# Element 25 Limited Investor Update

Globally significant, sustainable manganese production for growing markets.

2018 AGM 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 a number of 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 Overview



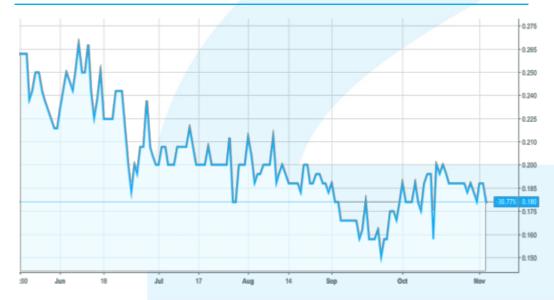
### Financial Information

ASX Ticker	E25	
Shares on Issue	84M	
Share Price	\$0.18	
Market Capitalisation	\$15.1M	
Cash & Investments (at 31 Octobe	r 2018) ~\$10.5M	
Debt	Nil	
Enterprise Value	~\$5M	
Top 20 Shareholders	~67%	

### Board and Management

Seamus Cornelius	Chairman	
Justin Brown	Executive Director	
John Ribbons	Non Executive Director	
Ian Huitson	Study Manager	

### Share Price Performance



### Major Shareholders

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Top 20 Shareholders	67%
Board and Management	8.2%
JP Morgan Nominees Australia	11.4%
Duketon Mining Ltd	6.5%





# What is High Purity (Class 1) Manganese?

- High purity manganese is a premium product segment.
- It makes up about 14% of the global manganese market by volume; but
- It makes up about 40% of the global manganese market by value.





### Three main products:

- Electrolytic Manganese

  Metal ("EMM")
- Electrolytic Manganese
   Dioxide ("EMD")
- Manganese Sulphate

### Main uses:

- Li-ion batteries
- Series 200 stainless steel
- Specialty alloys
- Fertiliser and trace nutrient

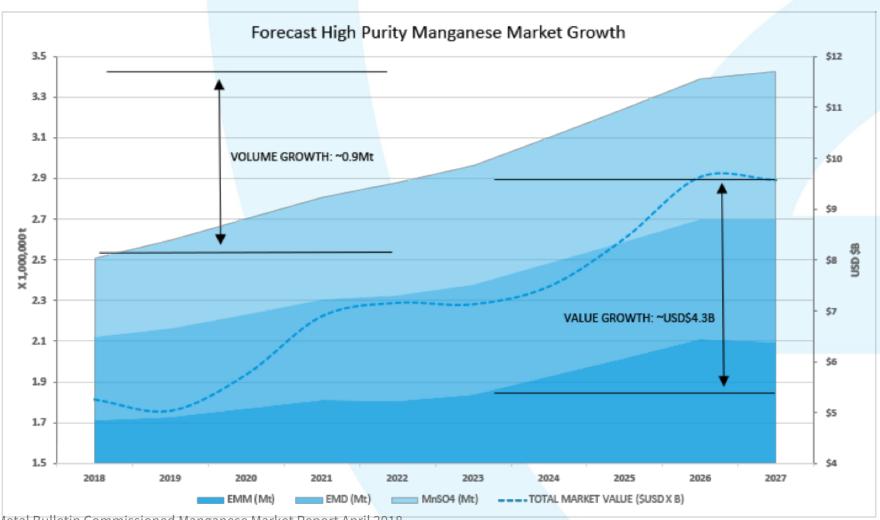
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Reference: Metal Bulletin Commissioned Manganese Market Report April 2018

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# **High Purity Manganese Market Forecast = Strong Growth**





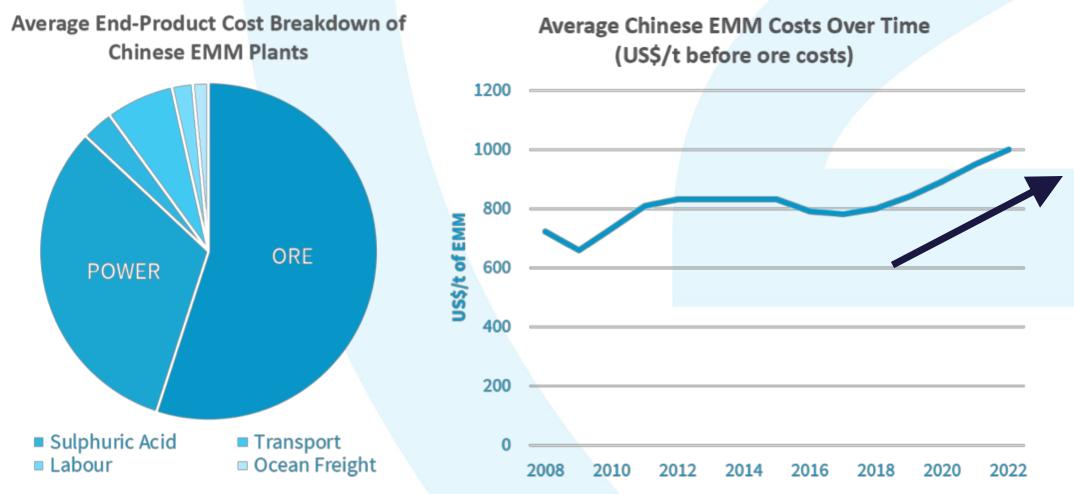
Reference: Metal Bulletin Commissioned Manganese Market Report April 2018



## Costs Are Going Up in China



And... quality domestic ore supplies are largely exhausted...







# The Butcherbird Manganese Project

- Australia's largest onshore manganese deposit.
- Huge resource, currently >180 Mt of manganese ore in Indicated and Inferred JORC resources\*.
- Excellent local infrastructure (bitumen road and gas pipeline).
- 100% owned by Element 25 Limited.
- Located in WA, a low risk mining jurisdiction.
- Mining Lease Application lodged February 2018.
- Scoping Study completed.
- Pre Feasibility Study Commenced.

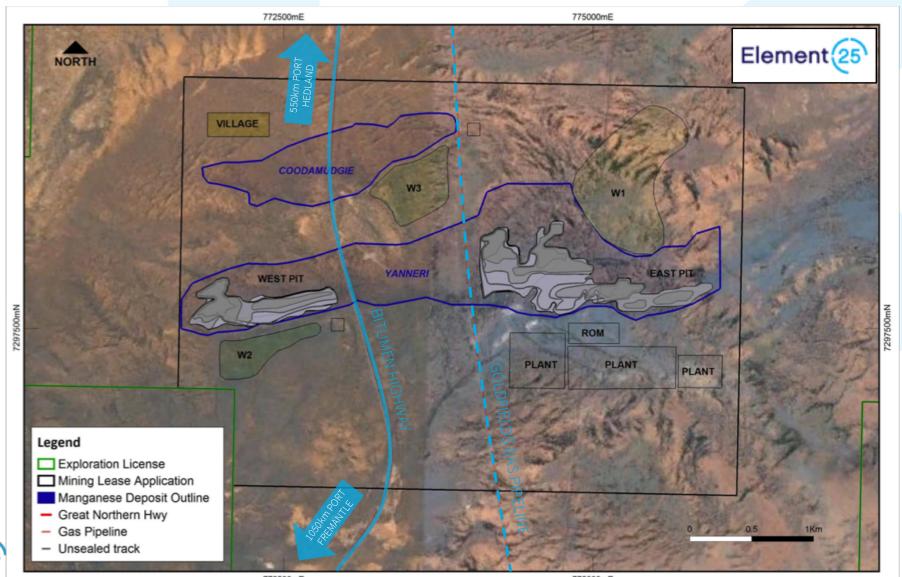
<sup>\*</sup>Reference: Element 25 Limited ASX release dated 12 October 2017 (originally released under the MZM ticker code).

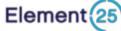




### **Great Infrastructure Endowment**

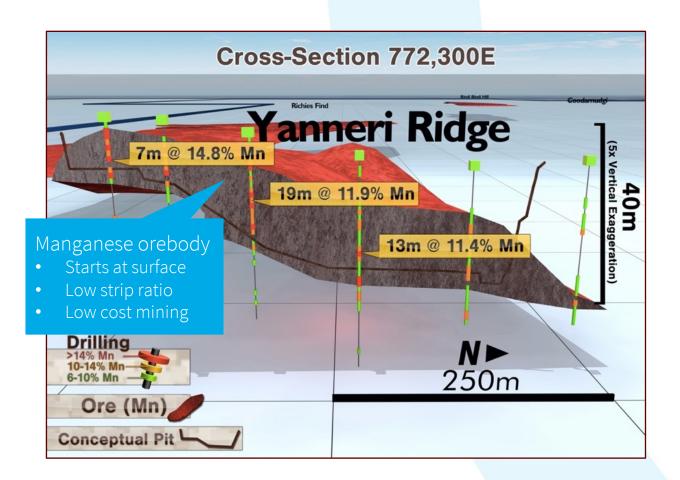






## Simple Geology





- Flat lying stratiform ore body, very simple geology.
- Ore zone starts at surface and is laterally continuous.
- No selective mining required.
- Low strip ratio of 0.2:1 based on preliminary pit optimisations.
- Ore zone is above the water table.
- Free dig with localised ripping.

Note: All intersections are approximately true width





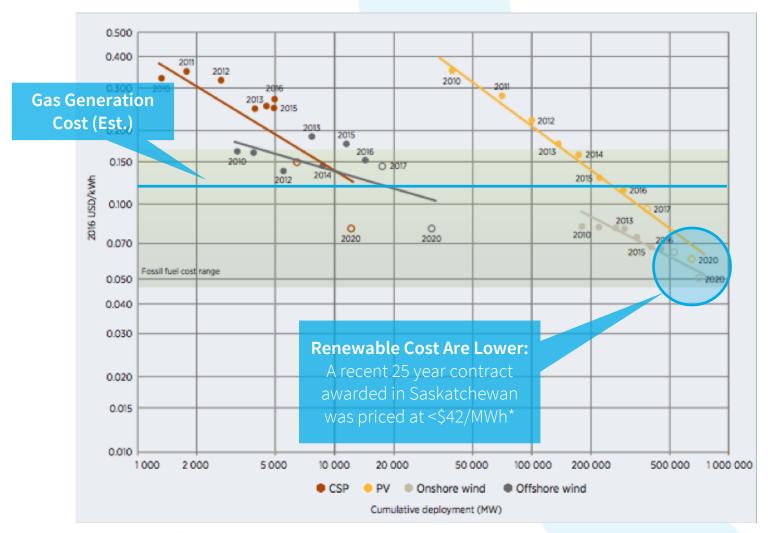
"New research from Morgan Stanley estimates that renewables will be the

cheapest source of power in the world in less than three years."

Business Insider Australia, 8 July 2017

### Renewable Energy - Lower Emissions and Cost Effective





- Cost of Wind and solar steadily declining year on year.
- Costs competitive with the cheapest fossil fuel sources.
- Modelling supports maximising renewables in combination with gas.
- Lower costs for power significantly impact project economics.
- Assists with reducing overall emissions and carbon footprint.



# **Energy Optionality**









### Gas generation:

- Reciprocating gas engines/turbines
- Cost effective base case power solution
- 100% gas power assumed in the Scoping Study

### Wind turbines:

- Competitive Levelised Cost Of Energy ("LCOE")
- Long mine life supports favourable PPA terms
- Protection from gas price changes

### Solar photovoltaics:

- Competitive LCOE
- Offsets lower daytime wind speeds

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Assists in smoothing the renewable power supply



Expected energy mix is 40-50% wind and solar plus 50-60% gas generation, halving emissions reduction over gas only\*



# **Breakthrough Technology**



- CSIRO co-developed process produces high purity manganese with less energy and lower emissions.
- Products include high purity manganese sulphate ("HPSM") for NMC Li-Ion battery cathodes and Electrolytic Manganese Metal ("EMM") for specialty steels.
- These are high value products. Electrolytic Manganese Metal (EMM) is currently priced ~USD\$2,700/t1.





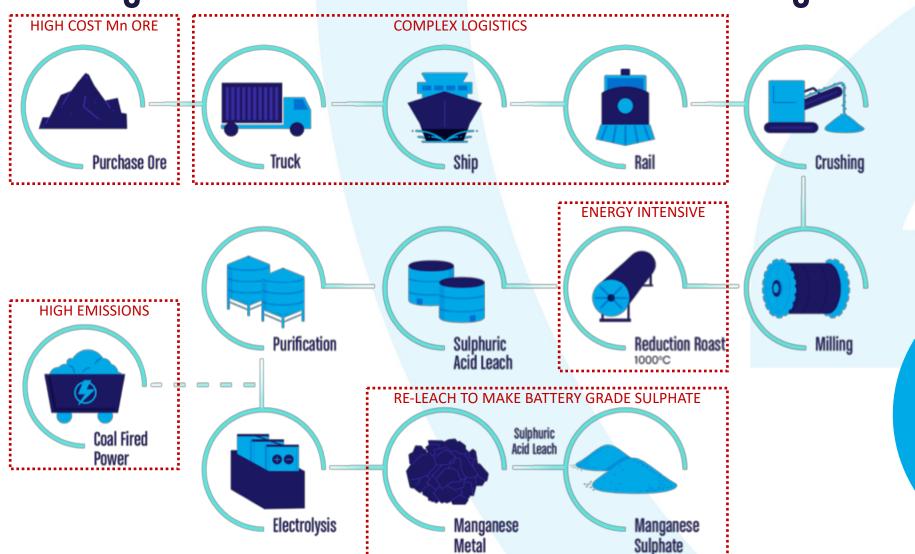


<sup>1</sup>https://www.metalbulletin.com/My-price-book.html?price=34473



Existing Producers use an Inefficient and Polluting Flowsheet





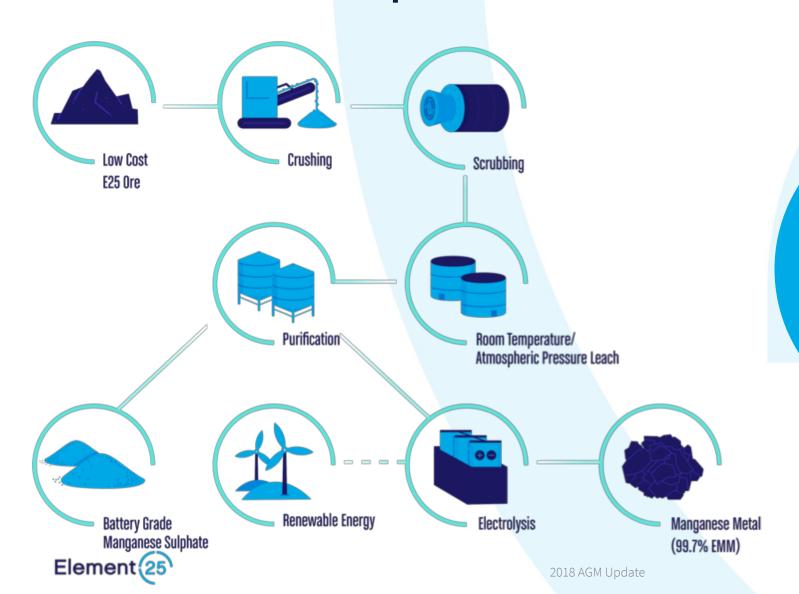
Current producers:

- energy intensive
- high emissions
- rising costs
- inefficient

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### Element 25 Uses a Simpler, Lower Cost, Cleaner Process





### Element 25 Process:

- cheaper local ore
- cleaner leach process
- renewable energy
- simpler, lower cost, cleaner, greener



# Scoping Study Completed, PFS Underway

PFS completion scheduled for Q3 2019



### **KEY FACTORS FOR OPTIMISATION:**

- METALLURGY: Scale up and pilot testing of flowsheet to confirm parameters for plant engineering.
- SCALE: Very large resource means optimal scale is not limited by resource size. Pre-feasibility study will assess various production volumes to find the optimum start-up module size.
- CAPEX/OPEX: Capital intensity will reduce at larger scales. Optimal startup size to be worked out.
- **POWER SOLUTION:** Electro-winning is a heavy power consumer so power cost is a significant input. Gas pipeline provides robust base case. Renewable penetration and optimisation to drive costs down.
- MARKETING: Product selection (EMM, EMD and MnSO<sub>4</sub>) and price forecasts are key factors.
- LOGISTICS: Scoping Study assumes products to be shipped in containers via Fremantle. PFS work will investigate Port Hedland to reduce haulage costs.
- MINING: Simple geology expected to mean low cost and low sensitivity to overall operating costs.
- APPROVALS: Mining lease application lodged, initial flora/fauna surveys complete, no red flags so far.



### Our Journey...





### Our Goal...

- Produce the cleanest, greenest manganese products globally.
- Become a globally significant high purity manganese producer.
- Achieve best in class quality and cost profile.
- Operate ethically and sustainably in a Tier 1 jurisdiction.
- Generate strong sustainable investor returns over the long term.





# Thank you.

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# **Appendices**





### **Competent Person's Statement**



Note: The information in this presentation that relates to Exploration Results, Exploration Targets and Mineral Resources 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.

Please note with regard to exploration targets, the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

All references to Mineral Resources pertain to the ASX release dated 12 October 2017. 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.



# World Class Manganese Resource



Prospect	Tonnes (Mt)	Mn (%)	SiO2 (%)	Fe (%)	P2O5 (%)	Al2O3 (%)
Yanneri Ridge						
Inferred	48.0	10.7	43.0	11.1	0.262	10.7
Indicated	22.5	12.0	43.8	11.6	0.297	10.6
Additional Deposits						
Inferred	110.3	10.6	44.4	11.9	0.3	11.0
Total	180.8	10.8	43.9	11.7	0.3	10.9

- Significant potential remains to increase the resource with further drilling.
- Scale of development not resource constrained.

Reference: Element 25 Limited ASX release dated 12 October 2017 (originally released under the MZM ticker code)



Resource is not closed off and can be extended.

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