(ASX:ABX)

Business Plan

25 May 2022

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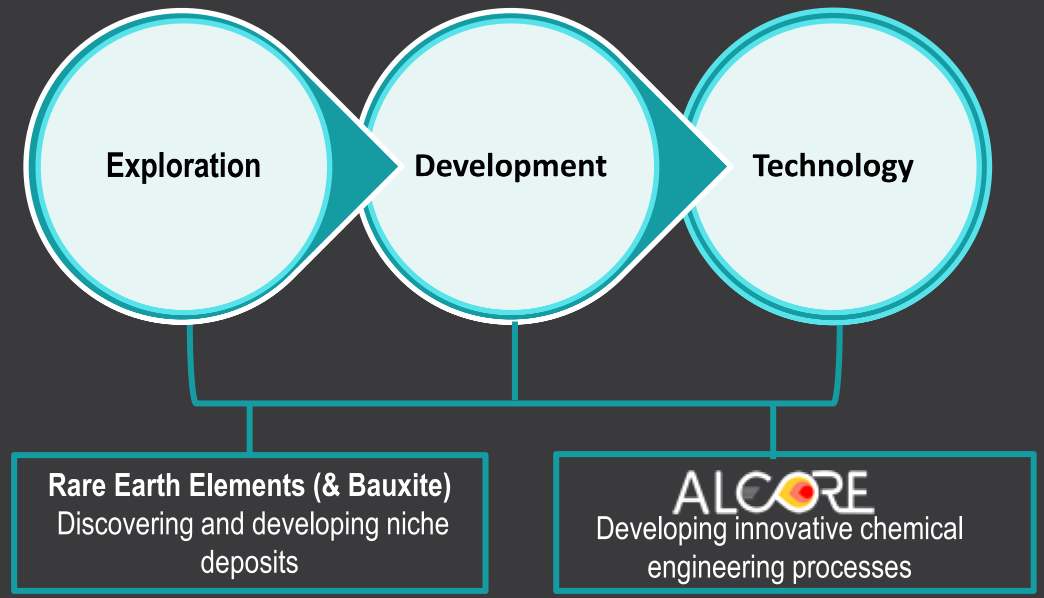
Prices for aluminium fluoride (AlF_3) were sourced from Asian Metals, China Customs and verified by comparison with prices from Bloomberg. The price actually achieved will depend upon market conditions at the time of sale.

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

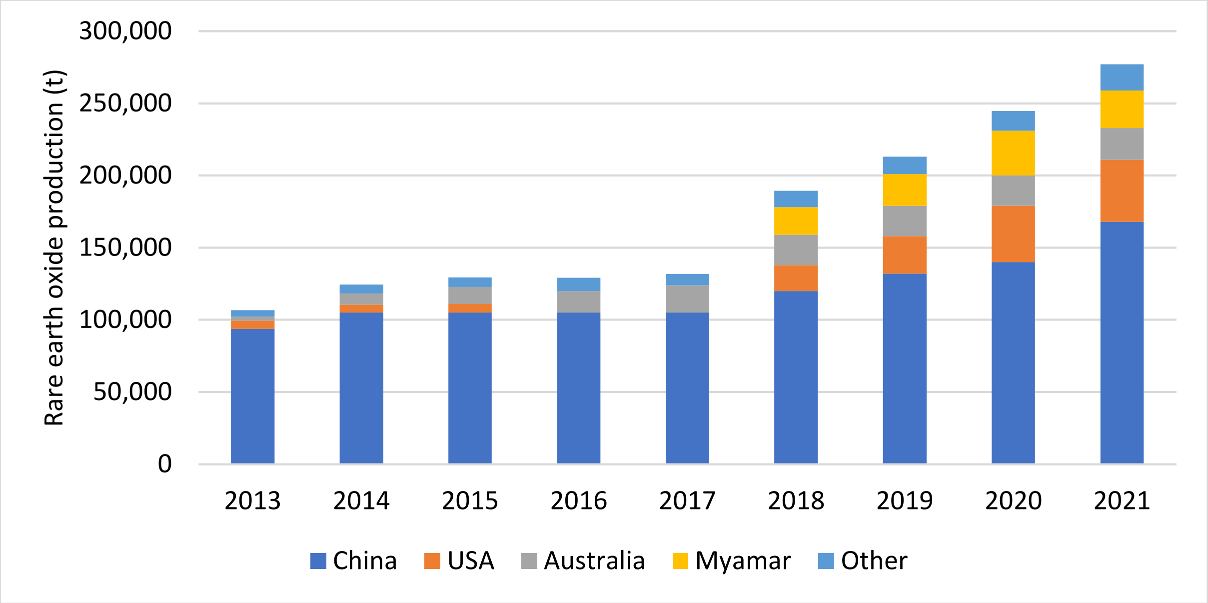
Rare earth discoveries in northern Tasmania

ALCORE Aluminium fluoride production technology

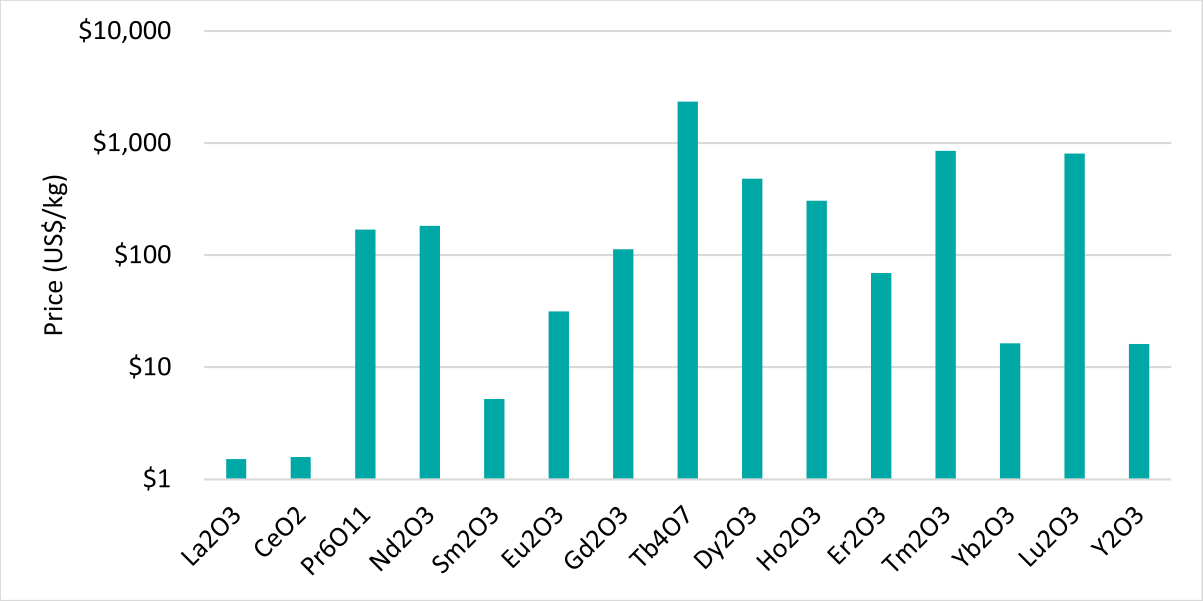
Bauxite operations in Queensland and Tasmania

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

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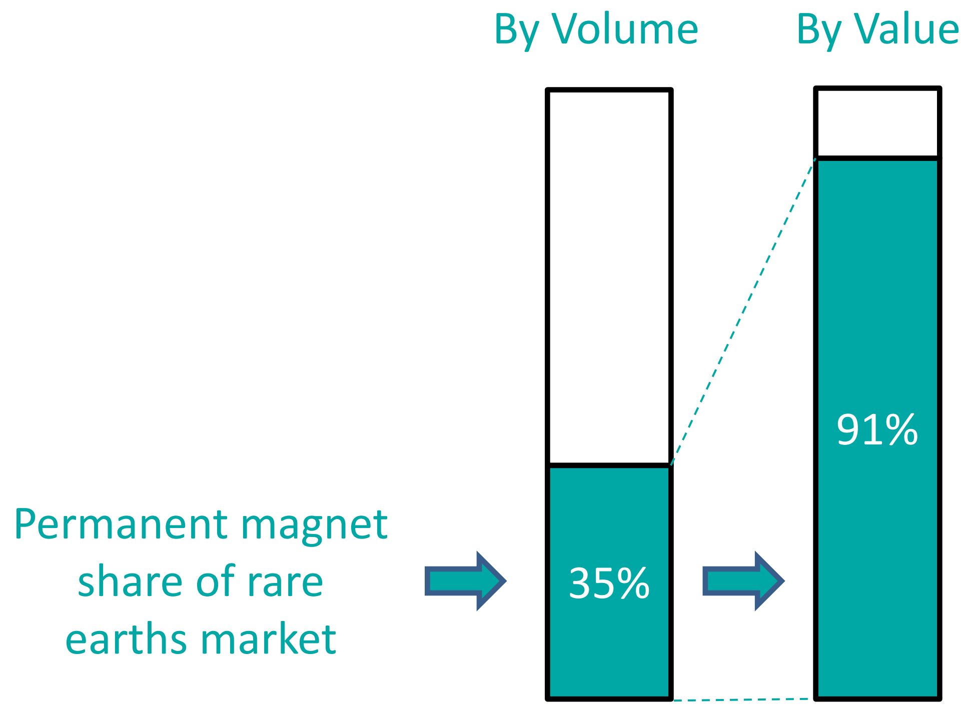
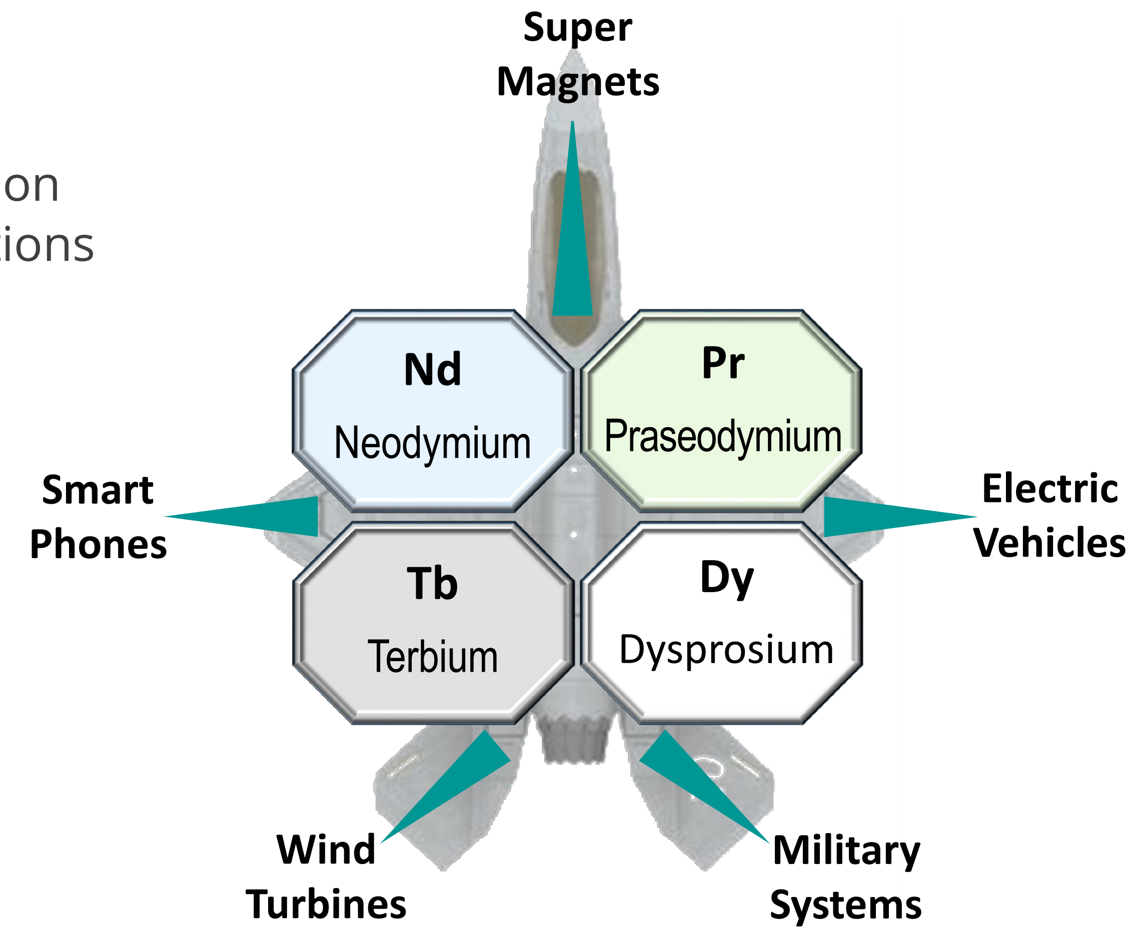
Permanent magnets

- 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/)

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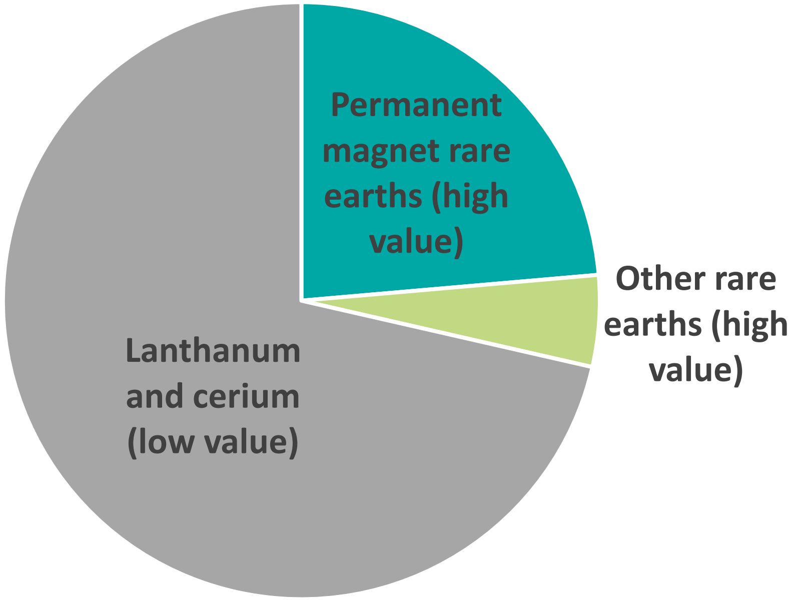
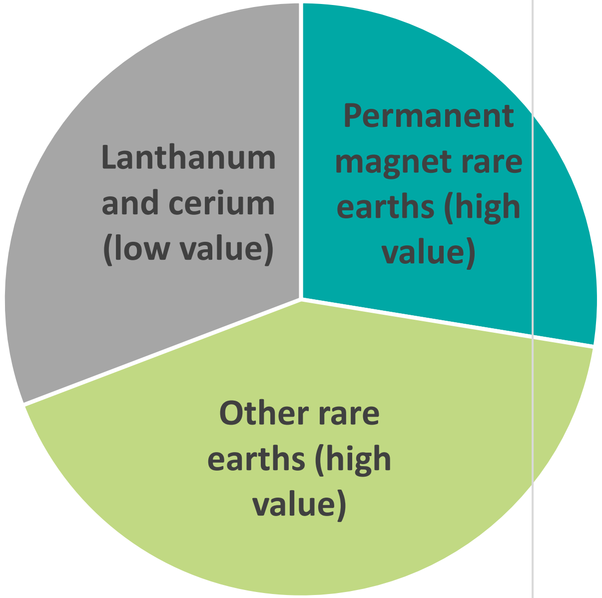
Ionic absorption clay (IAC) rare earth deposits

- Currently only processed 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



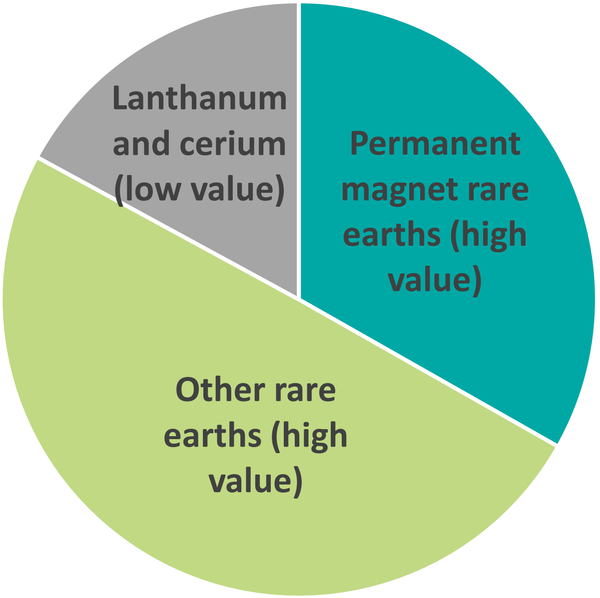
Mount Weld (Australia)

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



Ionic clay (southern China)

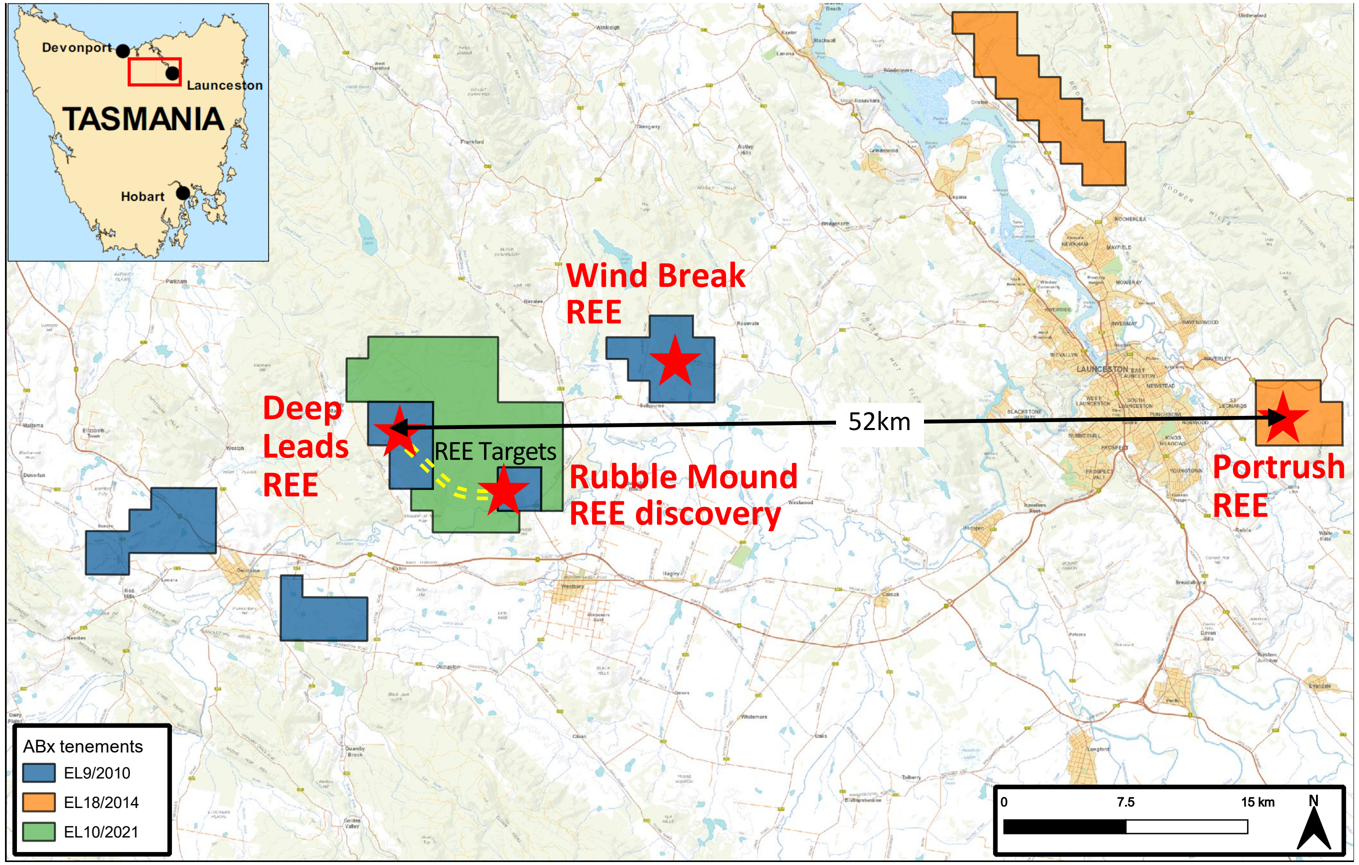
Source: D.J. Packey and D. Kingsnorth, Resources Policy, 48(2016) 112-116.



ABx drillhole DL403 (average of 8 to 10m)[3]

ABx rare earth discoveries in Tasmania

- ABx is the first company to discover rare earths in Tasmania
- Four discoveries spanning 52 km[1]



Tick all the boxes[2,3]

1. Grade (samples above 3,000 ppm total rare earth oxides)
2. Appear to be IAC type
3. Shallow depth, typically 6-16 metres from surface
4. Very low levels of radioactive elements (thorium and uranium)

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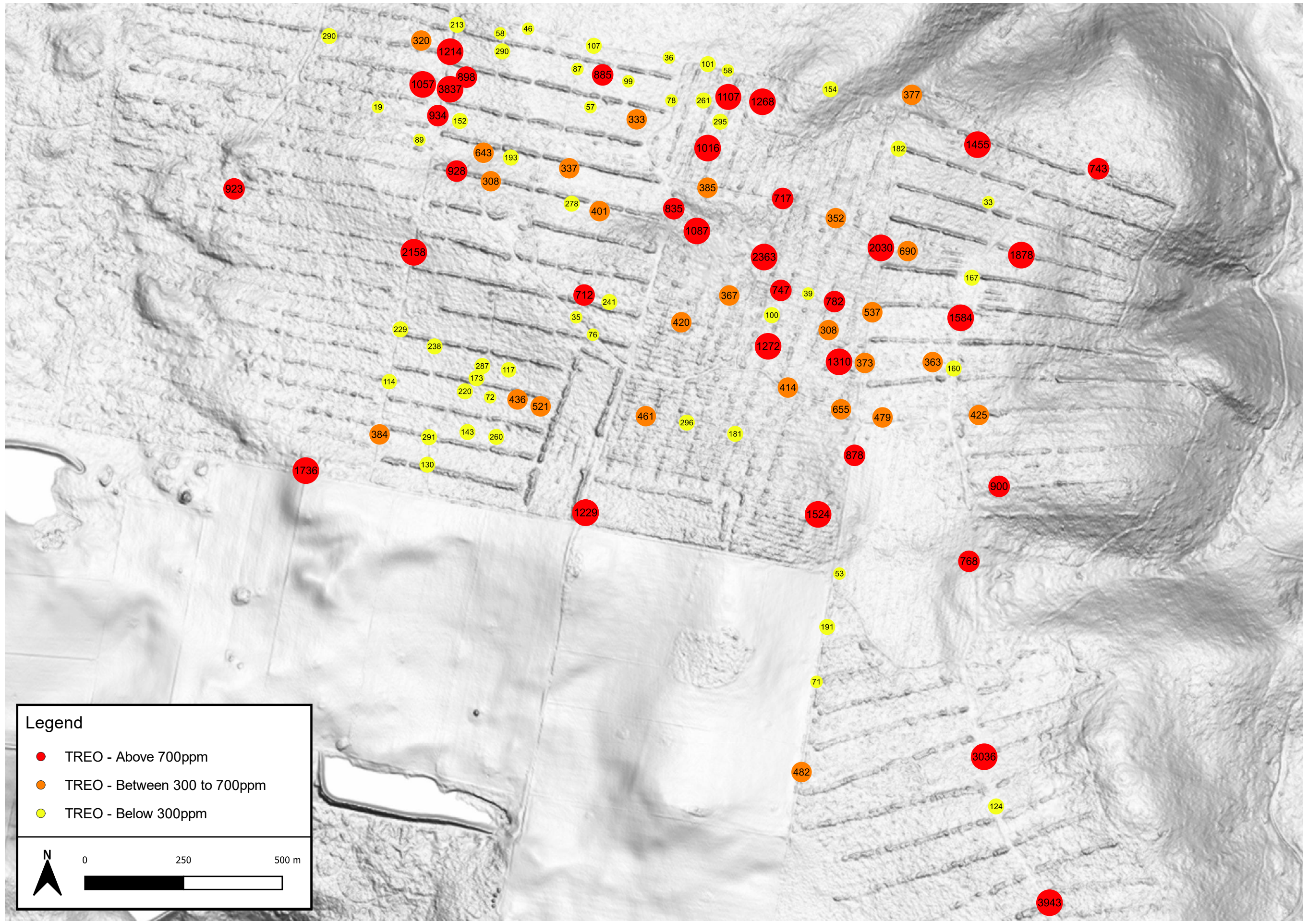
ABx rare earths strategy

Strategy

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

2022 Plan

- Metallurgical testing to determine recovery via leaching
- Further drilling campaigns in newly granted exploration licence EL10/2021[1]
- Enhance ABx's exploration technology to find more rare earths
- Sample characterisation to understand clay mineralogy



Segments

Rare earth discoveries in northern Tasmania

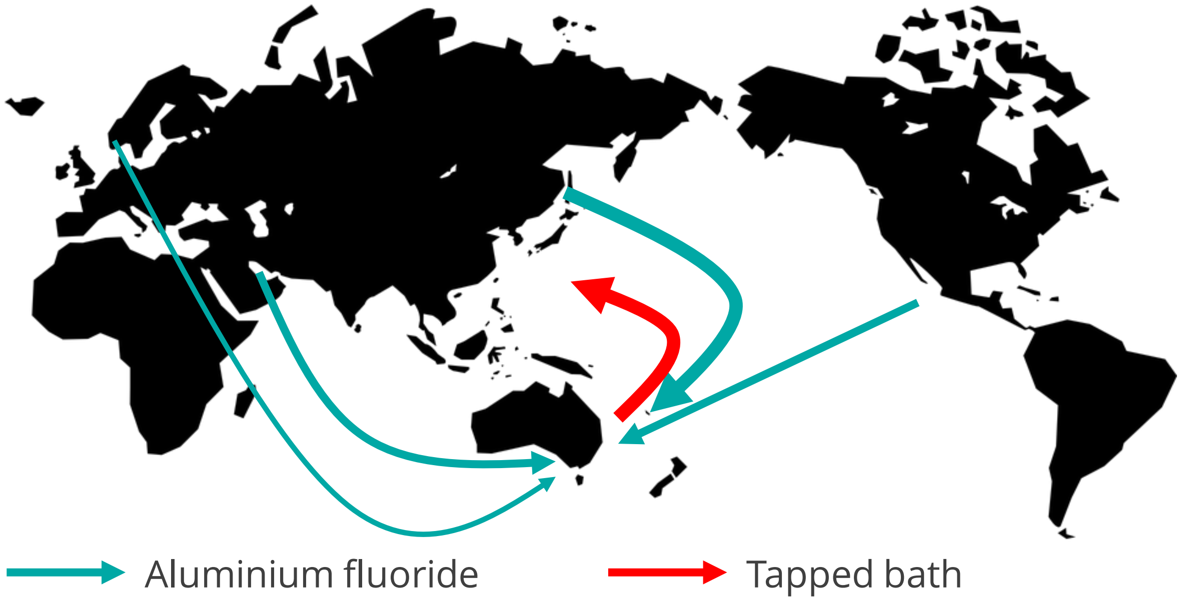
ALCORE Aluminium fluoride production technology

Bauxite operations in Queensland and 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



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

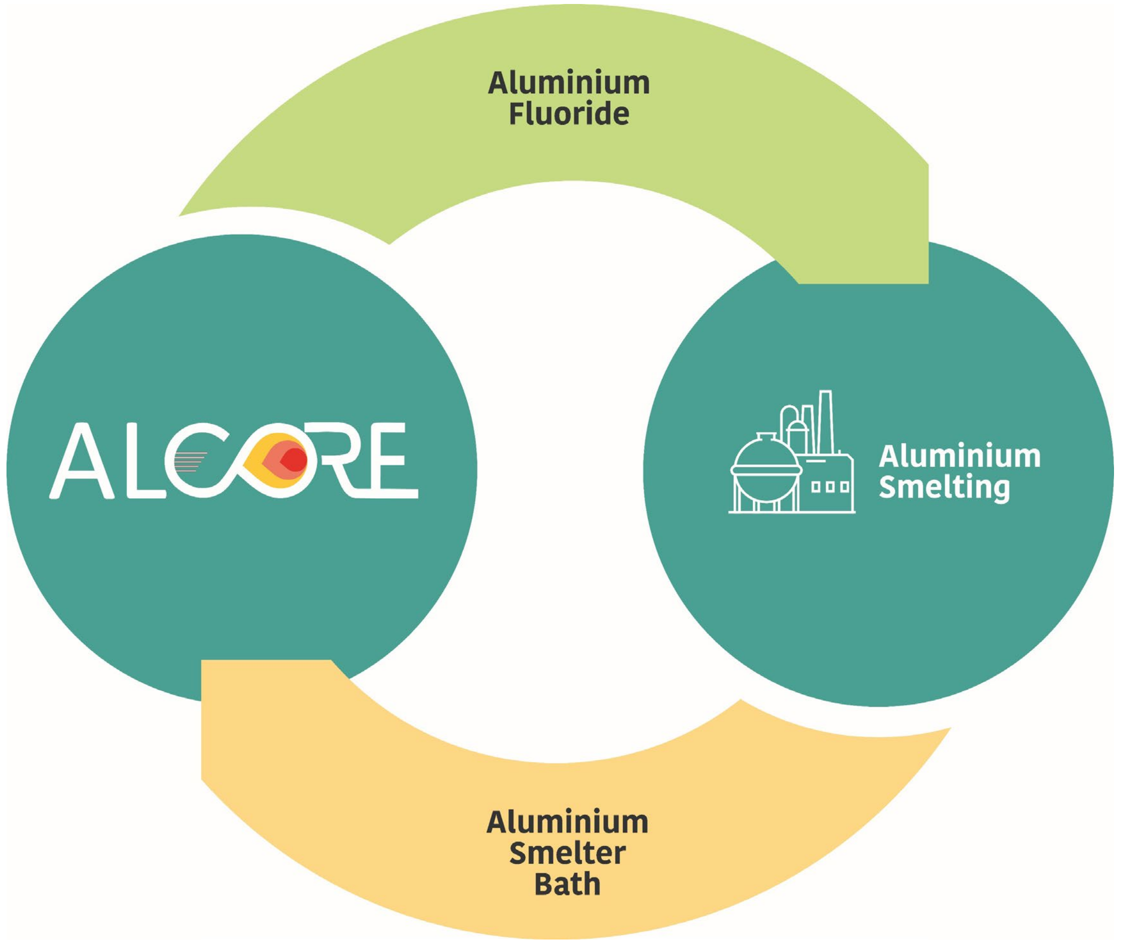
'Tapped bath': an aluminium smelter bath waste

- 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
    - 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

Customised reactor for recovery of fluorine from aluminium smelter bath

Pilot plant for production of precursor chemicals

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
- Potential for plants in other major aluminium smelting regions
- Potential expansion into other markets, including fluorine chemicals

Laboratory
0.3 kg/h bath
NSW

→

Pilot
10 kg/h bath
NSW
<$1m

→

Commercial
Stage 1
200 kg/h bath
1,300 t/y AlF_3
Tasmania
$16m

→

Commercial
Stage 2
3,000 kg/h bath
20,000 t/y AlF_3
Tasmania
$80m

Received $7.5m grant[4]

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

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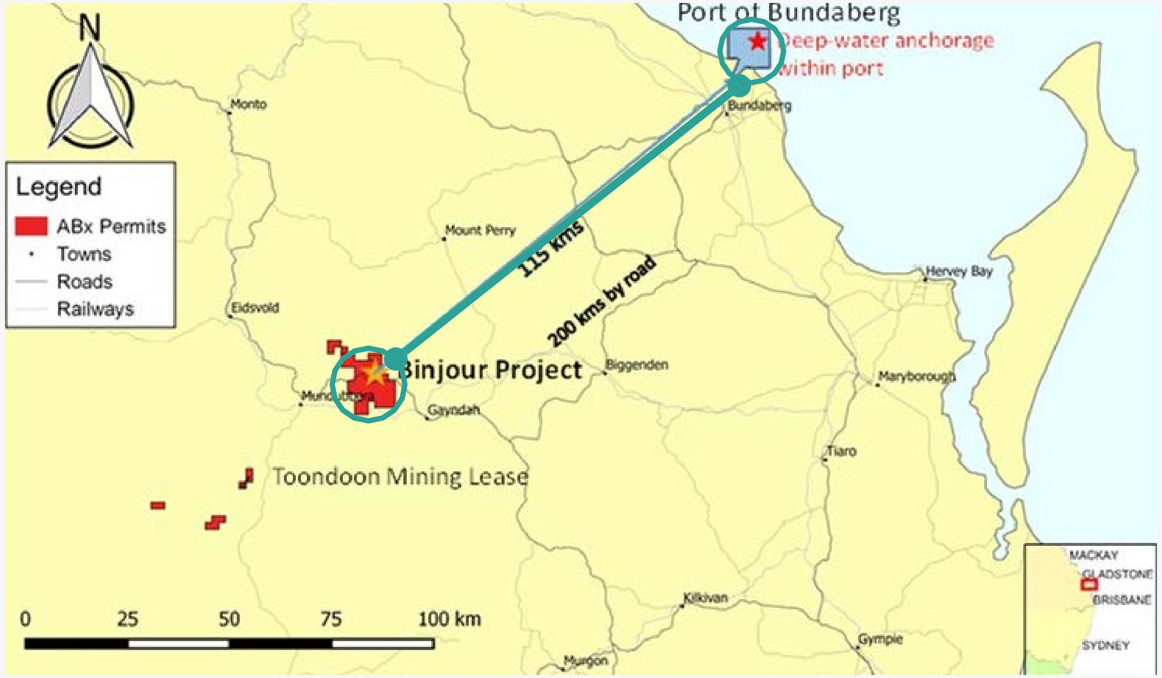
ABx bauxite operations

Sunrise Bauxite project

Queensland



- 50:50 joint venture with Alumin Pty Ltd, an Australian special purpose vehicle company associated with our strategic marketing partner, Rawmin India
- Mining lease application is on the large Binjour deposit, 115km west of Bundaberg Port.
- Alumin will contribute up to $18m (for 49.9% equity), which is anticipated to fund mine and port development

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ABx bauxite operations

Sunrise Bauxite project

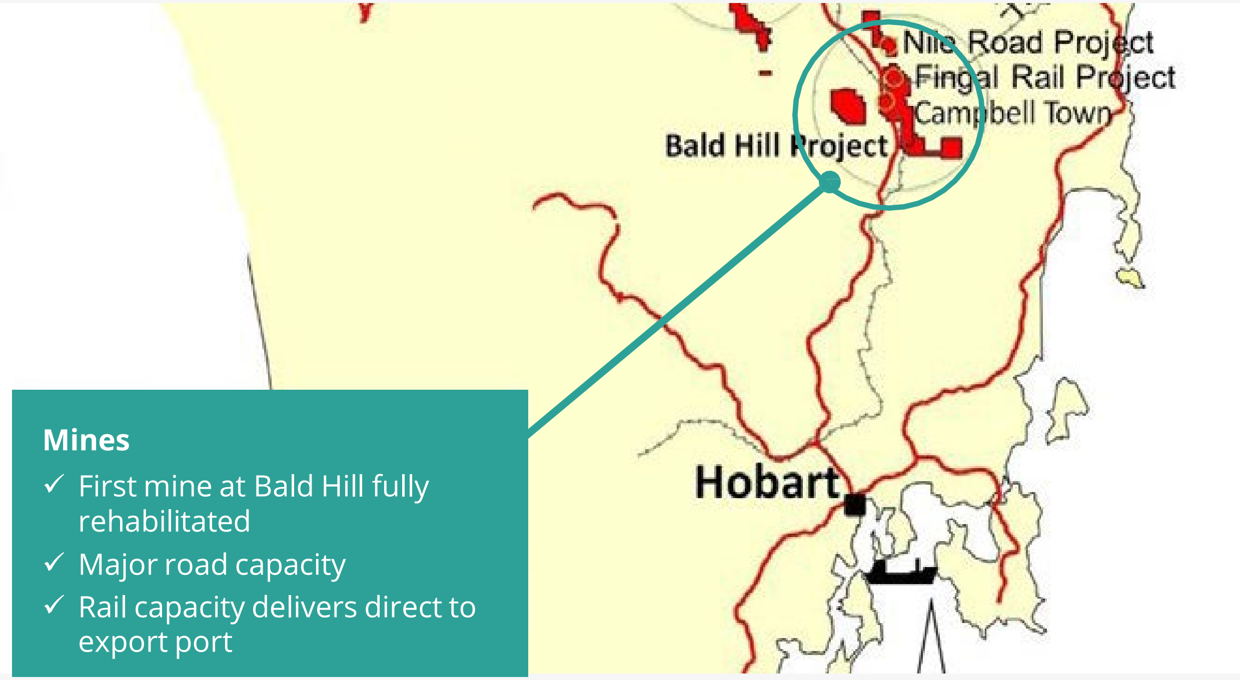
Project schedule

Project	Stage	2022			2023				2024			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Binjour Mine	Approvals											
	Operations											
Bundaberg Port	Approvals											
	Operations											

Subject to change

ABx bauxite operations

Northern Tasmania



Mines

- ✓ First mine at Bald Hill fully rehabilitated
- ✓ Major road capacity
- ✓ Rail capacity delivers direct to export port

- Several Tasmanian bauxite deposits that can supply cement and fertiliser grade bauxite for many years.
- Bauxite production at DL130 project may accelerate development of the Deep Leads REE discovery

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Authorised for release by the Board of Directors

Reference Information

References

[1]ASX release 16 March 2022

[2]ASX release 23 November 2021

[3]ASX release 10&14 February 2022

[4]ASX release 29 April 2022