ionic RARE EARTHS LTD

Sustainably Sourcing Magnet and Heavy Rare Earths for Western Demand

121 Mining Investment – Cape Town

Cautionary Statement

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Competent Person Statement

Information in this report that relates to previously reported Exploration Targets and Exploration Results has been crossed-referenced in this report to the date that it was originally reported to ASX. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcements.

The information in this report that relates to Mineral Resources for the Makuutu Rare Earths deposit was first released to the ASX on 3 May 2022 and is available to view on www.asx.com.au. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcement, and that all material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

The information in this report that relates to Scoping Study results and production targets was first released to the ASX on 29 April 2021 and is available to view on www.asx.com.au. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcement, and that all material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

IonicRE's Vision

Integrated, Full Life-Cycle Rare Earth Company

Mining Rare Earths

- Mining magnet and heavy rare earths from the Makuutu Rare Earths Project, producing REOs for net zero carbon targets
- Mining Licence Application to be finalised early Feb 2023, expected ML award end of Q1 2023
- Long-life Ionic Adsorption Clay (IAC) deposit, low capex development
- Scalable asset, exploration upside

Refining Rare Earths

- Developing standalone refinery to separate magnet and heavy rare earths for downstream value addition to metals, magnets and RE compounds
- Evaluating US locations and downstream collaborations
- Scoping Study underway, expected late Q1 2023

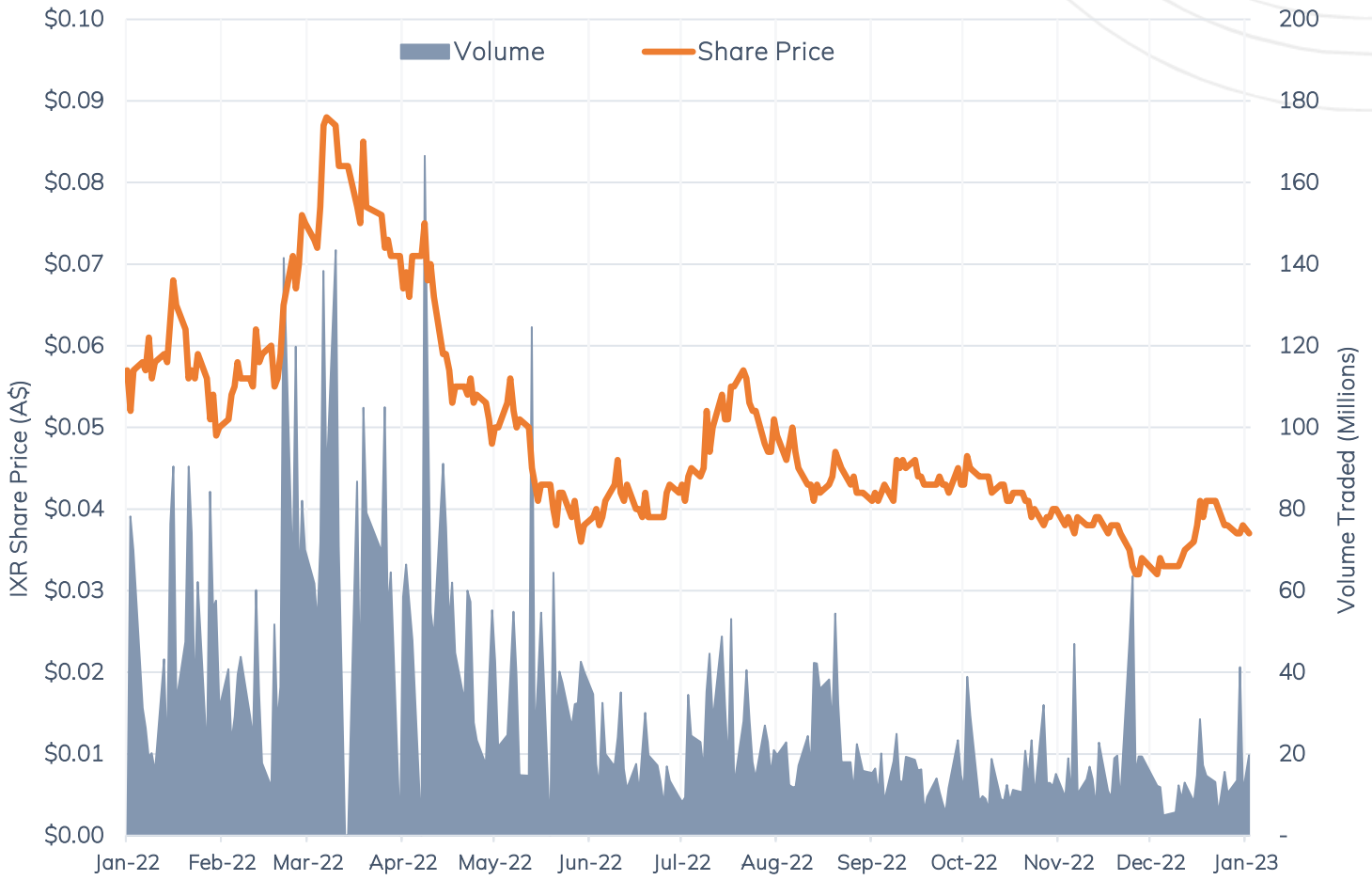
Recycling Rare Earths

- Recycling secondary sourced spent NdFeB magnets and swarf to produce separated, refined magnet REOs
- Demonstration plant expected to be in operation H1 2023 in Belfast, UK
- Commercial scale up opportunities under evaluation
- Completing the circular economy of rare earths

IonicRE Corporate Snapshot

STRATEGIC VALUE DRIVEN BY THE UNIQUE MAGNET AND HEAVY REO BASKET, INTEGRATED SUPPLY CHAIN

CAPITAL STRUCTURE (as @ 27/01/2023)	
Shares Outstanding	3,942,604,920
Total Options Outstanding	119,000,000 (exercisable at 2.15 to 6.4 cents)
Total Outstanding Performance Rights	10,200,000
Share Price	A$0.037
Market Capitalisation	A$146 million
12-month Share Price Range	A$0.031 – A$0.098
12-month Average Daily Volume / Turnover	33m shares (~A$1.9m)
Cash Balance (31/12/2022)	A$19.6 million
IXR MAJOR SHAREHOLDERS	
Major Shareholders (Top 20) Board, Executives, & Key Advisors	26.0% 8.6%
BOARD AND MANAGEMENT	
Trevor Benson	Chairman
Tim Harrison	Managing Director
Jill Kelley	Executive Director
Max McGarvie	Non Executive Director
Brett Dickson	Company Secretary & CFO



Geo-Political Tensions – Driving Demand for Alternative, Resilient Supply

GLOBAL DESIRE TO DEVELOP ALTERNATIVE RARE EARTHS SUPPLY CHAINS TO PROTECT MANUAFCTURING AND DEFENCE


The scramble for rare earths carries big geopolitical risks

But without these metals there are limited solutions to our planetary problems

MISHA GLENNY + Add to myFT

A worker blasts the ground with water at a rare earth metals mine in Nancheng county, Jiangxi province. China dominates the production and supply of rare earth metals © Reuters


DEFENSE

Pentagon suspends F-35 deliveries after discovering materials from China

The issue does not affect flight operations of F-35s already in service.

"It's a question of supply-chain security"

"DOE, DOD, and the Department of State signed a memorandum of agreement (MOA) to better coordinate stockpiling activities to support the U.S. transition to clean energy and national security needs."

White House Briefing, 22 February 2022

"Lithium and rare earths will soon be more important than oil and gas. Our demand for rare earths alone will increase fivefold by 2030. […] We must avoid becoming dependent again, as we did with oil and gas. […] We will identify strategic projects all along the supply chain, from extraction to refining, from processing to recycling. And we will build up strategic reserves where supply is at risk. This is why today I am announcing a European Critical Raw Materials Act."

"We have to build a more resilient supply chain, supporting projects and attracting more private investment from mining to refining, processing and recycling."

European Commission President von der Leyen recalled some hard facts: without secure and sustainable access to the necessary raw materials, our ambition to become the first climate neutral continent is at risk.

14 September 2022

European Commission

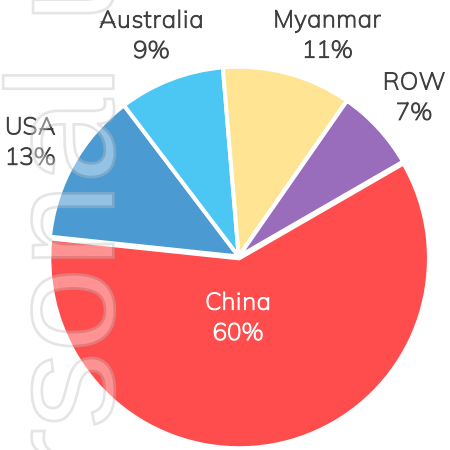
Financial Times, The scramble for rare earths carries big geopolitical risks, 27 September 2022;
Politico, Pentagon suspends F-35 deliveries after discovering materials from China, 7 September 2022.

Rare Earth Supply Chain – Alternate Capacity Requires Investment

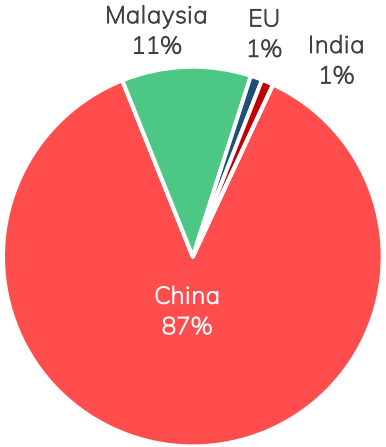
SUSTAINABLY SOURCING THE MOLECULES WILL REQUIRE DEVELOPING ALTERNATIVE CAPACITY GLOBALLY

- Rare earths are amongst the most resource-critical raw materials: they are of highest economic importance and at the same time feature a high supply risk – **supply chain dominated by China**
- **China has a dominant position in every value addition step in conversion of mined REEs to value added products**
- Developing a sustainable supply chain external from China **needs scale and capacity in every step → Sustained, targeted investment needed to facilitate this**

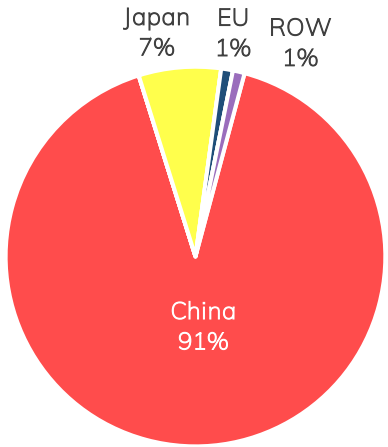
REE Mining[1]



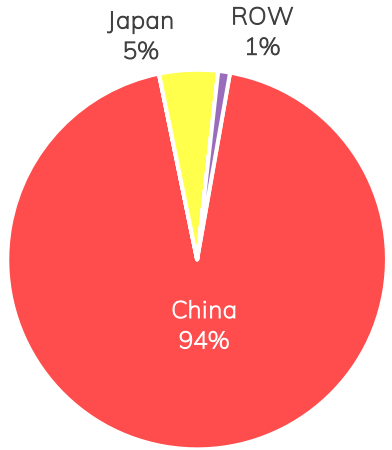
REE Processing[1]



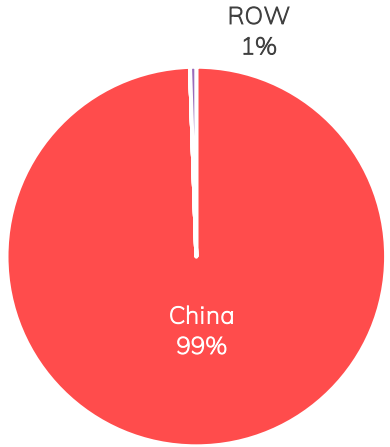
REE Metals[1]



REE Magnets[1]



REE Recycling[2]

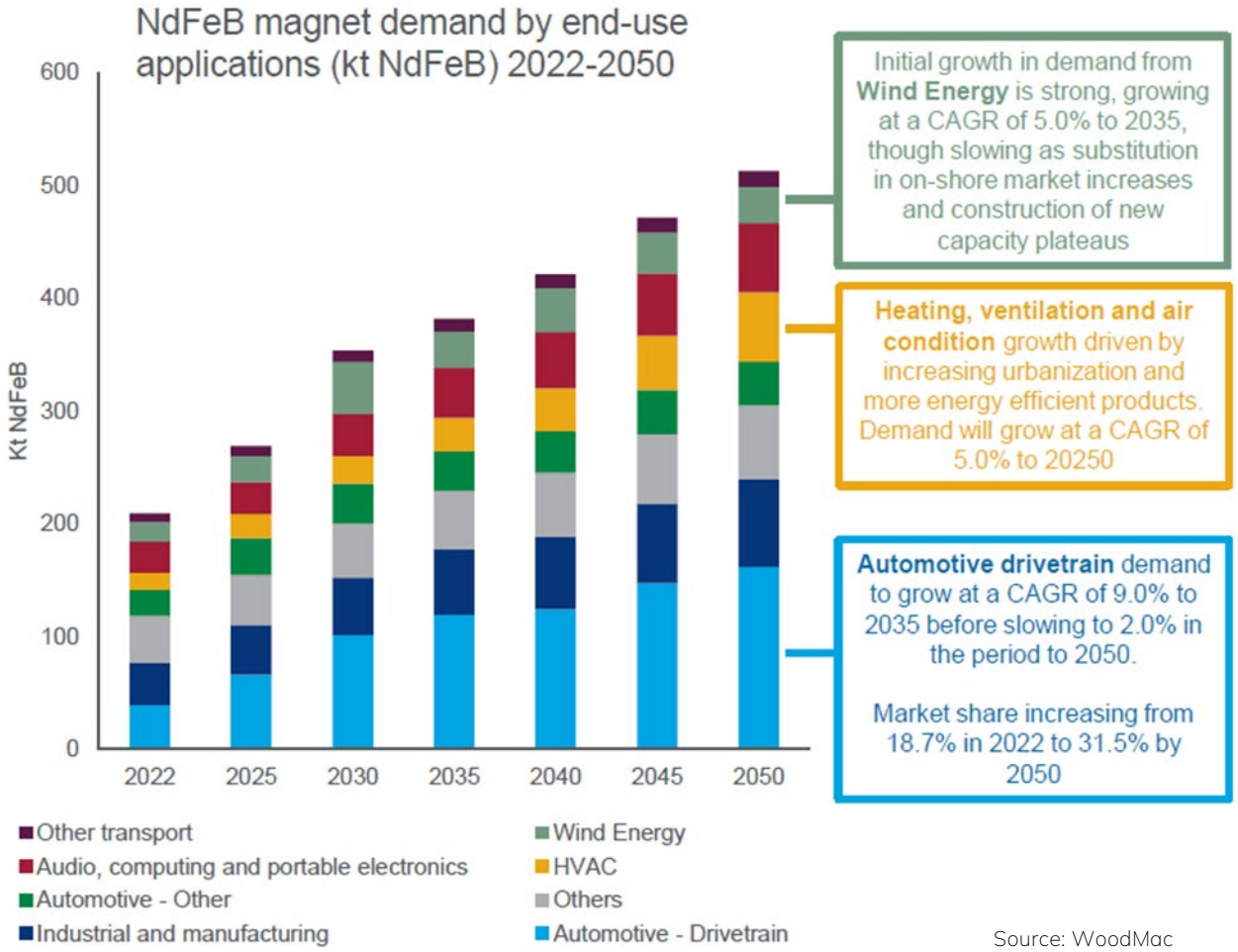


[1] Rare Earth Magnets and Motors: A European Call for Action A report by the Rare Earth Magnets and Motors Cluster of the European Raw Materials Alliances, Oct 2021. Argus Analytics Oct 2021. [2] Wood Mackenzie Global rare earths short-term outlook August 2022.

NdFeB Permanent Magnet Supply Demand to 2050

DEMAND FOR NEW NdFeB PERMANENT MAGNETS WILL EXCEED SUPPLY

- Significant increase in demand for NdFeB permanent magnets from now to 2050, **with 150% increase in total magnet capacity required forecast by 2050**
- EV demand the main driver as global forecast EV sales increase to estimated **80m units per annum by 2050[1]**
- HVAC (Heating, Ventilation and Air Conditioning) will be a growing demand as **populations adjust to climate changes globally**
- **No new western mines in construction now**
    - So where will supply come from given timeline to develop a new mine, commission and reach name plate production?
    - Near term, from 2023 onward, expected that demand for NdPr increasingly exceeds growth projections[2]
    - Global consumption of Dy presently exceeds production by 200 tonnes, rising to over 500 tonnes in 2023, resulting in the depletion of historically accumulated inventories and dysprosium oxide shortages from 2024 onwards[2]
    - Global consumption of Tb exceeded global production by nearly 300 tonnes in 2022 resulting in the drawdown of historically accumulated inventories and shortages from this year forward[2]



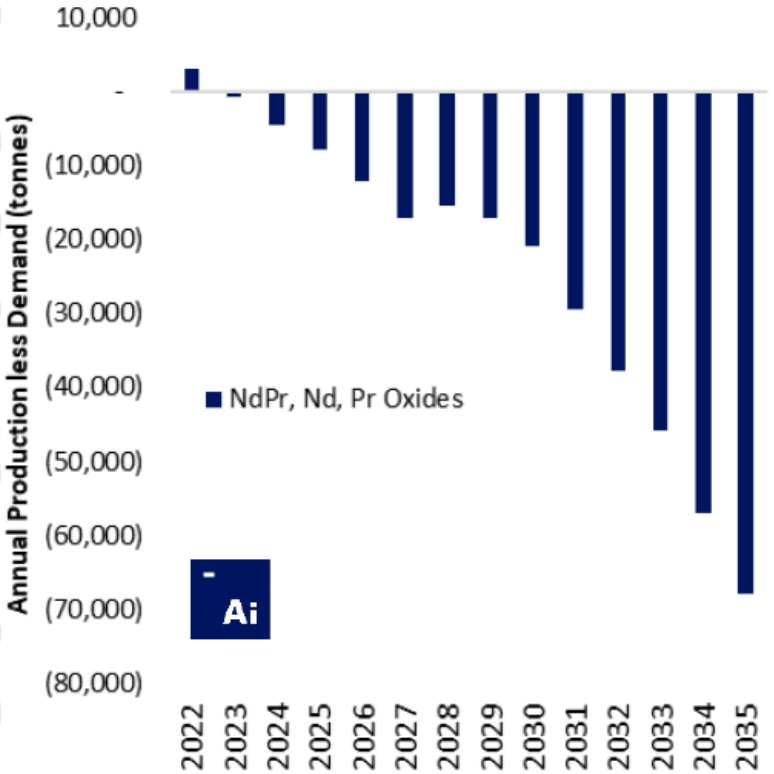
Source: WoodMac

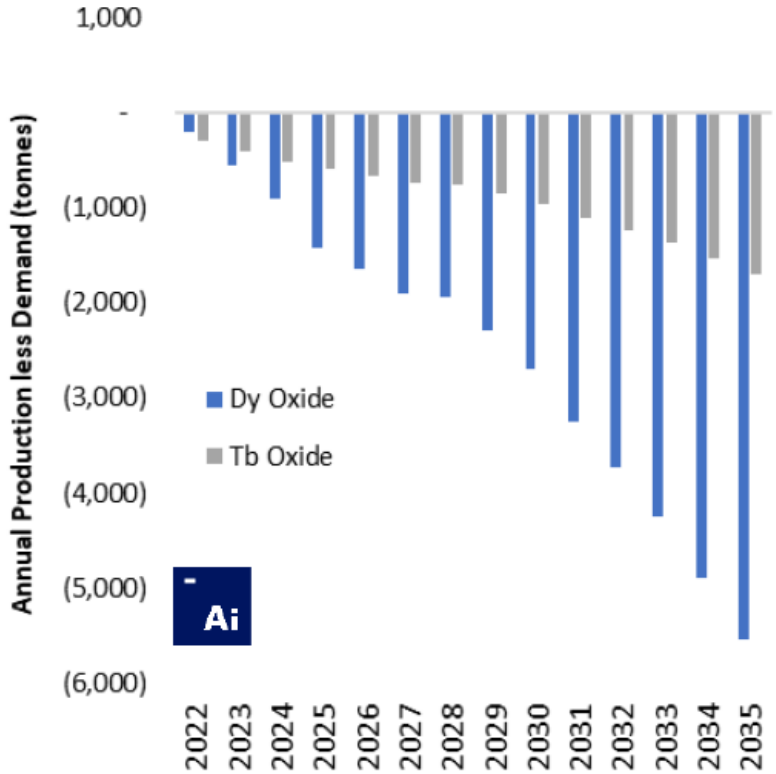
[1] Wood MacKenzie, Global rare earth strategic planning outlook to 2050, June 2022; [2] Adamas Intelligence, August 2022.

Where do the Molecules come from?

WITH DEMAND INCREASING, WHERE ARE THE MOLECULES OF Nd, Pr, Dy & Tb GOING TO COME FROM?

- Forecast deficit in magnet REOs from 2023 accelerating over the next decade → **DyTb deficit escalating now**
- There will be insufficient heavy rare earth oxide supply outside of China and Myanmar to meet the needs of emerging magnet makers





"With current global heavy rare earth oxide production increasing just marginally each year and the outlook for Myanmar (miner of 40% of the world's dysprosium and terbium) uncertain, heavy rare earth elements remain a massively under-addressed blind spot in the automotive supply chain."

"By 2035, Adamas projects the global rare earth market will be short more than one China's worth of NdPr oxide supply, and over five China's worth of Dy and Tb oxide supply, annually (referring to China's 2022 production levels) should supply not increase substantially more than what is currently anticipated."

Adamas Intelligence

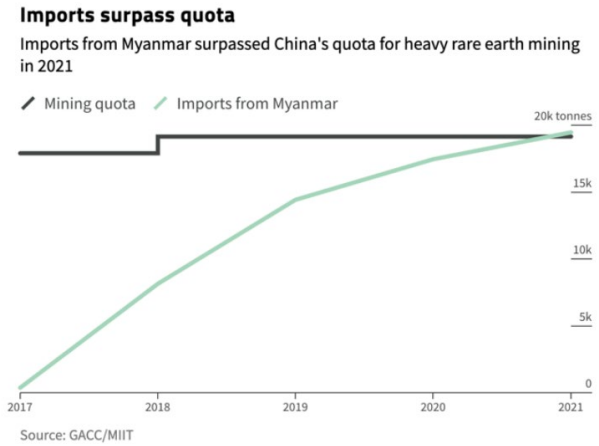
Existing Chinese Supply – Sourcing DyTb from Myanmar

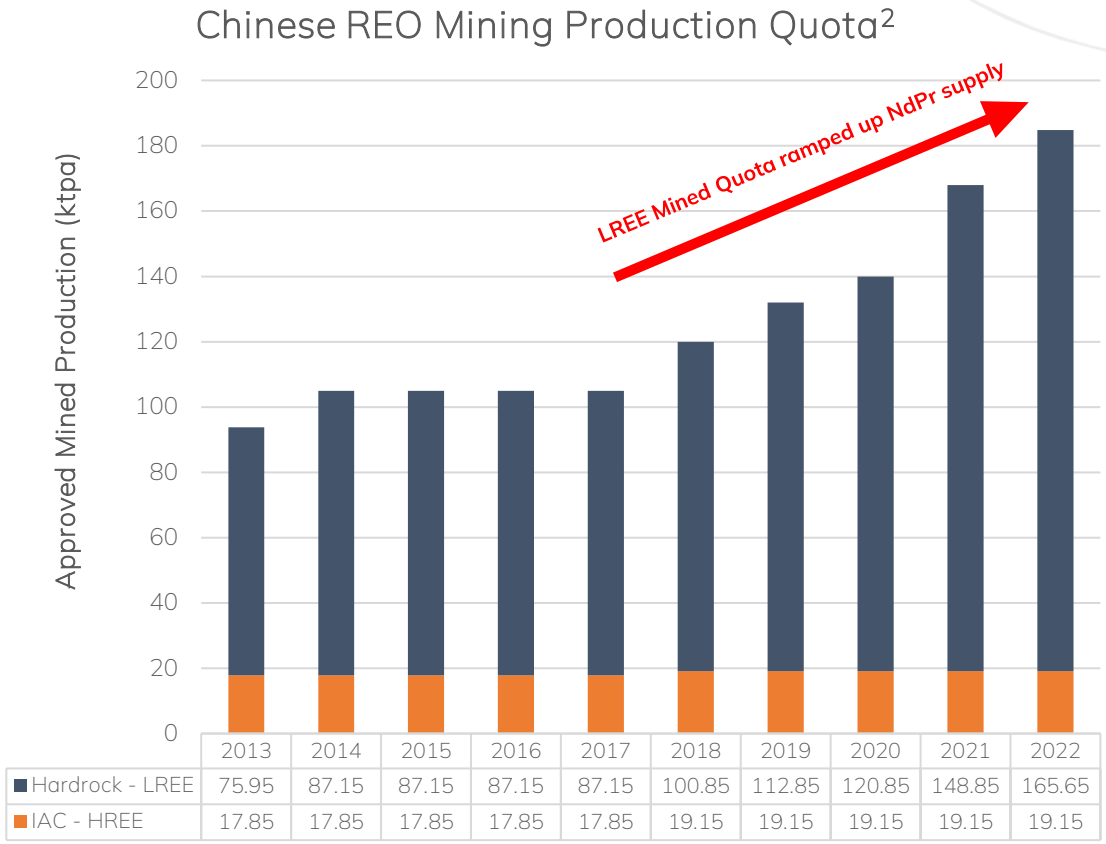
CHINA INCREASING HARDROCK LREE MINED SUPPLY, IAC HREE SUPPLY QUOTA REMAINS STEADY

- China has maintained IAC HREE mining quotas at same level since 2018 (19 ktpa) whilst ramping up readily available hardrock LREE production (101 ktpa → 166 ktpa)[2]
- EV traction motors and generators tend to use high-temperature-performance grades of NdFeB magnets that contain elevated concentrations of HREE Dy and Tb
- Moreover, with China's known HREE resources dwindling and feedstock supplies from Myanmar into China drying up in the first half of 2022, China could soon face a domestic HREE supply crunch that could severely curtail its Dy and Tb exports[1]

"Imports from Myanmar now exceed China's domestic mining quotas, so even if the mines in China were producing at full capacity, Myanmar would remain the country's single largest source of new heavy rare earth supply – and with no other companies in China legally allowed to process this material, there is nowhere else for imports to go."
"With domestic stockpiles dwindling, Chinese enterprises are increasingly dependent on supply from Myanmar."

Global Witness[3]





	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Hardrock - LREE	75.95	87.15	87.15	87.15	87.15	100.85	112.85	120.85	148.85	165.65
IAC - HREE	17.85	17.85	17.85	17.85	17.85	19.15	19.15	19.15	19.15	19.15

[1] Adamas Intelligence, August 2022. [2] Ministry of Industry and Information Technology, China, 2022. [3] Global Witness, Heavy Rare Earths Supply Chain Risk; Illicit minerals from Myanmar are the world's largest source of supply. August 2022.

IonicRE Aspires to Provide Alternative, Secure Supply

DEVELOPING A SECURE, TRACEABLE, MAGNET AND HEAVY RARE EARTH SUPPLY CHAIN TO FACILITATE NET ZERO CARBON AMBITIONS

The Mine – Makuutu

Makuutu is one of **very few global ionic adsorption clay (IAC) deposits** with scale to move the needle on heavy rare earth oxide (REO) supply

MRE of **532Mt @ 640 ppm** with significant Exploration Upside

Simple mining and low capex processing to produce Mixed Rare Earth Carbonate (MREC)

No radionuclides

The Refinery – Unlock flow of REO to downstream partners

Opportunity to **maximise revenue** from the Makuutu MREC product

Collaborate with end users on **development of secure and traceable REO supply chain**

REOs → Metal → Magnets

Focusing on **potential in US market with US Refinery**

Engagement with **EU & UK supply chain**

The Basket – High Margin

One of the **highest value REO baskets of all projects** in development today

33% magnet REOs used in EVs and wind turbines **(Nd, Pr, Dy, Tb)** plus another 10% used in other magnetic applications (**Sm, Gd, Ho**)

44% Heavy REOs **(Sm to Y)**

93% of forecast value derived from magnet REOs plus Y

Major future source of **Scandium** production

Sustainable REO Production, Circular Economy via Recycling

ESG drive globally to **source sustainable critical raw materials**

Development of **Ionic Technologies to accelerate supply from secondary sources via magnet recycling**

Recycling magnet REOs presently makes up **40% of global magnet REO supply chain**, dominated by China (>99%)[1]

[1] Wood Mackenzie, Global rare earths short-term outlook July 2022.

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Makuutu Rare Earths Project

Low Capital, Modular, Ionic Adsorption Clay Project

Makuutu received Flagship Project status in October 2022 due to its significance to the Uganda's development

Harnessing the wide appeal of the Makuutu Basket

MAKUUTU PROVIDES A UNIQUELY BALANCED BASKET RICH IN MAGNET AND HEAVY RARE EARTHS

MLA on RL 1693 – Stage 1

Greater Makuutu **MRE currently 532 mt @ 640 ppm TREO, with over 400mt Indicated Resource**

Indicated Resource on RL 1693 presently ~ 259mt @ 740 ppm TREO

Strategic importance of Makuutu (51% IonicRE ownership moves to 60% on completion of FS and MLA ~ Q1 2023)

IonicRE has **pre-emptive right on remaining 40% of Project**

Makuutu is unique and receiving global interest due to **high quality balanced** (magnet + HREO) basket

Proven IAC, classified as **medium Yttrium, high Europium deposit**

Discussions continue with other groups looking to secure long-term magnet and heavy REO supply

Potential feed to **standalone Rare Earth Refinery**

One of less than a handful of global projects that can produce the molecules needed

Existing Infrastructure at Makuutu

- Highway and road access to site plus rail
- Nearby 132 kV power infrastructure with readily available low-cost hydropower
- Cell phone communications available across site
- Water available

Significant Exploration upside at Makuutu still to be realised

Already one of **worlds largest Ionic Adsorption Clay (IAC) deposits**

RL00007 (Makuutu Western Zone) renewed early Jan 2023

Highly prospective licence EL00147 recently tested via RAB drilling with **assays confirming clay hosted REE mineralisation present**

Exploration Target → **potential to double resource longer term**

New EL00257 to be tested in 2023

Tier-One Infrastructure already there – supports low CAPEX Development

EXCELLENT LOCAL INFRASTRUCTURE SUPPORTS LOW CAPEX DEVELOPMENT

LOGISTICS

Approximately **10 km from Highway** 109, connecting Makuutu to both capital city Kampala and Port of Mombasa, Kenya

Approximately **20 km from rail line** connecting to Port of Mombasa

POWER

Large hydroelectric generation capacity (+810MW) within 65 km of Makuutu Project area will deliver **very low-cost power** (US$0.05/kWh), plus further capacity being developed

Existing electrical grid infrastructure immediately adjacent to site to provide stable power

WATER

Plentiful fresh water within and near project area (water harvesting)

WORKFORCE

No camp required – low-cost professional local workforce available

Makuutu Mineral Resource Estimate → Mining Lease Application

MAKUUTU MRE CURRENTLY >500 MILLION TONNES, FOCUS FOR MLA ON MAKUUTU CENTRAL ZONE (RL 1693)

JORC MRE[1] of 532 million tonnes @ 640 ppm Total Rare Earths Oxide (TREO), at a cut-off grade of 200 ppm TREO-CeO_2

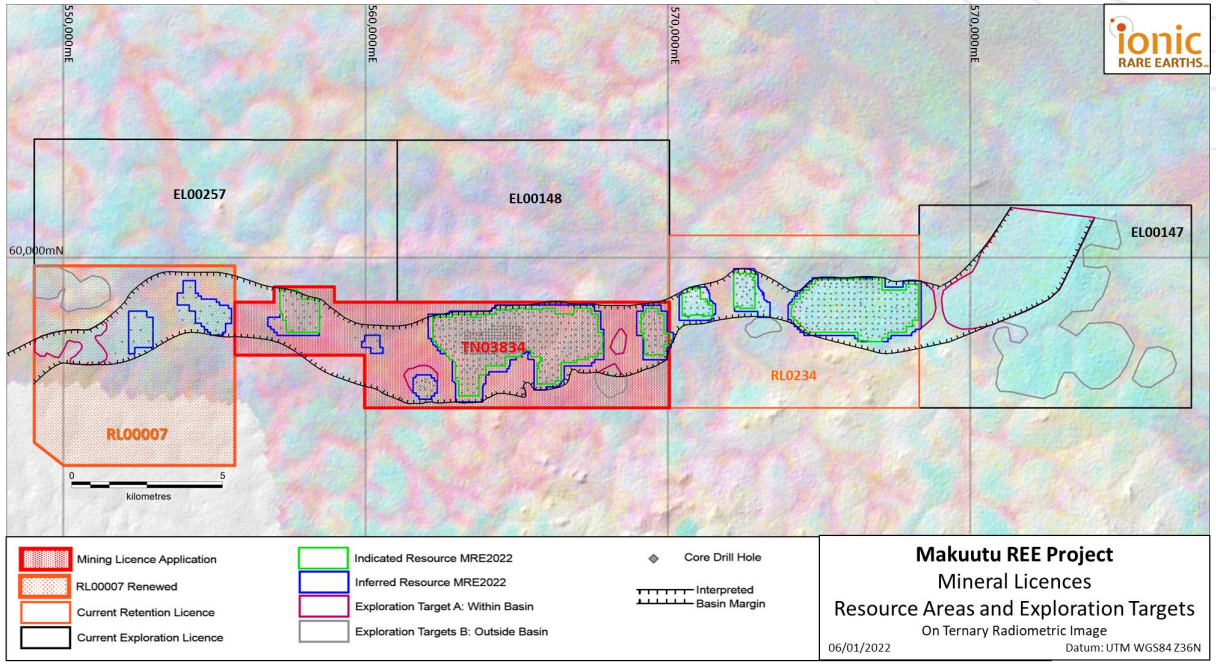
76% of Makuutu MRE now converted to Indicated Resource, at 404 million tonnes at 670 ppm TREO

Increased resource confidence at Makuutu to support **MLA focused on RL 1693 – contains 259 million tonnes an Indicated Resource of 259 million tonnes at 740 ppm TREO-CeO_2[1]**

Makuutu Central Zone (MCZ), provides a continuous resource area over **5.5km long and 3km wide for a combined 234 million tonnes** or 44% of the total resource and 52% of the total Indicated Resource

Other RLs and ELs will advance towards MLA as their Licences move to the next renewal period (RL 00007 expected to progress to MLA in Nov 2024)

Shallow, near surface IAC mineralisation, with clay layer averaging 5 to 12m thick under cover approximately 3m deep. Average hole depth ~18m, **maximum clay thickness ~29m**



Category	Estimation Domain	Tonnes (Mt)	TREO (ppm)	TREO no CeO_2 (ppm)	LREO (ppm)	HREO (ppm)	CREO (ppm)	Sc_2O_3 (ppm)
Indicated	Clay	404	670	450	500	170	230	30
Inferred	Clay	127	540	360	400	140	180	30
Total Resource	**Clay**	**532**	**640**	**430**	**480**	**160**	**220**	**30**

[1] Makuutu Mineral Resource Estimate reported to ASX on 3 May 2022.

ESG initiatives advancing at Makuutu

ESG FRAMEWORK TO BUILD LASTING LEGACY, DEFINING PATH TO NET ZERO CARBON RARE EARTH FOOTPRINT

Environmental and Social Impact Assessment (ESIA) approved in October 2022

Focus on carbon footprint reduction using low-cost renewable (hydro) power

Rehabilitation plans to ensure net positive climate legacy

Water treatment for reagent recovery and rehabilitation strategy

Rehabilitation to consider development of longer-term industrial programs for employment

Aligned with Uganda's 3rd National Development Plan (NDPIII)

- Agricultural Programs to increase productivity
- Aquaculture and fish farming
- Agroforestry

Community Support Programs identified

Working together to build a future where everyone has a pathway to health, employment opportunities and improved living standards

Establishment of an Advisory Committee to coordinate community development investment priorities

Key focus being community health and education

Recently joined the UN Global Compact

Community socio-economic baseline surveys across initial project area underway

Built a Ugandan team to drive Project activity in country

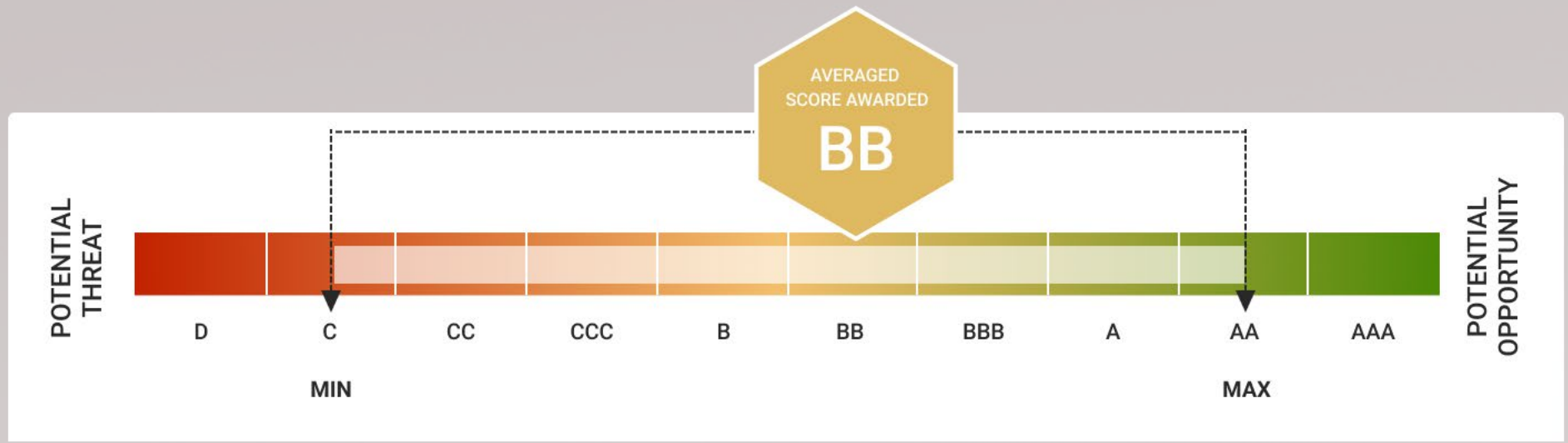
Community and Stakeholder engagement ramping up

Local support for sub-district health clinics during Covid-19

Resettlement Action Plan (RAP) underway across RL 1693

INDEPENDENTLY ASSESSED ESG SCORE 2022

Overall Score



Makuutu Next Steps & Work Plan for 2023

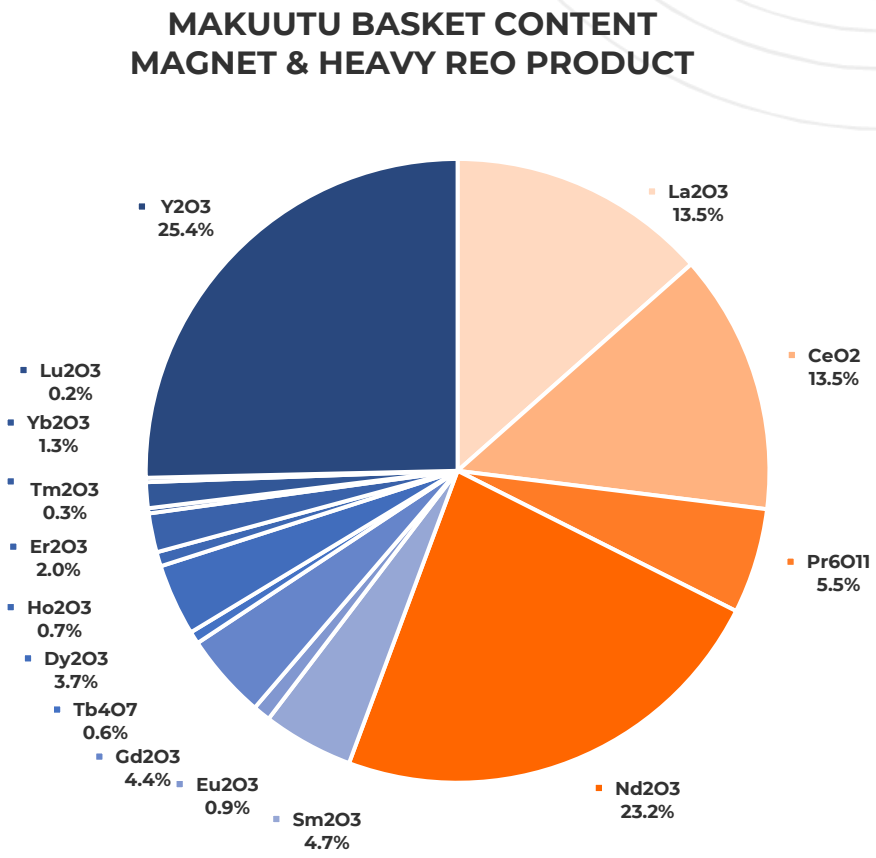
1. **Finalising the Mining Lease Application for RL 1693, including Ore Reserve Estimate**
    - Stage 1 Project considers 5Mtpa, 2 module plant
    - Enables scalable Project development into growing downstream market
    - Optimisation activities continue to unlock further value
2. **Ongoing Community and Stakeholder engagement activity**
3. **Expanding work program on Resettlement Action Plan (RAP)**
4. **Capacity building in Uganda – recruitment and training in Uganda**
5. **Demonstration Plant Program in Uganda to de-risk Makuutu ahead of expected Final Investment Decision in H2 2023**
    - Trial pit mining, grade control and reconciliation of insitu grade to recovered product
    - Material handling and equipment selection verification
    - Further scale up of metallurgical test work to scale up heap desorption conditions from 3m stack height → 6m + (columns, cribs, heap desorption modules,
    - Residue characterisation
    - Production of MREC product for downstream product verification and refinery test work / piloting feed stream
6. **Drilling programs for RL 00007 to increase resource confidence to Indicated classification to support next MLA area (Nov 2024)**
7. **Exploration programs for EL00147 and EL00257 pending approvals of exploration EIS applications**

IonicRE Basket is a highly strategic basket with escalating forecast value

DOWNSTREAM PROCESSING TO REO AND VALUE ADDED PRODUCTS UNLOCKS SIGNIFICANT UPSIDE

- IonicRE progressing & evaluating downstream REE separation and refining circuit – **Scoping Study expected late Q1 2023**
- Refinery Locations have been evaluated with a **focus now on the US supply chain**
- Exploring opportunities to value add beyond REOs through **supply chain collaboration / partnerships**
  - MREC product typically has payability ~ 60-74% (presently ~ US$43.50-$53.60/kg[1]) depending upon destination
  - Refined REO payability increased to 100% (presently ~US$72/kg[1])
- **2030** forecast pricing of Makuutu REO basket between **US$90/kg (downside case) to US$142/kg (upside case)[5] – ex. Sc**
- **2035** forecast pricing of Makuutu REO basket between **US$123/kg (downside case) to US$155/kg (upside case)[5] – ex. Sc**
- Scandium upside represents potential **increase of 20-25% additional** revenue potential from Makuutu LOM

Rare Earth Oxide		Makuutu Scoping Study Basket Composition	REO Pricing (China) Argus Metals 12-Jan-2023 US$/kg
La_2O_3	%	13.5%	$ 1.20
CeO_2	%	13.5%	$ 1.25
Pr_6O_{11}	%	5.5%	$ 107.00
Nd_2O_3	%	23.2%	$ 118.00
Sm_2O_3	%	4.7%	$ 2.33
Eu_2O_3	%	0.9%	$ 28.00
Gd_2O_3	%	4.4%	$ 72.00
Tb_4O_7	%	0.6%	$ 2,055.00
Dy_2O_3	%	3.7%	$ 365.00
Ho_2O_3	%	0.7%	$ 141.00
Er_2O_3	%	2.0%	$ 51.00
Tm_2O_3	%	0.3%	$ 850.00
Yb_2O_3	%	1.3%	$ 13.90
Lu_2O_3	%	0.2%	$ 865.00
Y_2O_3	%	25.4%	$ 7.90
Sum Total		100%	
Magnet REO	%	43%	
Light REO[2]	%	56%	
Heavy REO[3]	%	44%	
Critical REO[4]	%	54%	
Basket Value	US$/kg		$ 72.46



Note. Rounding Applied to nearest 0.1%.

[1] Based upon current Chinese spot REO pricing. [2] Light REO = La, Ce, Pr, Nd. [3] Heavy REO = Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y. [4] Critical REO = Nd, Eu, Tb, Dy, Y. [5] Adamas Intelligence Rare Earth Magnet outlook to 2035, September 2022.

China Dominates Global REE Separation & Refining Capacity

ALL HEAVY RARE EARTH ROADS LEAD TO CHINA .... UNTIL NOW

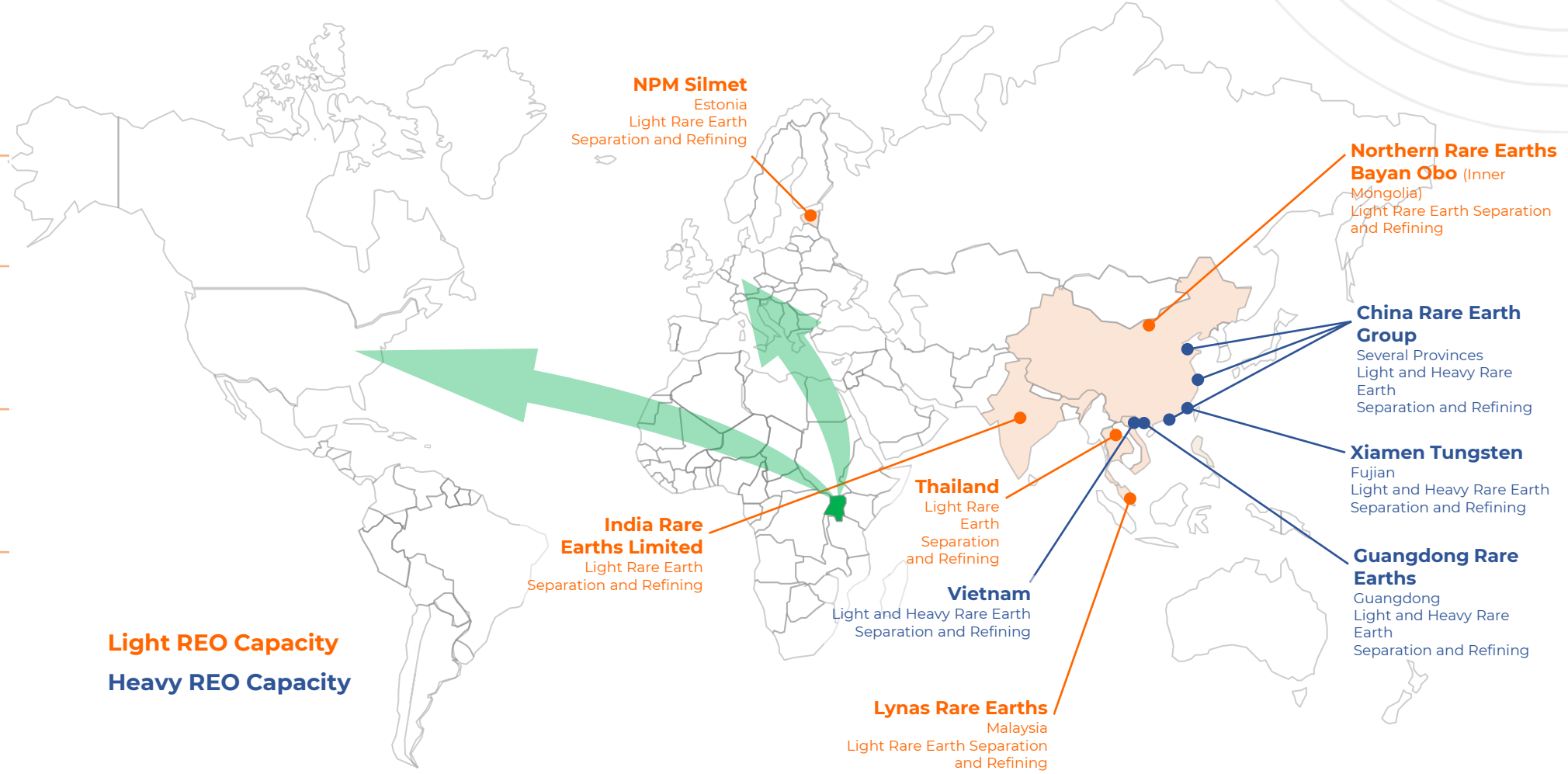
Global heavy REO separation and refining capacity operated and controlled by China[1]

Small capacity identified in Vietnam

HREO separation and refining plants under consideration but none in construction yet

IonicRE evaluated a number of global locations to base heavy rare earth refinery

IonicRE to advance Rare Earth Refinery to Magnets Initiative (including Recycling) to sell product to partners in EU and US



[1] Argus Analytics.

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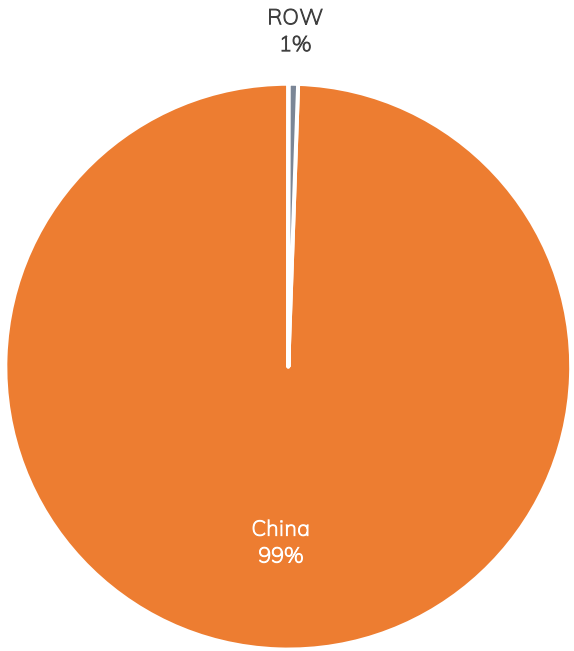
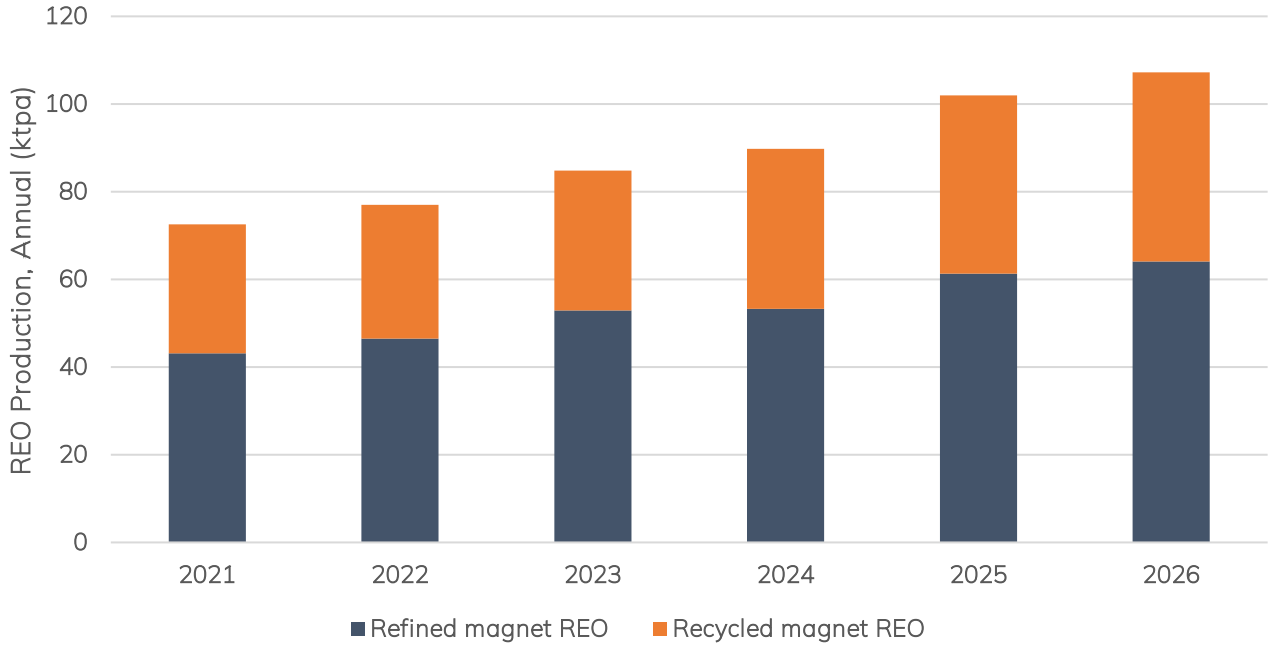
Magnet Recycling and the Circular Economy of Rare Earths

Ionic Technologies – NdFeB Magnet Recycling

RECYCLING OF MAGNET REO DOMINATED BY CHINA, MAKES UP 40% OF EXISTING GLOBAL SUPPLY



Secondary sourcing (recycling) of rare earth oxides market share dominated by China



Current breakdown and forecast to 2026 of global magnet REO production by refined vs recycled sources globally

Wood Mackenzie, Global rare earths short-term outlook July 2022.

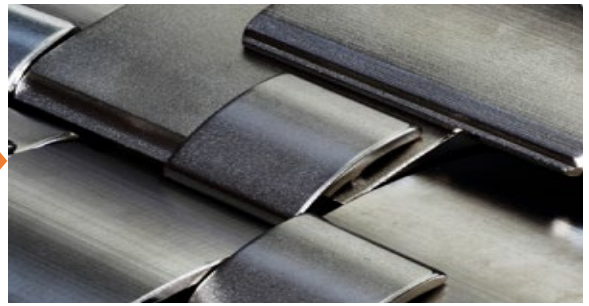
Ionic Technologies – NdFeB Magnet Recycling

DEVELOPING CAPACITY ON RARE EARTH SEPARATION, REFINING AND RECYCLING

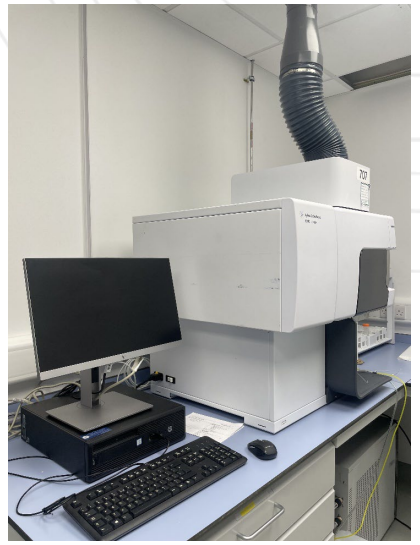
- IonicRE advancing **Ionic Technologies**, a leading edge, patented magnet recycling technology company based in Belfast UK, technology developed within Queens University Belfast (QUB)
- Unique recycling technology that can **hydrometallurgically extract, separate and refine** magnet REOs from spent magnets and swarf to **high purity 99.9%+ oxides – Nd_2O_3, Pr_6O_{11}, Dy_2O_3 and Tb_4O_7**
- Sept 2022 awarded **grant of £1.72 million (~ A$2.9 million) from the UK Government's Innovate UK Automotive Transformation Fund Scale up Readiness Validation (SuRV) program** to help secure the UK supply of critical rare earth metals for EV manufacturing
- **New Belfast Technical Centre now operation**, and Magnet Recycling Demonstration Plant operational in **June 2023**, to convert 30 tonnes/annum NdFeB magnets → 10 tonnes/annum magnet REO
- Provide springboard to accelerated rare earth production capacity, with potential to **commence magnet REO production at small scale in 2023** whilst Makuutu is being developed and ramped up and in parallel to the development of the Refinery
- Potential to **facilitate collaboration / partnership agreements on downstream supply chain** from REOs → RE metals → RE alloys → NdFeB magnets

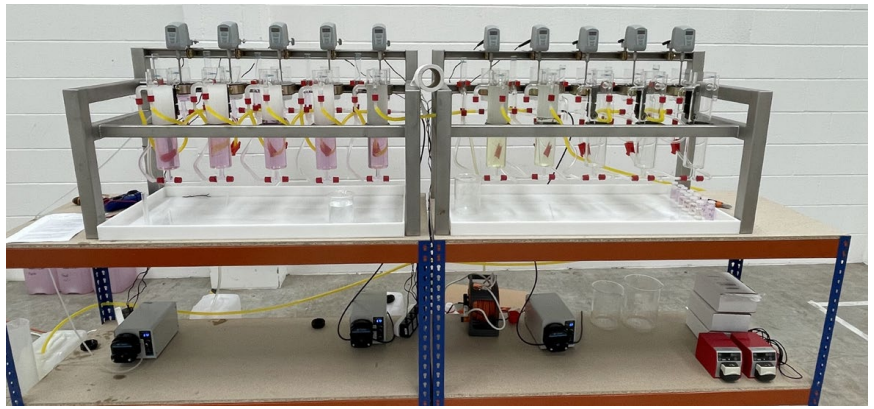
MIXED GRADES OF WASTE PERMANENT MAGNETS

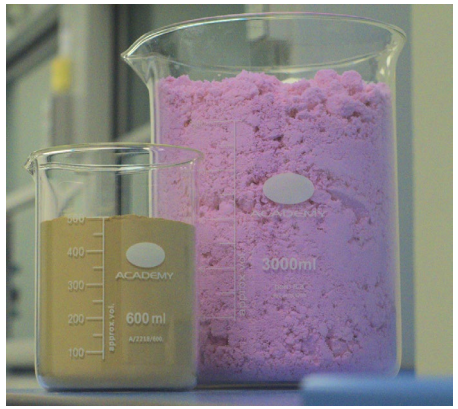
100% RECYCLED INDIVIDUAL RARE EARTH OXIDES



HIGH SPECIFICATION PERMANENT MAGNETS FOR E-DRIVES

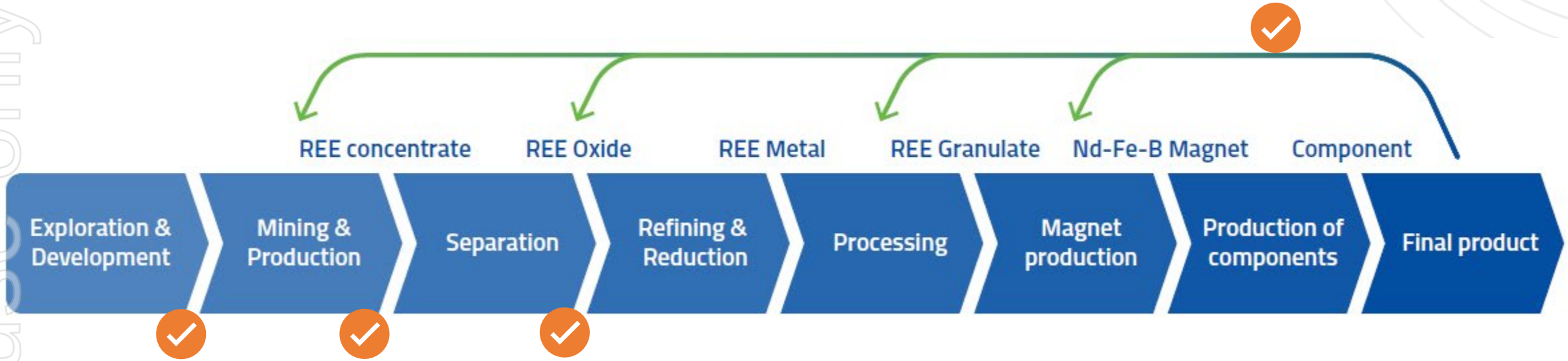






REE Supply Chain and IonicRE Capability to date

IONICRE ADDING CAPACITY TO BECOME INTEGRATED IN FUTURE RARE EARTH SUPPLY CHAINS



1. Makuutu Rare Earths Project

- Low Capital, modular development enables IonicRE to bring on highly sought-after basket of REEs
- Expandable with free cash flows and growing market demand
- MLA on RL1693 being finalised now
- Expecting ML granted Q1 2023
- Commencing operations in 2024

2. IonicRE Refinery

- Under Evaluation now assessing potential economics → Scoping Study now expected Q1 2023
- Targeting separation of MREC from Makuutu to produce refined REOs for downstream conversion to metals and alloys through collaboration / partnerships
- Potential to receive MREC feed or HREO products from other producers

3. Magnet Recycling

- Low capital development to recycle spent magnets and swarf to produce separated and refined 99.9%+ REOs
- Near term magnet REO production capacity (Nd, Pr, Dy and Tb – potential for Sm, Gd, Ho)
- Modular recycling plants located in numerous jurisdictions
- Potential opportunities in the US and EU

IonicRE Activity Ramping Up Year-on-Year

VALUE UNLOCKED THROUGH ACCELERATED WORK PROGRAMS AT MAKUUTU, NOW IONIC TECH

2019 ✓

- IonicRE takes initial 20% interest in Makuutu Rare Earths Project
- Phase 1 Drill Program (750 metres)

2020 ✓

- Maiden MRE
- Phase 2 Drill Program Completed (3,000 metres)
- Phase 1 Metallurgical Variability Program
- Increased Makuutu ownership to 51%
- RL 1693 Renewal Approved
- New ELs Approved

2021 ✓

- 200%+ increase to Makuutu MRE
- Makuutu Scoping Study
- Commenced Phase 3 Drill Program on new Exploration Targets (1,200 metres)
- Phase 4 Drill Program Completed (8,000 metres)
- New EL Approved
- Acquisition of Seren Technologies (now Ionic Technologies) in UK

2022 ✓

- Completed Acquisition of IonicTech
- 70% increase to Makuutu MRE
- Updated Exploration Target at Makuutu
- Awarded UK Govt Grant for Ionic Tech
- Digbee ESG™ rating
- Established IonicTech Facility in Belfast
- Commenced MLA for RL 1693

2023

2023 Catalysts to Unlock Further Value

- Finalise MLA for RL 1693 (Makuutu Central)
- Increase ownership in Makuutu (Rwenzori Rare Metals)
- Makuutu Demonstration Plant Q2 2023 → Q4 2023
- IonicTech Magnet Recycling Demonstration Plant in Belfast to produce magnet REOs by mid 2023
- IonicRE REE Refinery Scoping Study in USA
- Additional Exploration at Makuutu
- Strategic Partnerships Progressed
- Makuutu Financing

LAYING A FOUNDATION TO BUILD SECURE, SUSTAINABLE AND TRACEABLE SUPPLY OF MAGNET AND HEAVY RARE EARTHS

Leadership and Key Personnel

Trevor Benson
Non-Executive Chairman
IonicRE

Tim Harrison
Managing Director
IonicRE

Brett Dickson
CFO & Company Secretary
IonicRE

Lee Constable
VP – EU & UK
IonicRE

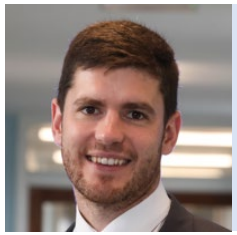
Allan Mulligan
General Manager, Makuutu Rare Earth Project
IonicRE

Warren Tregurtha
CEO
Rwenzori Rare Metals Ltd

Patience Singo
Country Manager, Uganda
Rwenzori Rare Metals, Ltd

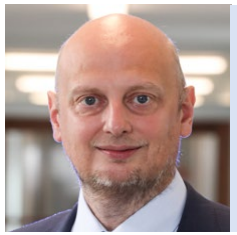
Andrew Holmes
General Manager, Sales & Marketing
IonicTech

Thomas Kelly
General Manager, Operations
IonicTech



Dr Fergal Coleman
Technology Lead
IonicTech

Neruja Srikantharajah
Engineering Manager
IonicTech



Professor Peter Nockemann
Technical Advisor
IonicTech

IonicRE Value Proposition

1. **MAKUUTU IS A LARGE UNIQUE IONIC ADSORPTION CLAY DEPOSIT, PROVIDING SCALABLE EXPANSION POTENTIAL TO TAP INTO SURGING RARE EARTHS PRICING IN THE FUTURE**

2. **MAKUUTU A LOW CAPITAL DEVELOPMENT PROJECT, PRODUCING MAGNET & HEAVY RARE EARTHS CRITICAL FOR TOMORROW'S NET ZERO CARBON TARGETS**

3. **MAKUUTU'S STRATEGIC IMPORTANCE WILL INCREASE LONG TERM WITH DRAMATIC INCREASES IN DEMAND AT THE DOORSTEP**

4. **GEOPOLITICAL TENSIONS DRIVING SECURE, ALTERNATIVE SUPPLY OF MAGNET & HEAVY RARE EARTHS**

5. **DOWNSTREAM REFINING POTENTIAL TO UNLOCK VALUE OF MAKUUTU BASKET**

6. **MAGNET RECYCLING EXPOSURE WITH TECHNOLOGY READY TO COMMERCIALISE IN MODULAR, GLOBAL DEPLOYMENT**

"When peering into the outlook for the next decade to come, it becomes quickly apparent that the rapid demand growth of the 2020s will soon be dwarfed by the astronomical demand growth of the 2030s – and therein lies the real defining challenge and opportunity facing the global rare earth industry today.

If the global industry continues to operate myopically – preparing, anticipating and investing only for a three to five-year outlook – the rate of demand growth for magnet rare earths will soon reach 'escape velocity'; a point at which annual demand growth becomes so great (i.e. >6,000 tonnes per annum) that it is simply implausible for the already-lagging supply-side to catch up and keep up."

Adamas Intelligence, Sept 28, 2020

ionic
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