Australian Rare Earths Corporate Presentation

April 2023

AUSTRALIAN RARE EARTHS

Metals for our future

KOPPAMURRA:

Bringing Diversity to Global Rare Earths Supply

Establishing an independent source of critical rare earths for a clean energy future

ASX: AR3

Securing Australia's rare earths for a diversified sustainable future

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COMPETENT PERSONS STATEMENT

The information in this report that relates to Exploration results is based on information compiled by Australian Rare Earths Limited and reviewed by Mr. Rick Pobjoy who is the Technical Director of the Company and a member of the Australian Institute of Mining and Metallurgy (AusIMM). Mr. Pobjoy has sufficient experience that is relevant to the style of mineralisation, the type of deposit under consideration and to the activities undertaken 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. Pobjoy consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement (ASX announcement dated 4 July 2022) and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement (ASX announcement dated 4 July 2022) continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement (ASX announcement dated 4 July 2022).

The information in this report that relates to metallurgical results is based on information compiled by Australian Rare Earths Limited and reviewed by Mr. James Davidson who is the Technical Director of Wallbridge Gilbert Aztec and a member of the Australian Institute of Mining and Metallurgy (AusIMM). Mr. Davidson has sufficient experience that is relevant to the metallurgical testing which was undertaken 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. Davidson consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

KOPPAMURRA – MULTI-GENERATIONAL SUPPLY POTENTIAL

THE OPPORTUNITY

- EV's, wind turbines, robotics and domestic appliances require Rare Earth Elements
- Western World is seeking sustainable independent supply chains
- Deposits containing all four key REEs are rare

THE KOPPAMURRA PROJECT

- 100% owned by Australian Rare Earths Ltd
- Has all four key REEs including the key heavy rare earths Dy & Tb
- Substantial JORC Resource of 101Mt at 818ppm TREO (Total Rare Earth Oxide)
- MOU signed with NEO Performance Materials for a Joint Development and Offtake Agreement
- Landholder Access Agreements in place

MAJOR NEW RARE EARTH MINERAL PROVINCE FOR AUSTRALIA

- Resource open in all directions and has an (up to) 1,400Mt exploration target
- Clay-hosted deposit – same style that underpins China's massive rare earths industry
- Immense growth potential – Current Resource contained on < 5% of current tenement holdings
- Further Exploration and Resource Definition Drilling is well advanced

AN AUSTRALIAN CRITICAL METALS COMPANY

Experienced team, strong backing, well-funded with community support

Professor Dudley Kingsnorth
Independent Chair

Internationally recognised rare earths industry expert, providing advice to producers, end users and governments.

- Professor Western Australian School of Mines
- Previous roles with Ashton Mining (Mt Weld) and Greenbushes

Bryn Jones
Non-executive director
Co-Founder of AR3

Skilled in process and technology development, specialising in uranium.

- MD entXLtd, NED Boss Energy, NED DevExResources
- Previous roles with Laramide Resources, SO4 and Uranium Equities

Rick Pobjoy
Executive director
Acting MD
Co-Founder of AR3

Geologist with extensive experience in sedimentary hosted mineral systems.

- Previous roles with Heathgate and Iluka

Pauline Carr
Independent Non-executive director

Experienced company director in compliance, governance and risk over 30 years in resources sector.

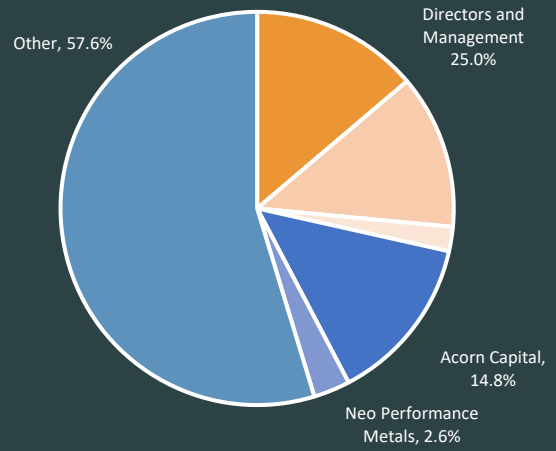
- Chancellor of UniSA,
- Chair of National Pharmacies,
- Chair of Minerals and Energy Advisory Council
- NED Highfield Resources
- Previous roles with Normandy Mining and Newmont

Angus Barker
Independent Non-executive director

Trusted adviser to Corporates and Governments for decades.

- Over 20 years experience as an M&A and capital markets advisor, working with global investment banks in Hong Kong, Australia and the United Kingdom
- 8 years advising Australian Government Ministers in the Foreign Affairs & Trade and Treasury ministries, including advice on promotion of Australia's Critical Minerals sector

Distribution of shareholders



CORPORATE SNAPSHOT

$9.0m
Cash at 31 Dec 2022

129.5m
Shares on Issue

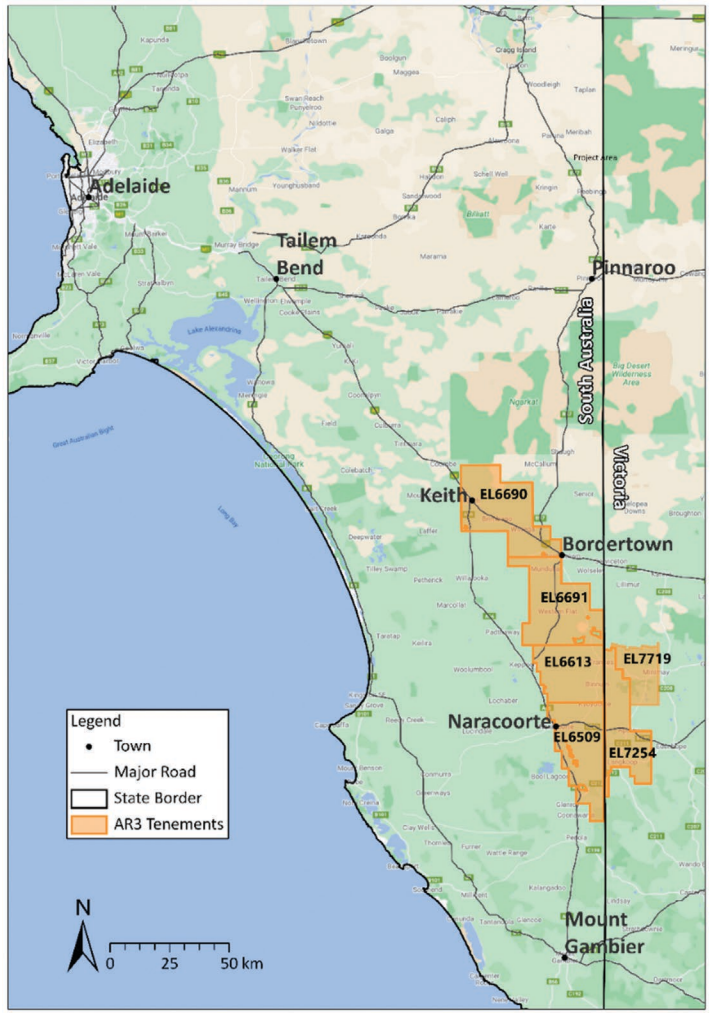
$40m
Market capitalisation @ $0.31

30.9m
Options on issue
Exercisable at $0.30-$1.95
Expiry Dec 2023 - Jul 2025

KOPPAMURRA – AR3's CONERSTONE ASSET

A highly valuable potential source of critical rare earths in a **Tier-1 location**

- **100%-owned** clay-hosted critical rare earths deposit located ~300km SE of Adelaide, in southern Australia
- 4,000km^2 of prospective tenure
- A Mineral Resource of **101Mt at 818ppm TREO** confirms Koppamurra as a globally significant resource
- Consistent and shallow mineralisation facilitates **rapid, low-cost exploration and resource definition**
- Drill core assays confirm the presence of light and the **highly sought after heavy rare earth elements**
- Bulk sample testwork by ANSTO confirms a mixed rare earth carbonate, containing all four rare earth elements essential for rare earth permanent magnets, can be recovered at **ambient temperatures and pressures**



DOVETAIL - GLOBALLY SIGNIFICANT RESOURCE WITHIN EXTENSIVE KOPPAMURRA RARE EARTH MINERAL PROVINCE

Large, consistent, shallow deposit – exceptional growth potential

- Updated March 2023 Measured, Indicated and Inferred Resource – 101Mt at 818ppm TREO (Total Rare Earth Oxide) - ASX announcement dated 3 April 2023
- >60% is in the Indicated classification – 63Mt at 839ppm TREO
- TREO Grade of the Indicated Resource is 15.6% higher than the initial Inferred Resource published in April 2021 of 725ppm TREO.
- The overall program added 13,400m (1,239 holes) to the existing 26,185m (2,727 holes) drilled for the Mineral Resource estimate announced in July 2022
- Oustanding growth potential, with Exploration Target[2] of 330-1,400Mt - an increase of up to 536% on the upper range of the previous Exploration Target

Koppamurra Mineral Resource Estimate – Mar 2023

Koppamurra Mineral Resource Estimate – March 2023

			Magnet Rare Earths							
JORC	Tonnes	TREO	Pr_6O_{11}		Nd_2O_3		Tb_4O_7		Dy_2O_3	
Category	Mt	ppm	ppm	% TREO	ppm	% TREO	ppm	% TREO	ppm	% TREO
Measured	1	894	40	4.4	148	16.5	3.9	0.4	22	2.5
Indicated	63	839	38	4.5	143	17.0	3.9	0.5	21	2.6
Inferred	38	782	35	4.5	133	17.0	3.6	0.5	20	2.6
Total	**101**	**818**	37	4.5	139	17.0	3.8	0.5	21	2.6

Koppamurra Exploration Target – March 2023

			Magnet Rare Earths							
Exploration	Tonnes	TREO	Pr_6O_{11}		Nd_2O_3		Tb_4O_7		Dy_2O_3	
Target	Mt	ppm	ppm	% TREO	ppm	% TREO	ppm	% TREO	ppm	% TREO
ET – Frances Region	260-1,200	530-760	20 -30	3.8 - 3.9	90-140	17-18	2-4	0.4 – 0.5	14-20	2.6 – 2.6
ET – Dovetail Region	70-200	620-880	30-40	4.5-4.8	100-160	16-18	3-4	0.5 –0.5	16-20	2.3–2.6
Total	**330-1,400**	**540-780**	**20-40**	**3.7-5.1**	**100-140**	**17-18**	**3-4**	**0.5-0.5**	**14-20**	**2.6-2.6**

[1] For the purposes of this report the primary focus elements for the Koppamurra project are converted to their oxide form for reporting purposes, using known conversion factors, they are Pr_6O_{11}, Nd_2O_3, Tb_4O_7 & Dy_2O_3.

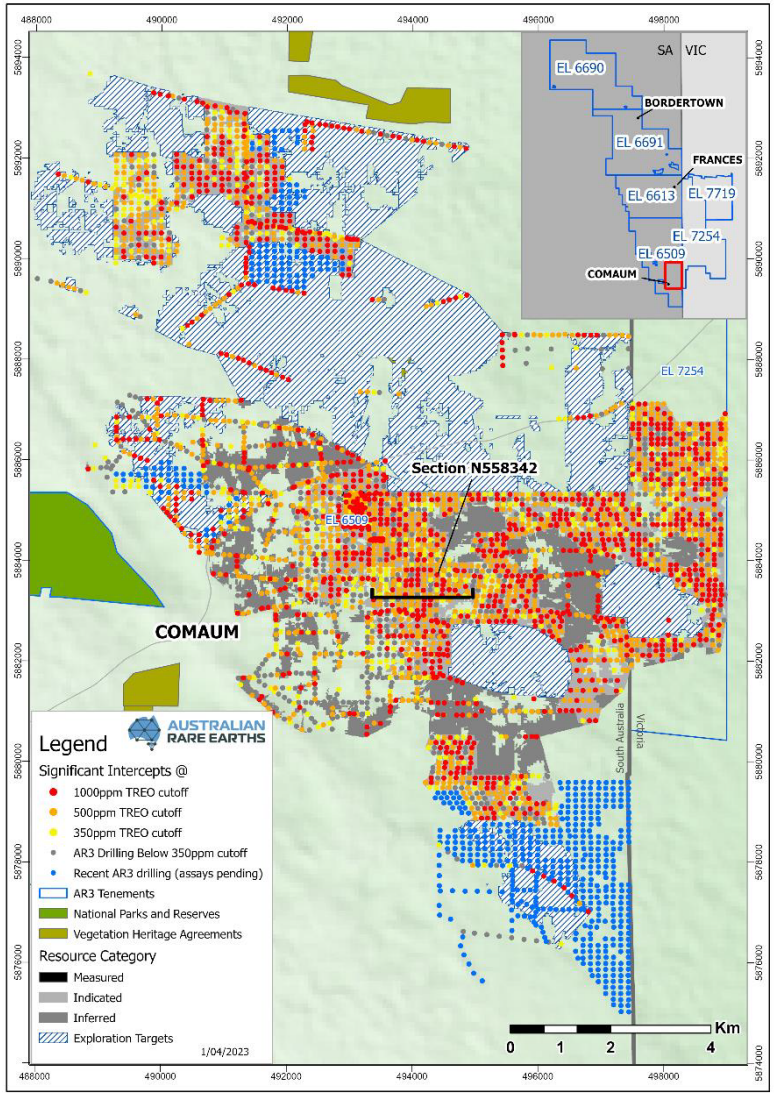
Mineral Resources reported at a cut-off grade of 325 ppm TREO-CeO2, consistent with the previous MRE.

[2] The potential quantity and grade of the Exploration Target is conceptual in nature. Further exploration is required to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

ONGOING RESOURCE GROWTH AS DRILLING CONTINUES

Drilling to grow this new resource has been underway since Feb 1st

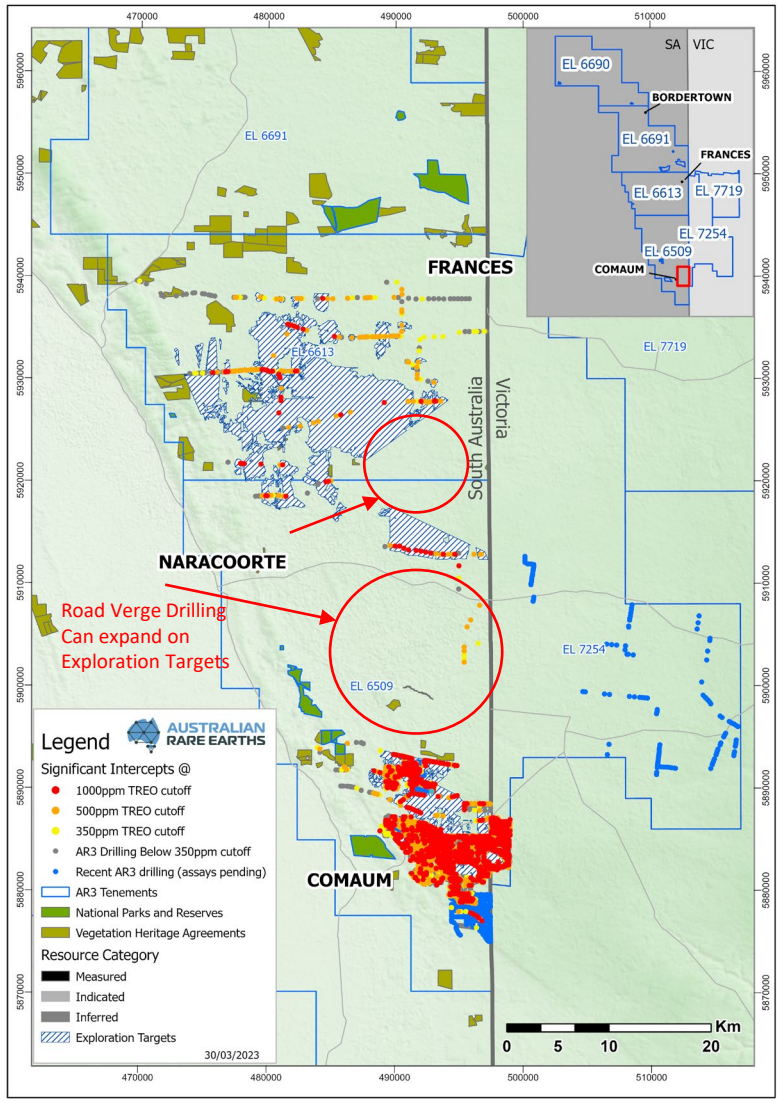
- Drilling completed to date, for which assays are still pending, encompasses an area of 15km2 which compares with the area of the JORC Mineral Resources at Dovetail of 30km2
- Rare earth mineralisation **hosted in a clay layer < 10m from surface**, deposited above a limestone base
- Current drilling, commenced Feb 1st 2023, expected to run through to early June 2023
- Resource updates based on current drilling due **mid-year** and again **end Q3**



OUTSTANDING GROWTH POTENTIAL

Deposit remains open with a substantial upside remaining

- **~4,000km² of granted tenure** in South Australia and Victoria
- Rare earth mineralisation **hosted in a clay layer < 10m from surface**, deposited above a limestone base
- **Consistent mineralisation observed** over the entire drilled area of ELs 6509 and 6613 – ongoing drilling will unlock further exploration upside
- Proven prospectivity extends 40km north of existing Resource into the Frances Area Exploration target
- Accelerated program of follow up drilling planned to further expand resource base, through infill drilling at the new Frances Exploration Target.
- **Current drilling program well advanced** aiming to grow the total Resource volume and further **expanding the Exploration Target** to demonstrate muti-generational supply potential



KOPPAMURRA NEXT STEPS

Establishing a valuable potential source of critical rare earths in a **Tier-1 location**

- Continuing our early and active **engagement with local communities**, their support is key to building a successful business
- Further Exploration and **Resource Definition Drilling** is well advanced
- Non-binding MOU signed with NEO Performance Materials for a Joint Development and **Offtake Agreement** – being progressed to a binding agreement
- **Metallurgical** test work continues – focused on optimising the production process flow sheet
- Preparing inputs for a Q2 2023 Mine Lease application
- Koppamurra can become the multigenerational location for the production of added-value rare earth products, working alongside landowners, communities, government, academia and research organisations

KOPPAMURRA METALLURGY

Process development in collaboration with world experts

- Successful pilot scale production, at ambient temperatures and pressures, of a Mixed Rare Earth Carbonate (MREC), **a first for an Australian ionic clay hosted rare earth resource**
- Consistent magnet rare earth recoveries demonstrated across a wide geographical area
- **ANSTO has produced a mixed rare earth carbonate (MREC) from 800kg bulk sample**
- Simple, low cost, flow sheet and 'off the shelf' equipment were applied to production of MREC
- **Assembled a world class metallurgical team:**

ALS · UNIVERSITY OF TORONTO · SGS · ANSTO

Ionic Clay Hosted REE Deposits

	Ionic clays	Hard rock
Location	• Historically mined **in China, now in Myanmar**, but resources are depleting	• China dominates but mines in production (limited) and under consideration in Australia, USA, Africa
REE Assemblage	• Supply virtually **all heavy REE (>80%)** and a portion of light (La-Eu) REE globally	• Monazite or Bastnaesite ores which **typically do not contain high heavy REE component**
Scale	• Scalable development – **lower initial capex** requirements	• Typically require significant scale for economic viability giving **very high capex requirements**
Exploration	• **Quick and cheap to define** resources given shallow drilling using aircore, auger, push-tube core	• Similar to other hard rock base metals requiring substantial drilling, geochemistry, geophysics etc
Mining	• Shallow free digging material with low strip ratio • Progressive and quick restoration of landscape	• Drill and blast with large mining fleet • Deep open pits or underground mining
Processing	• Simple metallurgy; ambient temperature & pressure. **No radioactive waste streams**	• High temperature calcining + pressure leaching • Radioactive tailings
	Fast to develop, low capex and high value product	**Significant time and cost to develop, complex processing, radioactivity issues, lower product value**

SUCCESSFUL TRIAL MINING & REHABILITATION PROGRAM

Commitment to continuous land rehabilitation

- Innovative trial mining program successfully undertaken in April-June 2022
- Opportunity to confirm continuous land rehabilitation
- No long-term impact on the landscape – minimal disturbance with the land rapidly returned to its former use
- Provided insights into geological interpretation and mine design
- Collected a 500t mineralised clay sample for metallurgical testing
- Provided an opportunity for stakeholder engagement; “seeing is believing”

COMMUNITY AND LAND

AR3 is an active and responsible member of the community

- Building an open and collaborative community relationship underpins AR3's approach to engagement
- AR3 has established an office and warehouse in Naracoorte managed by local personnel
- Groundwater, ecological and heritage studies have commenced
- Educational initiatives underway with local schools and Universities

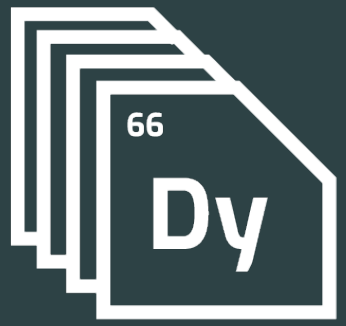
- ✓ *Naracoorte Office Opening*
- ✓ *Full-time local Personnel*
- ✓ *Sponsorships*
- ✓ *South-East Field Day exhibit*
- ✓ *Student Awareness*
- ✓ *60 Meetings, 7 Feature Articles*

AR3 Exhibit at Naracoorte Show

AR3 Office/Warehouse Officially Opened

Year 11 students learning about Rare Earths

WHY AUSTRALIAN RARE EARTHS?



THE KOPPAMURRA PROJECT

- Large resource with exceptional potential for multigenerational growth
- Substantial market opportunity driven by global decarbonization efforts
- Endowment of all four of the high value rare earth elements
  - Critical rare earths Nd-Pr and Dy-Tb are essential ingredients in permanent magnets for EV's, wind turbines, robots and domestic appliances
- Tier-1 location with strong community, landowner and government support
- Demonstrated production of a mixed rare earth carbonate (MREC) at scale
- Project Support through NEO Performance Materials MOU
- Strong demand growth supported by need for a sustainable independent supply chain

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SUPPLEMENTARY INFORMATION

SEPARATED RARE EARTHS DEMAND AND SUPPLY

Rare Earth demand

- 2022 Total Demand: 260-280 ktpa REO, growing at 6-8% p.a
- 2022 Magnet Rare Earths Demand: 70-80 ktpa, growing at 8-10% p.a.
- 2025/26 Total Demand: 320-350 ktpa REO
- 2025/26 Magnet Rare Earths Demand: 110-130 ktpa REO

Rare Earth supply

- 2022: Surplus of light rare earths (La, Ce), magnet rare earths OK
- 2023 onwards magnet rare earths in growing deficit
- 2022 ROW Supply: 25-35 ktpa REO, 8-12 ktpa REO magnet rare earths
- 2025/26: If ROW can increase supply by 60% of the growth this equates to total 60-70 ktpa REO, including total magnet rare earths of 20-25 tpa REO

2020 to 2022 CHINESE RARE EARTH PRODUCTION QUOTAS*

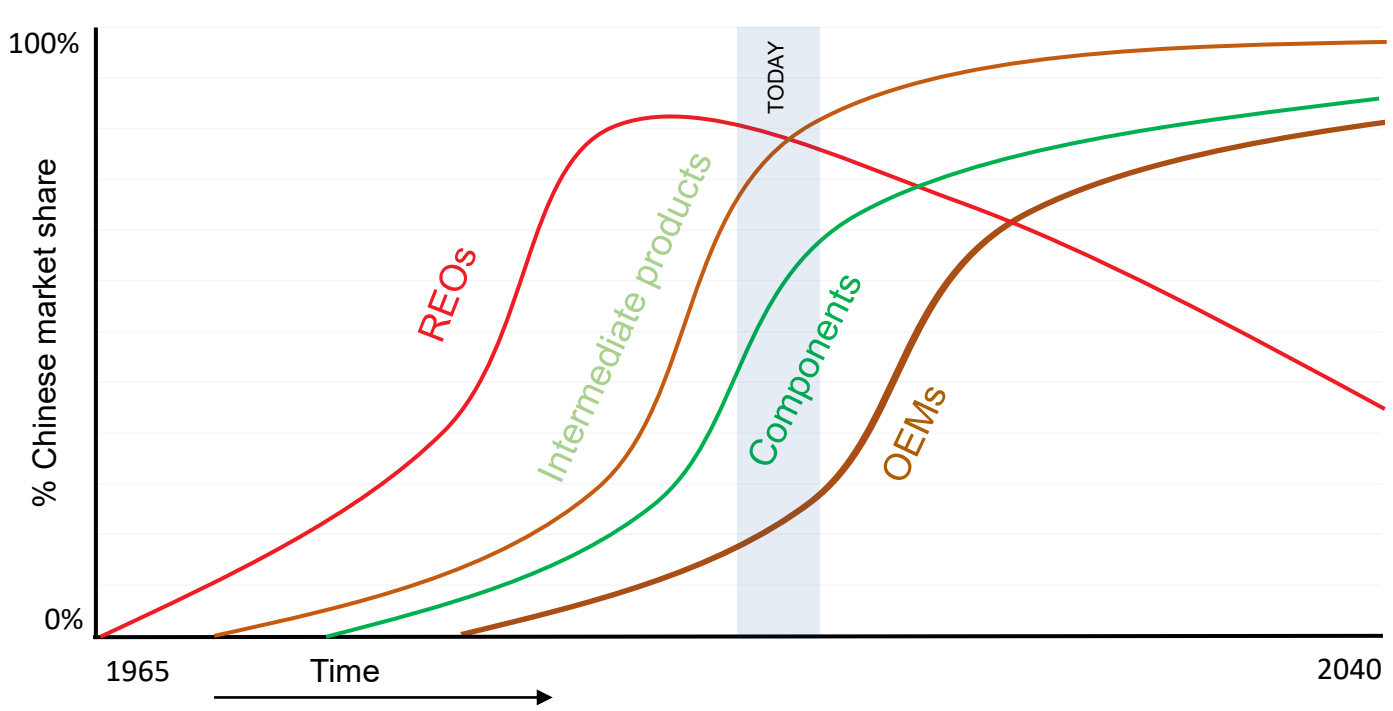
Group	2020 Total TPA REO		2021 Total TPA REO		2022 Total TPA REO	
	Mining	Separation & Smelting	Mining	Separation & Smelting	Mining	Separation & Smelting
Northern Rare Earth	70,750t	60,984t	88,250	76,550t	141,650t (67%)	128,934t
Southern Rare Earth**	16,850t	21,879t	20,450t	28,650t	62,210t (30%)	58,499t
Guangdong Rare Earth	2,700t	10,604t	3,250t	12,700t	2,700t	10,604t
Xiamen Tungsten	3,440t	3,963t	4,150t	4,750t	3,440t	3,963t
Jiangsu Rare Earth	36,250t	23,912t	49,500t	32,550t	Nil	Nil
China MinMetals	2,010t	5,658t	2,400t	6,800t	Nil	Nil
TOTALS	**132,000t**	**127,000t**	**168,000t**	**162,000t**	**210,000t**	**202,000t**

NOTES:

*The Quota is the volume of rare earth carbonate (RECO3), allowing for recoveries during primary processing the actual volumes mined are ~25% greater.

** 40-60% of the ionic clays processed in China are imported from Myanmar, where the impact on the environment and local communities is significant and of concern: https://www.globalwitness.org/en/campaigns/natural-resource-governance/myanmars-poisoned-mountains/

IMPACT OF CHINA'S VERTICAL INTEGRATION OF RARE EARTH SUPPLY CHAIN



~$40 billion

???

???

~$8 billion

China is becoming more and more dependent upon Myanmar for heavy rare earth (HREE) concentrates

In essence just as France will sell you a bottle of wine but not the grapes;

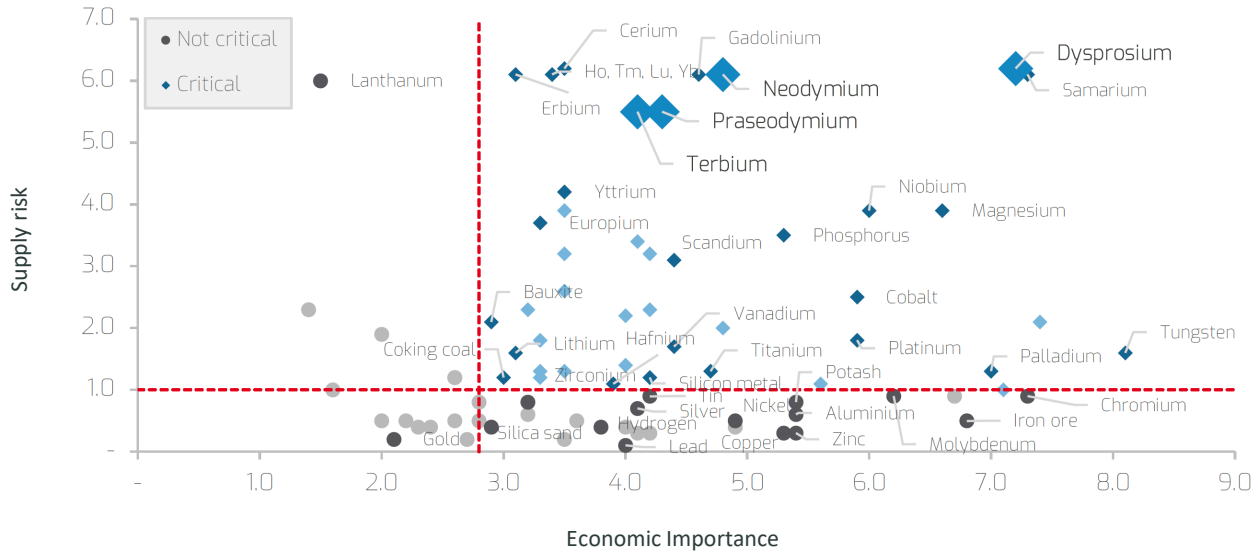
China's goal is not to export unimproved rare earths but the OEMs containing rare earths.

THE RARE EARTHs SUPPLY CHAIN

China and Myanmar dominate the supply chain, including majority of heavy rare earth production and end uses

- Minerals containing Neodymium and Praseodymium are mined from multiple global sources, **however, Dysprosium and Terbium are almost entirely sourced from ionic clays** in China and Myanmar
- **Chinese reserves are depleting**, with downstream producers turning to Myanmar and rest-of-world mixed rare-earth hard rock suppliers
- Dysprosium and Terbium are **considered highly critical by the US, Japanese and European governments**
- **An ionic clay resource in** Australia containing Dysprosium and Terbium is of **global significance**

EU Critical Raw Materials list 2020[1]



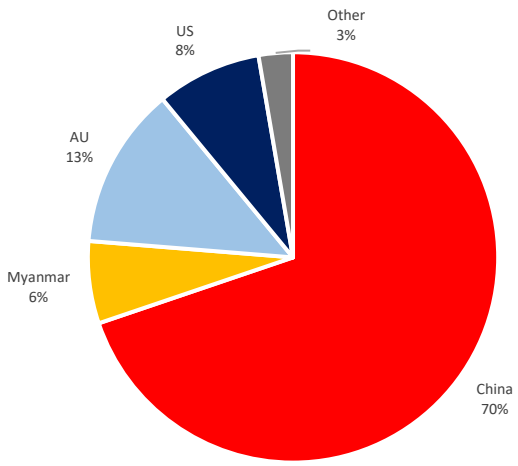
Sources: (1) European Commission Study on the EU's list of critical raw materials (2020)

THE RARE EARTH SUPPLY CHAIN

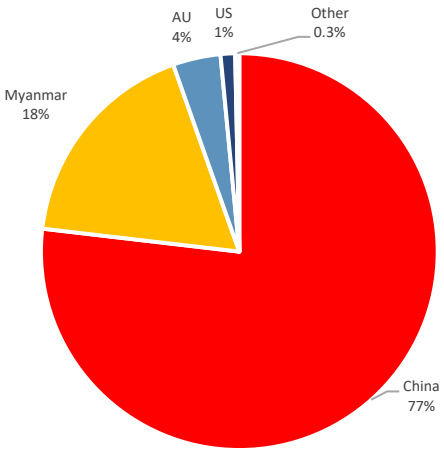
China and Myanmar dominate the supply chain, including majority of heavy rare earth production and end uses

Historical rare earth mine production by country[2]

Neodymium & Praseodymium

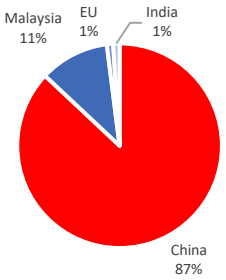


Dysprosium & Terbium

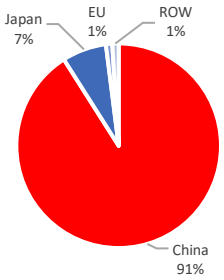


Downstream supply chain also dominated by China[2]

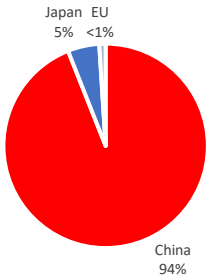
Separation (REO)



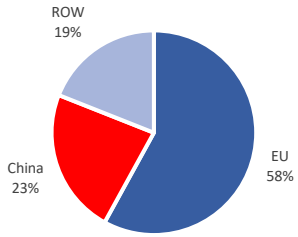
RE metals



RE permanent magnets



Example: wind turbines



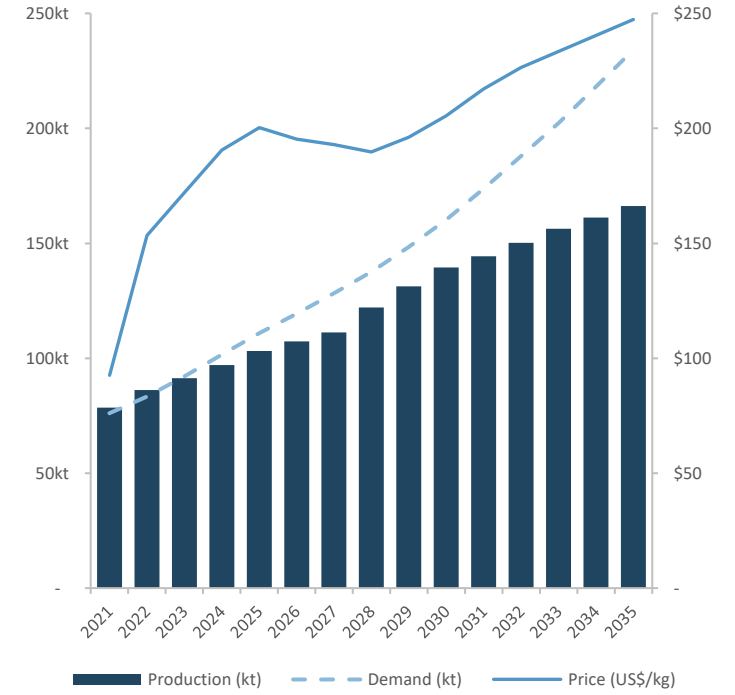
China currently produces 94% of permanent rare earth magnets, highlighting the urgent need for new independent supply sources.

(2) Adamas Intelligence, April 2022

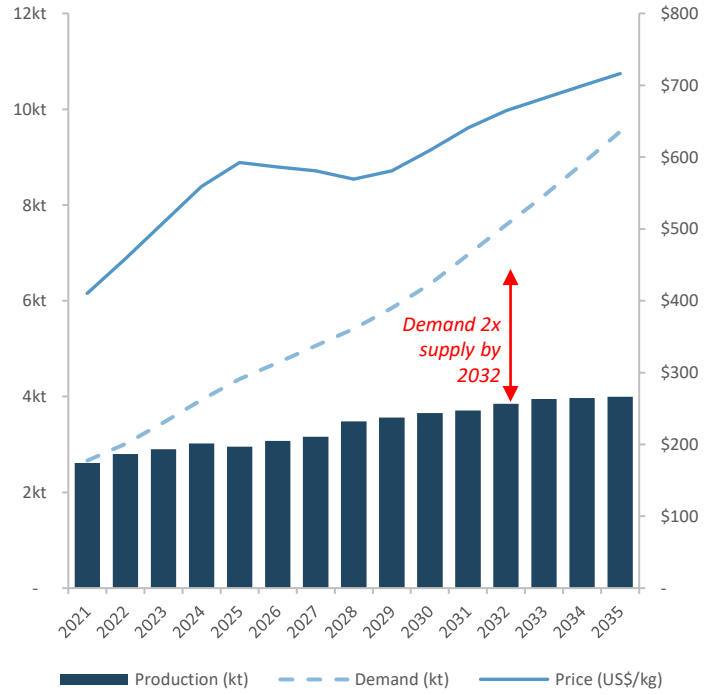
ADAMAS INTELLIGENCE FORECASTS

Supply deficits across all magnet REO's is expected to support price accretion for the remainder of this decade

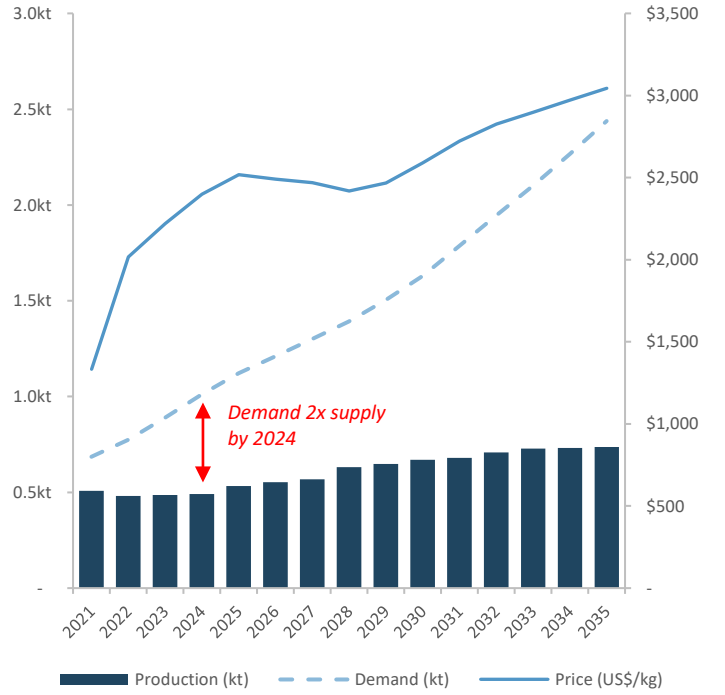
NdPr demand-supply balance (LHS) vs price (RHS)



Dy demand-supply balance (LHS) vs price (RHS)

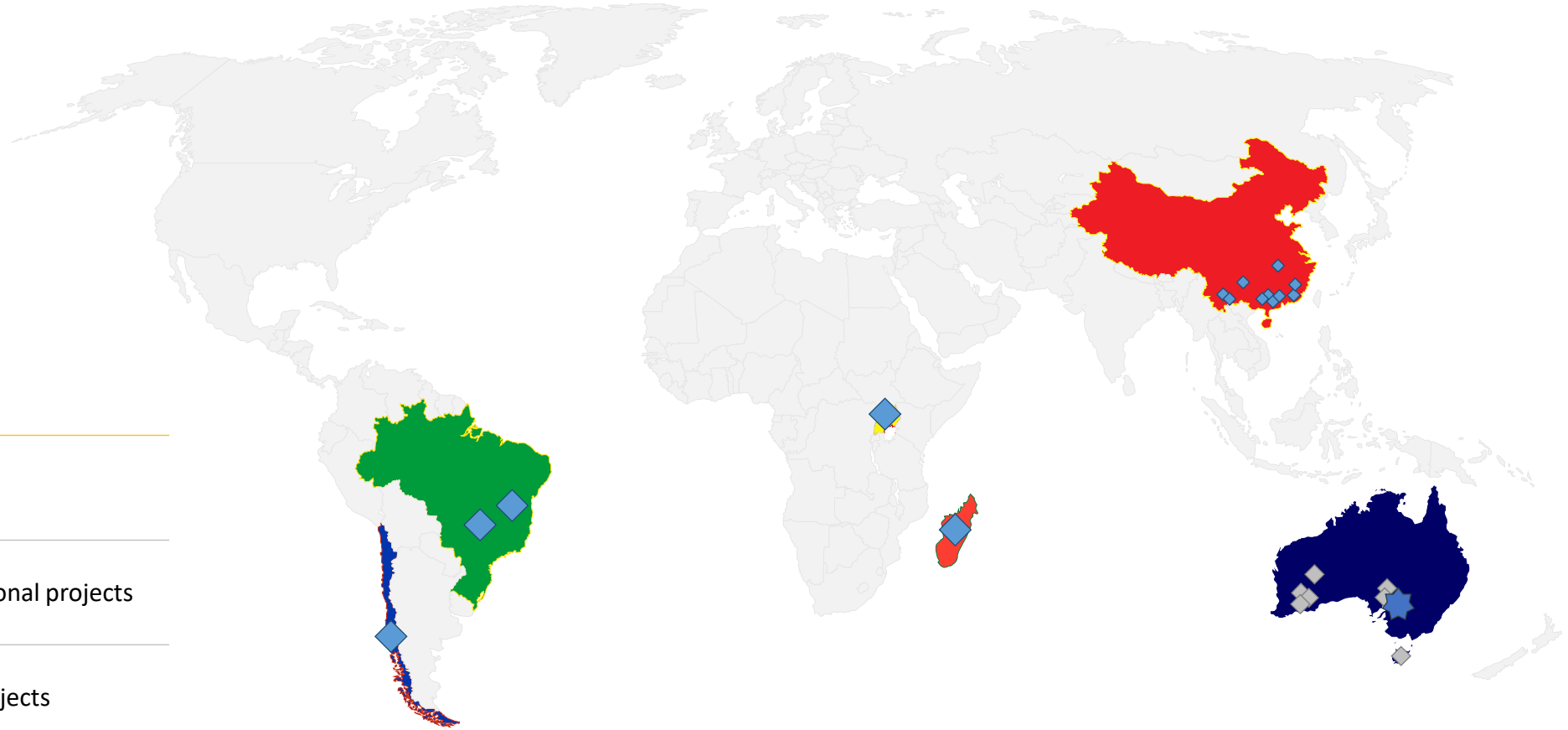


Tb demand-supply balance (LHS) vs price (RHS)



Koppamurra is a unique & strategically significant asset

The only confirmed ionic adsorption clay Resource in a Tier-1 mining jurisdiction



Key

- Koppamurra
- Notable international projects
- Unproven IAC projects

AUSTRALIAN RARE EARTHS
Metals for our future