

CEO Presentation at the Gold Coast Investment Showcase

In accordance with the requirements of Listing Rule 3.1 we submit the attached material being presented at the Gold Coast Investment Showcase, at the JW Marriott Gold Coast Resort & Spa, 158 Ferny Ave, Surfers Paradise QLD 4217.

Dr Mark Cooksey, CEO is making the presentation at 11:30am AEST on Thursday 23 June 2022.

Shareholders and the public are welcome to attend our presentation and/or visit us at Booth #25.

ASX Release authorised by Mark Cooksey, CEO.

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(ASX:ABX)

Gold Coast Investment Showcase

23 June 2022



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Prices for aluminium fluoride (AlF₃) were sourced from Asian Metals, China Customs and verified by comparison with prices from Bloomberg. The price actually achieved will depend upon market conditions at the time of sale.

Corporate Overview

ASX code: **ABX**

Listed	Current Issued shares	Options	52 week range	Average daily volume	Market cap (@ \$0.135)	Cash @ 21 Jun 2022	Shareholders
24 Dec 2009 @ \$0.20	223.6m	78.8m @ \$0.20	\$0.097- \$0.21	410,000	\$30.2m	\$4.4m	2,485

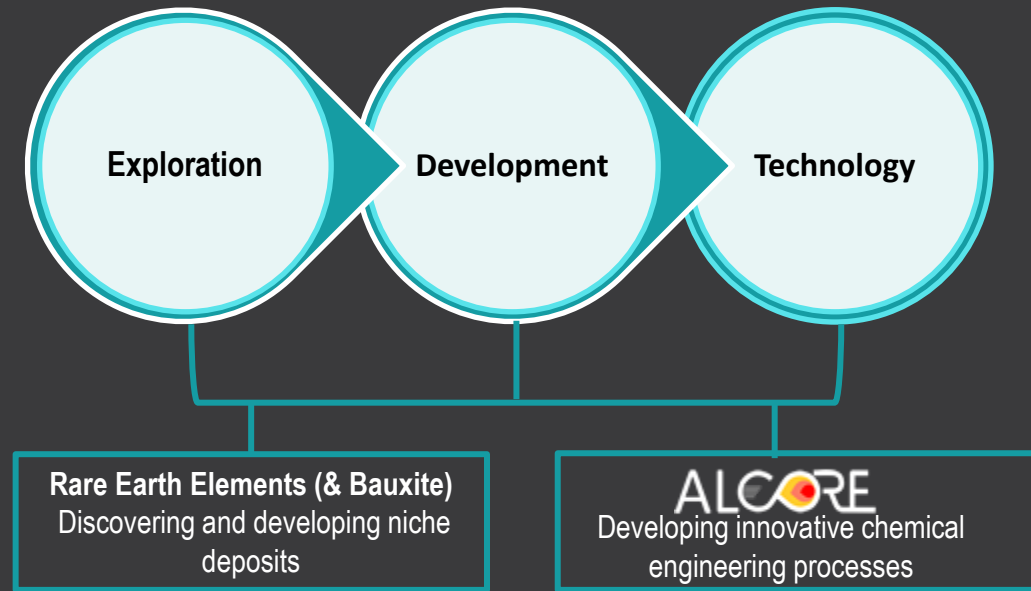
Major Shareholders	Shares	%
HSBC Custody Nominees	6.0 m	2.6
Justevian Pty Ltd	5.8 m	2.6
Yarraandoo Pty Ltd	5.6 m	2.5
Afron Pty Ltd	5.4 m	2.4
Top 20 shareholders	61.1 m	27.3
Remainder	162.5 m	72.7



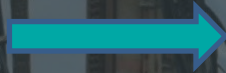
Resources: **130 million tonnes bauxite**

Creating new sources and technologies for the supply of strategic minerals and chemicals:

1. Multiple discoveries of the ideal type of rare earth deposit in northern Tasmania
2. Production of aluminium fluoride, essential for aluminium smelting, from recycled waste
3. Mining and enhancing the value of bauxite resources for cement, aluminium and fertilisers.



Segments



ALCORE Aluminium fluoride production technology

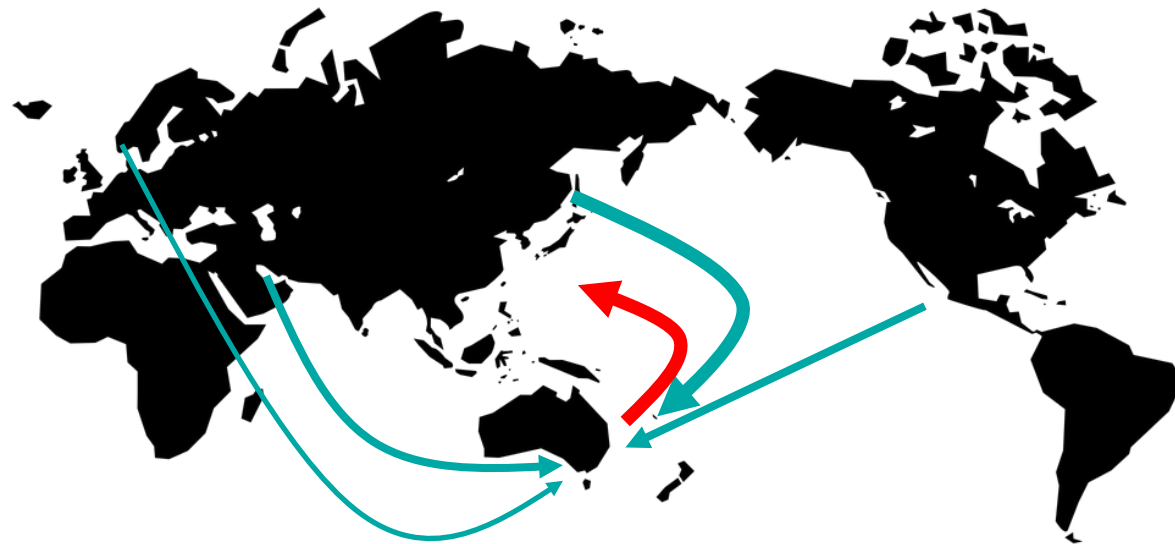


Rare earth discoveries in northern Tasmania

Aluminium fluoride from aluminium smelter waste

Aluminium fluoride (AlF_3): essential for aluminium smelting

- 1.2 million tonnes produced globally per year worth US\$1.5 billion (US\$1,000-1,800 per tonne)
- 50% produced in China, mainly for Chinese smelters
- Australia imports 100% of requirements, mostly from China



→ Aluminium fluoride → Tapped bath

Current imports/exports

- Traditionally produced from high-cost aluminium hydroxide and fluorspar
- Achievable specification – product purity risk is low
- Mature market – dozens of customers globally

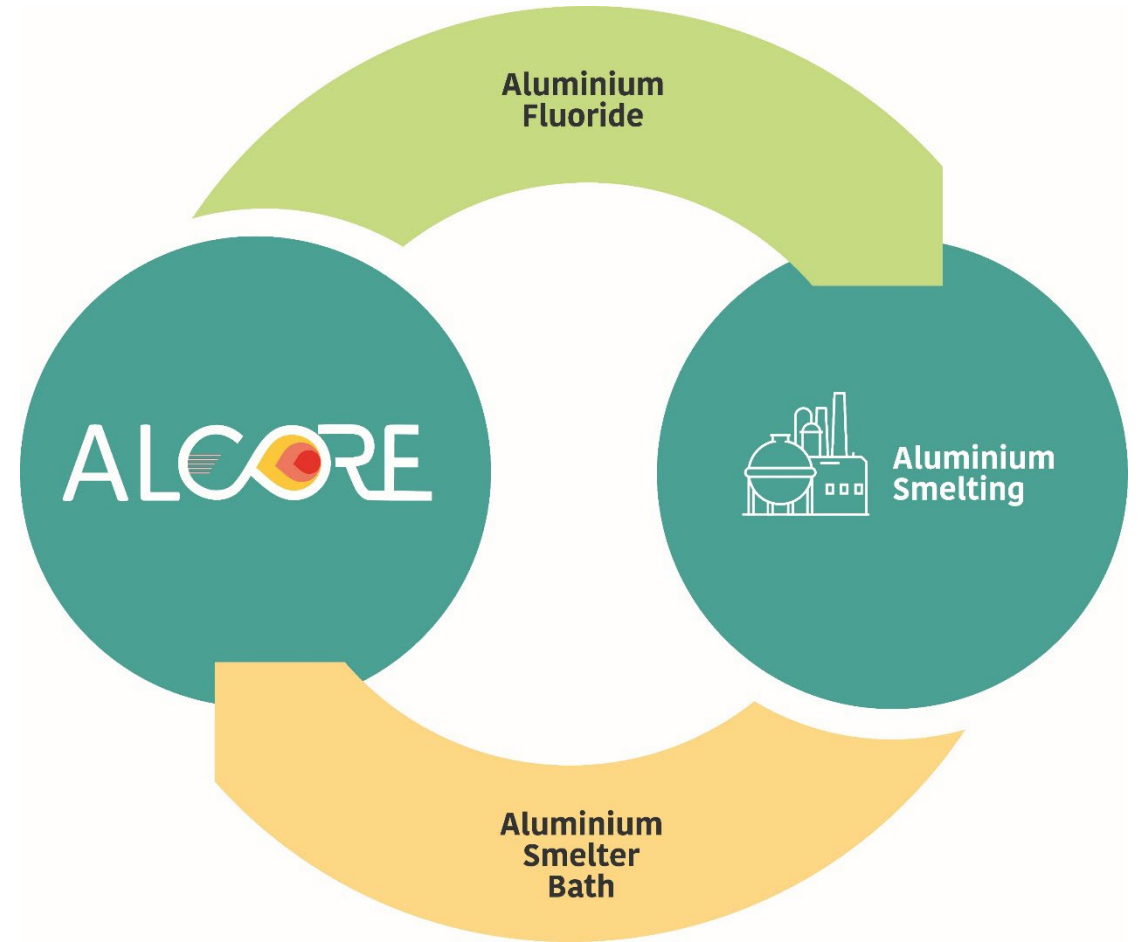
‘Tapped bath’: an aluminium smelter waste

- Fluorine is lost from smelter in ‘tapped bath’
- Only attractive market is new smelter construction; none in Australia
- Global market for tapped bath has moved into oversupply
- Tapped bath is a low-cost source of fluorine

ALCORE Process to produce aluminium fluoride

- Exemplary illustration of circular economy

- ABx's 83%-owned refining technology subsidiary
- Developing processes to produce aluminium fluoride using:
 - Fluorine from tapped bath (an aluminium smelter waste)
 - Aluminium from dross (an aluminium smelter waste) or bauxite



ALCORE Process economics

- Based on long term aluminium fluoride prices and exchange rates, and estimated costs
- For 20,000 t/y aluminium fluoride
- Attractive margins under all scenarios

Aluminium source	Scenario	AlF ₃ price (US\$/t)	FX rate USD:AUD	AlF ₃ price (A\$/t)	Operating cost (A\$/t AlF ₃)	Operating margin (A\$/t AlF ₃)	EBITDA (A\$m)
Aluminium hydroxide	Baseline	\$1,220	0.75	\$1,630	\$1,250	\$1,130	\$23m
Dross	Baseline	\$1,220	0.75	\$1,630	\$1,050	\$1,330	\$27m
Aluminium hydroxide	Optimistic	\$1,400	0.70	\$2,000	\$930	\$1,880	\$38m
Dross	Optimistic	\$1,400	0.70	\$2,000	\$770	\$2,040	\$41m

ALCORE Technical progress

- Critical processing steps have been demonstrated in laboratory
- Commenced pilot plant program



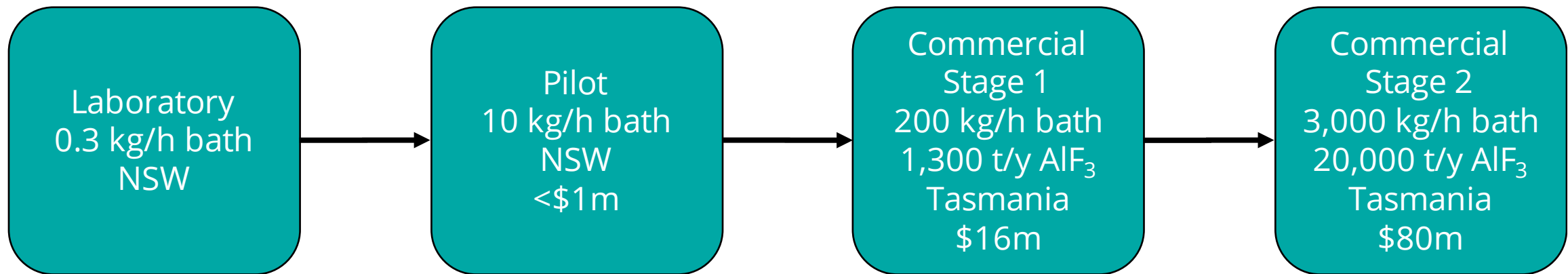
Rotary kiln for recovery of fluorine from aluminium smelter bath

Oleum production plant



ALCORE Process scale-up

- Rigorous scale-up to reduce technical risk
- First aluminium fluoride plant planned for Bell Bay, Tasmania, near existing hydro-powered aluminium smelter. Planned production 20,000 t/y
- High potential for plants in other major aluminium smelting regions
- Potential expansion into other markets, including fluorine chemicals



Received \$7.5m grant

ALCORE Progress and schedule

PHASE 1
2018-19

ESTABLISHMENT

Create Alcore. ✓
Construct high technology laboratory ✓

PHASE 2
2019-21

PROOF OF CONCEPT

Demonstrate novel chemistry for transforming industrial waste into valuable chemicals. ✓

PHASE 3
2021-22

PILOTING

Establish pilot plant facility.
Finalise commercial plant design.

PHASE 4
2022-24

COMMERCIAL

Construct commercial plant.
Commence production.

PHASE 5
2025

GROWTH

Increase production.
Commence exports.
Utilise additional industrial wastes in process.



Pilot

Commercial

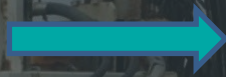
Segments



ALCORE Aluminium fluoride production technology

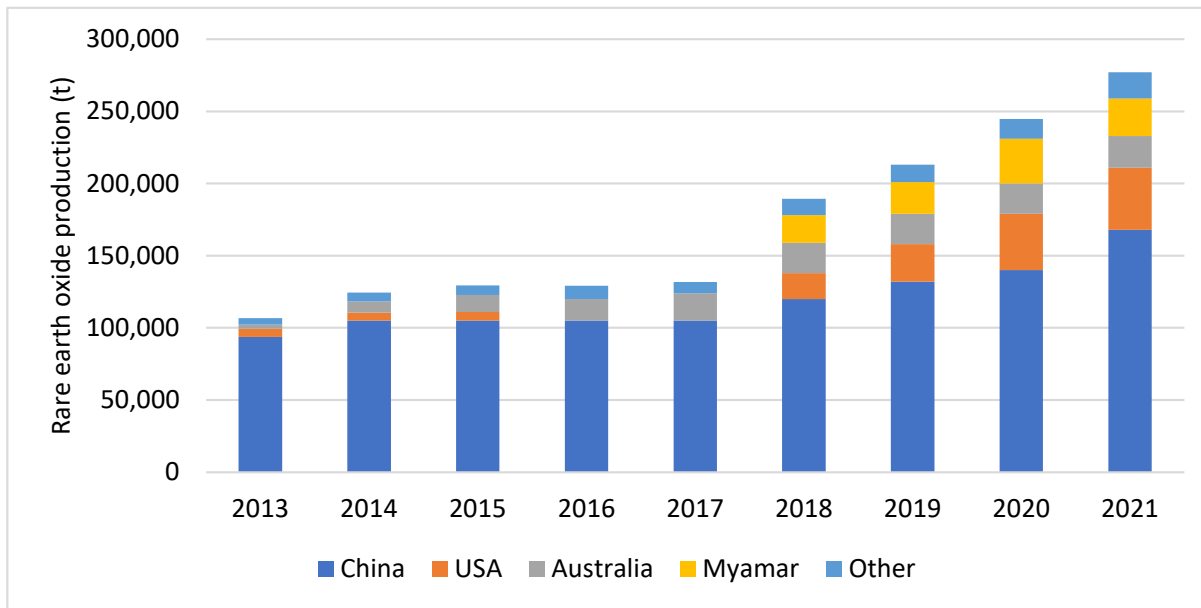


Rare earth discoveries in northern Tasmania

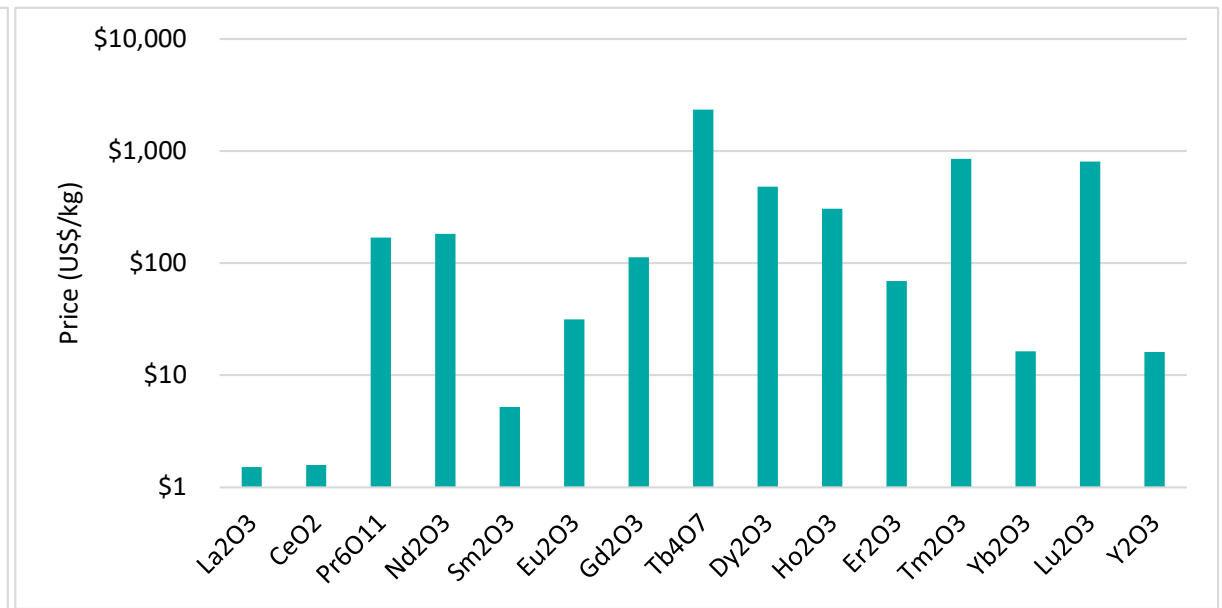


ABx's potential rare earth elements

- 15+ rare earth elements (REEs) used in wide variety of applications, with demand growing rapidly
- China dominates rare earths markets
- Prices of different rare earths vary significantly because:
 - Proportions of supply do not match proportions of demand
 - Rare earths difficult to substitute



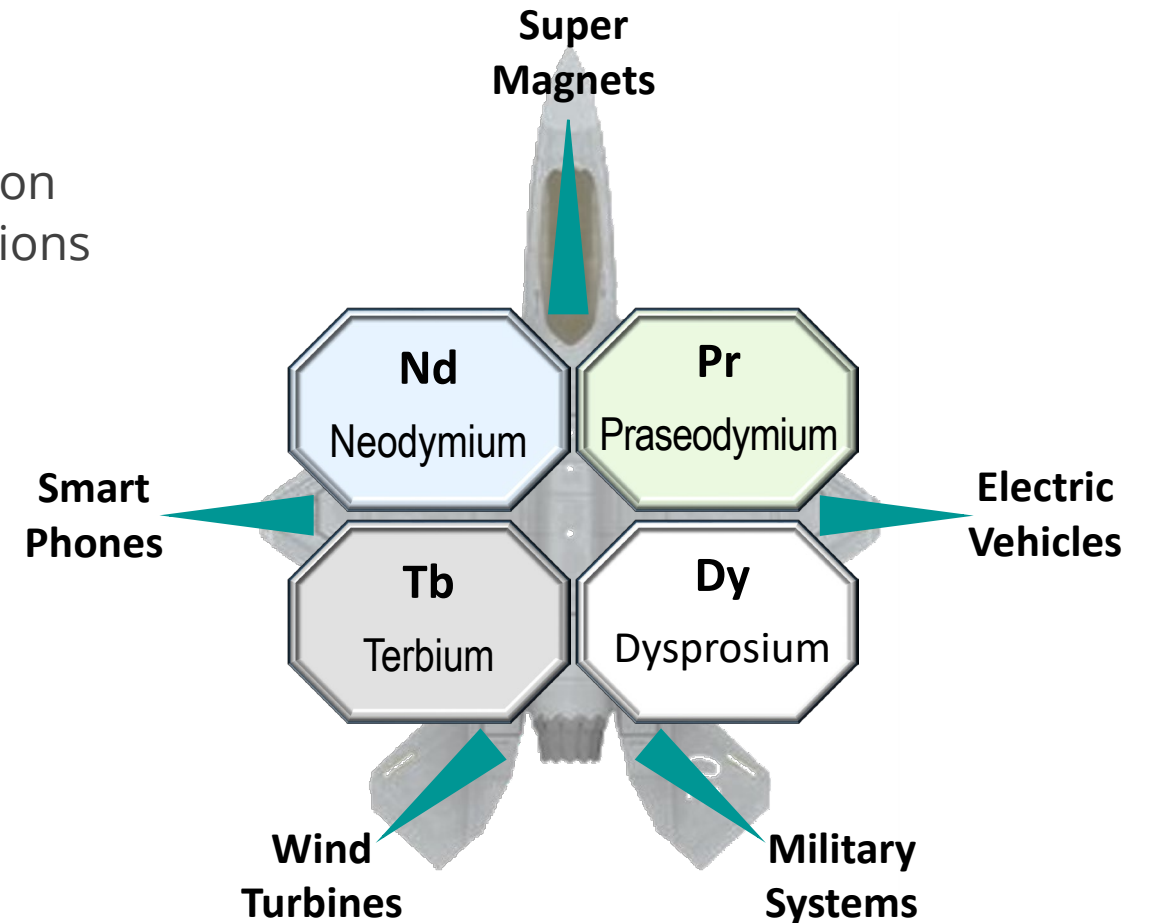
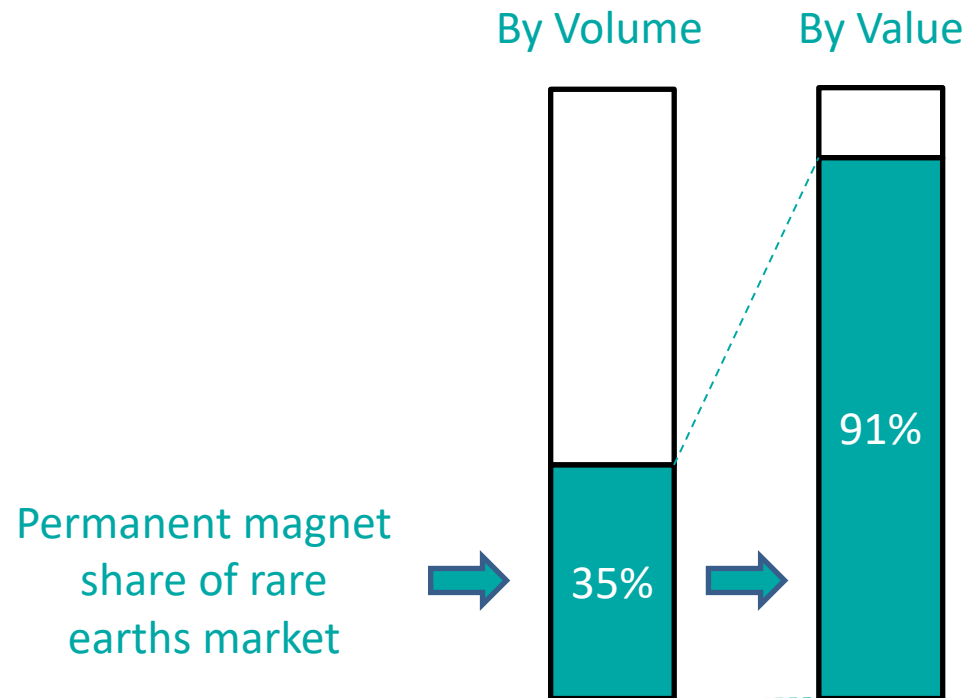
Source: USGS (excludes unregulated production in China)



Note: logarithmic scale

Permanent magnets

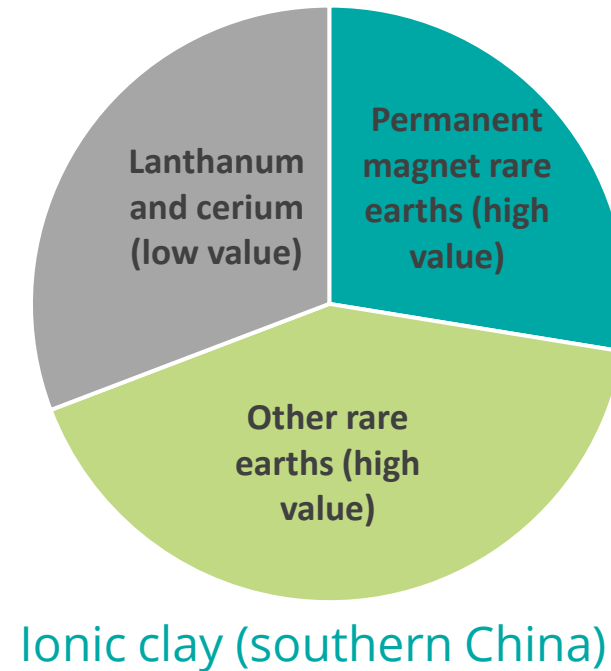
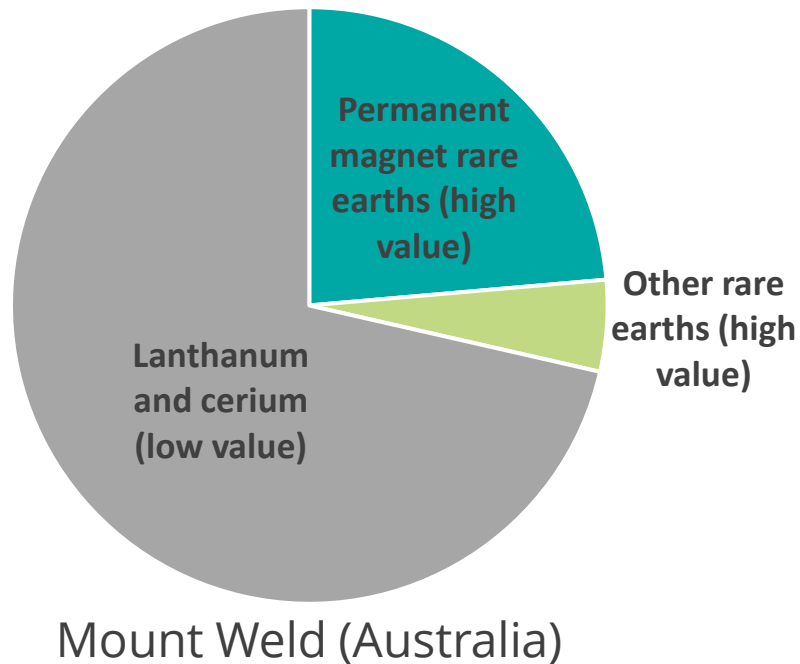
- Essential for electric vehicles and wind turbines
- Represent over 90% of value of rare earths consumption
- Forecast to grow faster than other rare earth applications



Source: Rare Earth Industry Association (<https://www.global-reia.org/about-rare-earth/>)

Ionic absorption clay (IAC) rare earth deposits

- Currently only mined in southern China
- Contain much higher proportion of higher value rare earths, such as those required for permanent magnets (Nd, Pr, Dy, Tb)
- Less complex processing: lower costs and shorter time to production



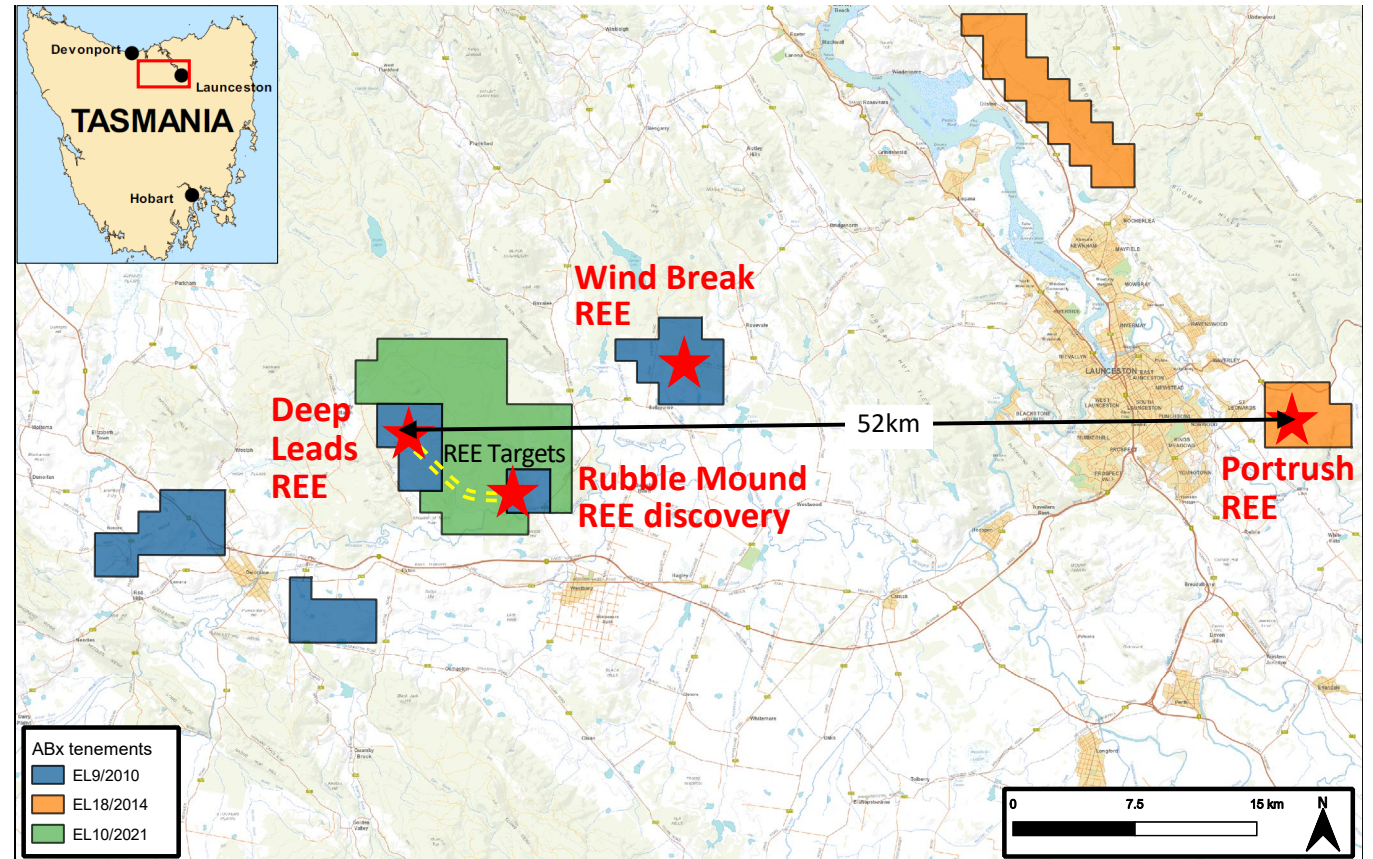
Source: D.J. Packey and D. Kingsnorth, Resources Policy, 48(2016) 112-116.

ABx rare earth discoveries in Tasmania

- ABx is the first company to discover rare earths in Tasmania
- Four discoveries spanning 52 km

Attractive opportunity

1. Grade (some samples above 1,000 ppm Nd/Pr/Dy/Tb oxides)
2. Recovery (some samples up to 70% using ammonium sulfate at pH 4)
3. Shallow depth, typically 6-12 metres
4. Very low levels of radioactive elements (thorium and uranium)



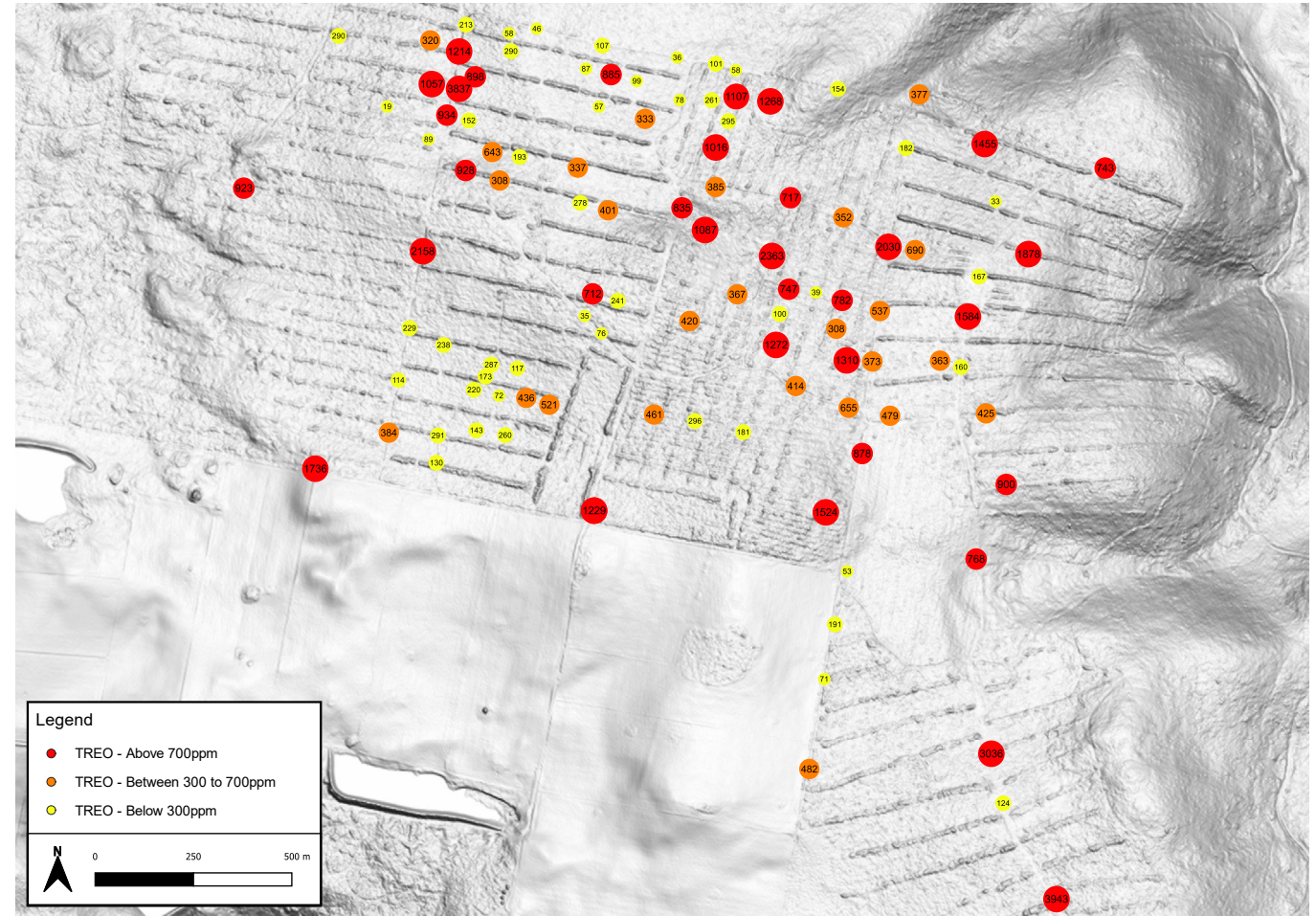
ABx rare earths strategy

Strategy

- Rapidly develop low-cost production of rare earth concentrates
- Operate only where welcomed

2022 Plan

- Further drilling campaigns in exploration licence EL10/2021
- Further metallurgical testing to determine recovery via desorption
- Enhance ABx's exploration technology to find more rare earths
- Sample characterisation to understand clay mineralogy





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