



SCOPING STUDY CONFIRMS POTENTIAL FOR LOW COST VANADIUM RECOVERY PROJECT

HIGHLIGHTS

- Scoping Study highlights a strong case for future development of a Scandinavian processing operation to recover vanadium chemicals from steel making by-products under a conditional supply agreement
- Robust economic outcomes puts project in first quartile operating cost position
- Provisional patents pending for Neometals processing method that utilises conventional equipment at atmospheric pressure and mild temperatures
- Commenced Preliminary Feasibility Study metallurgical test work program and drilling for variability sample test work

Project developer Neometals Ltd (ASX: NMT) ("Neometals" or "the Company") is pleased to announce the completion of a Scoping Study ("Study") on the recovery of vanadium pentoxide (V_2O_5) from high-grade vanadium-bearing steel by-product ("Slag").

As announced on 6th April 2020 (see ASX announcement titled "High-Grade Vanadium Recycling Agreement"), Neometals has the option, subject to funding certain evaluation studies, to enter into a 50:50 incorporated joint venture ("JV") with unlisted Scandinavian mineral development company, Critical Metals Ltd ("Critical"). The parties will jointly evaluate the feasibility of constructing a facility to process and recover high-grade vanadium products from vanadium-bearing steel making by-product in Scandinavia ("Vanadium Recovery Project"). Critical has executed a conditional supply agreement with subsidiaries of SSAB ("SSAB"), a steel producer that operates steel mills in Scandinavia, to acquire slag produced as a by-product at SSAB's operations.

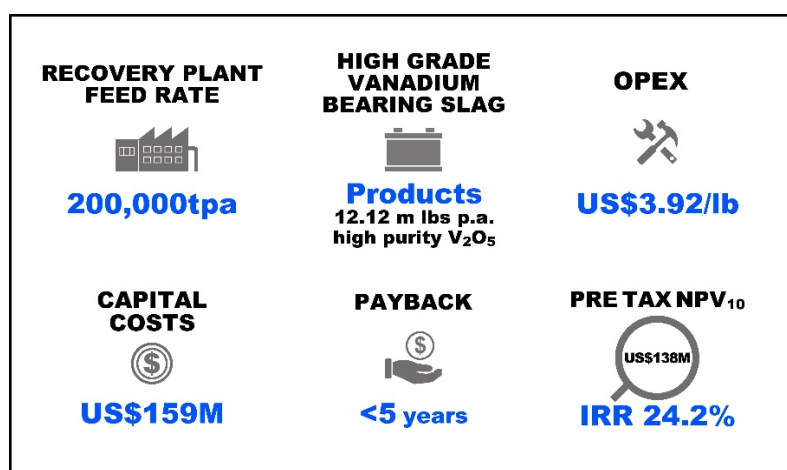


Figure 1: Key Highlights of the Study (all figures expressed on a 100% ownership basis)

Neometals is extremely encouraged by the outcomes of the Study highlighted by potentially robust economic margins with a first quartile position on the operating cost curve. The Study supports Neometals' strategy to pivot towards more sustainable materials recovery and recycling projects to compliment upstream mineral resource activities. Given the positive results from the Study, Neometals will fund the next stage of evaluation studies, comprising completion of continuous lab-scale metallurgical test-work before commencing a Class 4 American Association of Cost Engineering ("AACE") engineering cost study culminating in a Preliminary Feasibility Study ("PFS"). Critical will advance site selection studies, approvals and managing the SSAB relationship.

Neometals Managing Director Chris Reed said:

“We are very pleased with the results from the Study that deliver an operating cost estimate in the first quartile. We are confident of making further improvements in process recoveries in the current test work program and look forward to updating the market in due course. We are acutely aware that vanadium markets are historically volatile, however, the potential low-cost production profile provides a significant sustainable competitive advantage and the ability to produce a product enjoying a tailwind of critical metal classification in North America (and elsewhere) which provides us with strong comfort to advance to the next stages of our project evaluation”.

CAUTIONARY STATEMENT

The Study referred to in this report is based on low-level technical and economic assessments and is insufficient to provide definitive assurance of an economic development case, or to provide certainty that the conclusions of the Study will be realised. Further detailed studies will be required to determine the feasibility and viability of a commercial-scale project.

Background

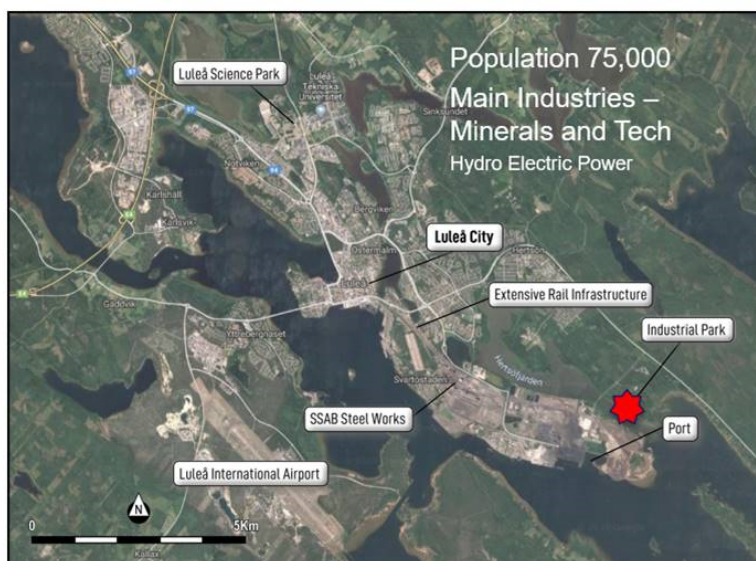
Neometals has developed a proprietary processing method to recover vanadium from steel slags. This hydrometallurgical process utilises conventional equipment and operates at atmospheric pressure and mild temperatures. Metallurgical test work to optimise the flowsheet is underway in Perth, and subject to meeting ongoing milestones, is planned to be piloted as part of ongoing studies.

Critical recently executed a conditional agreement (“**Slag Supply Agreement**”) with SSAB, a steel producer that operates steel mills in Scandinavia, to acquire Slag produced as by-product at SSAB’s operations. The Slag Supply Agreement provides a secure basis for the evaluation of the Vanadium Recovery Project which will be capable of processing 200,000 tonnes of Slag per annum (with a reference grade of 3.93% V_2O_5 , being the reference grade for pricing under the Slag Supply Agreement) without the need to build a mine and concentrator like existing primary producers.

Bench scale batch test work has been performed by an independent metallurgical service provider on Slag samples obtained from SSAB’s operations in Sweden and Finland. The information from the bench scale metallurgical test work was captured in a process design criteria and mass balance and was utilised by consulting engineers Primero Group to develop AACE class 5 order of magnitude (-35 +50%) opex and capex numbers for a 200,000 tonnes per annum (“**tpa**”) hydrometallurgical processing circuit. Financial modelling utilising this information was completed by Kingwood Capital.

Study Outcomes

Although a final location for the Vanadium Recovery Project is yet to be chosen, the Study estimate was based on establishing an operation at Luleå in northern Sweden. This location, less than five kilometres from SSAB’s Luleå steel works, boasts excellent infrastructure as demonstrated below in Figure 2.



- Large skill base
- Technical University
- World class infrastructure
- Low cost, high voltage hydropower
- Unlimited water
- Reticulated gas/steam
- ★ Potential plant location in approved heavy industry park (alternative sites in Sweden and Finland will also be considered)

Figure 2: Assumed location of the Vanadium Recovery Project for the purpose of the Study

Financial Summary

Key highlights from the Study (200,000tpa feed rate) are summarised below. Financial analysis and estimates are denominated in US\$ dollars using an exchange rate of US\$0.693. The Study assumes a selling price of US\$8.64/lb V₂O₅. This selling price is based on the long term mean price for vanadium pentoxide between January 2004 and March 2020 (source TTP Squared Inc).

Table 1 - Scoping Study Highlights (all figures expressed on a 100% ownership basis)

Scoping Study Highlights	
Annual Production	12.12 mlbs V ₂ O ₅
Life of Plant (LOP)	10.5 years
Life of Plant Revenue	US\$ 1,099 million
Pre-tax Operating Cashflow	US\$ 573 million
Pre-tax NPV (10% discount rate)	US\$ 138 million
Average Net Operating Cost of recovered V ₂ O ₅	US\$3.92/lb
Total initial capital costs	US\$159 million
Payback of capital costs	<5 years

Figure 3 highlights the competitive operating cost of the Vanadium Recovery Project, with a first quartile position on the industry operating cost curve (excluding royalties, taxes, depreciation, and amortisation).

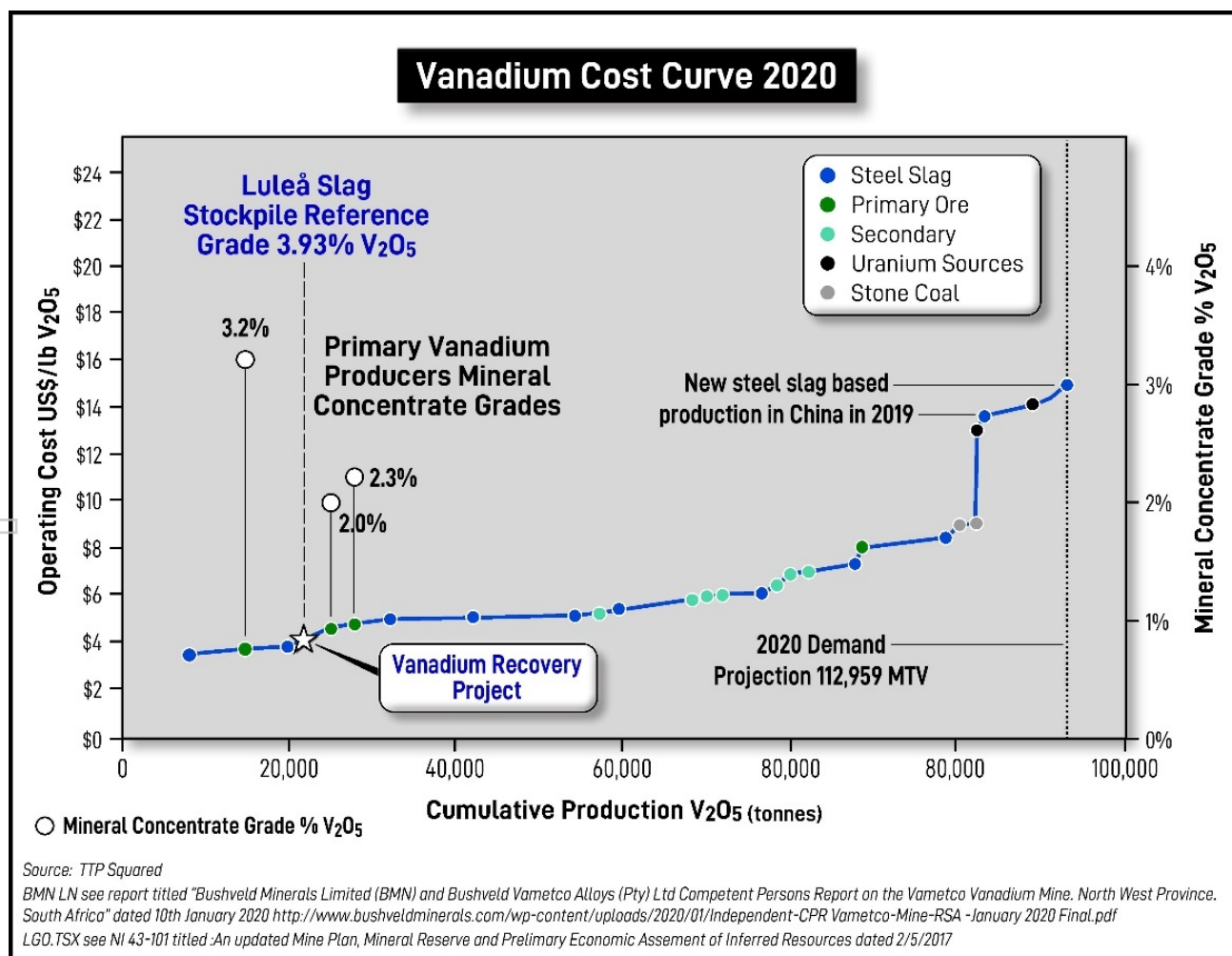


Figure 3: 2020 Vanadium Operating Cost Curve

Development Scenario

The development scenario for this Study is characterised by:

- Greenfields development starting with a cleared industrial site at Luleå in Sweden
- Plant with a throughput capacity of 200,000 tpa
- Feedstock comprising steel by-product Slag with a grade of 3.93% V_2O_5 (being the reference grade for pricing under the Slag Supply Agreement)

Feed Preparation

Slag material (predominantly less than 10mm in size) is received and screened prior to being placed through a comminution circuit.

Processing Flowsheet

The process flowsheet was developed by Neometals with assistance from an independent metallurgical laboratory. The process, for which a provisional patent has been applied for, is based on conventional equipment and configuration, employing novel chemistry, operated at atmospheric pressure and mild temperatures. The feed, referred to as Slag in Figure 4 below, is processed in the leach circuit to facilitate dissolution of the vanadium from the feed. The pregnant leach solution (“PLS”) is then separated from the solid leach residue. Further extraction and purification of PLS results in the recovery of vanadium which is further processed through into vanadium pentoxide.

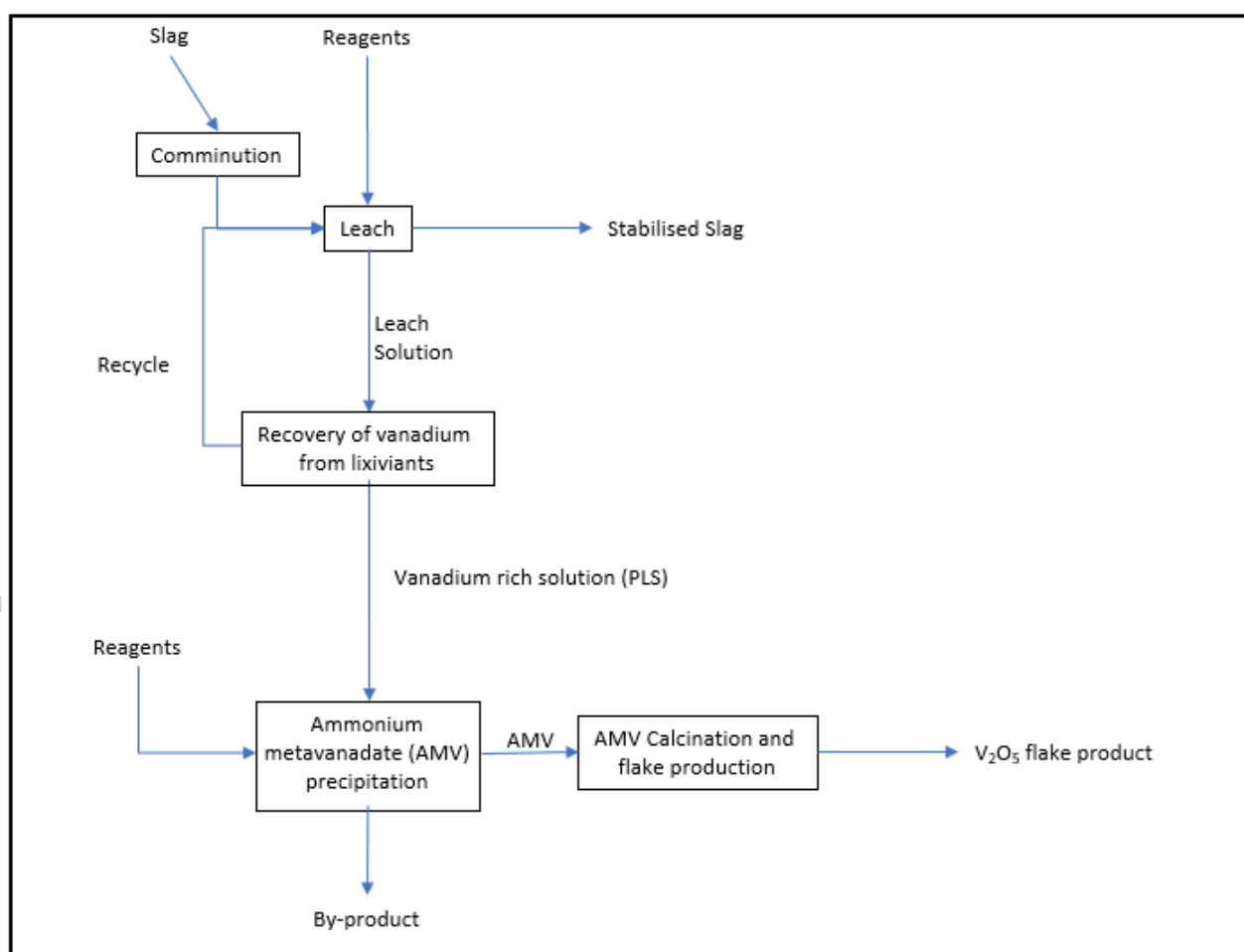


Figure 4: High level flowsheet for Vanadium Recovery from Slag

Project Location

For the purpose of cost assumptions, the design assumes that the entire plant will be based inside a newly constructed industrial building. Luleå, Sweden was used as a reference location with plant offices, administration, ablutions facilities and a laboratory included in the scope. The Study assumed that water, reagents, natural gas and electricity are all available at the site boundary.

The geographical location for the ultimate commercial-scale plant will be finalised during commercial negotiations, with a number of sites in both Sweden and Finland currently being evaluated.

Capital Cost Estimate

Processing

Primero developed the capital estimate for the process and facility and based the -35% +50% capital estimate for the process plant on budget price estimates from equipment suppliers.

Table 2 - Capital Cost Estimate (all figures expressed on a 100% ownership basis)

Capital	US\$M
Direct – Buildings and Process Plant	113
Indirect – EPCM etc	19
Contingency (20%)	27
Total	159

Operating Cost Estimate

The Vanadium Recovery Project operating cost was estimated by major cost type and is considered an AACE Class 5 level estimate with a nominal accuracy of -35 to + 50 %. The estimated operating cost excluding royalties is less than US\$ 3.92 /lb V₂O₅.

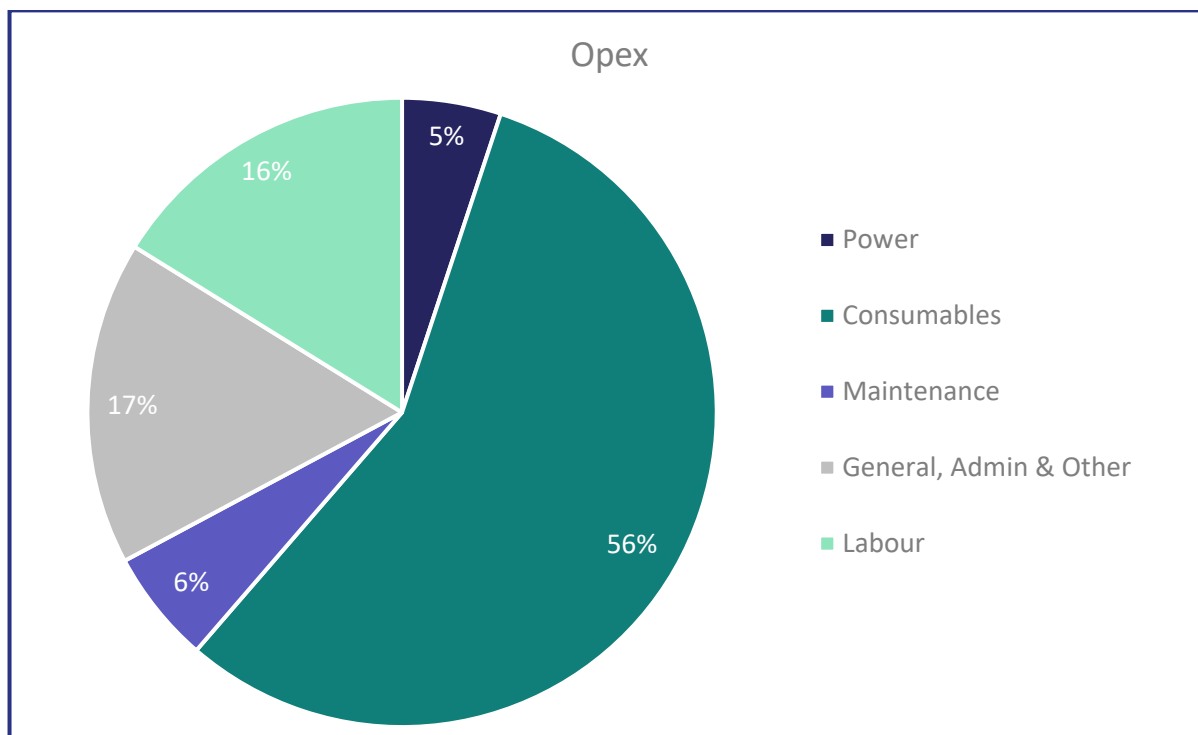


Figure 5: Operational cost breakdown by key areas

Economic Analysis

Neometals engaged Kingwood Capital to prepare a comprehensive discounted cash flow analysis to provide an indication of the potential of the project. The analysis makes the following assumptions:

- No allowance was made for tax
- No allowance was made for inflation
- NPV is calculated against the full capital cost of process plant and does not allow for debt or any other type of funding of the project

Additional important economic and technical assumption inputs are summarised below:

- 73.5% recovery of V_2O_5
- Pricing of V_2O_5 based on US\$ 8.64 / lb (flat long-term forecast)

Scheduling of Development and Production

For the purposes of this study the following assumptions have been made with respect to development and production:

Financial Investment Decision (date of NPV calculation)	1/12/2022
Commence Construction	1/6/2023
Finish Construction	30/11/2024
Commence Operations	1/12/2024

Ramp up of operations - 25% of throughput first quarter, 50% second and third quarter and 75% fourth quarter. 200,000 tpa feed rate from fifth quarter. Total processed over life of operation 2,000,000 tonnes of feed.

Availability of Project Finance

Investors should note that there is no certainty that the Company and/or Critical will be able to raise the required funding when needed, however, the Company believes that there is a reasonable basis to assume that funding will be available given:

- Neometals Board and executive team have a strong financing track record in developing projects;
- Neometals has a strong balance sheet and proven ability to attract new capital and supportive investors;
- Neometals considers that this Study's financial metrics are positive and the underlying demand growth for the product suite is strong; and
- Institutional investors are supportive of the recovery of metals from residues/by-products rather than traditional mining.

Funding for the Vanadium Recovery Plant would be underpinned by sales agreements resulting from the successful operation of a pilot plant and generation of commercial samples for evaluation by end users. A mixture of equity and conceivably some layered debt structures, such as debentures or conventional secured debt funding, along with a minor portion of offtake/working capital finance, is a realistic assumption. The technical risks are considerably reduced compared to a standard mining development, but the sales price risk would depend on the nature of the sales agreements and the credit worthiness of the entities behind them. It should be noted that credit and equity markets can be volatile and that the required funding may only be available on terms that may be dilutive to or otherwise affect the value of Neometals existing shares.

Project Sensitivities

A sensitivity analysis on the pre-tax NPV is provided in Figure 6:

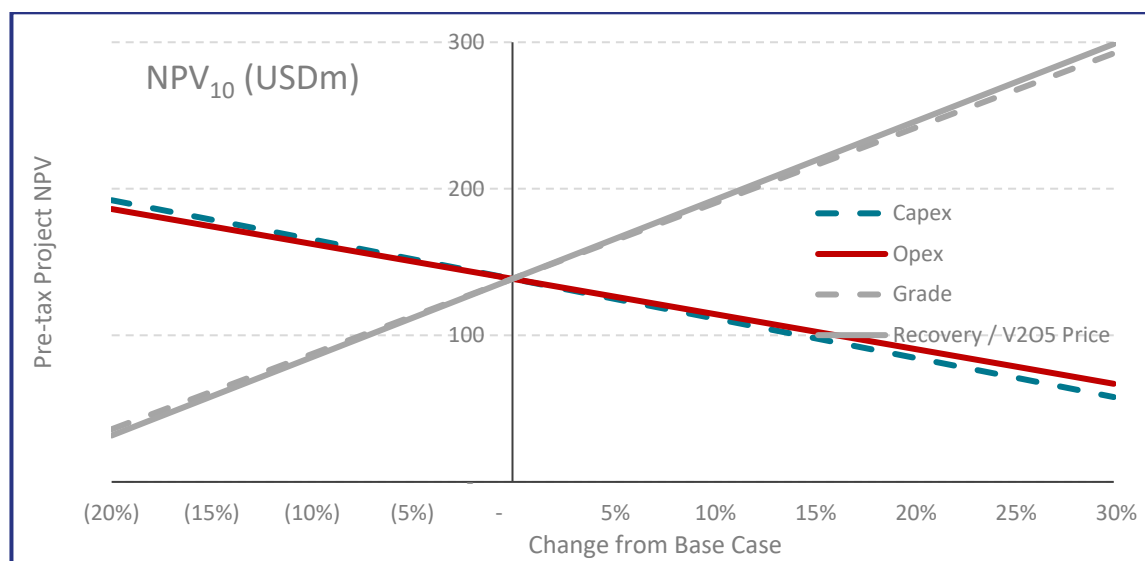


Figure 6: Pre-Tax NPV Sensitivity (all figures expressed on a 100% ownership basis)

Market and Marketing

World vanadium supply is dominated by China, Russia, and South Africa. With the inherent advantages that come with Slag as a feedstock (low cost and no mining risk) and the competitive operating cost position driven by Neometals development of a patent pending hydrometallurgical process, Neometals believes the Vanadium Recovery Project is extremely well positioned to service European and North American markets.

See Appendix 1 for an overview of the global vanadium market.

Next Steps:

- Metallurgical test work for PFS has commenced
- Drilling for the collection of further Slag samples from SSAB Lulea stockpiles to support Class 4 Study PFS metallurgical variability test work is underway (see Figure 7)
- Commencement of Class 4 Engineering Cost Study work package of the PFS
- Advancing discussions with potential offtake partners and financiers, targeting financiers with a focus on sustainable recovery of metals from non-mining sources
- In country work being run by Critical in relation to site selection, permitting and stakeholder engagement



Figure 7: Metallurgical sample drill rig on Slag stockpile at SSAB Luleå

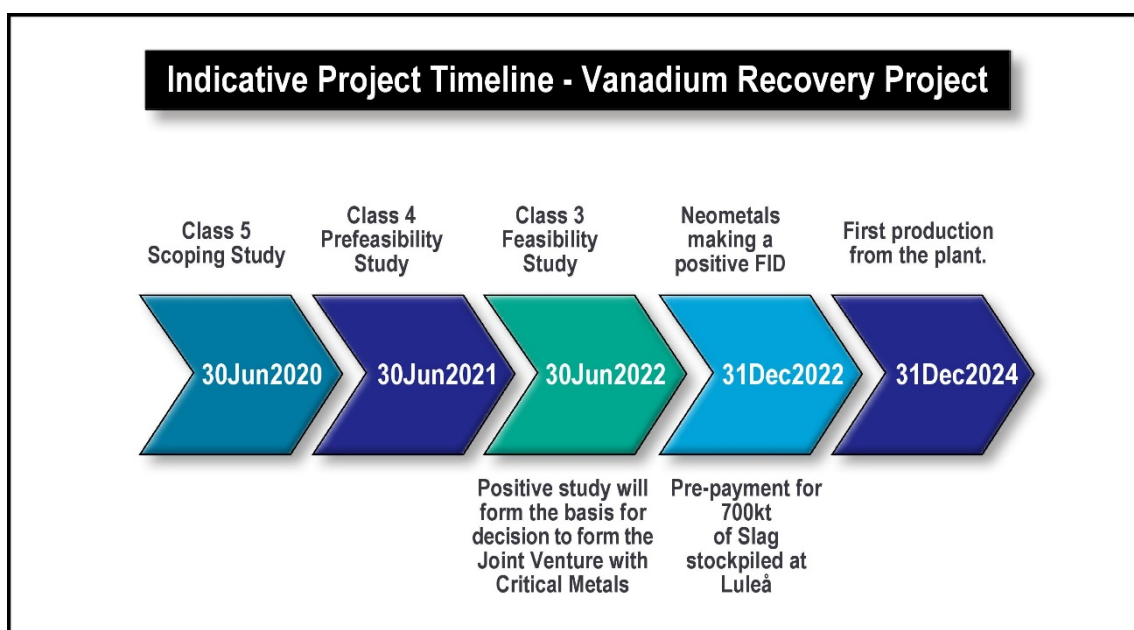


Figure 8: Indicative Timeline for the Slag Recovery Project

Cautionary Statement

The Study referred to in this report is based on low-level level technical and economic assessments and is insufficient to provide definitive assurance of an economic development case, or to provide certainty that the conclusions of the Study will be realised. Further detailed studies will be required to determine the feasibility and viability of a commercial-scale project.

Forward-looking Statements

This release contains “forward-looking information” that is based on the Company’s expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to studies, the Company’s business strategy, plan, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as ‘outlook’, ‘anticipate’, ‘project’, ‘target’, ‘likely’, ‘believe’, ‘estimate’, ‘expect’, ‘intend’, ‘may’, ‘would’, ‘could’, ‘should’, ‘scheduled’, ‘will’, ‘plan’, ‘forecast’, ‘evolve’ and similar expressions. Persons reading this news release are cautioned that such statements are only predictions, and that the Company’s actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company’s actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information.

Forward-looking information is developed based on assumptions about such risks, uncertainties and other factors set out herein, including but not limited to general business, economic, competitive, political and social uncertainties; the actual results of current development activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future prices of metals; failure of plant, equipment or processes to operate as anticipated; accident, labour disputes and other risks of the Chemical industry; and delays in obtaining governmental approvals or financing or in the completion of development or construction activities. This list is not exhaustive of the factors that may affect our forward-looking information. These and other factors should be considered carefully, and readers should not place undue reliance on such forward-looking information.

Neither the Company, nor any other person, gives any representation, warranty, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. Except as required by law, and only to the extent so required, none of the Company, its subsidiaries or its or their directors, officers, employees, advisors or agents or any other person shall in any way be liable to any person or body for any loss, claim, demand, damages, costs or expenses of whatever nature arising in any way out of, or in connection with, the information contained in this document. The Company disclaims any intent or obligations to or revise any forward-looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law.

Advice

Nothing in this document constitutes investment, legal or other advice. Investors should make their own independent investigation and assessment of the Company and obtain any professional advice required before making any investment decision based on your investment objectives and financial circumstances.

Authorised on behalf of Neometals by Christopher Reed, Managing Director.

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**About Neometals Ltd**

Neometals innovatively develops opportunities in minerals and advanced materials essential for a sustainable future. With a focus on the energy storage megatrend, the strategy focuses on de-risking and developing long life projects with strong partners and integrating down the value chain to increase margins and return value to shareholders.

Neometals has four core projects with large partners that span the battery value chain:

Upstream Industrial Minerals:

- Barrambie Titanium and Vanadium Project - one of the world's highest-grade hard-rock titanium-vanadium deposits, working towards a development decision in mid-2021 with potential 50:50 JV partner IMUMR.

Downstream Advanced Materials:

- Lithium Refinery Project – evaluating the development of India's first lithium refinery to supply the battery cathode industry with potential 50:50 JV partner Manikaran Power, underpinned by a binding life-of-mine annual offtake option for 57,000 tonnes per annum of Mt Marion 6% spodumene concentrate, working towards a development decision in 2022.

Recycling and Resource Recovery:

- Lithium-ion Battery Recycling – a proprietary process for recovering cobalt and other valuable materials from spent and scrap lithium batteries. Pilot plant testing completed with plans well advanced to conduct demonstration scale trials with potential 50:50 JV partner SMS Group, working towards a development decision in mid-2021; and
- Vanadium Recovery – a 27-month option to evaluate establishing a 50:50 joint venture to recover vanadium from processing by-products ("Slag") from leading Scandinavian steel maker SSAB. Underpinned by a 10-year Slag supply agreement, a decision to develop sustainable European production of high-purity vanadium pentoxide is targeted for December 2022.

APPENDIX 1

Vanadium Market

The schematic below provides an overview of the vanadium industry and identifies the main vanadium raw materials and intermediate products in the supply chain as well as the main consumer industries.

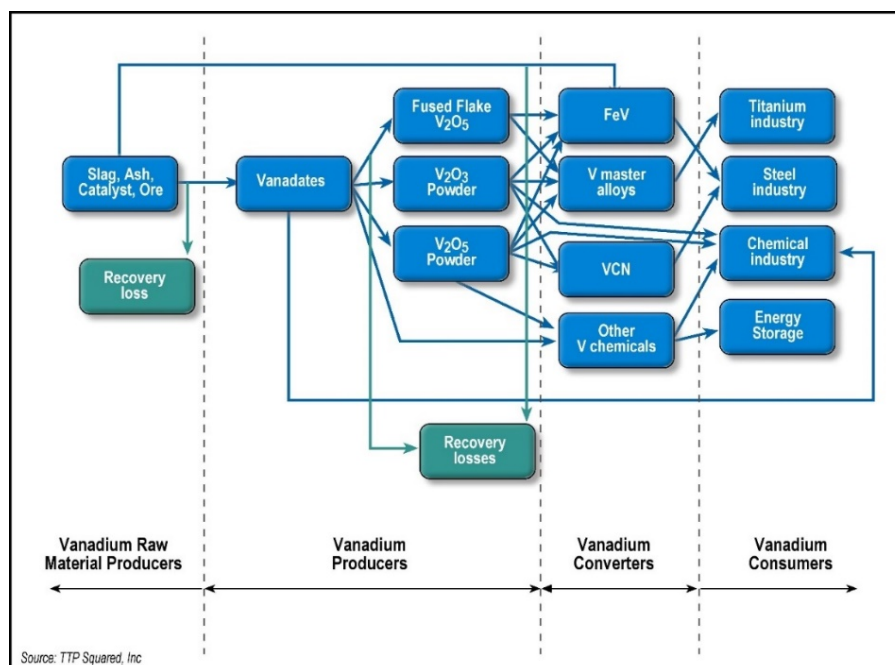


Figure 9: Vanadium Industry Supply Chain

Supply

Global vanadium supply in 2019 was 102,365t V (tonnes of vanadium equivalent) and was dominated by China (59%), South Africa (9%) and Russia (8%). Supply is primarily based on the production of vanadium from slag generated during the production of steel using vanadium titanium magnetite (VTM) as feedstock. Coproduct vanadium slag was produced at 14 steel mills in China, Russia and New Zealand and accounted for 69% of vanadium production in 2019.

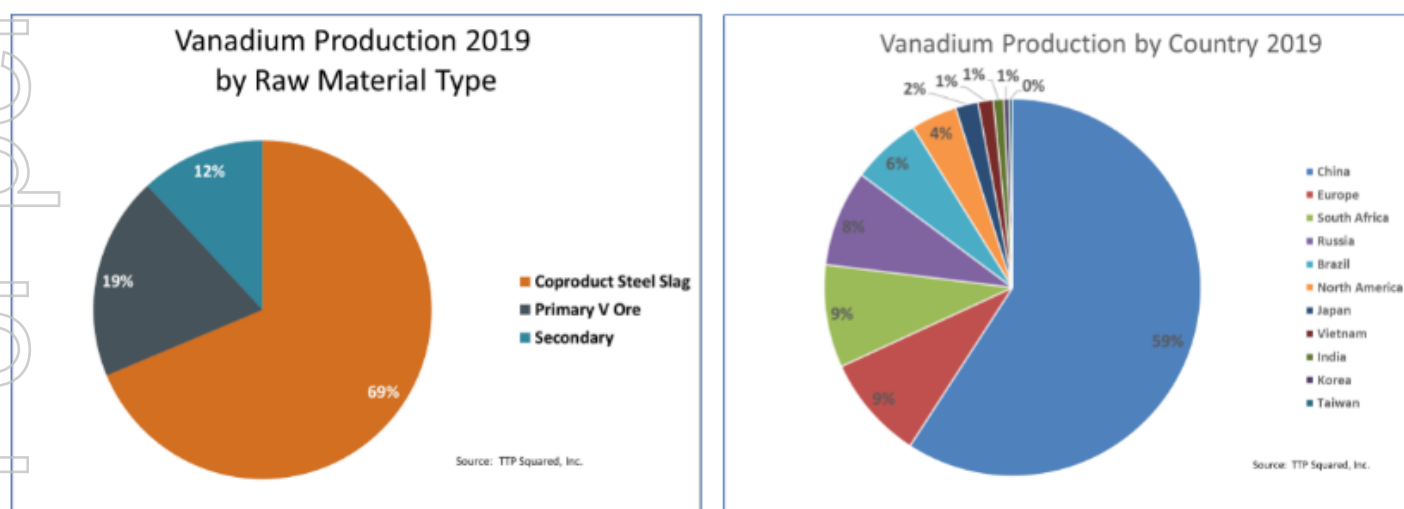


Figure 10: Vanadium Production by Material Source and Country, 2019

In March 2020, Industry consultancy TTP Squared Inc estimated that global supply of vanadium will reach 107,000t V during 2020 but demand may reach 112,900t V, which indicates a supply deficit of nearly 6,000t V.

Demand

Global vanadium consumption in 2019 was 102,025t V and China accounted for more than half of this consumption. During the period 2001 to 2019 global vanadium consumption grew from ~40,000t V per year to more than 100,000t V per year. During this period annual consumption of vanadium in China grew by ~45,000t V, accounting for approximately 75% of global vanadium consumption growth.

Nearly 90% of vanadium is consumed in the production of high strength steel including high strength low alloy steel, high alloy steel and stainless steel. The remainder is primarily consumed in the production of super alloys, titanium alloys and vanadium chemicals for energy storage.

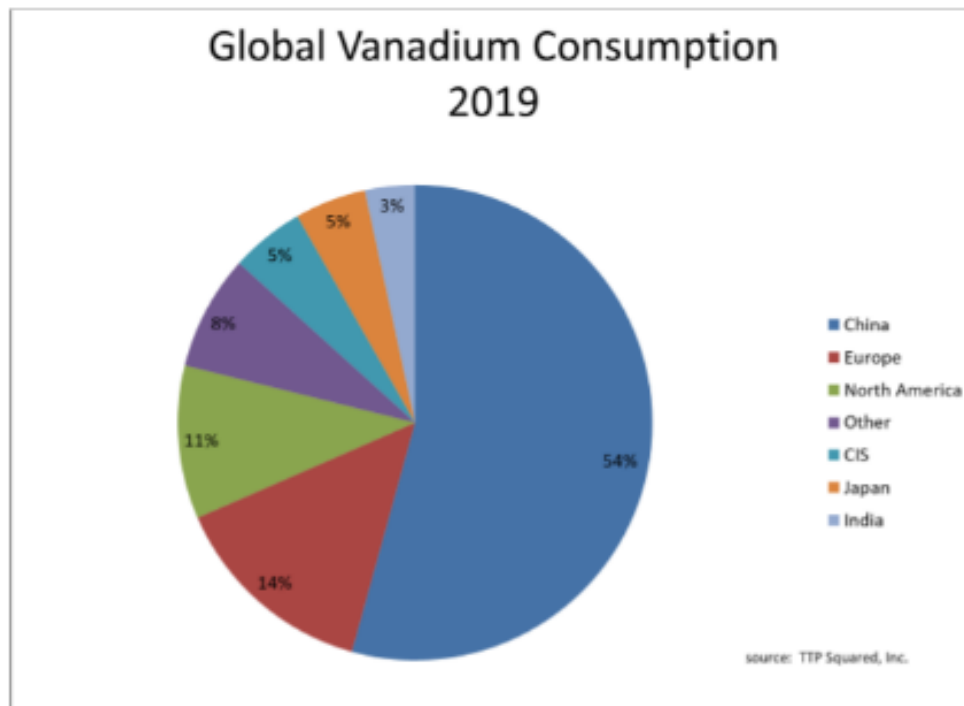


Figure 11: Vanadium Consumption by Country, 2019

Following three years of supply deficit, production of vanadium marginally exceeded consumption in 2019 as higher prices supported a substantial increase in Chinese production. In 2018, a shortage of material resulting from changes to the regulations governing the use of vanadium and other alloys in construction steels in China led to a substantial price spike. This material shortage and price spike resulted in vanadium being substituted with niobium in some steel products. However, as prices have moderated following the price spike there has been a reversal of this substitution and vanadium consumption has once again started to rise above production.

Historically the world ex China requires 8,000 to 10,000t V per year in net exports from China to maintain balance in western markets. However, growing consumption of vanadium in China is having an impact on the availability of Chinese vanadium for export and Chinese exports currently depend on the continuation of production with cash costs well above current market prices.

Looking ahead, without new greenfield capacity there is likely to be a shortfall of vanadium supply and a growing supply deficit. New greenfield capacity is required to come to market in the next few years to meet this deficit.

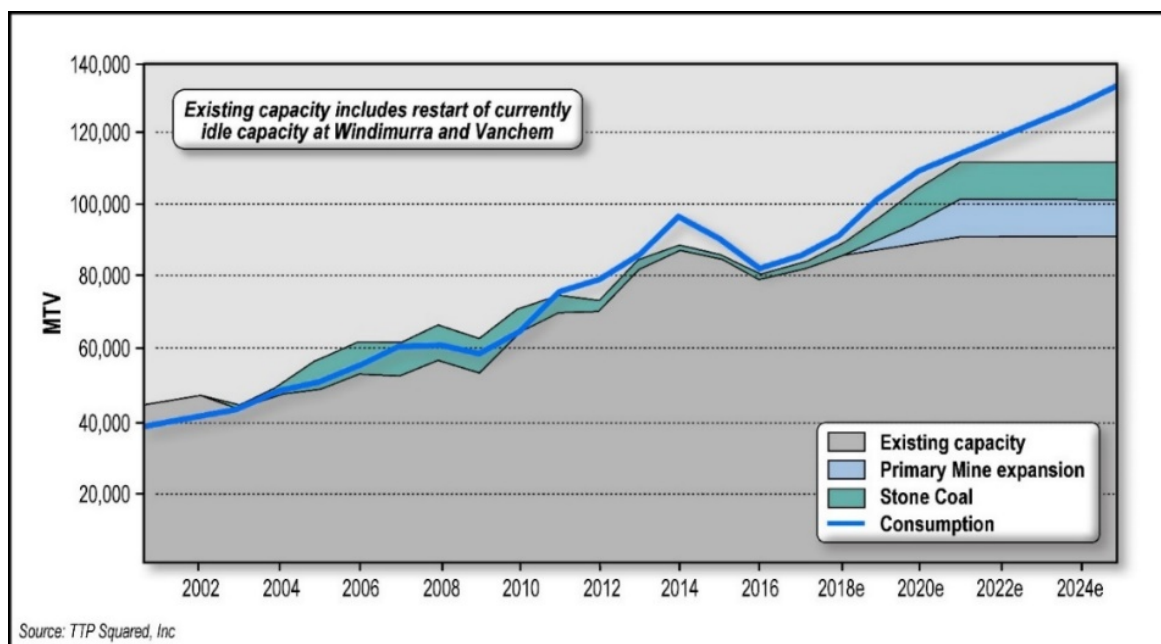


Figure 12: Vanadium Supply and Demand

Market Price

Vanadium is not traded on any commodity exchanges such as the LME and prices are settled in private negotiations between sellers and buyers.

During the last 40 years there have been periods of vanadium price volatility. However, as shown by the line of best fit in Figure 13, there has also been a trend of rising prices as the steel industry has grown, especially in China, and vanadium has assumed a greater role as an alloy in many high strength construction steels.

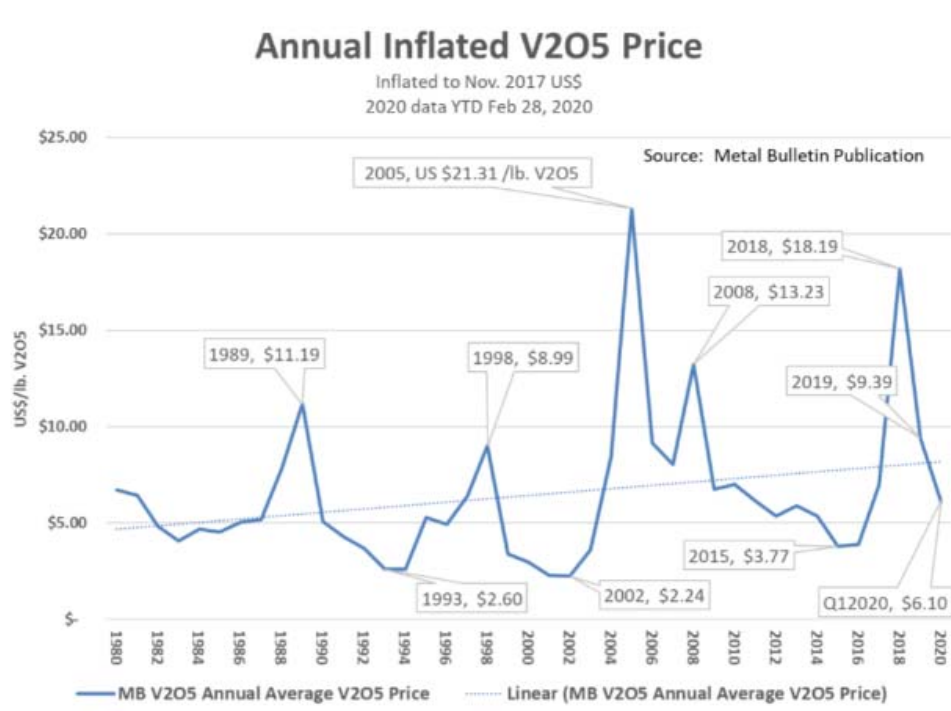


Figure 13: Annual V2O5 Prices inflated to Nov 2017 US\$

As the vanadium market tightens in response to an emerging supply deficit new greenfield capacity is required to meet demand and the price of vanadium is forecast to remain above historical levels.