# LINDIAN RESOURCES LTD. **KANGANKUNDE** "THE KING" November 2023 Rare Earths Bauxite

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#### **Competent Persons Statement and Cautionary Statement**

The information in this presentation that relates to Exploration Results, Metallurgy Results and Mineral Resources of the Kangankunde Rare Earths Project is extracted from reports released to the Australian Securities Exchange (ASX) listed in the table at Appendix C and which are available to view at www.lindianresources.com.au and for which Competent Persons' consents were obtained. The Competent Persons' consents remain in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

Unless otherwise stated, where reference is made to previous releases of Exploration Results, Metallurgy Results and Mineral Resources in this presentation, the Company confirms that it is not aware of any new information or data that materially affects the information included in those announcements and all material assumptions and technical parameters underpinning the Exploration Results, Metallurgy Results, Exploration Targets and Mineral Resources included in those announcements continue to apply and have not materially changed.

The Competent Persons' consents for the Exploration Results, Metallurgy Results, and Mineral Resources for Kangankundel remain in place for subsequent releases by the Company of the same information in the same form and context as originally announced, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The information in this report that relates to a Mineral Resource Estimate for the Kangankunde Rare Earths Project was first released to the ASX on 3 August 2023. The Company confirms that is not aware of any new information or data that materially affects the Mineral Resource Estimate of the Kangankunde Project, and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

For the ASX announcement initially reporting the Mineral Resource Estimate of the Lelouma, Gaoual or Woula Bauxite Projects, refer to ASX announcement dated 6 October 2020, 15 July 2020 and 23 September 2020 respectively. The Competent Person(s) consent remains in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The Company confirms that is not aware of any new information or data that materially affects the Mineral Resource Estimates of either of Lelouma, Gaoual or Woula Bauxite Projects, and that all material assumptions and technical parameters underpinning the estimates for each continue to apply and have not materially changed.

Cautionary Statement: In relation to this disclosure relating to project development works programs, implementation programs and expansion strategies, the Company cautions that these studies contain risks some of which are in the Company control and some which are not. Works undertaken will makes judgements on geology, mineralisation, minerals resources, mineral extraction, reasonable prospects of economic extraction, mineral extraction methods and waste disposal, processing methods flowsheets and recoveries, infrastructural availability, engineering works, tenure, community and sociopolitical issues, regulations, workforce employment and training, estimation in capital and operating costs that may be provisional or estimates, projections and forward estimates, environmental considerations and modifying factors, market conditions, sales, sales revenue, other revenues and revenue forecasts, construction and construction uncertainties, unforeseen health and weather events, industrial relations and disputes, assumptions for the basis of valuation, external market conditions, some or all of which will carry a degree of uncertainty and risk. The work studies as outlined should be considered as development strategies that require works to comply with acceptable standards of study outcomes. As such the work program and report should follow an acceptable format of the JORC Code 2012, an AUSIMM technical study report and that of VALMIN Code 2015. In respect to production targets and financial forecast information derived from processing of materials and their associated extraction methods are production targets, some of which may vary in mineral resource or exploration target classification and are forward looking statements and are therefore aspirational aims of the outcome of the work program until they can be quantified in development and operational works.

### **CORPORATE OVERVIEW**



Company ASX Code	LIN
Share Price	~A\$0.16
Ordinary Shares on Issue	1.152B
Performance Rights	29m
Options on Issue : Conversion value A\$20.6M	~84M
Market Capitalisation (undiluted) 1	~A\$184M
Cash <sup>2</sup>	~A\$23m



Substantial Shareholders	:
Kabunga Holdings Pty Ltd	11.0%
Bonacare Pty Ltd / Topwei Pty Ltd / Wei & Zhang	10.8%
Ven Capital Pty Ltd	8.9%
Rohan Patnaik	6.8%
BNP Paribas Nominees Pty Ltd	5.1%

Other Shareholding Informa	tion
Number of Shareholders	2408
Top 20 Holders	65.2%

#### **BOARD & MANAGEMENT**





Asimwe Kabunga Executive Chairman

- Tanzanian born Australian entrepreneur
- The visionary behind the company's strategy
- Maior shareholder
- Commercially astute and strategic investor



Trevor

Matthews

Executive Director

- 35-year resources industry nascent greenfield to mining production experience, graphite, minerals sands, iron ore
- Ex-Managing Director/CEO Volt Resources
- Chair ASX:VTM. NED ASX:RMI



Jack (Giacomo) Fazio Non-Executive

Director

- 0)
- Highly experienced project, construction & commercial management professional
- Successful project management and negotiations track record



Yves Occello Non-Executive Director

- 45-year veteran of the bauxite and alumina industry
- Previously Technical Director at Alcan & Rio Tinto Alcan
- Previous board member of "CBG" Guinea's largest bauxite producer



Alwyn Vorster Non-Executive

- 30-year experienced exploration to mining manager.
- Ex-CEO Hastings Technology, and BCI Potash, Iron Ore Holdings
- NED to Volt Resources (graphite), ChemX Materials Manganese Arrow Minerals Iron Ore



Park Wei Non-Executive Director

- Investment specialist in Mining, Property and Finance
- Chairman Pan Australia Management Pty Ltd
- Expert Strategist in China relationships



Michael Fry
Joint Company
Secretary

- 30 years' experience in the corporate finance
- Bachelor of Commerce
- Company Secretary for a number of ASX listed companies



Brett Tucker
Joint Company
Secretary

- Chartered Accountant
- Bachelor of Commerce from the University of Western Australia
- Over 10 years' experience in governance and equity capital markets



Alistair Stephens

- 36-year mining industry veteran, ~20 years in critical minerals
- Multi-skilled in geology, mining, project development, project engineering and operations, and project delivery, with hands on experience in Malawi and working with the local community
- 16 years' operations experienced; +20 years' experience as a CEO/MD

### PROJECT DELIVERY TEAM

**Jack Fazio** 

**Project Execution** 

**Ricco Britz** 

**Process Engineering** 

**Trevor Hiwa** 

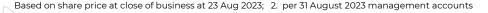
Civil Engineering

**Geoff Chapman** 

Mining / Resource Development

**Marc Steffens** 

Metallurgy



### **Key Achievements - Kangankunde**



#### **Developing a Tier One rare earths asset**

#### Kangankunde: completed in 58 weeks;

- 1<sup>st</sup> August 2022 Lindian to acquire Kangankunde for US\$30m (US\$20m completed)
- 13<sup>th</sup> October 2022 Drilling commences 17,816 metres drilled and assayed
- 3<sup>rd</sup> August 2023 Inferred Mineral Resource Estimate
- 5<sup>th</sup> October 2023 Exploration Target below the MRE
- October 2023 4,000 metre infill drill program complete
- Successful metallurgy works program
- Successful Stakeholder engagement
- Explosives Licence granted to MML0290
- Civil Engineering designs complete
- MOU for offftkae with Gerard for 45,000 metric tonne of concentrate



### **Key Achievements - Bauxite**

- These include;
  - MOU for 23 million tonne with C&D Logistics over 6 years
  - MOU with CBG to explore opportunities for joint development





### **Near Term Outlook**



### **Developing a Tier One rare earths asset**

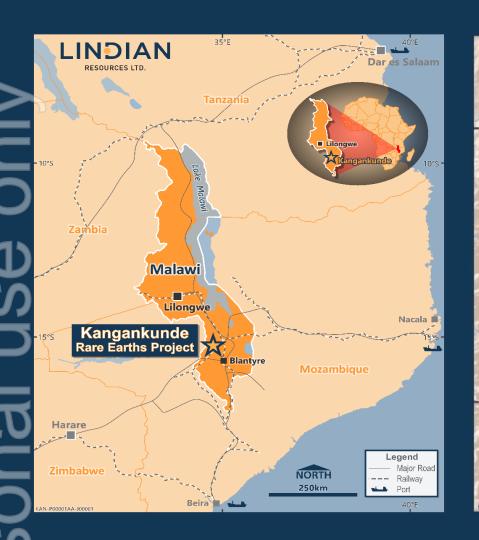
#### Kangankunde:

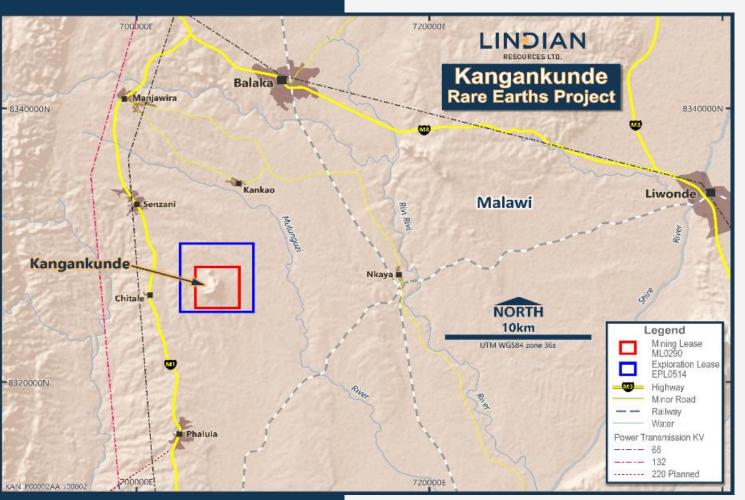
- Late 2023 Water extraction Licences should be granted
- Late 2023 capital development costs should be known
- Early Q1 2024 Indicated Resource Estimate from infill drill program
- Mid Q1 2024 Mine Design and scheduling
- Q1 2024 Feasibility Study published
- Q1 2024 Civil Engineering works commences
- Opportunities for additional offtake agreements



### **REGIONAL LOCATION**







### MINERAL RESOURCE STATEMENT

### "THE KING"

15 core or RC/core drill holes, 76 RC drill holes for 15,831 metres of drilling

	Inferred Category <sup>1</sup>	Million tonnes	Grade TREO %	TREO Tonne	NdPr tonne
	Domain 1	58	1.8	1.0 mt	0.2 mt
•	Domain 2	72	1.9	1.4 mt	0.3 mt
)	Domain 3	23	3.2	0.7 mt	0.14 mt
,	Domain 4	60	2.4	1.4 mt	0.3 mt
	Domain 5	46	2.3	1.1 mt	0.2 mt
	Total	261	2.19	5.7 mt	1.2 mt



70%

Superior

Concentrate Grade

66%

2





<sup>2</sup> 

<sup>1.</sup> Refer competent persons statement & ASX release ASX:LIN dated 3 August 2023

<sup>2.</sup> Refer ASX release dated 11 April 2023 and 07 September 2023.

<sup>3.</sup> Values may not add due to rounding

### PRODUCT QUALITY '



Kangankunde	Recovery	Concentrate (% TREO)	NdPr (% of TREO)	Radiation <sup>2</sup>	Price \$US/Kg
Metallurgy results <sup>1</sup>	70%	66%	20.2	No	To be negotiated
Implications	Water only separation Low operating cost	Enhances downstream Processing Productivity	Adds significant value in the process chain	Significantly lowers environmental risk and transport costs	Should attract a significant premium in product quality

As Oxides <sup>1</sup>	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Other	Total
Ratio	27.0	50.8	5.0	15.2	1.1	0.2	0.3	0.02	0.08	0.3	100
Sum	77	7.8	20	).2		1.6		0	.1	0.3	100

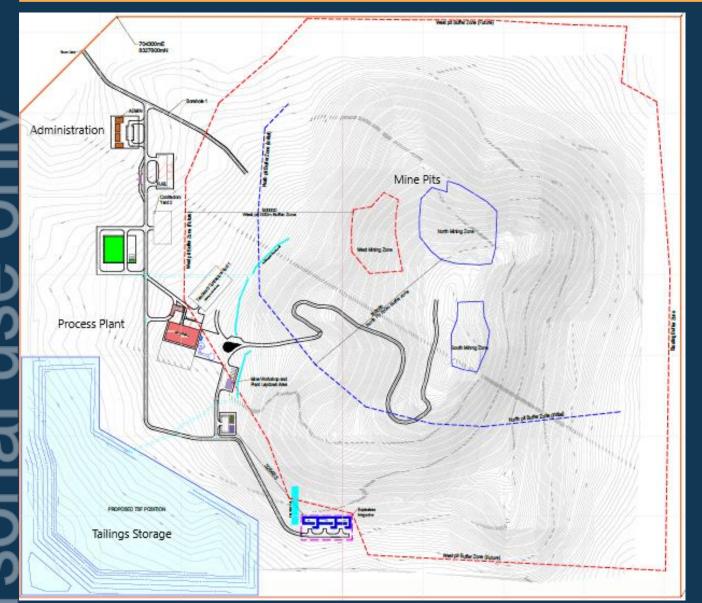
#### Marketing offtake Agreement with Gerald SARL

- = 45,000 tonne over 60 months completed
- = 40% of production
- + US\$10M prepayment facility



### **STAGE 1 PROCESSING PLANT**





## Development plans well advanced

Engineering 3D Plant Model of Stage 1 Processing Facility



### **PROJECT SUMMARY**



### **KANGANKUNDE** "THE KING"

#### **STRATEGIC**

An enabler to an independent RE supply chain dynamic



#### **RESOURCE**

Global leading REO resource



#### **DEVELOPMENT**

Design programs well advanced



#### **TENURED**

Mining Licence + Environmental Certificate



Strong stakeholder support & net zero-carbon capable



Low-impact Low-cost
Gravity separation
Non-radioactive



### KANGANKUNDE - Pathway to Carbon Neutral





#### Water Preservation

- Low-cost water based recovery process
- Water recycling



### Sustainable Power

- Hydroelectric grid power
- Sustainable integrated power systems



### Environmental Care

- Reforestation programs
- Agricultural sustainability



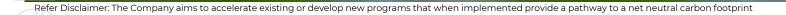
#### Community

- Assistance programs
- Training & employment



#### Sustainable Mining

Electric mining



#### **GUINEA BAUXITE PROJECT**



#### 1B TONNE of BAUXITE RESOURCES



#### **Gaoual Project**

**101.5MT** –upgradable from 49.8% to ~59% Al<sub>2</sub>O<sub>3</sub> & 2.8% SiO<sub>2</sub>



#### **Lelouma Project**

**900**MT ~45% Al<sub>2</sub>O<sub>3</sub> & 2.1% SiO<sub>2</sub>



#### **Woula Project**

**19**MT ~41.7% Al<sub>2</sub>O<sub>3</sub> & 3.2% SiO<sub>2</sub>



Simple screening and bulk handling processes



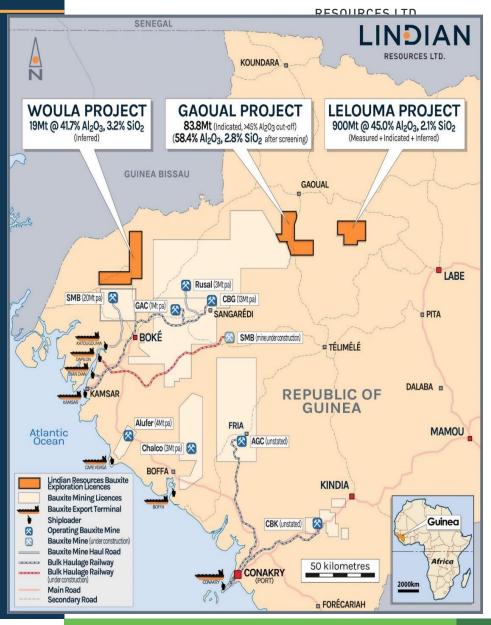
Located close to established logistical infrastructure



MOU entered into for supply of bauxite from Gaoual with CBG, Rio Tinto and Halco Mining (RIO Tinto / Allcan / Alcoa / Dadco)<sup>2</sup>

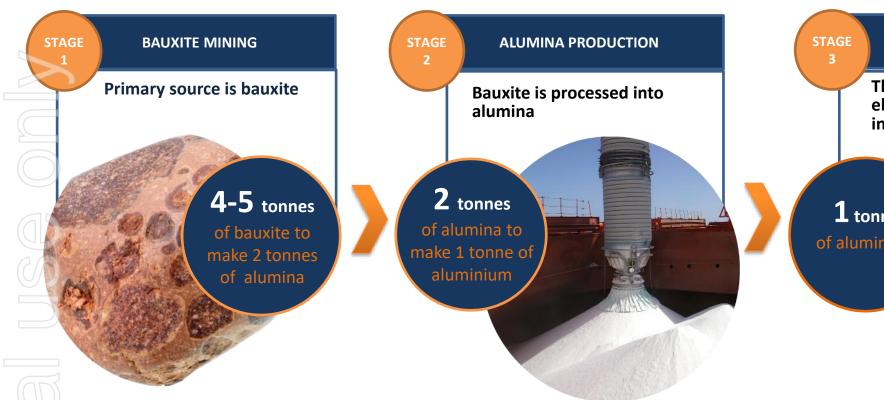


Supply Agreement entered into with C&D Logistics for 23M metric tonnes from Gaoual



### **Bauxite - 3 Stages to Aluminium Production**





**ALUMINIUM PRODUCTION** Then through the process of electrolysis, alumina is turned into aluminium  $oldsymbol{1}$  tonne of aluminium

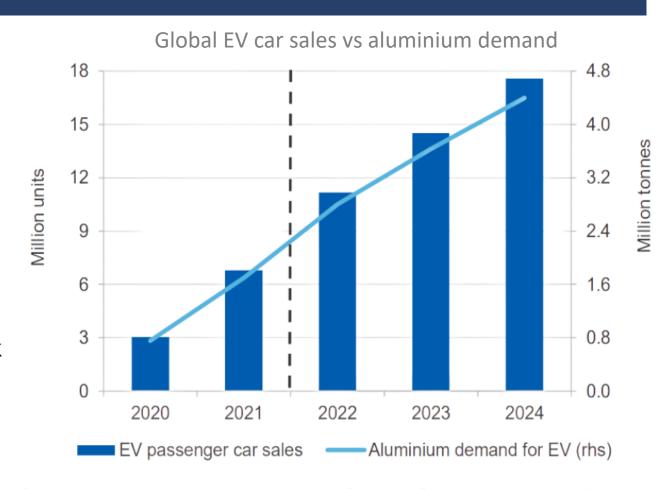
Around 390Mt of bauxite rock is mined annually, with 85% of it used to make aluminium

#### **BAUXITE MARKET FOR EV's**



#### **World Bauxite Demand for EVs**

- Wood Mackenzie: 2024 outlook
  - Aluminium demand for EVs to reach over 4.5 million tonnes (~20MT Bauxite)
  - EV's have >50% Aluminium:
  - a critical raw material (CRM) essential to EV energy efficiency.
  - Aluminium currently ~15% of the bodywork of conventional cars



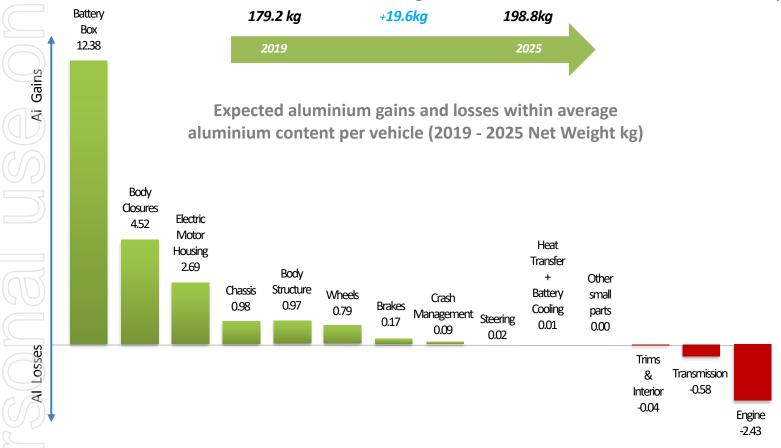
Source: Wood Mackenzie (2022); Department of Industry, Science and Resources (2022)

#### **BAUXITE MARKET**

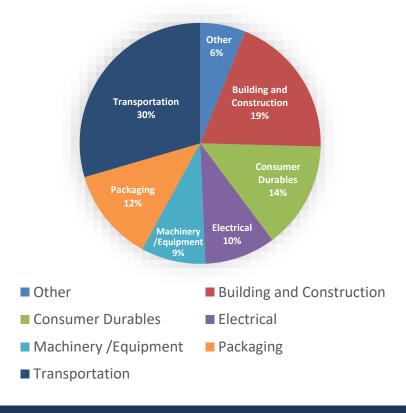


#### **World Bauxite Current and Future Demand**

Transportation, construction, packaging and the electrical sectors are the four key sectors that will drive demand, accounting for 75% of the total metal required.



#### 2050 Aluminium Demand



### WHY INVEST IN LINDIAN?

## LINDIAN

#### Rare Earths: Kangankunde: Malawi

- A Global leading Tier One rare earths asset
- Safe mining-friendly jurisdiction
- Non-radioactive concentrate for transport
- A Disruptor to global rare earths supply chain control
- An Enabler of global decarbonization strategies
- Short term path to production

#### **Bauxite: Guinea**

- High-grade high-quality, major assets
- Signed offtake and development agreements
- A path to production



### CONTACT



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**Alistair Stephens (CEO)** 

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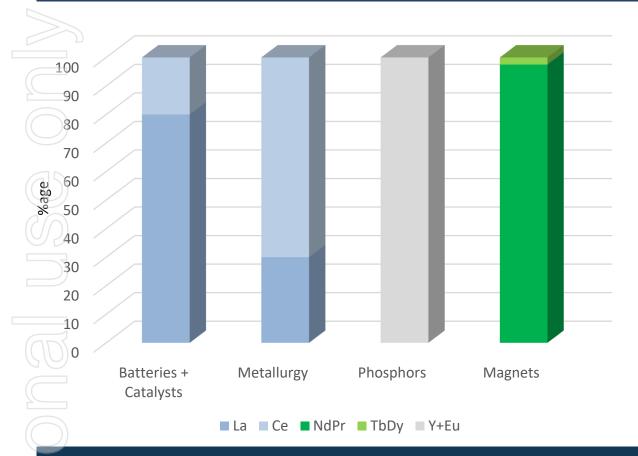
RESOURCES LTD.



### **Appendix A: NdPr MAGNET MARKET**

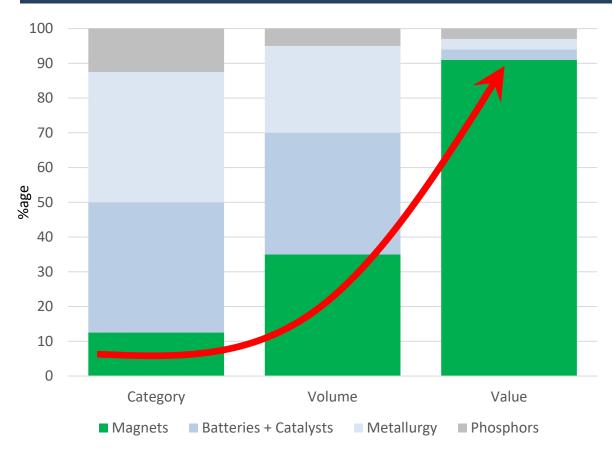


#### The supply chain for NdPr needs to be resolved to unlock the supply chain to TbDy



#### RE in Permanent Magnets are typically 97.5% NdPr ±2.5% TbDy

#### NdPr is 90% of the REO Market Value



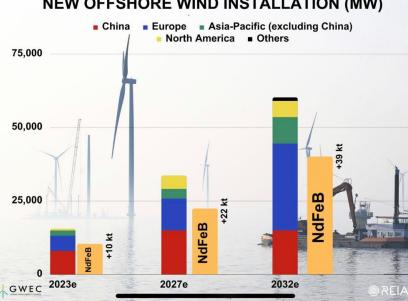
Permanent magnets represent 35% of REO volume but 91% of the value. NdPr represents 98% of the value in rare earths in magnets. Modified from Adamas Intelligence

### NdPr ESSENTIAL TO WIND TURBINES



#### Rare earth elements: From resource to consumer Rare earth elements supply chain Total neodymium demand by sector and scenario China, US, Australia China, Myanmar 100% Minerals containing rare earth elements Other sectors Mining Heavy rare earth elements Light rare earth elements (LREEs) (HREEs) 75 ■EVs and storage China, Malaysia China **LREE** HREE Processing 50 Separation/refining Separation/refining ■Low-carbon power generation Neodymium (Nd), Dysprosium (Dy), **REE products** Share of clean Praseodymium (Pr), Terbium (Tb), (Metals/alloys) energy technologies Lanthanum (La), Ytterbium (Yb), (right axis) Cerium (Ce), etc. Yttrium (Y), etc. Permanent magnets (Nd, Pr, Dy), catalysts (Ce, La, Nd), 2030 2040 2030 2040 End uses phosphors, ceramics, etc. STEPS

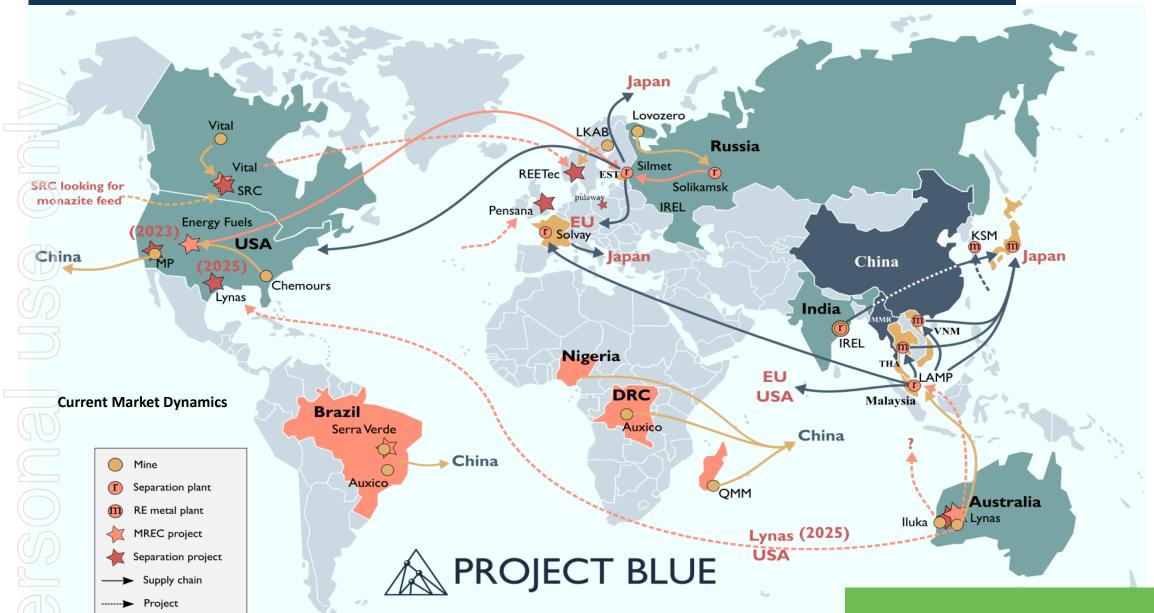




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### RARE EARTHS MARKET DYNAMICS





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# RARE EARTHS MARKET METAL & MAGNET PRODUCERS





### **Appendix B:** Mineral Resource



#### Table 1: Kangankunde Rare Earths Mineral Resource (at 0.5% TREO cut-off)

Class	Tonne	La <sub>2</sub> O <sub>3</sub>	CeO <sub>2</sub>	Pr <sub>6</sub> O <sub>11</sub>	Nd <sub>2</sub> O <sub>3</sub>	Sm <sub>2</sub> O <sub>3</sub>	Eu <sub>2</sub> O <sub>3</sub>	Gd <sub>2</sub> O <sub>3</sub>	Tb <sub>4</sub> O <sub>7</sub>	Dy <sub>2</sub> O <sub>3</sub>	Ho <sub>2</sub> O <sub>3</sub>	Er <sub>2</sub> O <sub>3</sub>	Tm <sub>2</sub> O <sub>3</sub>	Yb <sub>2</sub> O <sub>3</sub>	Lu <sub>2</sub> O <sub>3</sub>	Y <sub>2</sub> O <sub>3</sub>
	s (Mt)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
inferred	261	5,970	11,040	1,100	3,330	240	40	70	5	15	2	3	0.3	2	0.3	45

#### ■ Table 2: Kangankunde Rare Earths Mineral Resource (at 0.5% TREO cut-off)

Classification	Tonnes (Mt)	TREO (%)	HREO (%)	LREO (%)	NdPr (ppm)	NdPr % of TREO (%)	SEG (ppm)	TbDy (ppm)	U <sub>3</sub> O <sub>8</sub> (ppm)	ThO <sub>2</sub> (ppm)
Inferred	261	2.19	0.02	2.17	4,430	20.2	350	20	6	50

### Table 3: Kangankunde Rare Earths Mineral Resource by Estimation Domain (at 0.5% TREO cut-off)

Classification	Estimation Domain	Tonnes (Mt)	TREO (%)	HREO (%)	LREO (%)	NdPr (ppm)	NdPr % of TREO (%)	SEG (ppm)	TbDy (ppm)	U <sub>3</sub> O <sub>8</sub> (ppm)	ThO <sub>2</sub> (ppm)	
	1	58	1.76	0.02	1.74	3,880	22.0	340	20	8	50	
	2	72	1.91	0.02	1.89	3,950	20.7	340	25	8	50	
Inferred	3	23	3.23	0.02	3.21	5,980	18.5	415	20	3	65	
	4	60	2.40	0.01	2.39	4,690	19.5	335	15	1	35	
	5	46	2.34	0.02	2.33	4,770	20.4	340	20	10	50	No.

### Appendix C: ASX announcements



List of ASX Announcements released by Lindian relating to the Kangankunde Rare Earths Project

Date of Release	Title
1-Aug-2022	Lindian to Acquire 100% of Globally Significant Kangankunde Rare Earths Project
5-Jan-2023	Kangankunde Delivers Outstanding High Grade Rare Earth Assays
16-Jan-2023	Kangankunde Delivers More Outstanding High-Grade Rare Earth Assays
24-Jan-2023	Kangankunde Continues to Deliver Outstanding High-Grade Rare Earth Assays
6-Feb-2023	Kangankunde Continues to Deliver High-Grade Rare Earth Assays
9-Mar-2023	Kangankunde Continues to Deliver High-Grade Rare Earths and Extensive Intersections
11-Apr-2023	Phase One Metallurgical Test Work Achieves Rare Earths Concentrates of ~60% REO
17-Apr-2023	More High-Grade Rare Earth Assays with Best Continuous Intersections Yet
29-May-2023	Kangankunde Delivers Highest Grade Rare Earth Assays to Date
17-Jul-2023	More Outstanding High-Grade Rare Earth Assays
3-Aug-2023	Maiden Mineral Resource Estimate at 261MT at 2.19% TREO average
5-Oct-2023	Exploration Target Defined at Kangankunde Project

