



TECHNOLOGY
METALS AUSTRALIA LIMITED

VANADIUM FOR A CLEANER FUTURE

**BRISBANE MINING
INVESTOR CONFERENCE**

MARCH 2023

ASX:TMT



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Competent Person's Statement

The information in this report that relates to Exploration Results are based on information compiled by Mr John McDougall. Mr McDougall is the Company's Exploration Manager and a member of the Australian Institute of Geoscientists. Mr McDougall has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this report and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (**JORC Code**). Mr McDougall consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resources is based on information compiled by Mr Matthew Clark. Mr Clark is a Senior Resource Geologist of CSA Global Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy. Mr Clark has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr Clark consents to the disclosure of the information in this announcement in the form and context in which it appears.

The information that relates to Ore Reserves is based on information compiled by Mr Ross Cheyne of Orelogy who takes overall responsibility for the Report as Competent Person. Mr Cheyne is a Fellow of The Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as Competent Person in terms of the JORC (2012 Edition). The Competent Person, Ross Cheyne has reviewed the Ore Reserve statement and given permission for the publication of this information in the form and context within which it appears.

The information in this report that relates to the Processing and Metallurgy for the Murchison Technology Metals project is based on and fairly represents, information and supporting documentation compiled by Mr Brett Morgan, a full-time employee of Technology Metals Australia. Mr Morgan is a Member of The Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as Competent Person in terms of the JORC (2012 Edition). The Competent Person, Brett Morgan consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Pursuant to LR-5-19-1 production target and financial forecast: Refer ASX Release - 21 August 2019 for full details of the DFS: Financial Metrics at long term historical average price of US\$8.78/lb V2O5.

Pursuant to LR-5-19-2 production target and financial forecast: The material assumptions as per the ASX release on 21 August 2019 continue to apply and have not materially changed.

Refer to ASX Releases on 5 August 2022 for full details of global Murchison Technology Metals Project Ore Reserve, and Yarrabubba Vanadium and Ilmenite Ore Reserves.

VANADIUM TO HELP SUPERCHARGE SUSTAINABLE INDUSTRIES

- Iron - Steel sector one of the largest CO₂ emitters
- **Adding vanadium** reduces steel weight, increases capacity and reduces volume

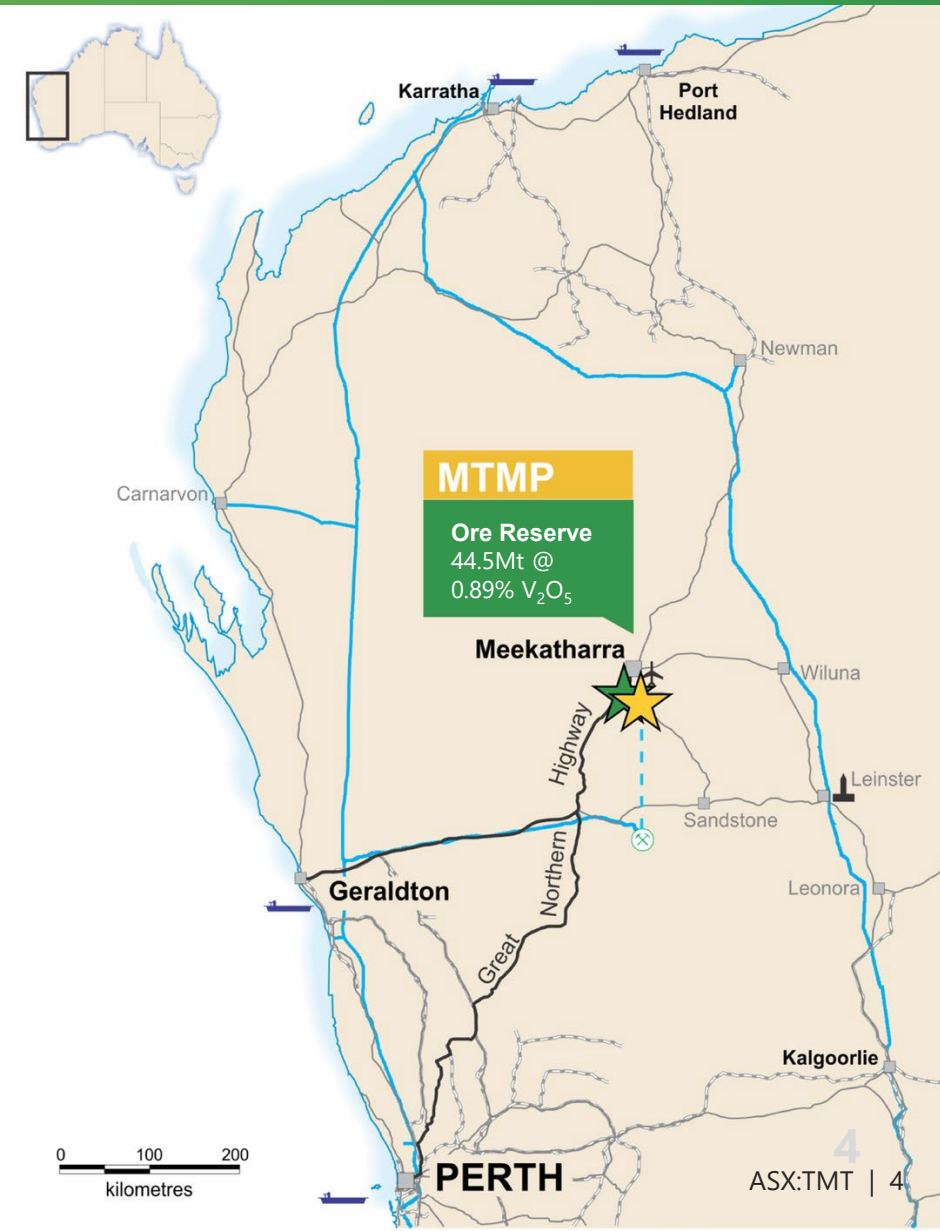
= CO₂ Savings

- **Vanadium redox flow batteries** (VRFB) ideal for time-shifting large amounts of energy for later use (long duration energy storage)
- Increases use of renewables, reducing fossil fuels

= CO₂ Savings

World Class Murchison Technology Metals Project

- Located in mid-west Western Australia
- Aligned to Australia's **Critical Minerals Strategy**
- Sovereign funding support with **A\$150m from Denmark's ECA**
- Strong backing for value-adding downstream processing (vanadium electrolyte and/or ferrovanadium)
- Perfectly placed to support the global energy transition
- Advancing towards being **the world's next large scale primary vanadium mine**



Industry-leading metrics at the MTMP



Large high-grade resource – 153.7Mt at 0.8% V₂O₅



+25 year mine life – long-term benefits



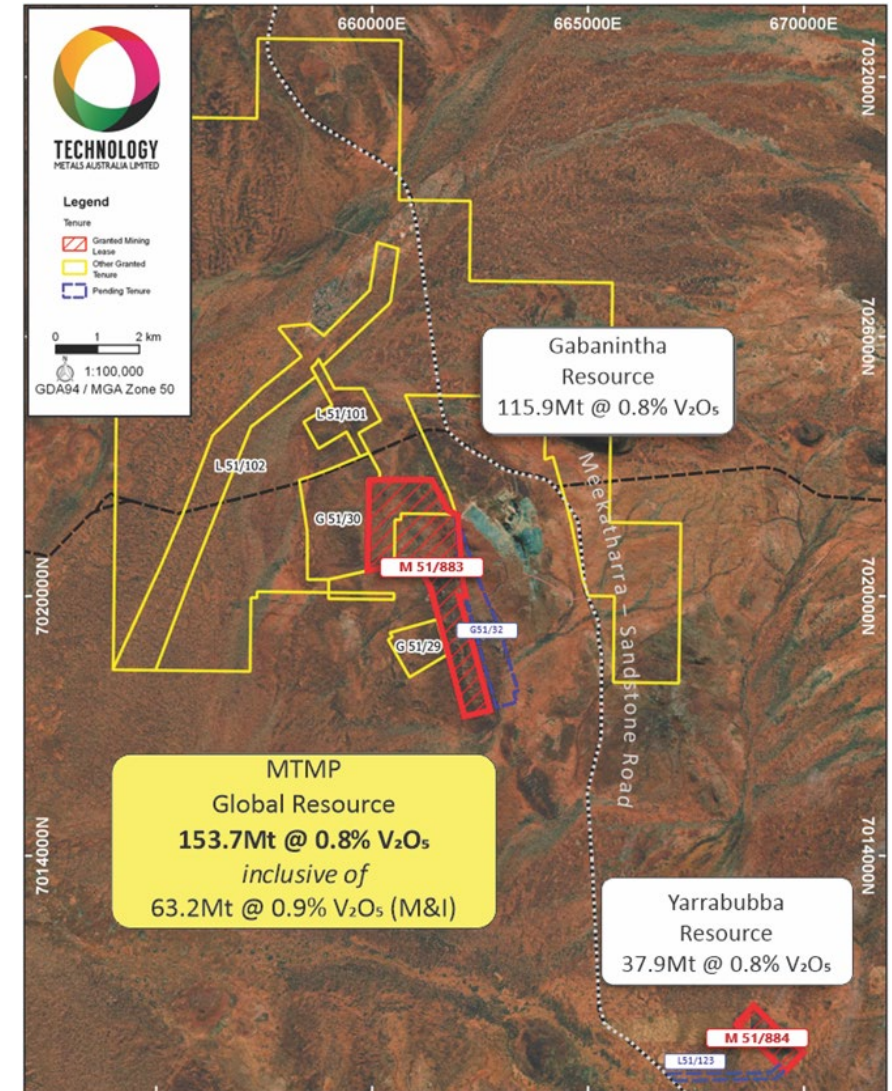
Annual average production of 12,500tpa V₂O₅
- ~ 6% of world's vanadium production



Average **annual EBITDA of A\$182m***



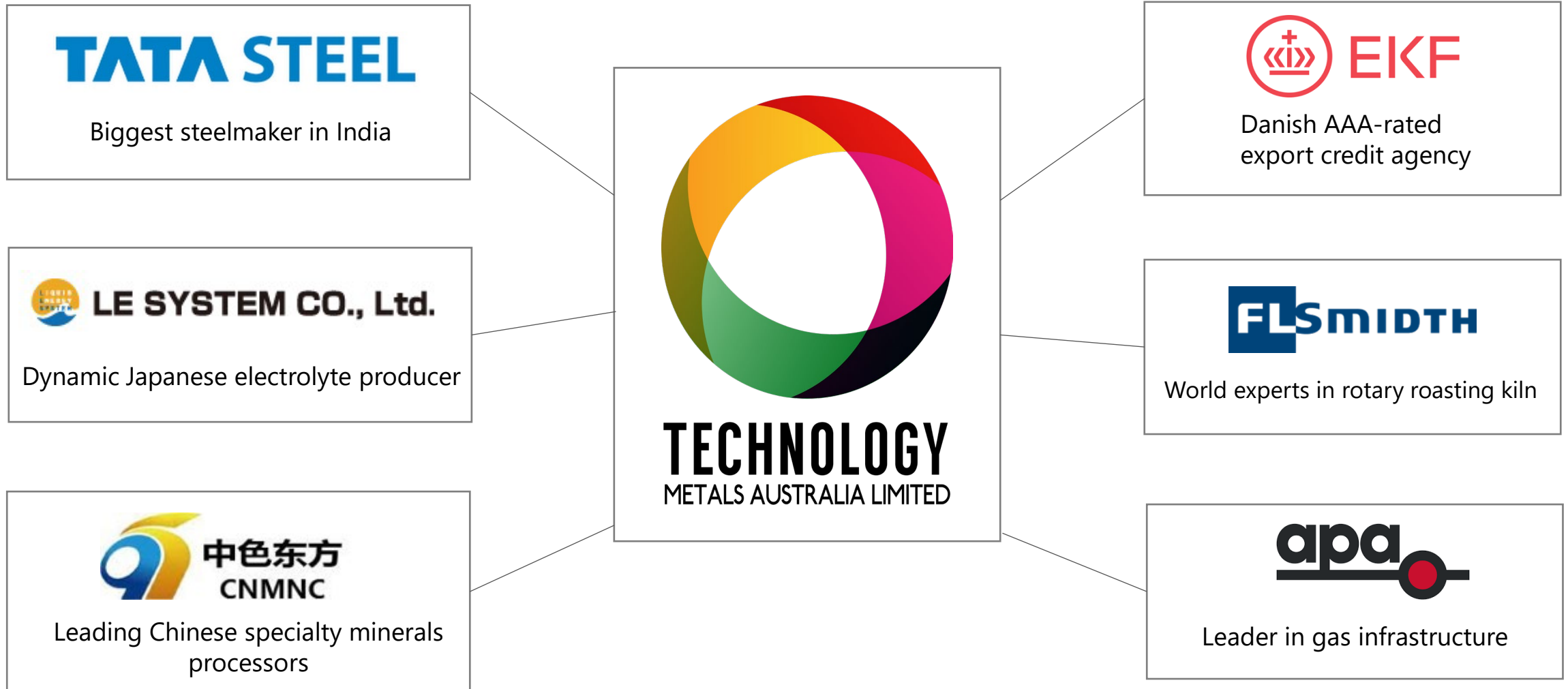
High-purity ≥99% vanadium product, plus
ilmenite by-product for the first nine years



*Source: TMT Announcement: MTMP Mine Life Increased to 25 Years – Maiden Ilmenite Reserve and Production Profile, 5 August 2022

TIER ONE PARTNERSHIPS

Building for sustained success



PROJECT ACTIVITIES

Developing a long-term successful business



Engagement of preferred partners – collaboration on detailed construction planning, schedule definition and site infrastructure



Collaborative engagement with Traditional Owners



Progression of environmental approvals



ESG strategy implementation



Advancing implementation phase





Environment

- Addressing environmental approval requirements
- Sustainable water usage, greenhouse gas emission reduction strategies



Native Title/Heritage

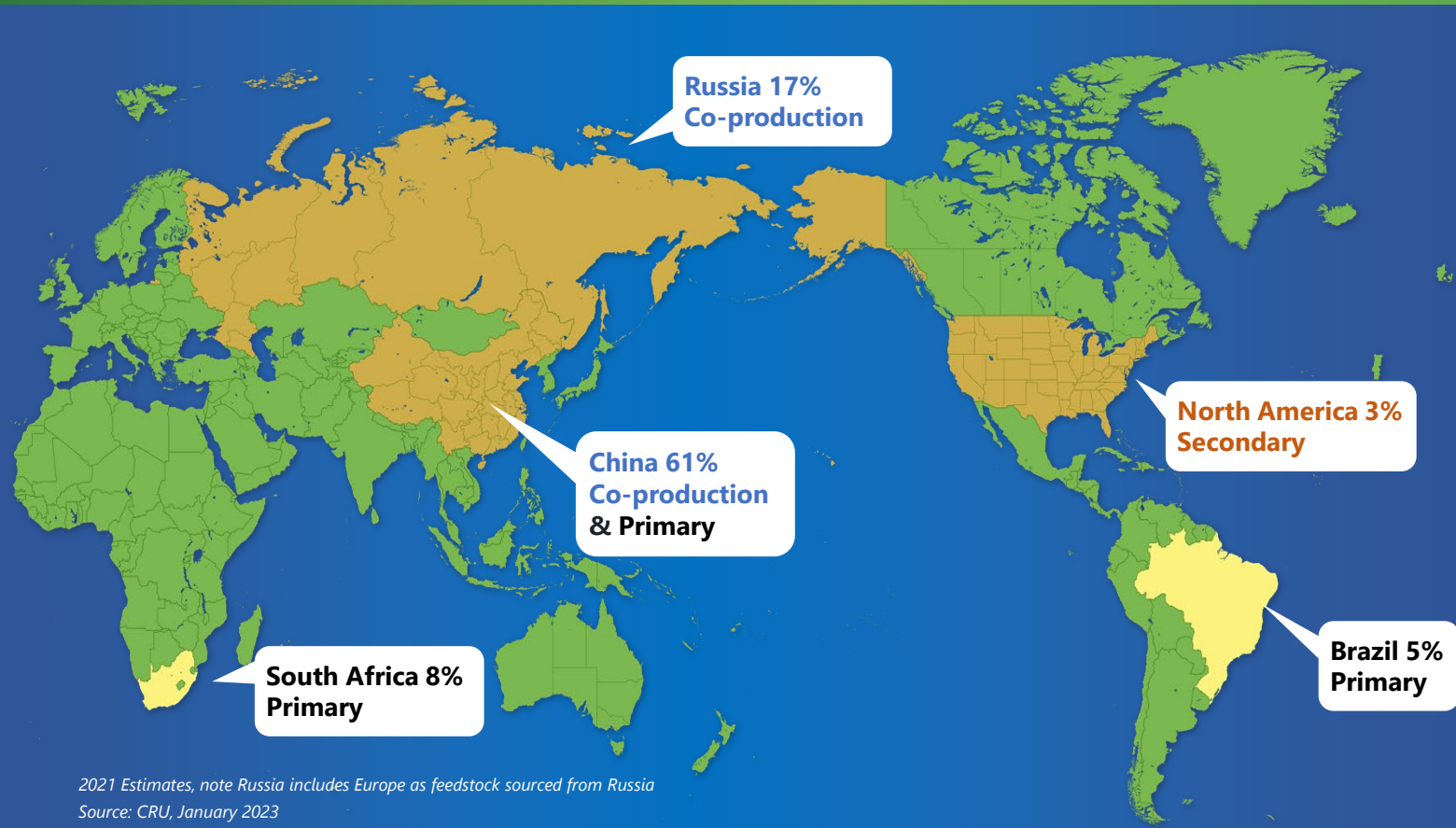
- Regular briefing sessions with Traditional Owners
- On-country heritage surveys in support of Cultural Heritage Management Plan



Governance

- Majority independent Directors
- Diversity of personnel at every level of the Company
- Policies in place to guide ethics and expected behaviours

GLOBAL VANADIUM SUPPLY



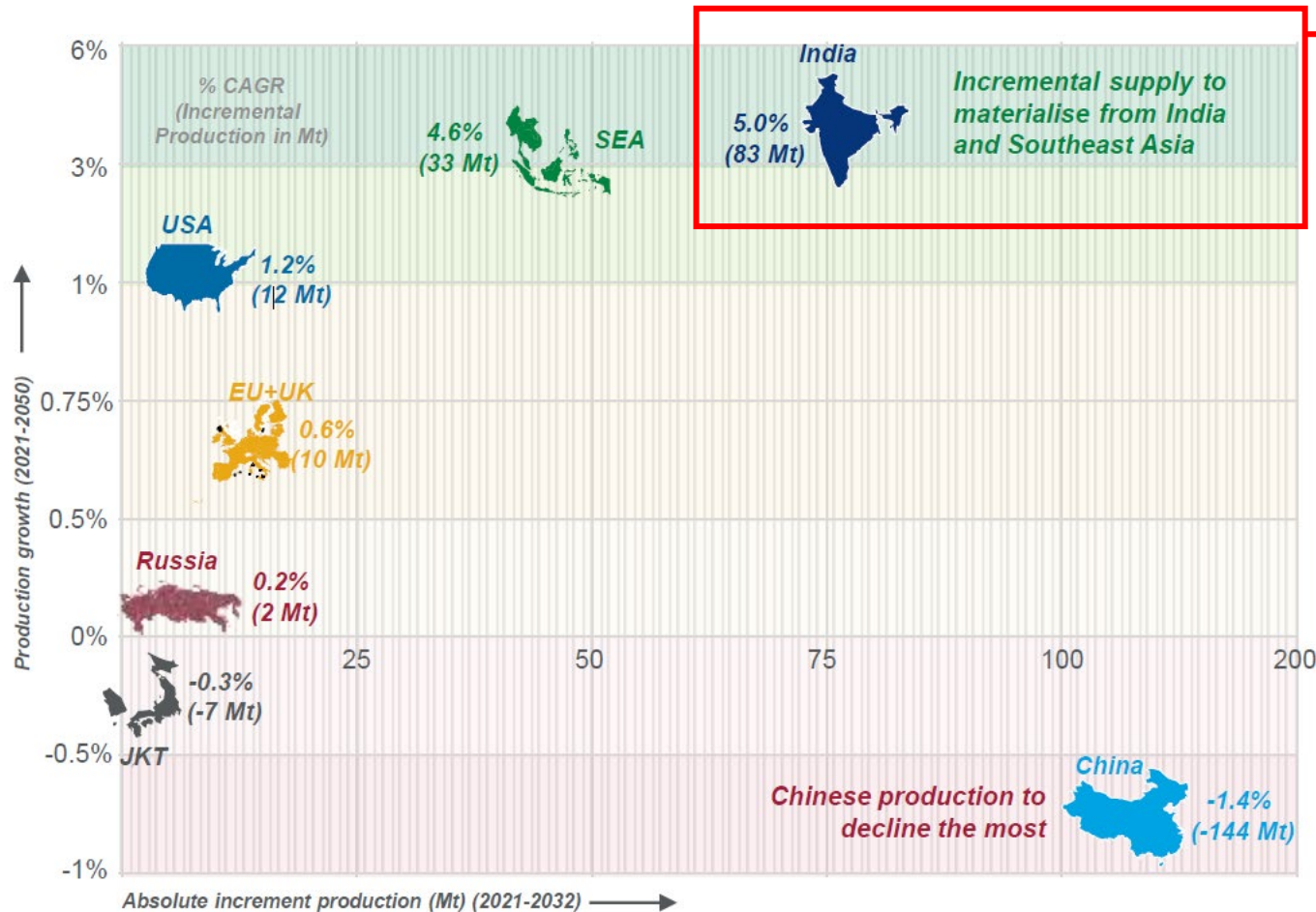
Customers looking for secure supply

1. **Co-production** from vanadium bearing slag smelted from steel production - ~71% supply
2. **Primary production** from majority vanadium bearing ores - ~17% of supply
3. **Secondary production** from hydrocarbon residues and catalysts - ~12% of supply

China and Russia dominate supply

Supply disruptions stemming from China could have a potentially large effect on energy security in the West given the concentration of battery material production in China

India's steel demand increasing to 9% of global consumption by 2032



- Incremental steel production in India to increase **5% year on year**
- Investing US\$110-140 billion in steelmaking over 2021-2032
- Vanadium high strength rebar needed for construction of buildings, infrastructure and high-speed rail
- Vanadium intensity of use is ~39g/t of steel in India versus ~85g/t in Europe and ~104g/t in North America
- **TMT MOU in place with TATA STEEL**

WHY VANADIUM BATTERIES?

Safe, stable, reliable, low cost, long life performance



SAFETY

Water based and totally non-flammable, non-combustible, and non-toxic



LOW ENERGY COST

Over its 20+ year lifespan, vanadium batteries offer the lowest cost per kWh stored (LCOE)



EASY TO EXPAND CAPACITY

Battery capacity easily expandable by adding more storage tanks



NO DEGRADATION

Performance remains constant with excellent long term charge retention



SUSTAINABILITY

The vanadium is fully reusable and recyclable at end of battery life



LONG LIFE

Can easily last more than 20 years with very high cycle life (up to 20,000 cycles)



RELIABLE PERFORMANCE

Work in harsh environmental conditions without loss of performance



SINGLE CHEMICAL ELEMENT

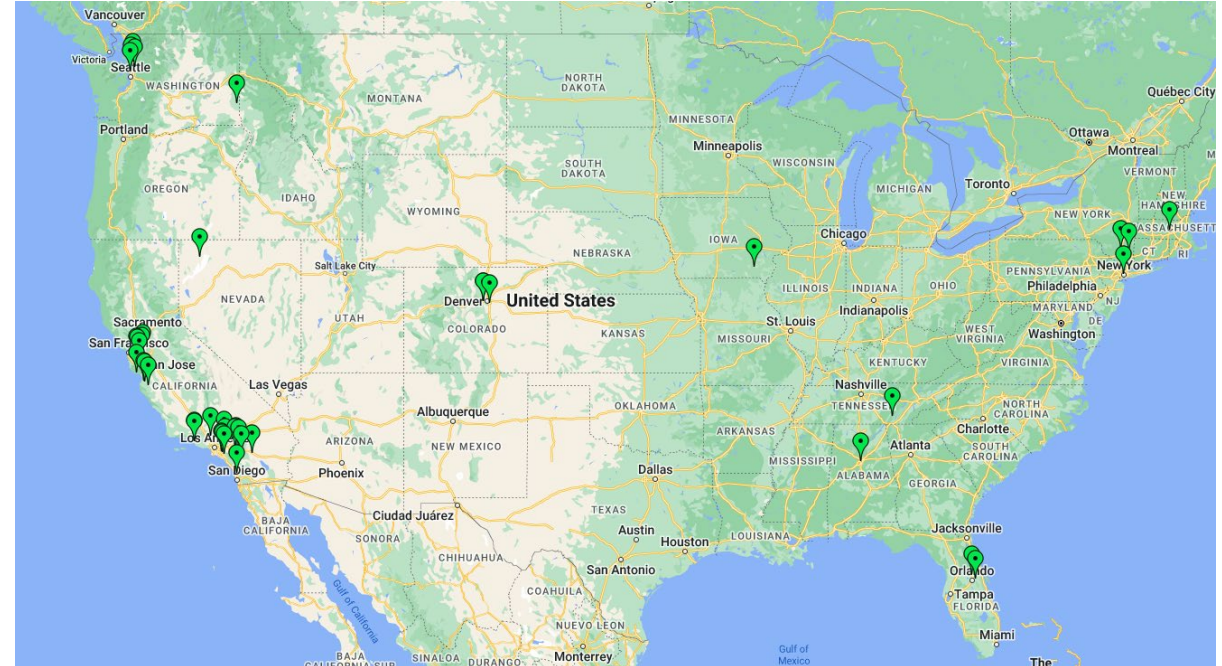
Use multiple forms of vanadium to store and release charge – eliminating need for any other elements

US Inflation Reduction Act / Canada Investment Tax Credit supporting demand

- Around 35 VRFBs announced or operational in North America
- Largest, manufactured by Sumitomo Electric, is in San Diego, California
- Three large systems, with eight-hour storage duration, from 6MW to 16MW under installation in California



Sumitomo Electric's VRFB in San Diego, California



1MWh of energy storage requires ~10T V_2O_5

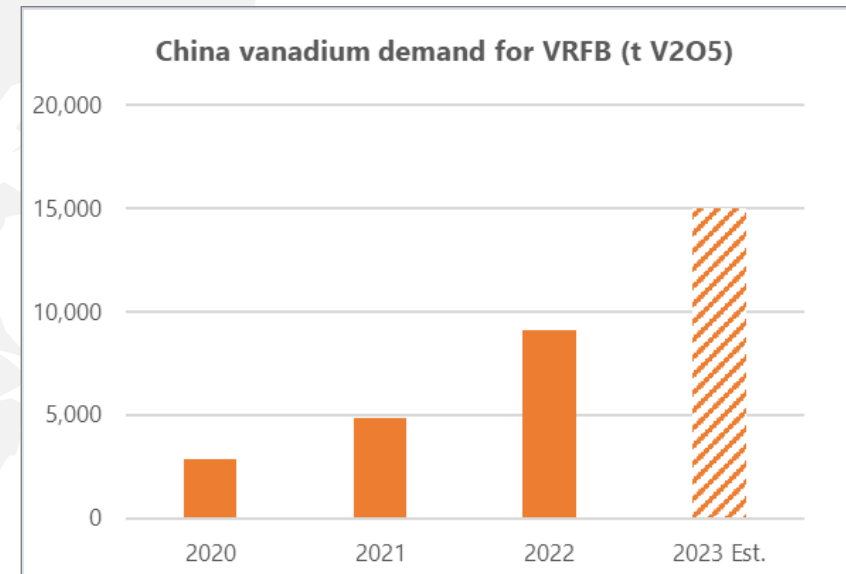
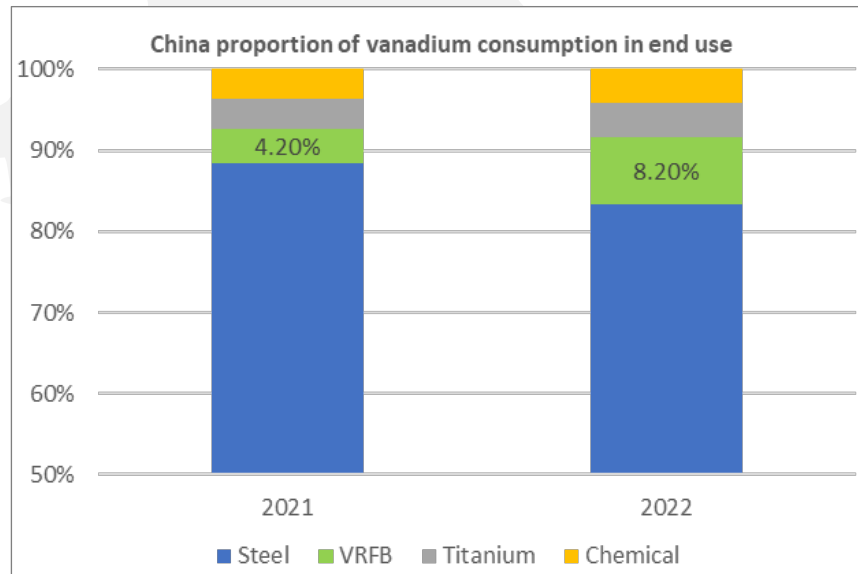
Projects announced and under construction in North America total ~480 MWh

Requiring around 4,800t V_2O_5 , equivalent to around **35% of TMT annual production**

China leading the deployment of VRFBs

VRFBs expected to be main driver of vanadium demand growth in China

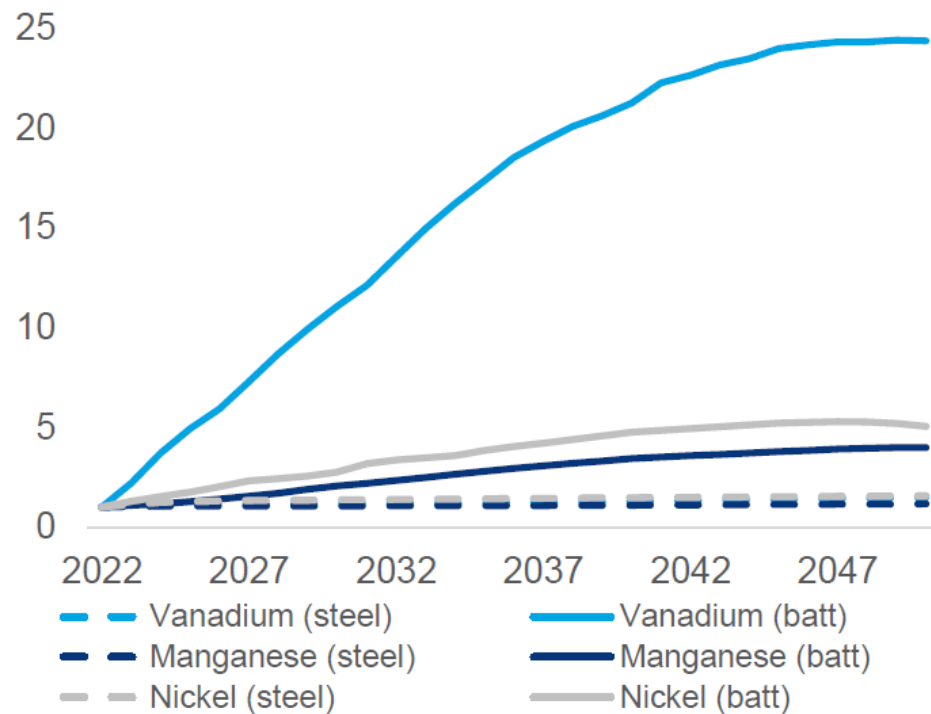
- Government highly supportive of vanadium for long duration storage
- World's largest VRFBs developed to date are in China
- Vanadium industry's two largest producers have announced substantial VRFB supply agreements and construction of sizeable vanadium electrolyte production facilities



Source: Ferro Alloy Net, Fast Markets Ferro Alloys March 2023

Vanadium for VRFBs expected to grow to 33% of global market in 2030*

Increase in demand (index 2022)



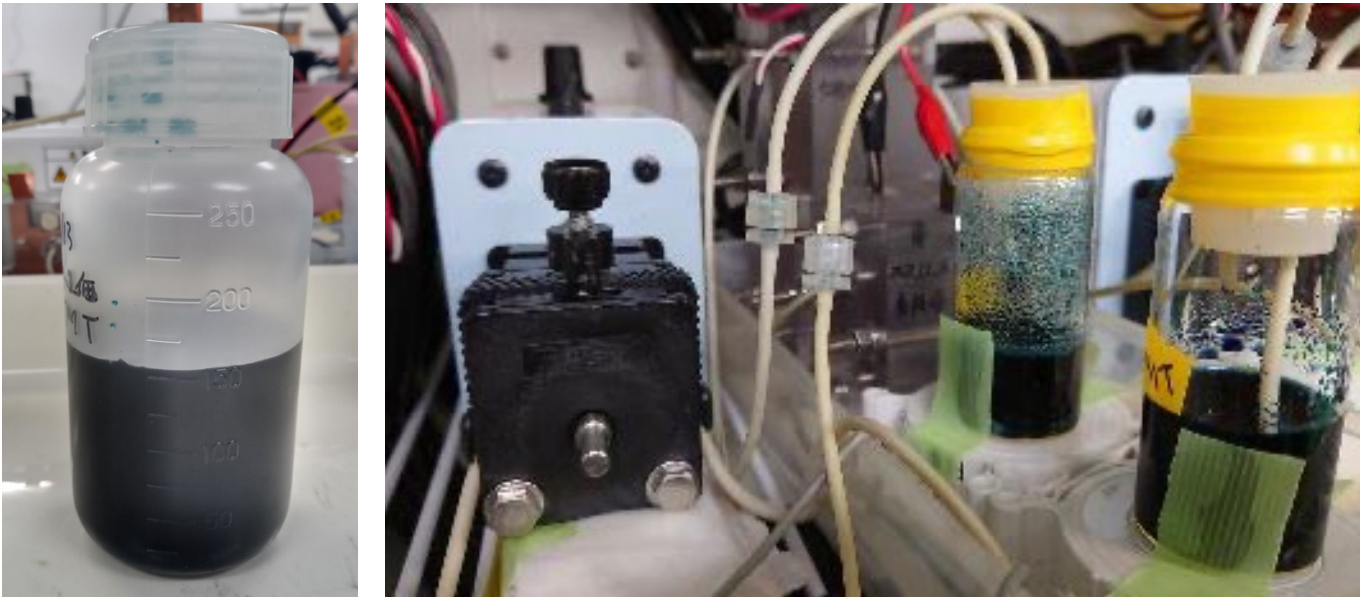
Source: Wood Mackenzie, Batteries and Steel: friends or enemies?, March 2023

- Current market in balance at around ~220,000t V_2O_5 in 2022
- Consumption is expected to grow to ~380,000t V_2O_5 by 2031
- Current production, state supported projects in China and vanadium from catalysts is not expected to meet future consumption
- Supply shortfall forecast for 2031 of ~45,000t V_2O_5 – MTMP to produce ~12,500ktpa

Source: CRU, January 2023

*CRU, January 2023

Battery grade electrolyte produced from MTMP feedstock



Left: TMT's electrolyte product. Right: Mini-cells tests conducted at LE System's Tsukuba Battery Laboratory
Source: LE System

- Collaboration with leading Japanese electrolyte developer, LE System
- LE System completed the manufacture of electrolyte from MTMP feedstock in its laboratory in Japan
- Series of mini-cell tests conducted to examine electrolyte performance
- Test results meet specifications of major VRFB manufacturers

Capital Structure

TMT

ASX Code

\$12.0m

Cash
(as at 31 December 2022)

\$49.3m

Market Cap
(As at 21 March 2023)

209.8m

Shares on Issue

18.8m

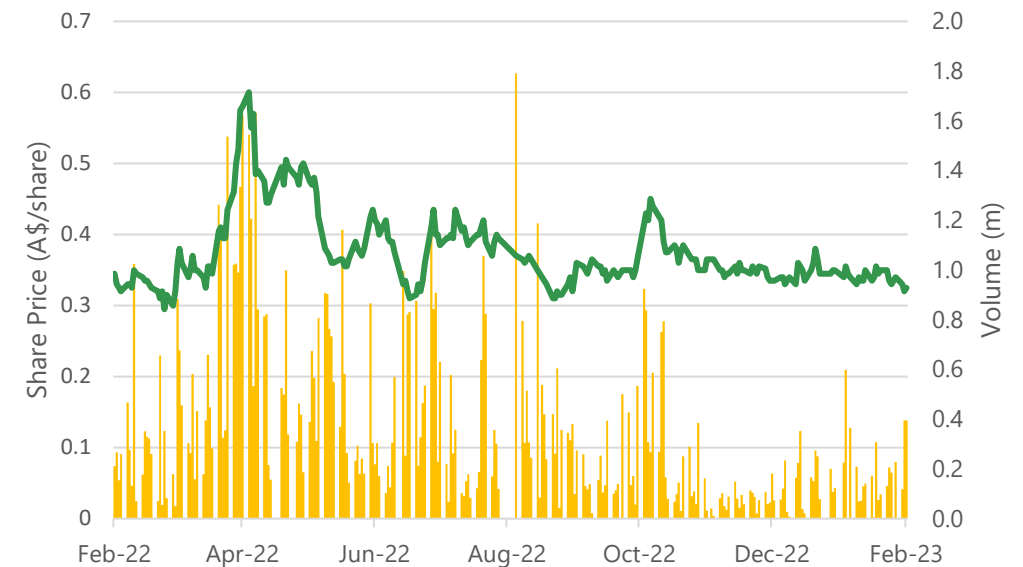
Unlisted Options¹
(Various exercise)

6.2m

Performance Rights²

Holder Name	Holding (%)
Resource Capital Fund VII L.P.	17.2%
BNP Paribas Nominees	10%
Standard Pastoral Company	6.7%
Retzos Group	5.2%
TOTAL TOP 20	57.7%
Board and Management holdings (fully diluted)	8.17%

*Based on issued capital as at 21 March 2023



¹ Includes 15.4m director and employee options – 3.9m vested, balance vest on project development hurdles

² 53% vest on MTMP FID, 47% vest on first production

EXPERIENCED BOARD & MANAGEMENT



Michael Fry
Non-Executive Chairman

Michael holds a Bachelor of Commerce degree from the University of Western Australia, is a Fellow of the Financial Services Institute of Australasia, and is a past member of the Australian Stock Exchange.

Mr. Fry has extensive corporate and commercial experience, financial and capital market knowledge and a background in corporate treasury management.



Ian Prentice
Managing Director

Ian holds a Bachelor of Science (Geology) from the University of Western Australia and has over 30 years experience in the global mining industry, spanning exploration, development and open cut and underground mining.

Ian is a Member of the Australasian Institute of Mining and Metallurgy.



Dr. Carmen Letton
Non-Executive Director

Carmen is a mining engineer and mineral economist with 35 years of global experience in senior leadership roles in operations, business improvement and operational excellence.

Dr. Letton was most recently the Head of Resource Development and Life of Asset Planning (Asset Strategy Development) at Anglo American.

David English
Chief Operating Officer

David is a mining professional with over 30 years operations and project development experience working in the Western Australian resources industry.

Mr. English was General Manager Operations at the Windmurra Vanadium Project from February 2008 until February 2010 involved in the process of re-developing the project.

Sonu Cheema
Company Secretary

Sonu is a Partner at Cicero Group with over 10 years' experience working with public and private companies in Australia and abroad.

Mr. Cheema's responsibilities include completion and preparation of management and ASX financial reports, investor relations, initial public offers, mergers and acquisitions, management of capital raising activities and auditor liaison.

Elisha Civil
Chief Financial Officer

Elisha is a Chartered Accountant with over 20 years' experience in the resources sector including General Manager Finance at Regis Resources, and Group Manager Finance and Tax at Fortescue Metals Group.

Ms. Civil holds an MBA from the University of Western Australia, and a Bachelor of Commerce from Murdoch University.

John McDougall
Exploration Manager

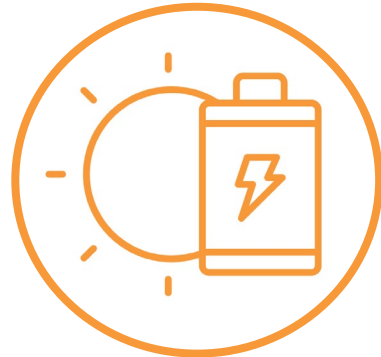
John holds a Bachelor of Science with Honours (Geology) from the University of Tasmania and has over 20 years experience in mineral exploration, with iron ore, base and precious metals experience.

John has been managing the geological data acquisition at Gabanintha and Yarrabubba since February 2017.



Industry Leading Tier 1 Project

- Outstanding economics and longevity of operations
- Located in Western Australia, a Tier one mining jurisdiction
- Excellent access to gas and essential infrastructure



Critical Minerals for a Cleaner Future

- Vanadium, a Critical Mineral in the EU, USA and Australia
- Intensifying demand for vanadium redox flow batteries
- Strategic use of vanadium in steel for lower CO₂ emissions



Strong Experienced Team to Deliver

- High-quality professionals who have delivered major projects
- Focused on development strategy to maximise shareholder value



Tier 1 Investors and Partners

- Backing from RCF VII provides long-term project development support
- Building robust relationships with international partners, including LE System and Tata Steel



TECHNOLOGY
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Managing Director



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MTMP GLOBAL MINERAL RESOURCE ESTIMATE



Classification	Material	Mt	V ₂ O ₅ %	Fe %	Al ₂ O ₃ %	SiO ₂ %	TiO ₂ %	LOI %	P %	S %
Measured (Yarrabubba)	Massive	4.4	1.1	48.1	5.5	7.3	12.4	-0.4	0.01	0.3
	Disseminated	1.5	0.6	30.0	10.8	23.4	7.7	2.5	0.01	0.2
Measured (Gabanintha)	Massive	5.1	1.1	46.9	5.7	8.4	12.1	-0.2	0.01	0.3
	Disseminated	1.1	0.8	36.4	7.9	19.6	9.0	0.5	0.01	0.2
Measured	Massive + disseminated	12.1	1.0	44.3	6.5	10.9	11.4	0.1	0.01	0.2
Indicated (Yarrabubba)	Massive	8.0	1.1	48.1	5.4	7.1	12.5	0.0	0.01	0.3
	Disseminated	6.9	0.6	28.4	12.5	25.2	7.2	2.6	0.02	0.3
Indicated (Gabanintha)	Massive	19.5	1.1	48.9	5.2	6.2	12.8	-0.1	0.01	0.2
	Disseminated	16.7	0.6	27.3	13.3	26.7	7.0	3.0	0.03	0.2
Indicated	Massive + disseminated	51.2	0.9	39.0	8.9	15.6	10.1	1.3	0.02	0.2
Measured plus Indicated	Massive + disseminated	63.2	0.9	40.0	8.4	14.7	10.4	1.1	0.02	0.2
Inferred (Yarrabubba)	Massive	5.7	1.1	47.4	5.6	7.8	12.3	0.1	0.01	0.3
	Disseminated	11.4	0.6	27.9	12.6	25.8	7.2	2.0	0.02	0.4
Inferred (Gabanintha)	Massive	36.5	1.1	46.7	6.0	8.3	12.3	0.4	0.01	0.2
	Disseminated	36.9	0.5	26.6	12.9	27.6	6.9	3.4	0.03	0.3
Inferred	Massive + disseminated	90.5	0.8	36.2	9.6	18.3	9.5	1.8	0.02	0.2
TOTAL	Massive + disseminated	153.7	0.8	37.7	9.1	16.8	9.8	1.5	0.02	0.2

Source: TMT Announcement, MTMP Global Mineral Resource Upgrade Delivers 26% Increase to Measured and Indicated Resource, 7 November 2022

*Notes:

- Mineral Resources are reported in accordance with the JORC Code (2012 Edition).
- Mineral Resources were estimated within constraining wireframe solids using a nominal 0.9% V2O5 lower cut-off grade for the massive magnetite zones and using a nominal 0.4% V2O5 lower cut-off grade for the banded and disseminated mineralisation zones.
- Mineral Resources are quoted from all classified blocks within the wireframe solids above a lower cut-off grade of 0.4% V2O5.
- Differences may occur due to rounding. Yarrabubba Measured and Indicated Mineral Resources are reported above an open pit optimised pit shell. Inferred Mineral Resources are reported to a lower RL limit of 250 mRL. Gabanintha Measured and Indicated Mineral Resources are reported above a lower RL limit of 240 to 280 mRL that approximates the Ore Reserve pit shells. Inferred Mineral Resources are reported to a lower RL limit of 170 mRL.

MTMP ORE RESERVE ESTIMATE

Deposit	Ex-Pit Ore				Magnetic Conc.		Non-Magnetic Conc.		Rec. V ₂ O ₅	Rec. Ilmenite	Waste	Total
	Mt	V ₂ O ₅ %	TiO ₂ %	Mass Yield	Mt	V ₂ O ₅ %	Mt	TiO ₂ %	M lb	kt	Mt	Mt
Yarrabubba Probable	15.88	0.87%	10.0%	44.4%	7.04	1.61%	8.84	12.35%	202.7	1132.6	110.1	126.0
Yarrabubba Total	15.88	0.87%	10.0%	44.4%	7.04	1.61%	8.84	12.35%	202.7	1132.6	110.1	126.0
Gabanimtha Proven	1.12	0.95%		69.8%	0.78	1.30%			18.1		154.5	183.1
Gabanimtha Probable	27.48	0.90%		57.1%	15.69	1.31%			369.4			
Gabanimtha Total	28.60	0.91%	10.7%	57.6%	16.47	1.31%			387.5	0.0		
Global MTMP Total	44.48	0.89%	10.5%	52.9%	23.52	1.40%	8.84	12.35%	590.3	1132.6	264.6	309.1

Source: TMT Announcement: MTMP Mine Life Increased to 25 Years – Maiden Ilmenite Reserve and Production Profile, 5 August 2022

POISED FOR CONSTRUCTION

Significant cash at bank A\$12.0m¹

Fully funded to FID
Able to place long lead orders

A\$49.3m
Market cap
As at 20 March 2023

Supportive shareholders Top 20 hold 57.7%

Resource Capital Funds 17.2%
Early believers in battery metals²

Board and management 8.17%³

Execution focused team

Experienced Board
Michael Fry
Chair

Dr. Carmen Letton
Non-Executive Director
Sonu Cheema
Company Secretary

Ian Prentice
Managing Director

David English
Chief Operating Officer

Elisha Civil
Chief Financial Officer

John McDougall
Exploration Manager

Active Collaboration



WA Government



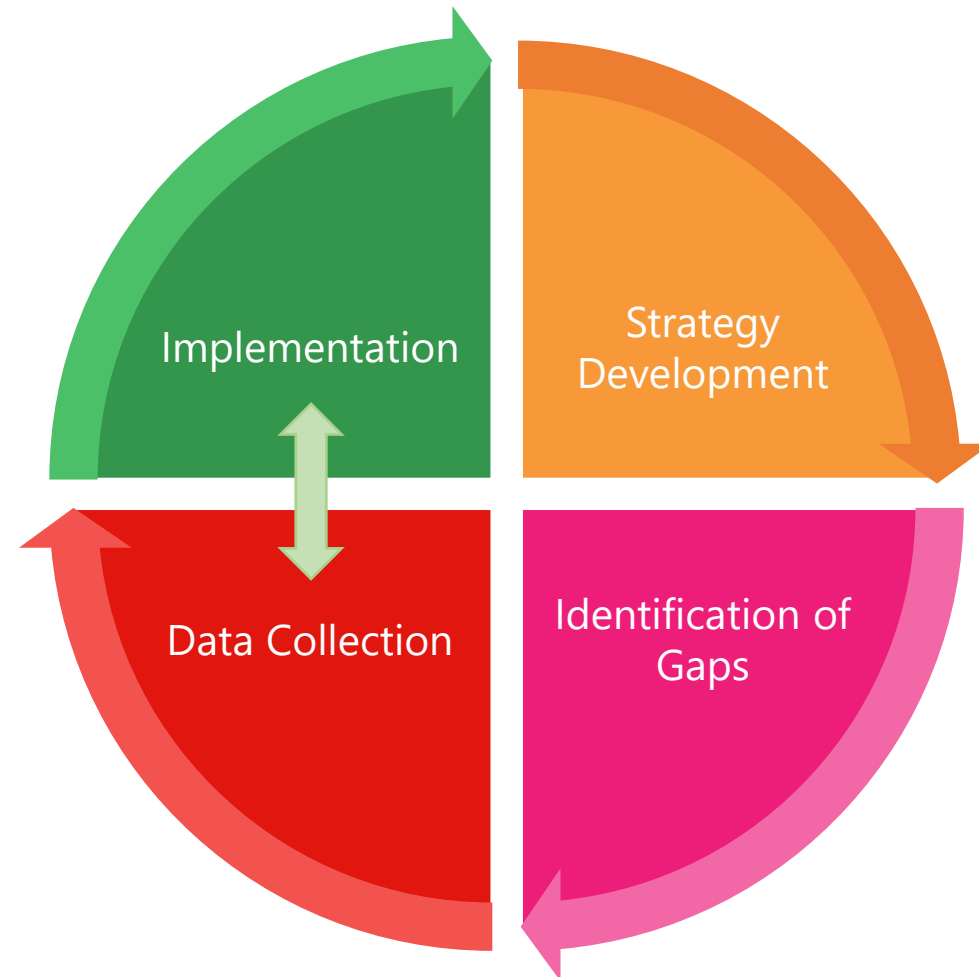
Australian Government



1. At as 31 December 2022
2. Examples include investments in tantalum (Global Advanced Metals), lithium (Talison Lithium), rare earths (Molycorp), nickel (Talon Metals)
3. As at 9 February 2023, fully diluted
4. Includes 15.43m director and employee options – 3.9m vested, balance vest on project development hurdles
5. 53% vest on MTMP FID, 47% vest on first production

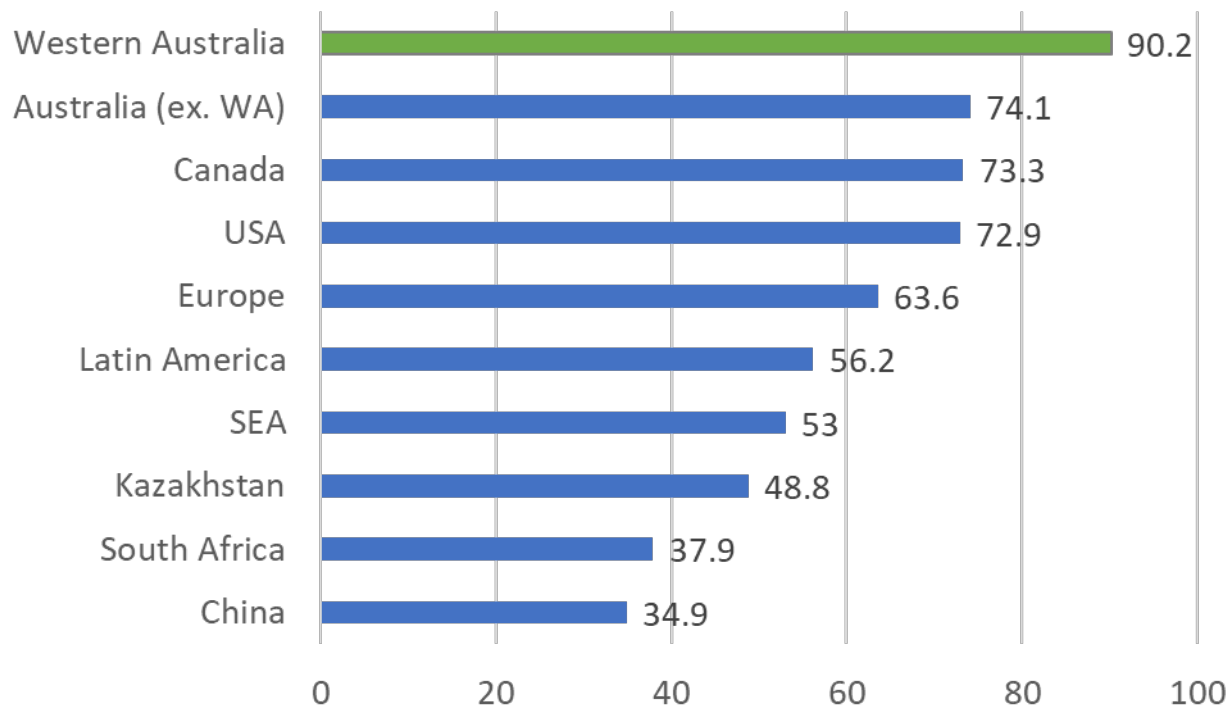
Environmental, social and governance performance and improvement is a continuous process

- **Self-assessment and benchmarking** activities against internationally recognised reference frameworks and developing **ESG action plans**
- Continuing to **explore requirements** from different stakeholders, including community and Traditional Owners, government agencies, financiers, and customers
- **Progressing implementation** and incorporation of ESG ethos into all aspects of the Project



WA is the most attractive source of potential new vanadium supply globally

Mining Investment Attractiveness Score 2021



- The MTMP is located in Western Australia, **the most attractive mining jurisdiction in the world**
- Alternative sources of new supply are in China, Russia or South Africa, all of which are far less attractive locations for investment

Australia has the potential to serve an important role among allies to secure critical energy metals such as vanadium

Source: CRU, January 2023

Source: CRU, January 2023, Fraser Institute

VRFB DEVELOPMENTS GLOBALLY

Deployment of large scale VRFBs globally

Details	Sumitomo	Rongke Power	Invinity	Shanghai Electric	Yadlamalka Energy
Image				n/a	
Project Location	Hokkaido, Japan	Dalian City, China	Alberta, Canada	Jiangsu province, China	South Australia
Stage	Commenced operations in 2015	Operational	Construction/Installation	Public plans	Construction /Installation
Developer					
Scale*	60MWh (15MW for 4h)	800MWh (200MW)	8.4MWh	400MWh (100MW)	8MWh (2MW)

* 1kWhr requires ~10kg of V₂O₅

Source: Company announcements

VANADIUM IN STEEL ALLOYS REDUCES CO₂ EMISSIONS

Iron - Steel sector one of the largest CO₂ emitters

- 1 tonne steel = 1.85 tonne CO₂ released
- Approximately 8% global CO₂ emissions from steel in 2020
- Inclusion of vanadium enables higher quality, stronger steel, lowering emissions
- Chinese industry reduced 2019 CO₂ emissions by 1.5% by including vanadium in rebar¹



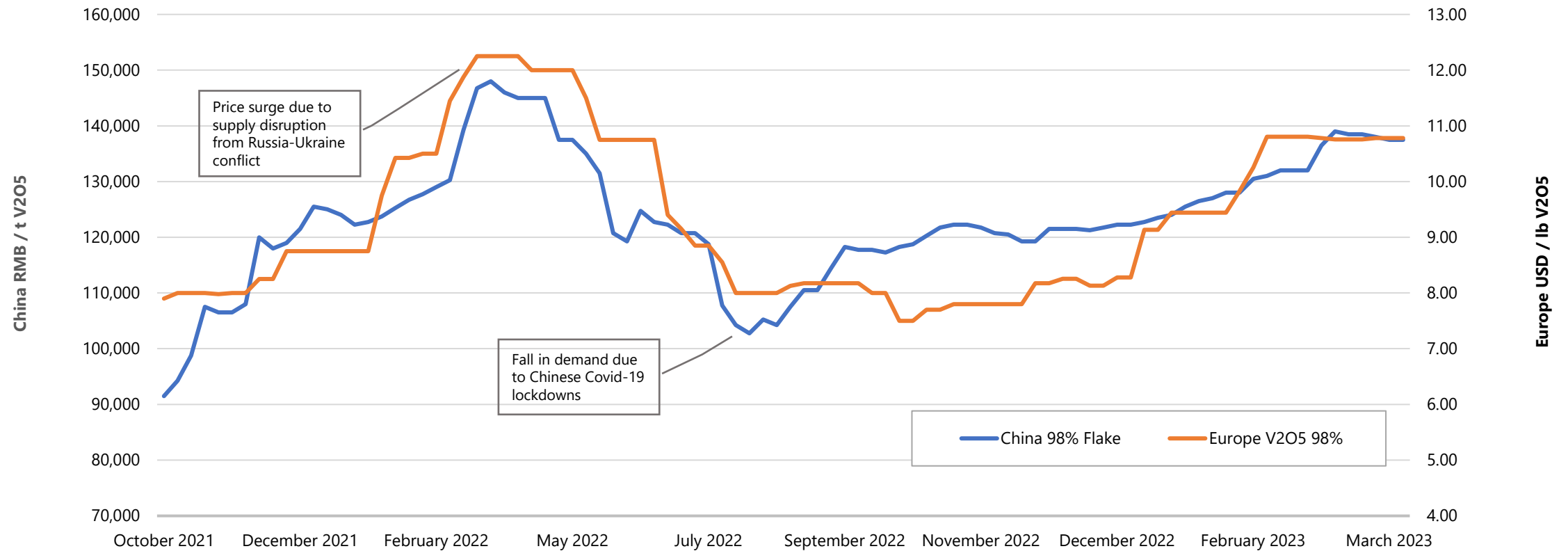
The benefits of upgrading to high-strength vanadium steel



1 - Santos et al, Texas A&M University

V₂O₅ PRICE PERFORMANCE

CHINA VS EUROPE RELATIVE PRICE PERFORMANCE



Source: FerroAlloy.Net