# Element 25 Limited Investor Update



Building a world-class Zero Carbon Manganese business

March 2023 – EGM Investor Update



### **Disclaimer**



This presentation contains only a brief overview of Element 25 Limited and its associated entities ("Element 25") and their respective activities and operations. The contents of this presentation, including matters relating to the geology of Element 25's projects, may rely on various assumptions and subjective interpretations which it is not possible to detail in this presentation and which have not been subject to any independent verification.

This presentation contains multiple forward-looking statements. Known and unknown risks and uncertainties, and factors outside of Element 25's control, may cause the actual results, performance and achievements of Element 25 to differ materially from those expressed or implied in this presentation.

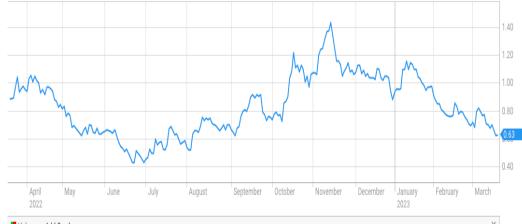
To the maximum extent permitted by law, Element 25 does not warrant the accuracy, currency or completeness of the information in this presentation, nor the future performance of Element 25, and will not be responsible for any loss or damage arising from the use of the information.

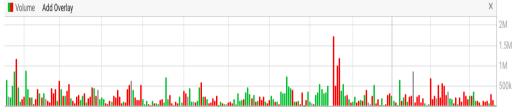
The information contained in this presentation is not a substitute for detailed investigation or analysis of any particular issue. Current and potential investors and shareholders should seek independent advice before making any investment decision in regard to Element 25 or its activities.

# **Corporate Summary**



Financial Information	
ASX Ticker	E25
Shares on Issue	190M
Share Price	\$0.63
Debt	Nil





#### Introduction

Developing the world class

Butcherbird Manganese Project in Western

Australia to produce high quality

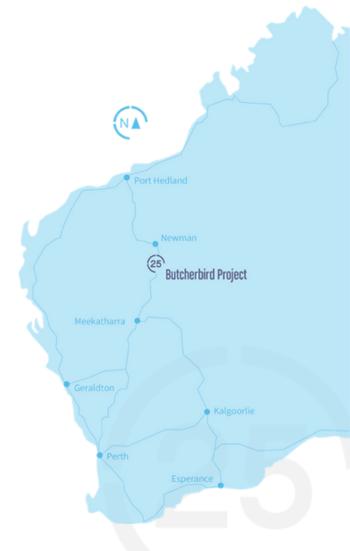
manganese concentrate and battery grade

High Purity Manganese Sulphate

Monohydrate (HPMSM) products for

traditional and new energy markets.





Reference: www.asx.com.au

# **Experienced Owners Team**

# Element (25)

#### **BOARD OF DIRECTORS**



Seamus Cornelius Chairman Lawyer



Justin Brown Managing Director **Geologist** 



John Ribbons Non-Executive Director **CPA** 



Fanie van Jaarsveld Non-Executive Director **Analytical Chemist** 



Sam Lancuba Non-Executive Director Chemical Engineer

Recent board additions strengthens depth of industry & operational experience for both mining and chemical processing divisions.

#### PROJECT DEVELOPMENT TEAM



Michael Jordon Chief Financial Officer CPA



Doug Flanagan COO (HPMSM) Engineer



lan Huitson Study Manager **Mining Engineer** 



Sias Jordaan Marketing Manager Accountant



Neil Graham Development Manager Chemical Engineer

# Our Strategic Vision...



# Stage 1 365Kt per annum

In production, optimising process, preparing expansion



# Stage 2

### 1 Mt per annum

Engineering design and costing in progress using DMS option



# Stage 3 High Purity MnSO<sub>4</sub>

Strong OEM support –signed with Stellantis for offtake and financing



# Stage 4

MnSO<sub>4</sub> Expansion

Long term - multiple HPMSM modules globally

1 year plan

5 year plan

#### Cashflow

Low capital cost, rapid start up to establish E25 as a producer while minimising dilution.

#### **Expansion**

Improved resource utilisation, reduction in unit operating costs, increased operating cash.

#### The Prize

Position E25 as a globally dominant producer of high purity, sustainable manganese products.

#### Zero Carbon Manganese™

Best in class, zero carbon, ethically produced, scalable high purity manganese for global markets.

# Not all manganese is created equal



# Element (25)

#### Serving the Established...

- Manganese (Mn) is the fourth most used metal on earth in terms of tonnage.
- Used in steel, specialty alloys and aluminium products.
- Traditionally the market has been dominated by the steel and alkaline battery industries.
- There is no substitute for manganese in steel.
- E25 manganese concentrate and EMM feed this market.

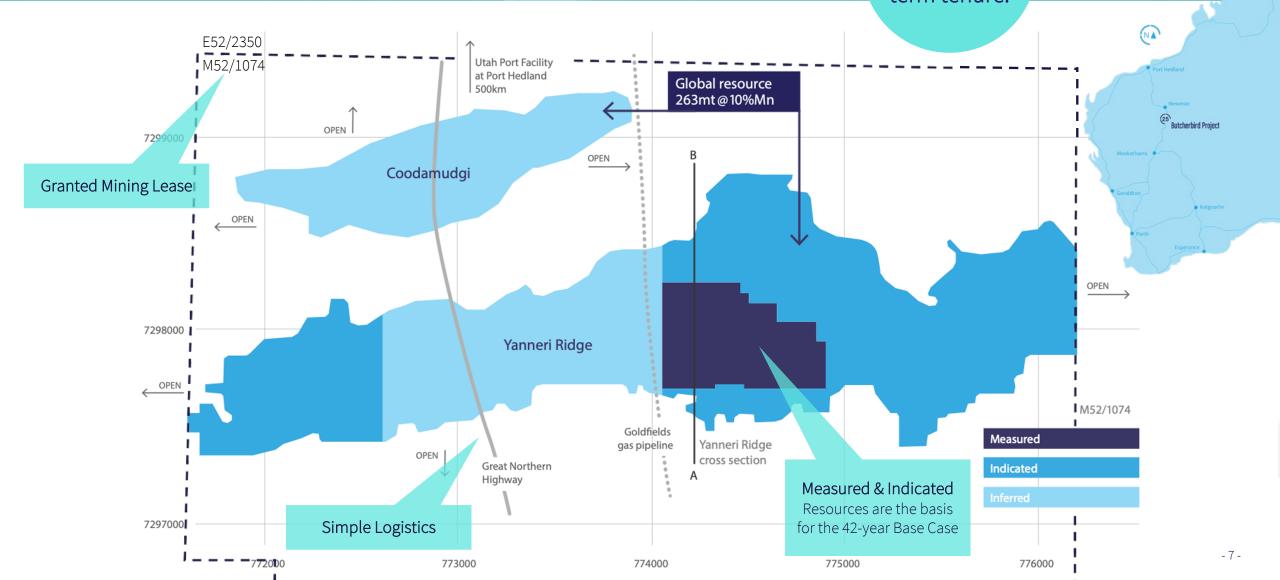
#### And the Emerging...

- The electrification of the global vehicle fleet requires vast amounts of cathode materials.
- Nickel and cobalt supplies cannot meet projected demand for new energy vehicle (NEV) growth.
- Batteries are trending toward higher manganese content for safer, more cost-effective solutions.
- E25 high purity manganese will feed these markets.



# **Great infrastructure endowment, fully permitted**

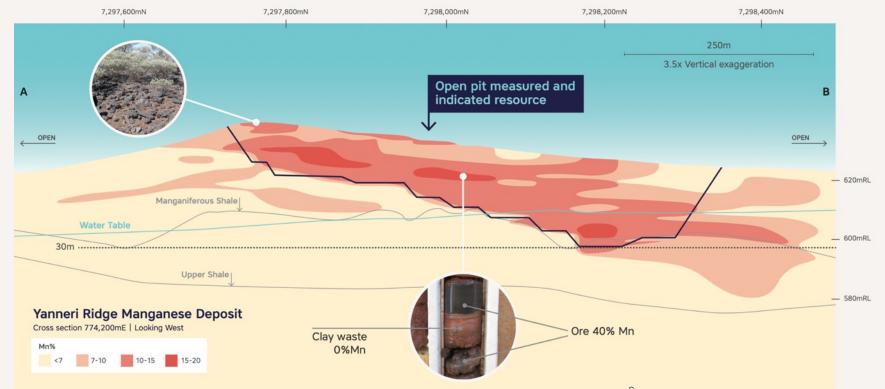
100% E25 owned, long term tenure. Element (25)



# Very simple geology equals low-cost, low impact manganese units



Classification	Tonnes (Mt)	Mn (%)	Contained Mn (Mt)	
Resource	263	10.0	20.8	
Reserve	50.6	10.3	5.22	



#### RESOURCE GROWTH POTENTIAL

- Enough resource base for multidecade long expansion pathway.
- Can produce concentrate, battery grade HPMSM and EMM without resource limitation.

#### **ENVIRONMENTALLY BENIGN OPERATION**

- Ore from surface
- No explosives required
- No waste water
- One reagent water
  - Extremely low levels of contaminants

-8-

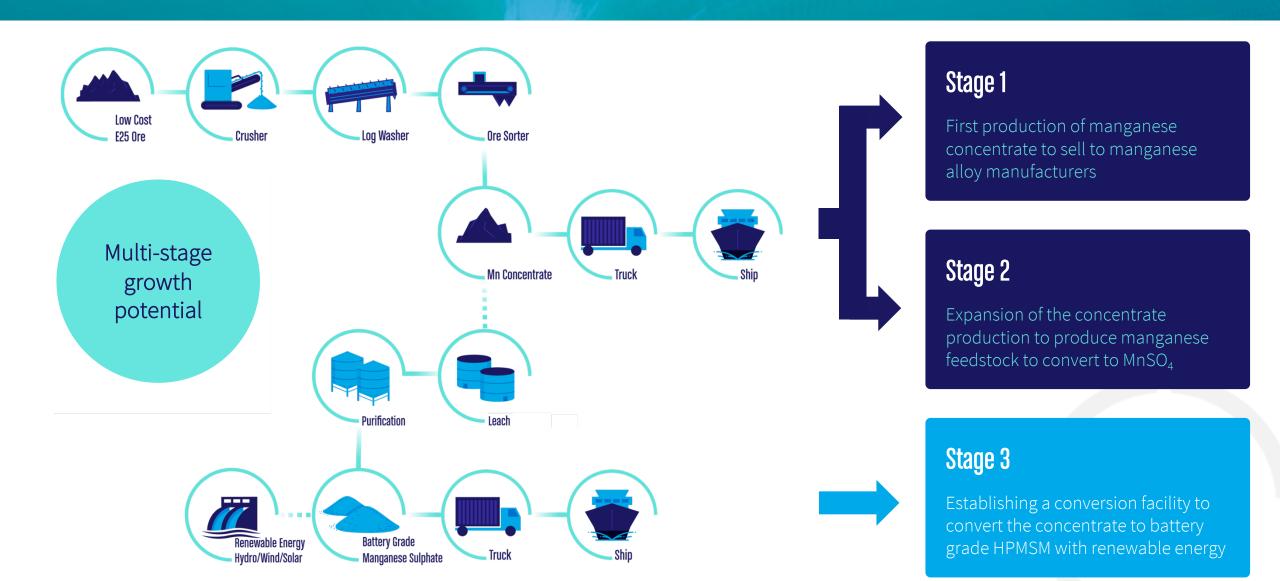
# Stage 1: Project Delivery Complete - Engineering Optimisation Progressing





# Our Goal - Zero Carbon High Purity Manganese...

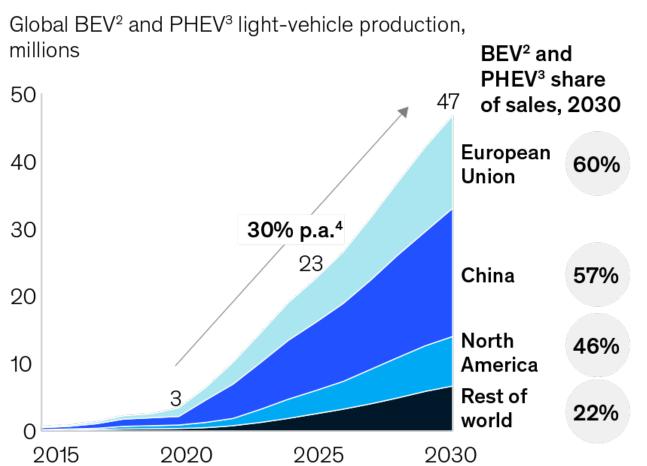




# New Energy Vehicle (NEV) Demand Growing Strongly

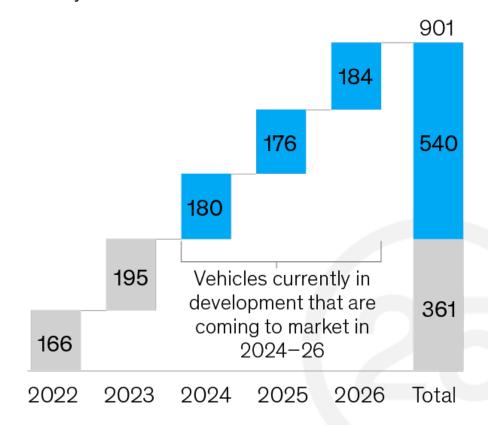


# Global EV<sup>1</sup> market growth is strong and accelerating.



# More than 500 EV<sup>1</sup> programs are coming to market in 2024–26.

Number of electric-drivetrain vehicle programs by launch year



# If not manganese, then what?









- VW, Tesla, Umicore, BASF and Stellantis have announced moves to high manganese cathodes.
- High manganese means higher energy density along with lower cost – two key objectives.
- Both major battery sub-sectors are moving to high manganese alternatives/variants.

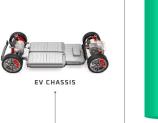
 $\rightarrow$  LMR (Li -Mn rich cathodes).

LMFP (Li-Mn-iron phosphate)

"Manganese will become the key cathode material moving forward..."

McKinsey and Exawatt, 2022

Manganese in the cathode: 17% of material but only 2% of cost (NMC 622)



MANUFACTURING & DEPRECIATION **24**%

A battery pack consists of multiple interconnected modules, and each module is made up of hundreds of individual cells.

\$101/kWh Avg. Cell Cost in 2021



SEPARATOR

ELECTROLYTE

The cathode material determines the capacity and power of a battery, typically composed of lithium and other battery metals



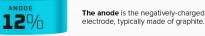




The largest EV battery manufacturers are all headquartered in Asia.

80% of all cell manufacturing





electrode, typically made of graphite.

Separators prevent electric contact between the cathode and the anode.

The electrolyte is the medium that transports lithium ions from the cathode to the anode.

Battery housings are cases that contain and protect battery packs, usually made of steel or aluminum.

# Manganese, the battery raw material supply chain solution?



#### PDAC 2023 Keynote Speaker

"...manganese (is) the single most critical mineral for batteries right now," he said.

"How many companies outside of China make manganese commercially for a battery right now? Which is the hottest metal for batteries? How many? None, not one," Hoffman said, adding "and there's where the opportunity is — unbelievable."

"...manganese is the single most critical mineral for batteries right now..."

Ken Hoffman, co-head of the EV battery materials research group and senior expert at McKinsey & Company



# Low cost, efficient HPMSM process - significant improvements...



#### **Problems with Current Technologies**

- Large volumes of waste residues
- Toxic Reagents
- Inefficient
- Higher Cost
- Outdated processing technology

The Element 25 Process makes significant changes & improvements...







#### **Element 25 Process**

- More efficient (fast kinetics, reduced energy)
- Minimises reagent requirements
- Reduced carbon intensity
- Lower volumes of waste residues
- Non-toxic residues may be able to be repurposed.



# Stage 3 Processing Location Optionality - Multiple Plant Potential





### **Inflation Reduction Act 2022 - What's Changed?**

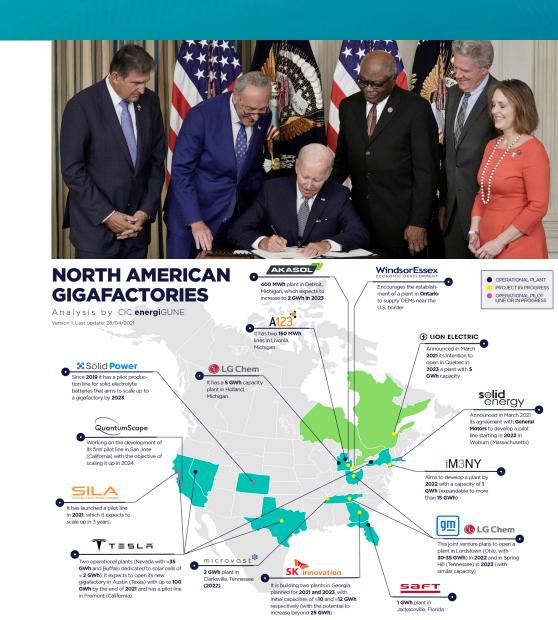


#### **Summary of Impacts on Battery Supply Chains**

- Regulations effective from January 1, 2025.
- Requirement for 40% of battery materials to be sourced from north American or allied countries from 2024.
- Increasing to 80% by 2026.
- Allied countries include Australia, manganese is a qualifying critical mineral.

#### What does this mean for E25?

- E25 HPMSM can meet all the stated requirements of the new regulations.
- E25 resource size can supply conversion requirements for USA customers to meet their consumption needs for decades.
- Potential built in north America to ensure customers' HPMSM requirements meet regulatory and strategic goals.
- After calendar year 2024, the incentives will not be available for EVs that contain critical minerals that were "extracted, processed, or recycled by a foreign entity of concern".



# **Production Plant - Feasibility Study Examining 2 Potential Sites**



#### **Location #1- Malaysia**

- Excellent logistics optionality
- Proximity to Asian markets
- Lower cost structure
- Government incentives (MIDA)





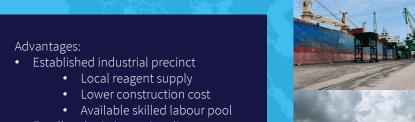


#### Advantages:

- Established industrial precinct
  - Local reagent supply
  - Available skilled labour pool
- Excellent logistics optionality with road rail and river transport options
- Proximity to USA markets
- Government incentives at local state and federal levels
- Strong offtake demand due to IRA









# **Production Plant - Location Optionality**





# Offtake & Financing - Stellantis



- E25 and Stellantis sign definitive agreements for the supply of battery-grade highpurity manganese sulphate (HPMSM) for Stellantis' EV battery requirements.
- Key commercial terms include:
  - E25 to supply HPMSM for a minimum of five years, with opportunities to extend.
  - E25 to supply up to 10,000tpa HPMSM for five years with provisions to increase volumes.
  - Stellantis to part-fund development of E25's HPMSM processing facility with US\$30M investment in two tranches.
- Offtake represents ~15% of total planned production volumes.
- Funding commitment represents ~15% of total anticipated capital cost.
- Arrangement includes commitments from E25 with respect to ESG and IRA compliant supply chains (Australian ore processed in USA).



Stellantis is a leading global automaker and mobility provider that offers clean, connected, affordable and safe mobility solutions. Our Company's strength lies in the breadth of our iconic brand portfolio, the diversity and passion of our people, and our deep roots in the communities in which we operate.

Our ambitious electrification and software strategies and the creation of an innovative ecosystem of strategic, game-changing partnerships are driving our transformation to a sustainable mobility tech company.

























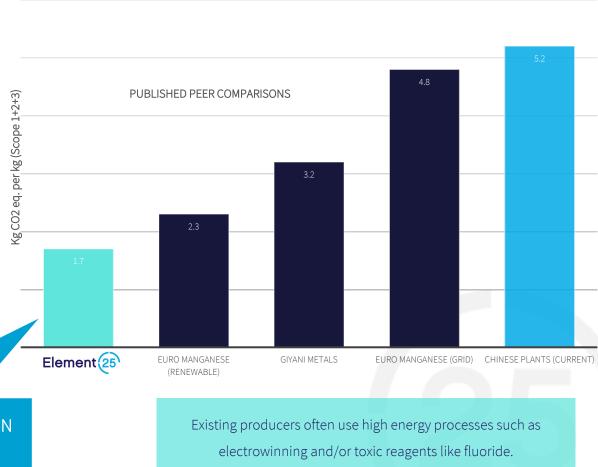


# Targeting Zero Carbon Manganese - ESG is integral to our thinking



Global Warming Potential

- LCA covers Scope 1,2 and 3 emissions from mining through to the proposed USA-based HPMSM processing plant.
- E25 HPMSM to produce ~1.7kg of CO<sub>2</sub> for every 1kg of HPMSM:
  - o ~ 67% lower than competitors in China.
  - o up to 47% lower than competitors outside China.
  - o ~26% lower than next lowest project's optimised case.
- E25 process is not yet fully optimised for carbon reduction.
- E25 to explore renewable energy and other potential carbon reduction strategies to further reduce CO<sub>2</sub>.



THE E25 PROCESS IS THE LOWEST CARBON INTENSITY OPTION FOR HPMSM TODAY

# Partnering with Circulor for Supply Chain Transparency & ESG Accounting



#### **Creating the First ESG Transparent Manganese Supply Chain**



- Circulor's platform will underpin real-time traceability of Element 25's (E25) manganese products. The partnership plays a critical role in E25's strategic pathway to Zero Carbon Manganese.
- Circulor's platform will enable real-time, digital visibility of dynamic ESG metrics, including CO2 intensity and energy mix used, will be made available to downstream market participants, including offtake partners.
- System allows our partners to have a clear auditable trail ESG metrics for their manganese supply from Element 25.
- Discussions with potential offtake partners has confirmed the need for suppliers to develop robust systems to provide ESG accountability for raw materials.

#### Manganese Sulphate

ESG metrics summary, January 2025

This is a digital summary of the ESG metrics attributed to the Manganese products received from Element 25 (ACN 119 711 929).











| 81 Jan., 2826 - PPMSAN Refinery | PMSAL 1803880 - End-Of-Production, PMSAL 1803880 - End-Of-Production, PMSAL 1803880 - Start-Of-Production, PMSAL 1803880 - Start-Of-Production, PMSAL 1803880 - Geodes-In | 23 Dec., 2824 - Port Hedland | PMSAL 1803880 - Geodes-out, PMSAL 1803880 -



TRACEABILITY EXAMPLE

ShipmentID MV Angelic Anna, Aquamarine SW, Shipment 6 PP01



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Best in class, zero carbon, ethically produced, scalable high purity manganese for global markets.

# Thank you



For more information, please contact Element 25 Limited:

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www.element25.com.au

ASX:E25

Resource scale of the Butcherbird Project underpins long-term growth.



**CURRENT FOCUS** 

#### **Company Growth Stages**

#### Manganese Ore

Ethical Clean Manganese Supply
Long term ethical supply of manganese units
for downstream processing

#### **Manganese Sulphate**

Powering the EV Revolution
Providing ethical, low carbon battery
materials to enable the EV transition

#### **Industry Segments**

#### **All Manganese Industries**

Manganese is the world's fourth largest metal market and is used in many products from steel to batteries, glass, ceramics and more.

#### **Lithium Ion Battery Cathodes**

Manganese offers advantages including increased safety, lower costs and ethical supply. High Mn cathodes are in focus.

#### **Opportunity**

#### **Reliable Long Term Supply**

Demand for high quality, ethically sourced manganese units remains strong. Australia is close to market and geopolitically stable.

#### **Electrification of Global Vehicle Fleet**

A macro trend that will dominate the car industry for decades. Demand for high quality ethical HPMSM to grow for many years.

#### **Manganese Metal**

#### Future R&D Pathway

Applying the E25 technology to other manganese products including EMM.

#### **Steel and Specialty Alloys**

Supply chain issues not limited to batteries. Traditional consumers are also desperate for ethical, low carbon supply of EMM.

#### **Supply Chain Diversity**

Strong interest from steel makers to access alternative, ethically sourced, low carbon steel inputs.

### **Reserves and Resources**

#### Maiden Ore Reserve<sup>1</sup>

Category	Tonnes (Mt)	Mn (%)	Contained Mn (Mt)	
Proved	14.4	11.5	1.65	
Probable	36.2	9.8	3.56	
Total	50.6	10.3	5.22	

#### Global Mineral Resource<sup>2</sup>

Category	Tonnes (Mt)	Mn (%)	Si (%)	Fe (%)	Al (%)
Measured	16	11.6	20.6	11.7	5.7
Indicated	41	10.0	20.9	11.0	5.8
Inferred	206	9.8	20.8	11.4	5.9
Total	263	10.0	20.8	11.4	5.9

- 89% conversion of measured and indicated resources to reserve.
- Maiden Reserve only exploits approximately 20% of global mineral resource.
- Excellent potential for future expansion.
- More drilling has potential to add to global resource.

<sup>&</sup>lt;sup>1</sup>Reference: Element 25 Limited ASX release dated 30 September 2022.

<sup>&</sup>lt;sup>2</sup>Reference: Element 25 Limited ASX releases dated 17 April 2019.

# **Competent Person's Statement**

The information in this presentation that relates to Exploration Results is based on information compiled by Mr Justin Brown who is a full-time employee of the Company and is a member of the Australasian Institute of Mining and Metallurgy. Justin Brown has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is 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'. Justin Brown consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

All references to Mineral Resources pertain to the ASX release dated 17 April 2019. The Company confirms that all material assumptions, underpinning the estimations continue to apply and have not materially changed.

All references to Mineral Reserves pertain to the ASX release dated 30 September 2022. The Company confirms that all material assumptions, underpinning the estimations continue to apply and have not materially changed.

For further information on Element 25 Limited and its Projects please visit its website at www.element25.com.au which contains copies of all continuous disclosure documents to ASX, Competent Persons' Statements and Corporate Governance Statement and Policies.

#### **DISCLAIMER**

The views expressed herein are not necessarily the views of the Australian Government, and the Australian Government does not accept responsibility for any information or advice contained herein.