

Powering the transition to a cleaner future

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# EUREKA REE Project, Namibia

CORPORATE PRESENTATION - DETAILED

Sept 2022

E-Tech Resources are exploring for the rare earth elements necessary to drive the global transition to clean energy



TSXV: REE | FSE: K2i





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The technical and scientific information in this presentation has been reviewed and approved by Pete Siegfried, BSc. (Hons), M.Sc., who is a Consulting Geologist and a director of GeoAfrica Prospecting Services cc and has reviewed and approved the scientific and technical information in this presentation. Mr. Siegfried is a member of The Australasian Institute of Mining and Metallurgy (AusIMM) membership number: 221116 (CP Geology), and a Qualified Person for the purposes of National Instrument 43-101. Mr. Siegfried consents to the inclusion of this information for the presentation.





01

Neodymium (Nd) is used to make high strength & high-performance neodymium magnets

02

Smart solutions to clean energy sourcing, and efficient power transmission, will be key to our future interconnectivity.

03

High-performance materials are essential for reliable e-mobility and renewable energy generation.

04

Nd is a key rare earth element (along with Praseodymium) to the high-growth, hi-tech markets that support a circular economy.

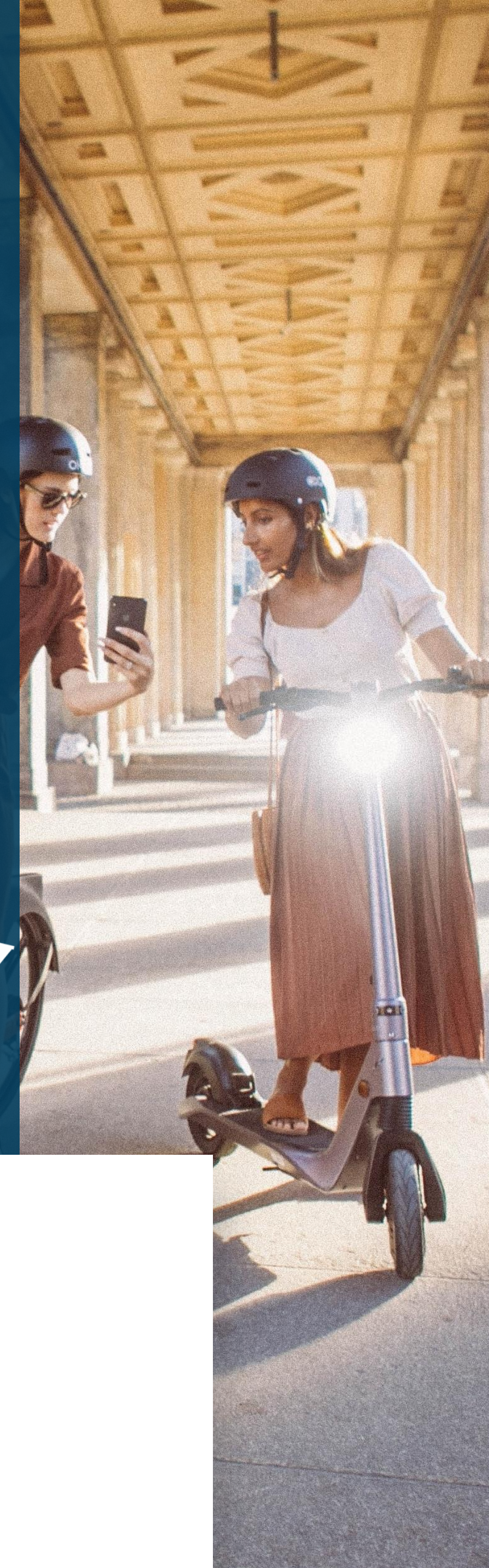
## High-Strength Neodymium Magnets (NdFeB) are used in:

- Electric Vehicles (Full electric and hybrids)
- Wind Turbine generators
- Consumer Electronics
- Speakers
- Defence sector
- Conventional ICE Vehicles
- Other E Mobility
- Air Conditioning

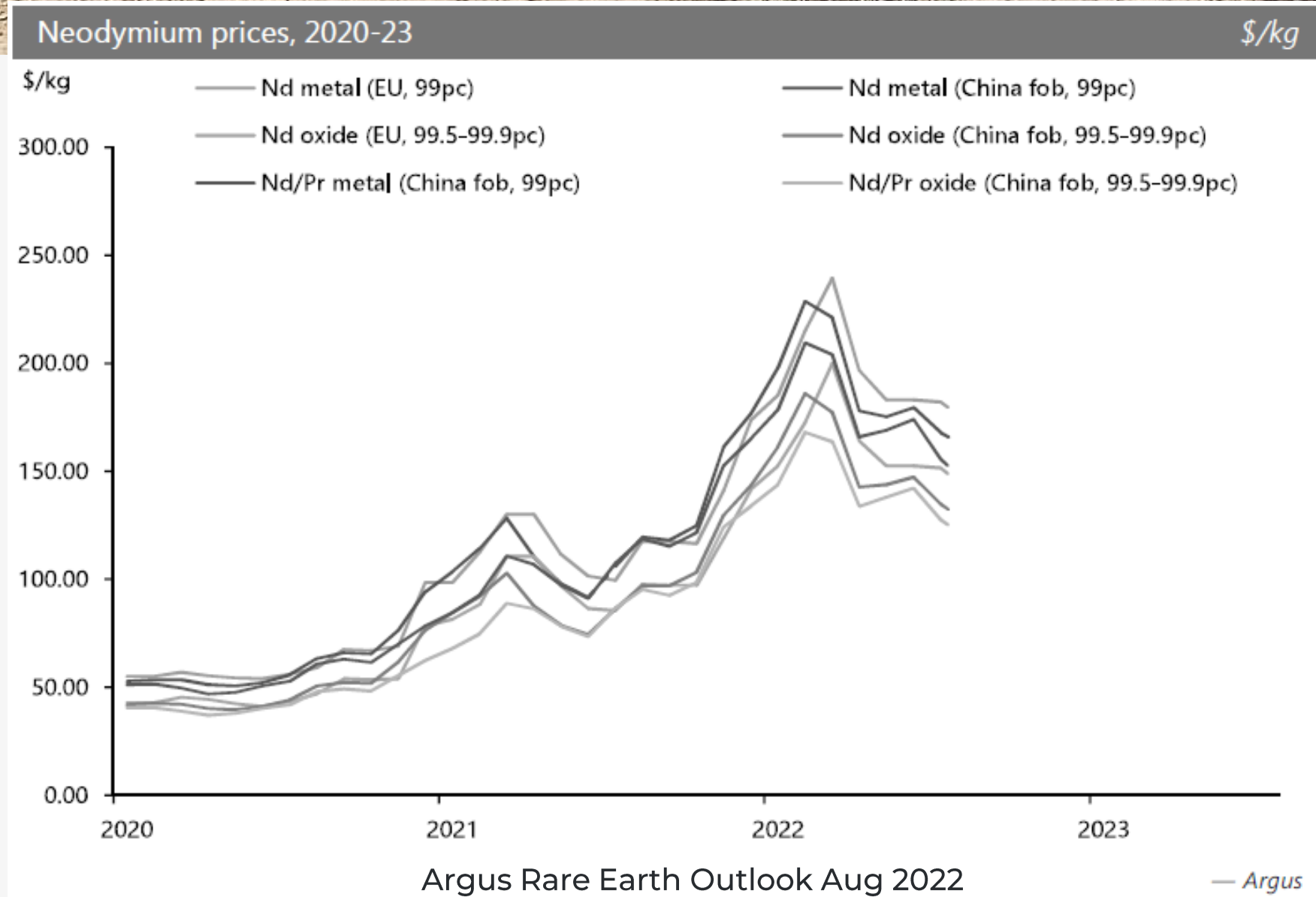


### INTRODUCTION

# WHY NEODYMIUM?







Nd & Pr

# Price Increase

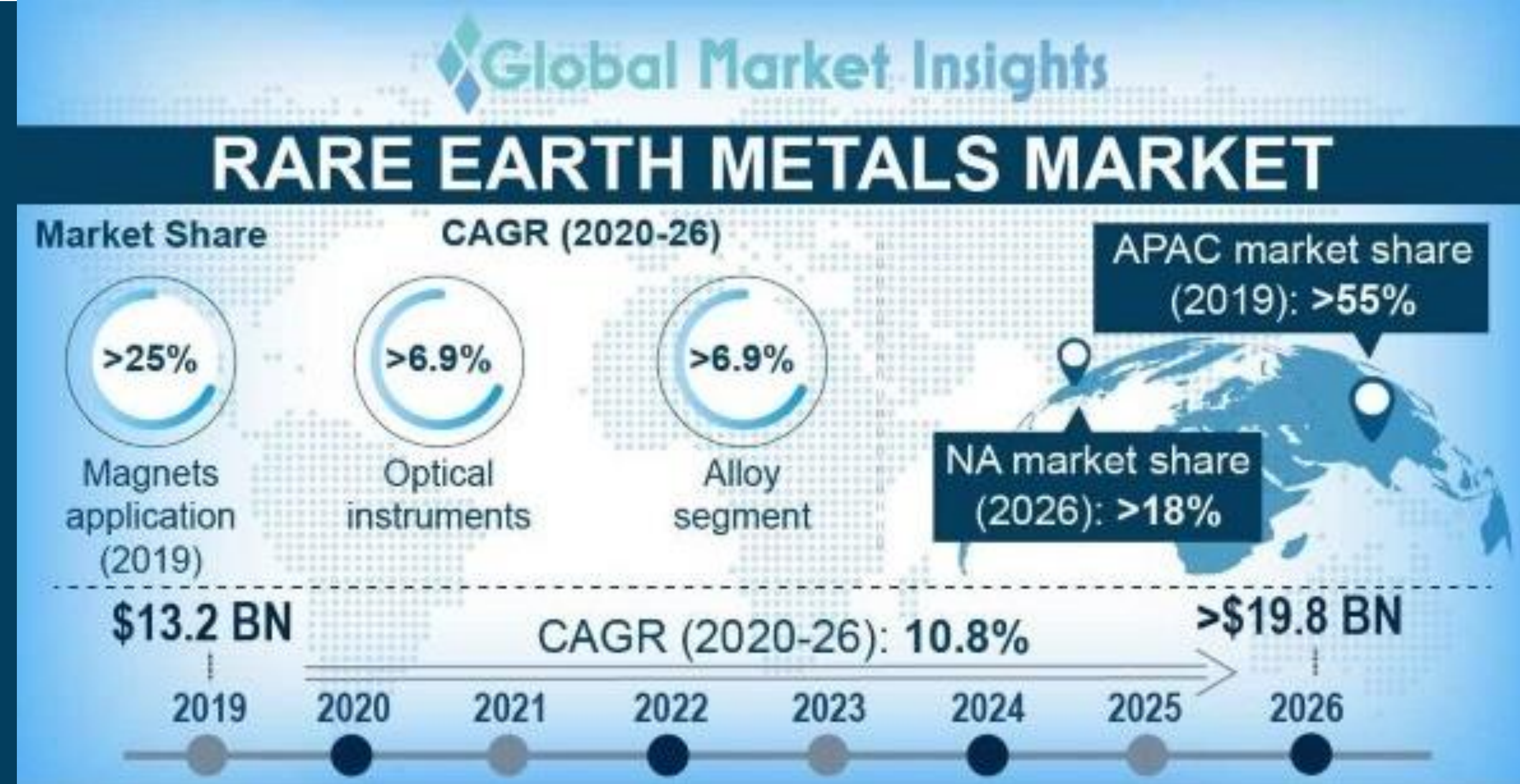
TSXV: REE | FSE: K2i

The REE magnet materials Nd and Pr have experienced more than **150% price increase** over the last 2 years.

- 1 Anticipated deficit for REE magnet supply
- 2 Expected deficit of REE magnet material supply
- 3 Monopolistic & opaque supply from China
- 4 High dependency on import from China
- 5 Increasing domestic demand in China
- 6 Complex and disruptable supply chains
- 7 Underinvestment in ex-China value chains
- 8 Opaque ESG compliance in China – manufacturers increasingly keen to track ethical sources of raw materials



# REE Energy Metals Market Value



### REE METALS MARKET

\$20b

Nearly doubling in the next 5 years

### REE MAGNET DEMAND

+50%

Demand increase in the next 5 years

The drivers are found in the strong demand ramp-up for

**ELECTRICAL EV MOTORS & WIND TURBINES**

### GLOBAL REE METAL & MAGNET SUPPLY

+80%

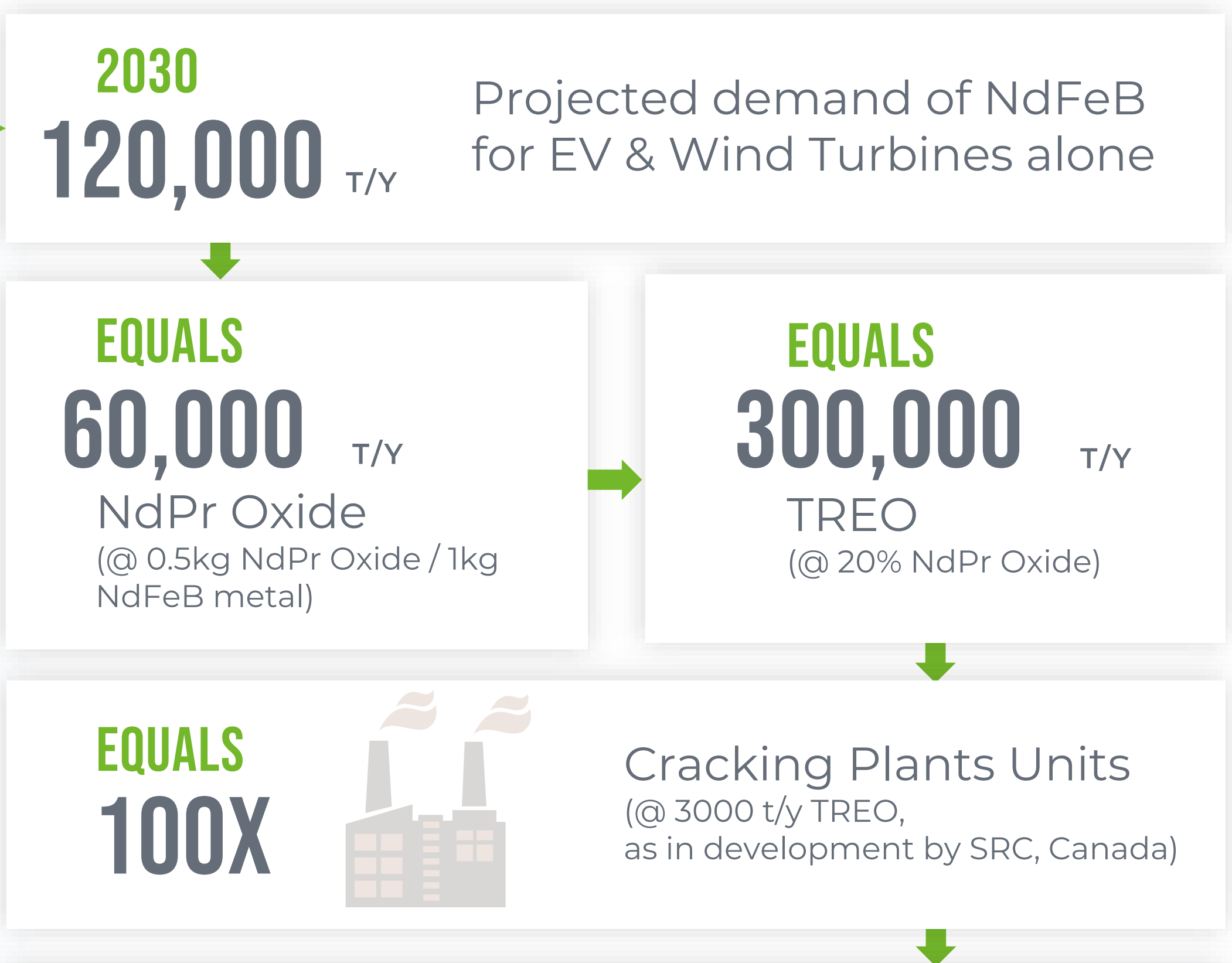
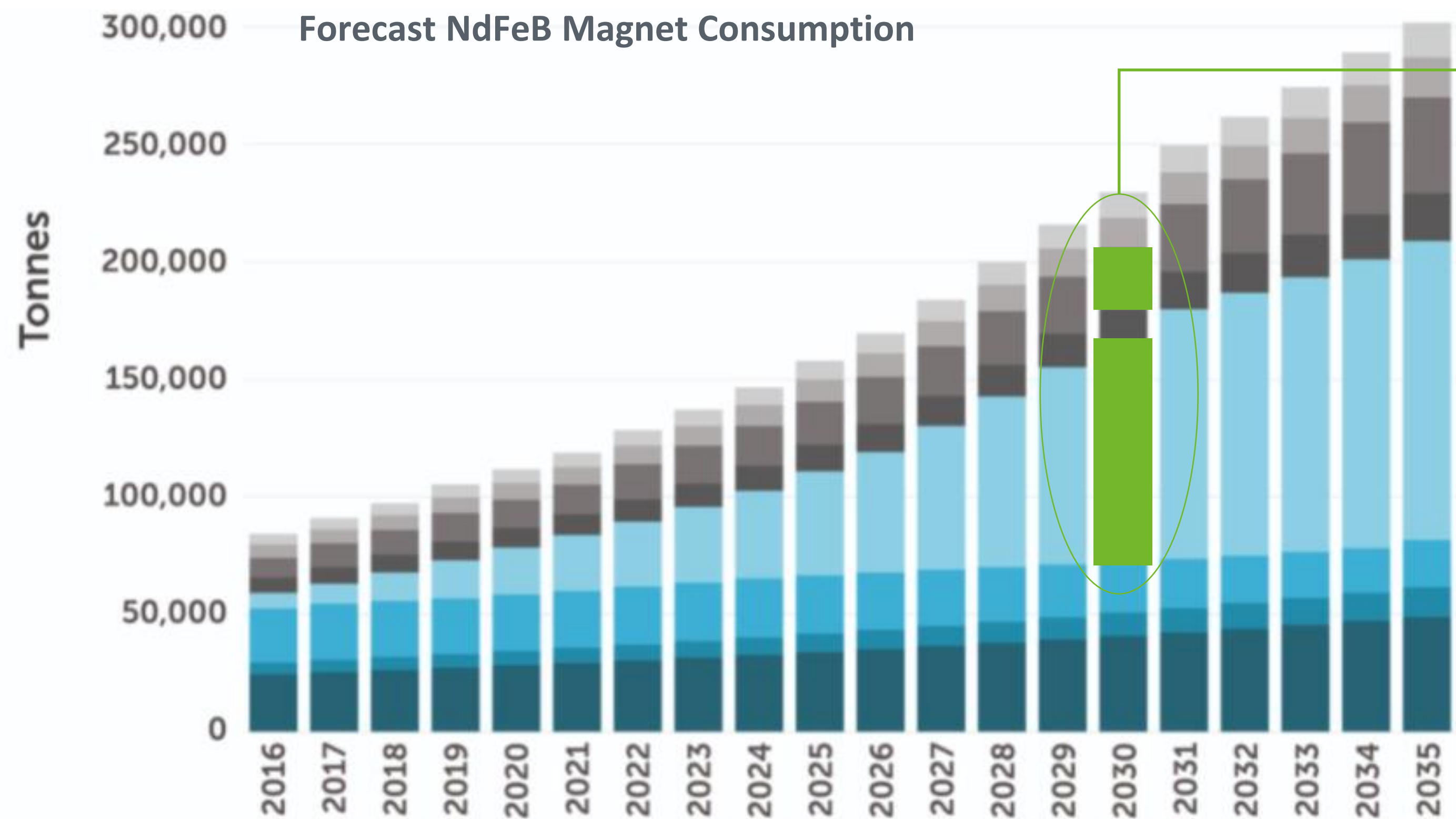
Will still come from China

### GLOBAL REE ORE MINING & PROCESSING

+60%

Will remain to originate from China





- Consumer Electronics
- Speakers
- Conventional Vehicles
- HEV, PHEV, EV
- Other E Mobility
- Other
- Wind Turbines
- Air Conditioning

'Other' includes MRI, elevator motor, magnetic separator, robotics and industrial applications.

● Forecast

## NdPr MAGNETS & APPLICATIONS

# 2030 Market Needs.

**EQUALS**  
**6,000**  
PMSG Wind Turbine Units  
(@ 5t NdPr Oxide / 16 MW PMSG unit)

**+**

**30M**  
BEVs  
(@ 1kg NdPr Oxide / 131 kW BEV motor)

NdFeB – High-strength Neodymium Magnets  
 EV – Electric Vehicle | BEV – Battery Electric Vehicle | PHEV - Plug-in Hybrid Electric Vehicle  
 NdPr – Neodymium Praseodymium  
 TREO – Total Rare Earth Oxide  
 PMSG – Permanent Magnet Synchronous Generator



NdPr OXIDE

# 2030 Market Imbalance.

GLOBAL DEFICIT

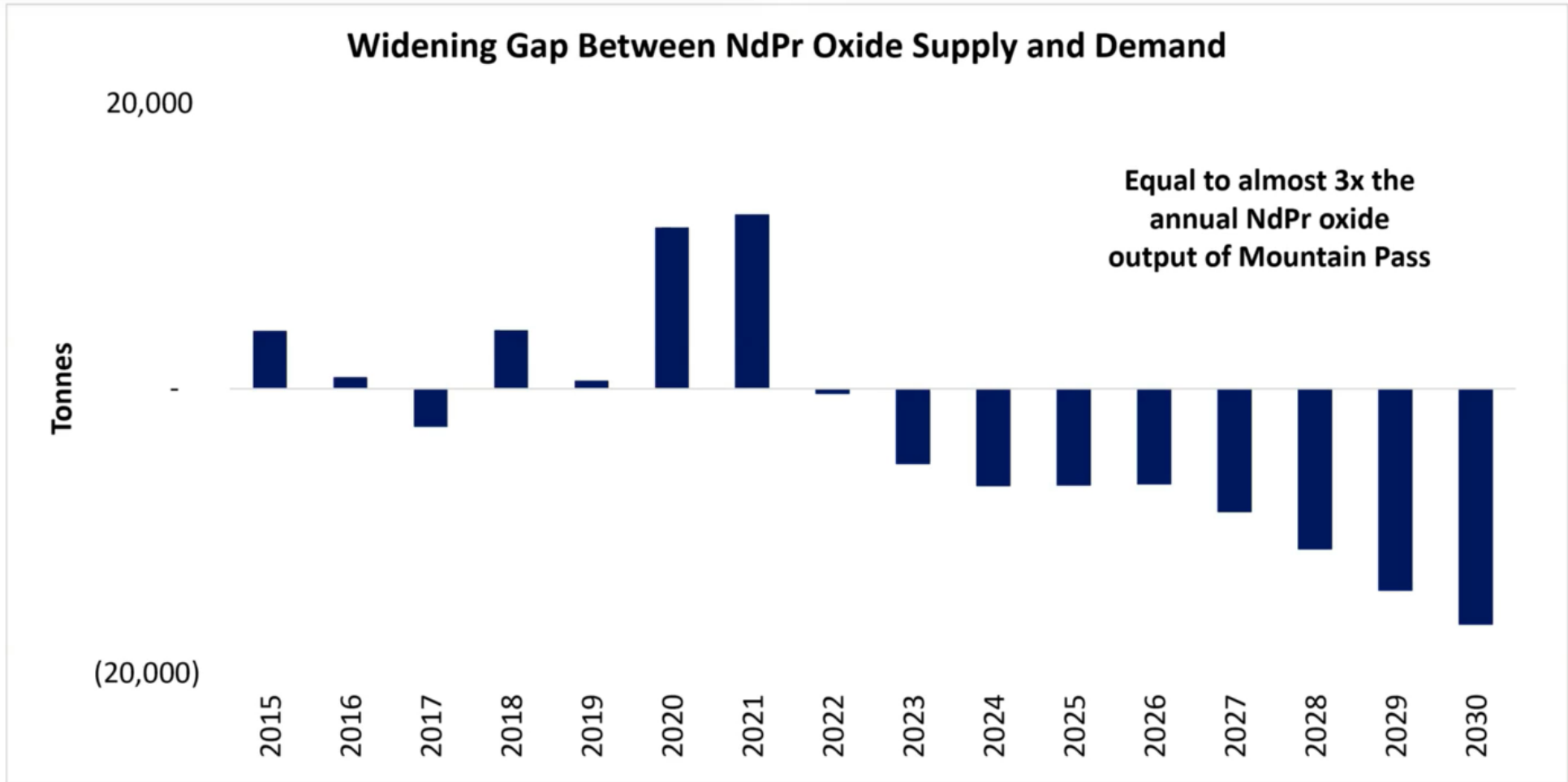
50,000 T

NdFeB PM material by 2030

EQUALS

25,000 T

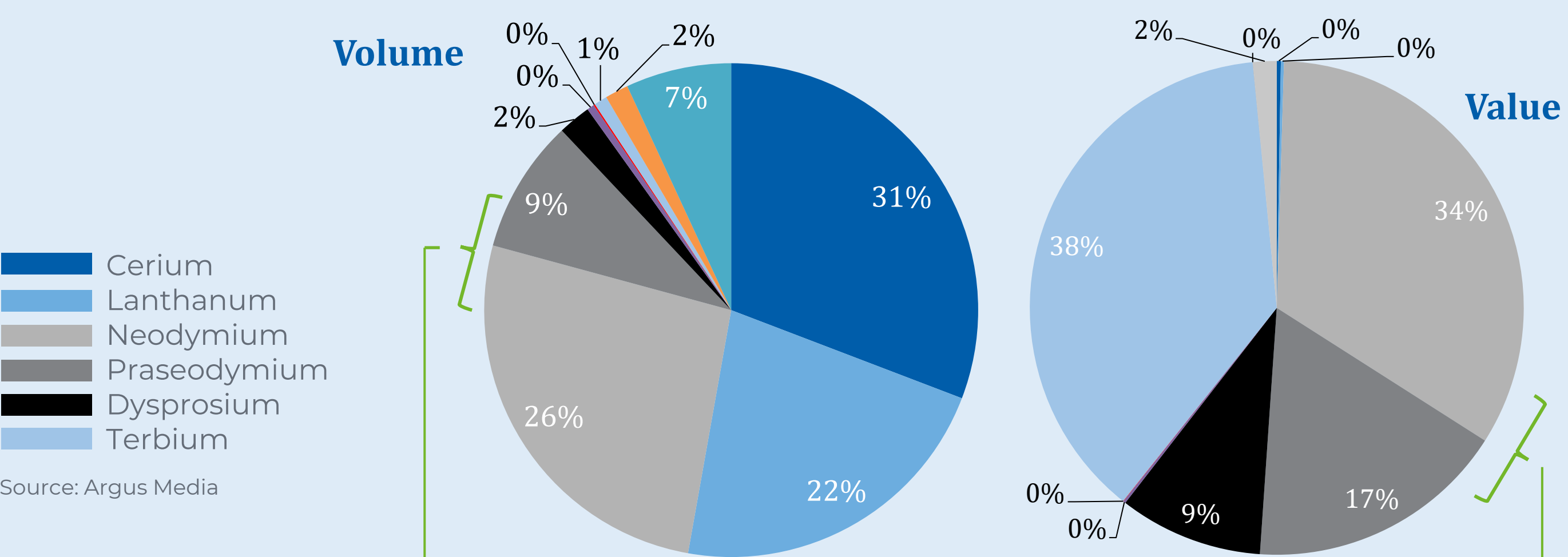
NdPr Oxide (from new mining capacity)



\* Supply = Production + Inventories

Source: Adamas Intelligence

## Rare earth oxide demand by element (volume & value), 2030



Natural, Geological TREO supply basket entails up to

25%

of Nd and Pr Origin

Global Demand in 2030

>35%

of TREO demand basket to be from Nd & Pr sources by 2030

TREO Value Basket

>50%

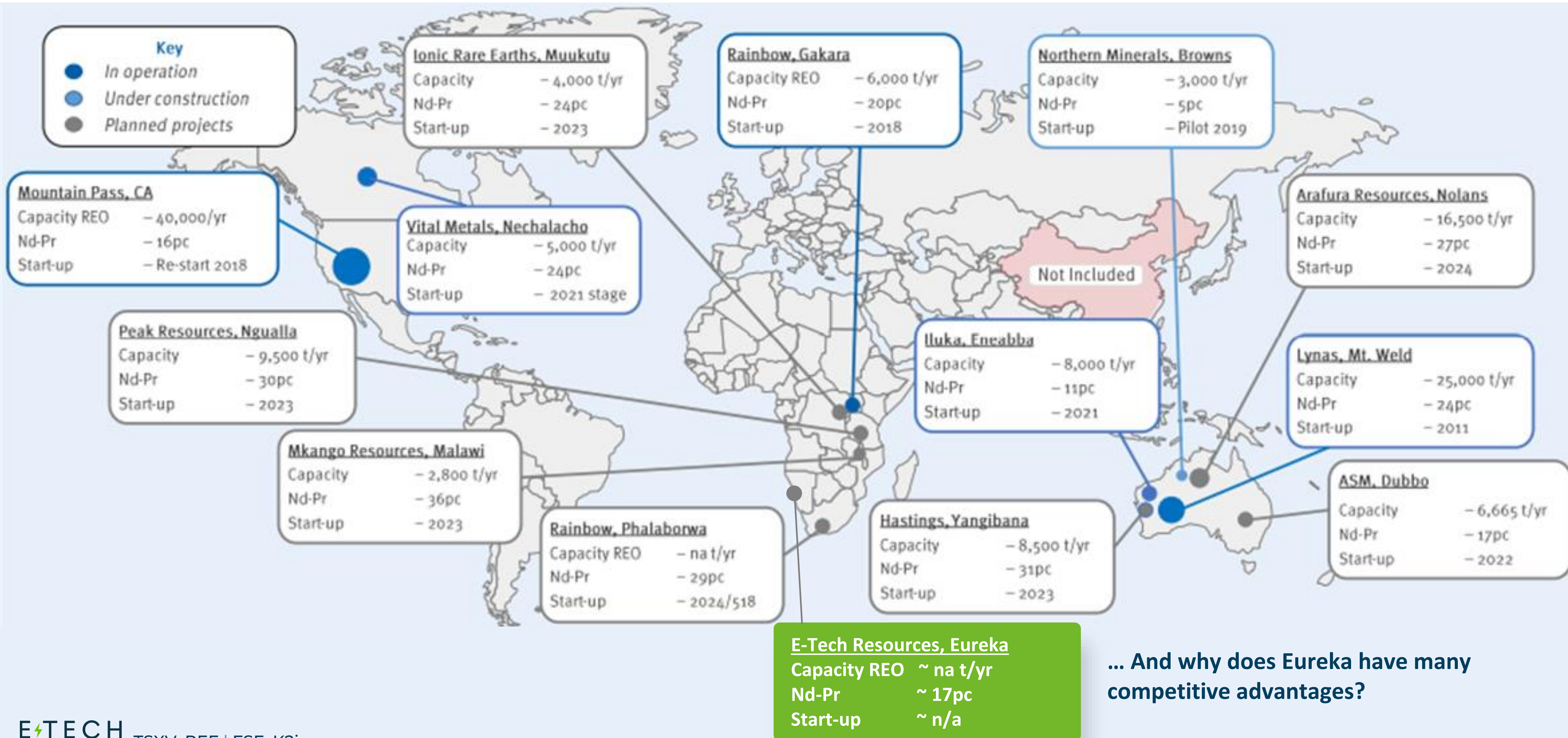
will stem from Nd and Pr compounds

(due to the demand for NdFeB PM for electrification & de-carbonization)

Demand growth with expected supply deficit & geopolitical concerns = high price = high value of NdPr



# Global TREO Pipeline



... And why does Eureka have many competitive advantages?



# Board & Management Team



**CEO** **JIM MEGANN** **CANADA**

In addition to holding the position of Managing Director, Jim Megann is also an accomplished executive and business leader. He is a Director of Torrent Capital, a publicly traded investment issuer; Director of Antler Gold; Director of OARO; and a Director of Sona Nanotech, a nano technology developer currently listed on the Canadian Stock Exchange.



**CFO** **ROB RANDALL** **CANADA**

A contract CFO for a number of public companies including Torrent Capital, Antler Gold and Sona Nanotech. Rob has extensive financial experience working within many African countries overseeing all financial aspects of resource exploration and production activities.



**PROF FRANCES WALL**  
**GEOLOGY, UK**



**KEN MARSHALL**  
**ENERGY, CANADA**



**JOHN PHILPOTT**  
**HUMAN RESOURCES, CANADA**



**CHRIS DRYSDALE**  
**EXPLORATION, NAMIBIA**

The management team have a proven track record in mineral exploration, REE process development and financing.



## PARTNERSHIPS

Exploration > Mining > Processing



**Mitchell**  
DRILLING INTERNATIONAL



Mineral Processing



Mineralogical Test Work



Resource Auditing & Mine Modelling



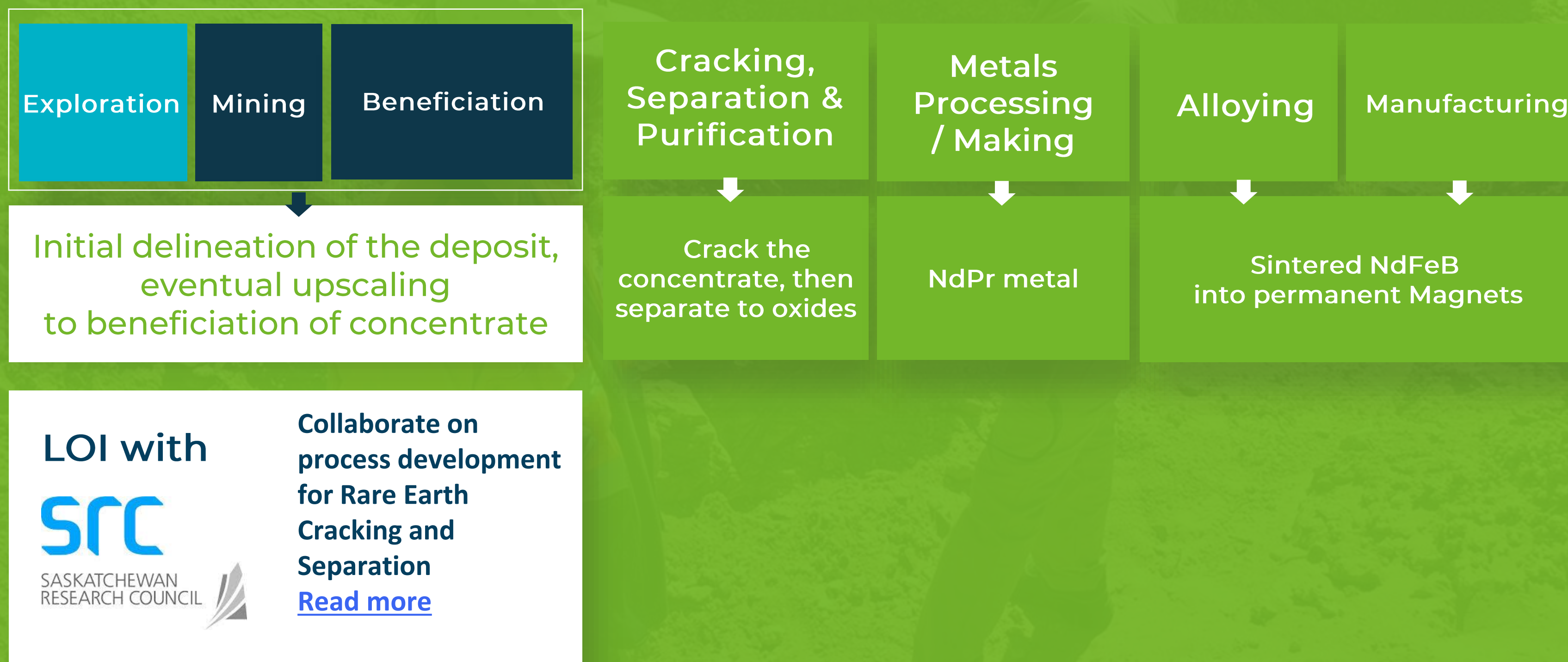
Mineral & Metallurgical Processing



Assay Testing



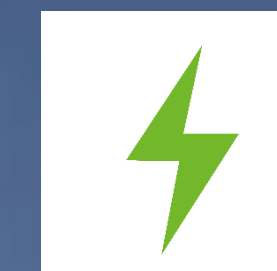
# What are we currently targeting at Eureka?



One of the simplest rare earth element (REE) projects globally



# A Simple NdPr Project



## Simple Mineralogy

- High grade TREO is predominantly contained in coarse grained monazite, hosted within numerous carbonatite dykes.
- In-situ average grade 4.8% TREO, as stated in maiden Inferred resource (NI43-101, Aug 2021).
- Additional exploration underway to assess overall footprint of the mineralization and increase tonnage.

## Simple Operations

- Initial mechanized mining of dykes from open pits.
- Monazite beneficiated by low-cost physical methods only.
- No hazardous chemicals or expensive reagents required.
- Monazite concentrate recovered using off-the-shelf beneficiation equipment.

## Simple Logistical Management

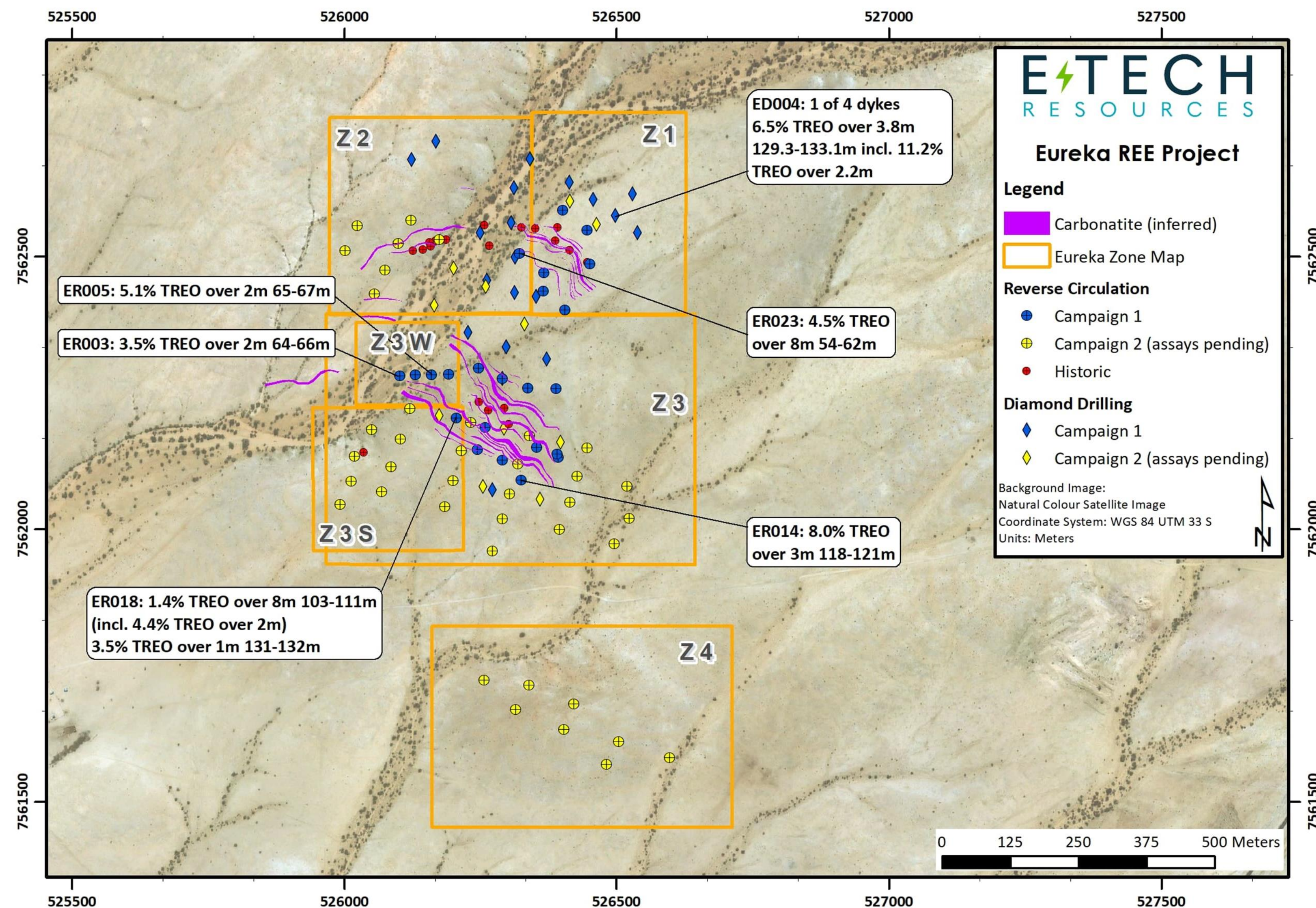
- Located in flat topography adjacent to the major highway.
- Direct road and rail connections to Namibia's largest commercial port.
- Amenable shipping handling due to low radioactive content in the monazite.
- Access to power and water.
- Experienced Board and Management, in-country and with access to offtake partners.





# EXPLORATION POTENTIAL

- Inset map of immediate exploration potential. Zones 1, 2, 3 & 4 in the south.
- Purple areas represent surface expression of carbonatitic dykes.
- The current mineral resource estimate from 2017 programme is marked by red collars to a max depth of 60m.
- Between Q4 2020 & Q2 2022 8000m diamond core (DD) drilling and 6000m of RC drilling diamond core drilling has been completed across 2 campaigns.
- Blue DD & RC collars are from Campaign 1 2021 where assays have been received & announced.
- Yellow collars are from Campaign 2 2022 where DD & RC assays are pending (as of July 2022).
- The results will contribute to a revised Mineral Resource Estimate (MRE) collated after exploration activities have been concluded.
- Zone 4 (Z4) is a new area & 1st RC results are pending
- The deposit is open in all directions & to depth.
- A wider detailed ground geophysical survey is currently underway beyond the area shown in the map to identify wider follow-up targets.







# EXPLORATION POTENITAL

Only 2.2%  
Explored

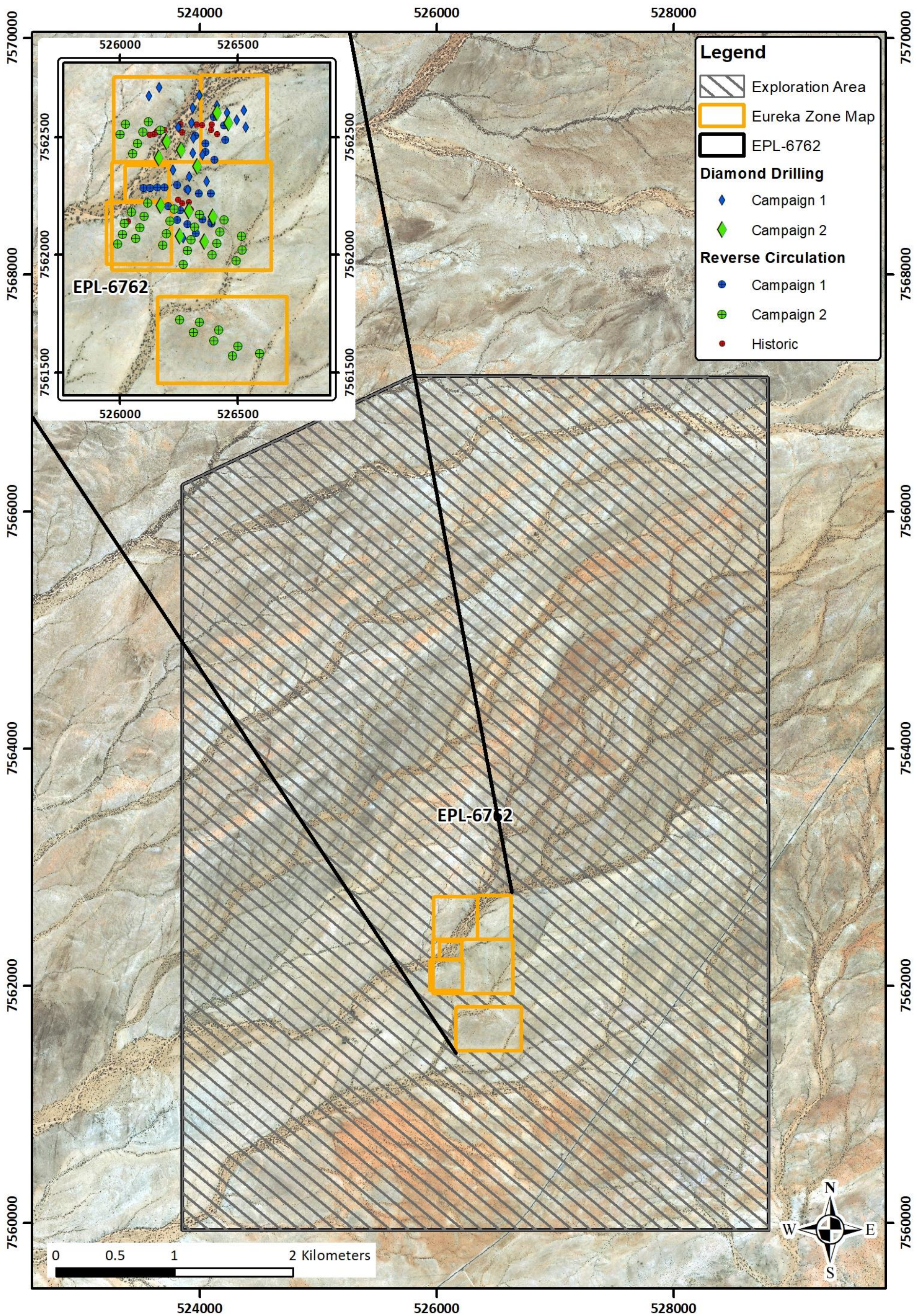
Total Area of EPL 6762	Area explored to date (Zone 1-4)	Unexplored Area to date
3,474 ha* (34,737,800 m2)**	76 ha* (759,700 m2)**	3,398 ha* (33,978,100 m2)**

\* Rounded to nearest 1 | \*\* Rounded to nearest 100

# WHAT HAS THE COMPANY PLANNED MOVING FORWARD?

Currently conducting a  
widespread ground  
magnetic survey program  
totalling 1060 line-km's

Simultaneously conducting  
a wide-spread ground  
radiometric survey  
totalling 1224 line-km's





EUREKA'S

# SIMPLE ORE BENEFICIATION

Chemical-free  
beneficiation to meet the  
technical specifications  
of processors



AT EUREKA  
OFF THE SHELF EQUIPMENT  
BASED ON EARLY-STAGE BULK SAMPLING &  
BENCH-SCALE TESTING OF OUTCROP MATERIAL

NO

XRAY  
SORTING

NO

HARSH  
CHEMICALS

NO

FLOTATION  
REQUIRED

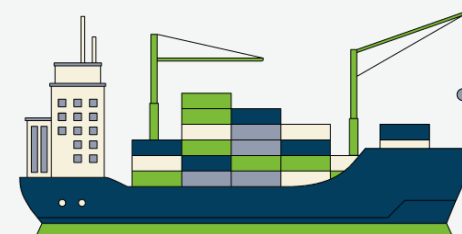
>65%

RECOVERY

>60%

TREO GRADE

OF >97% MONAZITE CONCENTRATE  
after 1<sup>st</sup> pass using  
Gravity & Magnetic Process



AMENABLE  
SHIPPING OF  
PRODUCT

Due to low  
radioactive levels

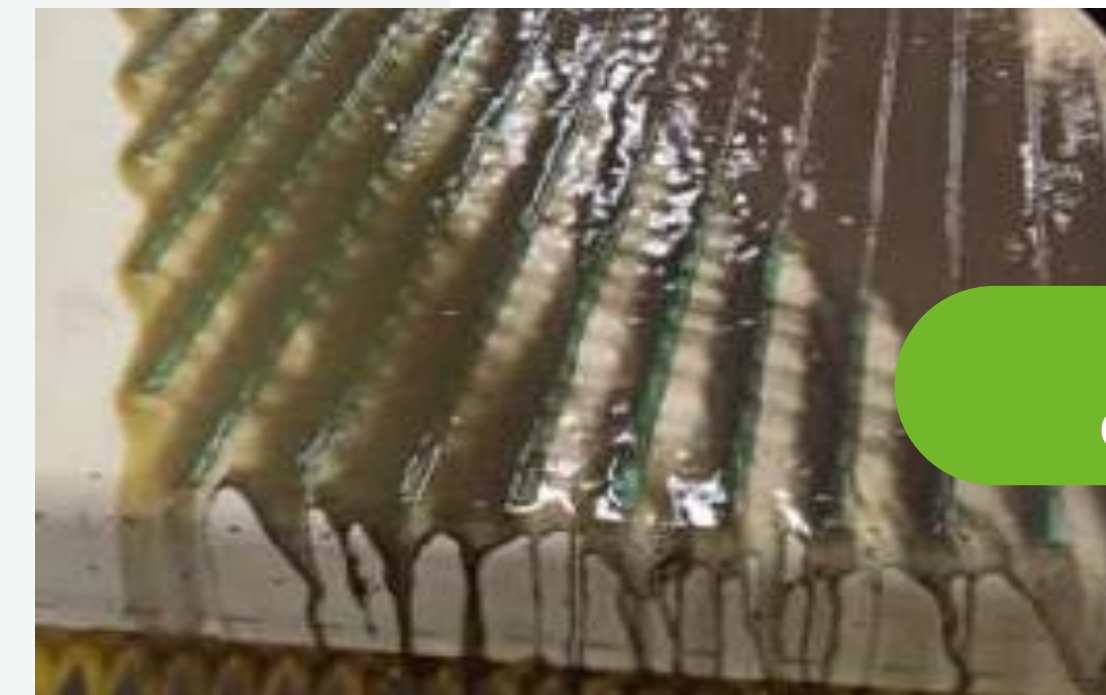


POTENTIAL  
LOW COST OF  
PRODUCTION  
RELATIVE TO  
COMPETITORS

As confirmed by  
SGS Mineral Services



MONAZITE IN HOST  
ROCK



GRAVITATIONAL  
CONCENTRATION



MAGNETIC  
SEPARATION

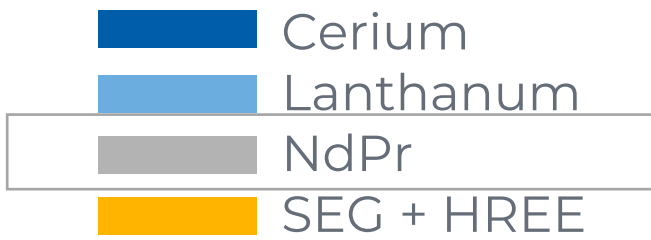


MONAZITE  
CONCENTRATE

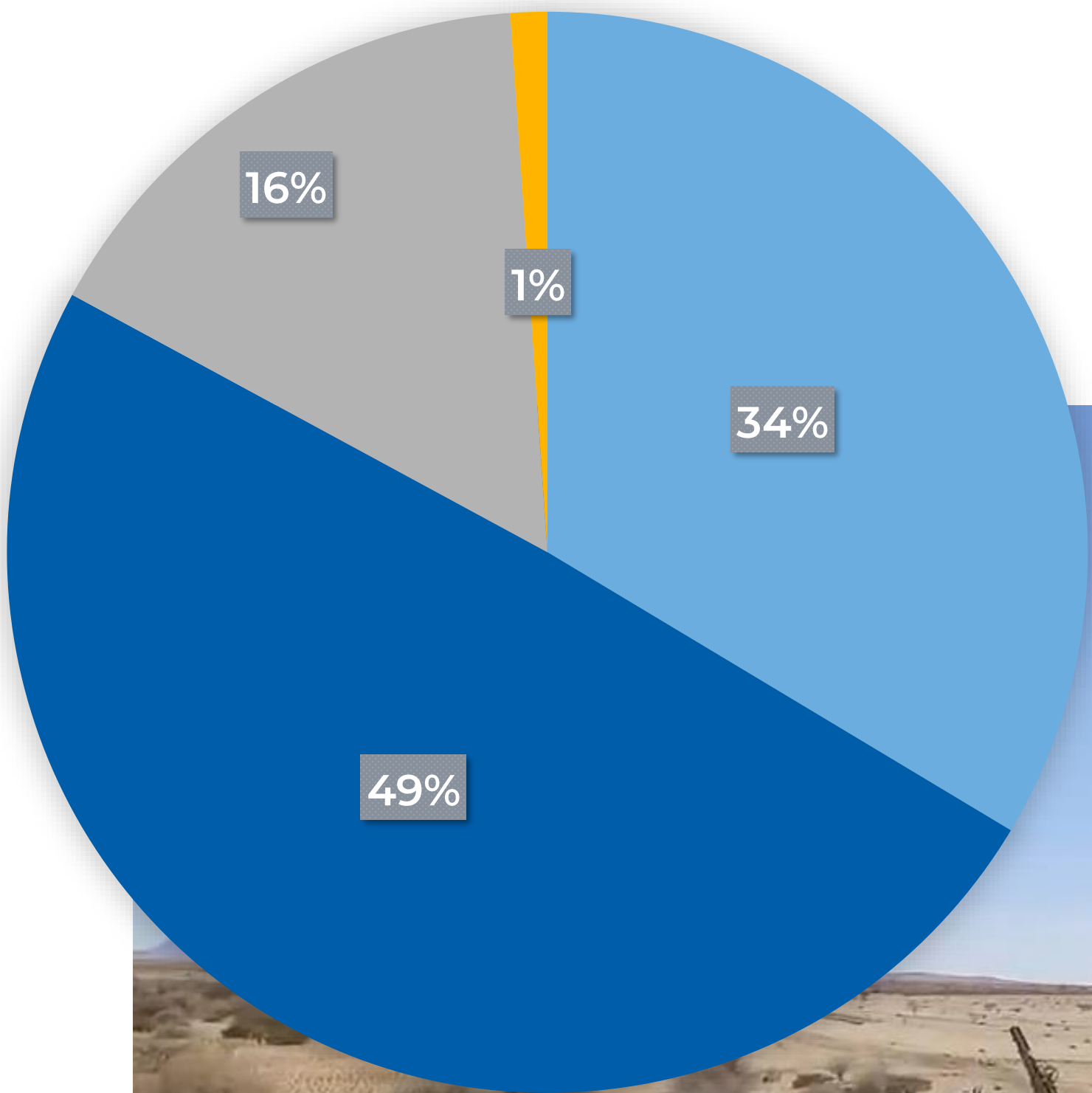


EUREKA'S AVERAGE

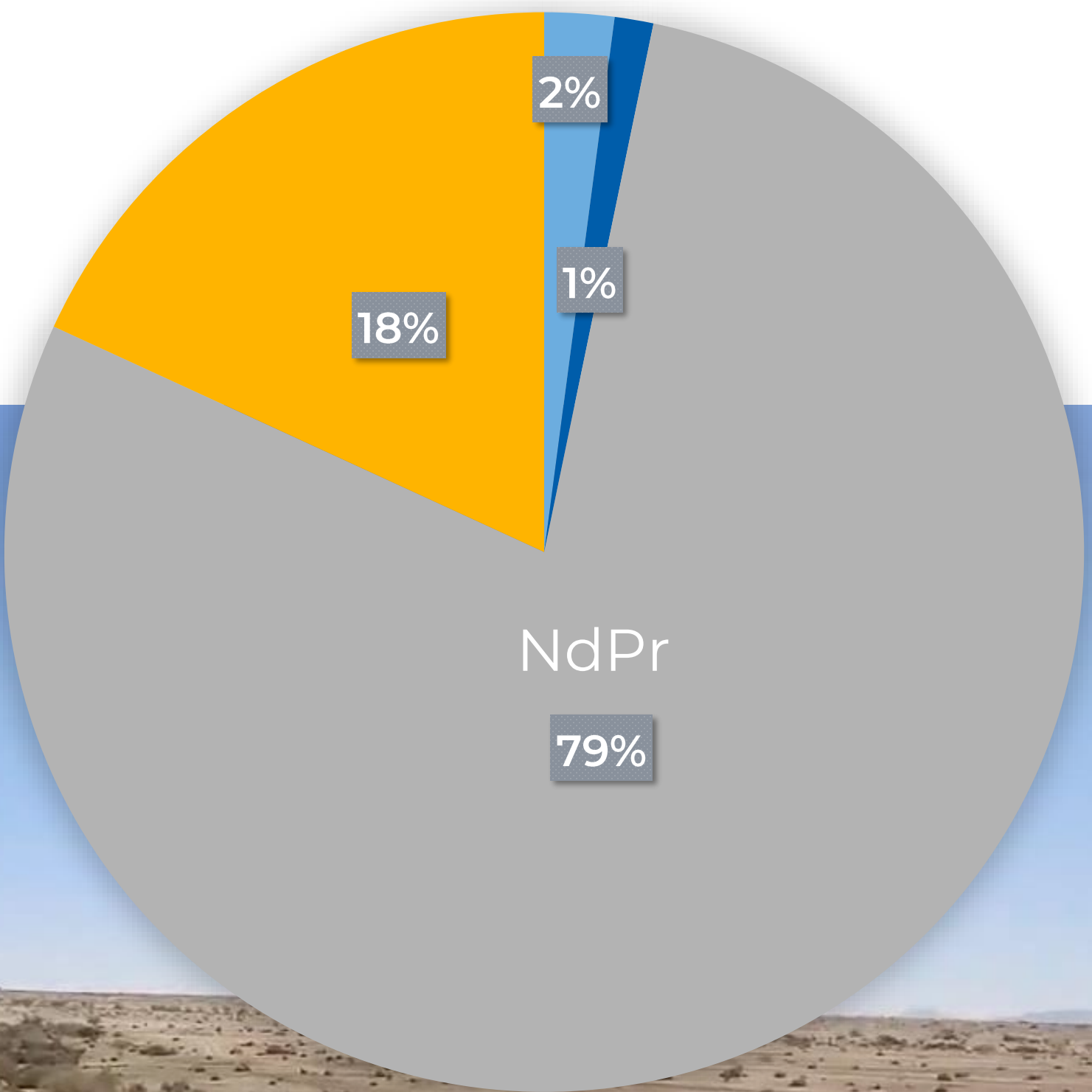
# BASKET DISTRIBUTION & BASKET BY VALUE



Eureka Basket Distribution

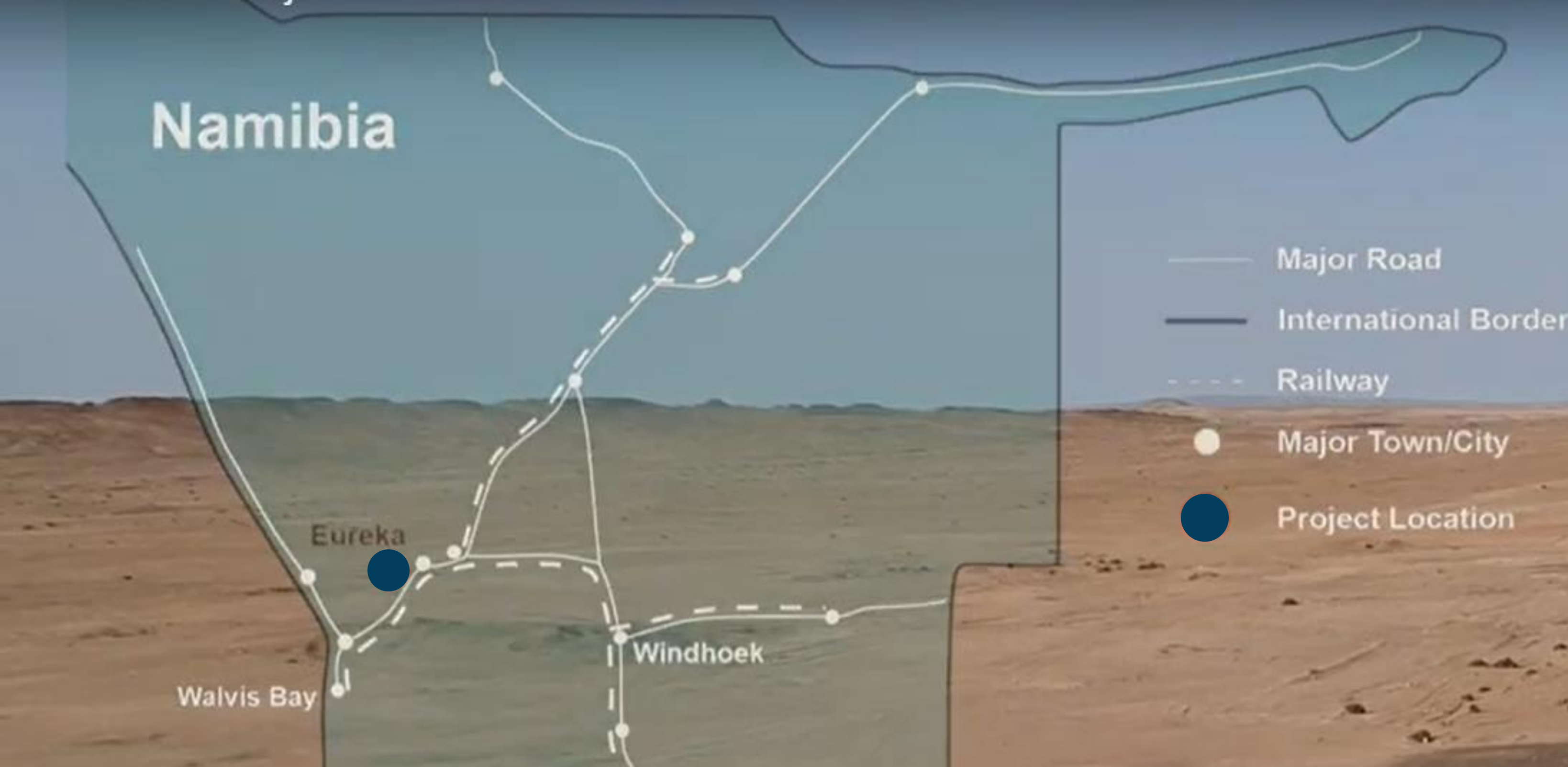


Eureka Basket by Value



Notes:  
NdPr - Neodymium & Praseodymium  
SEG - Samarium, European & Gadolinium  
HREE - Heavy Rare Earth Elements





# Location & Accessibility

- Located in the Erongo Mining Corridor of Namibia
- Namibia is a top tier country for mining and is one of Africa's most stable countries

## QUICK PROJECT STATISTICS AND DATA

Located in flat topography adjacent to the major highway with direct road and rail connections to Namibia's largest commercial port

**2KM**

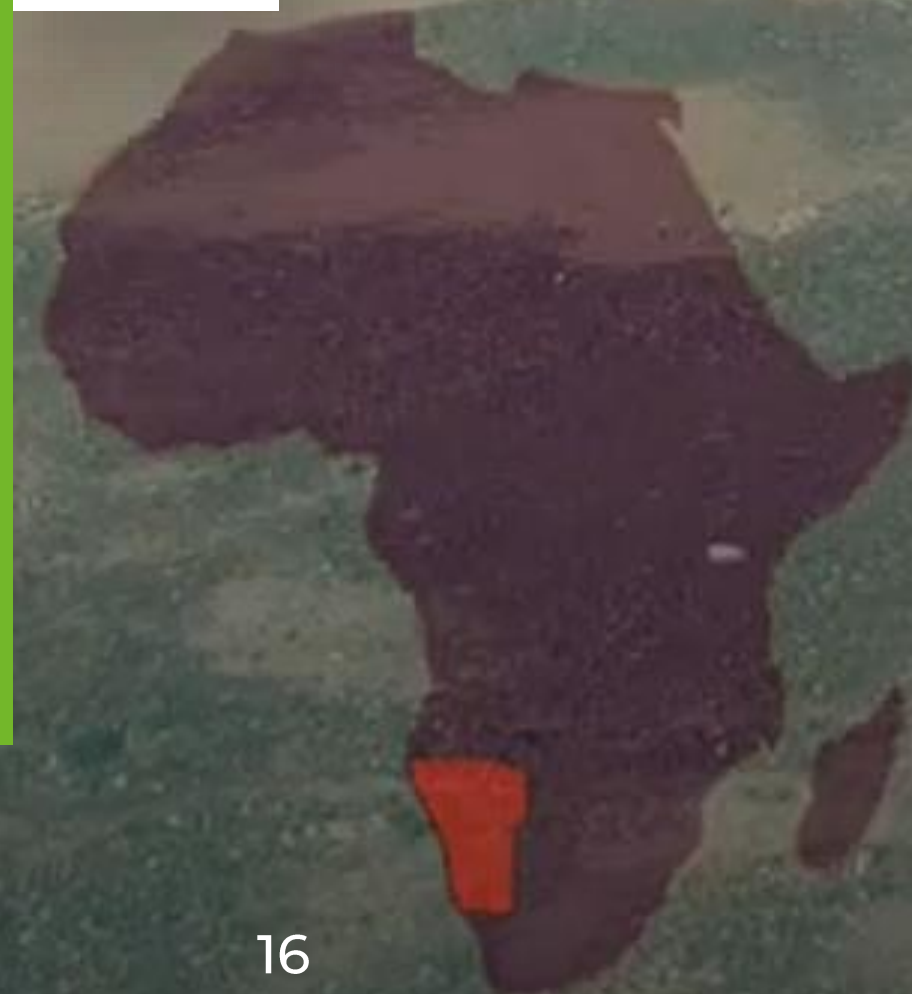
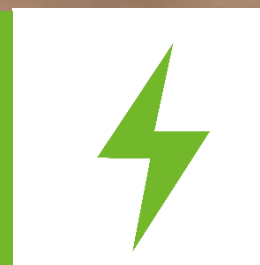
TO HIGHWAY

**10KM**

TO RAILWAY

**130KM**

TO WALVIS BAY  
CONTAINER PORT

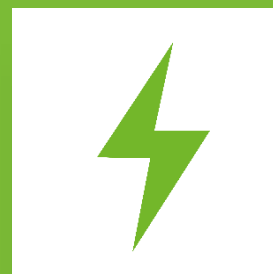


- Adjacent to B2 highway, with a 1.5-hour drive to Walvis Bay container port, Namibia's largest commercial port
- Tarmac roads are kept in good condition
- Access to power and water
- Railway to Walvis Bay runs parallel to B2 Arterial Road
- Walvis Bay container port recently completed a \$350M expansion in 2019



# ESG Protocol

## COMMITTED TO HIGHEST STANDARDS OF ENVIRONMENTAL, SOCIAL & CORPORATE GOVERNANCE



- EIA by ASEC Namibia
- Follow board approved Corporate Codes, Policies, Charts, Guidelines
- Own Sustainability Advisory Board with ESG experts installed
- Adhere to relevant United Nations SDG
- Adhere to Project Readiness Standard (by project due diligence)
- Work with European REIA, as member of ESG Board
- Contribute to Lifecycle analysis (LCA)
- Ongoing environmental and social impact assessment



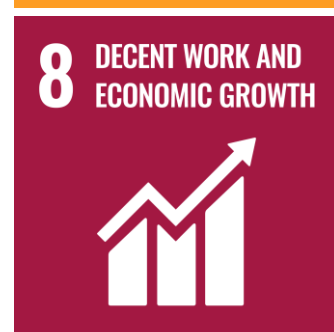
### Health & Safety

- installing well defined HSSE policies and measures
- guaranteeing low emittance of radioactivity
- securing localised dust management measures



### Community Support

- performing social studies and relief measures
- supporting of regional community and social services
- delivering regional industrial development potential



### Best Practice & Transparency

- installing responsible company codes & policies
- securing high-standard ESG principles
- developing towards certification for sustainable practices



### Value Chain Management

- selecting sustainable cooperation partners
- advocating stakeholder involvement
- securing long term business growth and value-add



### Environmental Care

- auditing of Environmental & Social Impact analysis & measures
- performing hydrological test work
- development of Life Cycle Inventory and Assessment



### Efficient Consumption

- guaranteeing responsible use of energy and water
- minimising consumption of chemicals
- providing potable & farming water as valuable side-products



### Jobs & Education

- offering sustainable work contracts for the national population
- conducting training programmes and educational support
- sponsoring personal development programmes



### Inclusiveness & Fairness

- enabling social inclusiveness
- offering fair work standards and compensation
- securing sustainable project and living standards



**FACTORS FOR  
SUSTAINABLE  
PROJECT VALUE**

# Value Sustainability

**FAVOURABLE  
GEOGRAPHY, INFRASTRUCTURE &  
RESOURCE CHARACTERISTICS**

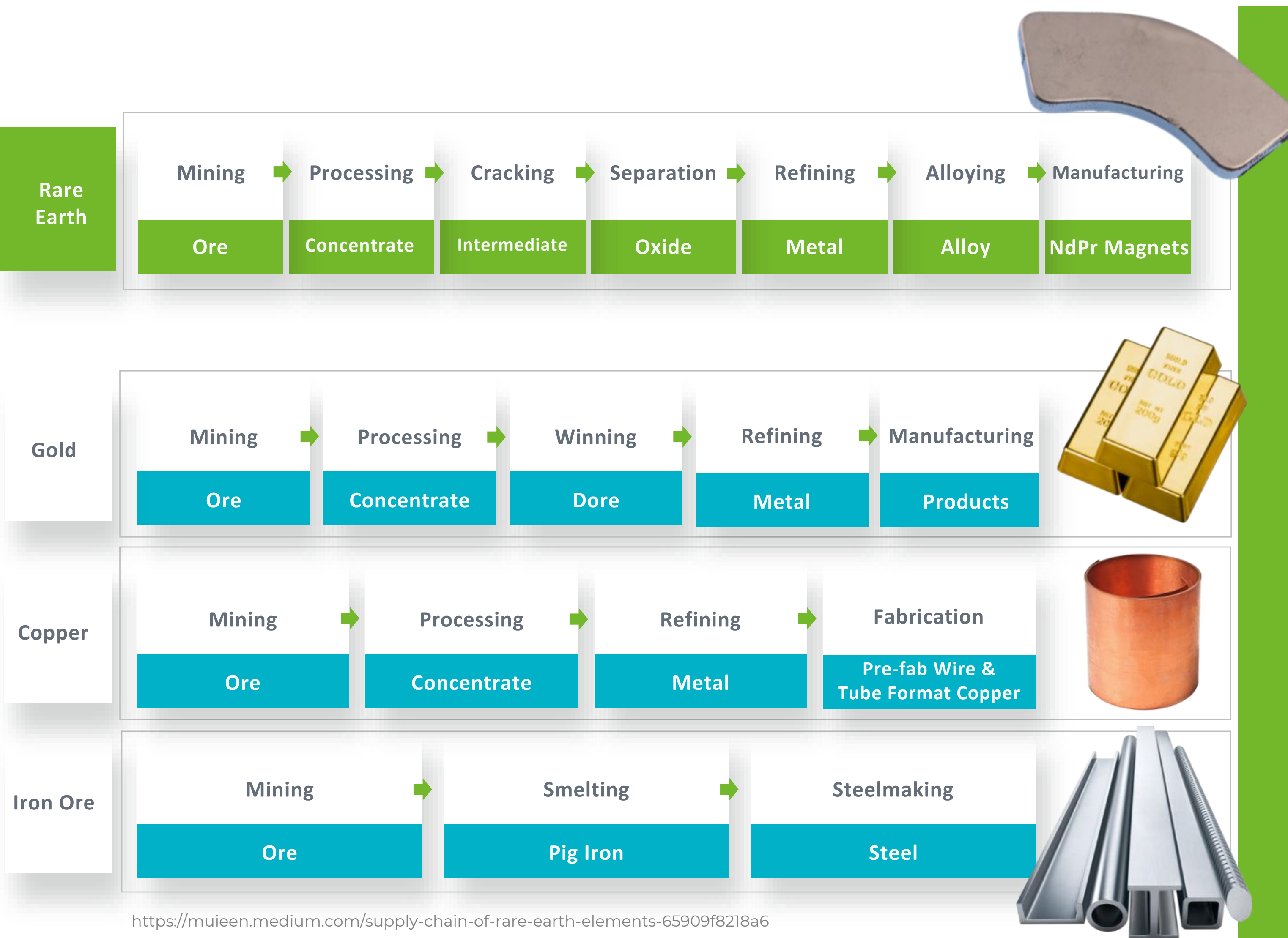
**EXCELLENT  
TECHNICAL PROCESSING CONDITIONS  
& PRODUCTION STANDARDS**

**SUSTAINABLE  
PROJECT CONDITIONS ARE  
ACTIVELY MANAGED**

**HIGHLY COMPETITIVE  
MARKET POSITIONING & HIGH  
GROWTH MARKET DEVELOPMENT**







<https://muieen.medium.com/supply-chain-of-rare-earth-elements-65909f8218a6>

OPPORTUNITIES IN THE

# Value Add Steps.



## Compared to other Raw Minerals

The REE processing chain is quite complex.



## REE Value Add Levels

REE processing chain levels are not very transparent and not geographically de-risked



## Opportunities

This can offer upside opportunities for early investors and traders.





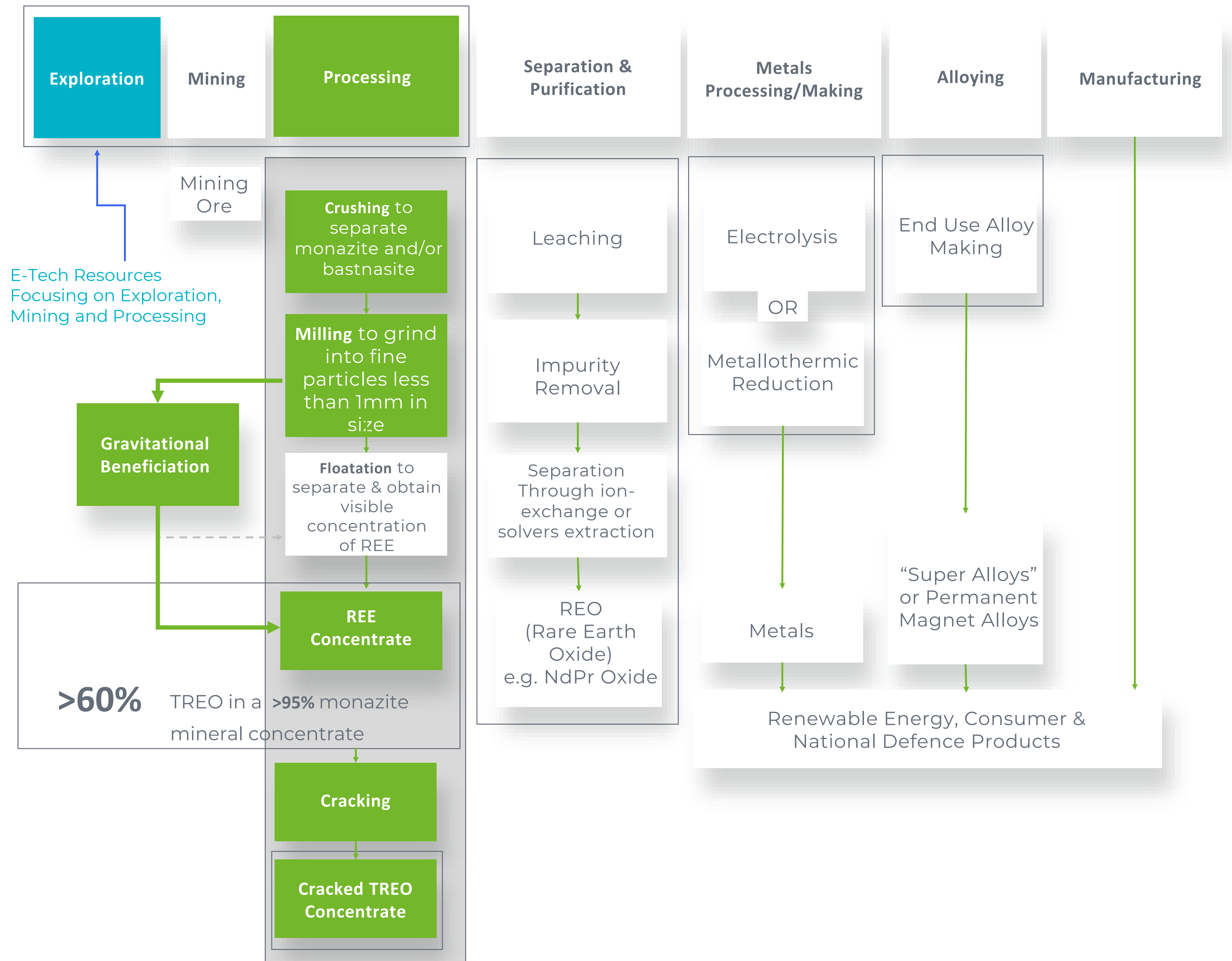
Coarse caramel monazite = host mineral for REEs



THE EUREKA

# Value Chain

Simple processing stages  
(ore beneficiation), at **EUREKA**



**>60%** TREO in a **>95%** monazite mineral concentrate



# Project Benchmarking.

Eureka has a low risk and high sustainability profile



- High grade deposit and accessible geology
- Easy ore and concentrate processability
- Mining-friendly jurisdiction
- Excellent infrastructure

=> Low-cost base and high IRR potential

Advantageous Disadvantageous

DEPOSIT	OPERATOR	PRODUCING YET?	DEPOSIT SIZE	PREDOMINANT MONO-MINERALIC REE ORE	GRAINSIZE OF TARGET ORE	EASE OF PROCESSING / RECOVERY	RADIO-ACTIVITY	ACCESS	COUNTRY RISK	COST OF PRODUCING
Mount Weld, Australia	Lynas			Monazite	Fine grain	Flotation				
Mountain Pass, USA	Shenghe Resources			Bastnasite monazite	Medium	Flotation				
Gakara, Burundi	Gakara, Burundi			Bastnasite monazite	Large	Physical only				
Eureka, Namibia	E-Tech Metals		Delineation required	Monazite	Large	Physical only				
Songwe, Malawi	Mkango Resources			Synchysite apatite	Fine grain	Flotation Un-optimised				
Steenkamps kraal, RSA	Steenkamps kraal			Monazite	Large	Flotation	~6 wt. % Th			
Ngualla, Tanzania	Peak Resources			Bastnasite monazite	Fine grain	Flotation				
Mineral Sand	Madagascar			Monazite	Fine grain, liberated	Physical only	~10 wt. % Th			

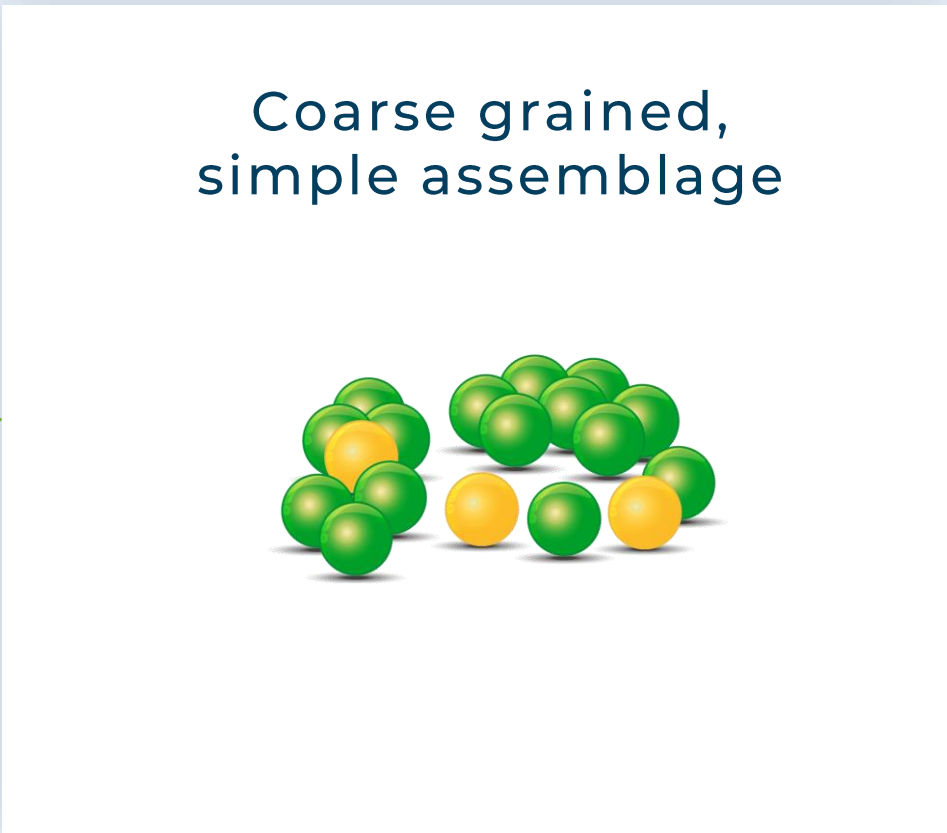
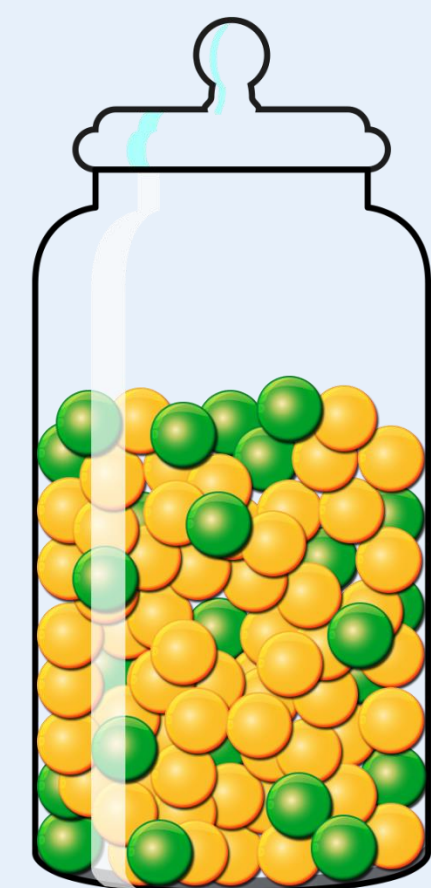
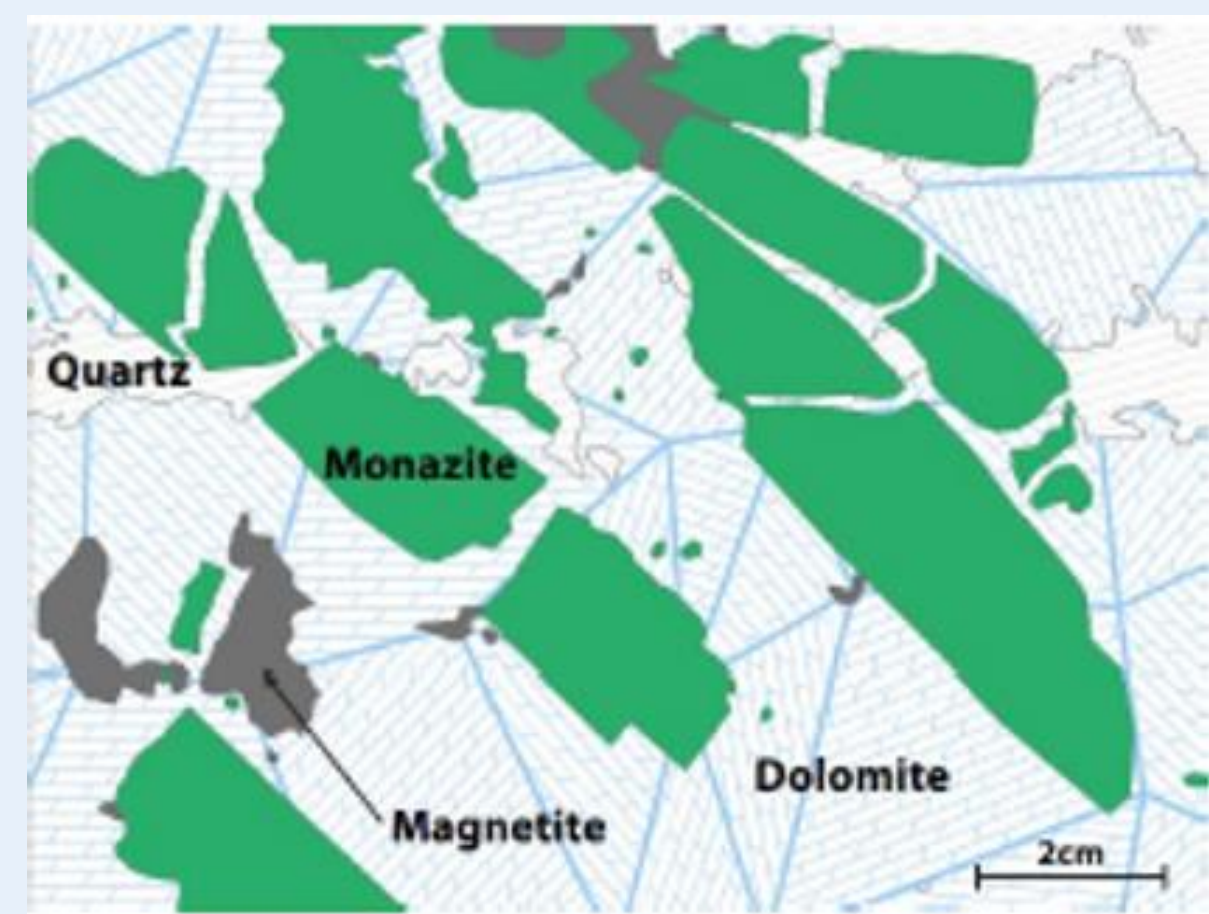
Information not complete for brevity



# REE Project Beneficiation



Unweathered carbonatite (Eureka)

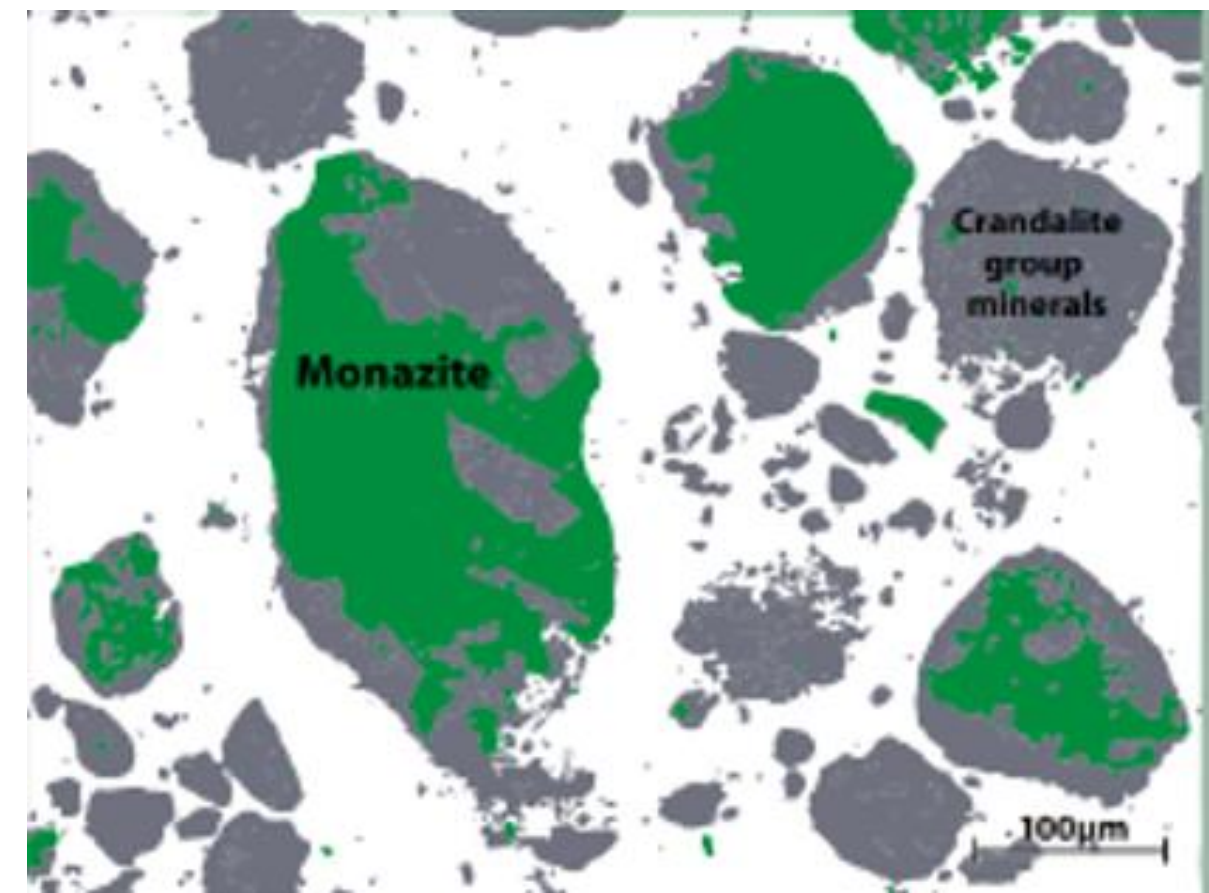


Eureka

## First Pass Recovery

Processing requirements are simpler, with higher recovery of green “sweeties”, with lower contamination (yellow sweeties).

Complex weathered carbonatite



## Complex Processing

Processing requirements are more complex due to smaller grain size. This results in lower recovery of green “sweeties” and a less pure, more contaminated, REE mineral concentrate product.

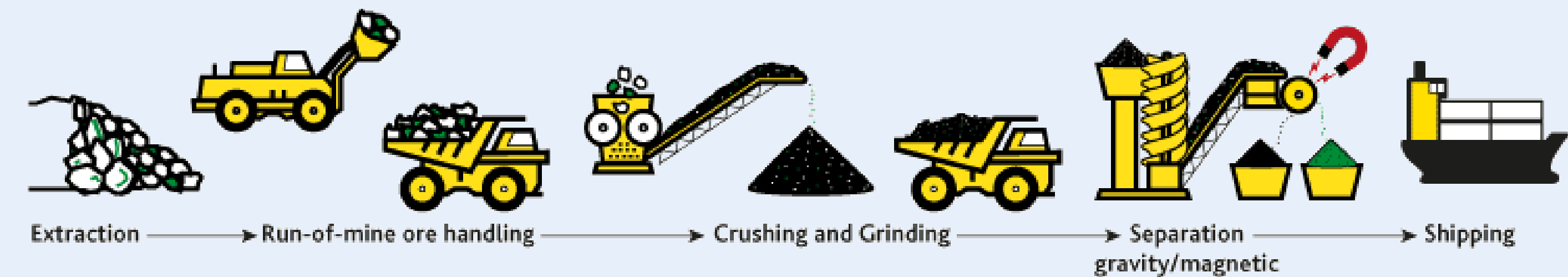
For illustration purposes only



# REE Project Beneficiation

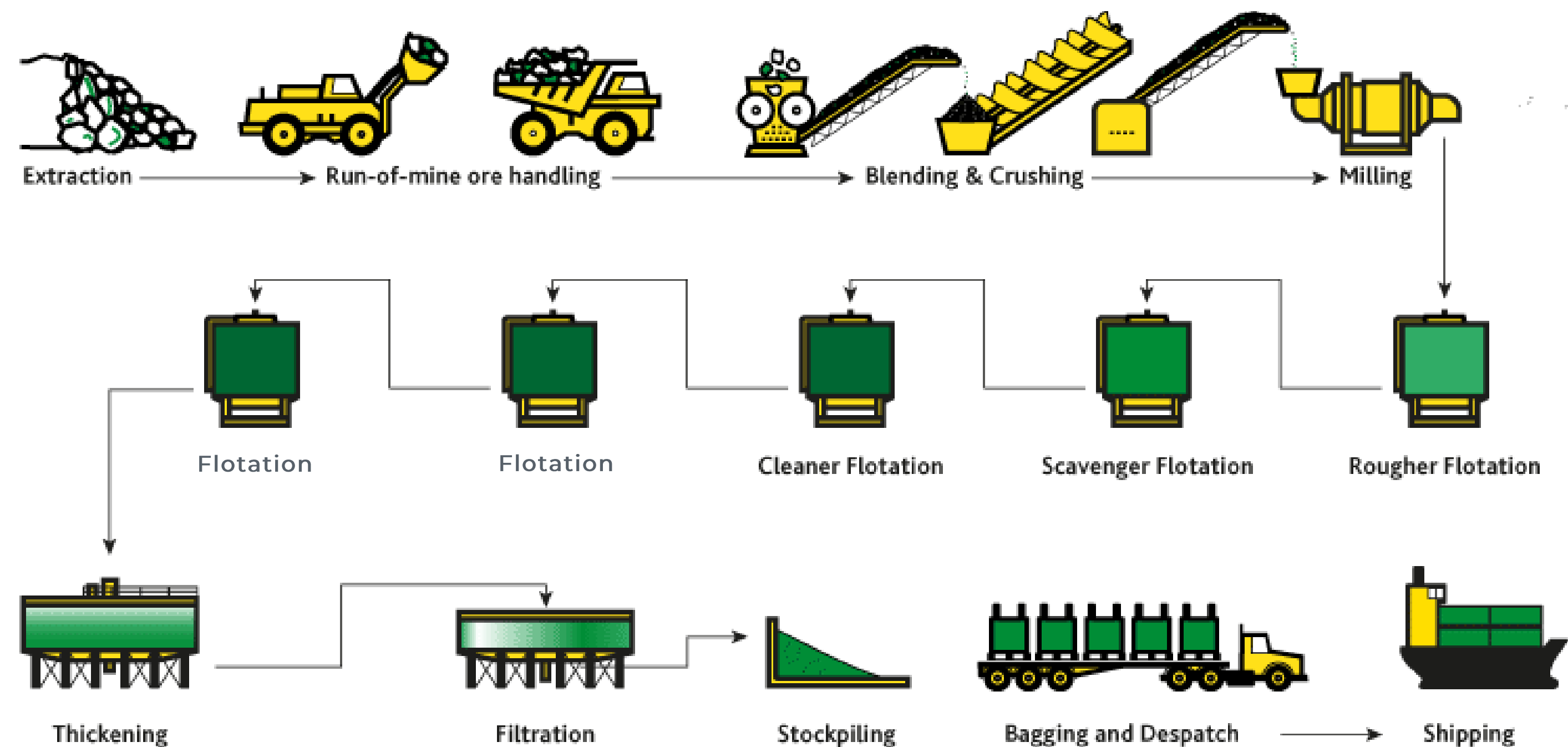


Low-cost \$ Simple flow-sheet to mineral concentrate



Eureka High-grade  
to mineral concentrate with  
>65% TREO

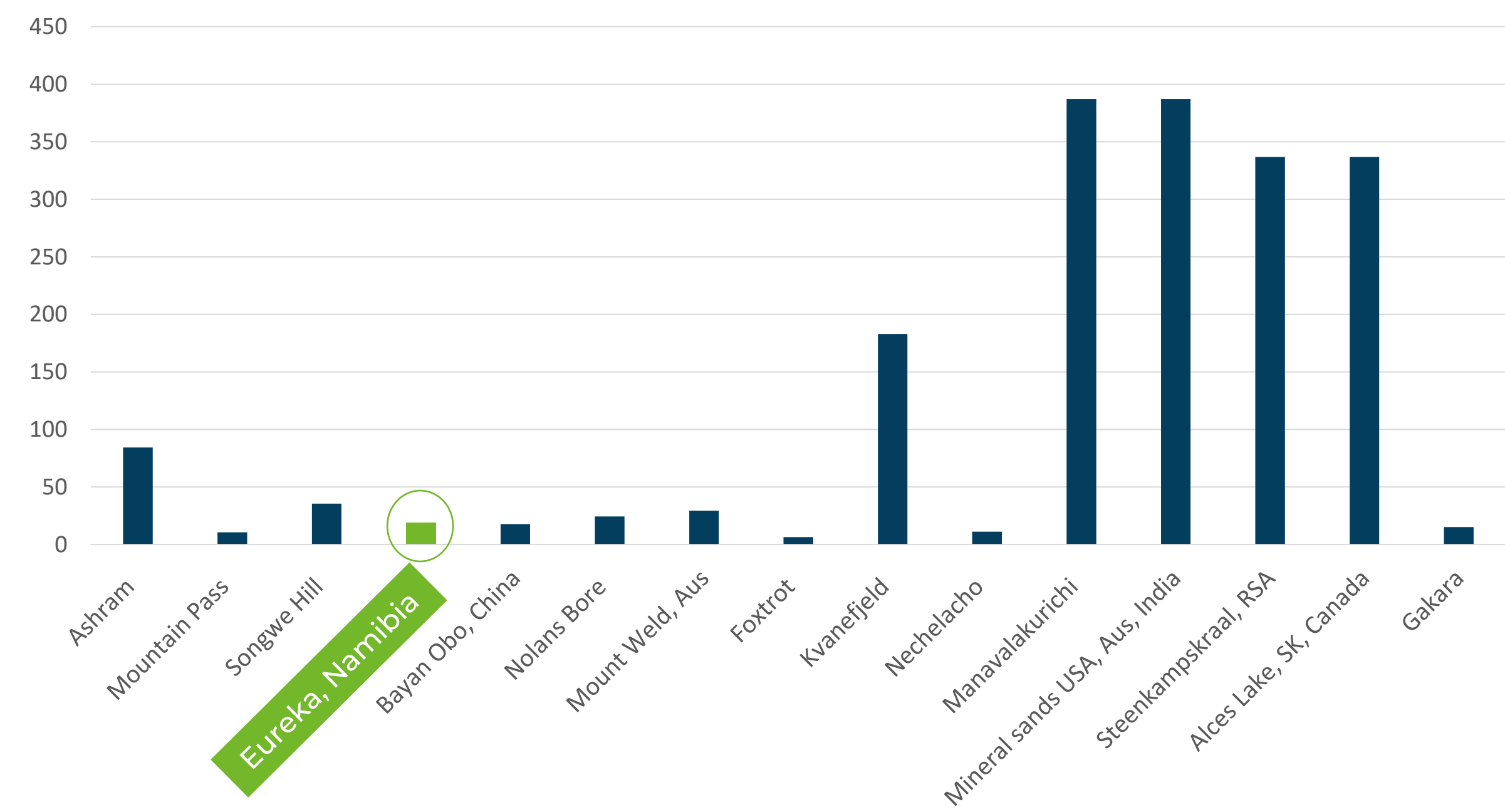
High-cost \$\$\$ Complex flow-sheet to mineral concentrate



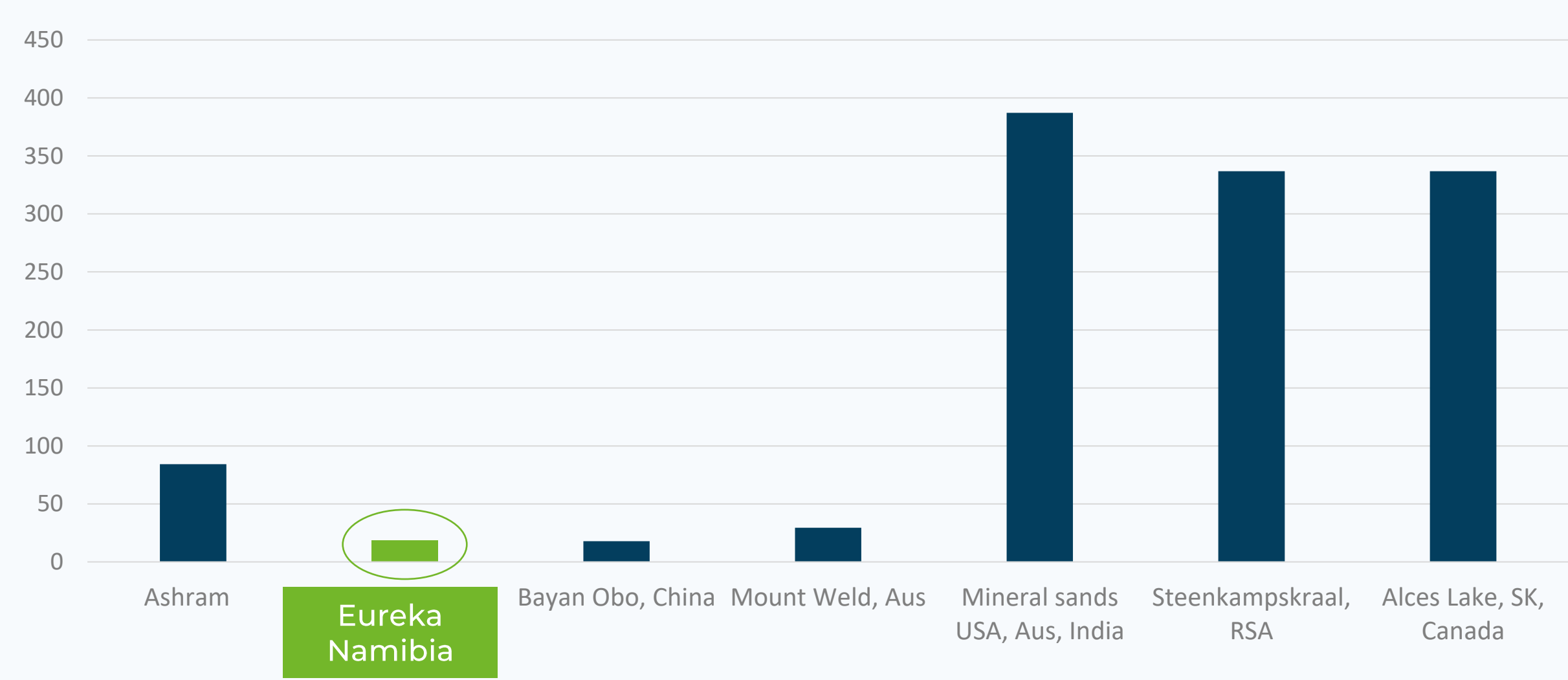
Other Projects Low-grade  
to mineral concentrate with  
~40% TREO



# Radioactivity of REE ore mineral at deposit



Radioactivity of main REE ore at deposit  
Each at empirical purity comparison



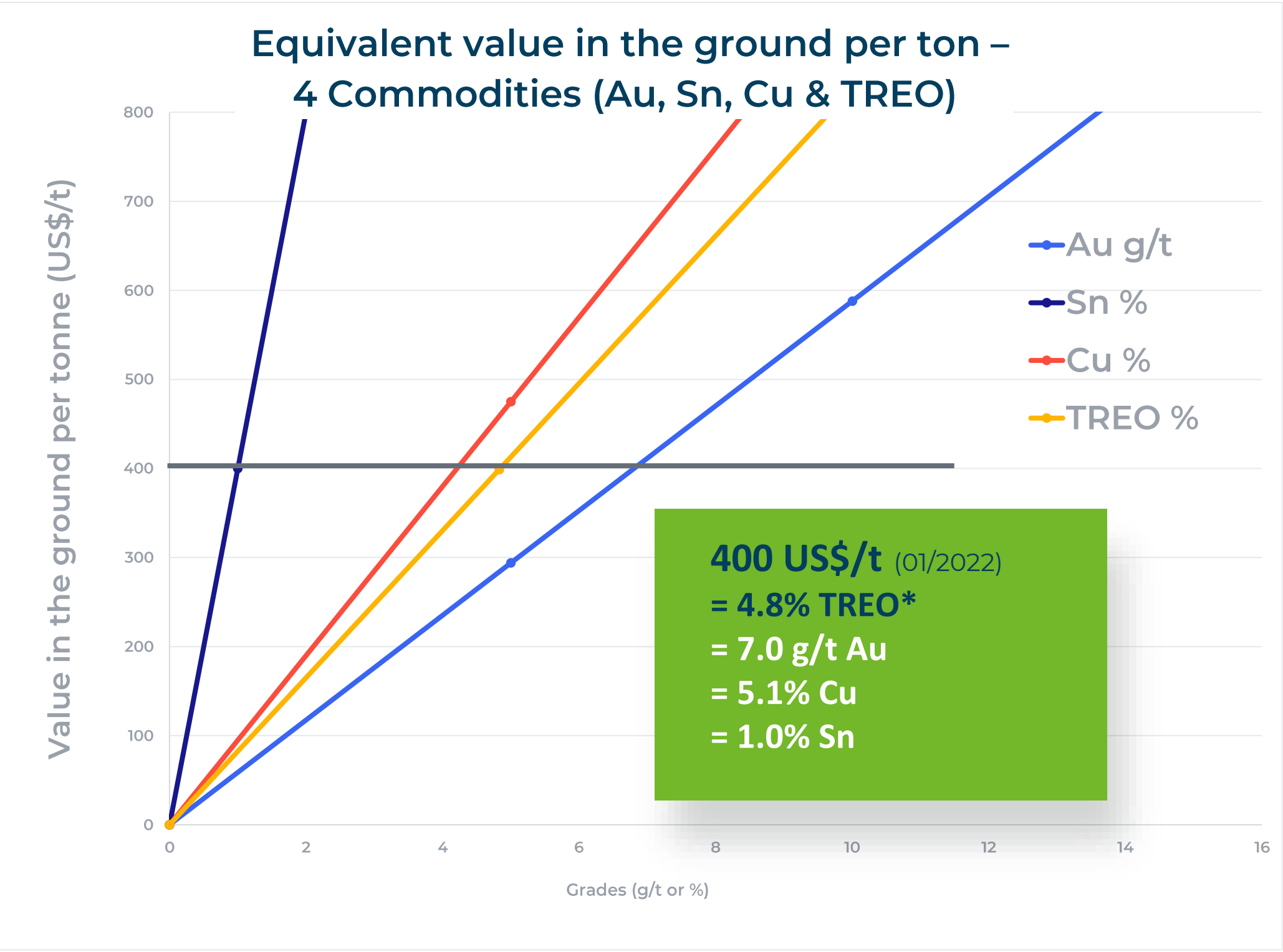
Radioactivity Specific Activity (Bq/g) monazites compared  
Each at empirical purity comparison



# In-Situ Basket Value

Eureka in-situ equivalent value

Sales Options	Description	Key Value Drivers	Potential	Risk	Customer	Plant required
Sell Mineral Concentrate	All TREO incl. Th/U mixed in first marketable product	Fast Time-to-Market, Low cost basis	Low-cost simple mechanical process, Th/U content remains in product	Small customer circle, high discount factor	Sell to Regional Competitors, toll-crack processors, traders or Chinese customers	Beneficiation plant
>65 TREO%						



Value chain development can lead to Vertical M&A value add

\*Based on an assumed monazite mineral price of 5,600US\$/t @ 67% TREO Grade

\* Respective commodities based on 14 Jan 2022 prices. Sources: Argus, LME





How is the project funded?

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Where are you listed?

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Capital Structure

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Market Capitalization

COMPANY DETAILS

# Financials

By 100% Equity Capital

We are dual listed: primarily on the TSX-V & co-listed on the Frankfurt Stock Exchange

Issued & Outstanding		82,971,530
Options		3,175,000
Warrants		1,400,000

Share Price		C\$ 0.15
Market Cap		C\$ 12,445,730
Cash		C\$ 1.1m

As at 19 Sept 2022



# Milestone Planning



E-Tech Resources activities

2021

2022



COMPLETED

Q3 2021  
Drilling  
Program  
Campaign 1



COMPLETED

Q4 2021 – Q2 2022  
Drilling Program  
Campaign 2



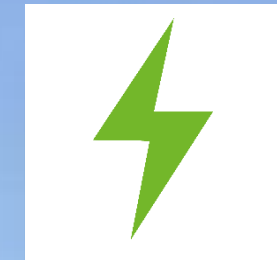
IN PROGRESS

Q3-Q4 2022  
Radiometric  
Geophysical  
Survey to define  
new areas & drill  
targets

Onwards  
Collating exploration results &  
Updated Mineral Resource Estimate (MRE)

PLANNED





# THANK YOU

**SEND US YOUR QUESTIONS:**  
**[CONTACT@ETECH-RESOURCES.COM](mailto:CONTACT@ETECH-RESOURCES.COM)**