

Mining Initiation Note

Harena Rare Earths*

HREE LN

BUY
TP 9.4p

Emerging strategic rare earth supply from Madagascar

Stock Data

Ticker	HREE LN
Share Price	3.3p
Market Cap	£23m

Price Chart



Research

Sergey Raevskiy
+44 20 3470 0474
sergey.raevskiy@spangel.co.uk

John Meyer
+44 20 3470 0490
john.meyer@spangel.co.uk

Simon Beardsmore
+44 20 3470 0484
simon.beardsmore@spangel.co.uk

Arthur Parish
+44 20 3470 0476
arthur.parish@spangel.co.uk

Sales

Richard Parlons
+44 20 3470 0472
richard.parlons@spangel.co.uk

Grant Barker
+44 20 3470 0471
grant.barker@spangel.co.uk

Rob Rees
+44 20 3470 0535
rob.rees@spangel.co.uk

Abigail Wayne
+44 20 3470 0534
abigail.wayne@spangel.co.uk

Harena Rare Earths (LON: HREE) is a London-listed mineral developer advancing the 100% owned Ampasindava Ionic Clay Rare Earth Project in north-west Madagascar. The project hosts ~700Mt @ ~870ppm TREO MRE with Jan26 PFS outlining a heap leaching operation delivering ~4.1ktpa TREO (~1.6ktpa NdPr, ~100tpa DyTb) over 18y LOM at modest capital and operating costs. Harena is focused on establishing Ampasindava as a scalable ex-China source of high value MREOs serving EVs, renewable energy, advanced manufacturing and defence applications.

- Harena's **100%-owned Ampasindava Project in Madagascar is a large, long-life Ionic Adsorption Clay (IAC) deposit** hosting **699Mt @ 868ppm TREO (MRE)** with **~22% MREO and ~2% DyTb**. The scale and assemblage position it as a strategic potentially scalable ex-China source of high-value MREOs at a time when **all HREEs are under Chinese export controls**.
- The **January 2026 PFS** outlines a 5Mtpa heap leach operation producing **~4.1ktpa TREO (~1.6ktpa NdPr; ~100tpa DyTb) over 18 years**, delivering **~US\$250M post-tax NPV10 and 30% IRR at US\$155/1,675/410/kg NdPr/Tb/Dy** and relatively modest ~\$140M initial capex and ~US\$31/kg TREO C1 FOB costs.
- As a typical IAC system, Ampasindava benefits from **near-surface, free-dig mineralisation** and a **simple heap leach flowsheet, with high recoveries** of 65–74% for key MREOs achieved using mild pH saline leaching.
- Project economics are driven by **magnet rare earths, which account for ~40% of volume but ~95% of value**, with revenue exposure concentrated in **NdPr (~60%), Tb (~20%) and Dy (~15%)** offering a significant operational leverage to sustained MREO strength and ex-China pricing premiums.
- The REE market remains structurally concentrated, with **>60% of upstream supply and >90% of downstream processing controlled by China**, creating supply chain vulnerabilities for advanced, high-value industries — including EVs, renewable energy, healthcare, robotics, aerospace and defence — that are increasingly viewed as critical to Western national security.
- The team is **in active discussions with the US International Development Finance Corporation (DFC) regarding an initial potential up to \$5M commitment** (partly to fund Demonstration Plant) with scope for larger project level support at a later stage – representing a potential strategic endorsement of Ampasindava from the US government agency.
- **Catalyst-rich next 24 months** include Exploitation Licence conversion (1H26), DFS completion (2026), potential government funding update (2026), demonstration plant validation (2026–27) and potential strategic/offtake agreements ahead of targeted FID (2027).

Valuation: Risked NAV ~US\$100M (0.5x NAV factor) and TP 9.4p using long term \$130/3,000/500/kg NdPr/Tb/Dy prices, implying ~180% potential upside and supporting a BUY recommendation. Ampasindava offers an attractive exposure to an emerging ex-China source of valuable MREOs at a time when all HREEs are under Chinese export controls and European Dy/Tb prices are trading at 4–5x Chinese levels. The combination of strategic importance of MREOs, improving geopolitical tailwinds and upcoming technical/permitting catalysts creates the potential for a material rerating as the project advances toward FID.

Valuation

We valued Harena Rare Earths using a DCF methodology using the January 2026 PFS based production rates, capital and operating costs estimates while applying our MREOs¹ price assumptions.

Risked NAV ~US\$100M and TP 9.4p using long term \$130/3,000/500/kg NdPr/Tb/Dy prices, implying ~180% potential upside and supporting a BUY recommendation.

Main assumptions:

- 100% effective interest
- 0.5x NAV risk factor reflecting development stage of the project
- \$130/3,000/500/kg NdPr/Tb/Dy prices
- ~\$140M development capital cost
- 18y LOM, 5Mtpa heap leaching operation producing ~1,600tpa NdPr and ~110tpa DyTb in Mixed Rare Earth Carbonate (MREC)
- Unrisked NPV10 (post tax) ~\$200M, risked NAV ~\$100M (0.5x factor)
- Unrisked NPV10 (post tax) ~\$510M, risked NAV ~\$250M using spot pricing (\$130/4,800/1,100/kg NdPr/Tb/Dy)
- ~£2.5M cash (June 25 balance plus £2.5m equity raise in January/February 2026), ~£0.6M debt (June 2025).

Valuation	Method	Stage	NPV 100%	Interest	P/NAV	Att US\$M	GBp/shr	
Ampasindava	DCF10%	PFS	202	100%	0.50	101	9.9	
Project Value						101	9.9	
Adjustments								
Net Cash/(Debt)						2.6	0.3	
Corporate Overheads (5y)						-7	-0.7	
Company NAV						96	9.4	

684M shares outstanding (790M FD TSM), Corporate Overheads are 5y discounted
1.3 GBPUSD used
Source: SP Angel

Catalysts

- Conversion to Exploitation License (1H26)
- DFS (2026)
- Government funding update (2026)
- Proof of Concept Demonstration Plant (~\$11.5M, ≥9M project, 2026-27)
- FID, project funding, offtakes and start of construction (2027)
- Maiden MREC production (2028)
- 4-5y ramp up to 5Mtpa nameplate capacity

¹MREOs (or MREEs, used interchangeably throughout) refer to magnet rare earth oxides/elements – Praseodymium Oxide (Pr6O11), Neodymium Oxide (Nd2O3), Terbium Oxide (Tb4O7) and Dysprosium Oxide (Dy2O3) – which typically account for >90% of project economics due to their high value and critical role in permanent magnet applications. LREEs/LREOs and HREEs/HREOs refer to Light and Heavy Rare Earth Elements/Oxides, respectively.

REOs price assumptions and valuation sensitivities

Given REO price volatility and the increasing bifurcation between China and ex-China markets, we present sensitivities for both Project NPV and NAV/share across four pricing scenarios (ranked from lowest to highest NPV): (i) Historical averages + MP/DoW US\$110/kg NdPr floor, (ii) SPA pricing, (iii) Company PFS pricing and (iv) Spot pricing (Dy/Tb based on European premium prices). Sensitivities are also presented across three discount rate assumptions.

NPV10 AT (unrisked) sensitivities to Price/DR

Price Scenarios		NdPr	Tb	Dy	Discount Rate		
					5%	10%	15%
Historical Averages + MP/DoW \$110/kg NdPr Floor	US\$/kg	110	900	270	-141	-146	-143
SPA	US\$/kg	130	3,000	500	431	202	85
Company	US\$/kg	155	1,675	410	485	240	112
Spot	US\$/kg	130	4,800	1,100	944	512	286

NAVPS (risked) sensitivities to Price/DR

Price Scenarios		NdPr	Tb	Dy	Discount Rate		
					5%	10%	15%
Historical Averages + MP/DoW \$110/kg NdPr Floor	US\$/kg	110	900	270	NA	NA	NA
SPA	US\$/kg	130	3,000	500	20.4	9.4	3.8
Company	US\$/kg	155	1,675	410	23.0	11.2	5.1
Spot	US\$/kg	130	4,800	1,100	45.4	24.4	13.5

Historical averages for DyTb are based on Chinese prices, EU data is only available from 2025; Prices sourced from AsianMetal; Spot prices for DyTb are European quotes; Spot prices (28/02/26)
Source: SPA

Overview

Harena Rare Earths is a London Main Market-listed mineral development company (LON: HREE) advancing the 100%-owned Ampasindava Ionic Clay Rare Earth Project in north-west Madagascar. Ampasindava is a large-scale Ionic Adsorption Clay (IAC) deposit, analogous to those in southern China, formed through tropical weathering of alkaline intrusive rocks. The 238km² licence (PR6698) hosts a ~20km-long near-surface rare earth system with a JORC (2023) MRE of ~700Mt at ~870ppm TREO. The assemblage is enriched in critical magnet and heavy rare earths (~22% MREO, including ~2% DyTb), positioning the project as a potentially scalable source of strategic ex-China supply.

The January 2025 PFS outlines a 5Mtpa heap leach operation producing ~6.8ktpa Mixed Rare Earth Carbonate (MREC, ~4.1ktpa TREO), including ~1.6ktpa NdPr and ~100tpa DyTb, over an 18-year LOM. Initial capex is estimated at US\$142M, delivering a post-tax NPV10 of US\$250M and 30% IRR at Company pricing assumptions (~US\$155/1,675/410/kg NdPr/Tb/Dy). The project is progressing toward an Exploitation Licence, with upcoming demonstration plant testwork, trial mining and potential strategic/offtake discussions supporting a catalyst-rich pathway toward FID.

Given China's export controls on all HREEs (and its >95% share of global HREE separation), Ampasindava has the potential to become a strategically important ex-China source of MREOs and HREOs at a time when Western governments are prioritising supply chain diversification.

Ampasindava Post tax NPV10 ~\$200M/\$510M (SPA/Spot pricing) implying Harena trading on a ~0.1x P/NAV multiple and reflecting strong upside potential

We estimate Ampasindava generates an unrisks post-tax NPV10 of ~US\$202M under our price deck (US\$130/3,000/500/kg NdPr/Tb/Dy), broadly aligned with the January 2025 PFS production, operating and capital assumptions (refer to p22 for PFS details). The variance versus the Company's US\$250M NPV10 is primarily attributable to pricing assumptions (~\$155/\$1675/\$410/kg Company).

Under spot pricing (~US\$130/4,800/1,100/kg NdPr/Tb/Dy), NPV increases to ~US\$512M, driven by higher ex-China Dy/Tb premiums.

MREOs account for ~40% of production volumes but ~95% of project value. Revenue sensitivity is highest to NdPr (~60% of revenue), followed by Tb (~20%) and Dy (~15%). At spot pricing, the HREE contribution rises to ~45% of value (vs ~35% in our base case).

At current levels, Harena trades at ~0.1x P/NAV (SPA/spot range), implying substantial leverage to pricing and project delivery, particularly in a sustained two-tier pricing environment.

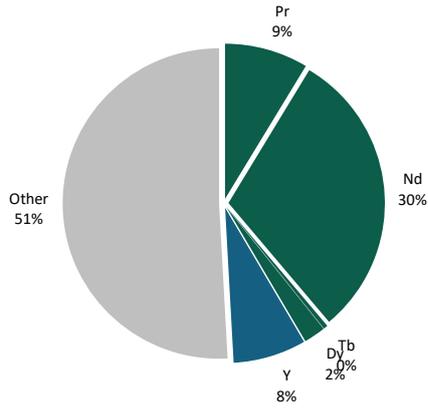
Project Profile – Long-Life IAC Targeting ~1,600tpa NdPr and ~100tpa DyTb

Ampasindava is designed as a 5Mtpa heap leach operation over ~20 years (including a conservative ~4-year ramp-up). Production is expected to average ~6.8ktpa MREC (~60% TREO), equating to ~4.1ktpa TREO, including ~1.7ktpa MREOs (~1,600tpa NdPr, ~18tpa Tb and ~92tpa Dy).

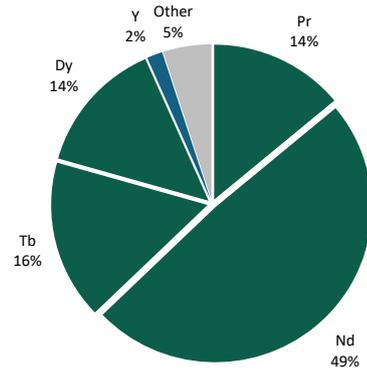
Metallurgical assumptions include ~53% TREO recovery, with higher recoveries for NdPr (74%), Tb (69%) and Dy (65%) using mild pH saline leaching. A 75% TREO payability is assumed to account for downstream separation costs.

Although MREOs represent just over 40% of volumes, they underpin ~95% of revenues, supporting projected annual revenue/EBITDA of ~US\$245M/US\$75M. Estimated C1 operating costs are ~US\$30/kg TREO (FOB) with ~US\$140M initial capex, generating a post-tax NPV10 of ~US\$202M and ~23% IRR under flat US\$130/3,000/500/kg NdPr/Tb/Dy assumptions (refer for more details below).

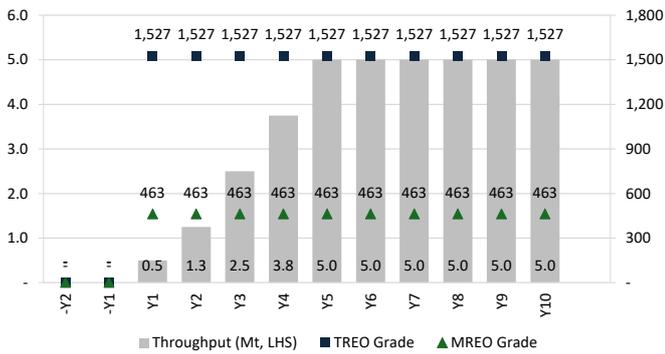
Ampasindava gross production breakdown – MREOs ~40%



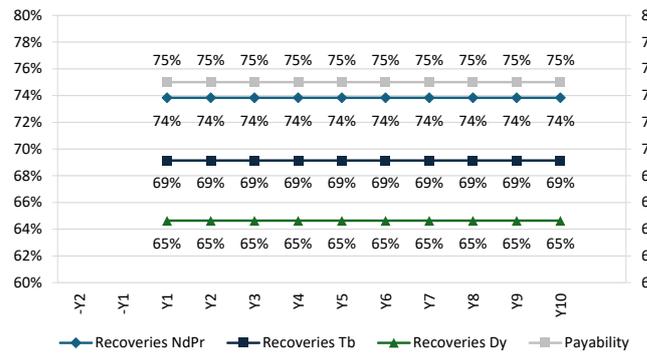
Ampasindava gross revenue breakdown – MREOs >90%



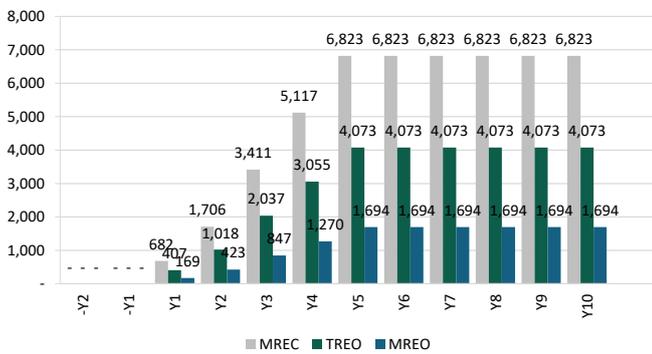
Throughput (5Mtpa) and grades (TREO and MREO, ppm; first 10y)



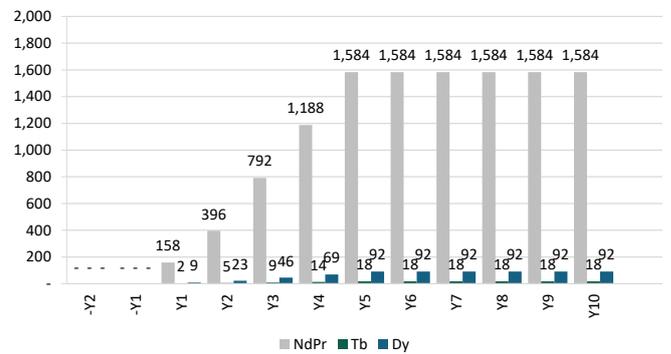
MREO recoveries (65-74%) and payabilities (75%)



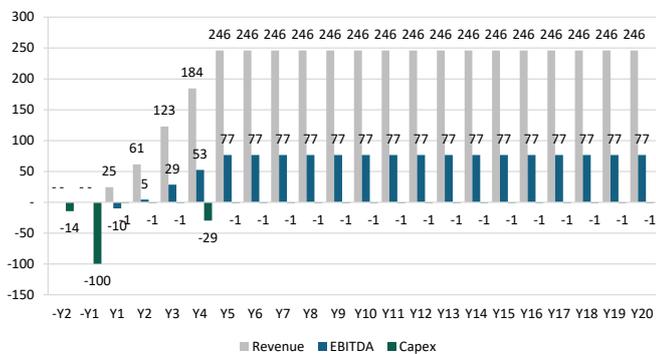
Gross production MREC, TREO and MREO (tonnes)



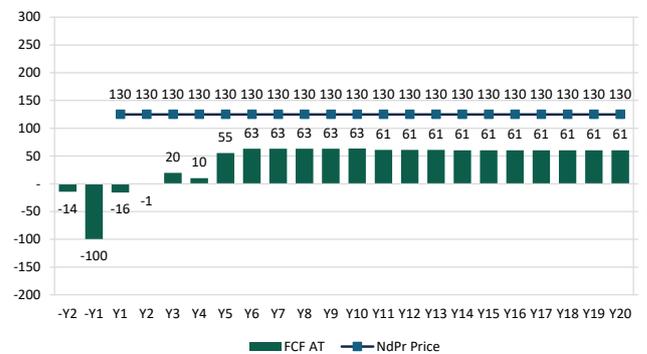
Gross production of NdPr/Tb/Dy (contained in MREC, tonnes)



Revenue, EBITDA and Capex (US\$M, LOM)



Post tax FCF (US\$M) and NdPr price (US\$/kg)



Source: Company, SPA

Source: Company, SPA

Ampasindava Economics (100%, SPA)

Operational							
Reserves							NA
Resources							~700Mt 868ppm TREO
Mining Inventory	Mt						88Mt 1,527ppm TREO
LOM	years						18
W:O Ratio	x						0.15
Throughput	ktpa						5,000
Grade TREO	ppm						1,527
TREO		Pr	Nd	Tb	Dy	Y	Other
TREO b/d	pp	97	332	5	28	150	915
TREO Assemblage	pp	2%	7%	0%	1%	3%	18%
Recoveries	pp	73%	74%	69%	65%	41%	Differ.
MREC Production	ktpa						6.8
MREC Grade TREO	pp						60%
TREO Contained in MREC	ktpa						4.1
Production Split	tonnes	352	1,232	18	92	308	2,072
	pp	9%	30%	0%	2%	8%	51%
Financial							
MREC Payability	pp						75%
Prices	US\$/kg	Pr	Nd	Tb	Dy	Y	Other
Revenue (Payable)	US\$M pa	130	130	3,000	500	20	NA
	pp	14%	49%	17%	14%	2%	5%
Revenue (Payable)	US\$M pa						245
	US\$/kg TREO						60
	US\$/ore						49
EBITDA	US\$M pa						76
EBITDA margin	pp						31%
Fiscal Terms							
Royalty	pp						5%
Corporate Tax	pp						20%
State Free Carry	pp						0%
Capex							
Development	US\$M						142
Sustaining (inc Closure)	US\$M						20
Opex							
C1 FOB (Mine Site ex Royalty)	US\$/ore						32
	US\$/kg TREO						39
TCC FOB	US\$/kg TREO						42
AISC FOB	US\$/kg TREO						42
Economics							
Discount Rate	pp						10%
NPV AT	US\$M						202
IRR AT	pp						23%

Source: Company, SPA

Structural bifurcation in REOs pricing narrative gains momentum on Chinese export controls

China has progressively tightened control over REO supply through 2025 amid escalating US-China trade tensions and technology disputes. Even prior to recent measures, the market was structurally concentrated: China accounts for >60% of global TREO mine supply and >95% of HREE supply, while controlling ~90%+ of separation, metal production, magnet manufacturing and recycling capacity.

In 2025, China added seven REEs (Sm, Gd, Tb, Dy, Lu, Sc, Y) to its export control list in April, followed by a further five (Ho, Er, Tm, Eu, Yb) in October, in addition to earlier restrictions on magnet and processing technologies. All HREEs are now subject to export controls.

Prices have responded accordingly. NdPr (not directly controlled) more than doubled to >US\$120/kg, supported by the MP/DoW US\$110/kg floor price agreement and inventory restocking. Ex-China Dy/Tb pricing has diverged materially, with European quotes reportedly ~4-5x Chinese domestic levels. Yttrium has also experienced significant price increase. Illustrative spot comparisons:

- Tb ~\$4,800/kg (EU) vs \$1,100/kg (China) and \$900/kg 10y average
- Dy ~\$1,100/kg (EU) vs \$250/kg (China) and \$260/kg 10y average
- Y ~\$360/kg (EU) vs \$20/kg (China) and <\$10/kg 10y average

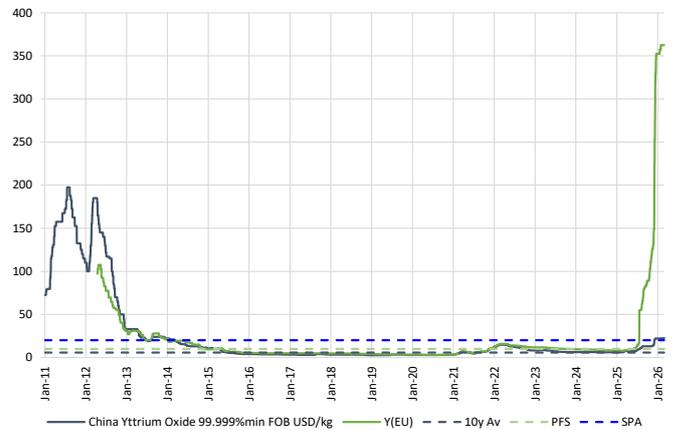
While volumes behind those quoted prices remain unclear, the pricing spread underscores an emerging bifurcated market. Should geopolitical tensions persist, sustained premiums for ex-China MREOs supply appear plausible. Increasingly, consultants are publishing dual pricing forecasts reflecting this trend.

See respective price levels (spot China/EU, SPA, PFS) for main revenue drivers below. Refer to price sensitivities in the 'Valuation' section.

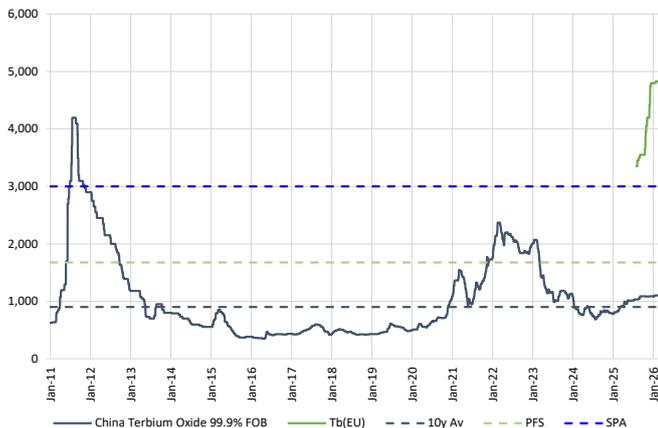
Neodymium Praseodymium (US\$/kg)



Yttrium (US\$/kg)



Terbium (US\$/kg)



Dysprosium (US\$/kg)



Source: AsianMetal

Source: AsianMetal

Yttrium may become a major revenue contributor along with MREOs given elevated share in IAC grade assemblage and current prices at >2x NdPr

Yttrium (Y) is used in advanced ceramics, phosphors, high-performance alloys and a range of defence-critical applications including jet engine coatings, lasers and navigation systems. Following its inclusion in China’s export control regime, European prices reportedly exceeded US\$350/kg versus historical levels closer to US\$5/kg.

Given its elevated proportion in IAC assemblages (typically 10–20% of TREO vs ~20–25% for NdPr and <5% for DyTb), yttrium has the potential to become a material revenue contributor alongside conventional MREOs.

We apply a conservative US\$20/kg assumption (broadly in line with Chinese spot) in our valuation, reflecting uncertainty around quoted ex-China volumes. However, sustained three-digit pricing would likely increase the emphasis developers place on yttrium credits in project economics.

Ionic Adsorption Clays (IAC) – scale and HREE exposure

Ampasindava is an Ionic Adsorption Clay (IAC) deposit formed through tropical weathering, whereby REEs are weakly adsorbed onto clay minerals within the regolith. Compared with hard rock projects, IAC deposits are typically lower grade but larger tonnage and enriched in HREEs, making them a primary global source of Dy/Tb.

Lower grades are offset by favourable mining and processing characteristics: near-surface mineralisation, no drilling/blasting, no crushing/milling and ambient-temperature leaching. This generally translates into lower capex and opex.

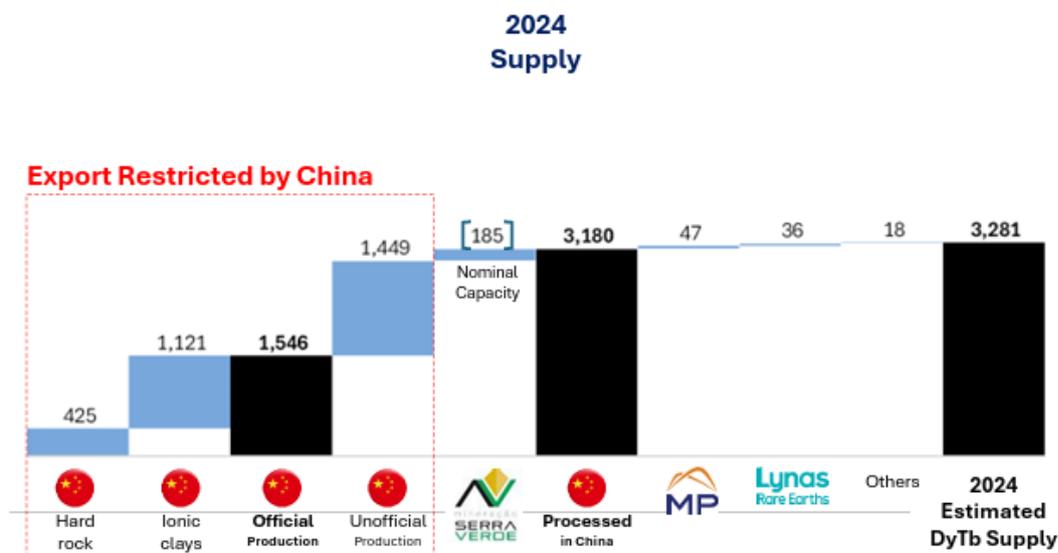
	Ionic Clays	Hardrock
Exploration	<ul style="list-style-type: none"> • Large tonnage, low grade • Simple exploration with homogenous mineralisation (RAB drilling and augers for scouting, broad spaced due to continuity) 	<ul style="list-style-type: none"> • Smaller tonnage, higher grade • Mineral body can be scattered and complex (significant amount of diamond drilling and often at depth) • Longer to defining MRE
Economics	<ul style="list-style-type: none"> • Lower capex and opex 	<ul style="list-style-type: none"> • Higher capex and opex
Mining	<ul style="list-style-type: none"> • Clay hosted soft material - no drilling, no blasting • Mineralisation at/close to surface - minimal waste stripping 	<ul style="list-style-type: none"> • Hardrock mineralisation requires drilling/blasting • May occur at depth - high waste strip
Processing	<ul style="list-style-type: none"> • No crushing and milling • Simple leaching with cheap salts like Ammonium Sulfate or Magnesium Sulfate through ion-exchange • Ambient temperatures and pressures with minimal reagent consumption 	<ul style="list-style-type: none"> • Crushing and milling (can be as low as <20 microns) • Complex multistage metallurgy • Requires strong acids (eg Hydrochloric Acid), high temperatures and pressure • Needs flotation, cracking, roasting, re-leaching, tailings dam
Product	<ul style="list-style-type: none"> • Major source of HREEs 	<ul style="list-style-type: none"> • Typically, richer in LREEs (unless xenotime)
Environmental	<ul style="list-style-type: none"> • Low uranium and thorium • No radioactive tailings • Progressive rehabilitation of mined areas 	<ul style="list-style-type: none"> • Presence of uranium and thorium • Energy intensive • Extensive mine rehabilitation

Source: Viridis, SPA

Commercial IAC production outside China/Myanmar is limited, with Serra Verde in Brazil currently the only operating example ex-China. China and Myanmar collectively account for >90% of global HREE mine supply, with China processing virtually all separated HREEs. In China, local many IAC deposits are developed using in situ leaching, a low cost but environmentally taxing recovery method. Lately, China is reported to have been increasingly outsourcing upstream production to Myanmar with less stringent environmental policies.

Myanmar, which accounted for ~40% of global Dy/Tb production in 2024, faces its own challenges with ongoing geopolitical instability, highlighting the need for alternative supply.

Estimated DyTb production (tonnes, 2024) from Aclara Resources to highlight indicative production breakdown in China (hardrock/IAC/Myanmar imports) vs world production



Source: Aclara Resources (2025)

Need for alternative sources is apparent. A number of companies are looking at launching IAC projects using more environmentally friendly flowsheets like heap or tank leaching. See a list of advanced IAC projects including Ampasindava below (ranked by EVs US\$M).

Company	Aclara Resources	Meteoric Resources	Viridis Mining and Minerals	Ionic Rare Earths	Harena Rare Earths	
Ticker	ARA CN	MEI AU	VMM AU	IXR AU	HREE LN	
EV	US\$M	542	398	191	67	30
Project	Carina	Caldeira	Colossus	Makuutu	Ampasindava	
Location	Brazil	Brazil	Brazil	Uganda	Madagascar	
Ownership	pp	100%	100%	100%	60%	100%
Stage	PFS Oct 2025	PFS Jul 2025	PFS Jul 2025	DFS Mar 2023	PFS Jan 2026	
Resources/Reserves						
Deposit	Clay Hosted	Clay Hosted	Clay Hosted	Clay Hosted	Clay Hosted	
MRE	Mt	284	1,498	493	616	699
Grade TREO	ppm	1,524	2,358	2,509	636	868
Grade MREO	ppm	333	525	602	152	188
MRE TREO	kt TREO	433	3,533	1,237	391	606
MRE MREO	kt MREO	95	786	297	94	131
PP	Mt	165	103	-	173	-
Grade TREO	ppm	1,723	4,091	-	848	-
Grade MREO	ppm	376	910	-	203	-
PP TREO	kt TREO	285	421	-	147	-
PP MREO	kt MREO	62	94	-	35	-
Assemblage	MI&I	MI&I	MI&I	MI&I	MI&I	MI&I
Pr Share	pp	4%	6%	6%	5%	4%
Nd Share	pp	14%	16%	17%	17%	15%
Tb Share	pp	0.4%	0.2%	0.2%	0.3%	0.3%
Dy Share	pp	2.8%	0.9%	1.0%	1.6%	1.7%
NdPr Share	pp	19%	21%	23%	22%	20%
MREO (PrNdTbDy) Share	pp	22%	22%	24%	24%	22%
Operations						
Final Product	MREC	MREC	MREC	MREC	MREC	
LOM	years	17	21	20	35	18
Throughput	ktpa	9,700	6,000	5,000	5,000	5,000
Grade TREO	ppm	1,723	3,701	3,380	848	1,527
WO	x	0.26	0.38	0.40	0.57	0.15
Recoveries	pp	26%	55%	57%	27%	53%
TREO Production Gross	tonnes pa	4,275	13,584	9,448	1,156	4,073
MREO Production Gross	tonnes pa	NA	4,146	3,518	357	1,694
NdPr Production Gross	tonnes pa	NA	4,022	3,401	306	1,584
Payability	pp	70%	70%	70%	70%	75%
Development Capex	US\$M	681	443	358	121	142
Capex Intensity	US\$/ore	70	74	72	24	28
Onsite Cash Cost	US\$/ore	13	20	12	13	31

Prices (28/02/26)

Source: Company, SPA

We provide a list of ex-China REE projects both in Ionic Clay and Hardrock space below (ranked by EVs US\$M). Notice IAC deposits' lower grades but larger tonnage with higher share of HREEs (DyTb/TREO typically 5x that of hardrock; NTU's Brown Range xenotime project is an exception).

Company	Project	Location	Deposit	Ticker	EV US\$M	MRE Mt	TREO pp	TREO kt	MREO / TREO	DyTb / TREO
Ionic Clay										
Aclara Resources	Penco	Chile	Clay Hosted	ARA CN	542	29	2,250	66	23%	3.5%
Aclara Resources	Carina	Brazil	Clay Hosted	ARA CN	542	284	1,500	433	22%	3.2%
Meteoric Resources	Caldeira	Brazil	Clay Hosted	MEI AU	398	1,498	2,350	3,533	22%	1.1%
Viridis Mining and Minerals	Colossus	Brazil	Clay Hosted	VMM AU	191	493	2,500	1,237	24%	1.2%
Victory Metals	North Stanmore	Australia (WA)	Clay Hosted	VTM AU	123	321	500	156	22%	4.0%
Ionic Rare Earths	Makuutu	Uganda	Clay Hosted	IXR AU	67	616	650	391	24%	1.9%
Australian Rare Earths	Koppamurra	Australia (SA/VIC)	Clay Hosted	AR3 AU	35	236	750	176	25%	3.1%
Harena Rare Earths	Ampasindava	Madagascar	Clay Hosted	HREE LN	30	699	850	606	22%	2.0%
Mt Ridely Mines	Mt Ridley	Australia (WA)	Clay Hosted	MRD AU	26	168	1,200	202	25%	2.4%
OD6 Metals	Splinter Rock	Australia (WA)	Clay Hosted	OD6 AU	7	682	1,350	913	23%	1.3%
Krakatoa Resources	Mt Clere	Australia (WA)	Clay Hosted	KTA AU	5	101	850	85	NA	NA
Consortium	Serra Verde	Brazil	Clay Hosted	Private	NA	911	1,200	1,106	20%	2.7%
Hardrock										
Lynas Rare Earths	Mt Weld	Australia (WA)	Monazite	LYC AU	13,617	110	42,700	4,683	24%	10.1%
MP Materials	Mountain Pass	US (NV)	Bastnasite	MP US	10,053	48	54,400	2,590	NA	0.2%
Lindian Resources	Kangankunde	Malawi	Monazite	LIN AU	629	261	21,400	5,582	20%	0.4%
Pensana	Longonjo	Angola	Monazite	PRE LN	546	314	14,300	4,491	22%	0.6%
Arafura Rare Earths	Nolans	Australia (NT)	Monazite et al	ARU AU	480	56	25,950	1,450	27%	0.6%
Mkango Resources	Songwe Hill	Malawi	Synchysite/Apatite	MKA LN	265	49	13,650	664	21%	0.2%
Northern Minerals	Browns Range	Australia (WA)	Xenotime	NTU AU	198	12	7,800	92	14%	0.1%
Hastings Technology	Yangibana	Australia (WA)	Monazite	HAS AU	165	30	9,250	278	35%	1.0%
American Rare Earths Energy Transition Minerals	Halleck Creek	US (WY)	Allanite	ARR AU	151	2,627	3,300	8,648	26%	0.5%
Defense Metals	Kvanefjeld	Greenland	Steenstrupine	ETM AU	135	123	14,000	1,721	NA	0.8%
Altona Rare Earths	Wicheeda	Canada (BC)	Monazite/Bastnasite	DEFN CN	77	35	21,300	745	15%	NA
Peak Rare Earths	Monte Muambe	Mozambique	Bastnasite et al	REE LN	21	14	24,150	329	13%	NA
Other	Ngualla	Tanzania	Bastnasite	Acquired	NA	214	21,550	4,623	21%	NA
Rainbow Rare Earths	Phalaborwa	South Africa	PhGypsum Tails	RBW LN	177	35	4,350	153	30%	1.3%

Grades rounded to 50-ppm, Prices (28/02/26)

Source: Company, SPA

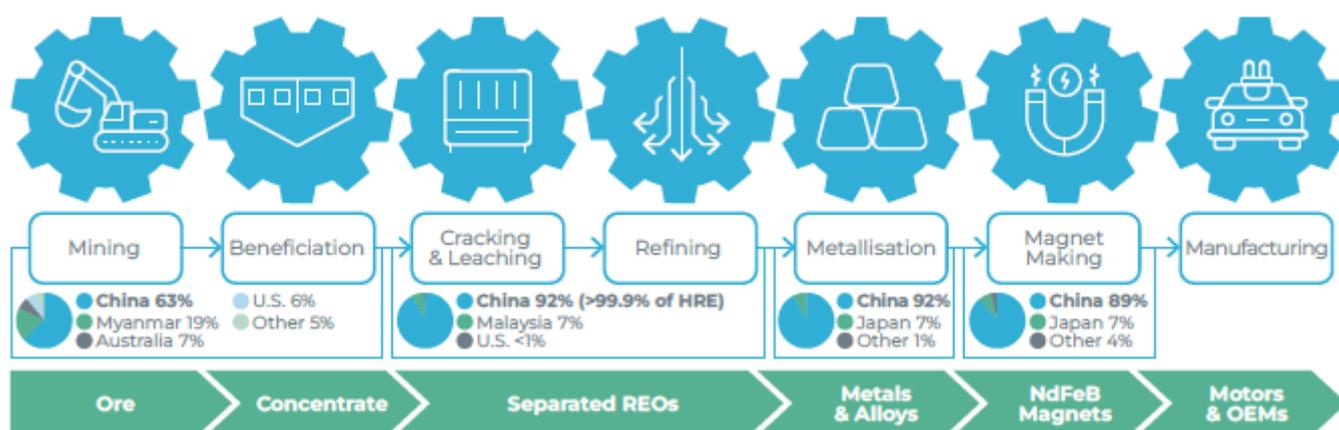
China's dominance in REEs (~60% upstream and >90% downstream) – structural supply risk

REE demand is driven primarily by advanced manufacturing and high-value consumer goods. Permanent magnets account for >80% of the market by value and are essential to EVs, renewable energy systems, consumer electronics, healthcare technologies, industrial and humanoid robotics, aerospace and defence applications. NdPr provides high magnetic strength and energy density, enabling smaller, lighter and more efficient motors, while incremental additions of DyTb enhance heat resistance and durability.

Outside magnets (<20% of the market), REOs are used across a range of applications, including geopolitically sensitive defence technologies including lasers, jet engine coatings, advanced radar and sensing systems, etc.

China controls >60% of global upstream REE supply and >90% of downstream separation capacity, with even higher concentration in HREEs, where ex-China supply is nearly non-existent. Magnet manufacturing capacity is also ~90% China-based.

HPMS recycling units commissioning timeline



Source: Norther Minerals (2025)

China tightens grip on critical mineral exports amid escalating trade tensions

Given the concentrated market structure, Beijing retains significant leverage over strategically important industries and has increasingly used this position in broader trade and geopolitical negotiations.

Beyond REEs, China has introduced export controls on:

- Gallium and germanium (August 2023)
- Graphite (December 2023)
- Antimony (September 2024)
- Tungsten, tellurium, bismuth, indium and molybdenum (February 2025)
- Shipments of gallium, germanium and antimony to the US were fully banned in December 2024 following semiconductor-related restrictions imposed on China.

Within the REE space:

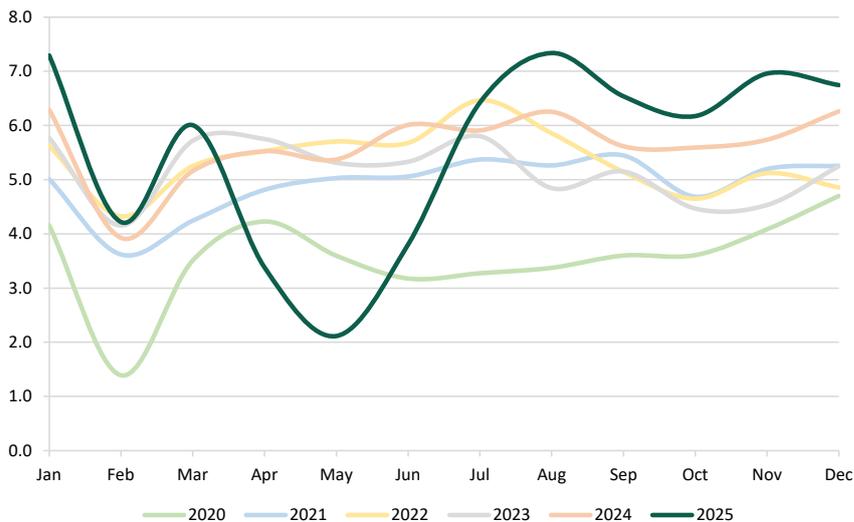
- December 2023: Expanded restrictions on REE magnet technology, extraction and separation equipment and technical know-how
- April 2025: Export controls imposed on seven REEs (Tb, Dy, Y, Sm, Gd, Lu, Sc)
- October 2025: Additional controls on five REEs (Ho, Er, Tm, Eu, Yb) and certain magnet components

All HREEs are now subject to Chinese export controls.

Chinese REE product exports (including magnets) fell to multi-year lows in April–June 2025, reaching 2.1kt in May (-61% YoY), lowest since depths of Zero Covid Policy seen in early 2020. Sudden shortages of permanent magnets led end users to call on the US administration to address supply disruptions. Export approvals accelerated following an agreed 90d US/China trade truce in May 2025 and a semiconductor supply agreement. Shipments rebounded to 3.8kt in June (+80% MoM). Exports continued recovering through year-end, finishing broadly flat YoY (-1%) as trade discussions were extended.

However, the truce remains fragile. In February 2026, China reportedly halted exports of “dual-use” permanent magnets and other critical materials to several Japanese companies following geopolitical tensions around Taiwan.

Chinese REE products’ exports (incl magnets), kt



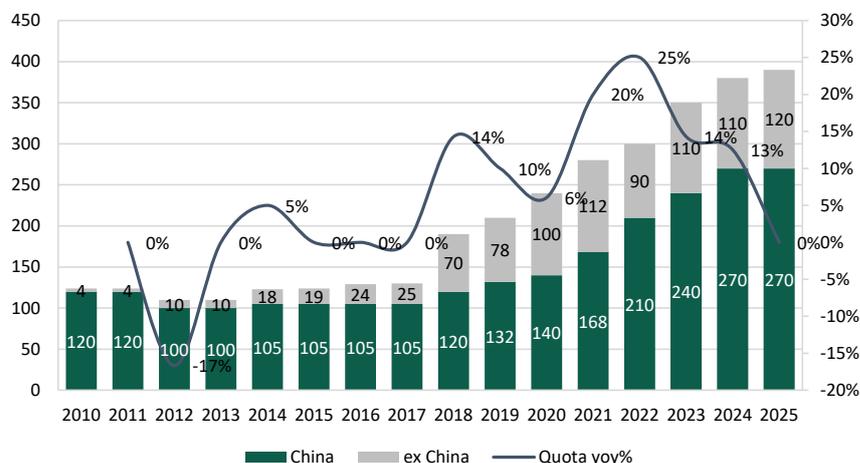
Source: Bloomberg

Chinese quota system – potential for non-market volatility

First introduced in 2006, quota system is used by China to control supply of REOs with authorities proving its ability to rapidly slowdown or ramp up supply in response to market conditions. Quotas almost doubled between 2020 (140kt) and 2024 (270kt) with NdPr prices falling below 10y average after hitting decade highs of ~\$170/kg in early 2022.

In 2025, China opted not to publicly disclose annual quotas, increasing market uncertainty (chart below assumed no change from last reported 270kt in 2024).

China REOs production quotas vs global supply (China >60% of world production), kt



Source: USGS (2025)

Western governments respond to security of supply risks

The US government signed a public-private partnership with MP Materials in July 2025, including an US\$110/kg NdPr floor price agreement to support downstream expansion and magnet manufacturing capacity. Key terms include:

- US\$110/kg NdPr floor price for all produced/sold/stockpiled product (concentrate, oxide, metal) for 10 years from 4Q25
- Expansion of magnet capacity from 3ktpa to 10ktpa, with 100% DoD offtake and a minimum US\$140M pa EBITDA guarantee on the additional 7ktpa for 10 years (from 4Q28)
- US\$400M convertible preferred equity (US\$30/sh) plus warrants (15% pre-money interest on conversion/exercise)
- US\$150M loan to fund HREE expansion (12-year tenor, T+100bp fixed spread)

Serra Verde, backed by Denham Capital, Vision Blue and EMG, commissioned the Pela Ema IAC operation in 2024 and plans to ramp to 6.5ktpa TREO (MREC basis) by early 2027. In February 2026, the company secured US\$565M from the US International Development Finance Corporation, with the US government retaining an option to acquire a minority stake.

The US EXIM Bank has issued multiple LOIs over recent years supporting REE projects across the US, Brazil, Australia and Europe.

In Australia, the government is evaluating potential floor prices for critical minerals as part of a proposed A\$1.2B sovereign strategic stockpile, following the US\$12B "Project Vault" initiative in the US. Through the A\$4B Australian Critical Minerals Facility (administered by Export Finance Australia), A\$1.65B in non-recourse loans has been committed to the Eneabba Rare Earths Refinery (targeted first separated REO production in 2027).

The EU Critical Raw Materials Act (2023) sets targets for:

- $\geq 10\%$ domestic mining
- $\geq 40\%$ processing
- $\geq 25\%$ recycling
- $\leq 65\%$ reliance on a single external supplier

US government funding discussions advance for Ampasindava

The Company is engaged in active discussions with US government agencies, including the US International Development Finance Corporation (DFC), to secure development funding for Ampasindava. Initial indications point to a potential up to US\$5M commitment aimed at advancing key technical and permitting workstreams and further de-risking the project ahead of a potential larger funding package at a later stage. Recent IFC deals highlight the strategic role of the agency in critical minerals financing, such as with Aclara Resources (\$5M for the Carina FS (Brazil) + option to provide/arrange project funding, Sep25) and Cerro de Pasco Resources (\$5M one-for-one funding for development at Quiulacocha Silver/Base Metals Tailings Reprocessing Project (Peru) + potential up to \$300M long term direct loan, Mar26)

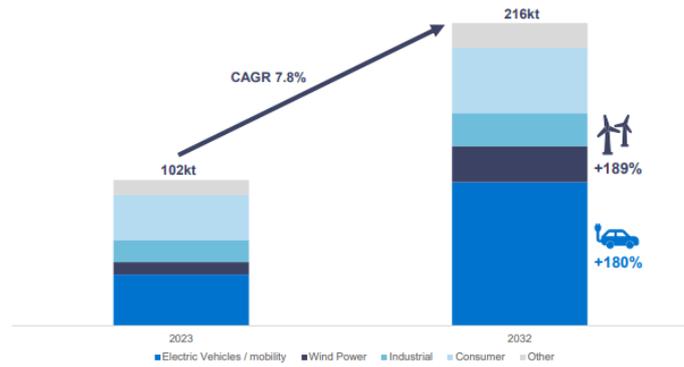
Funds are expected to support construction of the Proof-of-Concept Demonstration Plant.

In our view, early-stage engagement with DFC not only provides non-dilutive capital support but also represents an important strategic endorsement, particularly for projects positioned to establish ex-China supply of critical rare earths.

MREO demand growth is a predominantly EV story followed by renewables and consumer electronics; applications in defence and emerging industries (eg robotics) are also key

MREO demand is expected to more than double from ~100ktpa (2023) to ~220ktpa by 2032, primarily driven by EV adoption and renewable energy.

MREO (Pr/Nd/Tb/Dy) demand by industry



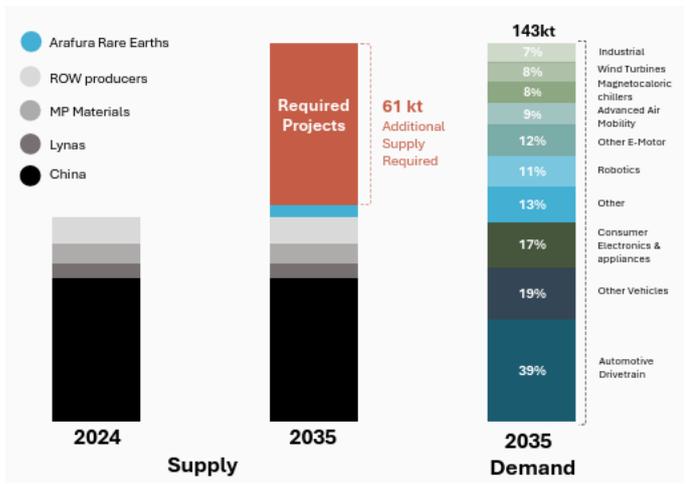
Source: Hastings (2023)

EV-related demand is forecast to increase from ~40ktpa (35% of total) to ~100ktpa (45% of total), reflecting both rapid uptake and significantly higher magnet intensity (EVs use 5–10x more MREOs than ICE vehicles). Offshore wind installations are expected to account for ~17ktpa (<10% of total), with turbines requiring ~400kg/MW of NdFeB magnets.

Additional growth is anticipated from consumer electronics, robotics and defence applications. Rising NATO defence budgets (targeting 3–5% of GDP among members) further underscore the strategic importance of secure MREO supply. REE magnets are embedded across missile guidance systems, satellite communications, precision munitions and advanced defence electronics.

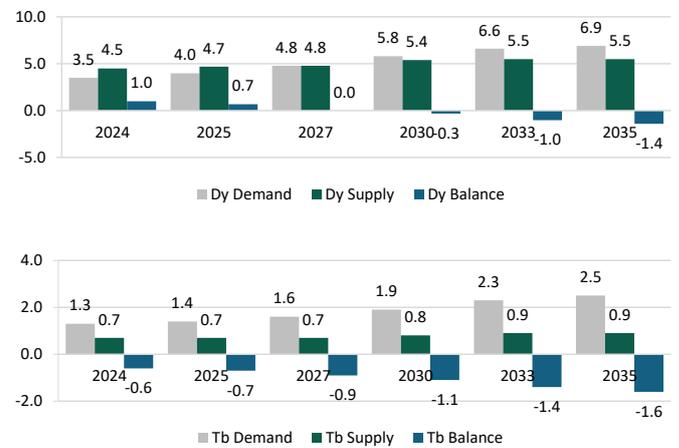
That in turn see market commentators arguing for emerging structural deficits in MREOs.

NdPr supply and demand (kt)



Source: Arafura (2025)

DyTb oxide market balances (kt)



Source: Northern Minerals Browns Range FS (2025)

Balance Sheet

~£2.5M in cash (June 25 balance plus £2.5m raised in January/February 2026), ~£0.6M debt (June 2025).

Shareholders and Liquidity

The following data is accurate as of the report date:

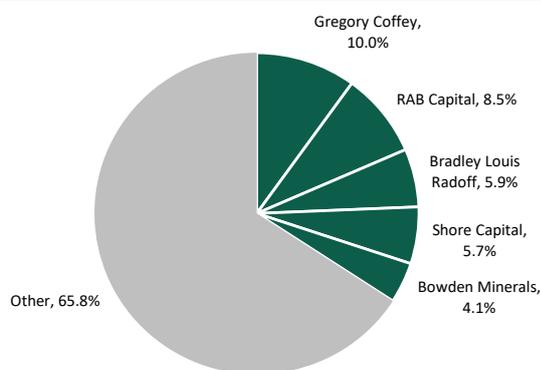
- 684M outstanding shares (790M fully diluted, Treasury Stock Method)
- ~190M dilutive securities including ~30M options (av exercise price ~3.1p, most expire 2030), ~95M warrants (av exercise price 2.0p, expire 2027-28), ~67M performance shares

The last equity raise was in February 2026 – £2.0m (@2.2p). Greg Coffey, a prominent investor running Kirkoswald, subscribed for ~£1.5M and currently hold ~10%. Other major shareholders include Wexford Capital (Connecticut, US), Fondren (Houston, US) and RAB Capital (London, UK).

Free float represents >70% of the register.

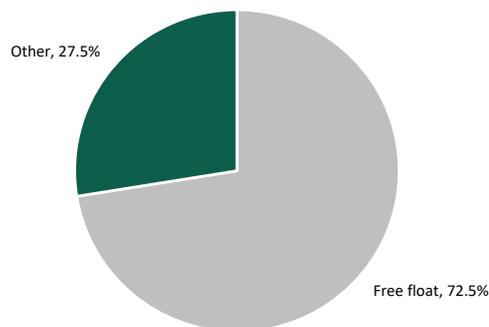
100d ADTV ~3M shares (~£100k).

Top shareholders (as of Nov/25)



Source: Bloomberg

Free float



Source: Bloomberg

Ampasindava Ionic Clay REE Project, Madagascar

Location

The 100%-owned Ampasindava Ionic Clay Rare Earth Project is located on the Ampasindava Peninsula in the Antsiranana Province of north-western Madagascar, ~500km north of Antananarivo and ~40km south-west of the regional administrative centre of Ambanja. The licence area covers ~238km² (PR6698) and hosts a ~20km-long near-surface ionic adsorption clay system along the peninsula.

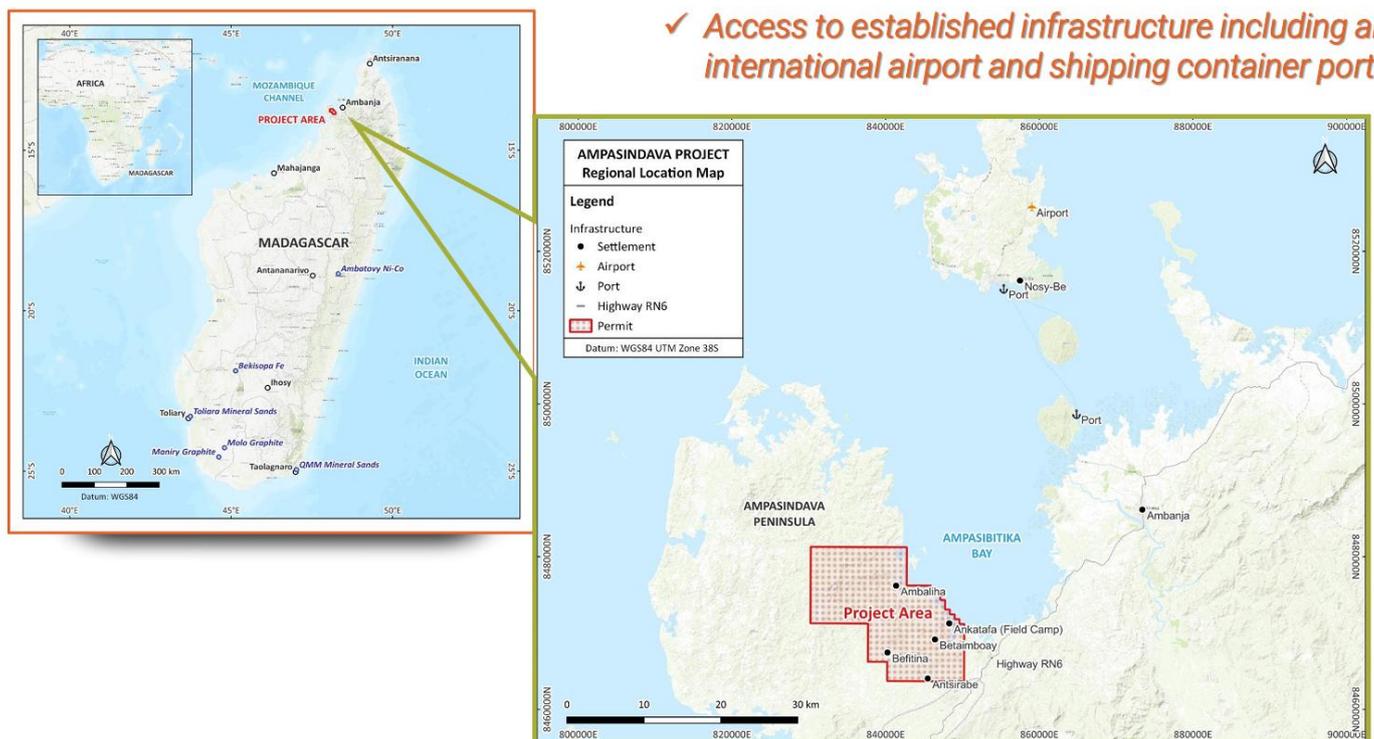
Site access is via dirt road, with the south-east portion of the licence lying ~2km from the N6 highway. The nearest international airport is Fascene Airport on Nosy Be. Access from Nosy Be to the Project area is by boat, with Harena operating its own vessel. Travel from the port of Madirokely (south-west Nosy Be) takes ~50 minutes over ~40km.

Much of the terrain is rugged, with elevations ranging from sea level to ~710m, and a ~6km-wide circular caldera in the south-east of the licence.

The area has a sub-tropical climate with average temperatures >25°C and rainfall >2,000mm pa, with two distinct seasons: dry (April–October) and wet (November–March).

The Project area is sparsely populated, suggesting limited requirements for a relocation programme. The NE part of the exploration licence covering ~100km² is located in the priority zone for the establishment of protected areas (not part of the mine plan).

Ampasindava REE Project location



Source: Company

Geology and Mineralisation

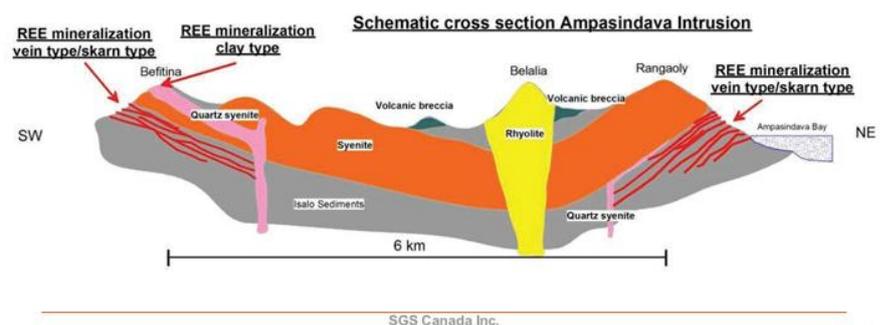
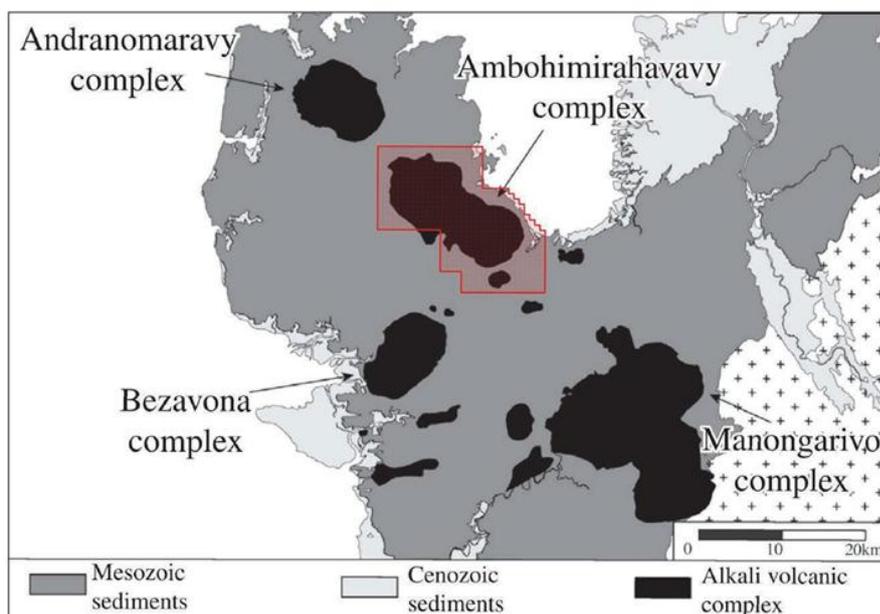
The Project is underlain by the ~150km² Ambohimirahavavy igneous complex, comprising alkaline to peralkaline granites and related intrusive rocks emplaced during regional rifting along a major south-east–north-west structural trend. REE mineralisation occurs within multiple REE-bearing minerals hosted by peralkaline

granitic dykes/sills (including chevkinite and monazite) and skarn-related hydrothermal fluoro-carbonates (including bastnaesite-group minerals).

Ampasindava hosts both bedrock- and regolith-hosted REE mineralisation, with the regolith-hosted ionic adsorption clay (IAC) system becoming the focus from 2010 following independent test work that confirmed IAC-style mineralisation, comparable to southern China (warm, humid climate and >1,500mm/year rainfall).

The IAC mineralised system is hosted within a thick regolith profile developed through favourable alkaline geology and prolonged sub-tropical weathering. Drilling and pitting indicate regolith thickness averages ~14m and locally exceeds 40m. During weathering, REEs are liberated from primary minerals, mobilised in groundwater and adsorbed onto clay particles, potentially enabling low-intensity salt leaching (e.g., sodium chloride and ammonium sulphate). Mineralisation distribution is erratic within the weathered profile, although grades and the HREE/LREE ratio generally increase toward the lower saprolite before decreasing near fresh bedrock.

Ambohimirahavavy complex location and a schematic cross section



SGS Canada Inc.

Source: Company

Permitting and Tenure

The Project is held under permit PR6698 (~238km²). An application to convert the legacy Exploration Licence into an Exploitation Licence is pending. Conversion is reported to require completion of the economic study (Jan26 PFS can be used) and approval of the Environmental Impact and Social Assessment (EISA), covering technical, environmental and social aspects. Once granted, the Exploitation Licence is valid for 40 years (25-year initial term, renewable once for a further 15 years).

Madagascar lifted its 16-year suspension on issuing mining permits in early 2026 (excluding gold licences) following approval of the updated 2023 Mining Code. The country reportedly had ~1,650 mining permit applications awaiting approval as of 2023.

Fiscal Regime

Latest fiscal terms include:

- 5% mineral royalty
- 0% free carry
- 20% corporate tax

Exploration and Resources/Reserves

Modern exploration began in the late 2000s. In 2008, Zebu Metals completed a bulk sampling programme targeting mineralised peralkaline granitic intrusives, reporting 3,000–4,000ppm TREO, followed by airborne magnetic and radiometric surveys.

In 2009, Tantalus Rare Earths acquired Zebu Metals and initially focused on bedrock-hosted mineralisation. Approximately ~300 drill holes for >20,000m were completed (average depth >70m) to test radiometric anomalies. In the early 2010s, the strategy shifted to regolith-hosted IAC mineralisation. During 2011–13, Tantalus excavated ~4,500 pits (1x1m and up to 10m deep) across six prospects.

Ampasindava project history of exploration

2003	Exploration licence (PR 6698) originally acquired by Calibra Resources and Engineers
2008	In January 2008 Zebu Metals acquired the Project from Calibra Resources and Engineers; Stream and beach sediment sampling (5), one trench excavated that confirmed significant REE mineralisation (up to 0.2% TREO), mini bulk samples (2) of granitic intrusive for geochemical analysis, airborne magnetic and radiometric surveys
2009	Geological interpretation of the magnetic and radiometric surveys; In October 2009 Tantalus Rare Earths AG acquired Zebu Metals and the Project
2010	Mineralogical test work focused on regolith-hosted ionic adsorption-type REE mineralisation
2010-2011	Diamond Drilling – 277 holes (NW, NTW, and BTW) completed to test for the presence of bedrock-hosted REE mineralisation
2012	Initiation of metallurgical test work regolith-hosted ionic adsorption-type REE mineralisation
2011-2013	Pitting – 4,474 manually excavated pits dug to assess regolith-hosted REE mineralisation
2013	Initial Mineral Resource Estimate completed by SRK
2013-2014	Advanced metallurgical test work to assess the amenability of the deposit to leach processing methods
2014	Updated Mineral Resource Estimate and N143-101 report completed by SGS
2020	Application for Permit conversion from PR to PE – awaiting finalisation of Malagasy Mining Code 2023 and new Feasibility Study and Environmental Report
2023	Acquired by Harena Resources Updating of NI43-101 Resource Conversion of Resource to JORC 2012 finalised in November

Source: Company

Pit sampling results underpin the current Mineral Resource Estimate. The latest JORC-compliant MRE (SGS) updates the original 2014 estimate:

- MRE – 699Mt at 868ppm TREO (COG 500ppm)
- No Ore Reserves declared to date

The deposit is estimated to extend ~20,000m x 10,000m, with thickness varying from 1–10m (average ~5.7m). The higher confidence Measured & Indicated category represents ~227Mt at 863ppm TREO, well in excess of the 88Mt mining inventory assumed in the mine plan. We note the mine plan assumes a higher processed grade (1,527ppm TREO), implying selective mining of higher-grade material.

Ampasindava MRE (100%, 2023, COG 500ppm TREO)	Mt	TREO ppm	MREO ppm	MREO/TREO	TREO kt	MREO kt
Reserves	-	-	-	-	-	-
Measured&Indicated	227	863	186	0.22	195	42
Inferred	472	870	189	0.22	411	89
Total MRE	699	868	188	0.22	606	131

Source: Company

By assemblage, higher-value MREOs (Pr/Nd/Tb/Dy) account for ~22% of TREO, within the typical 20–25% range for IAC deposits. DyTb contributes ~2% of TREO, consistent with elevated IAC ratios versus ~0.5% typical for hard rock deposits.

Uranium and thorium in regolith material are reported as relatively low (~12ppm U₃O₈ and 57ppm ThO₂ averages), reducing permitting/processing risks and implying MREC may be exempt from Class 7 radioactive material regulations.

MRE assemblage with spot/10y average prices	Grade ppm	In Situ b/d pp	In Situ Value b/d pp (@ Spot)	Spot US\$/kg	10y Av US\$/kg
La2O3	206	24%	0%	1	2
Ce2O3	319	37%	1%	2	2
Pr2O3	39	4%	9%	137	70
Nd2O3	131	15%	31%	136	67
Sm2O3	22	3%	0%	2	2
Eu2O3	2	0%	0%	25	40
Gd2O3	17	2%	1%	35	29
Tb2O3	3	0%	22%	4,830	901
Dy2O3	15	2%	29%	1,115	265
Ho2O3	3	0%	0%	81	81
Er2O3	9	1%	1%	62	34
Tm2O3	1	0%	0%	NA	NA
Yb2O3	8	1%	0%	14	16
Lu2O3	1	0%	2%	750	711
Y2O3	91	10%	4%	23	6
MREO (PrNdTbDy)	188	22%	91%		
TREO	868				

Prices (28/02/26)

Tb and Dy are European prices that are significantly higher than Chinese quotes reflecting export restrictions; other prices are all China based

10y Av are all based on Chinese prices

Source: Company, AsianMetal

SGS noted potential to expand the MRE, although this is not an immediate priority. The Company is focused on trial mining and the demonstration plant to progress the Project toward FID.

Production schedule

The Company released Ampasindava PFS in January 2026.

Mining envisaged as a low cost free dig operation with no drilling and blasting given highly weathered nature of regolith. Mining in 5–6m benches using truck and shovel, hauling the material to the plant. Three to four satellite pits to be mined concurrently to optimise the feed grade. Contractor mining. 88Mt at 1,527ppm TREO mining inventory with operations focused on higher grade areas. 18y LOM. Low 0.15x waste strip reflecting close to surface mineralisation.

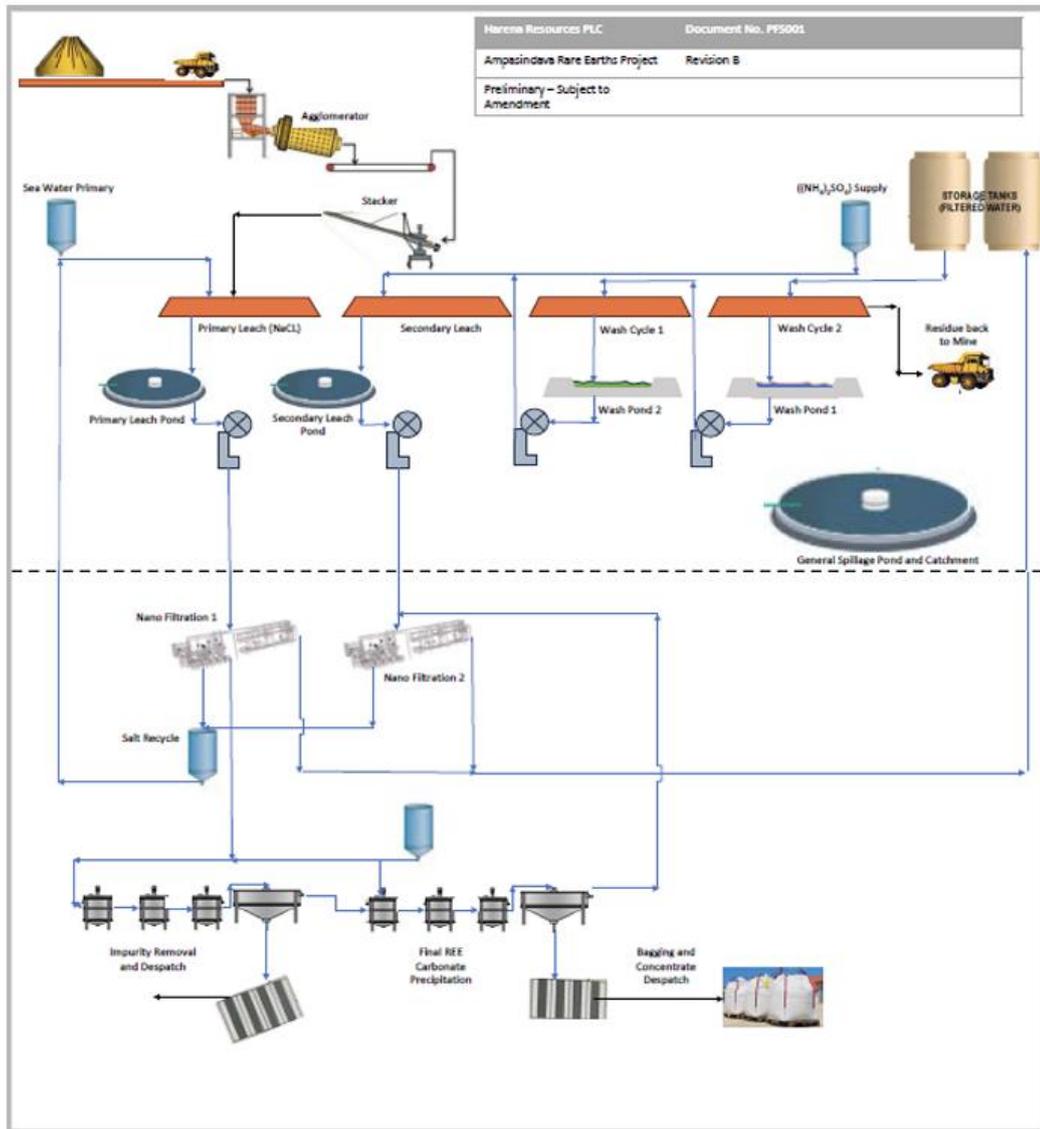
Processing modelled on a 5Mtpa heap leaching operation. ROM ore is agglomerated to improve permeability and stacked at up to 3m high leach pads (26 80mWx240mL pads to accommodate 5Mtpa). Heaps are irrigated with sea water (primary leach) and ammonium sulphate lixiviant at pH 4 (secondary leach) extracting REEs into solution. Pregnant leach solution is then purified via an ion exchange process in a nano filtration membrane circuit. After REEs are precipitated into the final Mixed Rare Earth Carbonate (MREC) product. Mild leaching pH process means lower processing costs (ie lower acid usage), less impurities to deal with that leach at lower pH and easier remediation. Final recoveries modelled at relatively high >50% for TREO and 65–74% for individual MREOs.

Met testwork was carried on higher grade material (SGS Lakefield testwork used ~2,000ppm TREO master clay composite) and a relatively limited number of samples. Demonstration plant planned for later in 2026 is aimed at addressing potential processing risks, confirm final flowsheet design as well as provide samples to potential partners/offtakers.

Tailings in the form of leached heaps will be washed out from residual ammonium sulphate and returned to the mined out areas that will, then, be rehabilitated with previously removed and stored 0.6m thick surface layer of topsoil.

A three-month dynamic mining/processing/rehabilitation cycle is assumed with the mining footprint of ~10-15ha at any time of the operation.

Conceptual processing flowsheet



Source: Company

Infrastructure

The Project is located in a sparsely populated area with limited existing infrastructure. Power demand is estimated at ~6MW, to be supplied by onsite diesel generators, with solar plus battery storage expected to supplement less critical loads. Freshwater is planned to be sourced from boreholes and water harvesting ponds during the rainy season, with >75% of process water recirculated.

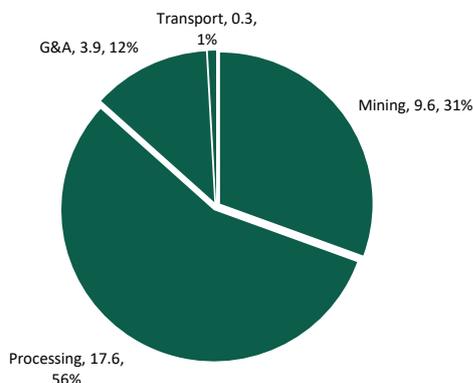
Labour is expected to be sourced and trained locally, with Ambanja (~50,000 population) the nearest major community (~40km away). Expatriate staffing is expected to be minimal. The licence is accessible, located ~2km from the N6 regional highway.

2026 PFS – 5Mtpa/~4.1ktpa TREO delivering ~\$250M NPV10 and 30% IRR

The Company released the Ampasindava Project PFS in January 2026. Key highlights include:

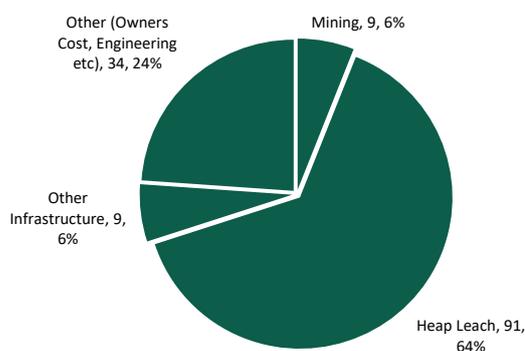
- 88Mt at 1,527ppm TREO / 453ppm MREO mining inventory and 0.15x WO ratio
- 18y LOM at full capacity
- 5Mtpa processing capacity (with a relatively conservative 4-5y ramp up period)
- ~6.8ktpa MREC (60% TREO)
- Gross production of ~4.1ktpa TREO and 1.7ktpa MREO including:
 - ~1,600tonnes pa NdPr
 - ~18 tonnes pa Tb
 - ~92 tonnes pa Dy
- \$63/kg TREO revenue (post 75% payability accounting for MREC downstream separation costs)
- ~\$31/kg TREO C1 FOB opex
- ~\$142M development capex
- Base Case Post Tax NPV10 (100%) and IRR of \$250M and 30%, 4y payback (using ~\$155/1,675/410/kg NdPr/Tb/Dy pricing)

OPEX b/d (C1FOB)



Source: Company, SPA

CAPEX b/d with low mining costs due to contract fleet



Source: Company, SPA

More project details are provided in the table below.

Ampasindava PFS (100%, 2025)

Parameter	Unit	Amount
LOM	Years	20
LOM Feed	M tonnes	88
LOM Waste	M tonnes	13
LOM Strip Ratio	Avg	1:6
LOM TREO Head Grade (static model)	ppm	1,525
Total REO Feed	k tonnes	134.6
Total REO Production	k tonnes	71.1
Average REO Production	k tonnes / annum	3.5
Average TREO Payability	%	75
Total LOM Revenue	US\$M	4,481.7
REO Revenue	US\$ / kg REO	63
Magnet REO (NdPr + DyTb) Ratio in Conc.	%	42%
Magnet REO Value in Conc.	%	93%
Total LOM OPEX	US\$M	2,743
OPEX, average	US\$M / annum	137.1
OPEX, average	US\$ / tonne Ore	31.3
OPEX, average	US\$ / kg REO	38.5
CAPEX, upfront	US\$M	142
CAPEX, ongoing	US\$M	19
EBITDA	US\$M	1,502
Free Cash Flow (Post Tax)	US\$M	1,015
Net Present Value (Post Tax) (Real) 10%	US\$M	249.6
Internal Rate of Return (Real, Unlevered) IRR	%	30
Payback	Years	4

Source: Company

Risks

We highlight below a selection of key project risks. These are not exhaustive and span geological, metallurgical, operational, commercial, regulatory, financial and market-related factors typical of upstream mining development projects.

Geology

The PFS mine plan is based on 88Mt at ~1,500ppm TREO, compared with a total MRE of ~700Mt at ~870ppm TREO (500ppm COG). While selective mining of higher-grade material is common practice, any negative grade reconciliation versus the assumed ~1,500ppm feed grade could materially impact project economics.

This risk is particularly relevant for ionic adsorption clay deposits, which are generally lower grade than hard rock projects and therefore more sensitive to grade dilution and variability.

Metallurgy

SGS Lakefield testwork indicates the deposit is amenable to ion-exchange leaching, with high recoveries of key MREOs, low radionuclide mobilisation and technical feasibility of heap leaching. However, testing was conducted on relatively small-scale column samples and higher-grade material (~2,000ppm TREO) versus the ~1,500ppm mine plan grade and ~870ppm average MRE grade.

Achieving targeted recoveries under mild leaching conditions (pH ~4) is central to maintaining low operating costs and supporting projected economics. Further metallurgical testing across a broader range of representative material will be required. The planned demonstration plant is intended to validate flowsheet assumptions, de-risk scale-up and produce MREC samples for product qualification and potential offtake discussions.

Regulatory

Changes to the Mining Code, fiscal terms or state participation could materially alter project economics through variations in royalties, taxation or government interest.

The Project is currently held under PR6698 and is under application for conversion from Exploration Licence to Exploitation Licence. The Exploration Licence expired in November 2021 after being extended twice (the maximum number of times allowed) by previous owners. The conversion application was submitted in September 2020 and endorsed under the conversion process.

Following the lifting of the 16-year suspension on issuance of new mining permits in early 2026 (post enactment of the 2023 Mining Code), the Company expects conversion to be granted in due course. Nevertheless, timing and outcome remain key permitting risks.

Pricing

Project economics are highly leveraged to pricing of NdPr, Tb and Dy, which together account for >90% of projected revenues. REE markets are historically volatile and structurally concentrated, with China controlling >60% of upstream supply and >90% of downstream processing capacity via a quota-driven system.

Any sustained decline in MREO pricing or compression of ex-China premiums would negatively affect project returns.

Funding Risk

Mining projects are capital intensive and dependent on access to equity and debt markets. Funding availability is influenced by project economics, underlying commodity prices and broader capital market conditions at the time of financing.

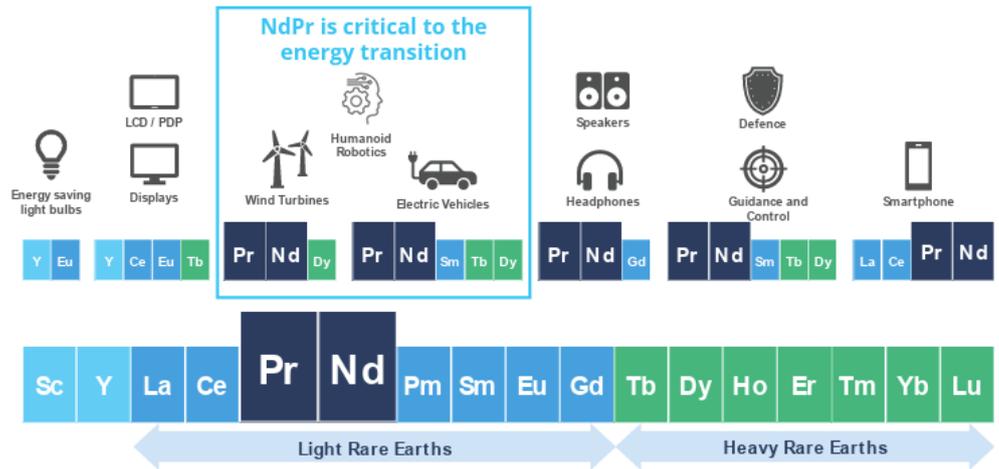
Board and Senior Management

Board of Directors	Role	Comments
Ivan Murphy	Executive Chairman	Mr Murphy has over 25 years of experience in sourcing, structuring, and raising public and private equity capital for companies in the natural resources sector. He has held senior roles including Director at GazpromBank Invest MENA, Partner at Fairfax Investment Bank, Managing Director of Aberdeen Asset Management, and Executive Chairman of Tantalus Rare Earths, the previous owner of the Ampasindava Project. During his prior involvement with Ampasindava, Ivan introduced the project to potential development partners across the US and Europe. He was also a founder director of Cove Energy PLC, which was acquired for US\$1.5B, and previously secured US\$20M of private equity financing for Aladdin Middle East, a Turkish oil and gas exploration and production company.
Allan Mulligan	Technical Director	Mr Mulligan is a mining engineer with over 35 years of management and production experience across mining operations. His career includes 14 years with Lonmin, where he held a range of senior technical and operational mine management roles. Allan was also the Founder and Managing Director of ASX-listed Walkabout Resources (ASX: WKT). He has direct rare earth development experience, having previously managed the Makuutu Rare Earth Project in Uganda, owned by Ionic Rare Earths.
Jack Allardyce	Interim CFO	Mr Allardyce has substantial listed company experience, with a strong track record as a CFO and senior finance executive across the natural resources sector.
Tim Morrison	Non-Executive Director	Mr Morrison has more than 20 years of experience in capital markets, spanning private venture fund management and public listed markets. Timothy has been involved in listing of a number of businesses on the ASX. Most recently Timothy was the founding shareholder and Director of Galena Resources Limited (ASX: G1A) taking the company from listing through to construction phase.
Stephen Weir	Non-Executive Director	Mr Weir has more than 25 years of experience in equity capital markets, with a strong background in mining and finance. He was most recently the CEO of ASX-listed Magnetite Mines (ASX: MGT) and has held senior roles across corporate advisory, project finance, and construction management.
Paul Richards	Non-Executive Director	Mr Richards is a qualified solicitor and experienced investment banker with over 35 years of experience, having advised on numerous IPOs and private capital raisings across a range of sectors including natural resources. He previously served as an Executive Director of Tantalus Rare Earths, the former owner of the Ampasindava Project. Paul is currently Executive Chairman of TES Holdings Limited, a waste oil and water treatment business operating in Colombia.

REE Market Overview

Rare earth elements (REEs) comprise 17 chemically similar elements: the 15 lanthanides (Lanthanum to Lutetium; atomic numbers 57–71), plus Scandium (Sc, 21) and Yttrium (Y, 39). Yttrium commonly occurs in the same ore deposits as the lanthanides and shares similar chemical properties, while scandium may occur in REE-hosting minerals but exhibits different chemical behaviour.

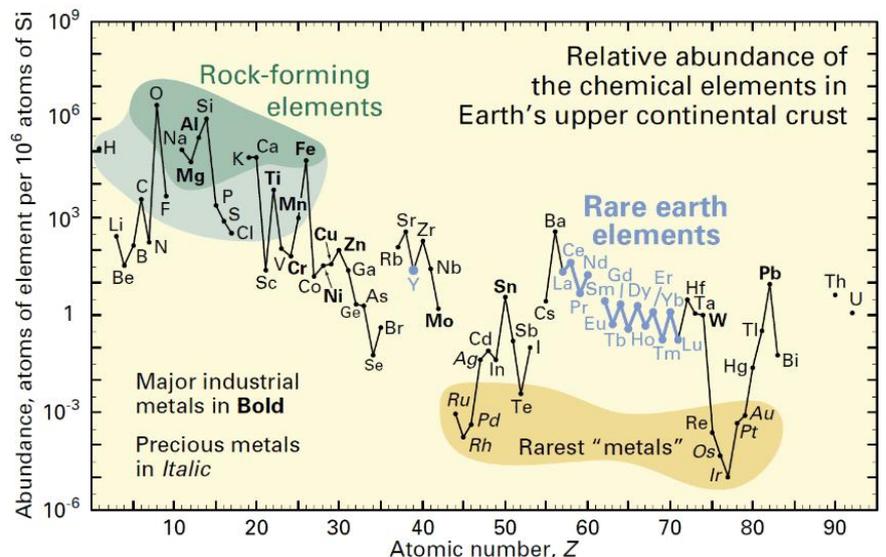
REEs and key end markets



Source: Hastings (2025)

Despite their name, REEs are not geologically rare in crustal abundance; rather, they are rarely concentrated at economically viable grades. For context, tin (Sn), molybdenum (Mo), uranium (U) and tungsten (W) are less abundant than neodymium and praseodymium, while precious metals and PGMs are less abundant than all REEs.

REEs crustal abundance vs other key elements



Source: Wikipedia

REEs are broadly divided into:

- Light REEs (LREEs): atomic numbers 57–64
- Heavy REEs (HREEs): atomic numbers 65–71

HREEs typically command pricing premiums but represent a smaller market in volume terms.

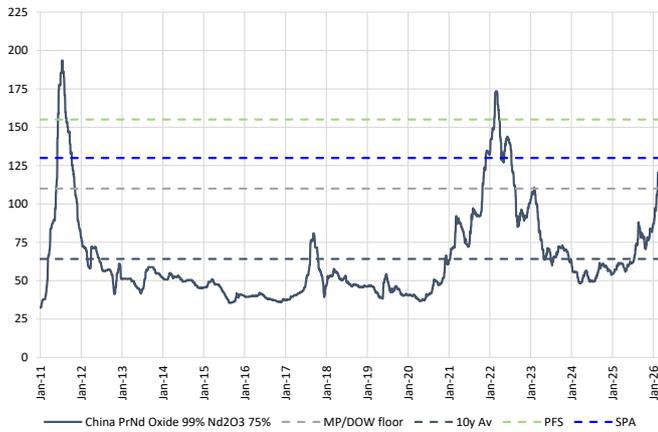
Recent pricing trends show most magnet REEs (MREOs) trading above their respective 10-year averages on Chinese benchmarks (except Dy). European quotes for selected HREEs (Dy, Tb and Y) indicate premiums of 4–5x and, in the case of Y, >15x versus Chinese domestic prices, although traded volumes behind these quotes remain unclear. The emergence of bifurcated pricing reflects export controls implemented by Beijing in April and October 2025 and may persist if geopolitical tensions remain elevated.

REO prices, US\$/kg basis

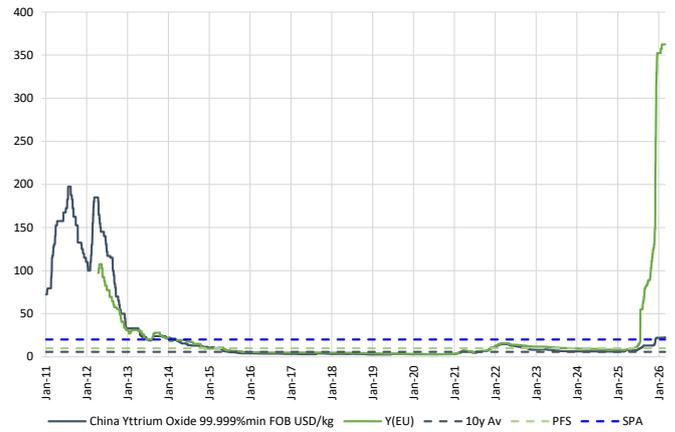
	LREE	HREE	HREE	HREE	HREE	HREE	HREE	HREE	HREE	HREE	HREE	HREE	HREE								
	NdPr	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Sc	Y	Tb(EU)	Dy(EU)	Y(EU)
28/02/2026	129	1	2	137	136	NA	2	25	35	1,108	251	81	62	NA	14	750	682	23	4,830	1,115	363
YTD period	47%	1%	7%	44%	42%	NA	1%	0%	55%	2%	4%	16%	13%	NA	5%	1%	1%	2%	1%	1%	3%
10y Average	64	2	2	70	67	NA	2	40	29	901	265	81	34	NA	16	711	934	6	NA	NA	13

Source: AsianMetal

Neodymium Praseodymium (US\$/kg)



Yttrium (US\$/kg)



Terbium (US\$/kg)



Dysprosium (US\$/kg)



Source: AsianMetal

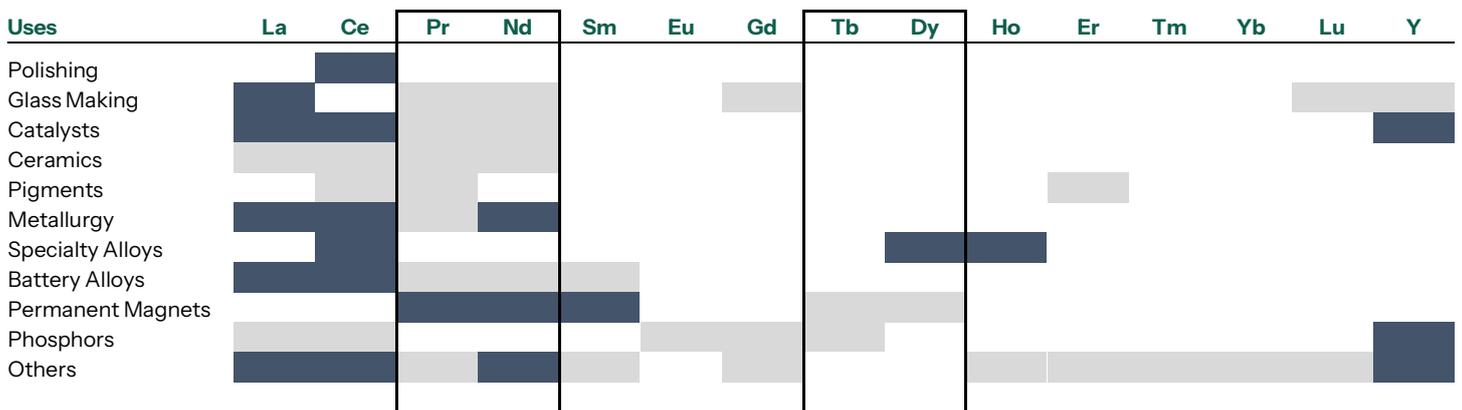
Source: AsianMetal

Demand

The REE market is relatively small in absolute terms, but the unique magnetic, optical, catalytic and electronic properties of REEs make them difficult to substitute across diverse end markets, including industrial, commercial, healthcare and defence applications.

End-use markets can broadly be grouped into:

- Mature markets: catalysts, glass, polishing, metallurgy and phosphors
- High-technology markets: permanent magnets, battery alloys and advanced ceramics



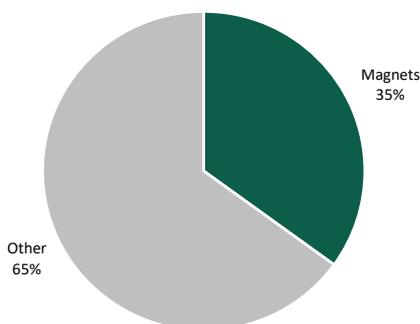
Dark blue/light grey are major/minor markets
MREOs ie Pr/Nd/Tb/Pr highlighted

By application, permanent magnets account for ~35% of total REE demand by volume but >80% by value in 2025 (Aclara Carina PFS, 2025). This share is expected to increase toward ~50% of volume and >90% of value by 2040.

NdFeB magnets are stronger per unit of weight and volume than alternative magnet types and retain magnetic properties at elevated temperatures. They are critical components in:

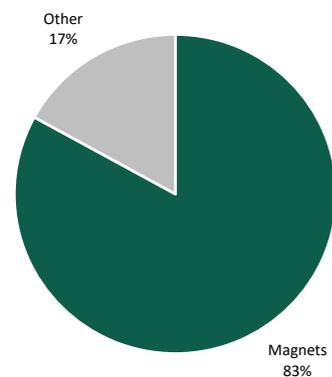
- EV traction motors
- Wind turbine generators
- Industrial and humanoid robotics
- Drones and defence systems

2025 REEs demand breakdown by applications (by volume)



Source: Aclara

2025 REEs demand breakdown by applications (by value)

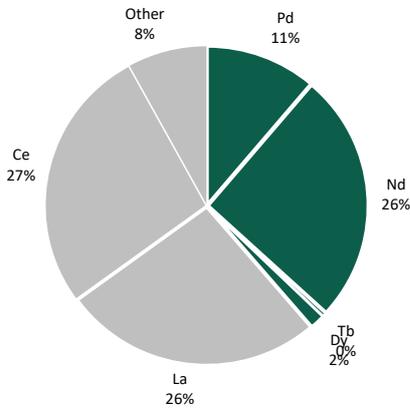


Source: Aclara

Across the REE spectrum, the four higher-value elements used in permanent magnets — Nd, Pr, Tb and Dy (collectively MREOs/MREEs) — account for ~40% of REE volume but >95% of market value. By contrast, lower-value La and Ce represent >50% of volume but a small proportion of value.

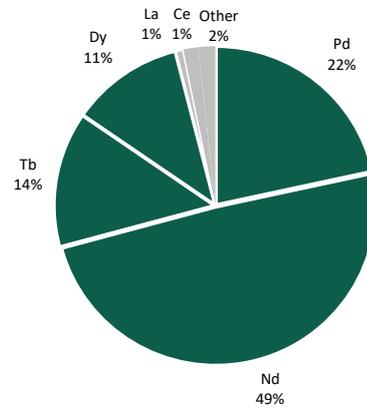
As such, assemblage (grade breakdown) is critical in assessing project economics. Deposits enriched in HREEs – particularly ionic clay systems – benefit from the disproportionate value contribution of low-volume, high-value elements such as Tb and Dy.

2025 REEs demand breakdown by element (by volume, MREOs in dark green)



Source: Aclara

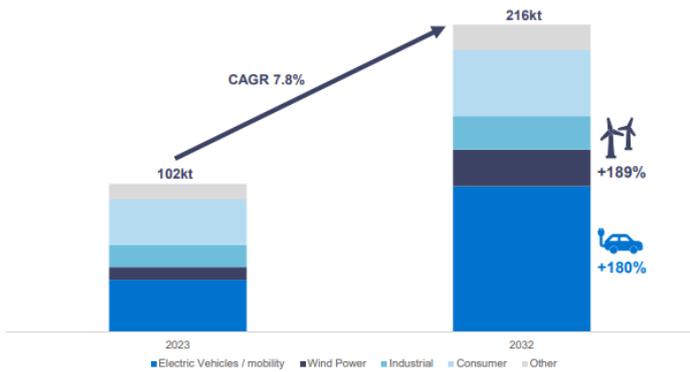
2025 REEs demand breakdown by element (by value, MREOs in dark green)



Source: Aclara

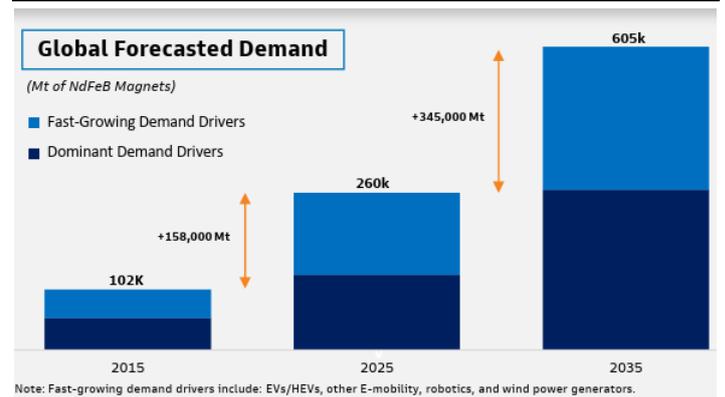
Demand for MREOs and NdFeB magnets is expected to more than double over the next decade, led by EV adoption, with renewables providing a secondary growth pillar.

MREO (PrNdTbDy) demand by industry



Source: Hastings (2023)

NdFeB magnets demand (tonnes)



Source: Neo Performance Materials (2025)

EV-related demand could represent nearly half of total MREO demand by the early 2030s and be 3-4x the size of wind-related demand. On average:

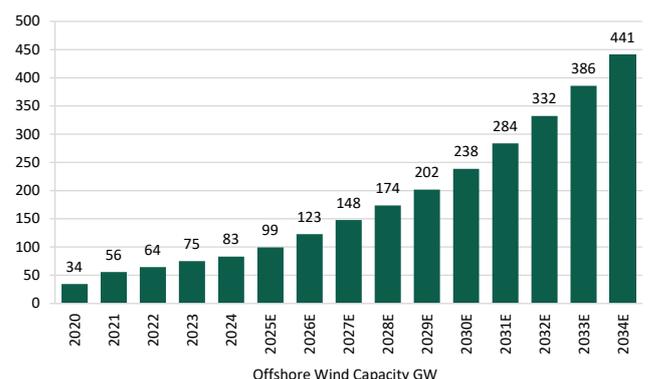
- EVs use ~2kg of permanent magnets per vehicle (5-10x that of ICE vehicles)
- Offshore wind turbines require ~400kg/MW of NdFeB magnets

EV sales growth estimates



Source: PLS (2025)

Offshore wind power generation capacity projections



Source: Global Offshore Wind Report, GWEC (2025)

Industrial and humanoid robotics represent an emerging incremental demand driver. Estimates suggest the humanoid robotics market could grow from ~US\$3B (2024) to >US\$45B by the early 2030s (~50% CAGR; Hastings, 2024).

Absent a de-escalation in geopolitical tensions, higher global defence budgets are also expected to support incremental demand growth.

EV sales are projected to increase to ~60M units by 2035 (from ~20M in 2025; ~12% CAGR), while offshore wind capacity is forecast to grow at ~18% CAGR over the coming decade. See Appendix 2 for a more detailed description of end markets.

Supply

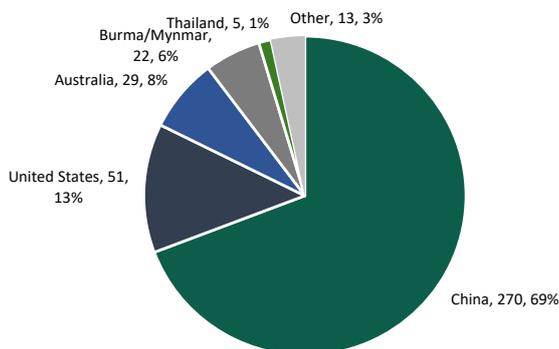
The REE market remains small in absolute terms, with annual supply estimated at ~200–400ktpa depending on source (USGS ~390kt vs Project Blue/Argus ~200–250ktpa TREO basis).

Indicative MREO breakdown (TREO basis ~200–250ktpa):

- NdPr: ~70–90ktpa
- Dy: ~3.5ktpa
- Tb: ~1.5ktpa

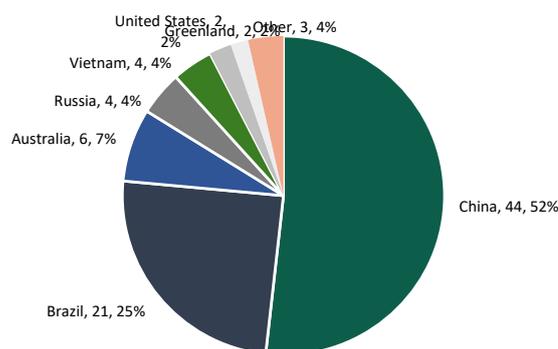
In value terms, the TREO market is ~US\$10B annually (with ~95% attributable to MREOs), compared to >US\$800B for gold (~5kt incl. secondary at US\$5,000/oz) and >US\$350B for copper (~27Mt incl. secondary at US\$13,000/t).

2025 global production of 390kt REEs breakdown (kt)



Source: USGS

REE global reserves (>85Mt) breakdown (Mt)

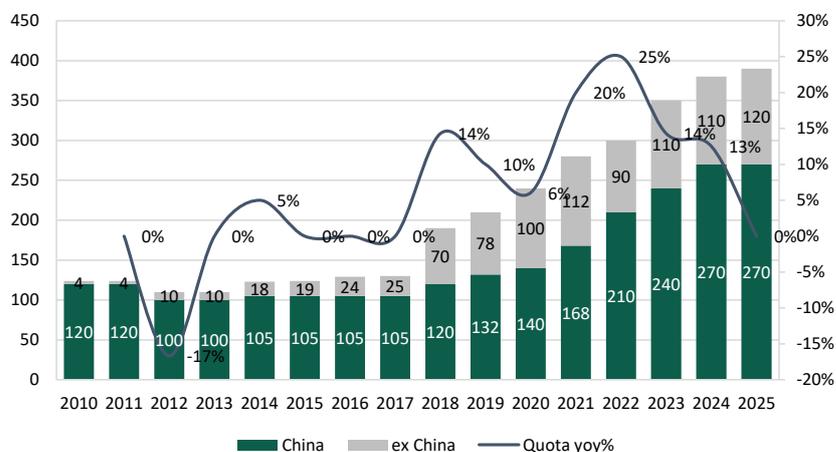


Source: Ore Geology Reviews (2023)

China accounts for ~60% of mined REE supply through its quota system (in place since 2006). Outside China, the US (Mountain Pass), Australia (Mount Weld) and Myanmar are the main producers, with the top four jurisdictions accounting for >95% of upstream supply.

Upstream supply of HREE is further dominated by China including HREE concentrates imported from Burma/Myanmar and Laos for separation (~90–95%) as ex-China operations are predominantly LREE/HREE heavy/light with commercial production from HREE heavy Ionic Adsorption Clay deposits currently available exclusively in China/Myanmar (apart from Serre Verde operations in Brazil).

China REOs production quotas vs global supply (China >60% of world production), kt



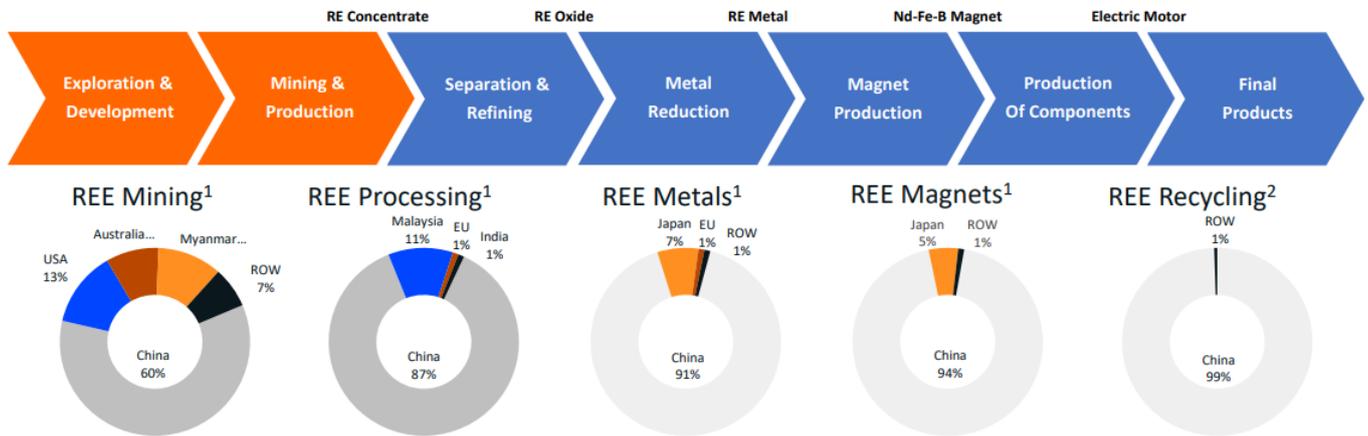
Source: USGS (2025)

China has demonstrated its ability to adjust supply rapidly via the quota system. Quotas increased to 270kt between 2020–2024 as prices peaked in 2022 before

normalising in 2024. Authorities did not publish 2025 quotas amid heightened US-China tensions, increasing market opacity (graph assumed no change from last reported 270kt in 2024).

Further downstream, China holds dominant positions in separation, refining, magnet manufacturing and recycling, reflecting decades of industrial development and technical expertise.

REE supply chain from concentrate to sintered NdFeB magnets and REE recycling



Source: Ionic Rare Earths (2023)

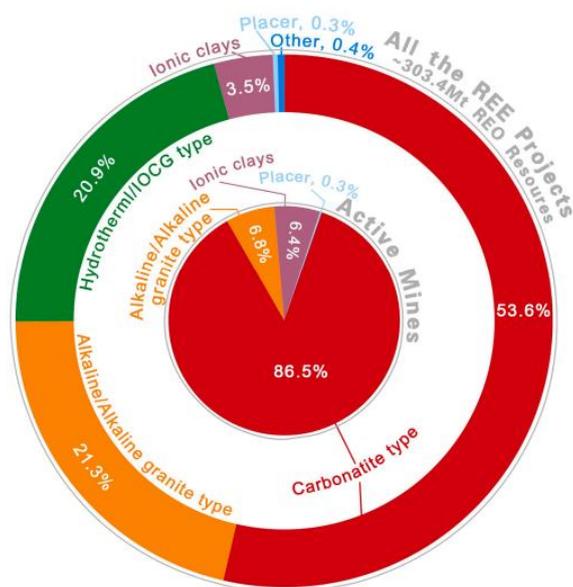
Reflecting concentrated nature of supply and key role REE play in development of renewable energy sources, transport electrification and defence applications, major developed Western economies designated most of REEs as “critical minerals” including the US and the EU (see Appendix 3)

Mineralisation wise, deposits are differentiated by formation processes including:

- Primary – carbonatite, alkaline igneous rock and hydrothermal type deposits;
- Secondary – ionic clay, placer and marine sediment type deposits.

Currently, carbonatite type projects account for majority of REE supply.

REE deposits by type (both total and in production)



Source: Ore Geology Reviews (2023)

Primary deposits are found in northern China, western and central Australia, North America, Africa, Brazil, Europe and Greenland. They are typically higher grade and in case of carbonatites are major suppliers of LREE (notably Pr and Nd).

Baya Obo, the world's largest REE operation (Inner Mongolia, China)



Source: Google Earth

Mountain Pass, the only operating REE mine in the US (<100km from Las Vegas, Nevada)



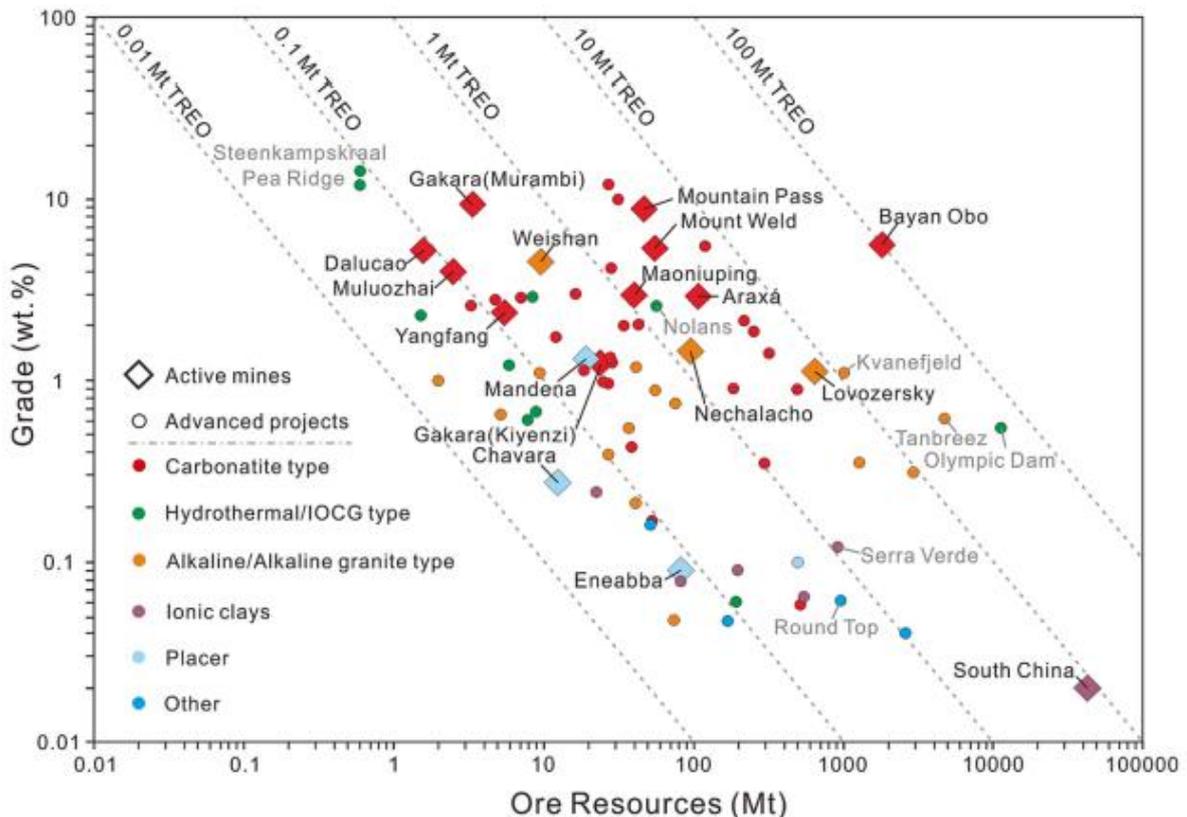
Source: Google Earth

Secondary deposits hosting weathered products of hard rock mineralisation are mainly found in southern China, southeastern Asia, the southern coast of Australia and the eastern coast of South America. Ionic clay and placers (REE are contained in monazite and treated as by product of heavy mineral sands) are typically large, lower grade and tend to contain more HREE (South China share of HREE in TREO is 51% v 1% at Bayan Obo). Currently, ionic clays are only operated in China and Southeast Asia (and Serra Verde operation in Brazil) using low cost in situ and heap leaching.

Refer to a list of hardrock and clay hosted REE projects on p10. In China, examples of hard rock and clay hosted operations are:

- Bayan Obo (100mt TREO contained @ 5.6%) run by state owned China Northern Rare Earth, Inner Mongolia, China;
- South China (8mt TREO @0.02%) operated by state owned China Rare Earth Group, an amalgamation of three producers in the province of Jiangxi, China.

Tonnage and grades of respective REE mines and deposits (by deposit type)



Source: Ore Geology Reviews (2023)

REE deposits are typically found with radioactive elements like thorium and uranium in varying amounts that may complicate permitting, processing, waste deposition and logistics of the product. Among three main carbonatite hosted REE containing minerals like bastnasite (eg Bayan Obo (bastnasite/monazite ratio 1.0/0.1-0.5), Mountain Pass, Ngualla), monazite (eg Mount Weld, Longonjo) and xenotime (eg Browns Range), large amounts of thorium are commonly found in monazite that require appropriate separation methods in the flowsheet.

In contrast, U and Th levels are typically low in ionic clay deposits.

Uranium and thorium content in rare earth minerals

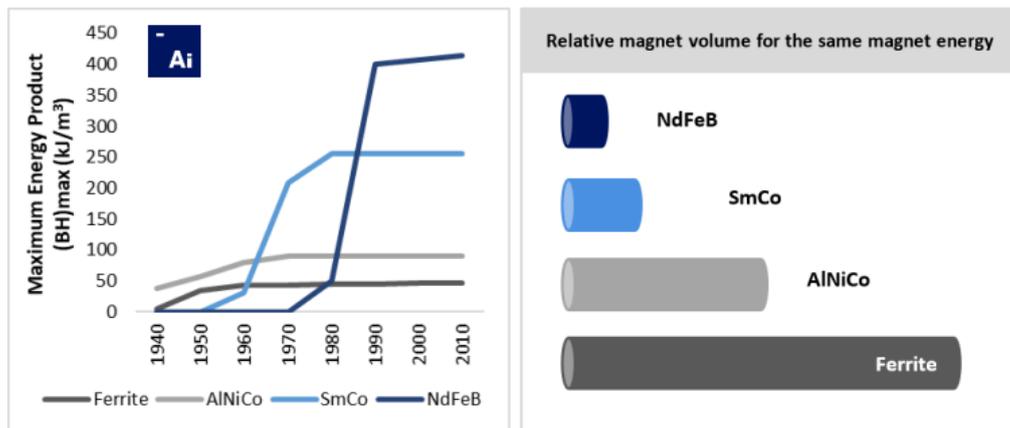
Minerals	Chemical formula	Weight percentage (%)		
		REO	ThO ₂	UO ₂
Bastnasite	(Ce,La)(CO ₃)F (La, Ce)(CO ₃)F Y(CO ₃)F	70–74	0–0.3	0.09
Monazite	(Ce,La,Nd,Th)PO ₄ (La,Ce,Nd,Th)PO ₄ (Nd,Ce,La,Th)PO ₄	35–71	0–20	0–16
Xenotime-Y	YPO ₄	52–67	–	0–5

Source: Minerals Engineering

Why NdFeB permanent magnets are so widely used?

NdFeB (neodymium-iron-boron) permanent magnets, developed and commercialised in the 1980s as a lower-cost alternative to samarium-cobalt (SmCo) alloys, are currently the most efficient commercially available magnets on an energy-per-weight basis. Their superior magnetic strength and energy density enable smaller, lighter and more efficient motors and generators, underpinning broad adoption across high-growth end markets.

NdFeB permanent magnet introduction and efficiency compared to alternatives



Source: Mkango (2022)

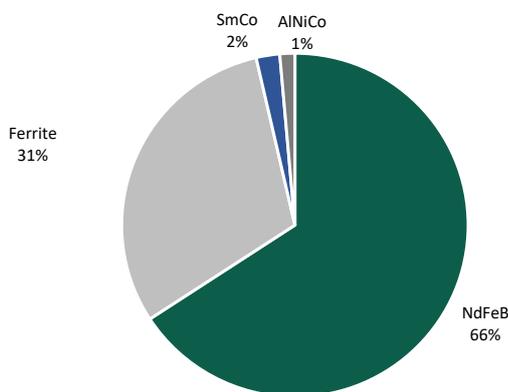
NdFeB magnets largely displaced SmCo in applications where size, weight and cost are critical, while also enabling miniaturisation in consumer electronics and performance gains in industrial systems.

Compared with alternatives:

- SmCo magnets offer higher temperature and corrosion resistance but are more expensive;
- Ferrite magnets are the lowest-cost option but have materially weaker magnetic performance.

NdFeB magnets are estimated to account for ~two-thirds of the global permanent magnet market.

Permanent magnets market share



Source: CEPS INSPIRES (2022)

In addition to neodymium, iron and boron, NdFeB magnets typically incorporate smaller quantities of praseodymium, dysprosium and terbium to enhance high-temperature performance and coercivity. Minor additions of copper, cobalt, niobium and other metals are used to fine-tune magnetic and mechanical properties for specific applications.

NdFeB magnets are produced in two main forms:

- Sintered NdFeB (~90% of market) – fully dense magnets with high strength-to-weight ratios, suited for high-performance applications such as EV traction motors, wind turbine generators and industrial drives.
- Bonded NdFeB (~10% of market) – lower magnetic performance but greater design flexibility, allowing customised shapes and magnetic orientation. Commonly used in consumer electronics and compact devices.

NdFeB permanent magnets applications are diverse including consumer electronics, industrial applications, white goods like refrigerators and washing machines, wind turbines, ICE and EV vehicles. Despite a number of end markets, the consensus is EVs and wind turbines as well as emerging robotics industry are set to be major demand drivers moving forwards.

NdFeB magnet intensities for different products are provided below.

Indicative NdFeB demand intensities by product type

Application category	Application	Lifetime (years)	Magnet weight (kg or kg/MW)
	EVs	13	1,9
Mobility applications	Conventional vehicles	12	0,225
	Electric bicycles	6	0,27
	Electric scooters	6	0,27
	Electric motorbikes	6	0,27
Energy applications	Wind turbines (onshore)	25	160*
	Wind turbines (offshore)	30	650**
	Desktop computers	8	0,013
	Laptop computers	6	0,005
Consumer electronics	Smartphones	3	0,001
	Printers	5	0,015
	Digital cameras	6	0,005
	Electric shavers	4	0,001
Acoustic devices	Headphones & earphones	9	0,0017
	Microphones	9	0,0017
	Loudspeakers	9	0,026
Home appliances	Washing and drying machines	12	0,135
	Air conditioners	11	0,325
	Refrigerators	15	0,2
	Dishwashing machines	12	0,05
Industrial applications	Industrial robots	12	8,5
	Industrial pumps	22	0,35
	Industrial motors	13	0,175

Notes: *Hybrid drive; ** Direct drive.

Source: CEPS INSPIRES (2022)

Appendix 1 – Location of selected REE deposits

Geographical distribution of selected REE operations and deposits



Source: Ore Geology Reviews (2023)

Appendix 2 – REE end markets

REE end uses by category

End-Use Category	Description
Battery Alloys	Rare earth elements are used to produce anode materials for nickel-metal hydride ("NiMH") batteries. NiMH batteries are used in hybrid electric vehicles, consumer electronics, cordless shavers, cordless power tools, baby monitors and other applications of rechargeable batteries.
Catalysts	Rare earth elements, such as cerium and lanthanum, are used in catalytic converters of gasoline- and diesel-powered vehicles, as well as fuel cracking catalysts and additives used by oil refiners to break down crude oil into lighter distillates, such as gasoline, diesel, kerosene and more.
Ceramics, Pigments and Glazes	Rare earth elements are used to produce decorative ceramics, functional ceramics, structural ceramics, bio ceramics and many other types of ceramics used in everything from jet engine coatings to ceramic cutting tools, dental crowns, ceramic capacitors, ceramic tiles, and more.
Glass Polishing Powders and Additives	Rare earth elements, such as cerium, are used to polish optical glass, hard disk drive platters, LCD display screens and gemstones, among a long list of applications. Cerium is also used as an additive in UV-filtering glass and container glass, whereas lanthanum, yttrium and gadolinium are used to produce high quality optical glass used in camera lenses, microscopes and telescopes.
Metallurgy and Alloys	Rare earth mischmetal (a mixture of light REE metals) is used during production of some types of steel, as well as ductile iron making. Rare earth elements are also used to produce a variety of different alloys, such as ferro-cerium, ferro-holmium, ferro-gadolinium, ferro-dysprosium and a growing list of others.
Permanent Magnets	Rare earth elements are used to produce high-strength permanent magnets that have enabled the production of ubiquitous gadgets and electronics, such as mobile phones and laptops, as well as power dense energy-efficient electric motors and generators used in electric vehicles, wind power generators, energy efficient appliances and hundreds of other applications.
Phosphors	Rare earth elements are used in phosphors for energy efficient lamps, display screens and avionics, and are added to fiat currency in some nations as an anti-counterfeit measure.
Other	Aside from the above described end uses and categories, rare earth elements are used in a long list of other end uses and applications, including many in defense, medicine, agriculture, high-tech and chemical industries.

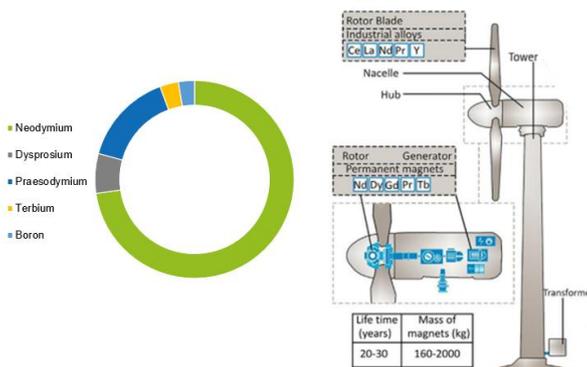
Source: Mkango (2022)

Rare earths used in an electric vehicle, a major demand driver for MREOs



Source: European Raw Materials Alliance (ERMA)

REEs used in an offshore wind turbine



Source: Golroudbary, Makarava et al. 2022; Renewable and Sustainable Energy Review, 2022

REEs use in military applications

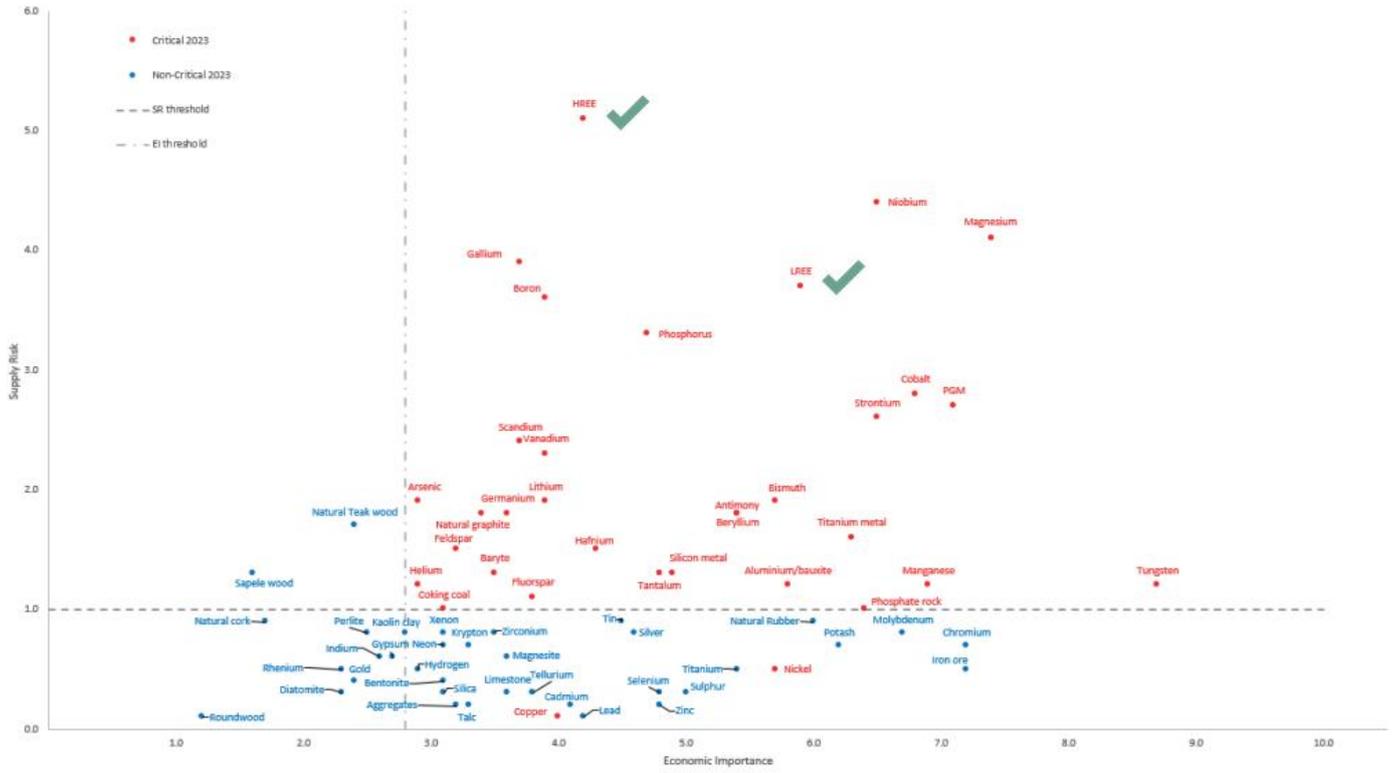
REOs		Use
Pr	LREE	Magnets & motors; missile systems; jet propulsion; electronics
Nd	LREE	Magnets & motors; missile systems; navigation systems; electronics; lasers
Dy	HREE	Magnets & motors; missile systems; navigation systems; jet propulsion; nuclear technology
Tb	HREE	Magnets & motors; missile systems; navigation systems; jet propulsion
Y		Armor & structural; navigation systems; jet propulsion; lasers
Gd	HREE	Armor & structural; nuclear technology; missile systems
Eu	HREE	Electronics; nuclear technology; navigation systems
Sm	HREE	Magnets & motors; jet propulsion; nuclear technology; navigation systems

	<p>F35 Fighter Jet</p> <p>417kg of REE</p>
	<p>Arleigh Burke DDG-51</p> <p>2,360kg of REE</p>
	<p>SSN-774 Virginia Class Submarine</p> <p>4,170kg of REE</p>

Source: Rainbow Rare Earths (2026), Ionic Rare Earths (2025)

Appendix 3 – EU 2023 Critical Raw Materials List

EU 2023 critical raw materials list (34 in total including LREE and HREE) based on Supply Risk and Economic Importance



Source: European Commission (2023)

Earnings Summary

£M unless stated

Market data		
Ticker		HREE LN
Last price	GBP	3.3
Target price	GBP	9.4
Rec		BUY
GBPUSD		1.35
Mkt cap	£M	23
	US\$M	30
EV	£M	21
	US\$M	28
# of sh in issue	mln	684
Av # traded, 100d	mln	2.9

Operating Metrics		Jun-24	Jun-25
NdPr (China)	US\$/kg	60	58
Tb (China)	US\$/kg	970	852
Dy (China)	US\$/kg	311	232
Gross Production TREO	tonnes	-	-
GBPUSD	tonnes	1.26	1.29
Income Statement		Jun-24	Jun-25
Revenue		-	-
EBITDA		-1.1	-3.3
margin		0%	0%
EBIT		-1.1	-3.3
Net Interest		-0.8	-10.9
Other		-	-
PBT		-1.9	-14.2
Tax		-	-
PAT (att)		-1.9	-14.2
EPS (basic)	pence	-1.7	-10.8
EPS (diluted)	pence	-1.7	-10.8
Cash Flow		Jun-24	Jun-25
CFO (post WC)		-0.7	-0.2
Income Tax Payable		-	-
Net CFO		-0.7	-0.2
Capex (incl Exploration)		-0.2	-0.2
Other		-	-
CFI		-0.2	-0.2
Dividends Paid		-	-
Issue of Shares/Options		-	0.1
Change in borrowings		0.5	0.8
Interest Paid		-0.3	-0.5
CFF		0.2	0.3
Net Cash Flow		-0.8	-0.1
Cash CF		0.0	0.0
Balance Sheet		Jun-24	Jun-25
Cash & Investments		0.0	0.0
Receivables		0.0	0.2
Inventories		-	-
Current Assets		0.1	0.2
Exploration and PPE		1.9	1.9
Equity Investments		-	-
Non-Current Assets		1.9	1.9
Total assets		2.0	2.1
Borrowings		-	-
Payables		1.0	0.6
Current Liabilities		1.0	0.6
Borrowings		2.6	0.6
Non-Current Liabilities		2.6	0.6
Total liabilities		3.6	1.2
Net assets		-1.6	0.9
Key Financial Metrics		Jun-24	Jun-25
Net Debt/(Cash)		2.6	0.5
Av # of Sh (Diluted)		119	131
EV/EBITDA		-	-
PER		-	-
FCF (NCFO-Capex)		-0.9	-0.4
FCF Yield		-	-
DY		-	-
ROA		-	-
P/BV		NA	2.12
Interest Coverage		-	-
Net Debt/EBITDA		-	-

Source: SP Angel, Company

DISCLAIMER: Non-independent research

This note is a marketing communication and comprises non-independent research. This means it has not been prepared in accordance with the legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of its dissemination.

MiFID: Based on our analysis, we have concluded that this note may be received free of charge by any person subject to the new MiFID rules on research unbundling pursuant to the exemptions within Article 12(3) of the MiFID Delegated Directive and FCA COBS Rule 2.3A.19. Further and fuller analysis may be viewed here <http://www.spangel.co.uk/legal-and-regulatory-notice.html>.

This note has been issued by SP Angel Corporate Finance LLP ('SPA') in order to promote its investment services. Neither the information nor the opinions expressed herein constitutes, or is to be construed as, an offer or invitation or other solicitation or recommendation to buy or sell investments. The information contained herein is based on sources which we believe to be reliable, but we do not represent that it is wholly accurate or complete. SPA is not responsible for any errors or omissions or for the results obtained from the use of such information. Where the subject of the research is a client company of SPA we will usually have shown a draft of the research (or parts of it) to the company prior to publication in order to check factual accuracy, soundness of assumptions etc.

No reliance may be placed for any purpose whatsoever on the information, representations, estimates or opinions contained in this note, and no liability is accepted for any such information, representation, estimate or opinion. All opinions and estimates included in this report are subject to change without notice. This note is confidential and is being supplied to you solely for your information and may not be reproduced, redistributed or passed on, directly or indirectly, to any other person or published in whole or in part, for any purpose.

In some cases, this research may have been sent to you by a party other than SPA, and if so, the contents may have been altered from the original, or comments may have been added, which may not be the opinions of SPA. In these cases SPA is not responsible for this amended research.

The investments discussed in this report may not be suitable for all investors. Investors should make their own investment decisions based upon their own financial objectives and financial resources and it should be noted that investment involves risk. Past performance is not necessarily a guide to future performance and an investor may not get back the amount originally invested. Where investment is made in currencies other than the currency of the investments, movements in exchange rates will have an effect on the value, either favourable or unfavourable.

This note is intended only for distribution to Professional Clients and Eligible Counterparties as defined under the rules of the Financial Conduct Authority and is not directed at Retail Clients.

Distribution of this note does not imply distribution of future notes covering the same issuers, companies or subject matter.

SPA has put in place a number of measures to avoid or manage conflicts of interest with regard to the preparation and distribution of research. These include (i) physical, virtual and procedural information barriers (ii) a prohibition on personal account dealing by analysts and (iii) measures to ensure that recipients and persons wishing to access the research receive/are able to access the research at the same time.

You are advised that SPA and/or its partners and employees may have already acted upon the recommendations contained herein or made use of all information on which they are based. SPA is or may be providing, or has or may have provided within the previous 12 months, significant advice or investment services in relation to some of the investments concerned or related investments.

SP Angel Corporate Finance LLP is a company registered in England and Wales with company number OC317049 and its registered office is SP Angel Corporate Finance LLP, 35 - 39 Maddox Street, London W1S 5PP United Kingdom. SP Angel Corporate Finance LLP is Authorised and Regulated by the Financial Conduct Authority whose address is 25 The North Colonnade, Canary Wharf, London E14 5HS and is a Member of the London Stock Exchange plc.

SP Angel Corporate Finance LLP definition of research ratings:

Expected performance over 12 months: Buy - Expected return of greater than +15%, Hold - Expected return from -15% to +15%, Sell - Expected return of less than -15%