Australian VANADIUM LIMITED

Corporate Presentation

Paydirt Battery Minerals Conference

June 2021

ASX: AVL

Disclaimer

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.

Competent Person References

Competent Person Statement – Mineral Resource Estimation The information in this presentation that relates to Mineral Resources is based on and fairly represents information compiled by Mr Lauritz Barnes, (Consultant with Trepanier Pty Ltd) and Mr Brian Davis (Consultant with Geologica Pty Ltd). Mr Barnes and Mr Davis are members of the Australasian Institute of Mining and Metallurgy and Mr Davis is a member of the Australian Institute of Geoscientists and both have sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Specifically, Mr Barnes is the Competent Person for the estimation and Mr Davis is the Competent Person for the database, geological model and site visits. Mr Barnes and Mr Davis consent to the inclusion in this presentation of the matters based on their information in the form and context in which they appear.

Competent Person Statement – Metallurgical Results The information in this presentation that relates to Metallurgical Results is based on information compiled by independent consulting metallurgist, Brian McNab (CP. B.Sc Extractive Metallurgy). Mr McNab is a member of the Australasian Institute of Mining and Metallurgy. Mr McNab is employed by Wood Mining and Metals. Mr McNab has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is undertaken, 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'. Mr McNab consents to the inclusion in the presentation of the matters based on the information made available to him, in the form and context in which it appears.

Competent Person Statement – Ore Reserves The technical information in this presentation that relates to the Ore Reserve estimate for the Project is based on information compiled by Mr Ross Cheyne, an independent consultant to AVL. Mr Cheyne is a Fellow of the Australasian Institute of Mining and Metallurgy. He is an employee and Director of Orelogy Mine Consulting Pty Ltd. Mr Cheyne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. Mr Cheyne consents to the inclusion in the announcement of the matters related to the Ore Reserve estimate in the form and context in which it appears.

The information is extracted from the announcement entitled "Total Vanadium Resource at The Australian Vanadium Project Rises to 208 Million Tonnes" released to the ASX on 4th March 2020 and "Technical and Financial PFS Update" released to the ASX on 22nd December 2020 which are available on the Company's website at 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, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant 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 has not been materially modified from the original market announcement.

Forward Looking Statements

This presentation may contain certain "forward-looking statements" which may not have been based solely on historical facts, but rather may be based on the Company's current expectations about future events and results. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions and other factors which could cause actual results to differ materially from future results expressed, projected or implied by such 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. Readers should not place undue reliance on forward looking information. The Company does not undertake any obligation to release publicly any revisions to any "forward looking statement" to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

Australian VANADIUM LIMITED

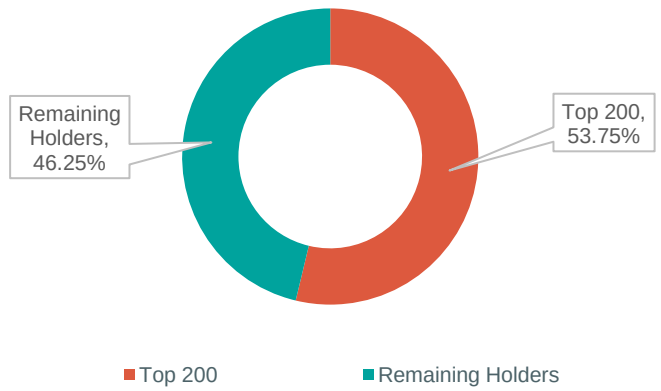
Corporate Overview

Australian Vanadium Limited (ASX: AVL) is an emerging vanadium producer developing **The Australian Vanadium Project** at Gabanintha in Western Australia

- Strong technical and commercial team with global vanadium experience
- High quality deposit
- Focus on delivering through all vanadium price cycles
- BFS progressing towards completion.
- Australian Government Major Project Status
- Western Australian Government Lead Agency Status
- Vanadium is recognised as a critical steel and alloy mineral and a battery mineral by Australian and international governments
- Vanadium usage in re-enforcement steel a major positive impact on CO_2 emission reduction
- 100% owned subsidiary VSUN Energy promotes **vanadium redox flow batteries** for renewable energy storage - a vanadium supply growth market

KEY STATISTICS (31/05/21)	
Ordinary Shares on Issue	2.93b
Share Price	A$0.02
Average Daily Traded Volume	5,845,499
Market Cap (Undiluted)	A$59m
Cash	~A$4.5m
Shareholders	8,471

SHAREHOLDER SPLIT



MAJOR SHAREHOLDERS

1	JP Morgan Nominees Australia Pty Ltd
2	HSBC Custody Nominees (Australia) Ltd
3	Citicorp Nominees Pty Ltd
4	Southland Snipe SF
5	Mr and Mrs Hoeksema

Experienced Team

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

Geologist with 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.

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.

AVL provides a globally unique investment opportunity in a key critical and battery metal

> *"AVL is developing one of the highest-grade vanadium projects currently underway in the world. Our aim is to become a low-cost producer, able to withstand long-term commodity price cycles. Adding value in Western Australia."*

Managing Director
Vincent Algar

Vanadium Markets

PRIMARY

Steel

Accounts for 90% of current global vanadium consumption. Total Consumption in 2019, 102,000 MTV

EMERGING

Energy Storage

Accounts for 2% of current global vanadium consumption, with significant potential for growth

ADDITIONAL

Ti, Chemical and Other

8% of vanadium consumption, with significant potential for growth (super alloys, 3D printing, etc)

Vanadium electrolyte in **vanadium redox flow batteries** (VRFBs)

Vanadium can also be used in the cathode of **Li-ion batteries**

Critical mineral

- Vanadium's use in alloyed steel for aerospace makes it a critical mineral
- There is no acceptable substitute for vanadium in aerospace titanium alloys
- Alloys containing vanadium are used in virtually every jet aircraft – from jet engine components to high-speed airframes
- Vanadium alloys have the best strength to weight ratio of any engineered material

Battery mineral

- Vanadium is used in vanadium electrolyte solution in vanadium redox flow batteries
- Vanadium also plays a role in the lithium-ion battery market – through its use in the cathodes of lithium-ion batteries
- Vanadium has the ability to conduct electricity, but also act as an insulator and not transfer heat

Did you know?

- Esther Sans Takeuchi invented and refined the lithium/silver vanadium oxide battery which is used in most of today's implantable cardioverter defibrillators and helps patients avoid excess operations to replace batteries
- The VRFB was invented at the University of New South Wales by Emeritus Professor Maria Skyllas-Kazacos and her team, using technology first invented by NASA in the 1970s

Steel

Using vanadium microalloyed steel can result in a reduction of the **total global carbon footprint** by as much as 0.385%* due to:

- Increased strength of steel resulting in less steel required
- Less steel required means less manufacturing of steel, with related energy use and carbon emission reduction
- Reduction in use of concrete with associated lowering of embodied carbon and energy use

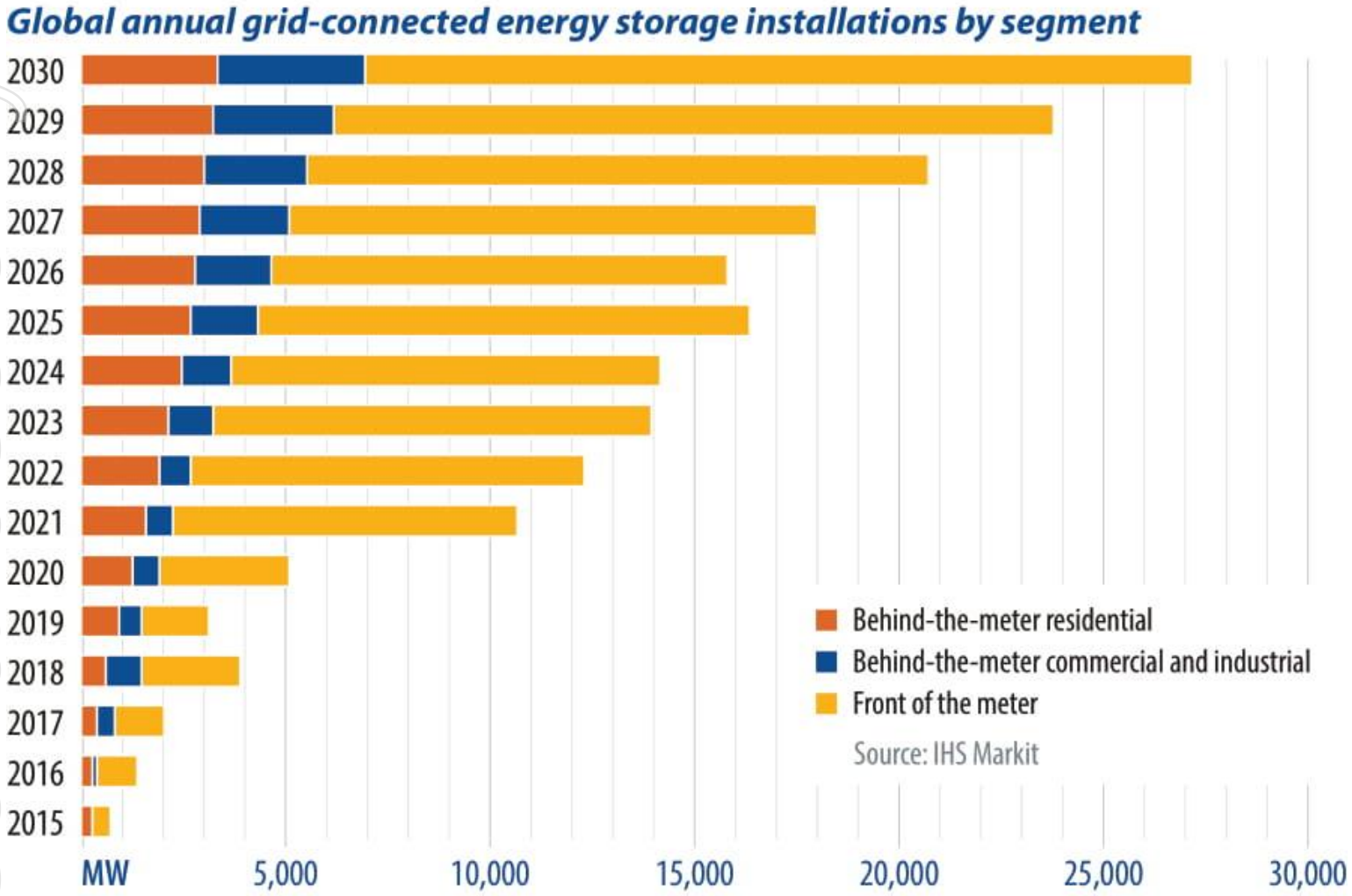
This is the equivalent carbon emission saving of planting 260,000,000 trees!

Energy Storage

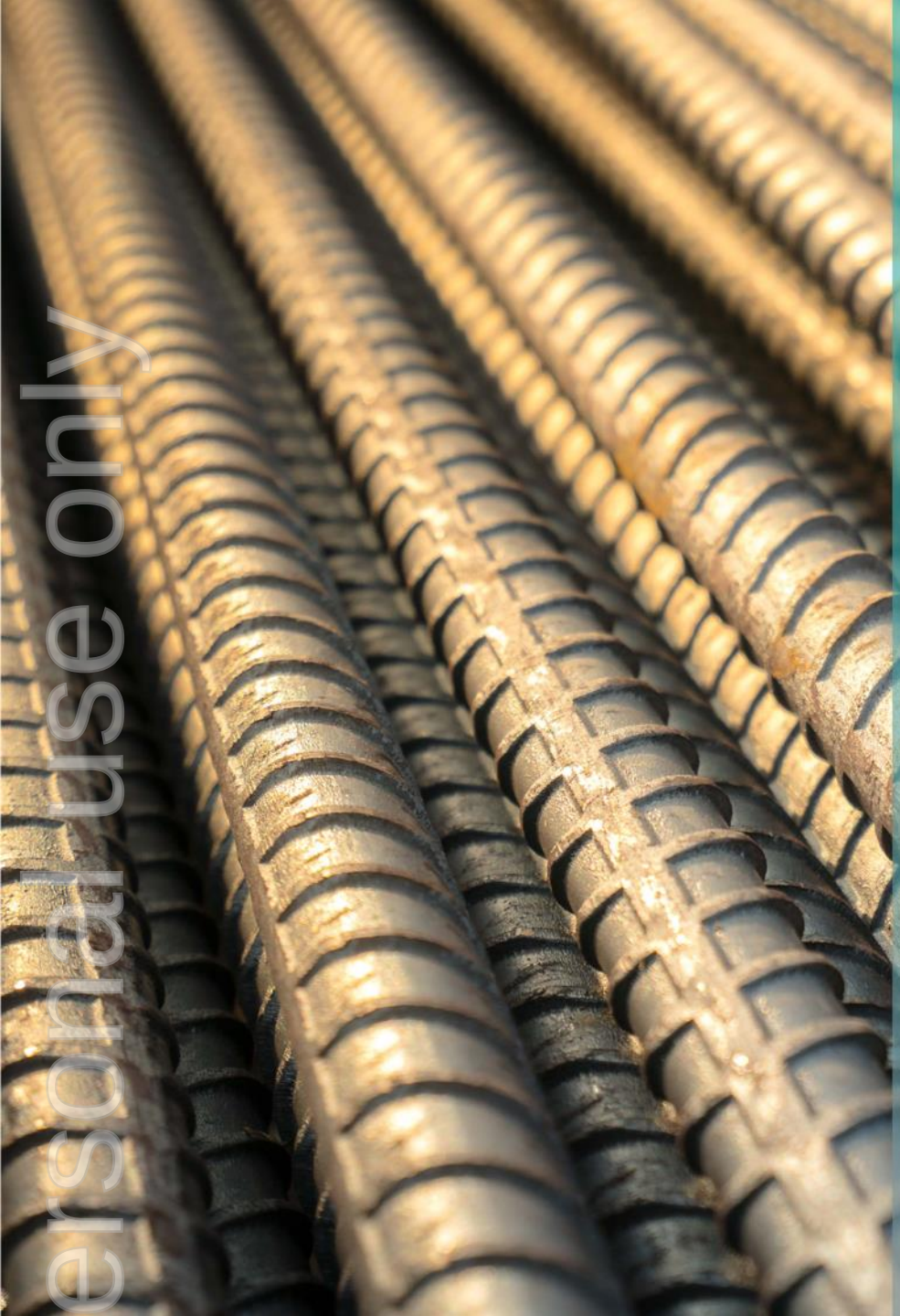
- VRFBs enable the use of more generated renewable energy
- Use of VRFBs results in reduced emissions from diesel generator emissions or fossil fuel generation
- Reuse of vanadium electrolyte, either in batteries or the steel market, demonstrates sustainability

*_Punching Above its Weight: Life Cycle Energy Accounting and Environmental Assessment of Vanadium Microalloying in Reinforcement Bar Steel_ by Pranav Pradeep Kumar, David A Santos, Erick J Braham, Diane G Sellers, Sarbajit Banerjee and Manish K Dixit

Growth in energy storage and solar



- According to IHS Markit, annual battery storage installations will exceed 10GW/28GWh in 2021.
- Combined solar and storage will be a core focus for new deployment in 2021.
- Strong growth in solar and both new and retrofitted storage predicted.



Australian VANADIUM LIMITED

The Australian Vanadium Project

The Australian Vanadium Project Overview

High quality vanadium titanium magnetite (VTM) deposit

TOTAL RESOURCE
208 Mt 0.74% V_2O_5
32.1 Mt Reserve 1.05% V_2O_5

MASSIVE HIGH-GRADE ZONE
87.9 Mt 1.06% V_2O_5
Proved 9.8Mt | Probable 22.4 Mt

INITIAL MINE LIFE
25 years

V_2O_5 PRODUCTION
24.3 Mlbs per annum (6,175 MTV)
2019 global production 102,025 MTV

- ► Production of 900,000 tpa of FeTi coproduct
- ► 31.3 Mt @ 228 ppm Cobalt

Strong financial outcomes

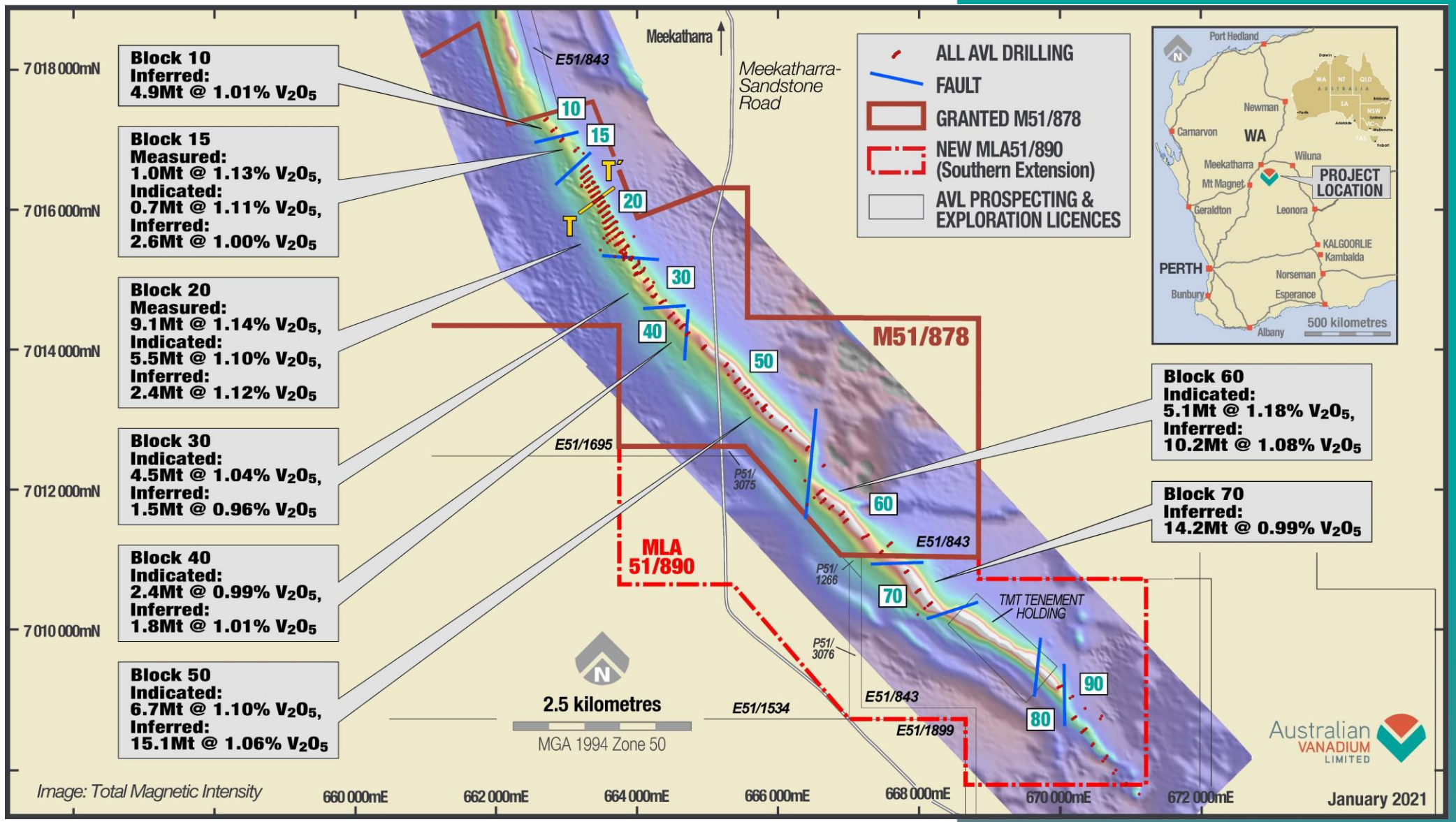
- Pre-Tax NPV_8 of A$909M
- Project IRR of 17.5%
- C1 Opex US$3.66/lb V_2O_5
- C3 Opex US$5.04/lb V_2O_5
- Capex US$399 (±25%) includes provisions for estimated indirect costs, EPCM costs, owner costs and capital growth of US$72M

► Payback 6.6yrs *(AUD:USD 0.72, USD8.67/lb V_2O_5)*

Feasibility study status

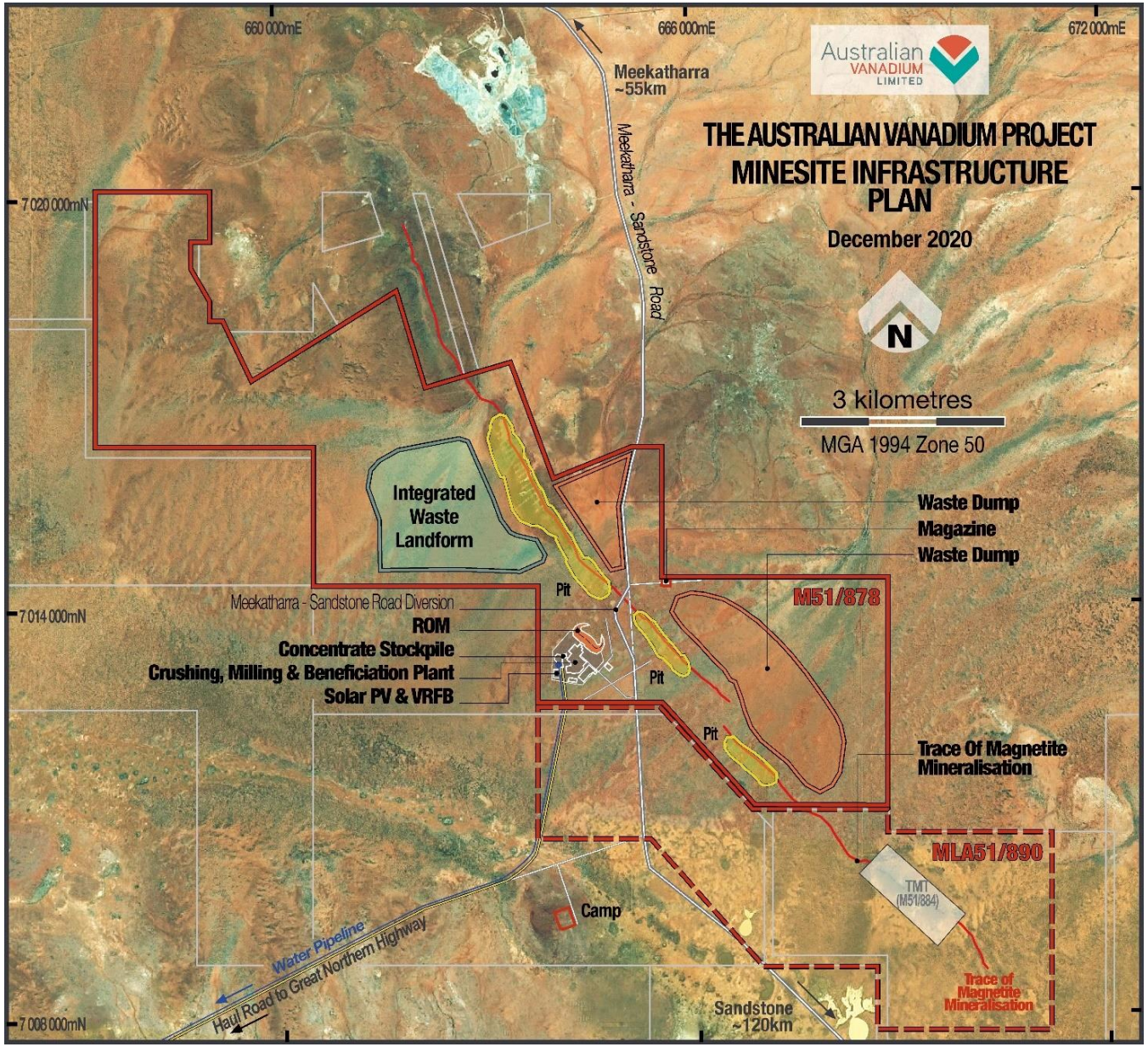
- Detailed Pre-Feasibility study update completed based on two site layout
- Feasibility studies proceeding direct to bankable level to ensure financing success
- Pilot studies on crushing, milling and beneficiation completed to DFS level
- Vanadium processing circuit design to be finalised in BFS

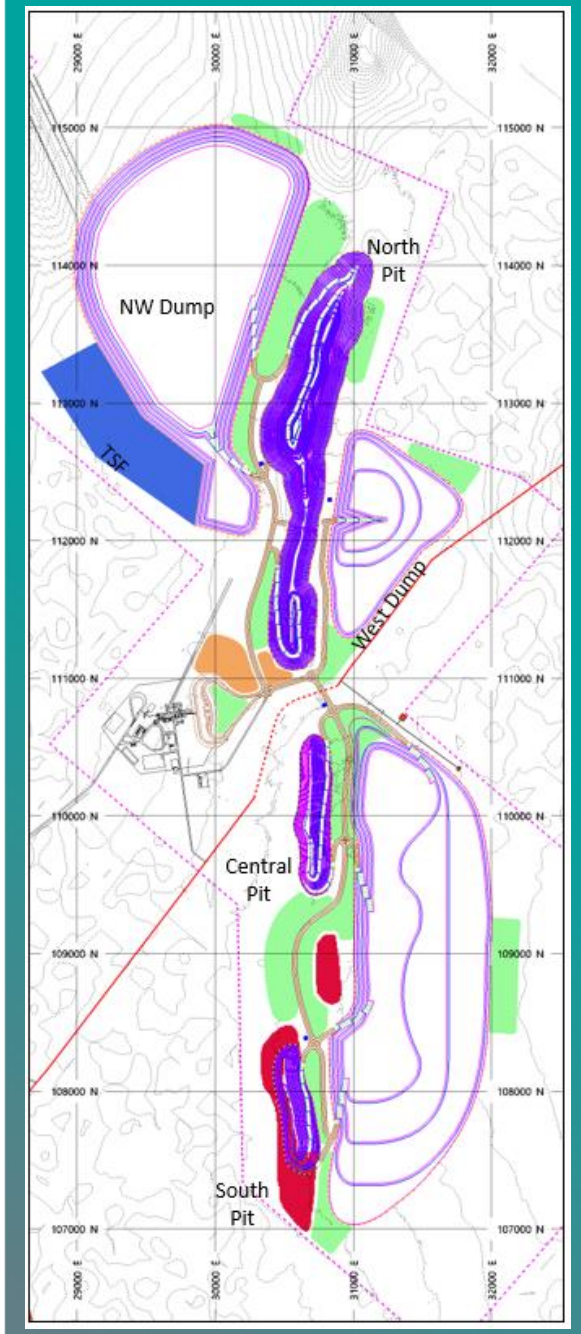
Resource Total Magnetic Intensity



The Australian Vanadium Project

Mining Layout





AVL's Innovative Approach

Vanadium processing flowsheet patent applied for

Grate Kiln extractions of up to 94.9%

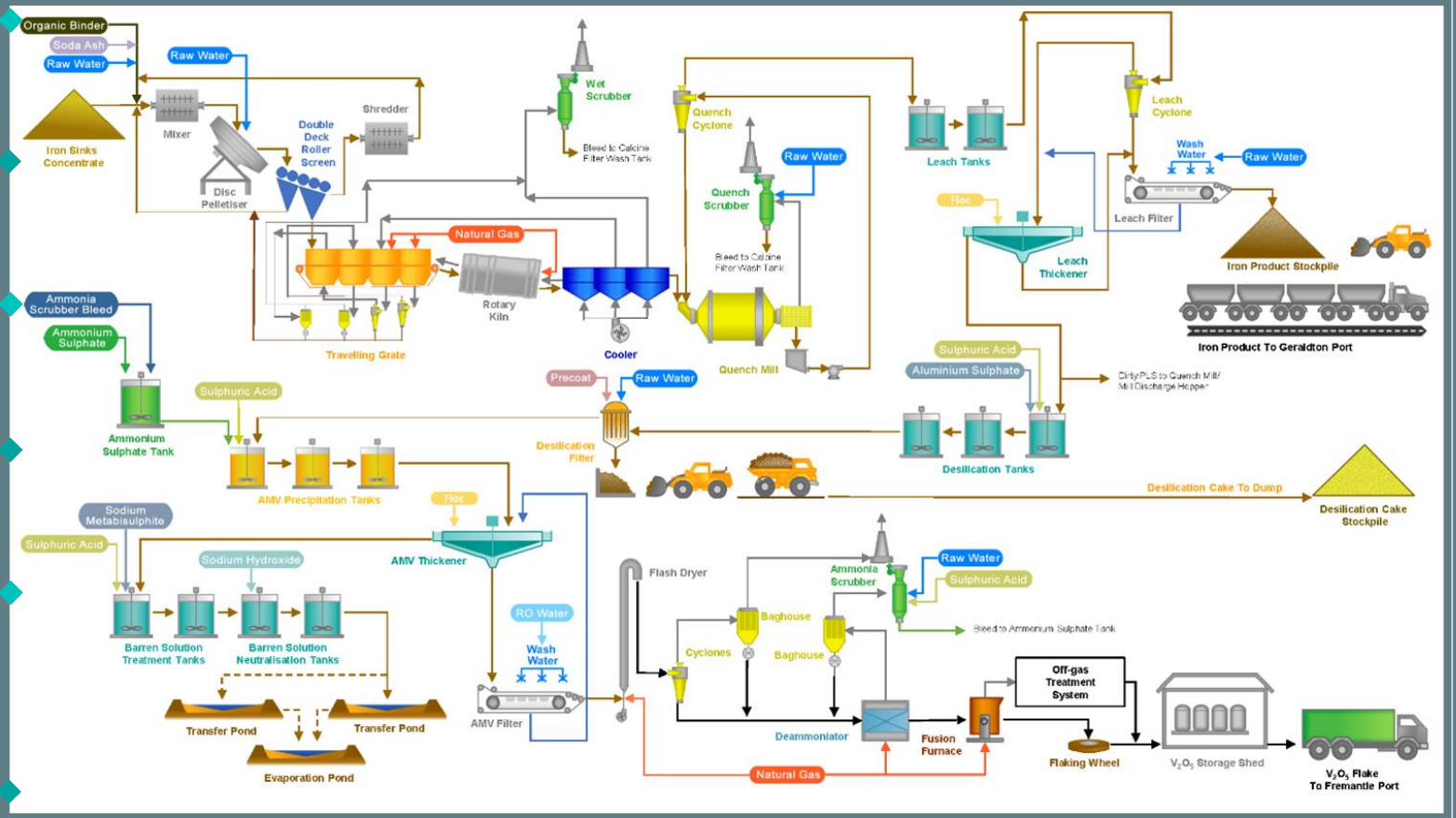
Ammonium polyvanadate (APV) processing route demonstrated

Extensive pilot study work completed on 20t of representative drill core

Developing a 99.9% high-purity vanadium process and titanium recovery

Unique high vanadium yield achieved from massive magnetite zone:

- Life of Mine 76% vanadium recovery, at a grade of 1.37% V_2O_5 and 1.68% SiO_2
- First five-year ore blend 69% vanadium recovery at 1.39% V_2O_5 and 1.83% SiO_2



Unique points of difference

- Experienced vanadium team
- Unique mineral resource and metallurgical characteristics
- Proven processing path with industry leading vanadium recovery using grate kiln
- Focus on innovation - CRC-P grant for vanadium research; processing plant location near to port; market development of FeTi coproduct

Government support

- Federal Major Project Status and State Lead Agency, strong global focus on battery and critical mineral projects
- Appointed as a member of the Western Australian Battery Industry Taskforce

Vanadium markets

- Vanadium a critical metal in reinforcing steel
- Proven capability to produce high-purity V_2O_5 suitable for vanadium redox flow batteries (VRFBs) and production of electrolyte
- Dedicated subsidiary VSUN Energy focused on growing the Australian energy storage market

Current Key Objectives

Offtake Agreements

Complete secured offtake for 100% of vanadium products and FeTi coproducts – **MOUs in place and under negotiation.**

Finance

Maintain strong financial position through to construction

Prequalification with financiers for Project equity and debt and/or joint venture partnerships advancing

Environmental Approval

Environmental approval for mine and concentrate facility submitted

Processing plant site approval application well underway

Feasibility Studies

Completion of engineering and BFS level costing – all related design and costing to ± 15%

Social Licence

Continue increase in regional community engagement

Continue to analyse economically viable ways to increase sustainability

Strong focus on ESG - gap analysis underway with Advisian consultants

Government Support

Maintain strong Federal and State Government recognition and support

Critical and battery metal focus

VSUN Energy – Developing Vanadium Energy Storage Market in Australia

Vanadium redox flow batteries

VSUN Energy

A Renewable Energy Company

- VSUN Energy was launched by AVL in 2016 to target the energy storage market for vanadium redox flow batteries (VRFBs).
- VSUN Energy supplies VRFBs for all market segments including utility, commercial and industrial, mining, agricultural, standalone power systems and residential.
- VSUN Energy offers VRFBs ranging in size from 5kW through to hundreds of MW through partnerships with VRFB manufacturers around the world.
- 3 hours through to 10 hours of stored energy.
- Power and stored energy can be configured using multiple VRFBs.

Recent Sales

- 90kW/320kWh VRFB for a dairy in Meredith, Victoria.
- 20kW/80kWh VRFB plus solar energy storage system for an orchard in Pakenham, Victoria.
- 5kW/30kWh VRFB for Beverley caravan park.
- 5kW/30kWh standalone power system for an off-grid residential client in regional Western Australia.

Revenue Opportunities

- VSUN Energy sells, installs and maintains VRFBs from a variety of manufacturers.
- Developing a residential VRFB with potential for manufacture in Australia.
- Vanadium electrolyte manufacture in Australia with vanadium supplied by Australian Vanadium Ltd.

VSUN Energy

Why use the VRFB for energy storage?

An **energy battery**, able to store large amounts of energy for later use

Easy to scale by adding modules or introducing larger electrolyte tanks

Lifespan of over 20 years with **no cycle-life degradation in performance** over time

The VRFB is **non-flammable**, making it safer than other batteries on the market

Can charge and discharge **simultaneously**, with **100% depth of discharge available**

The vanadium electrolyte in a VRFB can **reused indefinitely** or used steel market

VSUN Energy

Agreements and MOUs

VRFB sales and vanadium electrolyte supply

- Enerox GmbH, manufacturer of the CellCube VRFB which offers systems from 250kW/1MWh and upwards
- CEC VRFB, a Chinese VRFB manufacturer with an Australian grid-compliant residential system
- V-Flow Tech, a Singaporean manufacturer focused on the small to medium scale

VSUN Energy currently offers VRFBs from the following manufacturers

INVINITY ENERGY SYSTEMS

cellcube Energy Storage Systems Inc.

SCHMID

FLOW TECH

SUMITOMO ELECTRIC

E22

VSUN Energy

Residential Battery

Manufacturing in Australia

- VSUN Energy has procured a 5kW/30kWh VRFB from CEC VRFB in China.
- Electrical testwork is underway, with feedback being provided to the manufacturer.
- Local manufacturer CADDS Group has undertaken design work, with one of the prospective designs pictured.
- Manufacture of the systems in WA, alongside local production of vanadium electrolyte is one of VSUN Energy's forward plans.

Downstream revenue opportunities for AVL

Vanadium Electrolyte

Vanadium electrolyte (produced from high purity vanadium) is in short supply

- Low levels of investment in refining V_2O_5 and electrolyte production
- Investment needed in VRFB market development and electrolyte production increases
- 100MWh of energy storage uses 989t V_2O_5, with AVL's annual production estimated at 11,000t V_2O_5 per annum
- Vanadium leasing is a revenue generating opportunity

Vanadium in electrolyte – market implications

145g/l	V_2O_5 in H_2SO_4 at 1.6 molar
9.89t	Amount of V_2O_5 used in 1MWh
11GWh	Projected global annual energy storage per year

Estimated VRFB installs @10%	1GWh
V_2O_5 required to supply VRFB demand	10kt
Current annual global production of V_2O_5 equivalent	140kt

AVL's planned annual production is 11kt of V_2O_5

Contact AVL

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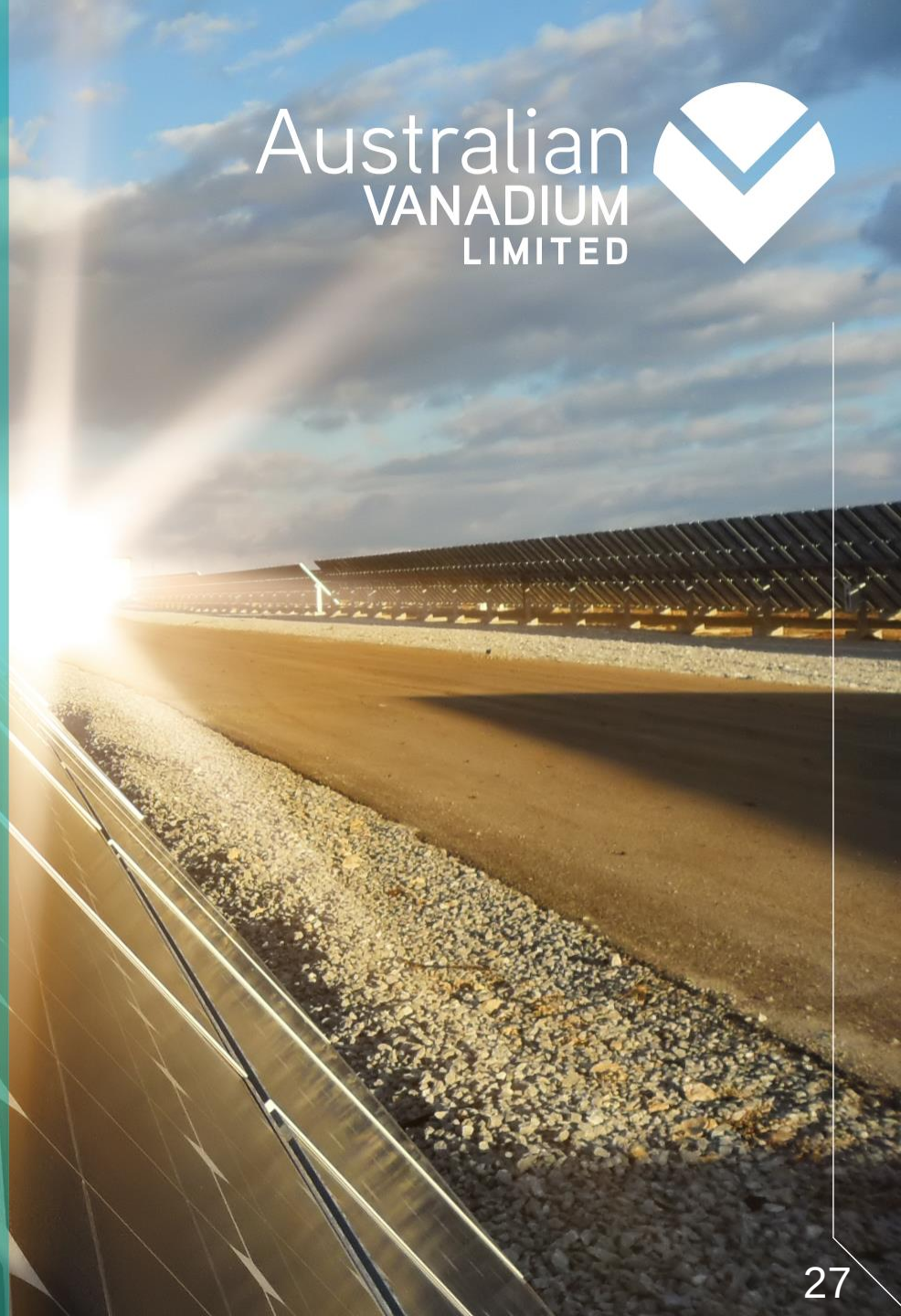
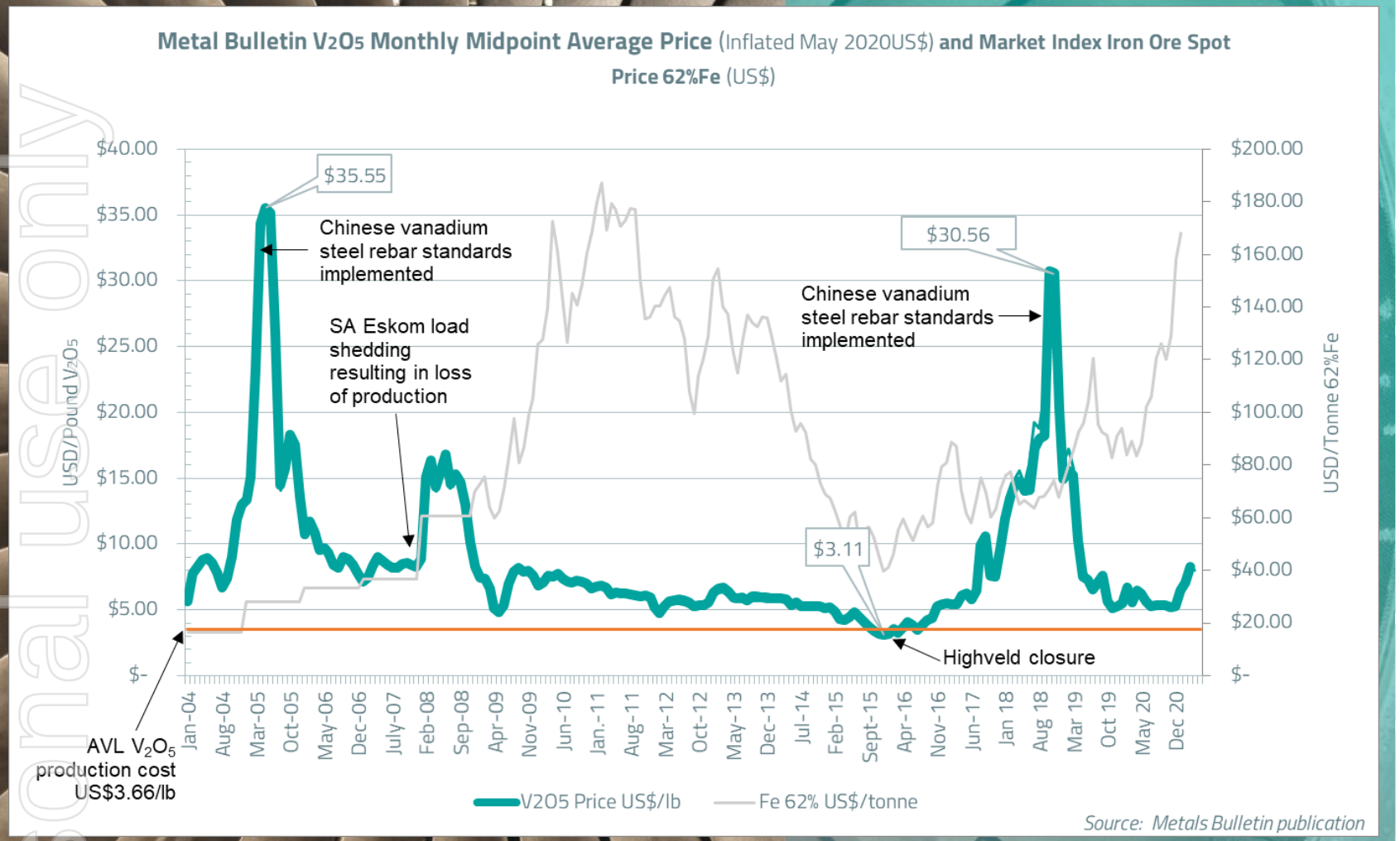


Additional Information

Vanadium Price



Source: Metals Bulletin publication

Long-Term Price

Long-term average price for commodity grade V_2O_5 is $8.67/lb (inflated to 2017 USD)

- High purity V_2O_5 is typically sold at a premium to the commodity price

Vanadium Market Analysis

- Consumption of vanadium has started to rise above production globally
- Historically China has only been a net importer of vanadium in Q1 2004 and in Q4 2020
- Growing consumption in China is pushing limits of vanadium capacity
- COVID recovery globally will drive V demand and pricing in 2021-2023

Prices Negotiated Privately

Vanadium doesn't trade on the open market - sellers and buyers negotiate prices privately for contracts and spot purchases

- London Metal Bulletin Fastmarkets (Europe)
- Ryan's Notes (US) weekly spot prices

The Australian Vanadium Project

Resource Table

Material	JORC Resource Class	Million Tonnes	V_2O_5 %	Fe %	TiO_2 %	SiO_2 %	Al_2O_3 %	LOI %
High Grade	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.9
	Indicated	25.1	1.10	45.4	12.5	8.5	6.5	2.9
	Inferred	52.7	1.04	44.6	11.9	9.4	6.9	3.3
	Subtotal – High Grade	**87.9**	**1.06**	**44.7**	**12.2**	**9.2**	**6.8**	**3.2**
Low Grade	Indicated	44.5	0.51	25.0	6.8	27.4	17.0	7.9
	Inferred	60.3	0.48	25.2	6.5	28.5	15.3	6.7
	Subtotal – Low Grade	**104.8**	**0.49**	**25.1**	**6.6**	**28.0**	**16.1**	**7.2**
Transported	Inferred	15.6	0.65	28.4	7.7	24.9	15.4	7.9
	Subtotal – Transported	**15.6**	**0.65**	**28.4**	**7.7**	**24.9**	**15.4**	**7.9**
Total	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.7
	Indicated	69.6	0.72	32.4	8.9	20.6	13.2	6.1
	Inferred	128.5	0.73	33.5	8.8	20.2	11.9	5.4
	Total	**208.2**	**0.74**	**33.6**	**9.0**	**19.8**	**12.1**	**5.6**

Note: Mineral Resource estimate by domain and resource classification using a nominal 0.4% V_2O_5 wireframed cut-off for low grade and nominal 0.7% V_2O_5 wireframed cut-off for high grade (total numbers may not add up due to rounding).

Reserve Table

Ore Reserve

Ore Reserve	Million Tonnes	V_2O_5 %	Fe_2O_3 %	TiO_2 %	SiO_2 %	LOI %	V_2O_5 production kt
Proved	9.8	1.08	59.9	12.4	8.7	3.5	63.2
Probable	22.4	1.04	61.7	11.8	8.3	2.8	158.9
Total Ore	**32.1**	**1.05**	**61.2**	**12**	**8.4**	**3**	**222.1**

Ore Reserve	Million Tonnes
Waste	244.5
Total Material	276.7
Strip Ratio	7.6

Ore Reserves and Inferred Resources used in LOM Schedule

	Million Tonnes	V_2O_5 %	Fe_2O_3 %	TiO_2 %	SiO_2 %	LOI %	V_2O_5 production kt
Proved	9.8	1.08	59.9	12.4	8.7	3.5	63.2
Probable	22.4	1.04	61.7	11.8	8.3	2.8	158.9
Inferred Resources	7.5	1.05	68.8	13	8.6	3.2	50.3
Total Ore	**39.6**	**1.05**	**62.6**	**12.2**	**8.4**	**3**	**272.4**

Inventory	Million Tonnes
Waste	280.4
Total Material	320.1
Strip Ratio	7.1

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

Bryah Resources Base Metals

AVL retains the rights to the Cobalt and has a 7.14% shareholding in BYH

Mineral Resource	Million Tonnes	Nickel ppm	Nickel tonnes	Copper ppm	Copper tonnes	Cobalt ppm	Cobalt tonnes
Indicated	17.7	760	13,451	205	3,636	229	4,055
Inferred	13.6	761	23,770	210	6,556	228	7,116
Total	**32.1**	**1.05**	**61.2**	**12**	**8.4**	**3**	**222.1**

- Metallurgical testwork undertaken during AVL's feasibility study showed the presence of nickel, copper, cobalt and gold, in the non-magnetic tail after separation of the vanadium-titanium-magnetite concentrate, can be processed to produce a base metal concentrate.
- AVL and Bryah are working together to maximise the recovery of minerals from this world class Vanadium-Titanium-Magnetite (VTM) deposit, with Bryah taking the lead on further studies relating to the base metal recovery circuit.

See BYH ASX announcement dated 1st June 2021 *'31.3 Million Tonne Nickel-Copper-Cobalt Mineral Resource at Gabanintha'*.

Updated 2020 PFS Comparison

Category	Updated PFS (Dec 2020)	Original PFS (Dec 2018)	Change
Mine Life	25 years	17 years	↑ 8 years
Mineral Resource	208.2Mt	183.6Mt	↑ 24.6Mt
Ore Reserve	32.1Mt @ 1.05% V_2O_5	18.24Mt @1.04% V_2O_5	↑ 13.86Mt
Magnetic concentrate produced pa	900,000 t	900,000 t	None
V_2O_5 production pa	24.3M lbs	22.5M lbs	↑ 1.8M lbs
FeTi coproduct sales pa	900,000 t	-	↑ 900,000 t
Pre-tax NPV_8 @ US$8.67/lb V_2O_5	A$909M	A$320M	↑ 184%
Post-tax NPV_8 @ US$8.67/lb V_2O_5	A$542M	A$174M	↑ 211%
IRR	17.5%	12.4%	↑ 41.1%
EBITDA annual average	A$144M	A$110M	↑ A$34M
EBITDA (project)	A$3.55 Billion	A$1.8 Billion	↑ A$1.75 Billion
Net Profit After Taxes (project)	A$2.09 Billion	A$0.85 Billion	↑ A$1.24 Billion
Payback	6.6 years	8 years	↓ 17.5%
Total Capex	US$399M	US$354M	↑ 13%
Average annual C1 cost	US$3.66/lb V_2O_5	US$4.15/lb V_2O_5	↓ US$0.49/lb V_2O_5
Average annual C3 cost	US$5.04/lb V_2O_5	US$6.05/lb V_2O_5	↓ US$1.01/lb V_2O_5

[1] Total capital cost is at an accuracy of ±25%. Figure includes provision for estimated indirect costs, EPCM costs, owner cost and capital growth of A$101M. (For more details see Table 5).
[2] C1 costs are direct costs, including costs incurred in mining and processing (labour, power, reagents, and materials) plus local G&A, freight and realisation and selling costs. Any by-product revenue is credited against costs at this stage.
[3] C3 costs are the fully allocated costs for the project. It is the sum of the (C1) costs, depreciation, depletion, and amortisation, indirect costs and net interest charges.

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