

ASX: ABX

## **CEO Presentation at the New World Metals Investment Series**

In accordance with the requirements of Listing Rule 3.1 we submit the attached material being presented at the New World Metals Investment Series, at the Hyatt Regency Hotel, 99 Adelaide Terrace, Perth.

Dr Mark Cooksey, CEO is making the presentation at 11:45am AWST on Thursday 8 September 2022.

This conference is able to be viewed live via Zoom. To access further details and to register at no cost, please copy and paste the following link into your internet browser:

https://www.thenewworldmetalsconference.com.au/livestreamregistration

ASX Release authorised by Mark Cooksey, CEO.

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Prices for aluminium fluoride (AlF<sub>3</sub>) 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

24 Dec 2009 **@ \$0.20**  Current Issued shares

223.6m

Options

78.8m @ \$0.20 52 week range

**\$0.097- \$0.21** 

Average daily volume

230,000

Market cap (@ \$0.155)

\$35m

Cash

\$3.8m

Shareholders

2,500

Major Shareholders	Shares	%
Justevian Pty Ltd	5.8 m	2.7
Yarraandoo Pty Ltd	5.6 m	2.5
HSBC Custody Nominees	5.6 m	2.5
Aftron Pty Ltd	5.5 m	2.4
WSF Pty Ltd	5.1 m	2.3
Top 20 shareholders	60.8 m	27.2
Remainder	162.8 m	72.8



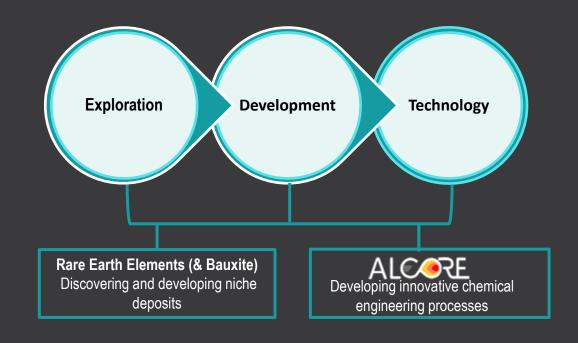
Resources: 130 million tonnes bauxite



# AB x Group

## 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.



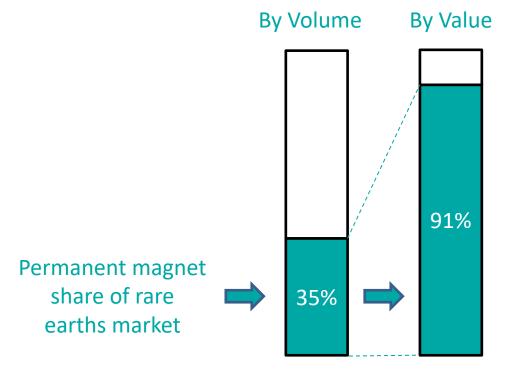


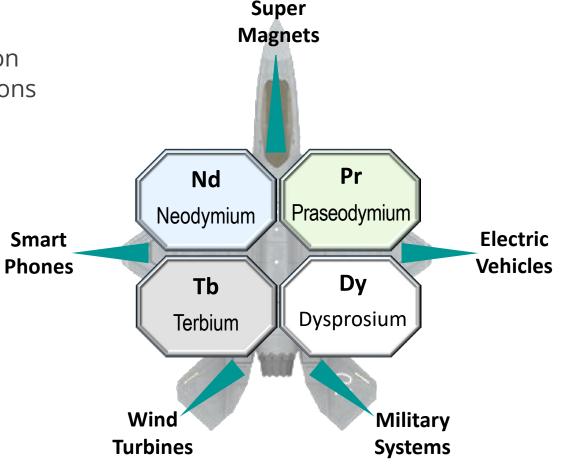




## Permanent magnets: dominant application for rare earths

- 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



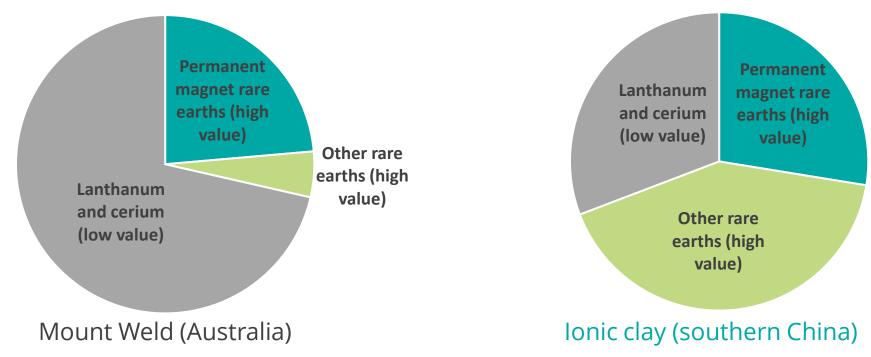


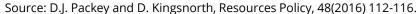
Source: Rare Earth Industry Association (https://www.global-reia.org/about-rare-earth/)



### Ionic adsorption clay (IAC) rare earth deposits

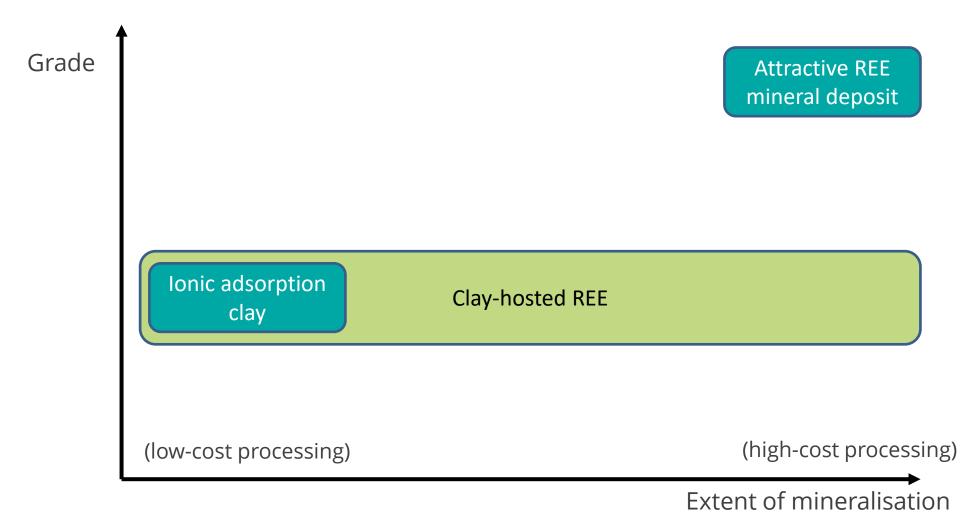
- Currently only mined in southern China
- Contain much higher proportion of higher value rare earths, such as those required for permanent magnets (Nd, Pr, Dy, Tb)
- Less complex processing: lower costs and shorter time to production







## 'Clay-hosted' is not the same as 'ionic adsorption clay'



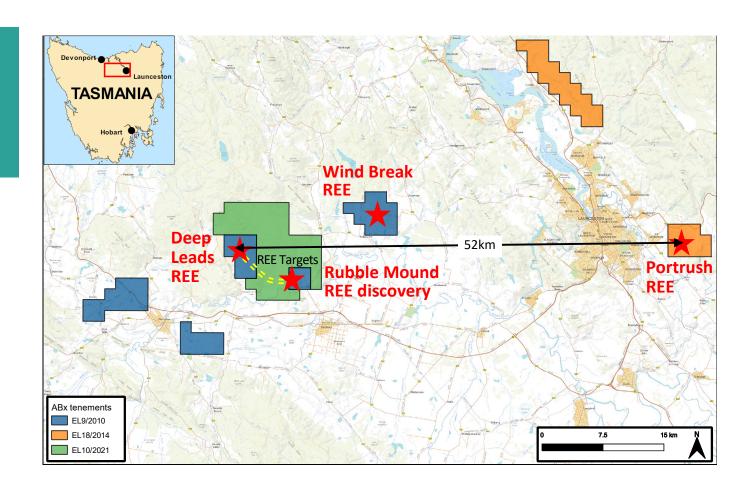


#### **ABx rare earth discoveries in Tasmania**

- ABx is the first company to discover rare earths in Tasmania
- ABx hosts the rare, true ionic adsorption clay type of rare earth deposit

#### **Attractive opportunity**

- Grade (some samples above 1,000 ppm Nd/Pr/Dy/Tb oxides)
- 2. Recovery (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)





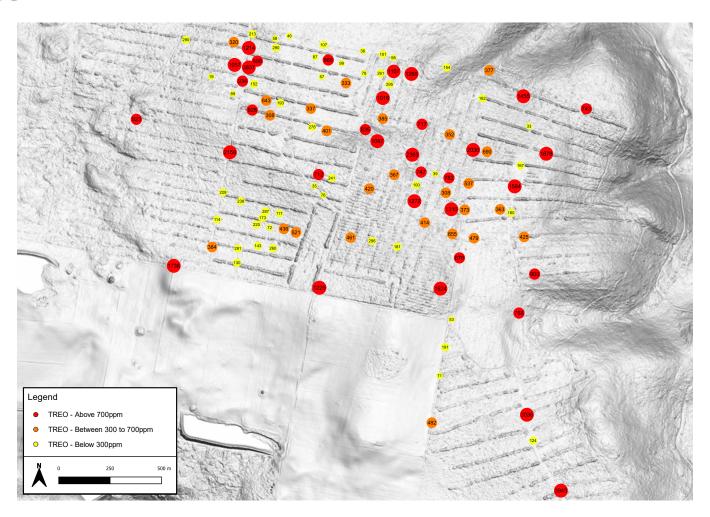
#### **ABx rare earths strategy**

#### **Strategy**

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

#### **2022 Plan**

- Further drilling campaigns in exploration licence EL10/2021
- Estimate maiden rare earths resource
- Further metallurgical testing to determine recovery via desorption
- Sample characterisation to understand clay mineralogy



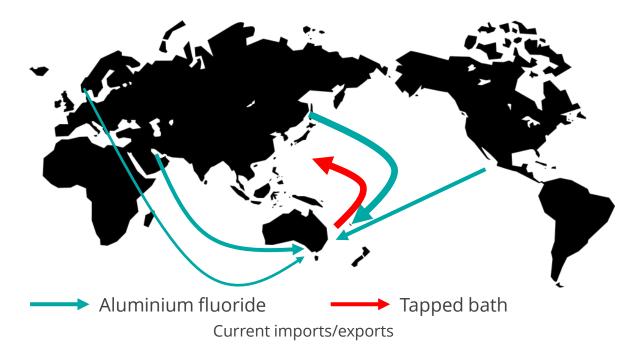






## Aluminium fluoride: essential for aluminium smelting

Fluorspar + sulfuric acid = hydrogen fluoride + gypsum Aluminium hydroxide + hydrogen fluoride = aluminium fluoride



#### Aluminium fluoride (AIF<sub>3</sub>)

- 1.2 million tonnes produced globally per year worth US\$1.5 billion (US\$1,200 per tonne)
- Australia imports 100% of requirements, mostly from China

#### 'Tapped bath': an aluminium smelter waste

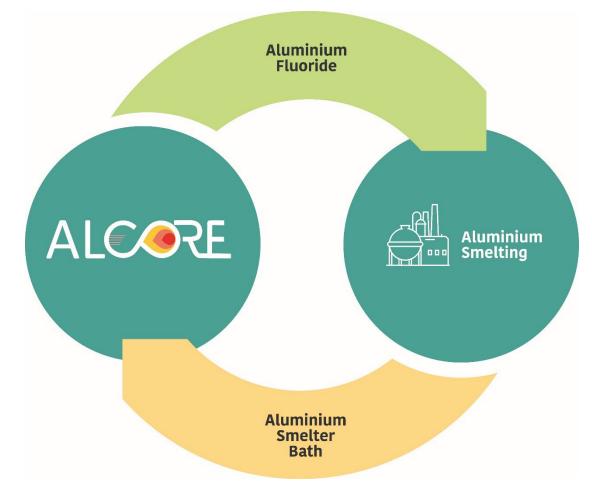
- Fluorine is lost from smelter in 'tapped bath'
- Only attractive market is new smelter construction; none in Australia
- Global market for tapped bath has moved into oversupply
- Tapped bath is a low-cost source of fluorine



## ALEORE Closing the waste loop

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



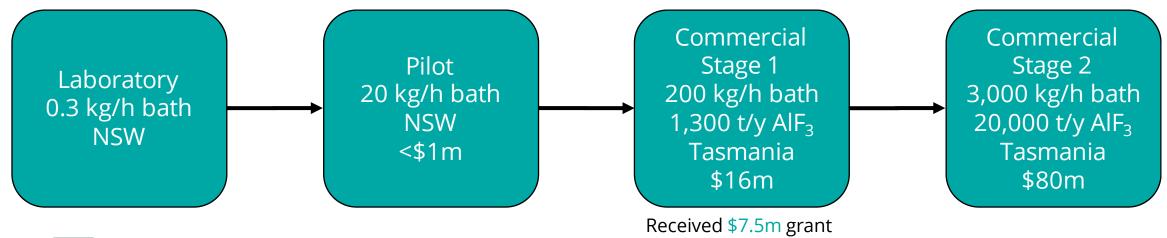


## ALEGRE Process scale-up

- 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











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