For Kingston Resources, very much an Australian company, Misima currently hosts a JORC resource of 3.7 million ounces.

So far, so good. Then there's Livingstone, a brownfield exploration project, with patchy historic workings, 140 km northwest of Meekatharra on the western side of the Bryah Basin. Kingston recently completed a project-wide geological study of its 204 sq km tenement area to integrate all historical data and defining mineralisation for an updated mineral resource at the Kingsley prospect. At this stage, Livingstone has an inferred mineral resource of 989,000 ounces at 1.57 g/t Au for 49,000 ounces.

An unusual gold pairing

As is often the case with any risky resource (gold included), Placer Dome's operations at Misima ended with a failing gold price, but with over 100 years of production and a 7-million-ounce endowment, the project had a lot of fuel still in the tank. Misima contains two open pit deposits at Umuna and Ewaitinona, and while Umuna previously supplied the bulk of the 3.6 million ounces, Kingston sees potential to increase ounces at depth and to the north, while Ewaitinona has been identified as a 200,000 ounce starter pit.

Kingston's November 2020 Pre-Feasibility Study (PFS), based on the redevelopment of the brownfields site, offers a new 5.5 Mtpa carbon-in-leach operation (the same as Placer), delivering 130,000 ounces per annum at an AISC of A\$1,159 per ounce. The 17-year mine life is supported by Misima's current ore reserve, but Kingston has a plan to unlock new ounces at Umuna East, Kulumalia and Kobel/Maika.

In terms of exploration, Livingstone is a bigger undertaking, but the discovery of Kingsley in 2018 was followed by many high-grade intersections, including 4m at 76.25 g/t Au from 88m. While Kingsley's mineralisation so far covers a 1 km stretch (with the possibility of adding another 1 km strike based on soil anomalies), the company's geological review of the area during September 2021 uncovered existing gold deposits from rock chip samples returning high gold grades at surface, indicating a larger mineralised system.

As the Bryah Basin is recognised as hosting multiple >1-million-ounce deposits, Kingston is making further plans for a regional review of the western extension, but the most pressing concern is building the resource at Kingsley as an addition to the 49,000 ounce resource at the nearby Homestead prospect. Gold neighbour Sandfire Resources (ASX: SFR) recently launched an exploration campaign in the basin at its DeGrussa Gold Project.

Misima's return

Given Misima's simple, low-cost PFS outlook – which includes a projected pre-tax Net Present Value of \$822m (at an 8% discount rate) and an Internal Rate of Return of 33% – the company is focussed on securing enough funds to continue parallel work at both projects. Having successfully acquired funding to drill test Livingstone from the WA Exploration Incentive Scheme (EIS), the company will continue with regional soil sampling across untested areas and generating new targets as part of its regional exploration strategy in Q4 2021. However, on 25 October 2021, Kingston entered into a binding agreement to sell 75% interest in the project for \$3.5m upfront to Metal Bank (ASX: MBK) (\$2.5m cash, 125m MBK shares and 62.5m MBK options exercisable at \$0.016).

While it's easy for a company to talk up the sense of community support even for the remotest mining projects, Misima doesn't come with the same pushback experienced at other mines, like Bougainville – a significant advantage given the often-difficult pathway to production in PNG. Kingston's wobbly share price has fallen back from \$0.32 in mid-2021, but now that it's 100% ownership of Misima is beginning to take shape, the company is a step closer to its dual Asia-Pacific production goal. Four stars.

Pitt Street Research Pty Ltd

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