



ABx Group

ASX:ABX

Delivering Materials for a  
Cleaner Future

INVESTOR PRESENTATION

NOVEMBER 2025

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## Competent Person Statement

The information in this report that relate to Exploration Information and Mineral Resources are based on information compiled by Ian Levy who is a member of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Levy is a qualified geologist and a director of ABx Group Limited.

Mr Levy 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. Mr Levy has consented in writing to the inclusion in this report of the Exploration Information in the form and context in which it appears.

# HIGHLY EXPERIENCED TEAM



DR MARK COOKSEY	JOYCELYN MORTON	IAN LEVY	GEOFF ATKINS	XIAO LIANG
Managing Director	Non-Executive Chair	Non-Executive Director	Technical Advisor	Principal Engineer
<ul style="list-style-type: none"><li><input type="checkbox"/> More than 20 years with Rio Tinto and CSIRO</li><li><input type="checkbox"/> Significant experience in developing and commercialising new processes in minerals and metals industry</li><li><input type="checkbox"/> PhD in Chemical &amp; Materials Engineering</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Over 30 years' experience as an executive and director with Australian and international listed companies, including Argo Investments, ASC and Snowy Hydro</li><li><input type="checkbox"/> Chair of the Audit, Risk and Compliance Committee for multiple boards</li><li><input type="checkbox"/> Fellow and Life Member of CPA Australia, and former National President</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> 30 years of senior management and geological experience with multiple commodities, including at WMC</li><li><input type="checkbox"/> Previously CEO of Allegiance Mining and Director of Gloucester Coal</li><li><input type="checkbox"/> Member of JORC for 11 years (4 years as Vice Chairman) and Federal President, Australian Institute of Geoscientists</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> 25 years of project and corporate development experience</li><li><input type="checkbox"/> Four years as Corporate Planning Manager at Lynas Corporation, where he oversaw the development of and implementation of the strategic planning process and the development of the Mt Weld Concentration Plant and Lynas Advance Materials Plant in Malaysia</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Over 15 years of expertise in chemical process innovation and intensification, including conceptual design, fundamental research, and process scale-up.</li><li><input type="checkbox"/> With extensive leadership experience, he drives cutting-edge technology development and oversees successful planning and implementation of new technologies at ALCORE</li></ul>



**Delivering materials  
for a cleaner future**



### **Heavy Rare Earths**

Supplying dysprosium and terbium from Tasmania into Western supply chains



### **ALCORE**

**Clean fluorine chemical production**

Producing industrial chemicals from aluminium smelter by-product

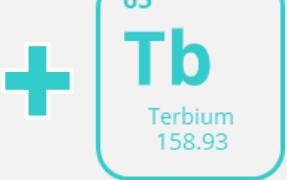
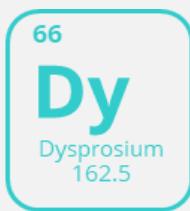


### **Near-term bauxite production**

Mining bauxite resources for the aluminium, cement and fertiliser industries

# RARE EARTHS: INVESTMENT PROPOSITION

- ❑ Highest proportion of dysprosium and terbium of any clay-hosted resource in Australia



- ❑ Extraction process already used commercially for several decades



## Team

Experienced and capable



## Supply Shortage

Massive demand growth for rare earths



## Mineralogy & REE Distribution

No acid required for processing  
Balance of light and heavy REE



## Pathway to Production

Co-located bauxite project at final stages of approval



## Jurisdiction

Commercial forest plantation in Australia



## Infrastructure

Less than 50 km to industrial centre and enabling infrastructure

# DEEP LEADS RARE EARTH PROJECT

- Upgraded to 89 Mt announced May 2024<sup>1</sup>
- Over 10-fold increase in 12 months
- Resource based on only 29% of identified mineralised outline<sup>1</sup>
- May 2025: Temple Bar discovery, 50 km east of Deep Leads<sup>4</sup>

Size	Cut-off (ppm TREO-CeO <sub>2</sub> )	Mean TREO (ppm)	Mean TREO-CeO <sub>2</sub> (ppm)	DyTb <sup>3</sup> (%TREO)
89 Mt <sup>2</sup>	350	844	652	4.3%

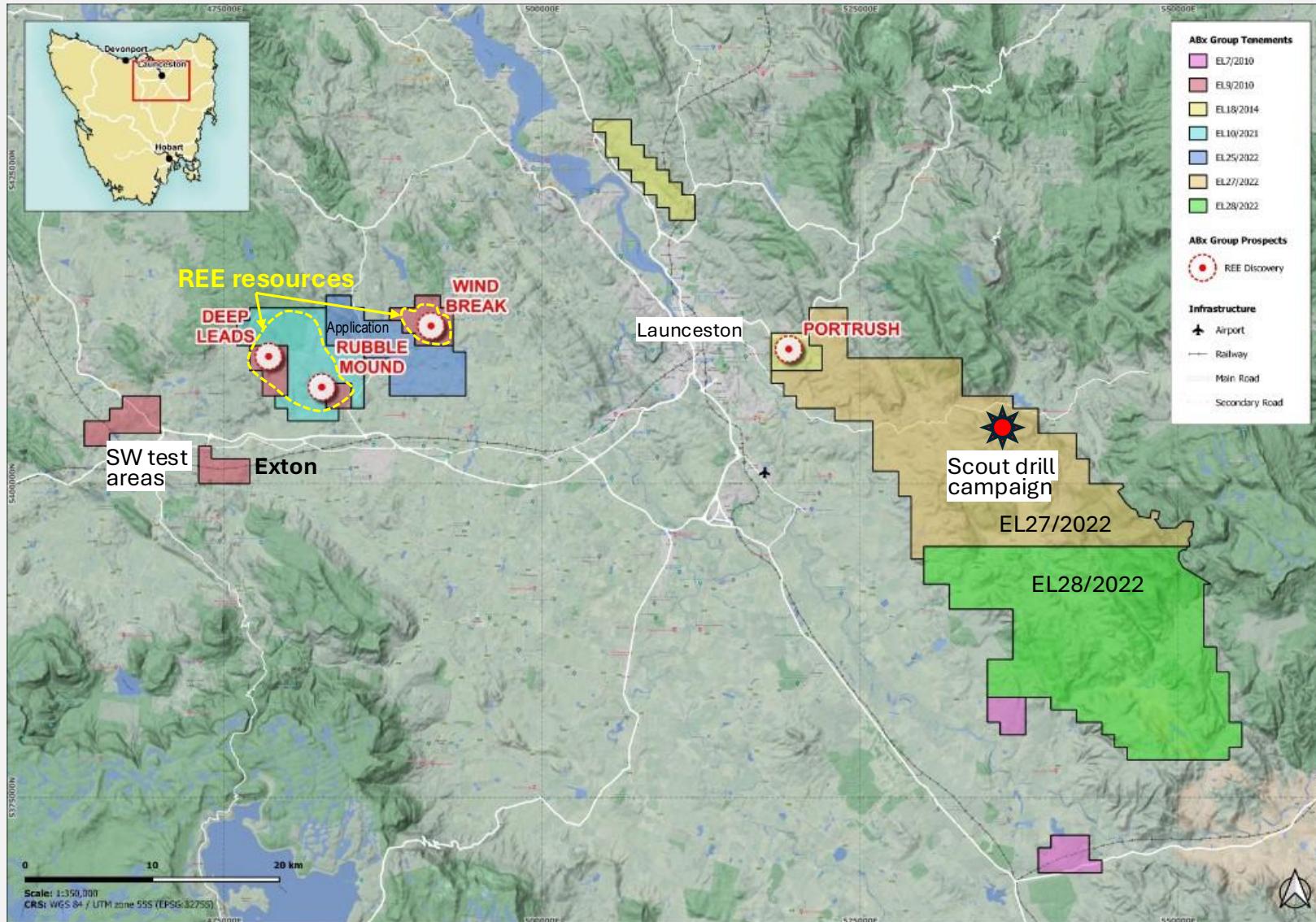
Holes drilled	Metres drilled (m)	Metres assayed (m)	From (m)	To (m)
1,077	9,742	3,843	4.2	12.0

<sup>1</sup>ABX ASX Announcement, 2 May 2024

<sup>2</sup>41 Mt inferred, 42 Mt indicated and 6 Mt measured

<sup>3</sup>DyTb = Dy<sub>2</sub>O<sub>3</sub> + Tb<sub>4</sub>O<sub>7</sub>

<sup>4</sup>ABX ASX Announcement, 7 May 2025



# ECONOMICS OF MIXED RARE EARTH CARBONATE PRODUCTION FROM IONIC ADSORPTION CLAY ORE



## Ionic Adsorption Clay (IAC) Ore

### 1. Resource Size and Grade

- Amount of Nd and Pr
- Amount of Dy and Tb

## Leaching and Precipitation

### 2. Processing Cost

- Cost of raw materials, labour and utilities
- Proportion of Nd and Pr recovered
- Proportion of Dy and Tb recovered



## Mixed Rare Earth Carbonate (MREC)

### 3. Product Composition

- Proportion of Nd and Pr
- Proportion of Dy and Tb
- Proportion of impurities

Production Cost

Production Cost

Product Value

# DEEP LEADS: AMONG THE HIGHEST Dy AND Tb GRADES

- Dy and Tb are very high value, particularly outside of China

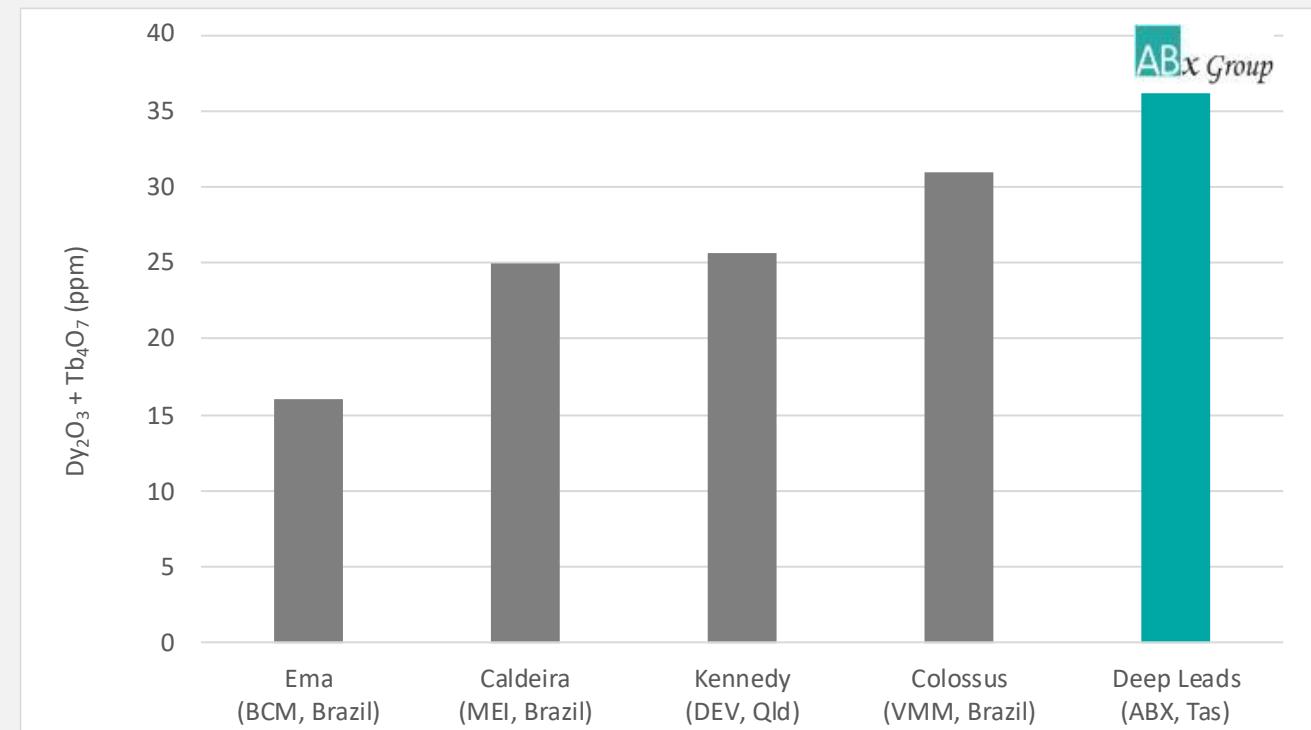
Rare earth	DDP China	CIF Europe
Nd-Pr oxide	US\$74/kg	US\$82/kg
Dy oxide	US\$230/kg	US\$950/kg
Tb oxide	US\$966/kg	US\$3,550/kg

Source: Benchmark Minerals, October 2025.

DDP = Delivered Duty Paid, CIF = Cost, Insurance and Freight paid

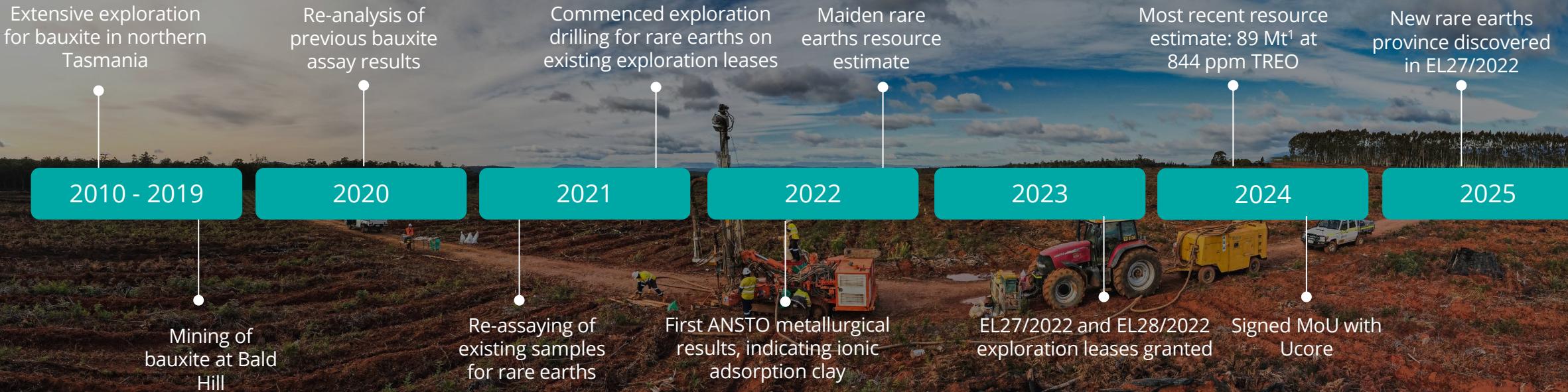
Rare earth	Rare earth type	Feature
Neodymium (Nd) Praseodymium (Pr)	Light	Provide magnetic strength
Dysprosium (Dy) Terbium (Tb)	Heavy	Retain magnetic strength at high temperatures

- ABx has among the highest Dy and Tb grades of any clay-hosted deposit containing a significant proportion of ionic rare earths



Sources: See Appendix 1

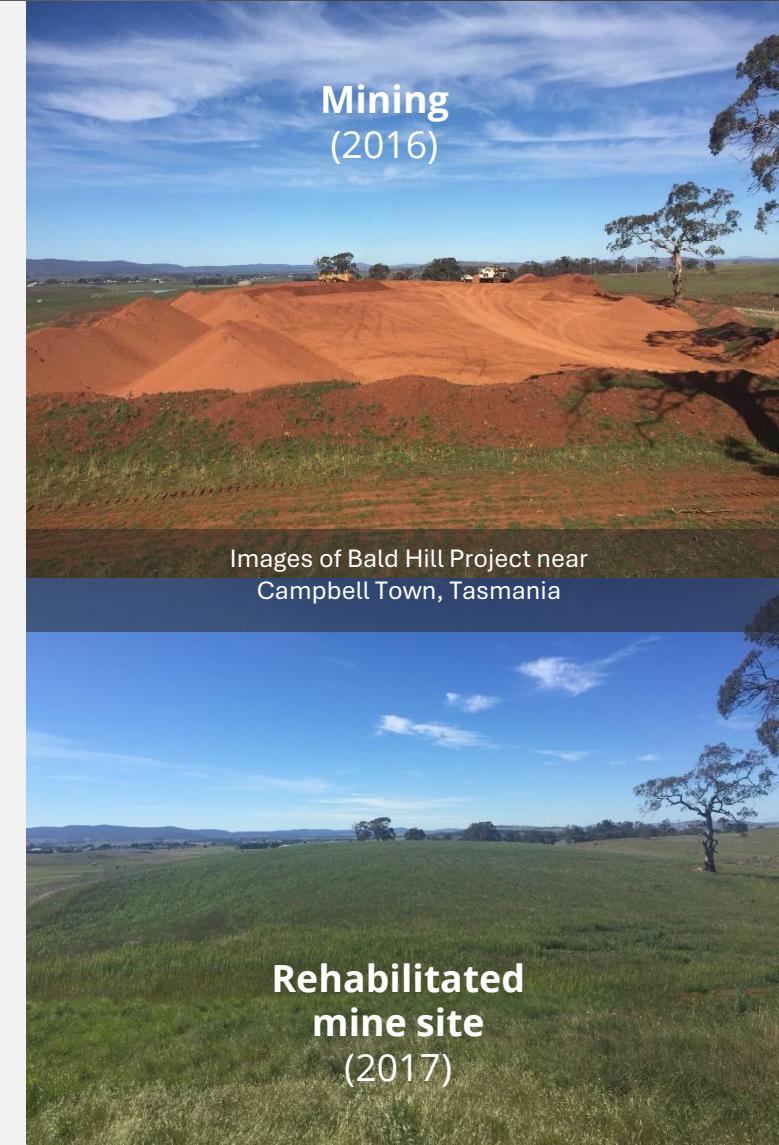
# PATHWAY TO PRODUCTION: RAPID PROJECT ADVANCEMENT



# PERMITTING

- ABx mined bauxite in northern Tasmania from 2014 to 2020, and sold the product to cement and fertiliser plants. Customer demand is ongoing<sup>1</sup>
- Similar bauxite resource overlays Deep Leads rare earth resource
- Bauxite mining operations will expose rare earth mineralisation and potentially enable rare earths project to be fast tracked
- Bauxite sales will provide cashflow for funding rare earths development
- Bauxite mining licence application submitted
  - EPA approved Environmental Permit
  - Planning permit application approved by Meander Valley Council, subject to some conditions

<sup>1</sup>ABx ASX Announcement, 11 September 2023



# PATHWAY TO PRODUCTION: STRATEGIC & OFFTAKE PARTNERSHIPS

## Offtake Interest

- Executed MOU<sup>1</sup> for offtake and potential investment with Ucore, who is undertaking technology transfer from demonstration scale to commercial scale rare earth oxide separation in North America, with financial support from US Department of Defense and Canadian government

## Strategic Investor Interest

- Engaging with deep-pocketed long-term investors with strategic interest in rare earths supply chain

## Government Support

- Engaged with the Australian and Tasmanian governments' critical minerals strategies – potential for the company to receive financial support



Australian Government  
Department of Industry,  
Science and Resources



<sup>1</sup>ABx ASX Announcement, 4 September 2024

ABx Group  
Joint Announcement

UCore®  
4 September 2024

### ABx Group and Ucore Rare Metals Sign MoU for Australia-USA Rare Earths Supply Chain

#### Key Objectives:

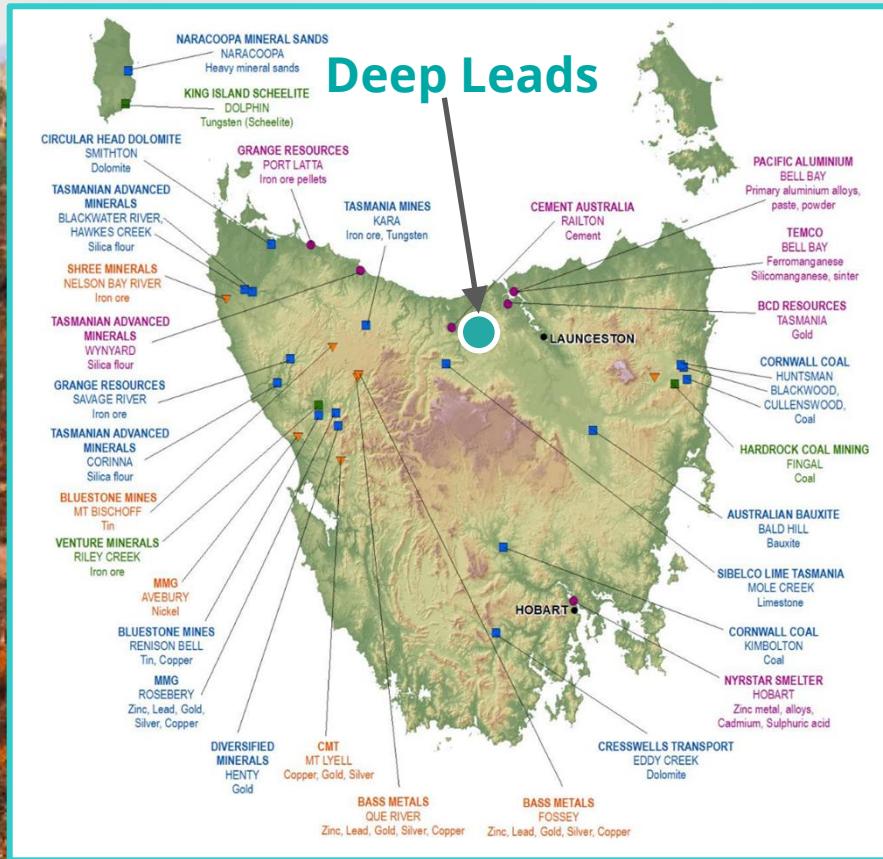
- Work to establish a binding offtake agreement for the supply of mixed rare earth carbonates from Australia to the USA through enhanced collaboration
- Establish an investment pathway for Ucore into ABx
- Bolster relationships between the United States and Australia as both countries strive to enhance critical minerals and clean energy projects

South Melbourne, Victoria and Halifax, Nova Scotia – (September 4, 2024) – [ABx Group](#) (ASX: [ABX](#)) (“ABx”) and [Ucore Rare Metals Inc.](#) (TSXV: [UCU](#)) (OTCQX: [UURAF](#)) (“Ucore”) are pleased to announce the September 3, 2024, execution of a Memorandum of Understanding (“MOU”) that describes the collaborative pathway ABx and Ucore will embark on to advance to:



# DEEP LEADS: OUTSTANDING JURISDICTION AND LOCATION

Commercial plantation forest area in Tasmania, Australia

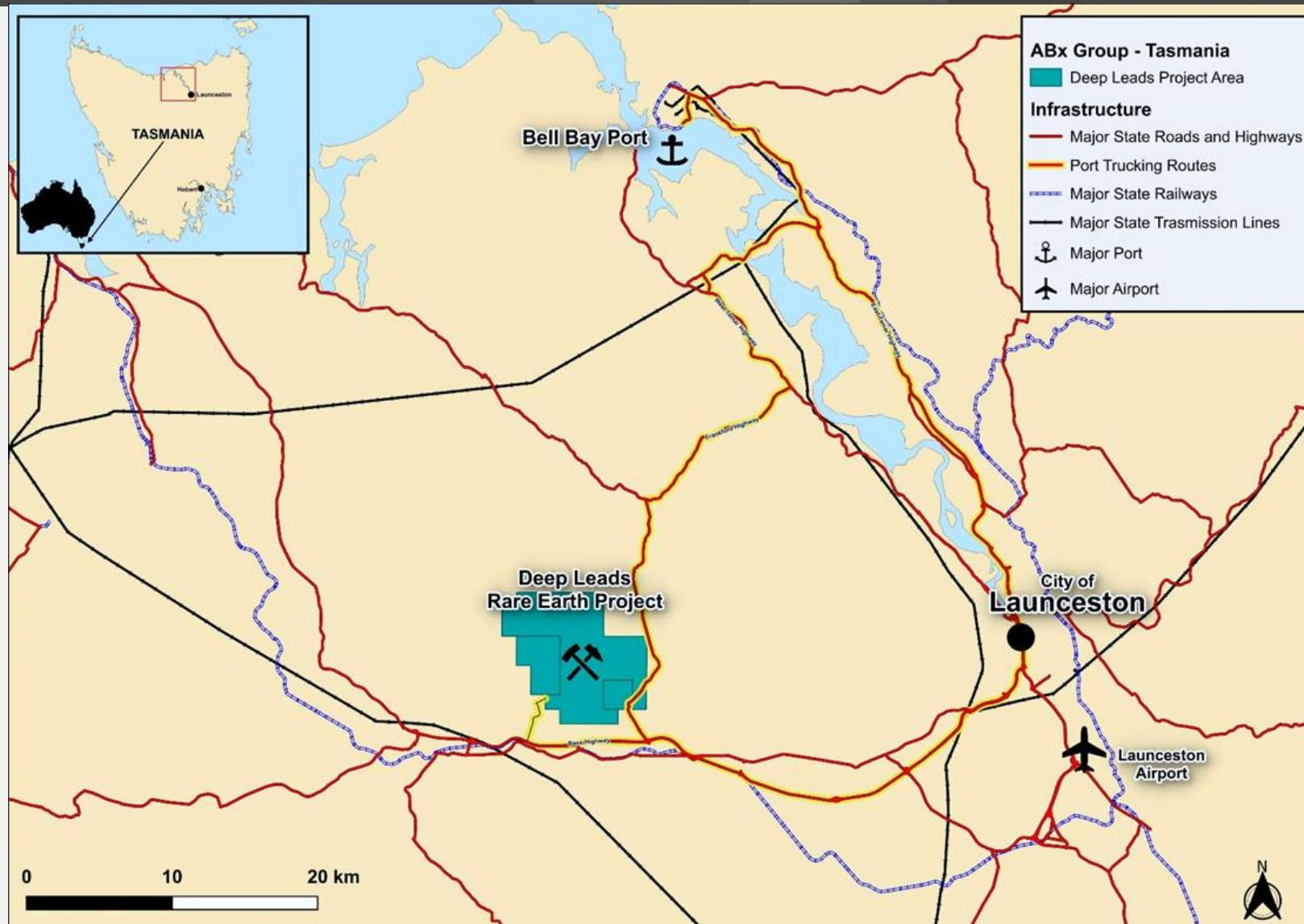


- Deep Leads located in recently harvested commercial hardwood plantation, close to town of Launceston and Bell Bay port
- Australian supply highly attractive to global customers
- ABx has conducted exploration and mining in region for over 10 years

# SIGNIFICANT INFRASTRUCTURE LOCALLY AVAILABLE

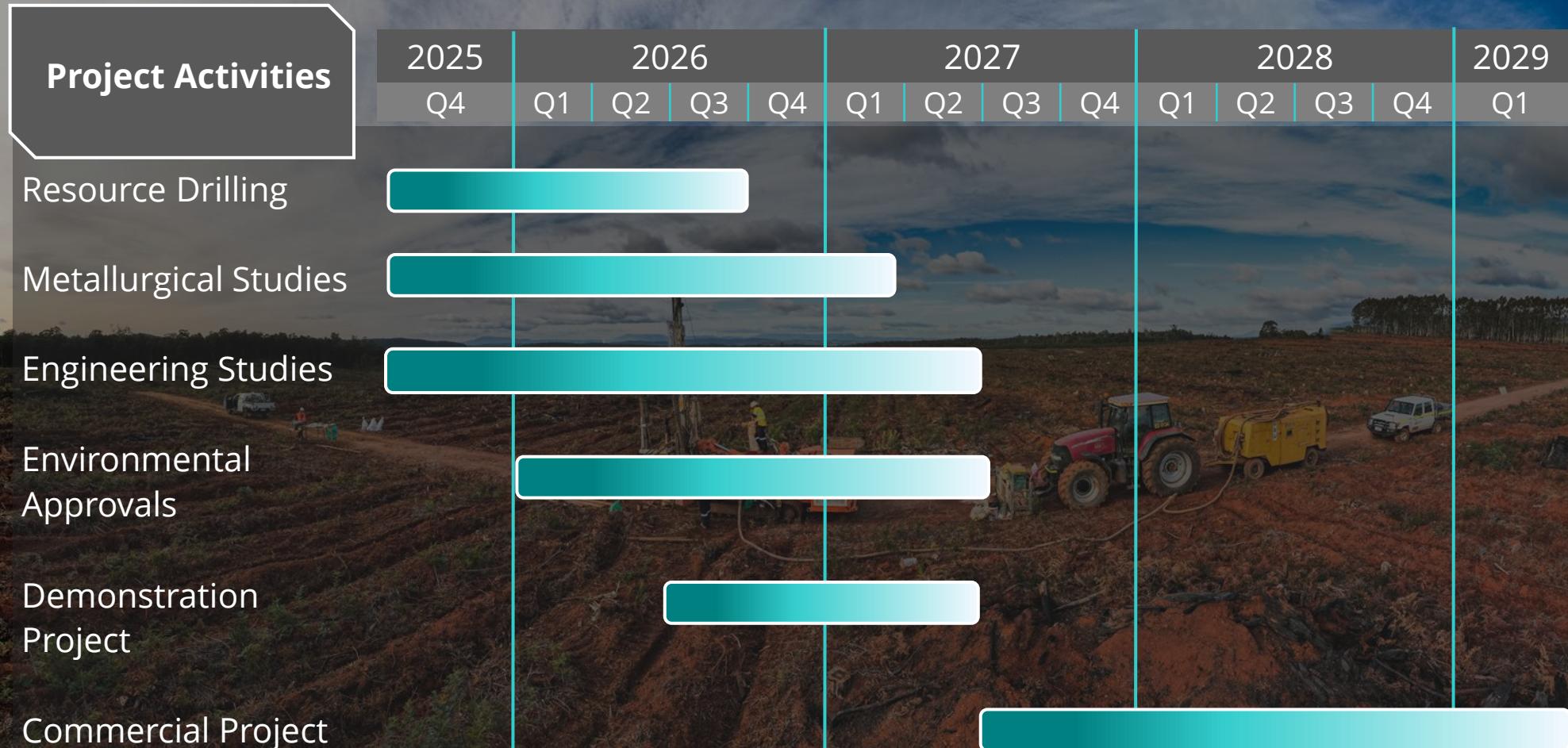
## Infrastructure

Transport	Less than 20 km to major highway Less than 100 km to deepwater Bell Bay port
Labour	Less than 50 km to Launceston (pop 65,000)
Water	High availability in Tasmania
Energy	Close to major transmission lines Greater than 90% of Tasmania energy demand generated by renewables <sup>1</sup>



<sup>1</sup>2018-23, [Open Electricity](#)

# ANTICIPATED PROJECT MILESTONES



# AB<sub>x</sub> Group

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for a cleaner future**



## Heavy Rare Earths

Supplying dysprosium and terbium from Tasmania into Western supply chains



## ALCORE

**Clean fluorine chemical production**

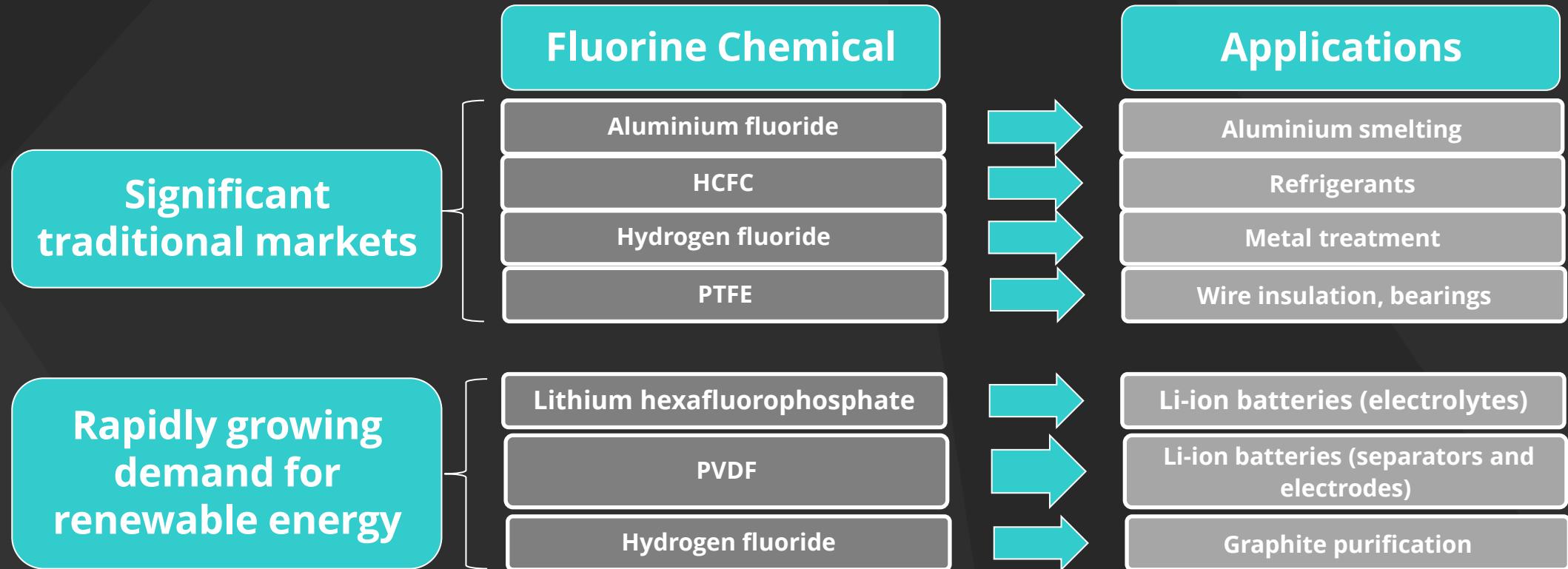
Producing industrial chemicals from aluminium smelter by-product



## Near-term bauxite production

Mining bauxite resources for the aluminium, cement and fertiliser industries

# STRONGLY INCREASING DEMAND FOR FLUORINE

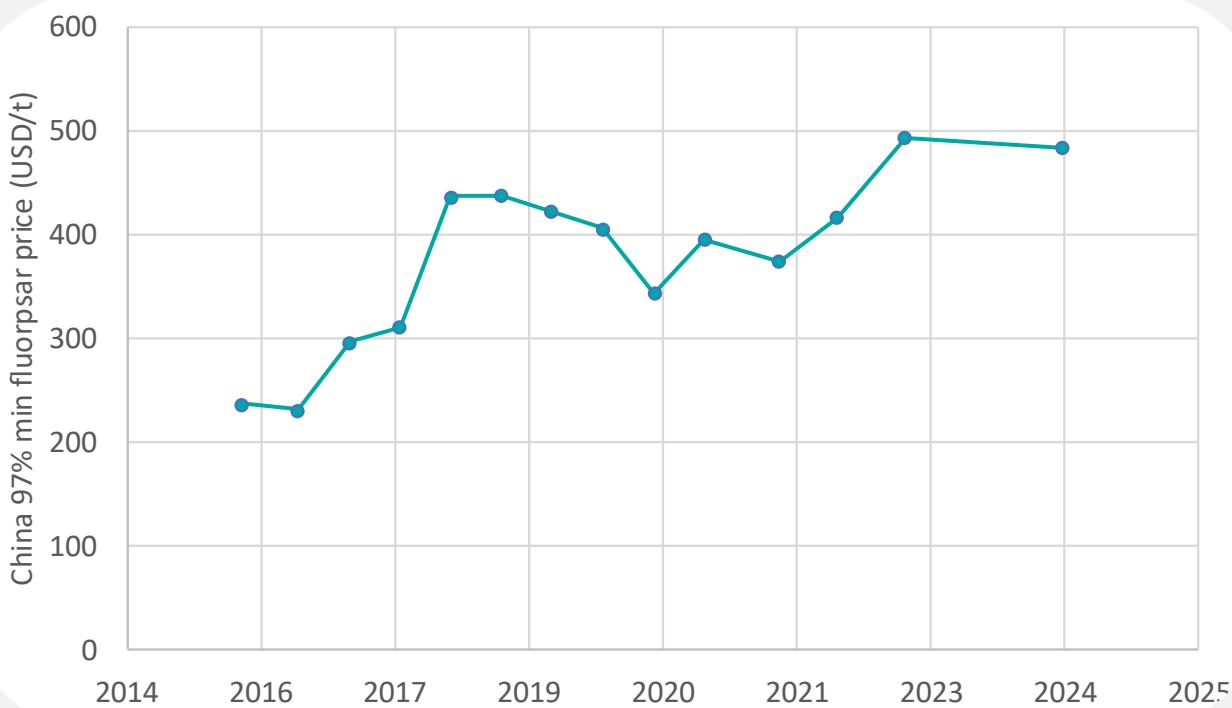


*"From 2025 to 2035, fluorine demand for energy applications will increase from 5% to 22% of total fluorine demand"*

US DOE Critical Minerals Assessment, 2023

# SUPPLY SHORTAGE: LIMITED SUPPLIES OF FLUORSPAR

## Increasing fluorspar prices



Source: Asian Metal

## Government recognition

### Critical Minerals Lists

Fluorspar	USA Europe Japan Canada
Fluorine	Australia

***"In 2035, fluorspar demand will exceed current supply by 40-70%"***

US DOE Critical Minerals Assessment, 2023

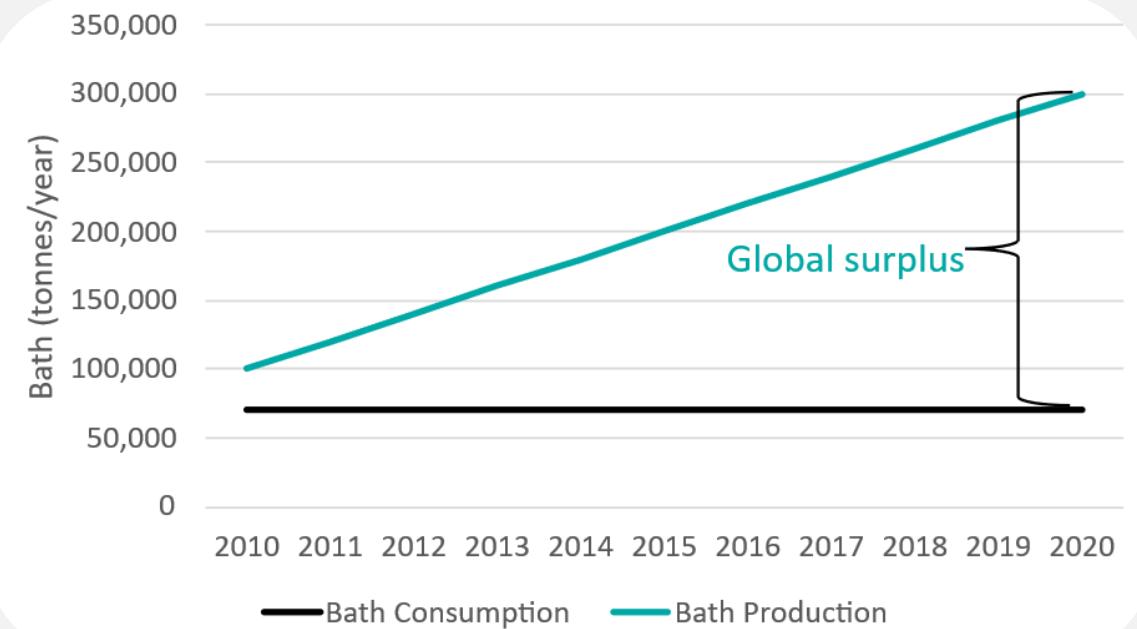
# NEW FLUORINE SOURCE AVAILABLE: ALUMINIUM SMELTER BY-PRODUCT

- ☐ Fluorine is an essential chemical for aluminium smelting
- ☐ 50% of fluorine leaves aluminium smelting process as aluminium smelter bath by-product
- ☐ New smelter → short term bath demand → long term bath surplus

## Fluorine process flow in aluminium smelters

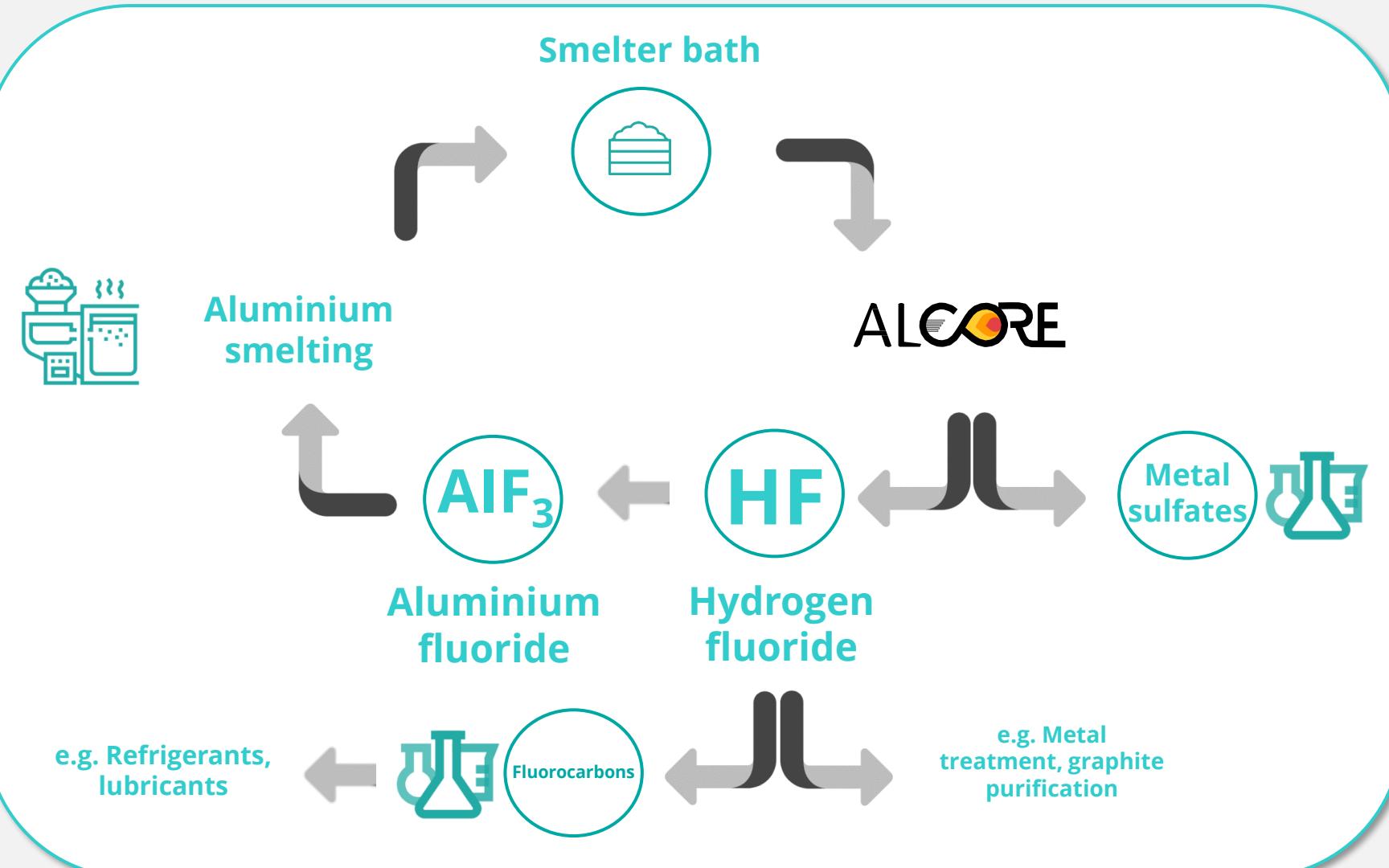


## Increasing global surplus of aluminium smelter bath



Source: S.J. Lindsay, Bath generation and management, 10th Australasian Aluminium Smelting Technology Conference, 2011

# ALCORE PROCESS



## Low technical risk

- Process is adaptation of existing commercial process to produce hydrogen fluoride from fluorspar

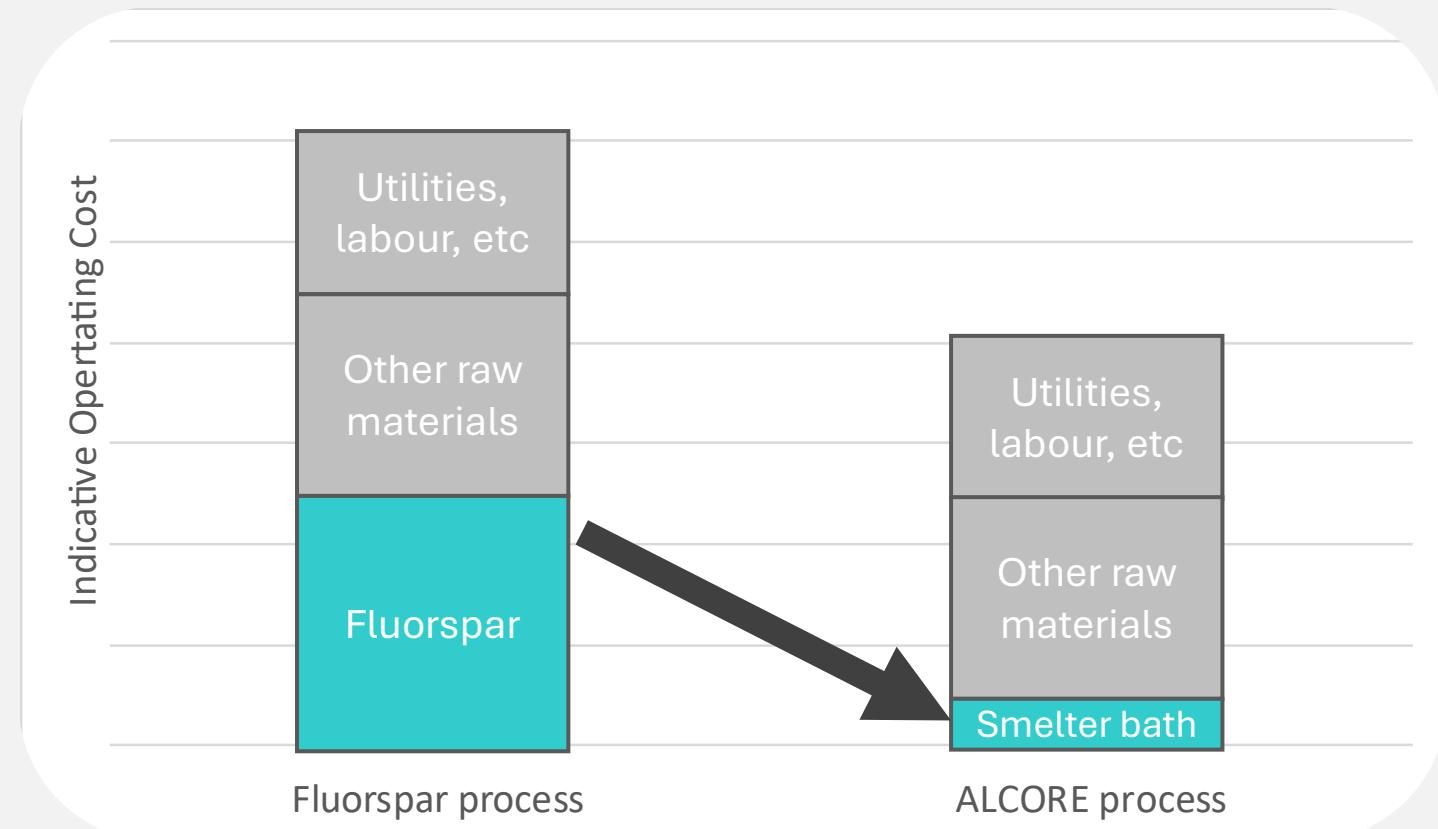
Exemplary demonstration of circular economy

# SIGNIFICANT COST ADVANTAGE OF REPLACING FLUORSPAR WITH SMELTER BATH

**A rare opportunity that is financially, strategically and environmentally attractive**

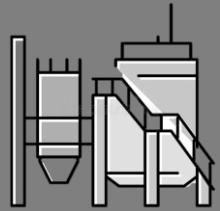
- ALCORE process produces same hydrogen fluoride product using a much lower cost feed material
- Aluminium smelter bath is a good quality material (low impurities)

Potential for significant profit margin



# VISION FOR CLEAN FLUORINE CHEMICALS PRODUCTION BUSINESS

## COMMERCIALISATION



### Production

Construct plant in Tasmania to produce hydrogen fluoride and aluminium fluoride from aluminium smelter by-product

## GROWTH



### Expansion

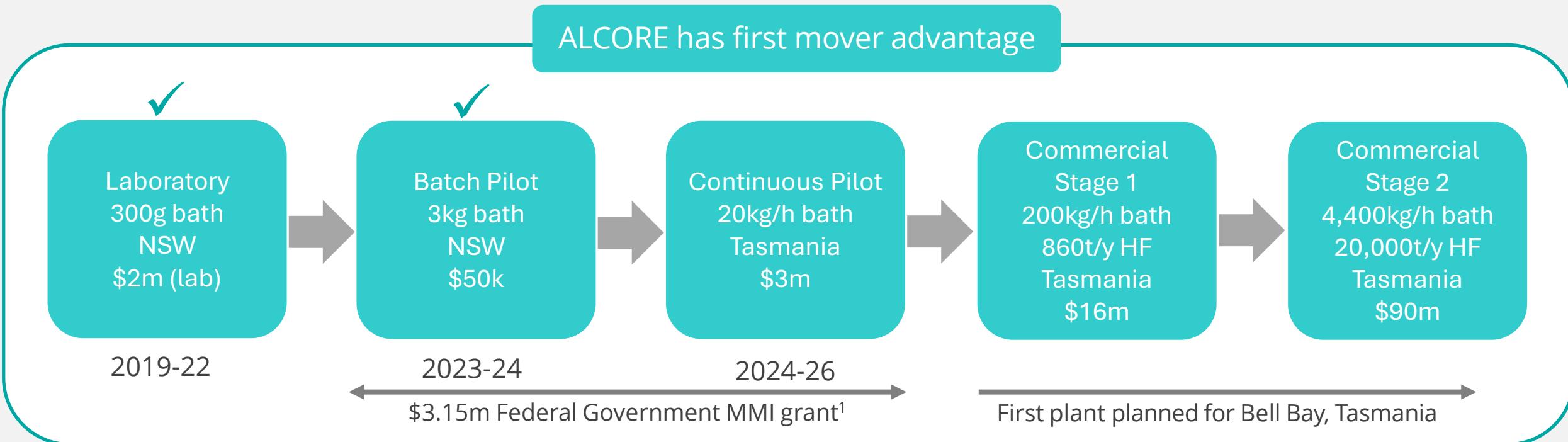
Construct similar plants overseas



### Value-adding

Enable Australian fluorochemical industry

# PATHWAY TO PRODUCTION: PROJECT DEVELOPMENT



- ❑ At facility leased from Rio Tinto at reduced rate<sup>4</sup>
- ❑ \$1m conditional loan from Tasmanian Government<sup>5</sup>
- ❑ Orders placed for all key equipment<sup>6</sup>
- ❑ Legacy equipment removed from site<sup>7</sup>
- ❑ Produce saleable hydrogen fluoride for evaluation by customers
- ❑ Determine design and operating parameters for commercial plant

<sup>1</sup>ABX ASX Announcement, 26 June 2025

<sup>2</sup>ABX ASX Announcement, 24 October 2022

<sup>3</sup>ABX ASX Announcement, 4 June 2024

<sup>4</sup>ABX ASX Announcement, 19 December 2024

<sup>5</sup>ABX ASX Announcement, 15 January 2025

<sup>6</sup>ABX ASX Announcement, 9 April 2025

<sup>7</sup>ABX ASX Announcement, 15 October 2025

## BATCH PILOT REACTOR PERFORMANCE

4 kg crushed bath and 6 kg  $\text{H}_2\text{SO}_4$

97% of fluorine extracted from bath  
as HF (two stage process)



# CONTINUOUS PILOT PLANT – BELL BAY, TASMANIA

## Location



## Facility



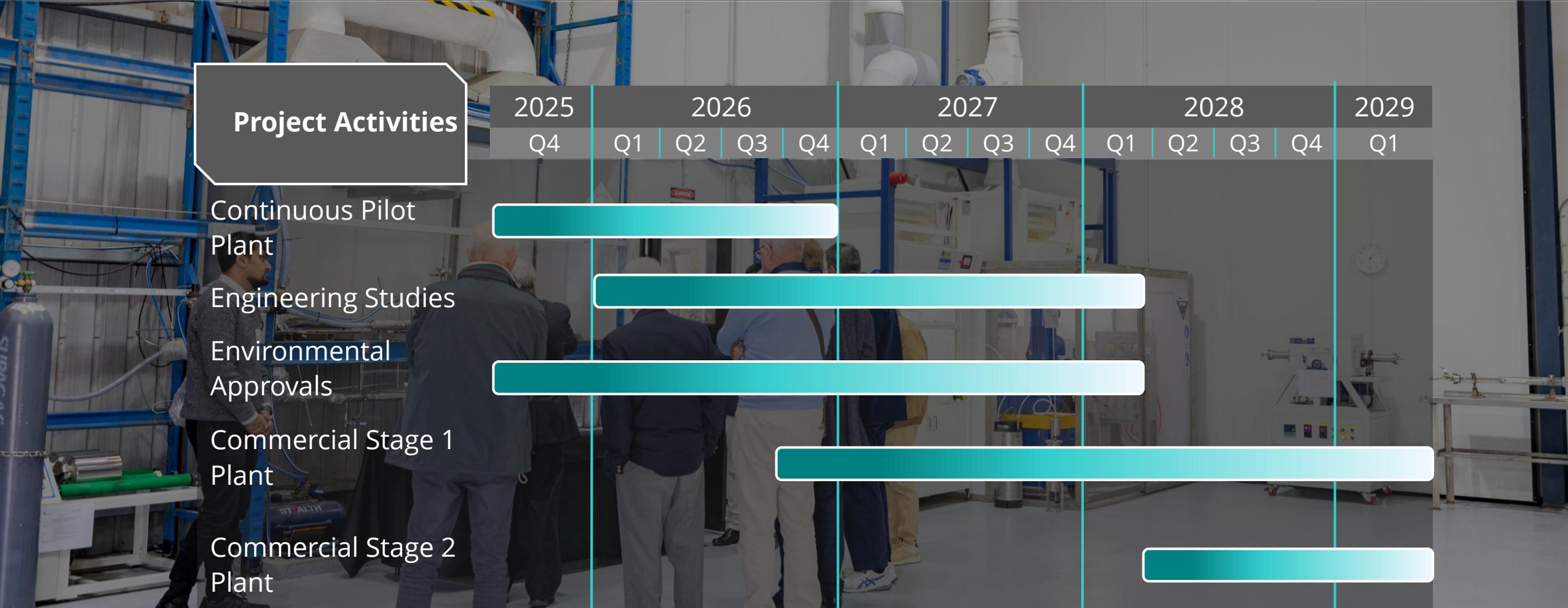
- ❑ Leased from Rio Tinto at reduced rate<sup>1</sup>
- ❑ Orders placed for all key equipment. Most of the specialised equipment is being fabricated by experienced overseas suppliers<sup>2</sup>
- ❑ Expect equipment to be delivered late 2025 to Q1 2026<sup>3</sup>

<sup>1</sup>ABX ASX Announcement, 15 January 2025

<sup>2</sup>ABX ASX Announcement, 9 April 2025

<sup>3</sup>ABX ASX Announcement, 15 October 2025

# ANTICIPATED PROJECT MILESTONES





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### **Heavy Rare Earths**

Supplying dysprosium and terbium from Tasmania into Western supply chains



### **Clean fluorine chemical production**

Producing industrial chemicals from aluminium smelter waste



### **Near-term bauxite production**

Mining bauxite resources for the aluminium, cement and fertiliser industries

# INVESTMENT PROPOSITION

- Global shortage of bauxite leading to significantly higher prices**
- ABx has pathway for near term production in Australia**



## Team

Experienced and capable



## Supply shortage

Severe global bauxite supply constraints



## Jurisdiction

Australia



## Grade & Mineralogy

Trihydrate bauxite



## Infrastructure

Less than 200km to export ports



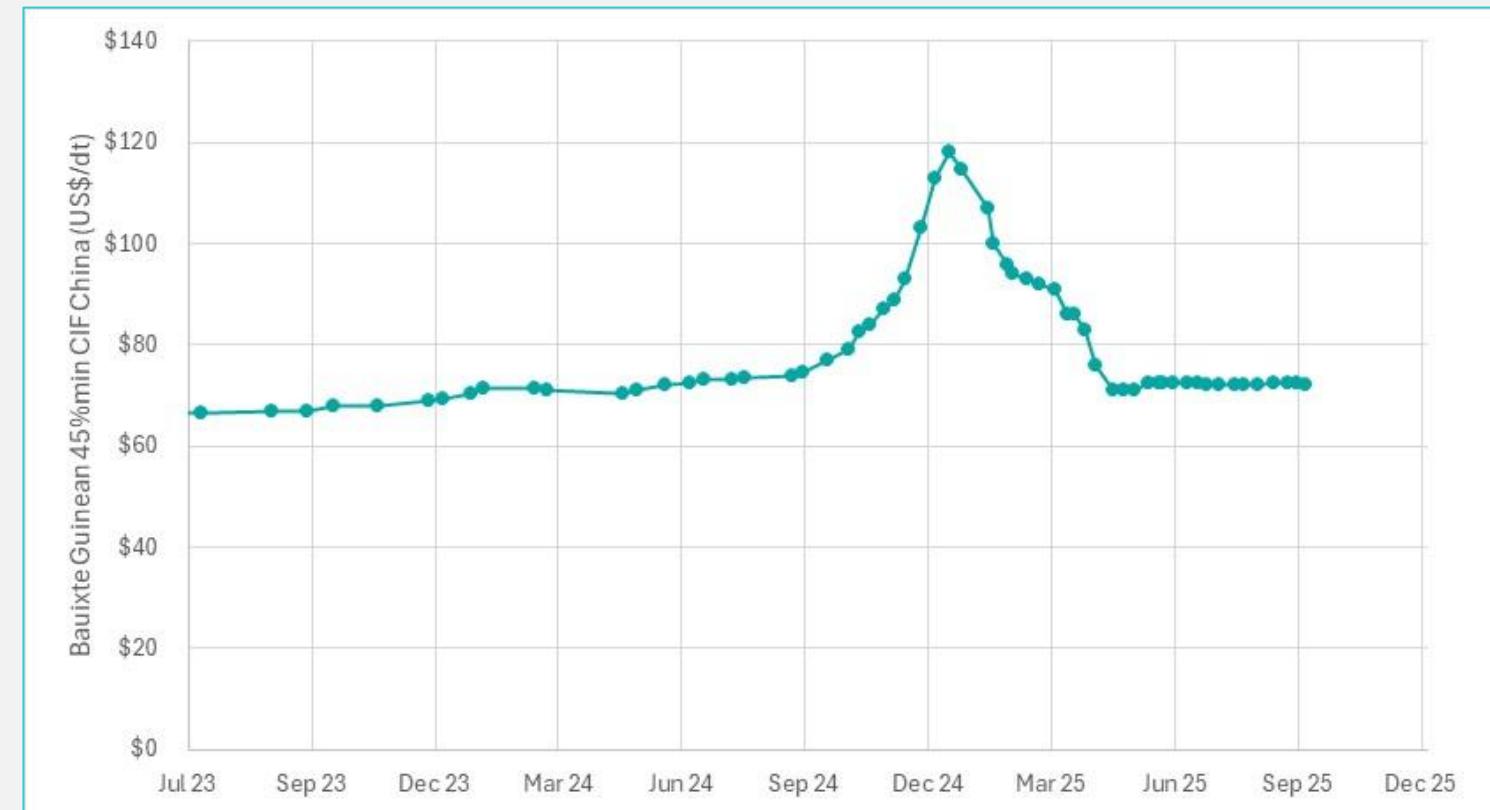
## Pathway to production

Have previously mined bauxite in Australia

# SEVERE GLOBAL BAUXITE SUPPLY CONSTRAINTS

- Bauxite price delivered from Guinea to China increased more than 50% from September 2024 to January 2025

Country	Factor
China	Many small mines closed for not meeting safety and environmental standards
Guinea	Government acting to limit bauxite exports, e.g. Emirates Aluminium can no longer export
China	Bauxite resource depletion



Source: Asian Metal



# ABX BAUXITE RESOURCES

89 million tonnes, all in Australia

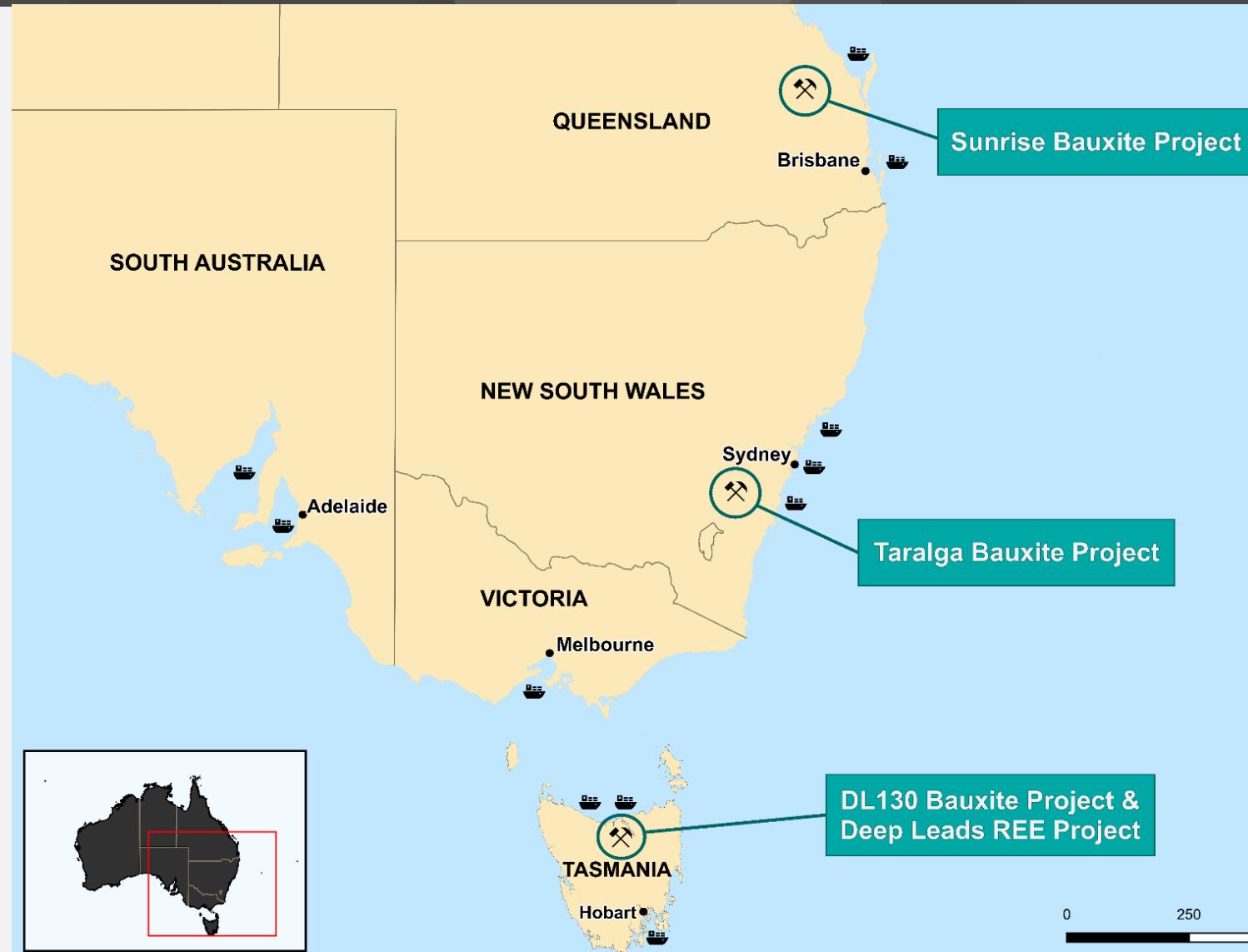
Location	State	Resource (Mt)			Al <sub>2</sub> O <sub>3</sub> (wt%)	SiO <sub>2</sub> (wt%)
		Inferred	Indicated	Total		
Binjour <sup>1</sup>	QLD	14.2	22.8	37.0	36.2	14.6
Taralga <sup>2</sup>	NSW	17.5	20.4	37.9	39.2	5.2
DL130 <sup>3</sup>	TAS	5.7	0	5.7	37.9	11.0

Only major resources shown

<sup>1</sup>ABX ASX Announcement, 18 June 2018

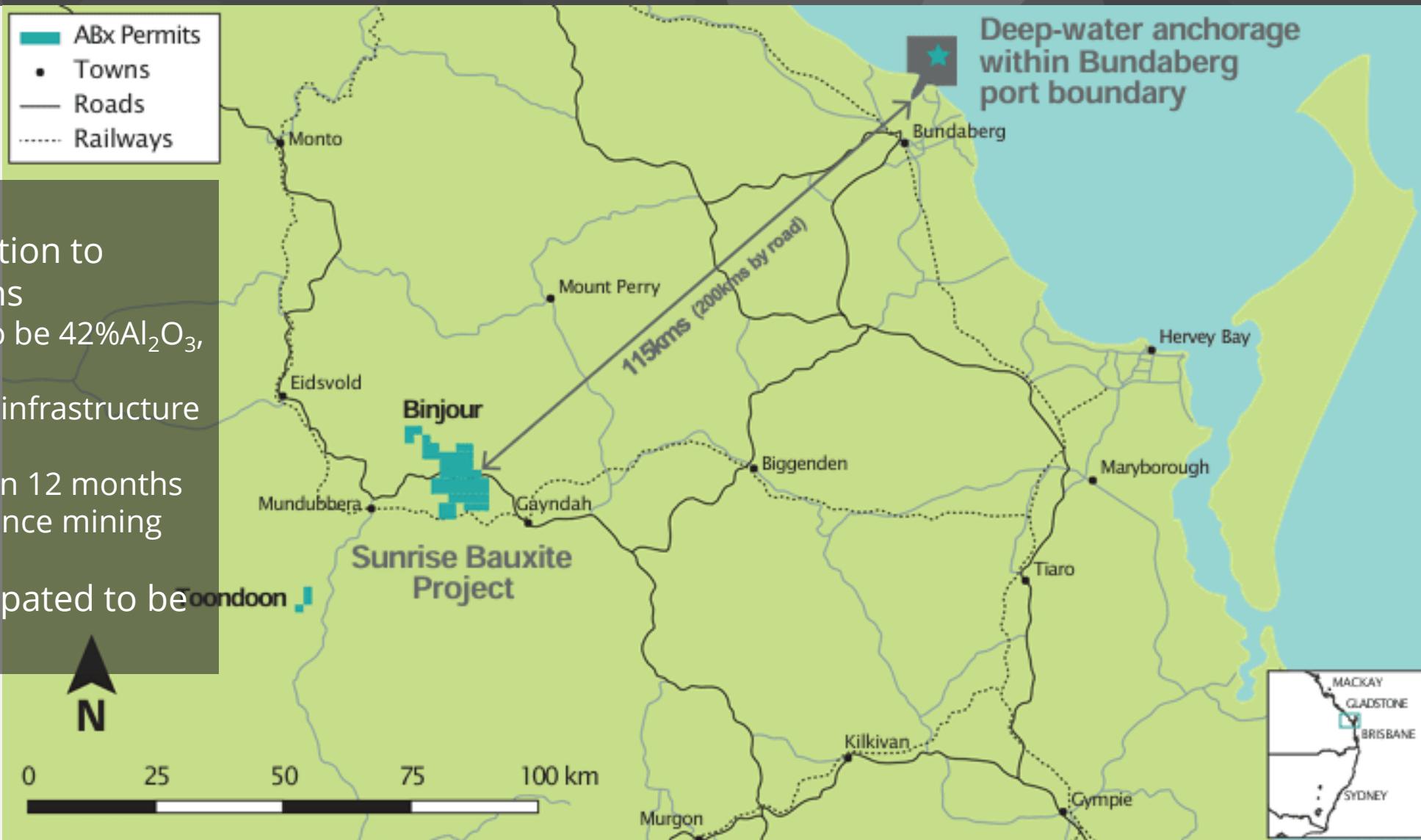
<sup>2</sup>ABX ASX Announcement, 31 May 2012

<sup>3</sup>ABX ASX Announcement, 8 November 2012



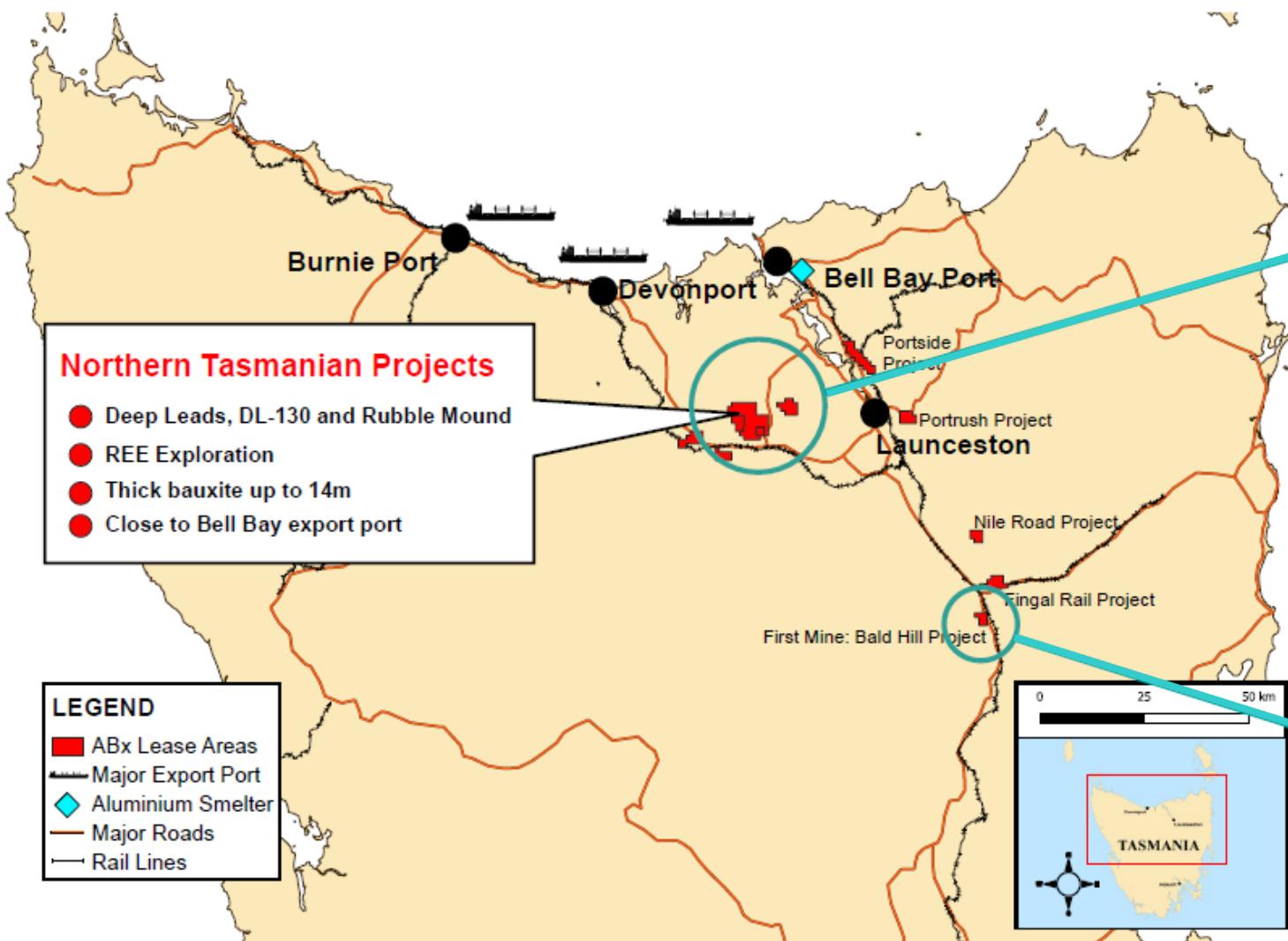
# SUNRISE BAUXITE PROJECT, QUEENSLAND

- 37 Mt resource<sup>1</sup>
- Investigating DSO option to commence operations
  - Product planned to be 42%  $\text{Al}_2\text{O}_3$ , 5.2%  $\text{SiO}_2$
  - Use common user infrastructure at Bundaberg port
  - Approval possible in 12 months
  - Possible to commence mining during 2026
- Full production anticipated to be 1.2 mt/y



<sup>1</sup>ABX ASX Announcement, 18 June 2018;  
14 Mt inferred and 23 Mt indicated

# DL130 PROJECT - TASMANIA



- ☐ Five-year cement-grade bauxite supply agreement signed with Adelaide Brighton Cement Limited<sup>1</sup>
- ☐ Formal agreement secured with all landholders<sup>2</sup>
- ☐ EPA approved Environmental Permit
- ☐ Planning permit application approved by Meander Valley Council, subject to some conditions

## Bald Hill

- ☐ Mined cement and fertiliser grade 2015-20
- ☐ Fully rehabilitated

<sup>1</sup>ABX ASX Announcement, 11 September 2023

<sup>2</sup>ABX Quarterly Report to 30 June 2024, 31 July 2024

# STRATEGIC INVESTMENT TO DEVELOP BAUXITE PROJECTS

## □ Good Importing International (GII)

- Invest up to \$5.4m in two stages to acquire up to 75% interest in Sunrise Bauxite Project (QLD)<sup>1</sup>

- \$2.7m Stage 1 payment received<sup>2</sup>

- Exclusive option to invest up to \$4.8m to acquire up to 75% interest in Taralga & Penrose Projects (NSW)<sup>1</sup>

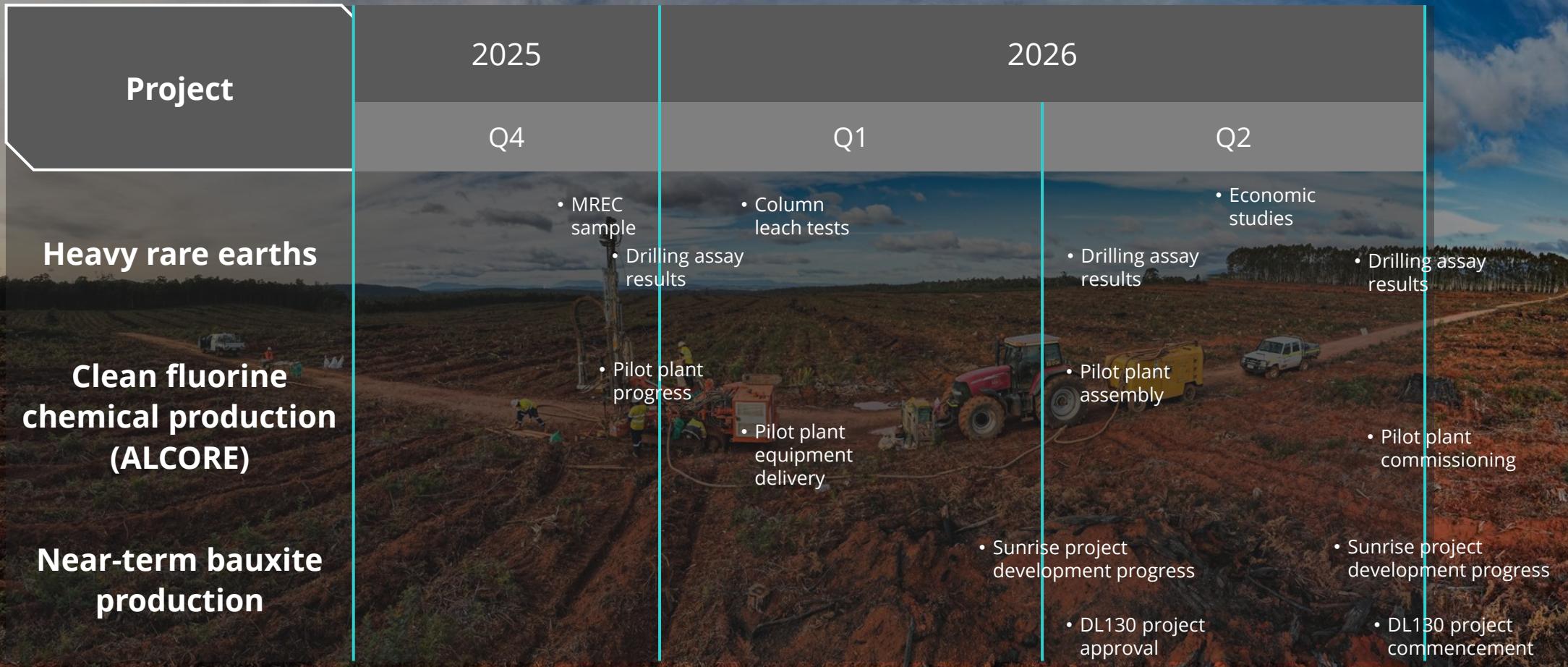
- Tasmania assets remain 100% ABx, targeting cement and fertiliser markets



<sup>1</sup>ABX ASX Announcement, 12 September 2025

<sup>2</sup>ABX ASX Announcement, 9 October 2025

# ANTICIPATED NEWSFLOW





ASX:ABX

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# APPENDIX 1

Company	Project	Country	Stage	Study Level	Resource (Mt)		Grade (TREO) (ppm)	Tb <sub>4</sub> O <sub>7</sub> (ppm)	Dy <sub>2</sub> O <sub>3</sub> (ppm)	Cut-off grade (TREO-CeO <sub>2</sub> ) (ppm)	Reference			
					Mt	Type								
Brazilian Critical Minerals	Ema	Brazil	Exploration	Scoping	248	Indicated	759	16		500 <sup>1</sup>	<a href="#">BCM ASX Announcement</a>	Table 2	21 Feb 2025	
					695	Inferred	701	16						
Meteoric Resources	Caldeira	Brazil	Exploration	PFS	37	Measured	2,983	5	26	1,000 <sup>1</sup>	<a href="#">MEI ASX Announcement</a>	Table 2	15 Apr 2025	
					629	Indicated	2,668	5	24					
					832	Inferred	2,097	4	19					
Devex Resources	Kennedy	Australia	Exploration	-	150	Inferred	1,000	3.7	22	325	<a href="#">DEV ASX Announcement</a>	Table 2	4 Jul 2024	
Viridis Mining and Minerals	Colossus	Brazil	Exploration	PFS	1	Measured	2,605	5	28	1,000 <sup>1</sup>	<a href="#">VMM ASX Announcement</a>	Table 1	22 Jan 2025	
					329	Indicated	2,680	5	28					
					163	Inferred	2,162	4	22					
ABx	Deep Leads	Australia	Exploration	-	5.6	Measured	998	6.6	39	350	<a href="#">ABX ASX Announcement</a>	Table 1	2 May 2024	
					41.6	Indicated	856	5.2	31					
					41.4	Inferred	811	5.0	30					

<sup>1</sup>Cut-off grade is TREO (ppm)

The figures provided are the most recent reported by each company, and at the desired reported cut-off grade provided by each company's headline numbers. Each resource model contains its own economic and geological assumptions not represented in this table. Resource sizes and grades vary depending on the cut-off used by the specific company.