

# Element 25 Limited Investor Update



Building a world-class Zero Carbon Manganese business

March 2023 – EGM Investor Update

ASX:E25

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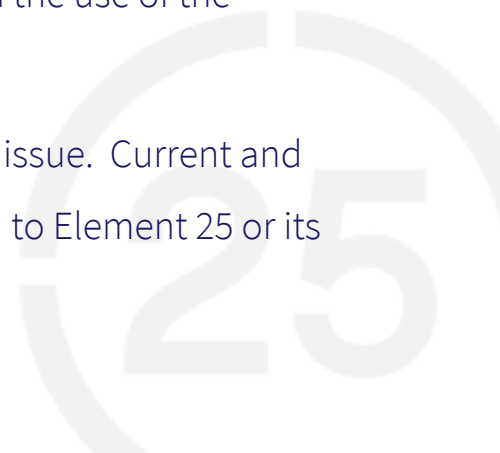
This presentation contains only a brief overview of Element 25 Limited and its associated entities ("Element 25") and their respective activities and operations. The contents of this presentation, including matters relating to the geology of Element 25's projects, may rely on various assumptions and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

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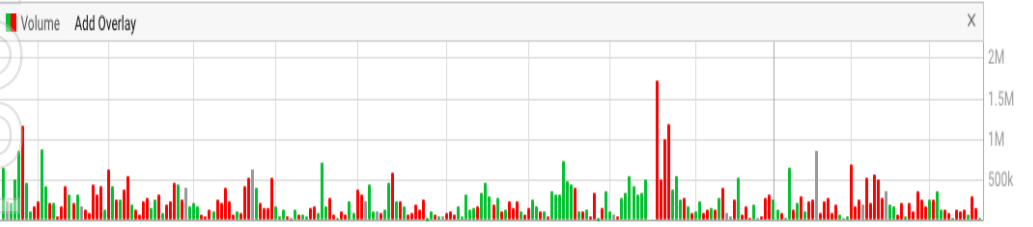
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Financial Information	
ASX Ticker	E25
Shares on Issue	190M
Share Price	\$0.63
Debt	Nil



Reference: www.asx.com.au

## 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.



# Experienced Owners Team

## 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



Ian Huitson  
Study Manager  
Mining Engineer



Sias Jordaan  
Marketing Manager  
Accountant



Neil Graham  
Development Manager  
Chemical Engineer

# Our Strategic Vision...

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# Not all manganese is created equal



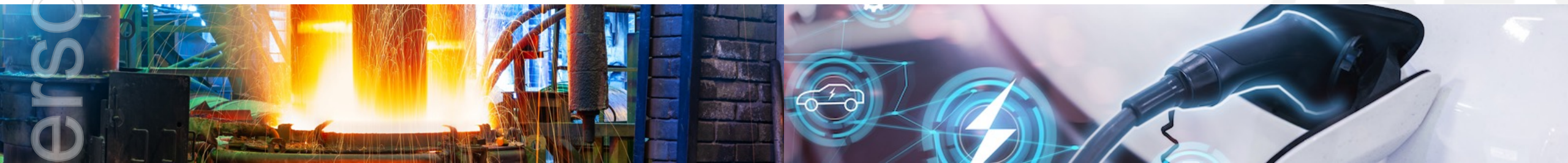
## Serving the Established...

- 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.

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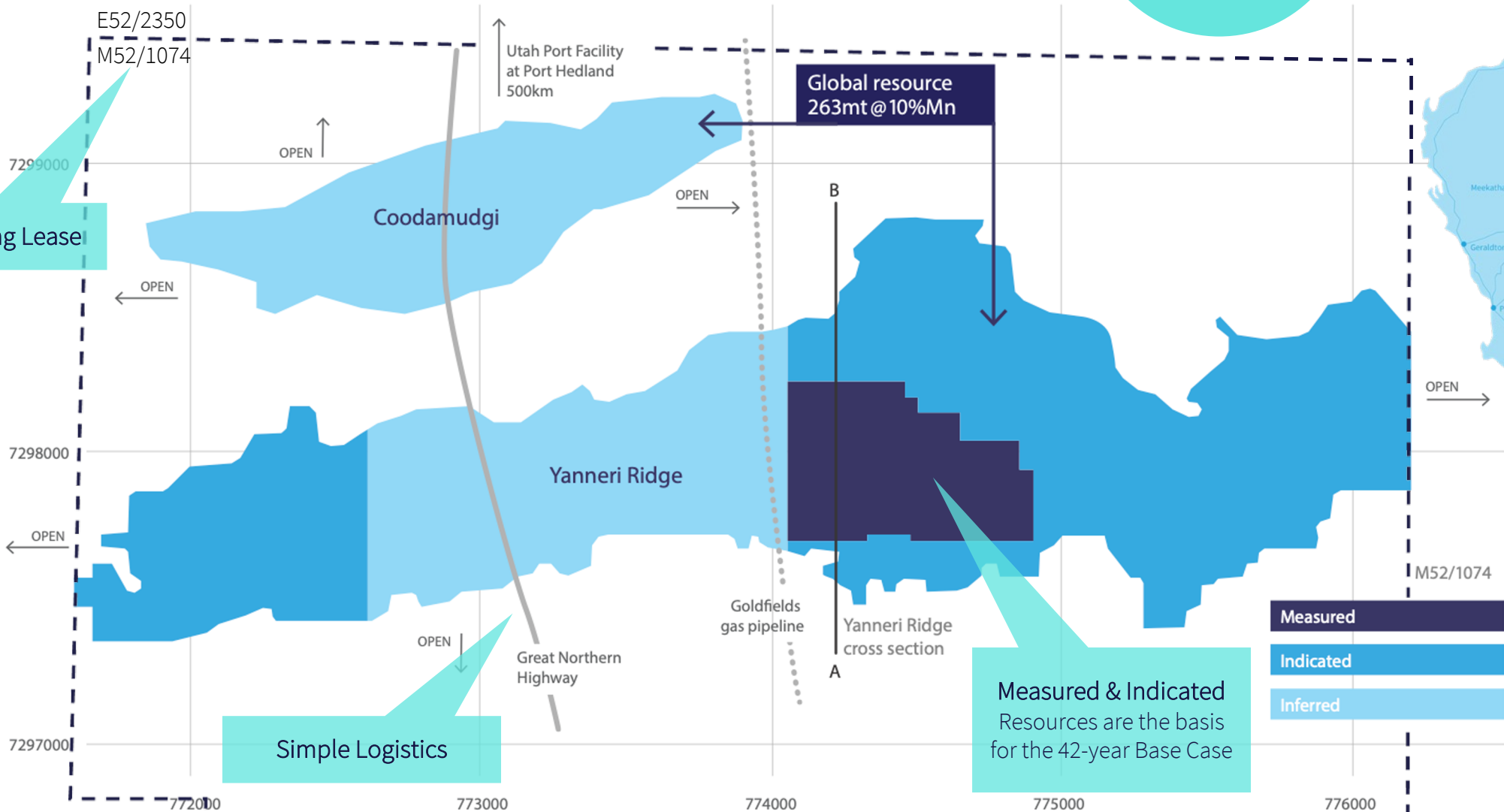


# Great infrastructure endowment, fully permitted

100% E25 owned, long term tenure.

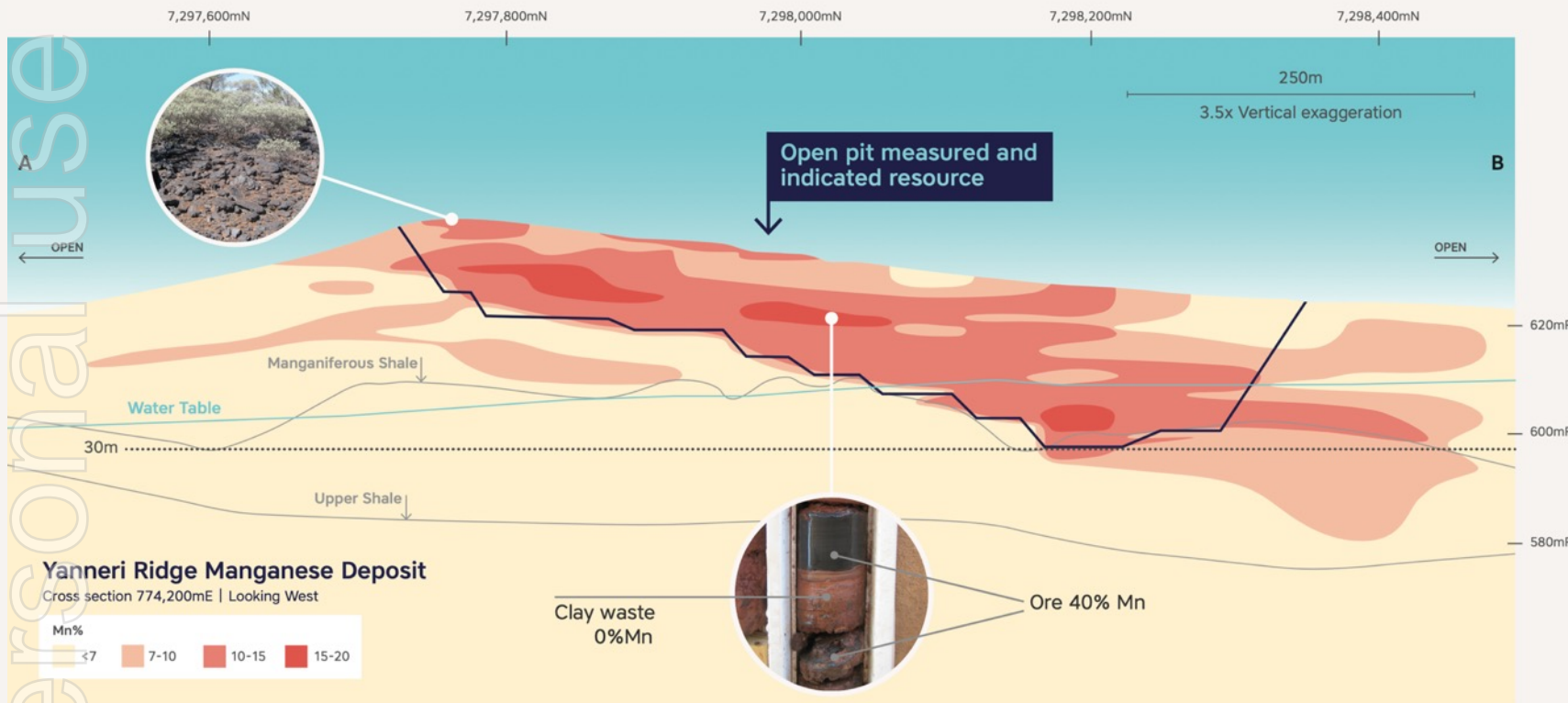


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# Very simple geology equals low-cost, low impact manganese units

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

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ROM Stocks

Process Water Storage

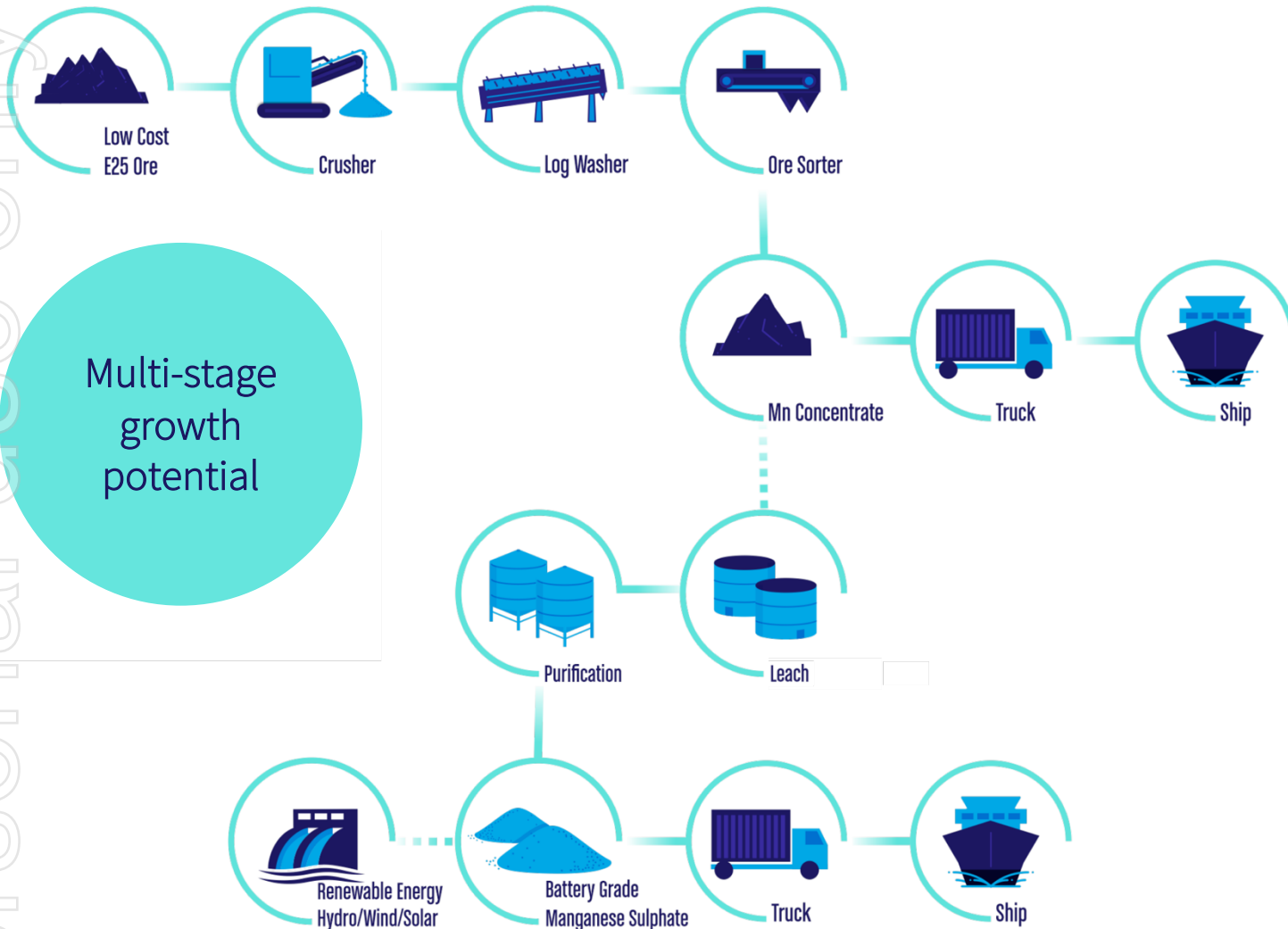
Tails Storage

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

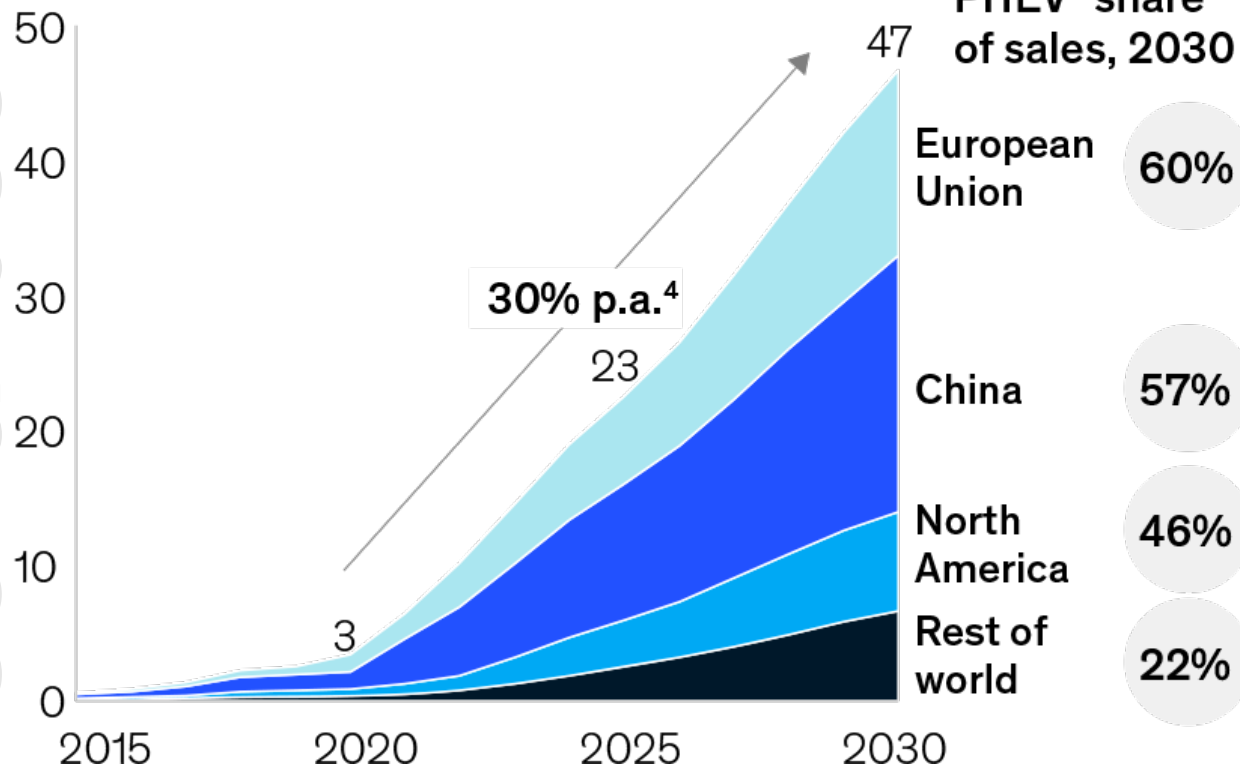
Establishing a conversion facility to convert the concentrate to battery grade HPMSM with renewable energy



# New Energy Vehicle (NEV) Demand Growing Strongly

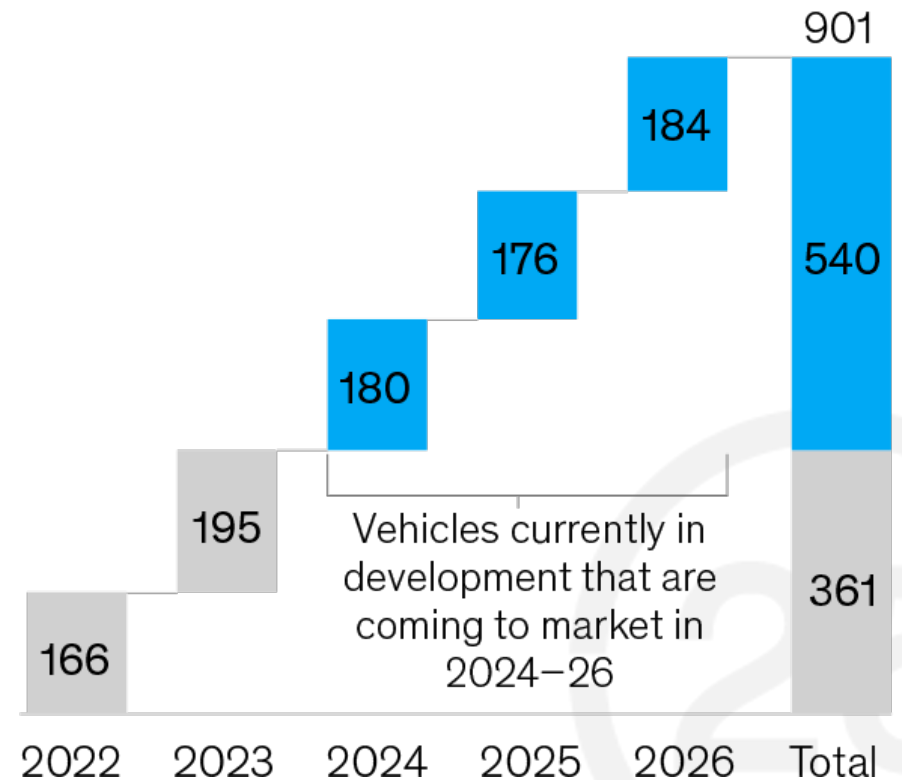
## Global EV<sup>1</sup> market growth is strong and accelerating.

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



## More 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?



Volkswagen



TESLA



- 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.

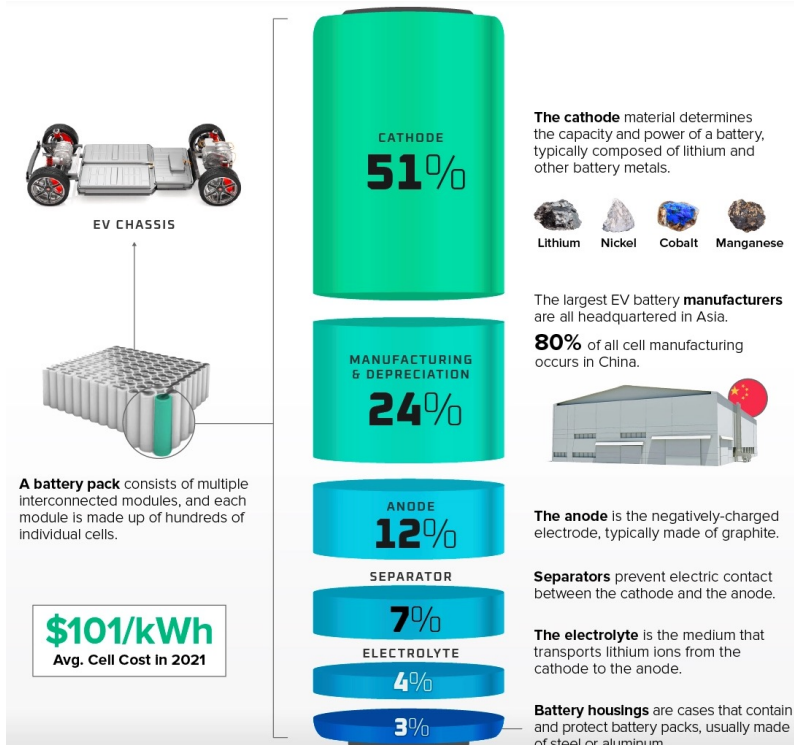
NMC: → LMR (Li-Mn rich cathodes).

LFP: → 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)



Percentages may not add to 100 due to rounding. Source: BloombergNEF

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# 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.

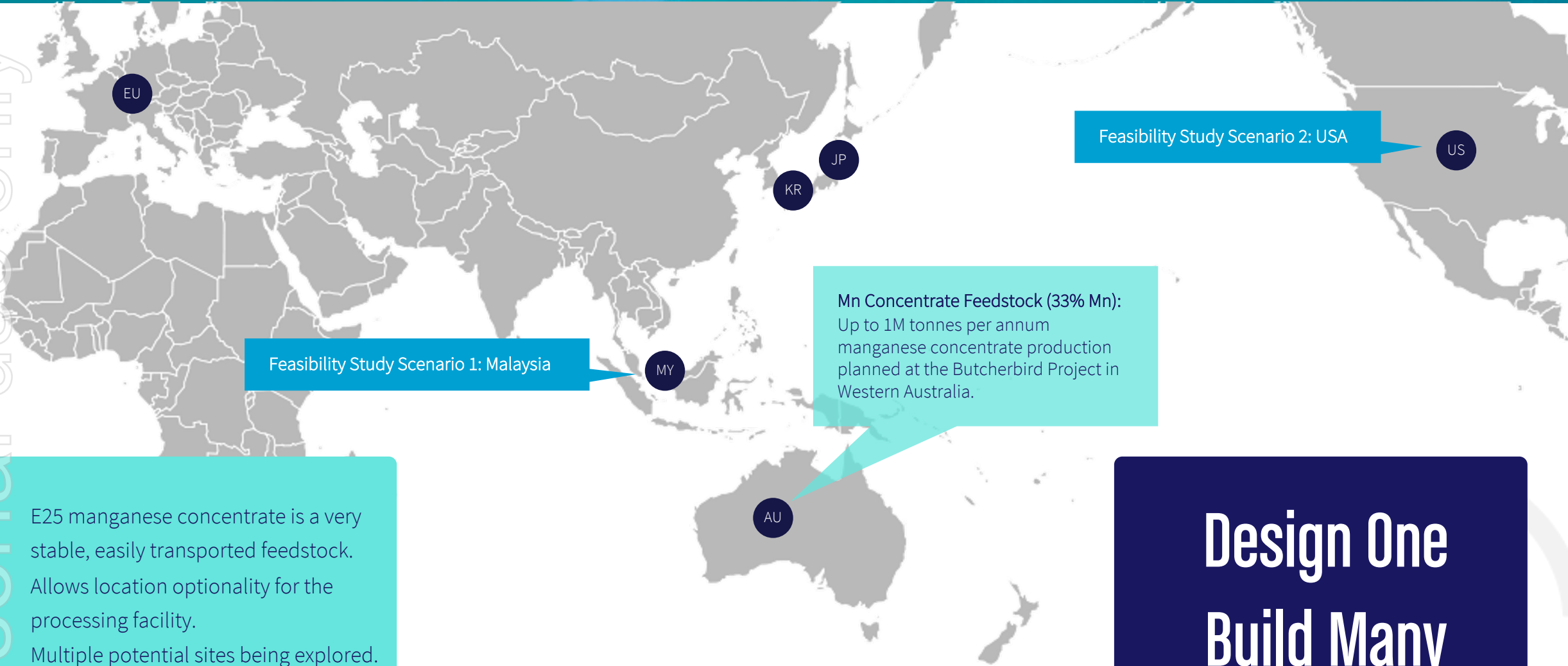


99.9%  
 $\text{MnSO}_4$



# Stage 3 Processing Location Optionality - Multiple Plant Potential

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Feasibility Study Scenario 1: Malaysia

Feasibility Study Scenario 2: USA

Mn Concentrate Feedstock (33% Mn):  
Up to 1M tonnes per annum  
manganese concentrate production  
planned at the Butcherbird Project in  
Western Australia.

**Design One  
Build Many**

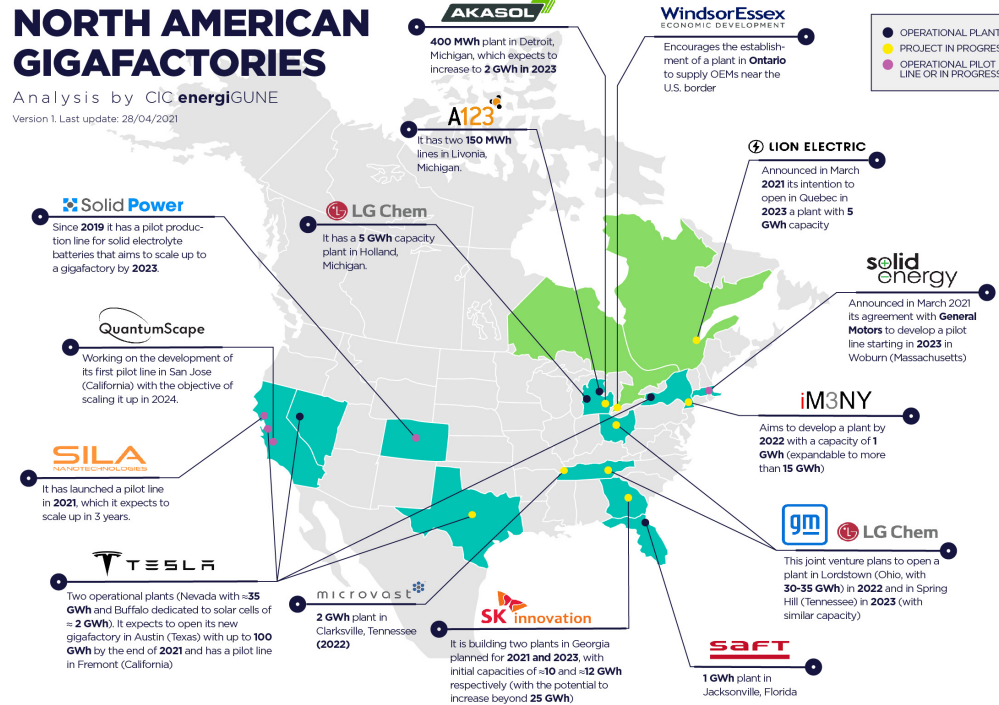
# Inflation Reduction Act 2022 - What's Changed?

## 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

### Advantages:

- Established industrial precinct
  - Local reagent supply
  - Lower construction cost
  - Available skilled labour pool
- Excellent logistics optionality
- Proximity to Asian markets
- Lower cost structure
- Government incentives (MIDA)



MY

## Location #2- USA

### 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



US



# Production Plant - Location Optionality

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PACKAGING &  
PRODUCT STORAGE

PURIFICATION &  
CRYSTALLISATION

PROVISION FOR  
EXPANSION STAGE  
(2X PRODUCTION)

ORE STORAGE  
& COMMINUTION

REDUCTANT  
STORAGE

Note: artist's impression - subject to final design



- E25 and Stellantis sign definitive agreements for the supply of battery-grade high-purity 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.

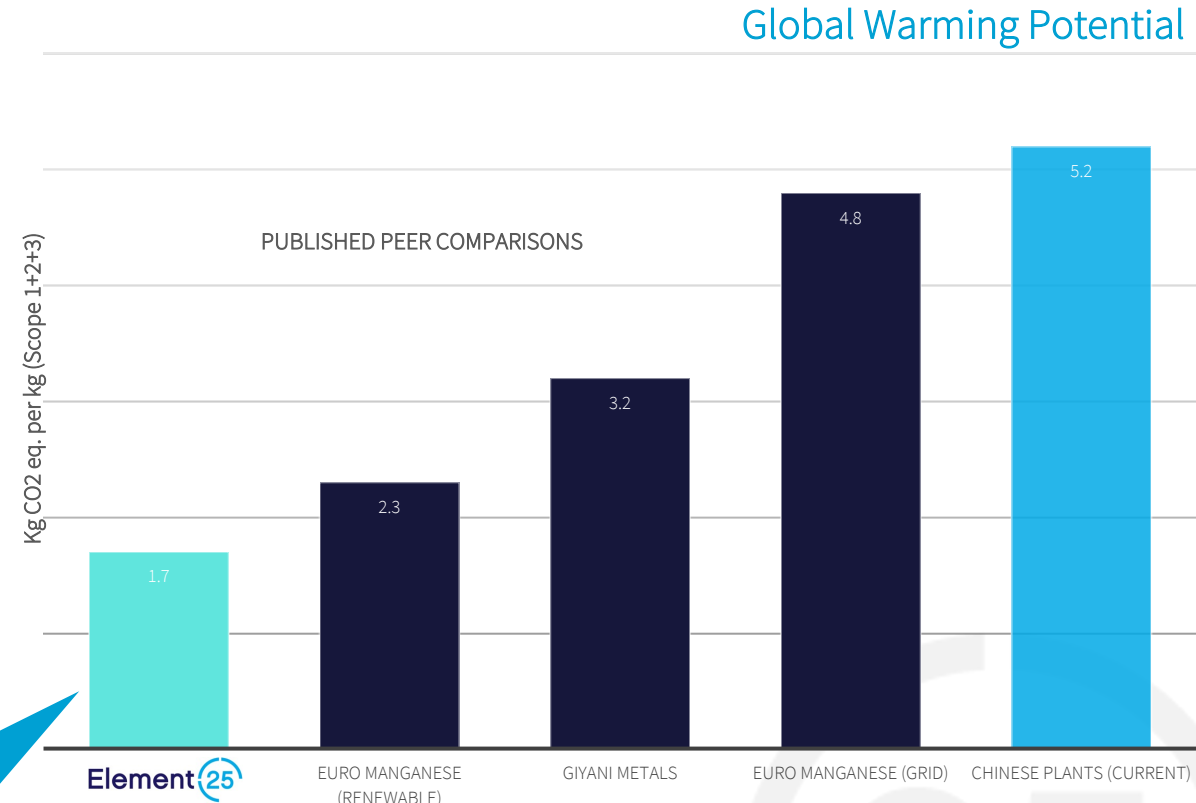


# Targeting Zero Carbon Manganese - ESG is integral to our thinking

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- 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>.

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



Existing producers often use high energy processes such as electrowinning and/or toxic reagents like fluoride.

Reference: Company ASX Release dated 16 February 2023



## Creating the First ESG Transparent Manganese Supply Chain



- Circular’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.
- Circular’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 19 711 929).



BAG IDENTIFICATION ID#1437847



Your product has been tracked using Circular’s blockchain traceability platform, including relevant ESG metrics and product specifications.

01 Jan, 2025 - HPMSM Refinery	HPMSM_1004000 - Goods-Out, HPMSM_1003000 - End-Of-Production, HPMSM_1002000 - Start-Of-Production, HPMSM_1001000 - Goods-In
23 Dec, 2024 - Port Hedland	EMC_1003000 - Goods-out, EMC_1002000 - Goods-In
21 Dec, 2024 - Butcherbird Mine	EMC_1001000 - Goods-Out



#### ESG METRICS AND SPECIFICATIONS

Weight	1t
Carbon intensity	0.0307 t CO <sub>2</sub> -e / t Mn
Metal content	32%
Shipment ID	MV Angelic Anna, Aquamarine SW, Shipment 6 PP01

**TRACEABILITY EXAMPLE**



Unique product identifier  
Your product is associated with a unique QR code that enables it to be tracked and verified.

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# Our Strategic Vision...

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# Thank you

Element 

For more information, please contact Element 25 Limited:

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

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# Our Strategic Vision...

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

## 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

### Manganese Metal

**Future R&D Pathway**  
Applying the E25 technology to other manganese products including EMM.

## 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.

### Steel and Specialty Alloys

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

## 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.

### Supply Chain Diversity

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

Original use only  
CURRENT FOCUS

FUTURE FOCUS

# 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.

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