

# Element 25 Limited Investor Update



Building a World-Class Battery Grade Manganese business

Clean Energy Metals Virtual Investor Conference August 2023

**ASX:E25**

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.

**ASX Ticker:** E25

---

**Issued Shares:** 218M

---

**Share Price:** A\$0.43

---

**Market Cap:** A\$94M

---

**Debt:** Nil

---

## Introduction:

---

Growing the world class Butcherbird Manganese Mine in Western Australia to produce high quality manganese oxide concentrate and ethical supply of battery grade High Purity Manganese Sulphate Monohydrate (HPMSM) products to our offtake partners General Motors (GM) and Stellantis for electric vehicle (EV) batteries.



## 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



## PROJECT DEVELOPMENT AND OPERATIONS TEAM



Michael Jordon  
Chief Financial Officer  
CPA



Neil Graham  
VP Battery Materials  
Chemical Engineer



Sias Jordaan  
VP Marketing & Logistics  
Accountant



Doug Flanagan  
COO (HPMSM)  
Mechatronics Engineer



Ian Huitson  
Study Manager  
Mining Engineer

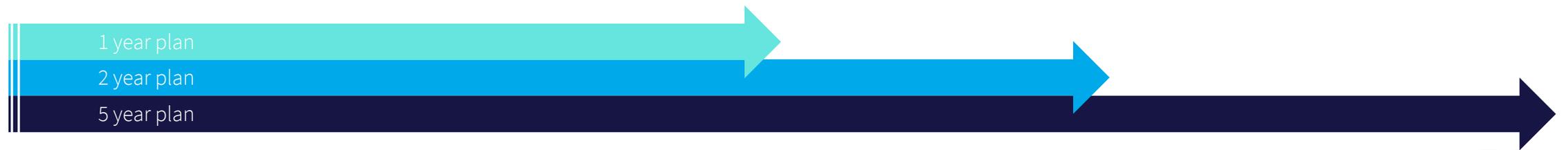
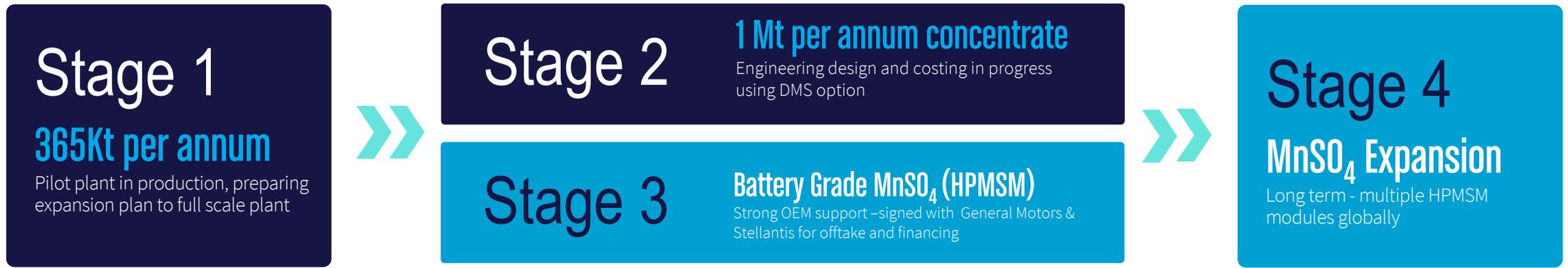


Gideon van Wyk  
GM Manganese Ore Bus.  
Mechanical Engineer



Clint Moxham  
GM Operations.  
Mining Engineer/Geol.

# Our Strategic Vision...

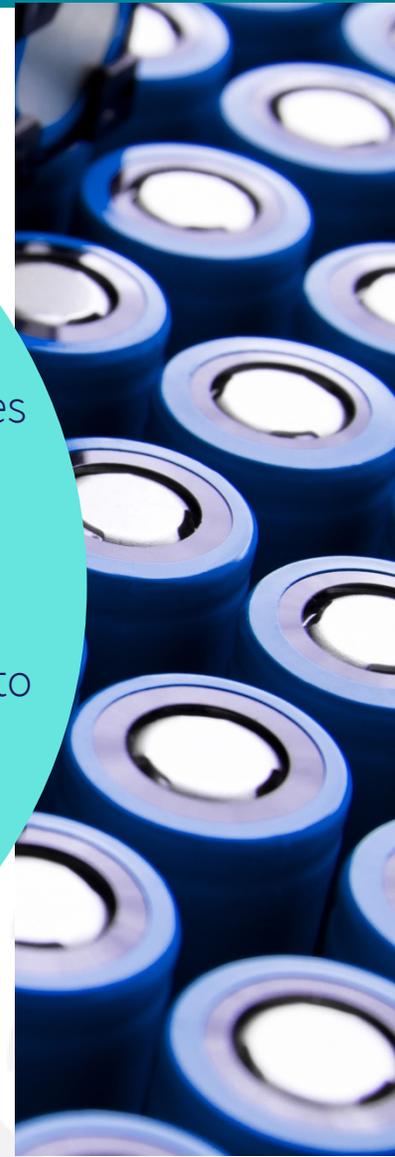


**Cashflow**  
Low capital cost, rapid start up to establish E25 as a producer while minimising dilution.

**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 HPMSM.

**Zero Carbon Manganese™**  
Best in class, zero carbon, ethically produced, scalable HPMSM for electric vehicle batteries.



## Mn ALLOYS

Used in steel, alloys and aluminium products.

High silica concentrate suitable for Si-Mn alloys

Global demand grows in line with steel consumption

Australian location close to Asian markets



E25  
Manganese  
Concentrate

## HPMSM - EV FUEL

A key raw material for Electric Vehicle (EV) Batteries

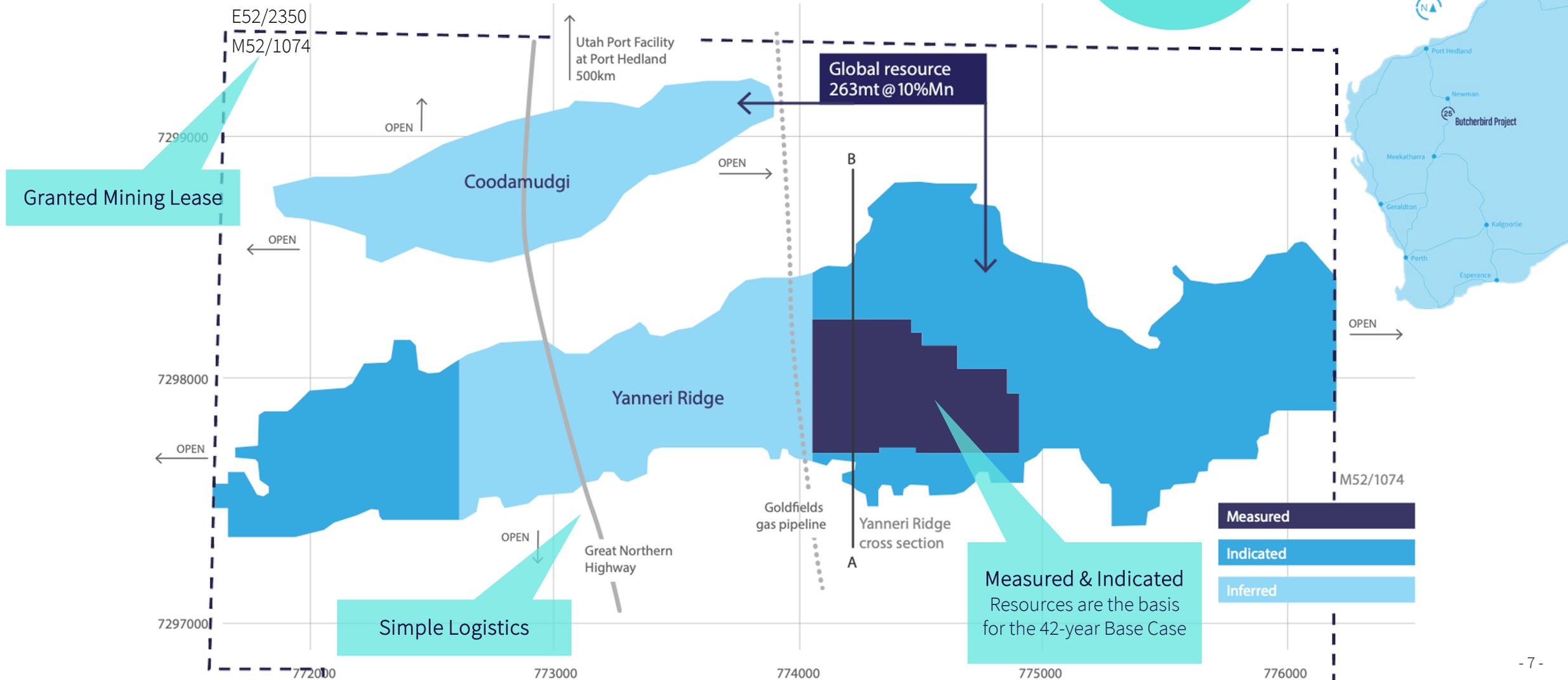
New approach to improve HPMSM ESG credentials

Strong demand growth linked to the rapid transition to EV mobility

E25 process offers key advantages

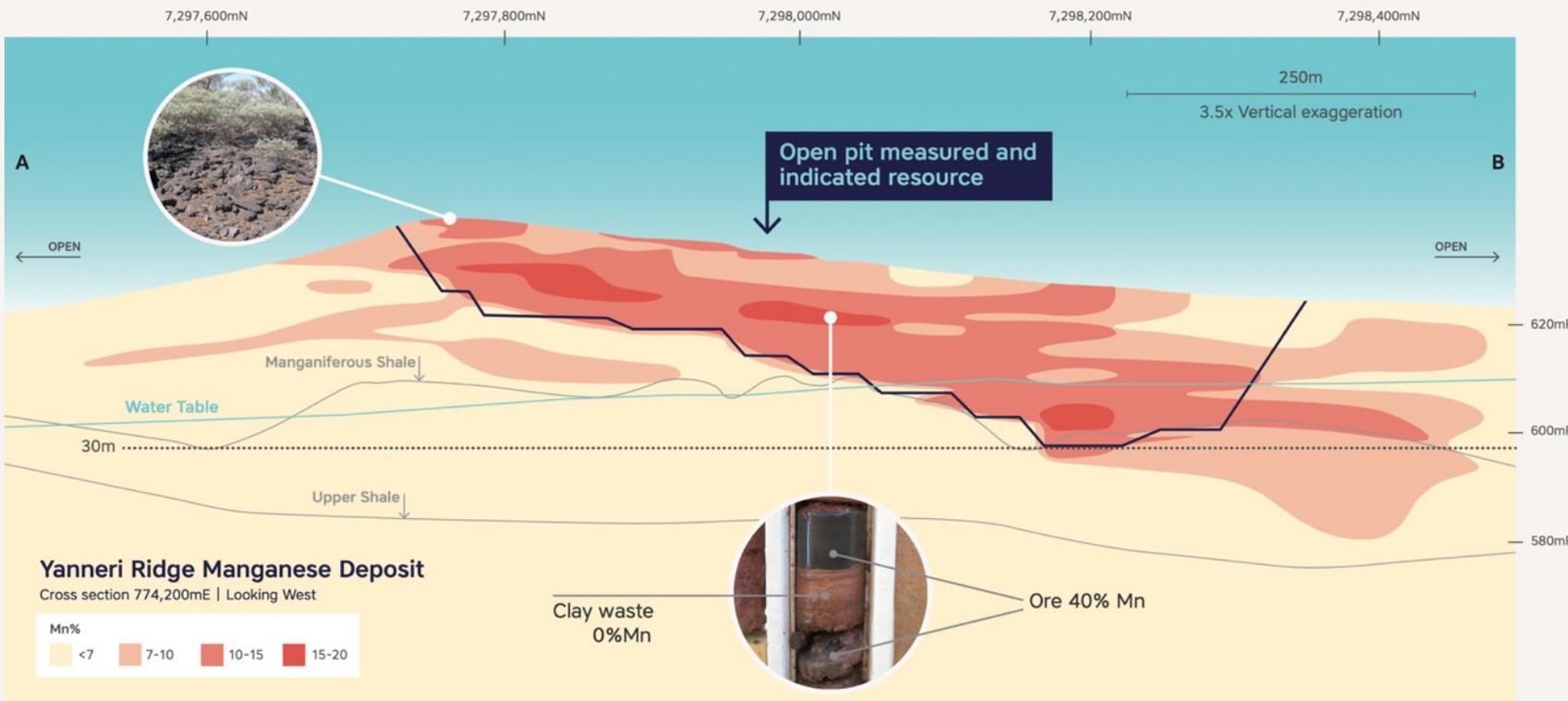
# Large long mine life manganese concentrate operation

100% E25 owned, long term tenure.



# 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 multi-decade 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

# Stage 1: Project Delivery Complete – Engineering Optimisation Progressing



ROM Stocks

Process Water Storage

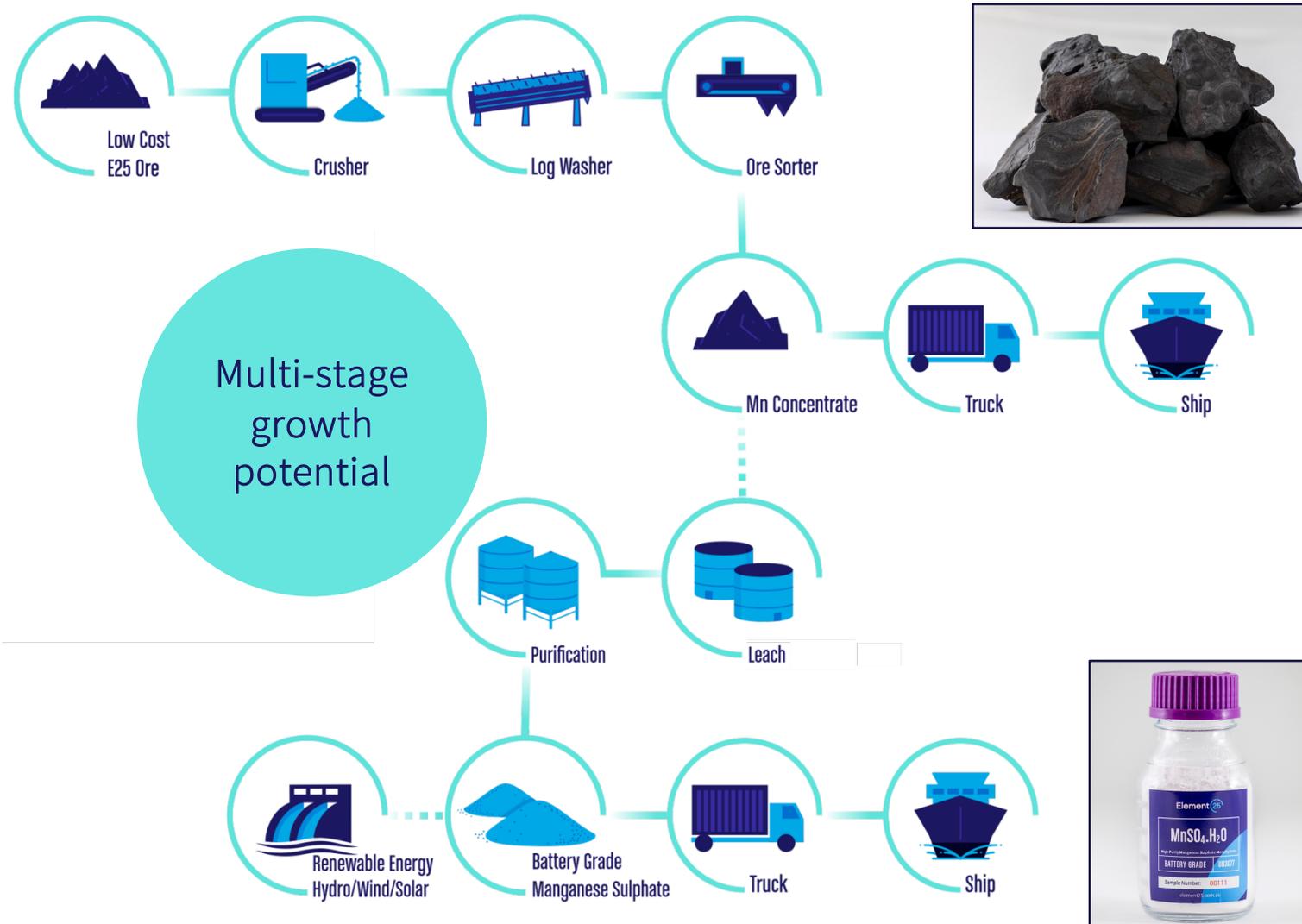
Tails Storage

Main Access Road

Processing Plant

Ore Stockpiles Feedstock for HPMSM conversion

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



## Stage 1

First production of manganese concentrate to sell to manganese alloy manufacturers

## Stage 2

Expansion of the concentrate production to produce manganese feedstock to convert to  $MnSO_4$

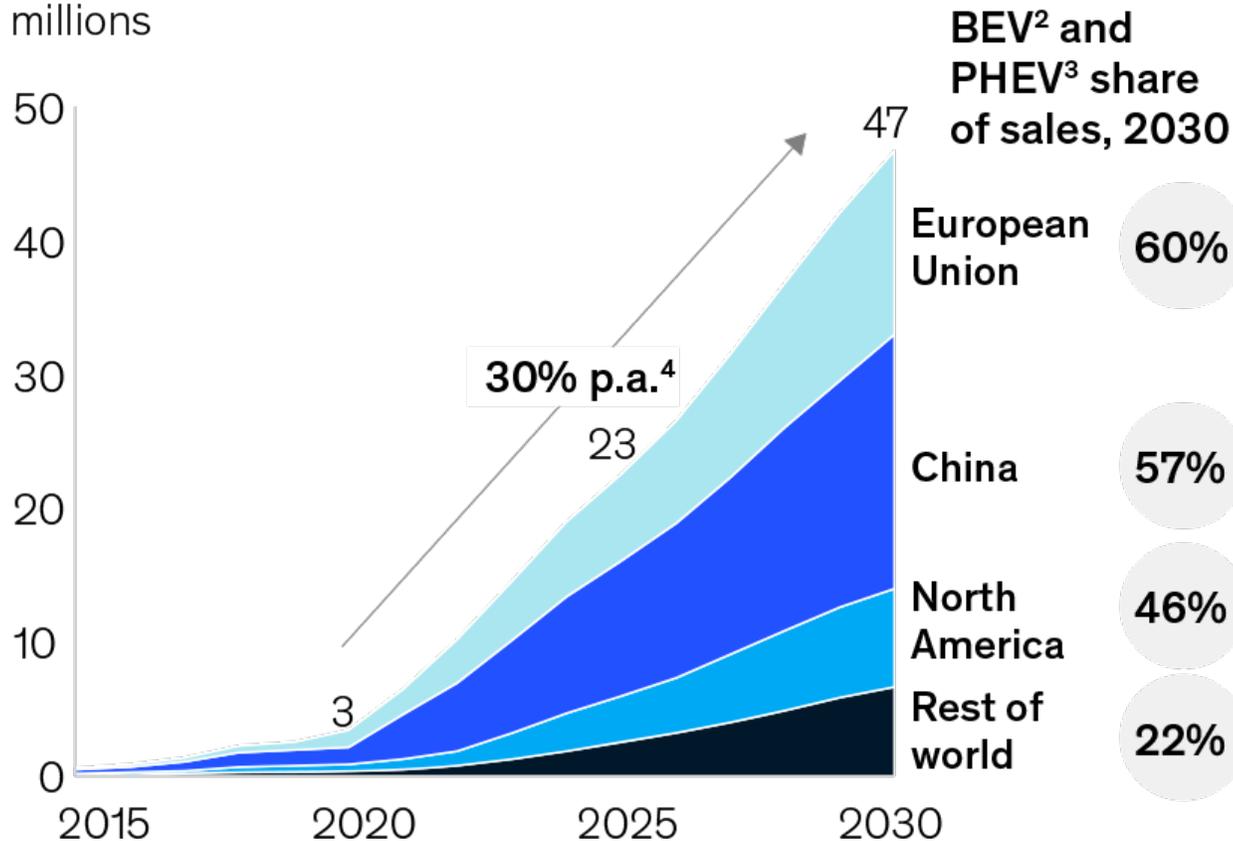
## Stage 3

Establishing a conversion facility to convert the concentrate to battery grade HPMSM with renewable energy

# New Energy Vehicle (NEV) Demand Growing Strongly

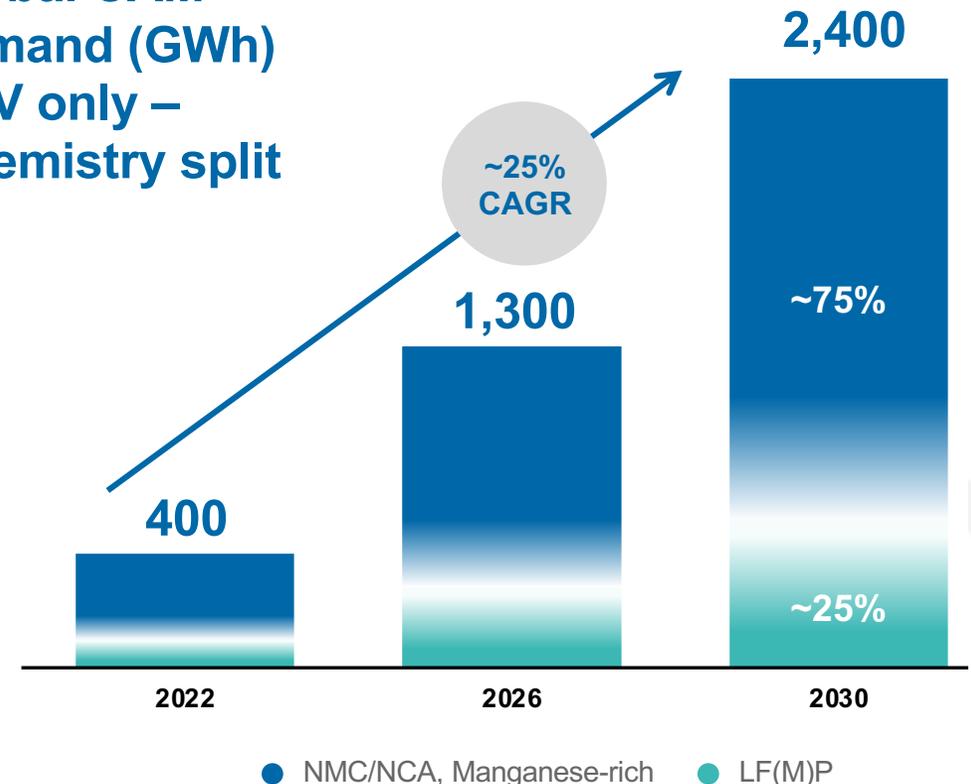
**Global EV<sup>1</sup> market growth is strong and accelerating.**

Global BEV<sup>2</sup> and PHEV<sup>3</sup> light-vehicle production, millions



**More vehicles equals more batteries!**

**Global CAM demand (GWh) LDV only – Chemistry split**



# The Battery Industry is Looking to Manganese



“High-manganese represents the **optimum cost-benefit ratio.**”

*Volkswagen, March 2021*

Li-Mn-rich technology shown as “**cost**” solution in electrification roadmap.

*BMW, November 2021*

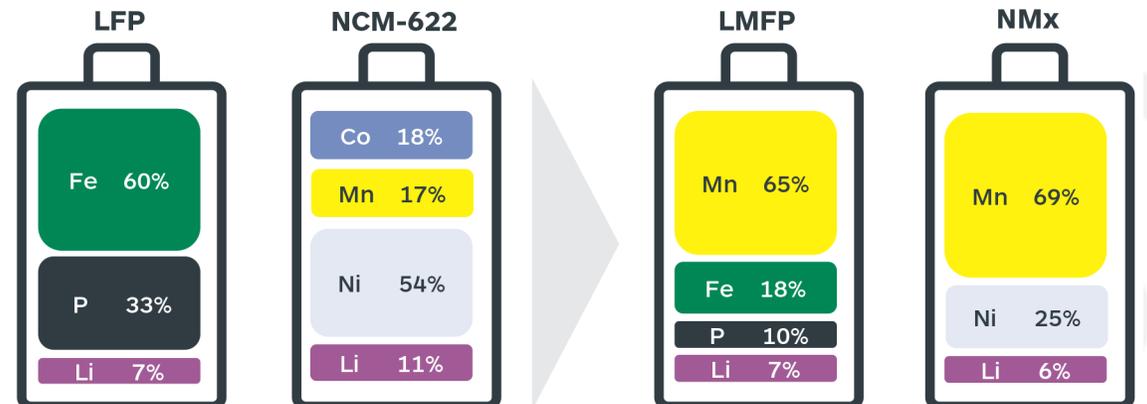
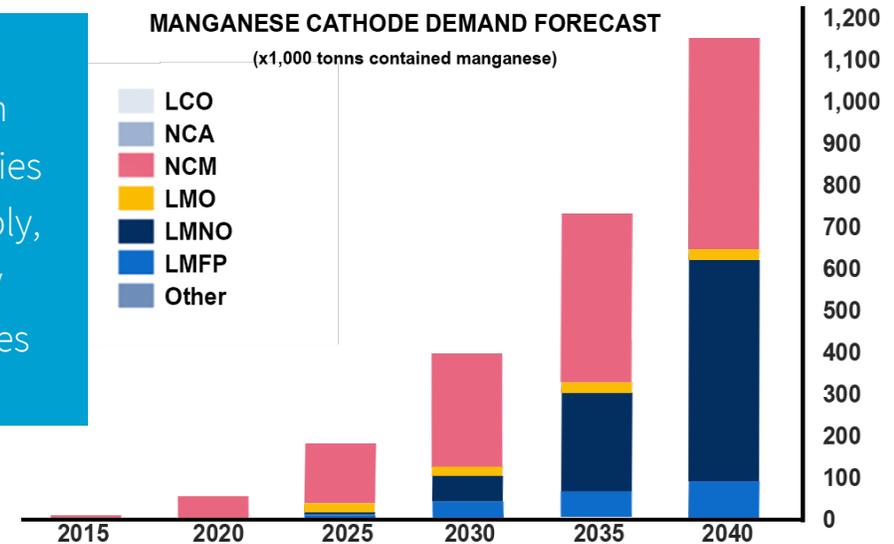
Tesla is **working on new manganese battery cell.**

*Tesla, March 2022*



Manganese Rich Cathode chemistries help to solve supply, ESG and supply security challenges

MANGANESE CATHODE DEMAND FORECAST



# 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

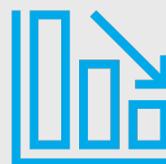


# Low cost, efficient HPMSM process – significant improvements...

## 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...



Reagents/Cost



Carbon Emissions



Waste Residue

## 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.



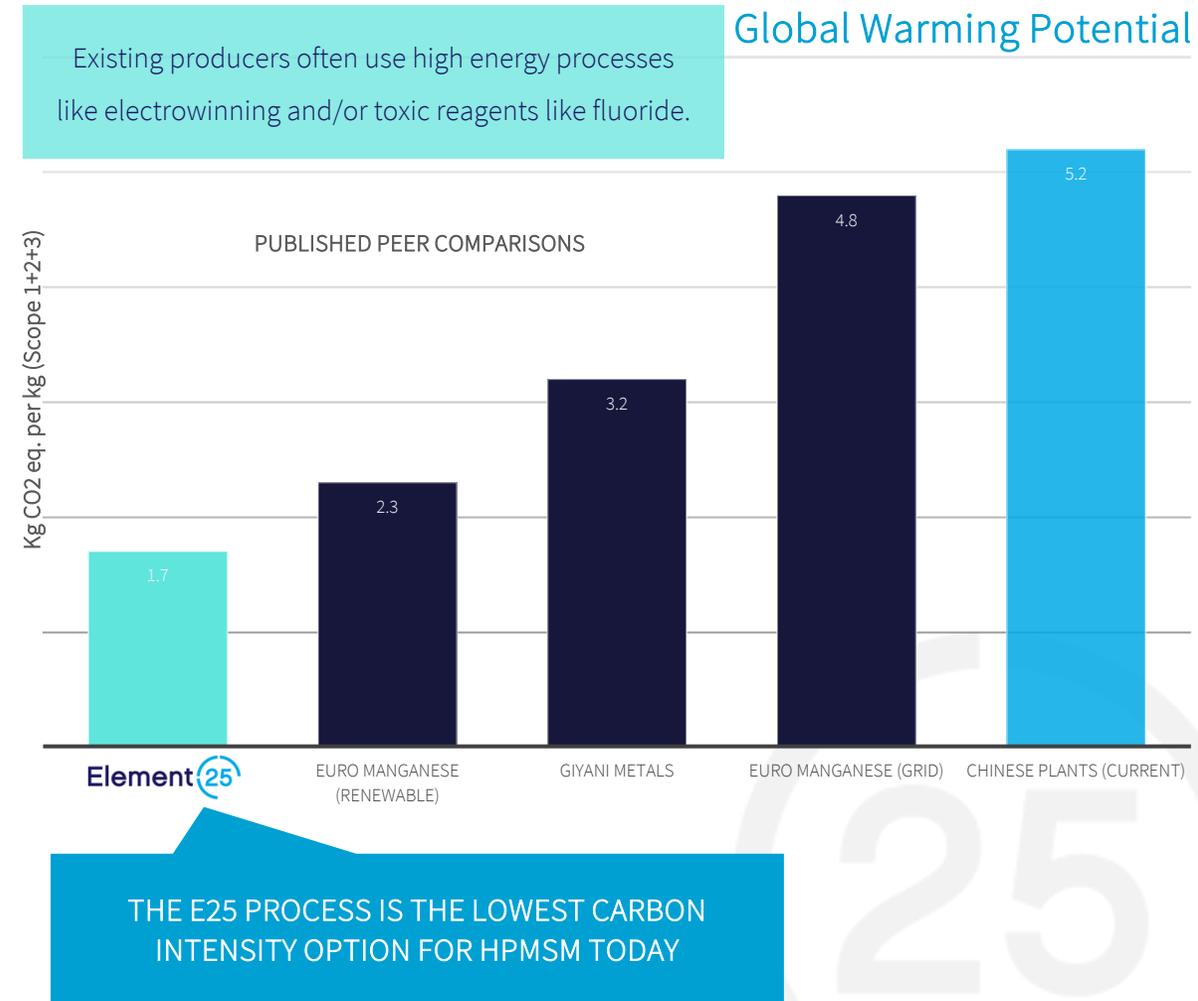
99.99%  
 $\text{MnSO}_4$

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

- 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:
  - ~ 67% lower than competitors in China.
  - up to 47% lower than competitors outside China.
  - ~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>.



Supply chain transparency and traceability partner.



# Stage 3 Expansion of Conversion Capacity - Multiple Plants Planned



- E25 manganese concentrate is a very stable, easily transported feedstock.
- Allows location optionality for the processing facility.
- Multiple potential sites being explored.

**Design One  
Build Many**

# Inflation Reduction Act 2022 – What’s Changed?

## Summary of Impacts on Battery Supply Chains

- Reform to EV tax credit (\$7,500)
- requires vehicles to meet sourcing requirements for:

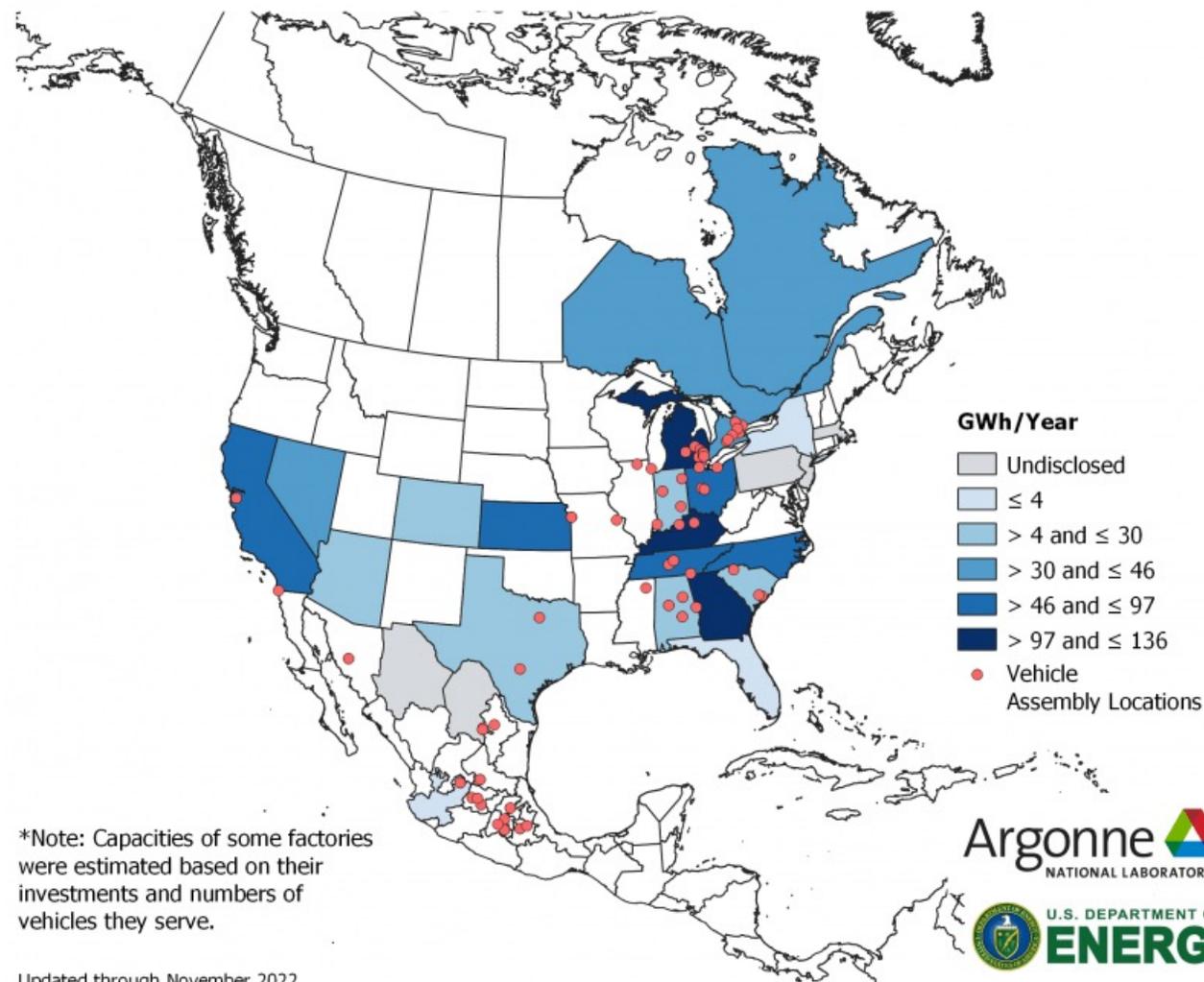
Critical Minerals (\$3,750)	Battery Components (\$3,750)
<ul style="list-style-type: none"> <li>• 40% of battery raw materials, by value, to be sourced from north American or allied countries (including Australia)</li> <li>• Rises 10% per year to 80% by 2027</li> </ul>	<ul style="list-style-type: none"> <li>• 50% of battery components to be manufactured or assembled in North America in 2023</li> <li>• Rises 10% per year to 100% by 2029</li> </ul>

Beginning in 2025, any vehicle with battery raw materials extracted, processed or recycled in a "foreign entity of concern" is ineligible for the tax credit

## 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”.

## Planned Battery Plant Capacity in North America by 2030

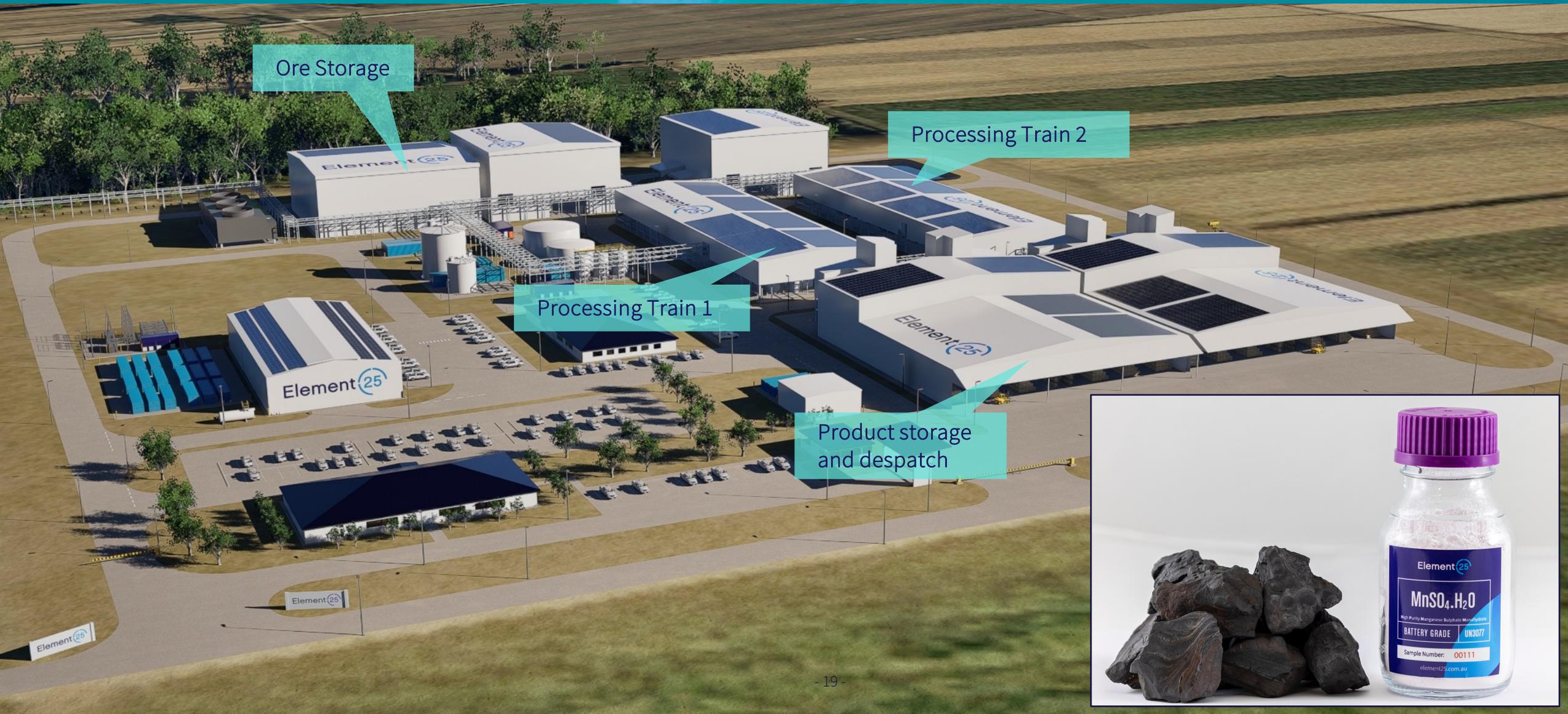


## Pre-FID Activities Underway with local Engineering & Construction Contractors:

- Conducting detailed assessments of the viability of the proposed site.
- Focusing on local content where possible.
- Negotiating partnerships with local reagent suppliers.
- Commercial frameworks being advanced to prepare for FID:
  - Logistics – inbound and outbound
  - Reagents supply agreements
  - Site lease
  - Engineering (FEED progressing on time and budget)
- Working with potential local design and construction contractors to develop contracting strategies.
- Looking to bring a range of community benefits to Ascension Parish which underpins significant incentives package (subject to approval)
- Advancing approval discussions with relevant regulators .



# Proposed Production Plant - Ascension Parish Louisiana



Ore Storage

Processing Train 2

Processing Train 1

Product storage and despatch



## Strong financial results underpinned by competitive capital and operating cost estimate



Cashflow

US\$155M

pre-tax average cashflow p.a. at full production (2 trains)



NPV

US\$1,662M

pre-tax (real) at full production  
Discount Rate 8%



IRR

29%

pre-tax at full production



Capital

US\$289M

for train 1 with an additional US\$187M required for train 2



HPMSM

65,000 t/a

expanding to 130ktpa with a second train



**USD\$30M** | equity & prepay

- Binding agreements signed for offtake and funding.
- Key commercial terms include:
  - Five (5) year HPMSM supply commitment (nominal 10Ktpa).
  - Stellantis commits US\$30M funding to E25's HPMSM processing facility.
  - First US\$15 has been completed as equity at A\$1 per share.
- Arrangement includes commitments from E25 with respect to ESG and IRA.

(Reference: Company ASX Release dated 9 January 2023)



**general motors**

**USD\$85M** | senior debt

- Binding agreements signed for offtake and funding.
- Key commercial terms include:
  - Seven (7) year HPMSM supply commitment (up to 32,500Ktpa).
  - GM commits \$85M funding to E25's HPMSM processing facility.
  - Funding committed as senior project debt.
  - Seven year post construction repayment schedule.
- Arrangement includes commitments from E25 with respect to ESG and IRA.

(Reference: Company ASX Release dated 26 June 2023)



CHRYSLER



DODGE



FIAT

Jeep



BUICK

GMC



Multiple funding pathways being actively negotiated:

- US\$115M secured through GM and Stellantis deals.
- Discussions in progress with other potential offtake partners.
  - Offtake + Finance.
  - Debt/Pre-Pay/Equity all in play.
- Other funding avenues:
  - Nordic/Green Bonds/PE Debt.
  - Traditional project finance.
  - Government funding – DoE/DoD.
  - Green bonds.

**US\$30M**

STELLANTIS

\$15M Equity & \$15M Prepay  
Binding documents executed



**US\$85M**

gm general motors

Senior debt  
Binding documents executed



**US\$30-50M**

Senior debt/Prepay/Equity with offtake  
Negotiations in progress.



**US\$100-150M**

Senior debt plus equity  
Negotiations in progress



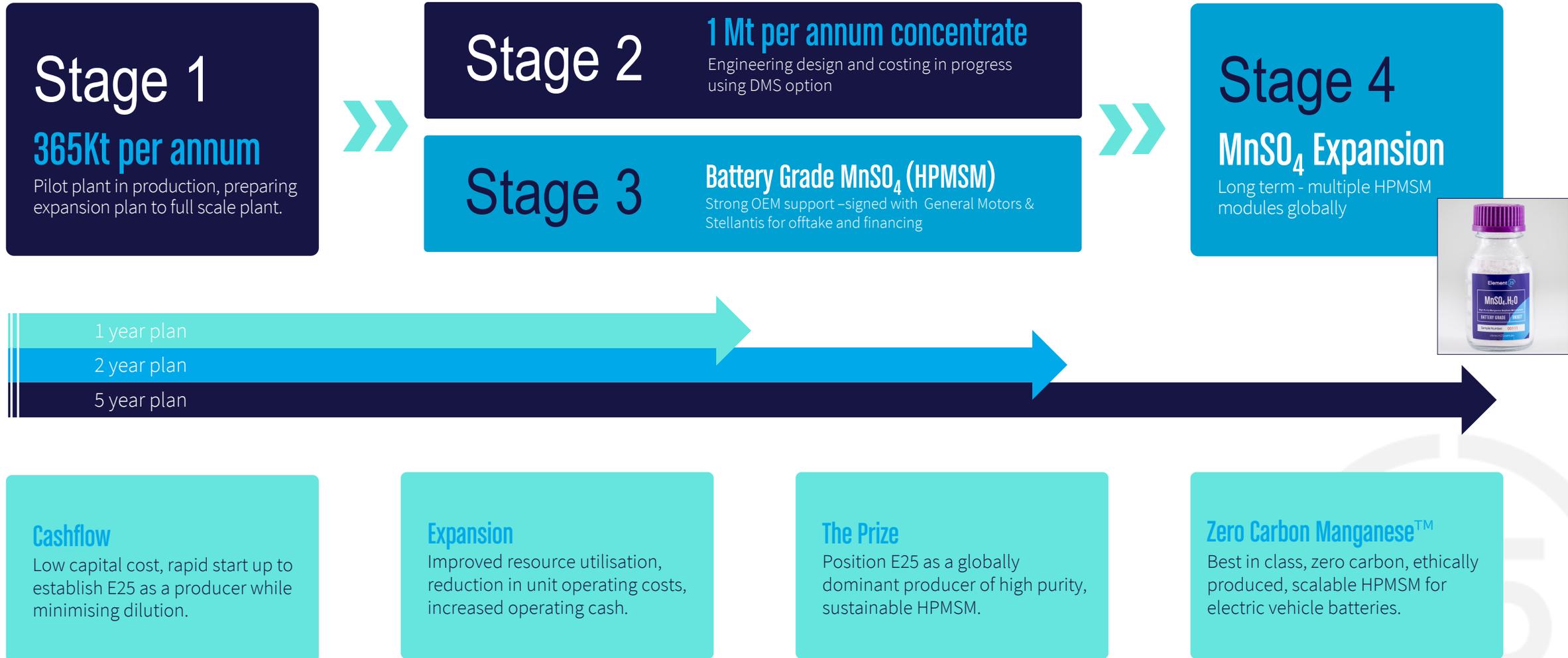
**US\$289M**

Construction Capital Cost

Feasibility Study Estimate for Train 1 Construction



# Our Strategic Vision...



# Thank you

Element 

For more information, please contact Element 25 Limited:

+61 8 6375 2525

[admin@e25.com.au](mailto:admin@e25.com.au)

[www.element25.com.au](http://www.element25.com.au)

**ASX:E25**

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

<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](http://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.

