

Australian
VANADIUM
LIMITED



DIGGERS AND DEALERS 2022

August 2022

ASX:AVL

ASX CHAPTER 5 COMPLIANCE AND CAUTIONARY AND FORWARD-LOOKING STATEMENTS

The views expressed in this Presentation contain information derived from publicly available sources that have not been independently verified. No representation or warranty is made as to the accuracy, completeness or reliability of the information.

ASX Listing Rules 5.19 and 5.23

ASX Listing Rule 5.19

The information in this Presentation relating to production targets, or forecast financial information derived from a production target, is extracted from the announcement titled "Bankable Feasibility Study for the Australian Vanadium Project" released to the ASX on 6 April 2022 which is available on the Company's website www.australianvanadium.com.au.

The Company confirms that all material assumptions underpinning the production target, or the forecast financial information derived from a production target, in the original market announcement continue to apply and have not materially changed.

ASX Listing Rule 5.23

The information in this Presentation relating to exploration results and mineral resource and ore reserve estimates for the Australian Vanadium Project (other than the information on slide 36) is extracted from the announcement titled "Bankable Feasibility Study for the Australian Vanadium Project" released to the ASX on 6 April 2022 which is available on the Company's website www.australianvanadium.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 estimates in the original 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 presented have not been materially modified from the original market announcement.

Forward Looking Statements

This Presentation may contain certain forward-looking statements with respect to matters including but not limited to the financial condition, results of operations and business of AVL and certain of the plans and objectives of AVL with respect to these items. These forward-looking statements are not historical facts but rather are based on AVL's current expectations, estimates and projections about the industry in which AVL operates and its beliefs and assumptions.

Words such as "anticipates," "considers," "expects," "intends," "plans," "believes," "seeks," "estimates", "guidance" and similar expressions are intended to identify forward looking statements and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, particularly those risks or uncertainties inherent in the industry in which AVL operates.

These statements are not guarantees of future performance and are subject to known and unknown risks, uncertainties, and other factors, some of which are beyond the control of AVL, are difficult to predict and could cause actual results to differ materially from those expressed or forecasted in the forward-looking statements. Such risks include, but are not limited to resource risk, metal price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the countries and states in which we sell our product to, and government regulation and judicial outcomes. For more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other filings.

AVL cautions shareholders and prospective shareholders not to place undue reliance on these forward-looking statements, which relate only to events as of the date on which the statements are made.



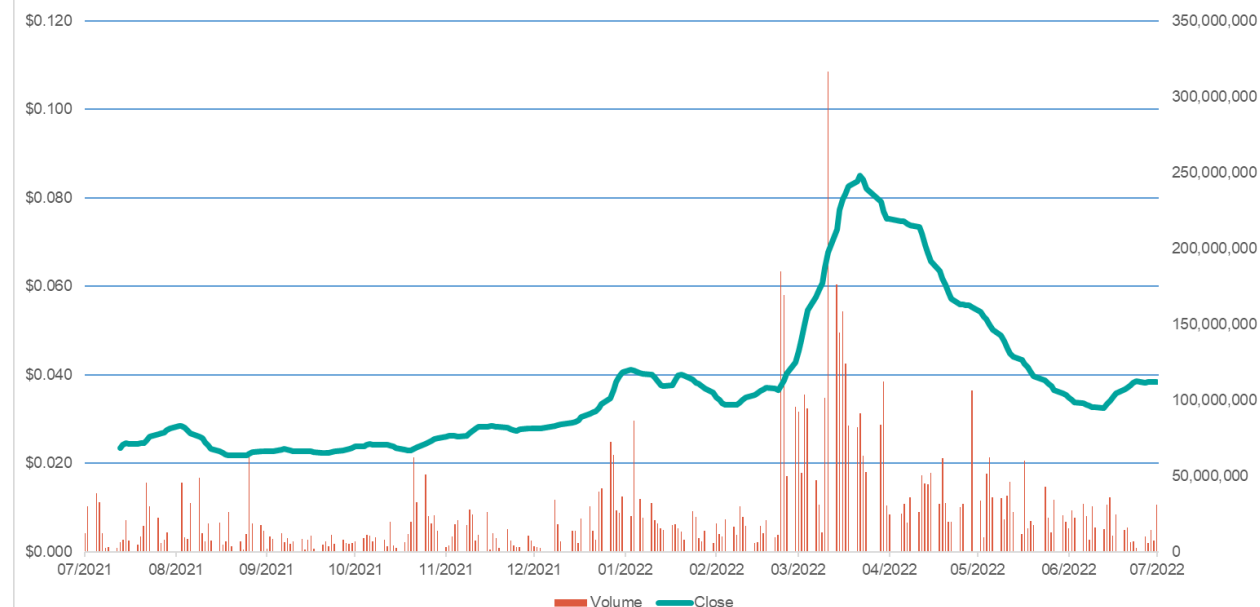
CORPORATE OVERVIEW

Australian Vanadium

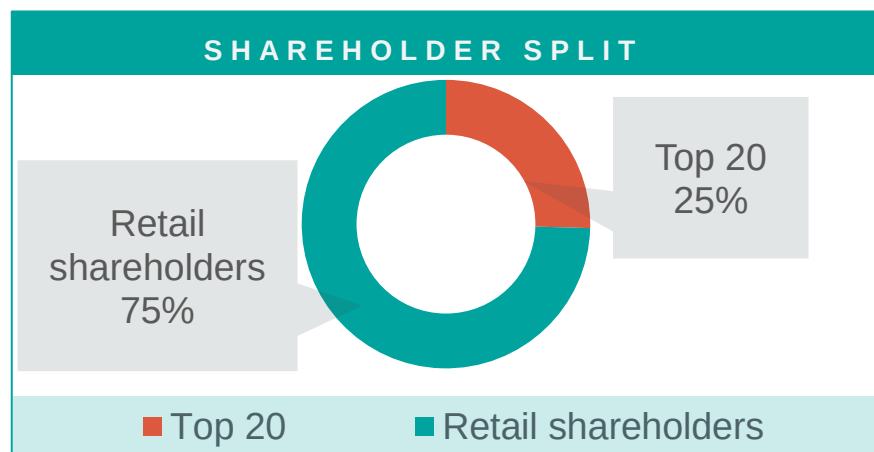
KEY STATISTICS AS AT 22/07/22

Ordinary Shares on Issue	3.94b
Share Price	A\$0.041
Options on Issue Exp 18/12/22 @ \$0.025	355,385,353
Option Price (AVLOA)	A\$0.017
Average Daily Traded Volume	27.3M (~\$1.39M)
Market Cap (Undiluted)	A\$161.5M
Shareholders	15,703
Cash at the end of last quarter	\$26.5M

AVL SHARE PRICE HISTORY (22/7/2022)



SHAREHOLDER SPLIT



TOP 5 SHAREHOLDERS

		%
1	Citicorp Nominees Pty Ltd	6.92%
2	BNP Paribas Nominees Pty Ltd ACF Clearstream	3.91%
3	Mr & Mrs Hoeksema	2.18%
4	Kalemois Pty Ltd	1.90%
5	HSBC Custody Nominees (Australia) Ltd	1.85%



AUSTRALIAN VANADIUM LIMITED

Executive Summary



Highest Grade

The Australian Vanadium Project is located near Meekatharra, Western Australia and is among the highest-grade vanadium projects in the world.



Attractive Economics

Recently announced Bankable Feasibility Study. 25+ year mine life. Cash available to fund ongoing vanadium project work and developing key downstream markets ahead of finalising debt financing.



Front End Engineering and Contractor

CMB EPC and Processing Plant EPCM evaluation and engagement underway



Critical Mineral Project

AVL has recently been awarded a A\$49 million grant under the Australian Government's Modern Manufacturing Initiative Collaboration Stream towards the development of the Australian Vanadium Project.



Focus on Export Finance and Offtake engagement

Targeting FID in Q4 2022.



Downstream Options

AVL is also focused on developing key downstream markets - 100% owned subsidiary VSUN Energy promotes vanadium redox flow batteries (VRFBs) for renewable energy storage, a vanadium supply growth market.



Vanadium Markets

PRIMARY

STEEL



92%

of current global
vanadium consumption



Construction
Industry



Ships



Tools



Trains

CHEMICAL, AEROSPACE & OTHER



6%

of current global
vanadium consumption



Jet Engines



Chemical uses



Aerospace
Industry



3D Printing

EMERGING & FUTURE

RENEWABLE ENERGY STORAGE & AUTOMOTIVE



2%

of current global
vanadium consumption



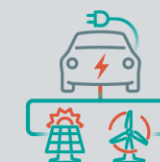
Vanadium Redox
Flow Batteries



Automotive
Industry



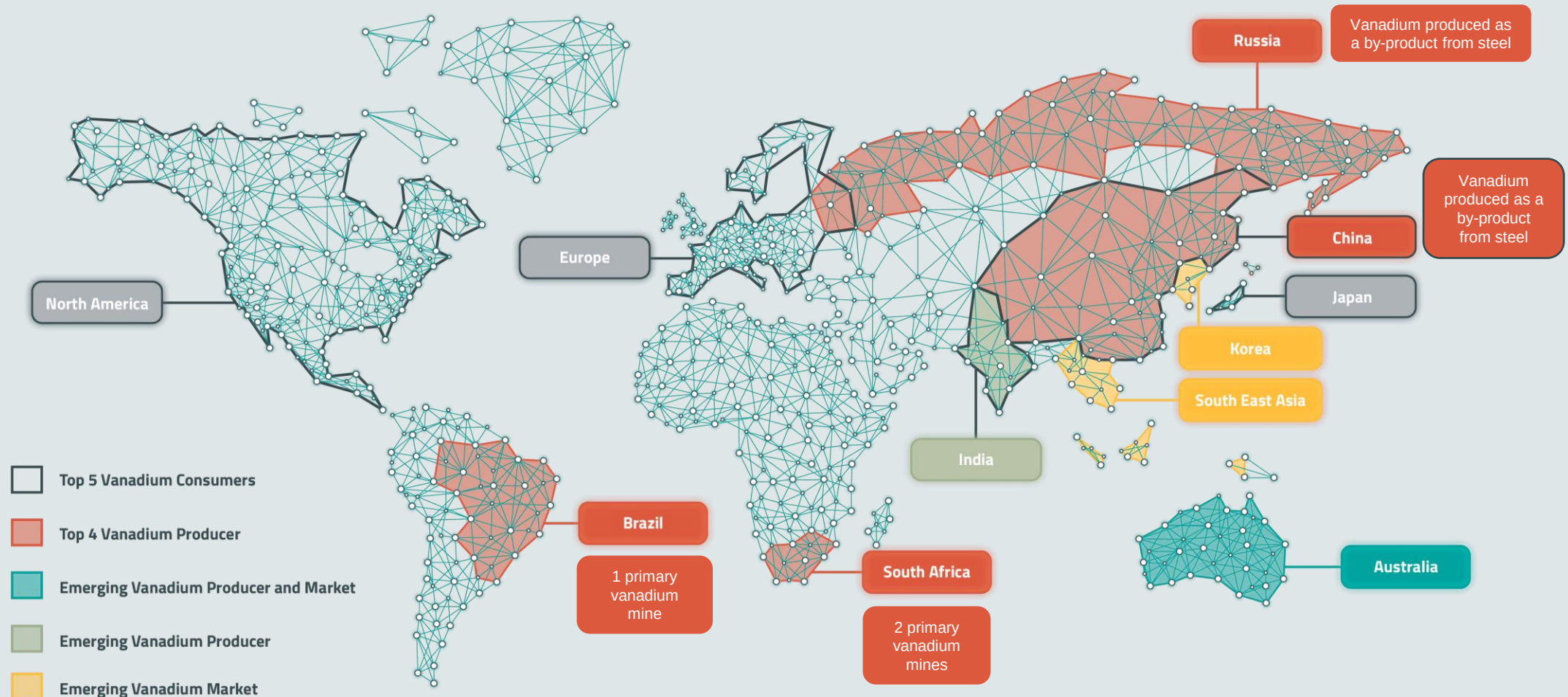
Standalone
Power Station



EV Charging

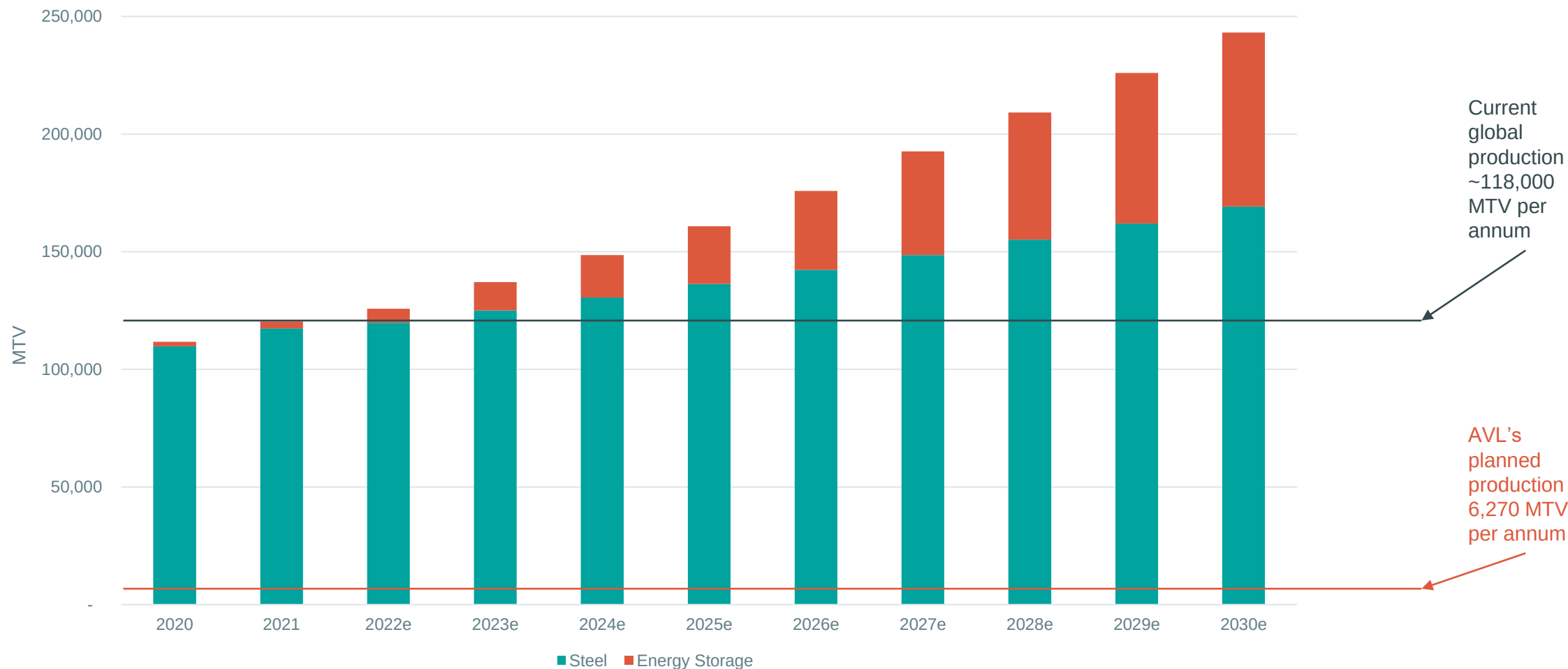


Global Vanadium Dominated by China and Russia



VANADIUM MARKETS

Projected energy storage growth to shift demand



Source – US based vanadium market specialist: TTP Squared, Inc

¹See ASX Announcement "Bankable Feasibility Study for Australian Vanadium Project" dated 6th April 2022. All material assumptions underpinning the production target continue to apply and have not materially changed.



Why use the VRFB for energy storage?



Able to store large amounts of **energy** for later use



Easy to scale power and energy separately



Lifespan over 20 years with **no degradation in performance** over time



Non-flammable making it safer than other batteries on the market



Multiple daily cycles, with **100% depth of discharge** available



Vanadium electrolyte can be **reused indefinitely** or used in steel market



CORPORATE OVERVIEW

Experienced Corporate Team *International vanadium credentials*

Cliff Lawrenson
Non-Executive
Director

Over 10 years of experience chairing public and private companies post extensive executive career in resources, energy, infrastructure and investment banking.

Currently Non-Executive Chair of Paladin Energy (ASX: PDN), Caspin Resources (ASX:CPN), Canyon Resources (ASX:CAY) and privately owned Pacific Energy and Onsite Rental Group.



Vincent Algar
Managing
Director

Has over 25 years of experience in the mining industry, spanning underground and open cut mining operations, greenfields exploration, project development and mining services. Significant experience in the management of publicly listed companies.



Daniel Harris
Technical
Director

Over 40 years of **global vanadium experience** including processing and operation. Recent roles include interim CEO and Managing Director at Atlas Iron; Chief Executive & Operating Officer at Atlantic; Vice President & Head of Vanadium Assets at Evraz Group; and Managing Director at Vametco Alloys. Currently Director of US Vanadium LLC.



Leslie Ingraham
Executive
Director

Has over 30 years of experience in business and has performed the roles of Executive Director and Non-executive Director for ASX listed companies.

Extensive experience in capital raising and mineral prospecting and exploration, corporate advisory, investor relations and building long lasting relationships with high end investors in Australia and overseas.



Todd Richardson
Chief Operating
Officer

Over 20 years of **experience in the vanadium sector** and an expert in vanadium process design, commissioning and operations.

An extensive background in operations, management and technical services, both in the USA and Australia, in all phases of plant operation.



Liesl Strachan
Chief Financial
Officer

More than 15 years of experience in the resources sector, both in Australia and the UK.

Currently provides financial services to ASX listed exploration companies Big River Gold Ltd (ASX: BRV) and Bryah Resources Ltd (ASX: BYH).

CORPORATE OVERVIEW

Experienced Technical Team in Place and Growing



Gemma Lee
Principal
Geologist

20 years of experience in resource development in WA across multiple commodities. Undertakes and oversees geological modelling and reporting for resource updates. Assists with DMP and environmental approvals.



Tony Standish
Exploration
Manager

Responsible for drilling and field safety programs at the Australian Vanadium Project. His strong relationship with pastoralists and Traditional Owners has been invaluable as the project moves towards development.



Greg O'Connor
Process
Engineer
Metallurgist

More than 20 years of experience in multi commodity metallurgy with extensive experience in comminution, hydrometallurgy and flotation at laboratory and pilot scale. Significant plant experience and Process Mineralogy skills and a PhD in metallurgy.



Trevor Smith
Project Manager

A chartered chemical engineer with more than 30 years of experience in minerals processing bulk materials handling and project management.



Ashley Jones
Geology
Consultant

Experienced in resource development in WA across multiple commodities. Provides oversight for geological resources and exploration strategy. Responsible for mine planning, scheduling and water. Non-Executive Director Star Minerals, Director AI Exploration Services Australia and Director Kamili Geology.



Samantha McGahan
VSUN Energy
Manager

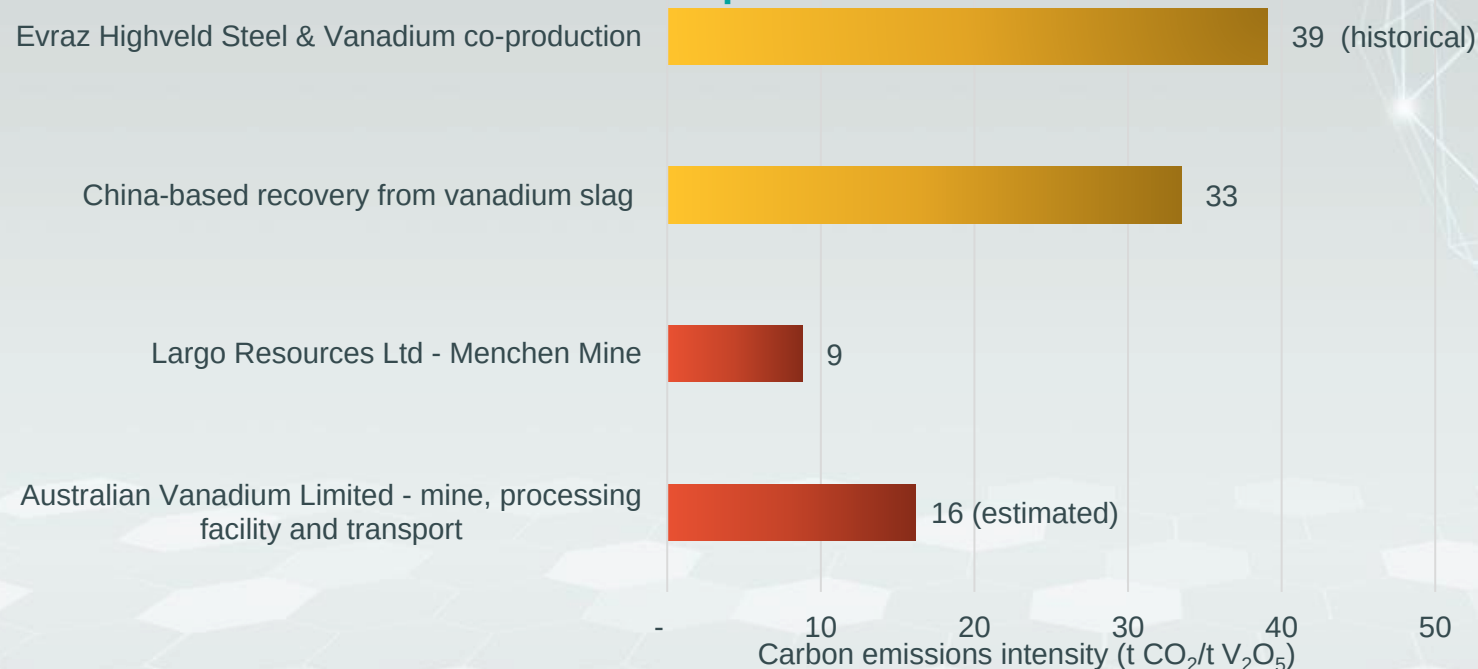
Over 25 years in a diverse range of industries spanning education, law and technology. Has led the development of VSUN Energy since 2016. Fosters a strong network throughout both vanadium and energy markets and has experience in marketing.



ESG IN ACTION

Strong ESG Focus

Carbon emissions intensity of global vanadium production operations



The vanadium produced by the AVL Project is estimated to result in a **net reduction** in GHG emissions of approximately 1,250 t CO₂/t V₂O₅ or **14 million t CO₂-e per annum**, considering direct and indirect GHG emissions. (if used in 400MPa HSLA steel and VRFBs)

The pathway to net zero for the minesite and processing plant has been mapped to 2050

Largo Resources. (2019). 2019 Sustainability Report.

Kumar, Santos, Braham, Sellers, Banerjee and Dixit, Texas A&M (2021). Punching above its weight: life cycle energy accounting and environmental assessment of vanadium microalloying in reinforcement bar steel

Weber, Peters, Baumann and Weil (2018). Life Cycle Assessment of a Vanadium Redox Flow Battery

Umwelt (2021) Greenhouse Gas Management Plan for the Australian Vanadium Project



ESG IN ACTION

Strong ESG Focus

Community Partners

- ▶ AVL is working with the Yugunga-Nya People to provide employment opportunities and help build a brighter future for the younger members of the group
- ▶ AVL is a proud supporter of the Stephen Michael Foundation and its work supporting children in education through sports and other activities
- ▶ Sponsorship of the Foundation has enabled AVL to engage with and build relationships in the wider Meekatharra community
- ▶ AVL has a Community Relations Advisor based in Geraldton
- ▶ The Company is supporting Mid West students by sponsoring awards and scholarships at Central Regional TAFE
- ▶ AVL is actively involved in the Mullewa community sponsoring community events and organisations such as the Mullewa CRC, the Mullewa Football Club and the Mullewa Agricultural Show
- ▶ AVL is an active member of the Mid West Chamber of Commerce and Industry and Pollinators Inc, a member-based social enterprise association



ESG IN ACTION

Strong ESG Focus

Governance

- ▶ Experienced and competent Board of Directors
- ▶ Tight adherence to ASX listing rules
- ▶ Long term engagement with Environmental Protection Agency
- ▶ Company policies being refined by consultant Jukes Todd
- ▶ Strong corporate culture within the organisation at all levels

Renewable energy strategy

- ▶ AVL will utilise renewable energy resources on its sites
- ▶ Use of solar and/or wind generation at the minesite and processing plant
- ▶ Installation of VRFBs at both sites for energy storage and EV charging
- ▶ Collaboration with ATCO for delivery of green hydrogen into the natural gas supply at the processing plant
- ▶ Potential use of electric or green hydrogen fuelled vehicles onsite and for haulage
- ▶ Downstream processing of vanadium electrolyte
- ▶ Subsidiary focused on growing the vanadium redox flow battery market through installation and maintenance of systems



Pictured left – standalone power system for IGO's Nova Nickel Operation





THE AUSTRALIAN VANADIUM PROJECT



Unique FeTi Co
Product sales
opportunity

Infrastructure – port,
water, gas, rail, road,
power, airport

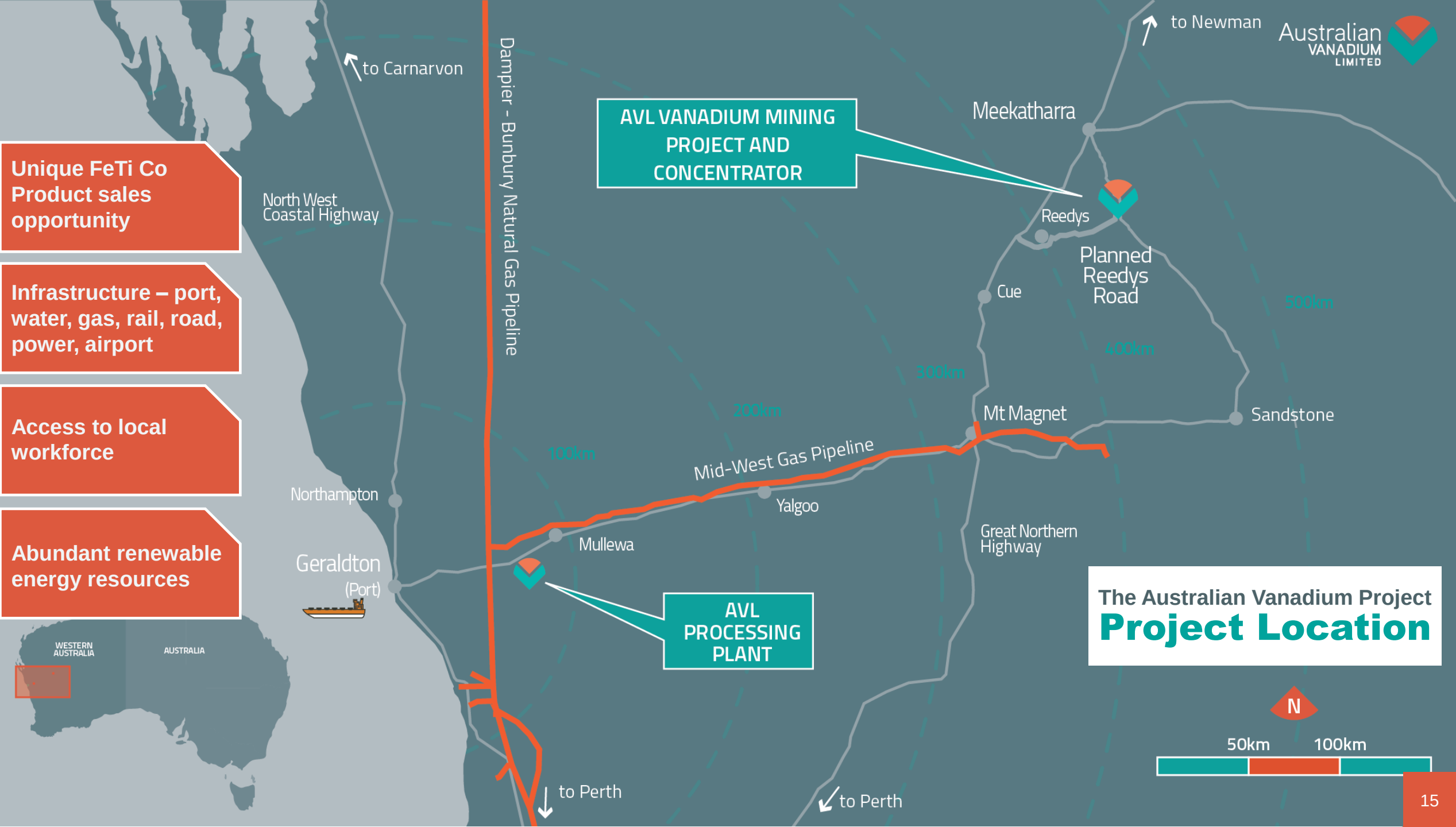
Access to local
workforce

Abundant renewable
energy resources

AVL VANADIUM MINING
PROJECT AND
CONCENTRATOR

AVL
PROCESSING
PLANT

The Australian Vanadium Project
Project Location



Recent BFS – Robust Project Metrics



RESOURCE

Total Resource

239Mt @ 0.73% V₂O₅

High-grade 95.6Mt @ 1.07 V₂O₅

Ore Reserve

30.9Mt @ 1.09 V₂O₅

Proved 10.5Mt @1.11% V₂O₅

Probable 20.4Mt @V₂O₅

11,200tpa V₂O₅

Vanadium production

25+ years

mine life



STRONG FINANCIAL OUTCOMES

Pre-Tax NPV_{7.5}

A\$833M

IRR

20.6%

EBITDA Annual Average

A\$175M

EBITDA Project

A\$4.4B

NPAT Project

A\$2.2B



OPEX, CAPEX

C1 OPEX

US\$4.43/lb V₂O₅

PRE-PRODUCTION

CAPEX US\$435M

900,000tpa

FeTi coproduct annual export

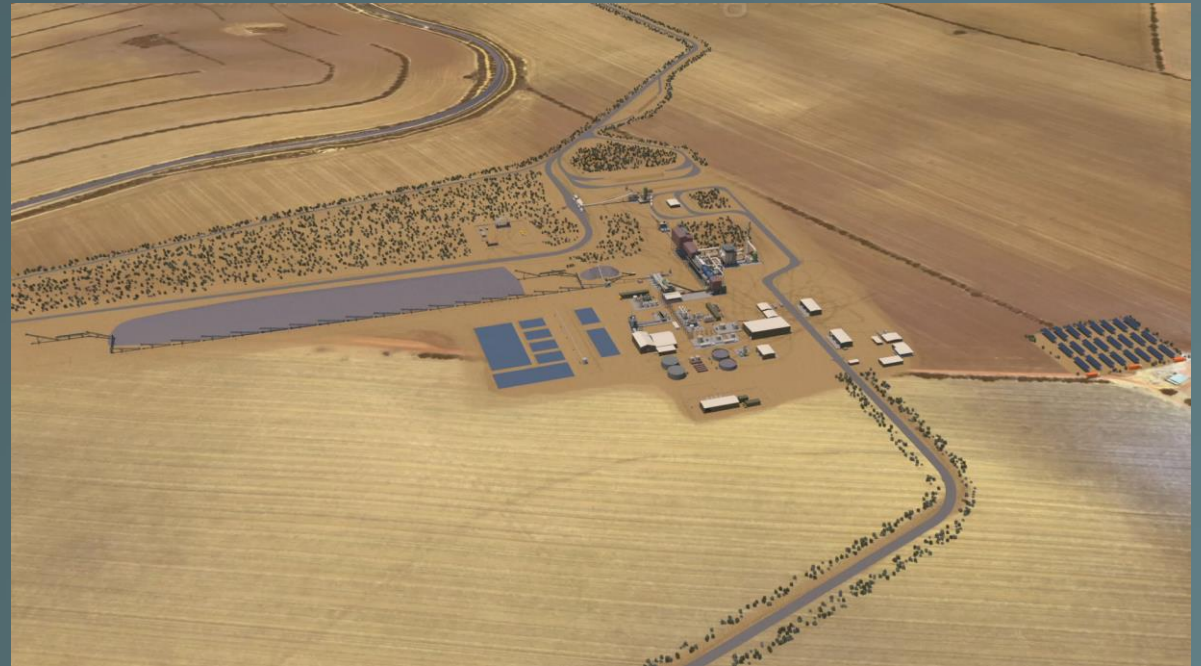
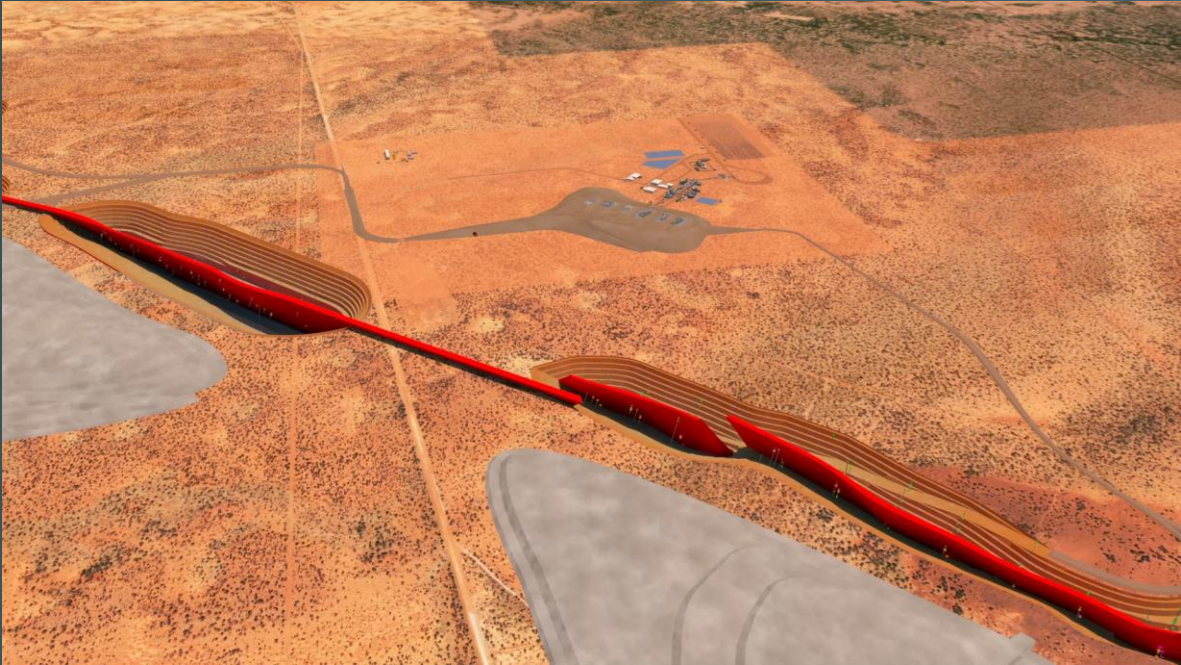
Note: Information within this slide as detailed in ASX Announcement "Bankable Feasibility Study for Australian Vanadium Project" dated 6th April 2022. All material assumptions underpinning the production target and forecast financial information derived from a production target continue to apply and have not materially changed.





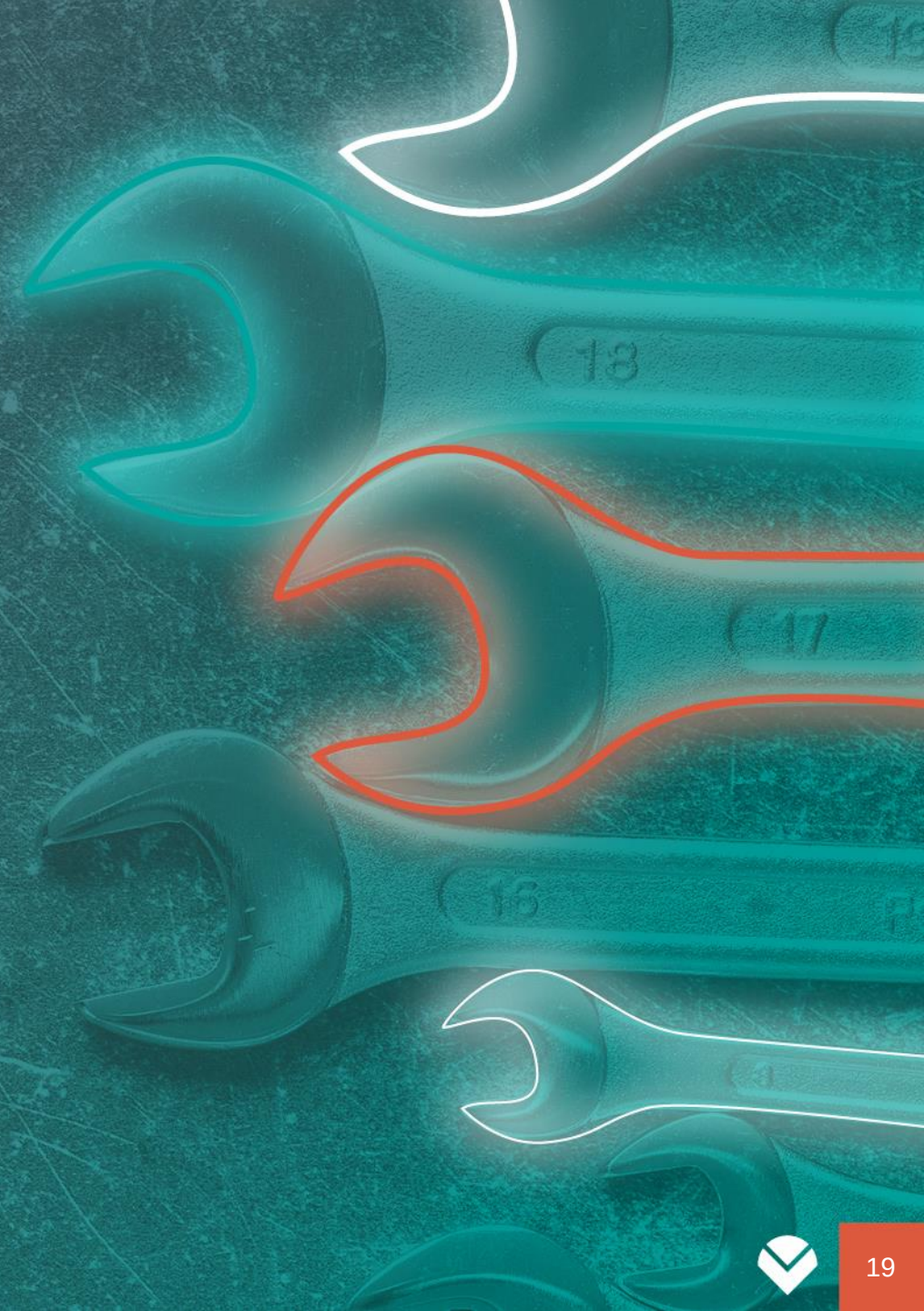
THE AUSTRALIAN VANADIUM PROJECT

Pit, Beneficiation Plant and Processing Plant





Project Delivery



Vertical Integration Vanadium Production



THE AUSTRALIAN VANADIUM PROJECT

Vanadium Electrolyte Plant

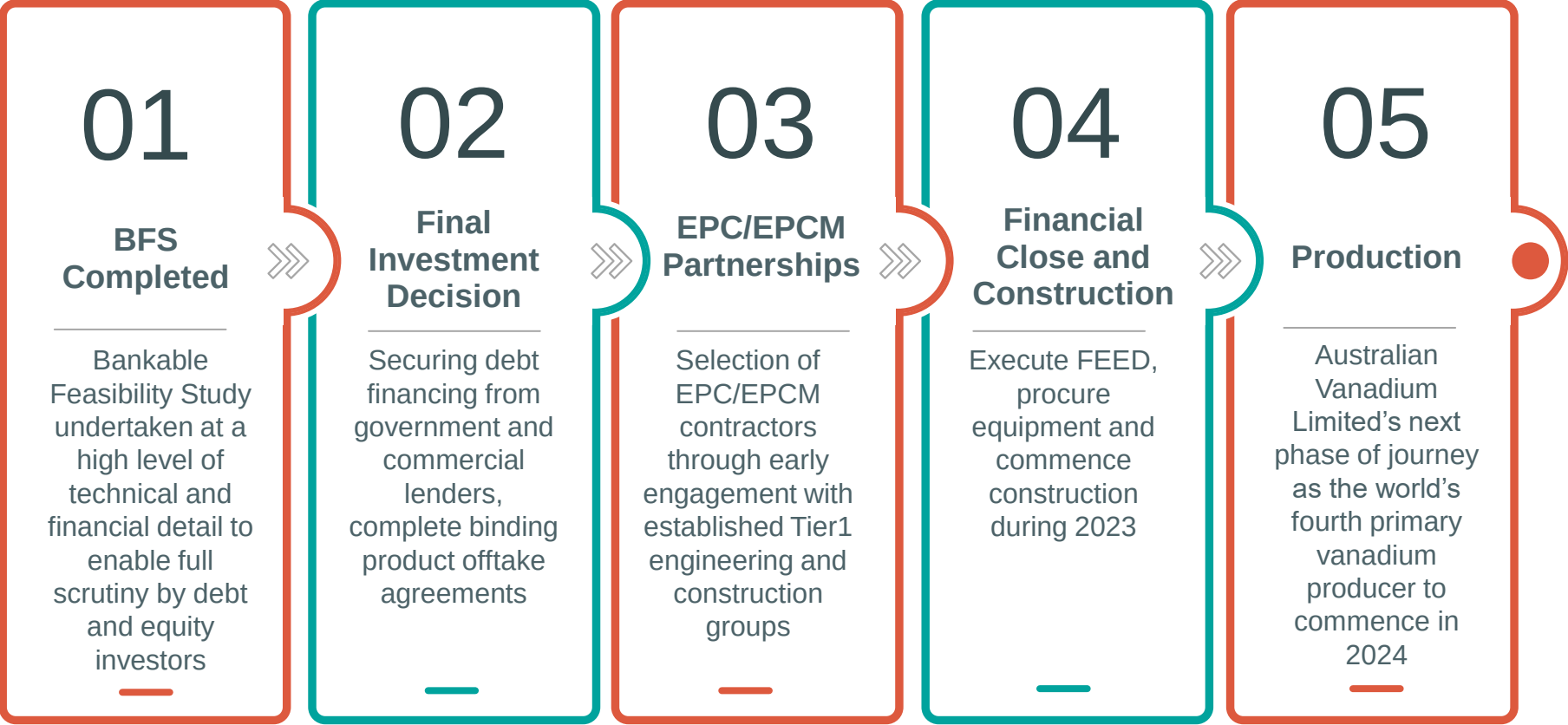
- Vanadium electrolyte plant being built at Kwinana industrial area, south of Perth
- Partly funded by Australian Government manufacturing grant of \$3.69M
- Vanadium electrolyte technology and vanadium feedstock to be provided by U.S. Vanadium LLC
- Plant build being undertaken by WA engineering group Primero
- Initial plant to produce 1.6M litres per annum (able to store 33MWh) of vanadium electrolyte for use in Australian deployed VRFBs
- Local electrolyte production provides AVL and VSUN Energy with competitive advantage



U.S. Vanadium LLC electrolyte plant in Arkansas, US

AUSTRALIAN VANADIUM PROJECT

Project Delivery



IN SUMMARY

Australian Vanadium Project



Expertise

International vanadium experience, skilled knowledgeable technical and commercial team



Timing

Increased vanadium consumption in the steel market, steel alloys and vanadium's use in VRFBs are major global drivers



Project

Globally significant resource, strong business fundamentals, long mine life and a focus on more than mining



Business Model

Vertically integrated approach, collaboration with renewable energy and battery markets, underpinned by an action-based approach to assist global pathway to Net Zero Emissions





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GEOLOGY & MINING

Resource table

DOMAINS	CATEGORY	Mt	V ₂ O ₅ %	Fe %	TiO ₂ %	SiO ₂ %	Al ₂ O ₃ %	LOI %
HG 10	Measured	11.3	1.14	43.8	13.0	9.2	7.5	3.7
	Indicated	27.5	1.10	45.4	12.5	8.5	6.5	2.9
	Inferred	56.8	1.04	44.6	11.9	9.4	6.9	3.3
	Subtotal	95.6	1.07	44.7	12.2	9.1	6.8	3.2
LG 2-5	Measured	-	-	-	-	-	-	-
	Indicated	54.9	0.50	24.9	6.8	27.6	17.1	7.9
	Inferred	73.6	0.48	25.0	6.4	28.7	15.4	6.6
	Subtotal	128.5	0.49	24.9	6.6	28.2	16.1	7.2
Trans 6-8	Measured	-	-	-	-	-	-	-
	Indicated	-	-	-	-	-	-	-
	Inferred	14.9	0.66	29.0	7.8	24.5	15.1	7.8
	Subtotal	14.9	0.66	29.0	7.8	24.5	15.1	7.8
Total	Measured	11.3	1.14	43.8	13.0	9.2	7.5	3.7
	Indicated	82.4	0.70	31.7	8.7	21.2	13.5	6.2
	Inferred	145.3	0.71	33.0	8.7	20.7	12.0	5.4
	Subtotal	239.0	0.73	33.1	8.9	20.4	12.3	5.6

Note: Mineral Resource estimate by domain and resource classification using a nominal 0.4% V₂O₅ wireframed cut-off for low grade and nominal 0.7% V₂O₅ wireframed cut-off for high grade (total numbers may not add up due to rounding).
See ASX announcement "Bankable Feasibility Study for Australian Vanadium Project" dated 6th April 2022.



GEOLOGY & MINING

Ore Reserve Table

The Ore Reserve for the Australian Vanadium Project 2022 Bankable Feasibility Study is detailed in the table below.

Ore Reserve	Mt	V ₂ O ₅ %	Fe ₂ O ₃ %	TiO ₂ %	SiO ₂ %	LOI%	V ₂ O ₅ production kt	Ore Reserve	Mt
Proved	10.5	1.11	61.6	12.8	9.5	3.7	70.9	Waste	238.5
Probable	20.4	1.07	63.4	12.2	9.2	3.0	152.9	Total Material	269.4
Total Ore	30.9	1.09	62.8	12.4	9.3	3.2	223.8	Strip Ratio	7.7

Note: Tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers might not add due to rounding.

The Ore Reserves and Inferred Resources utilised for the life of mine (LOM) schedule for the Australian Vanadium Project 2022 Bankable Feasibility Study, inclusive of the Ore Reserve above, is detailed in the table below.

Ore Reserve	Mt	V ₂ O ₅ %	Fe ₂ O ₃ %	TiO ₂ %	SiO ₂ %	LOI%	V ₂ O ₅ production kt	Ore Reserve	Mt
Proved	10.5	1.11	61.6	12.8	9.5	3.7	70.9	Waste	296.5
Probable	20.4	1.07	63.4	12.2	9.2	3.0	152.9	Total Material	335.7
Inferred Resources	8.2	1.04	63.4	12.0	9.2	3.1	57.6	Strip Ratio	7.6
Total Ore	39.2	1.08	62.9	12.3	9.3	3.2	281.4		

Note: Tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers might not add due to rounding.

The Ore Reserve for the Australian Vanadium Project 2022 Bankable Feasibility Study was developed by Orelogy Consulting Pty Ltd. The economic evaluation of the Project in this presentation is underpinned by Reserves and Inferred Resources comprising:

- the Ore Reserve including both Proved and Probable classified material.
- additional Inferred Mineral Resources comprising approximately 20.5% of the proposed process plant feed material.

See ASX Announcement "Bankable Feasibility Study for Australian Vanadium Project" dated 6th April 2022.

