



**CRITICAL  
MINERALS  
GROUP**

Presentation to the Critical Minerals &  
Energy Investment Conference

Presenter:  
Scott Winter, Managing Director

4 March 2024

ASX:CMG

# Important Information



Critical Minerals Group Limited ACN 652 994 726 (CMG or the company) is the issuer of this presentation.

## **Securities Disclaimer**

This presentation is for informational purposes only and does not constitute an offer to sell, or solicit to purchase, any securities.

## **Reliance on Presentation**

A recipient of this presentation must make their own assessment of the matters contained herein and rely on their own investigations and judgment in making an investment in CMG. This presentation does not purport to contain all of the information a recipient of this presentation may require to make an informed decision whether to invest in CMG. Specifically, this presentation does not purport to contain all the information that investors and their professional advisers would reasonably require to make an informed assessment of CMG's assets and liabilities, financial position and performance, profits, losses and prospects.

## **No Recommendation**

The information in this presentation is not a recommendation to acquire shares and does not constitute financial advice. Any person who intends to acquire shares must conduct their own investigations, assessment and analysis of CMG and its operations and prospects and must base their investment decision solely on those investigations and that assessment and analysis. Prospective investors should consult their own legal, accounting, tax and financial advisers about an investment in CMG.

## **JORC Statement**

The information in this presentation relating to Mineral Resources is extracted from the company's ASX announcement titled 'Lindfield Vanadium Project Delivers Improved Mineral Resources Estimate with Grade and Tonnage to World Class Scale' dated 16 May 2023 which is available to view on [www.asx.com.au](http://www.asx.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 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 have not been materially modified from the original market announcement.

## **Production targets and forecast financial information**

The information in this presentation that relates to production targets and forecast financial information derived from a production target is extracted from the company's ASX announcement dated 9 November 2023 ("Revised release of Scoping Study results") available to view at [www.asx.com.au](http://www.asx.com.au) (Scoping Study Announcement). The company confirms that all material assumptions underpinning the production targets and forecast financial information derived from production targets set out in the Scoping Study Announcement continue to apply and have not materially changed.

## **Scoping Study cautionary statement**

The Scoping Study referred to in this presentation is based on the Scoping Study released by the company to ASX in the Scoping Study Announcement.

The company advised that the Scoping Study has been undertaken to consider the development of the Lindfield Vanadium Project. It is a preliminary technical and economic study of the potential viability of the Lindfield Vanadium project. It is based on low-level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further evaluation work and appropriate studies are required before the company will be in a position to estimate any ore reserves or to provide an assurance of an economic development case. There is a low level of geological confidence associated with any Inferred Mineral Resources, and there is no certainty that further exploration work will result in the determination of Measured or further Indicated Mineral Resources or that the Production Schedule or preliminary economic assessment will be realised.

The Scoping Study is based on the material assumptions outlined in the Scoping Study Announcement. These include assumptions about the availability of funding. While the company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

# Important Information



To achieve the range of outcomes indicated in the Scoping Study, additional funding will be required. The company has a supportive shareholder base and has successfully raised capital to progress the project in the past. However, investors should note that there is no certainty that the company will be able to raise the amount of funding required to develop the project when needed. It is also possible that such funding may only be available on terms that may be dilutive or otherwise affect the value of the company's existing shares. It is also possible that the company could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the Lindfield Vanadium project. If it does, this could materially reduce the company's proportionate ownership of the project.

The Scoping Study results contained in this presentation relate solely to the Lindfield Vanadium project and do not include Exploration Targets or Mineral Resources defined elsewhere. The company has concluded it has a reasonable basis for providing the forward-looking statements included in this presentation.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

## Forward Looking Statements

This presentation contains 'forward-looking statements' that are based on the company's expectations, estimates and projections as of the date on which the statements were made. These forward-looking statements may include, among other things, statements with respect to prefeasibility and definitive feasibility studies, the company's business strategy, plans, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations, mineral reserves and resources, results of exploration and related expenses. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'potential', 'likely', 'believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this presentation are cautioned that such statements are only predictions, and that the company's actual future results or performance may be materially different. Forward-looking statements are 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. The forward-looking statements included in this presentation speak only as of the date of this presentation. Except where required by law or the ASX Listing Rules, the company does not intend to update or revise the forward-looking statements in this presentation in the future.

## Limited Responsibility for Information

CMG makes no representation about the likelihood of a matter, about which a forward looking statement is made, occurring. CMG and its directors, employees, agents, advisers and consultants give no representation or warranty to a recipient of this presentation as to the accuracy or completeness of the statements contained in this presentation or in relation to any other matter; and to the full extent permitted by law, disclaim responsibility for and have no liability to a recipient of this presentation for any error or omission in or for any statement in this presentation.

## Competent Person Statements

The information above that relates to Mineral Resource estimates is based on, and fairly represents, information compiled by Adrian Buck, a Competent Person, who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Adrian Buck is the Principal Geologist – Australia for John T Boyd Company. Adrian Buck has sufficient experience with the style of mineralisation and type of deposit under consideration, and to the activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves'. Adrian Buck consents to the inclusion of the matters based on their information in the form and context in which it appears. The information above that relates to metallurgy and metallurgical test work is based on, and fairly represents, information compiled by Nicola Semler, a Competent Person, who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Nicola Semler is the Metallurgist and Chief Technical Officer – CMG. Nicola Semler has sufficient experience with the style of mineralisation and type of deposit under consideration, and to the activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves'. Nicola Semler consents to the inclusion of the matters based on their information in the form and context in which it appears. The information above that relates to mining engineering and mine planning is based on, and fairly represents, information compiled by Gary Benson. Mr Benson BE is a Mining Engineer with 40 years of experience and is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM). Mr Benson has sufficient experience, which is relevant to the style of mineralisation, geology and type of deposit under consideration and to the activity being undertaken to qualify as a competent person under the 2012 edition of the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012); Mr Benson is an Associate of Measured, is independent of CMG; and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to the exploration results, exploration targets and mineral resources for the Company's Lindfield Vanadium Project was first reported by the Company in the Company's prospectus dated 25 May 2022 and ASX announcements dated 22 February 2023, 13 March 2023 and 16 May 2023. The Company confirms that it is not aware of any new information or data that materially affects the exploration results, exploration targets and mineral resources, and that all material assumptions and technical parameters underpinning these continue to apply and have not materially changed. Where the Company refers to exploration results or mineral resources in this announcement (referencing previous releases made to the ASX), it confirms that it is not aware of any new information or data that materially affects the information included in that announcement and all material assumptions and technical parameters underpinning the exploration results or mineral resources estimate in that announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons findings are presented have not materially changed from the original announcement.

# About CMG

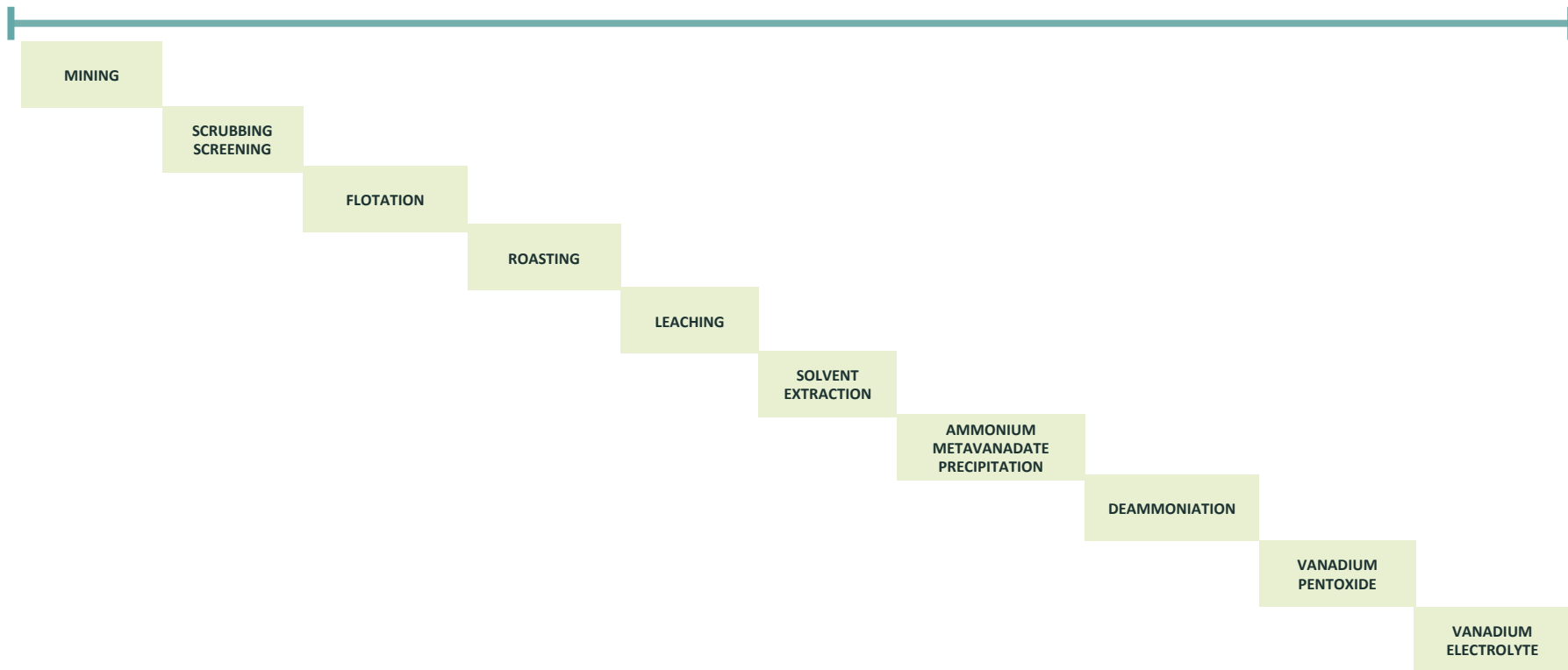
## Purpose

To support global communities through an energy transition that will deliver a more sustainable and responsible future.

## Vision

To be a leading high-quality manufacturer of vanadium battery products for the energy storage market and deliver responsible and robust returns.

## Critical Minerals Group Process



# About CMG

**Critical Minerals Group Process**

**Battery Manufacture Process**

**End to End Vanadium Redox Flow Battery Process**

# Renewable intermittent unstable energy that needs Battery storage to stabilise

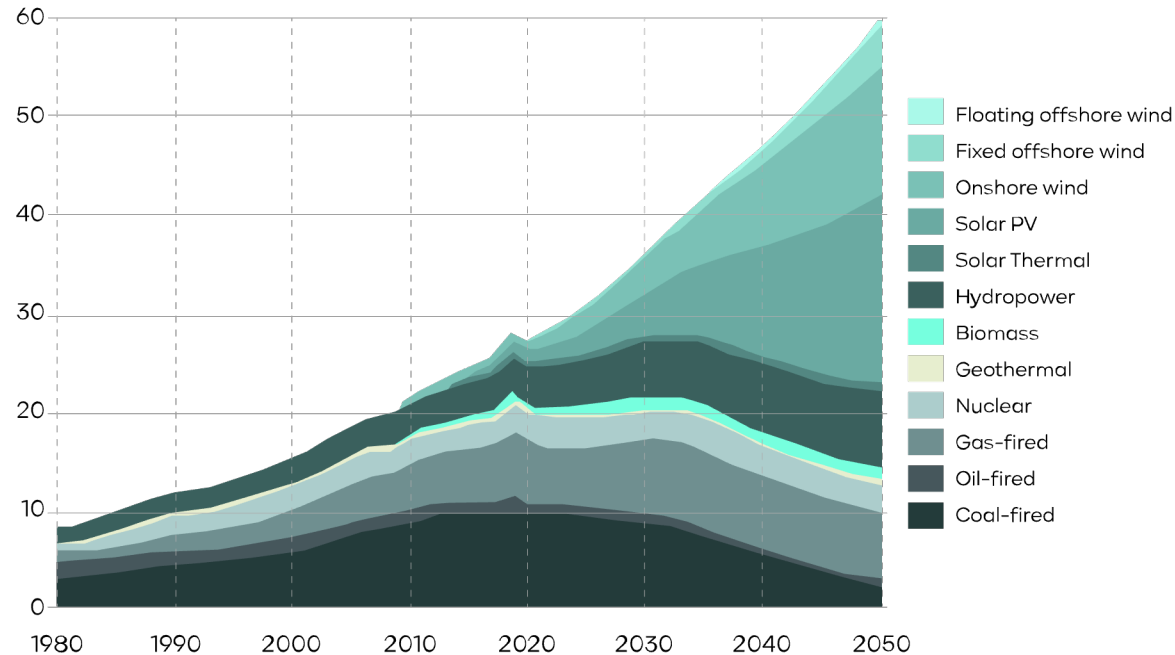
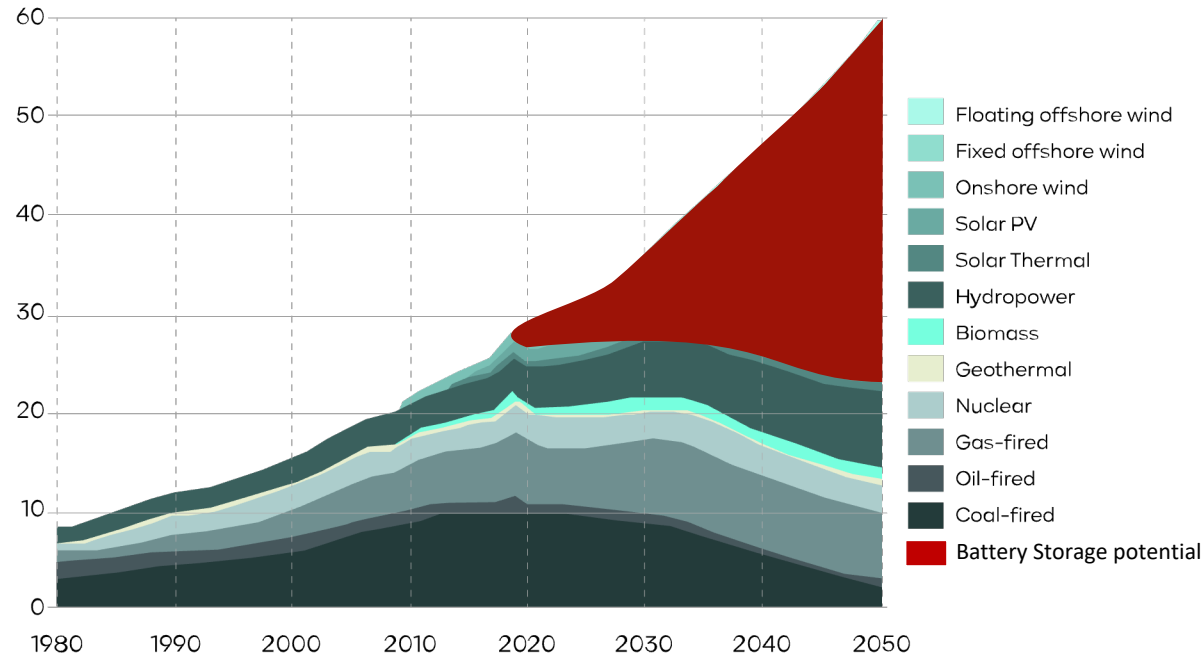


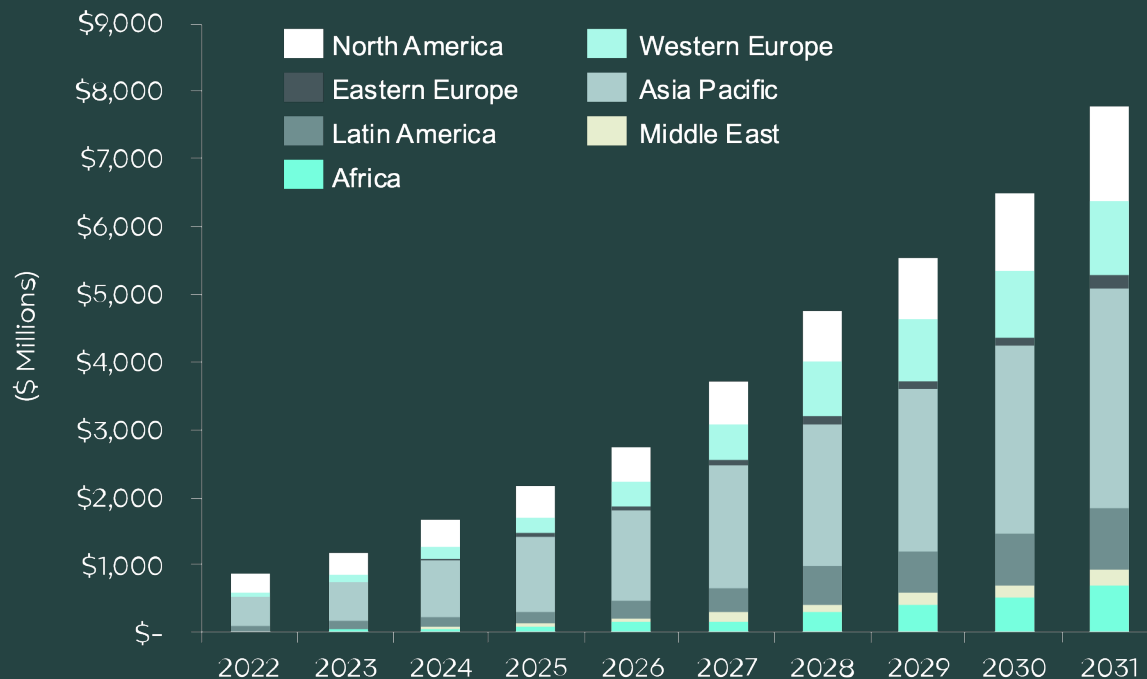
Figure 5 World Electricity generation  
by power station type PWh/yr

# Renewable intermittent unstable energy that needs Battery storage to stabilise



*Figure 5 World Electricity generation  
by power station type PWh/yr*

# Annual Installed VRFB Utility-Scale and Commercial and Industrial Deployment Revenue by Region



(Source: Guidehouse Insights)

# Government investment in the Path to Net Zero 2050

CMG is seeking to leverage the significant grants and incentives put in place to develop domestic production of vanadium, particularly for use in Vanadium Batteries as a grid-scale energy solution

## CopperString 2032 Transmission Line Project

### **\$5.0bn project**

to run from a substation on the Ross to Strathmore transmission line located south of Townsville to a substation near Cloncurry and then onwards to Mount Isa.

## National Battery Testing Centre (NBTC)

### **\$50m project and \$15m funded**

(QLD Gov). NBTC will look at Vanadium flow battery development & standards.

## Vanadium Demonstration Plant

### **\$70m Fully funded**

(QLD Gov) to build plant in Townsville, EPC awarded to Sedgman.

## Battery Manufacturing Queensland

### **\$100m**

Federal government commitment to develop battery manufacturing in QLD

## Vanadium Processing Pilot Plant

### **\$1.265m grant**

(Federal Gov) awarded to Brisbane Met Labs

## Global Demand

### **Vanadium Batteries**

Globally there are currently **today**, 7.4GWh of vanadium batteries planned or under construction, requiring approximately 65,000t of vanadium pentoxide.

**"There is potentially \$500 billion dollars of critical minerals in the North West Minerals Province and vanadium is one of the commodities Queensland can supply to the world."**

- Resources Minister and Townsville MP Scott Stewart

# Global Vanadium Reserves

Est. Global Vanadium Metal  
Reserves

**63m  
tons**

Russia  
**19.6%**

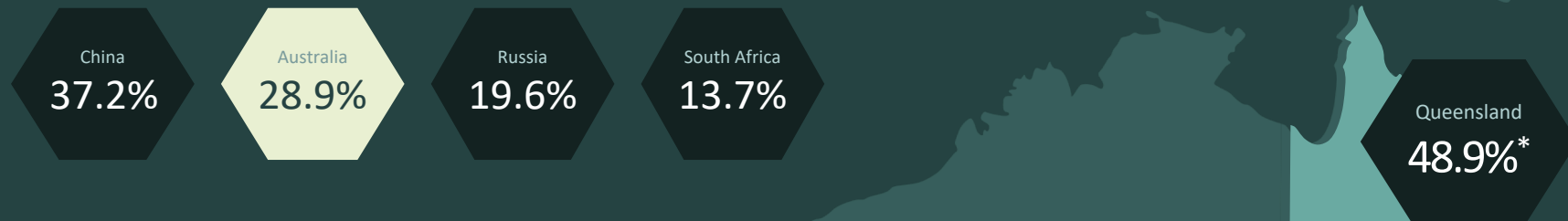
China  
**37.2%**

South Africa  
**13.7%**

Australia  
**28.9%**

Source: U.S. Geological Survey, mineral commodity summaries. January 2022

# Local Vanadium Deposits



- With 28.9% of total global Vanadium contained in Australia, Queensland holds 48.9%\* of the total Australian deposit
- Queensland has a vast and economic source of vanadium and a new secure, safe and accessible supply chains to provide vanadium electrolyte for vanadium batteries.

## Successful Scoping Study 9 Nov 2023

Harnessing High-Grade, Low Strip Ratio,  
Long-Life Vanadium Assets to assist in  
Queensland's commitment to a Sustainable  
Future



# The Lindfield Vanadium Project Highlights

## Vanadium and High-Purity Alumina (HPA)



### Positive Scoping Study<sup>2</sup>

Vanadium Project has both the practical and financial attributes to potentially develop a successful 4 million tonne per annum ROM vanadium mine producing vanadium pentoxide.

### Vanadium Electrolyte for Batteries

Strategy is to manufacture electrolyte for vanadium batteries and processing results to date indicate we are on the pathway to electrolyte production.

### Large Scale Resource<sup>1</sup>

Lindfield Resources of 363 Mt @0.43% V<sub>2</sub>O<sub>5</sub>, includes Indicated Resource of 104 Mt @ 0.48% V<sub>2</sub>O<sub>5</sub> in oxidised zone which is showing good recoveries. Large-scale operational opportunity.

### Ideal Location

Located in rich vanadium mineral zone, close to infrastructure, services, and other advanced mines. Located close to Julia Creek, main highway and rail, power and water.

### Regulatory

State and federal governments engaged in Approvals pathways.

### HPA Secondary Product

Potential for HPA production as part of the vanadium processing operations. Used for Lithium battery separator, LED's, Sapphire glass.

1 - Refer ASX Release – “Resource Upgrade” –16 May 2023

2 - Refer ASX Release – “Revised Release of Scoping Study Results” - 9 November 2023

# Lindfield Vanadium Project in numbers

## 4 Million Tonnes

The Project has the practical and financial attributes to potentially develop a successful 4 million tonne per annum ROM vanadium mine.

## \$400m Capital Cost

Estimated direct capital costs (excluding indirect costs, EPCM, owners' costs and contingency).

## \$510m NPV

Assuming USD\$9.50 / lb 98.5% V<sub>2</sub>O<sub>5</sub>, USD\$57.5 / kg 99% MoO<sub>3</sub>, FX of \$0.68 and Royalty Rate 2.5%).

## 17% IRR

Potential after-tax IRR of approximately 17%, from the vanadium pentoxide and molybdenum trioxide products streams.

## Long Mine Life

With the opportunity to expand LOM with potential upside in Resource subject to further evaluation.

## Additional HPA

Has also been confirmed as a potential product providing future upside for the project subject to further evaluation and modelling.

See ASX Release – “Resource Upgrade” –16 May 2023

See ASX Release – “Revised Release of Scoping Study Results” - 9 November 2023

**62MWh** Vanadium  
Battery

**8,600** West End  
Homes

**~250,000  
tonnes**  
Vanadium  
pentoxide ore

**620 tonnes**  
 $V_2O_5$

**~6,800  
tonnes**  
electrolyte

Brisbane



# Vanadium Batteries – Proven technology powering cities

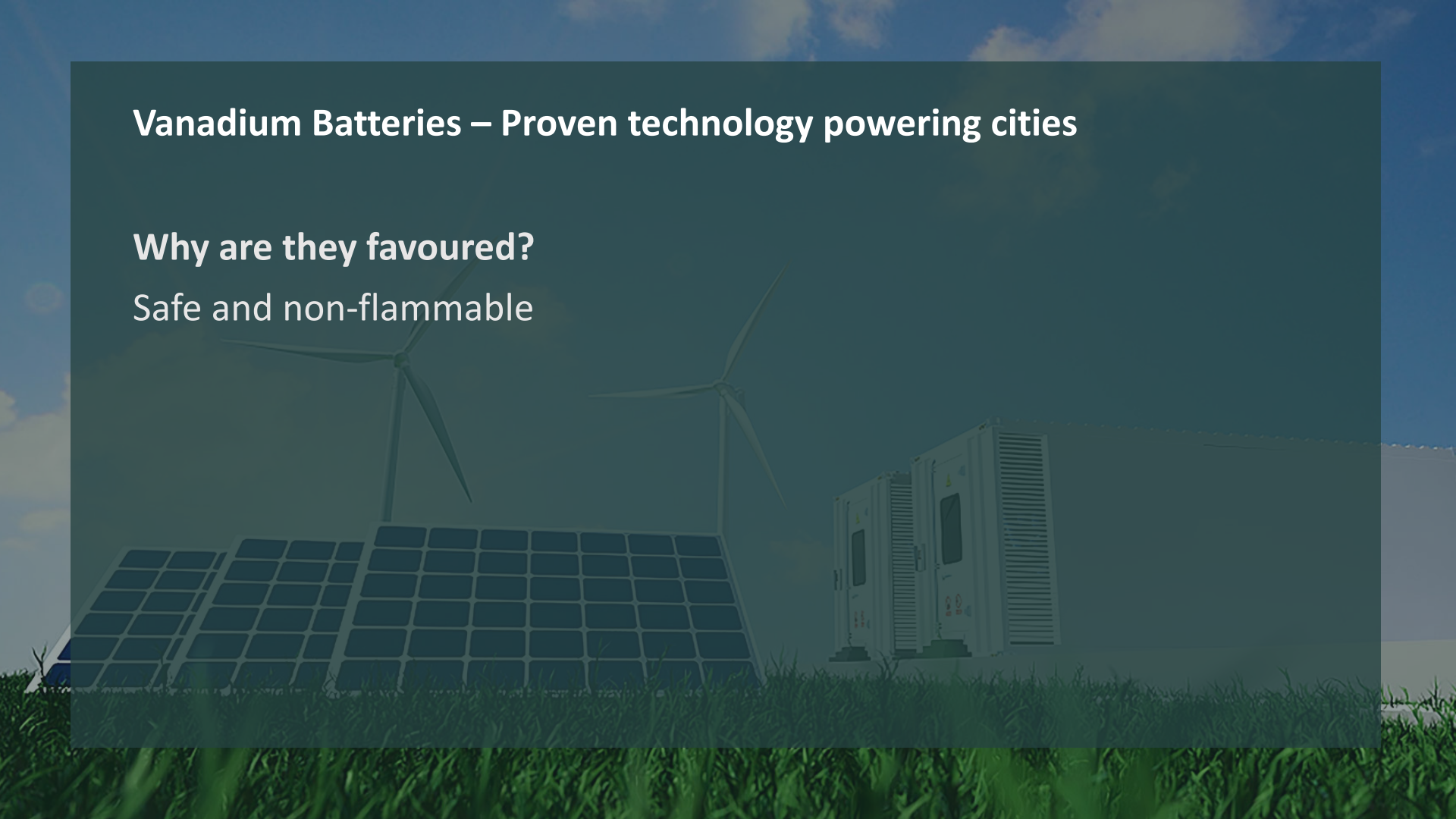
Why are they favoured?



# Vanadium Batteries – Proven technology powering cities

**Why are they favoured?**

Safe and non-flammable

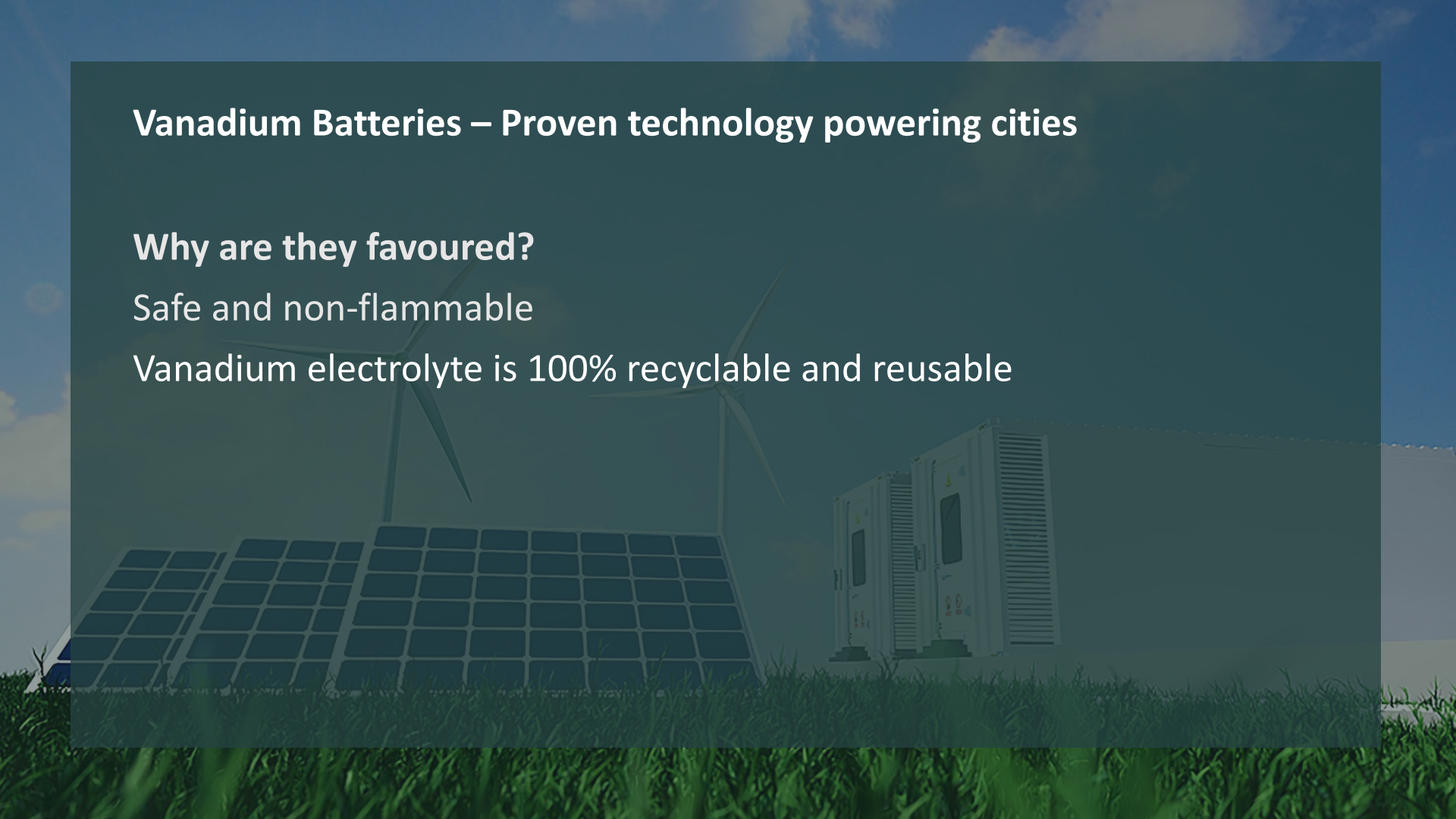


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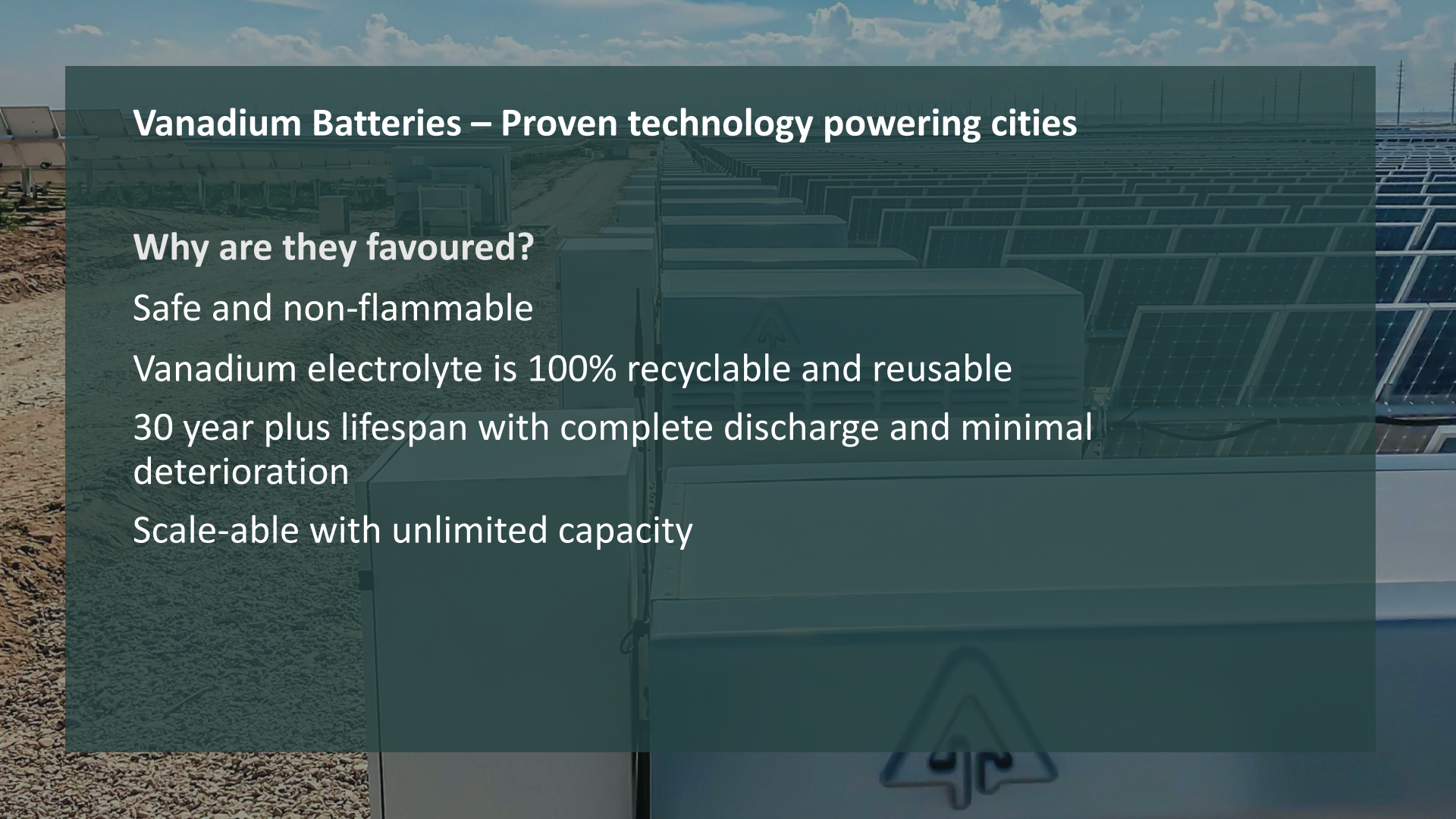
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Vanadium electrolyte is 100% recyclable and reusable

30 year plus lifespan with complete discharge and minimal deterioration

Scale-able with unlimited capacity

Medium to long term storage 3-10 hours with rapid response (milliseconds)

## ESG Vision



Aiming to meet the growing demand  
for minerals to achieve a  
**Carbon Neutral Future.**



# ESG Focus

CMG Environmental, Social and Governance Policy is centred around four key principles

## 01

### **Ethics and Accountability**

- Ethical values
- Trust
- Stakeholder Respect and Engagement

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- Supply Chain
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- Local community
- Traditional Owners

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## 04

### **Environmental Management**

- Resource Optimisation and Site rehabilitation
- Water Management
- Energy Efficiency

# Milestones Achieved to Date

In Advancing Towards Production



2023

✓ Commencement of metallurgical testwork

✓ Complete initial metallurgical testwork  
✓ Complete scoping study  
✓ Drilling – bulk sample collection

Q1

Q3

Q2

Q4

✓ Commencement of scoping study

✓ Pilot Plant preparatory test work and planning  
✓ Approvals Strategy  
✓ Feasibility Study review  
✓ Technology license with Lava Blue  
✓ Scoping Study results  
✓ Reviewing partners for next phase of feasibility study  
✓ Commencement of environmental study works  
✓ Commenced engagement with Director General's Office

# Strategic Direction

## Strong Developments Going Forward

### 2024 Targets

- Vanadium Electrolyte manufacturing strategy
- Commence Queensland Critical Minerals and Battery Technology Fund grant application
- Completion of pre-feasibility study – Lindfield Project
- Continue environmental study works
- Explore additional grant and R&D support opportunities
- Exploring potential collaboration and partnership agreements on development infrastructure
- Completion of Pilot Plant construction and commencement of processing test work
- Upgrading JORC Mineral Resource Estimate with the addition of TLB-A mineralisation

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# Board of Directors & Executive Leadership Team



**Alan Broome. AM**  
Chairman

- Extensive Mining & Board experience
- Emeritus Chairman of Austmine
- Chairman of Strategic Minerals Plc (AIM:SMLL)
- Advisory Council to the CSIRO's Mineral Resources Sector
- Chairman of New Age Exploration (ASX:NAE)
- Awarded the Order of Australia (AM) for services to mining



**Scott Winter**  
Managing Director

- 30 years of experience working across large scale projects in the resource sector.
- Bachelor of Engineering - Mining (Honours), a Graduate Diploma Applied Finance and an MBA from Melbourne Business School.
- Previous roles include Chief operation officer for Mineral Resources Ltd (ASX:MIN)



**Art Malone**  
Non-Exec Director

- Senior Energy and Resources Executive.
- 15 years managing large scale projects in the resource sector.
- Managing Director of Graphinex



**Steve Kovac**  
Non-Exec Director

- More than 20 years of experience in the mining sector, with 15 years in senior management and executive level roles
- A degree qualified mining engineer (BE (Mining) Hons) who also holds an MBA (Exec) from the Australian Graduate School of Management
- CEO of Idemitsu Australia Pty Ltd, with Directorships in the following organisations:
  - Delta Lithium Ltd
  - Veeco Group Pty Ltd
  - Low Emissions Technology Australia Ltd
- A graduate of the Australian Institute of Company Directors, a Fellow of the Australian Institute of Mining and Metallurgy and a member of the Mine Managers Association of Australia



**Stuart McClure**  
Non-Exec Director

- Senior finance executive with 17 years experience.
- Corporate adviser to public and unlisted companies.
- CEO Vested Equities
- Executive Chairman of CopperX Ltd an unlisted Copper exploration project
- Executive Chairman Charged Minerals
- Bachelor of Business

# Investment Highlights

## Solid Investor Group

Significant institutional ownership and tightly held register across founders and directors.

## Government Support

Federal and State governments supporting CMG and adjacent companies as key participants in Target Net Zero by 2050.

## Significant Upside

opportunity in the mid stream Vanadium Electrolyte manufacturing for Vanadium batteries which is currently being investigated.

## Vast Opportunity

Additional tenements providing the potential for short term financial gain with longer term upside opportunities.

## World Class Asset

World class vanadium asset with upside in resource and additional mineral value – HPA, other valuable by-products.

## Experienced Board & Management

Technical, construction and operations supported by complementing board skills, motivated to drive strategy.

# Get in touch



**CRITICAL  
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