

Powering the green transformation

**Ord Minnett – East Coast Mining
Conference**

March 2023



ASX: PEK

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Compliance Statement

Information contained in this presentation relating to financial forecasts, production targets, infrastructure, project execution, cost estimating, metallurgical test work, exploration results, Mineral Resource estimates, Ore Reserve estimates and studies are taken from the Company’s ASX announcement dated 24 October 2022 “Completion of Ngualla Project BFS Update” which is available to view on <https://www.peakrareearths.com/announcements/>. Further information relating to the Mineral Resource estimates is in the ASX announcements dated 22 February 2016 and 2 March 2017 which are also available to view on <https://www.peakrareearths.com/announcements/>. The Company confirms that at this time it is not aware of any new information or data that materially affects the information included in the relevant announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant announcement continue to apply and have not materially changed. The Company confirms that at this time the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcements. The Company also advises that it is advancing towards execution of an Economic Framework Agreement with the Government of Tanzania, and the outcome of which may confirm new information or data that materially affects the information included in the announcement and this presentation.

This presentation is authorised for release by the Company’s Chief Executive Officer.

Corporate Overview



Peak Rare Earths ... focussed on advancing the Ngualla Project

One of the largest and highest grade undeveloped rare earth deposits in the world, with significant exploration and development upside

High-grade Ore Reserve:

TREO – 4.80% and NdPr – 1.02%

Multi-generational:

214Mt Mineral Resource and initial 24 year life

Compelling project economics¹:

NPV_{8%} of US\$1,483m and IRR of 37.3%

Significant development upside:

Includes monazite, HRE, niobium and phosphate



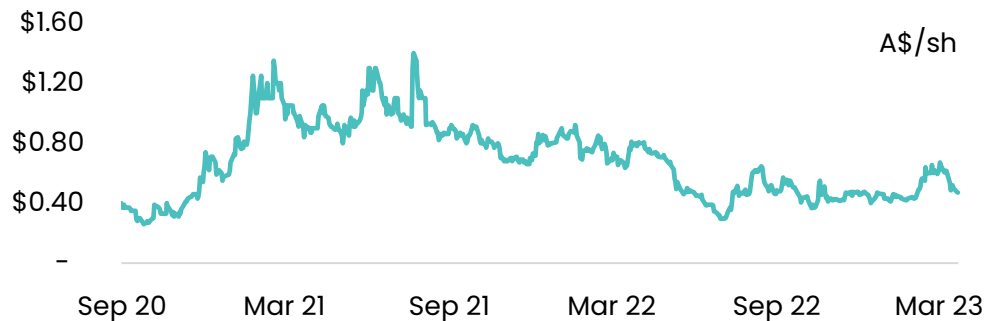
Corporate snapshot

Peak is an ASX-listed development company with a market capitalisation of ~A\$108m

Recent milestones

1. Enhancement of the Board
2. Ngualla Project BFS Update
3. MOU with Shenghe Resources
4. Finalisation of FWA negotiations
5. Formation of Ngualla Project entities

Share price history



Broker coverage

cg/Canaccord
Genuity

PETRA
CAPITAL

FOSTER STOCKBROKING

Orior Capital
HONG KONG

Key financials and capital structure

Cash on hand (31 Dec 2022):
A\$3.8m

Debt (31 Dec 2022):
–

Ordinary shares on Issue:
208.3m

Share Price (22 Mar 2023):
A\$0.52/sh

Market capitalisation:
A\$108.3m

Enterprise value:
A\$104.5m

Peak's positioning ... a compelling investment proposition

A world class high-grade deposit with a supportive major shareholder and a de-risked sequenced strategy

1. Compelling market



- ✓ Strong nexus to global decarbonisation initiatives
- ✓ Rapid growth in EV and wind turbines
- ✓ Rising prices and market tightness

3. World-class asset



- ✓ High grade and low radionuclides
- ✓ Multi-generational (24 years based on Reserves)
- ✓ Significant exploration and development upside

5. Supportive strategic partner and offtaker (Shenghe)



- ✓ Highly experienced across rare earth value chain
- ✓ Offtake MOU for 75-100% of Ngualla production
- ✓ Technical support and potential project investment

2. Attractive mining jurisdiction



- ✓ Rapid transformation of Tanzanian economy
- ✓ Established mining sector
- ✓ FWA grants prioritised under the current President

4. De-risked sequenced development strategy



- ✓ Reduced upfront capex and funding requirements
- ✓ Lower commissioning and technical risk
- ✓ Optionality around the future location of a refinery

6. Strong ESG credentials



- ✓ Committed to ESG best practices
- ✓ Strong community investment and relationships
- ✓ Significant job creation and revenue generation

Peak's strategy ... a simple, de-risked and low capital approach

A strategy supporting a robust and compelling value proposition

Enhanced strategy and approach

1. Nguala Project to be initially developed as a "concentrate only" project

2. Medium-term optionality around integration

3. Leveraging technical, offtake and funding support from major shareholder

4. Replicating the market / development strategy of MP Materials

Rationale

- ✓ **Lower capital and funding requirements**
- ✓ **Reduced technical and execution risk**
- ✓ **Rising demand for high-grade bastnaesite concentrate**
- ✓ **Attractive concentrate payabilities**
- ✓ **Potential to develop a regional MREC refining hub in Tanzania**
- ✓ **Alignment with Government of Tanzania's regulations**
- ✓ **Capacity to utilise Shenghe's technical expertise**
- ✓ **Opportunity to replicate the successful Shenghe – MP Materials precedent**

Shenghe partnership ... offtake, strategic and technical co-operation

The Shenghe MOU supports the accelerated development of the Ngualla Project¹



Offtake

- 75% – 100% of production from the Ngualla Project
- Initial 7 year term



Technical support

- Potential to cover both mining and beneficiation
- Shenghe has significant expertise across RE value chain



Project investment

- Potential project level investment by Shenghe
 - At a mutually agreed valuation



Other

- Standstill provisions in place
- Board seat subject to 10% shareholding
- Potential collaboration beyond Ngualla Project

Shenghe overview

- ✓ Peak's **single largest shareholder** with 19.8% shareholding
- ✓ Large Chinese rare earth group with operations **spanning value chain**
- ✓ Shanghai listed with **US\$3.6b** market capitalisation
- ✓ **Largest importer of rare earth concentrate** into China
- ✓ Strong expertise in mining and processing **bastnaesite mineralisation**
- ✓ Key strategic partner **and ~8% shareholding in MP Materials** (NYSE:MP; market cap US\$4.9b)
- ✓ Other overseas interests – **90% holding in Vietnam Rare Earth Company** and a **9% holding in Energy Transition Minerals (ASX:GGG)**

Shenghe's strategic partnership with MP Materials

- ✓ Sole-offtaker of bastnaesite concentrate from Mountain Pass
- ✓ Technical support
- ✓ Financing (prepayment) to support restart

MP Materials ... also staging development

Shenghe a key strategic partner to MP through the restart of its Mountain Pass Mine

MP Materials overview

- NYSE listed with a market capitalisation of ~US\$4.9b
- Operates the Mountain Pass Mine – the second largest rare earth mine in the world
- Currently sells a bastnaesite mineral concentrate
- Going downstream to NdPr Oxide and magnet production

Stage 1: Restart of Mountain Pass Mine

Successfully completed Q4, 2017

Stage 2: Bastnaesite concentrate export

Currently exporting ~40ktpa REO to Shenghe

Stage 3: Restart of existing Mountain Pass Refinery

Targeting first production in 2023 (~6,000tpa NdPr Oxide)

Stage 4: Magnet & alloy production

Targeting magnet production by 2025

Shenghe's contribution to MP Materials

- ✓ Founding investor in restart of mine and 7.7% shareholding
- ✓ ~US\$80m in funding support (prepayment)
- ✓ Technical support for restart and ramp-up
- ✓ 100% offtaker of bastnaesite concentrate



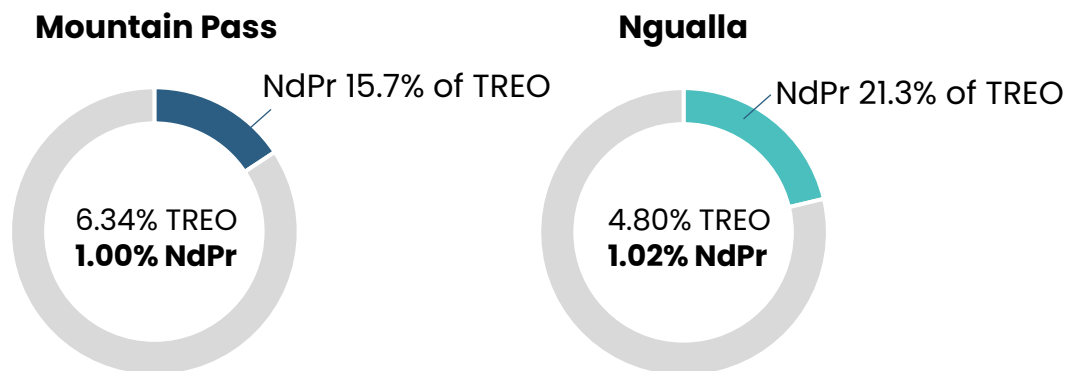
Technical support from Shenghe has aided:

- ✓ Optimised reagent selection and dosage
- ✓ Increase in concentrate grade
- ✓ Increase in recoveries
- ✓ 3.2x increase in production throughput¹
- ✓ **2021 production the highest in the 70-year site history²**

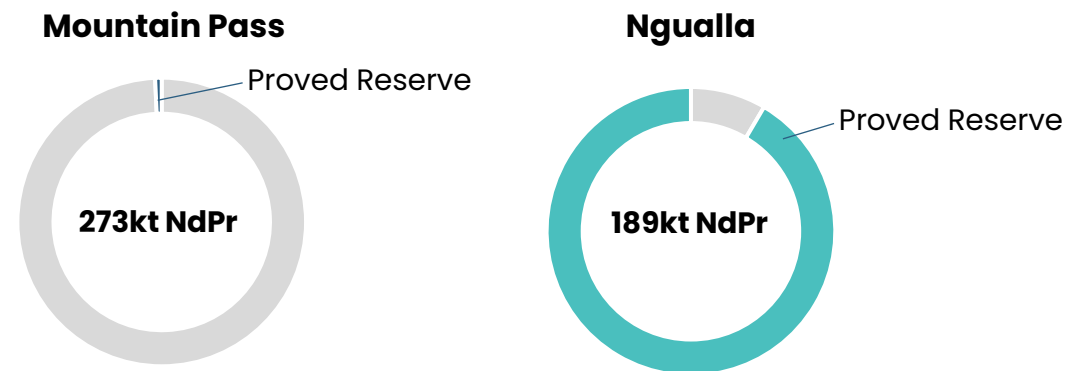
MP Materials ... a comparison with Peak

Peak compares favourably with MP Materials

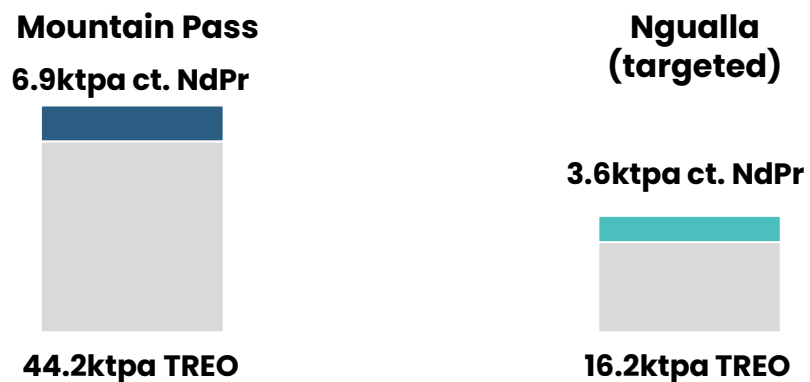
1. Ore Reserve (grade)¹



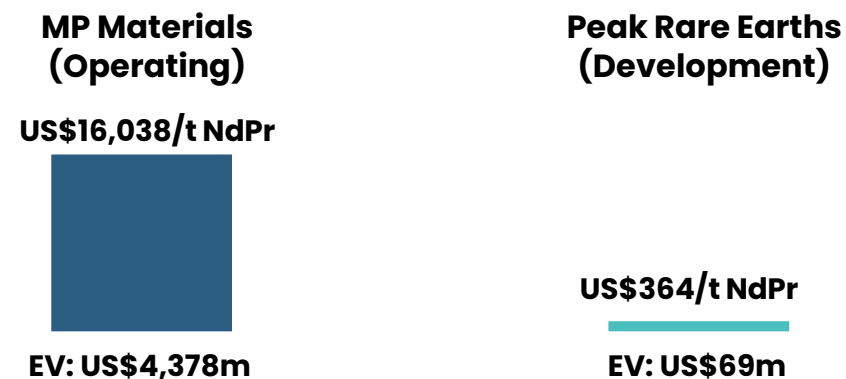
2. Ore Reserve (contained NdPr)¹



3. Bastnaesite concentrate production²



4. Trading – Reserve (EV / Ct. NdPr) multiples³



Operating companies will generally trade on higher multiples than development companies. MP Materials has a track-record of profitable operations, while Peak remains a development company

Rare Earth Outlook

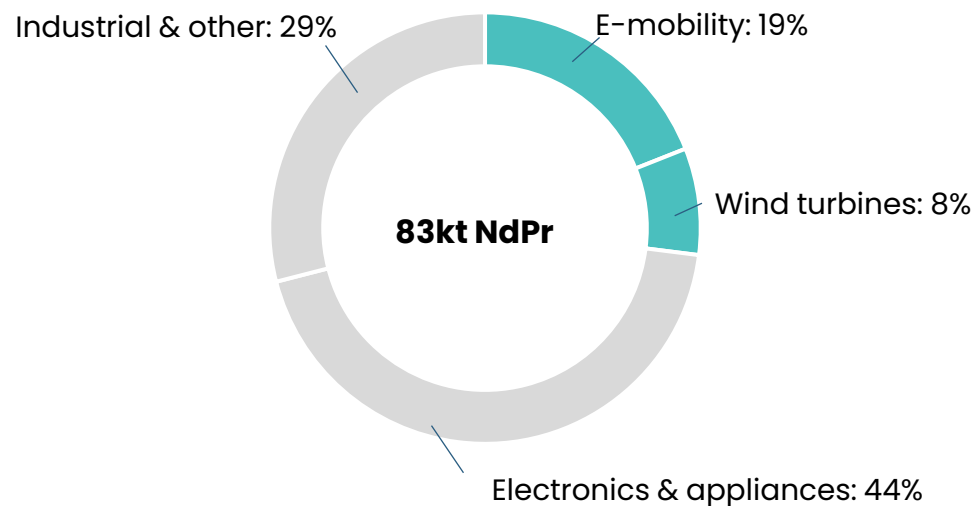


NdPr Oxide ... growing nexus to global decarbonation

NdPr Oxide demand anticipated to grow at over 8% through to 2035 given rapid growth in EV uptake and wind energy deployment

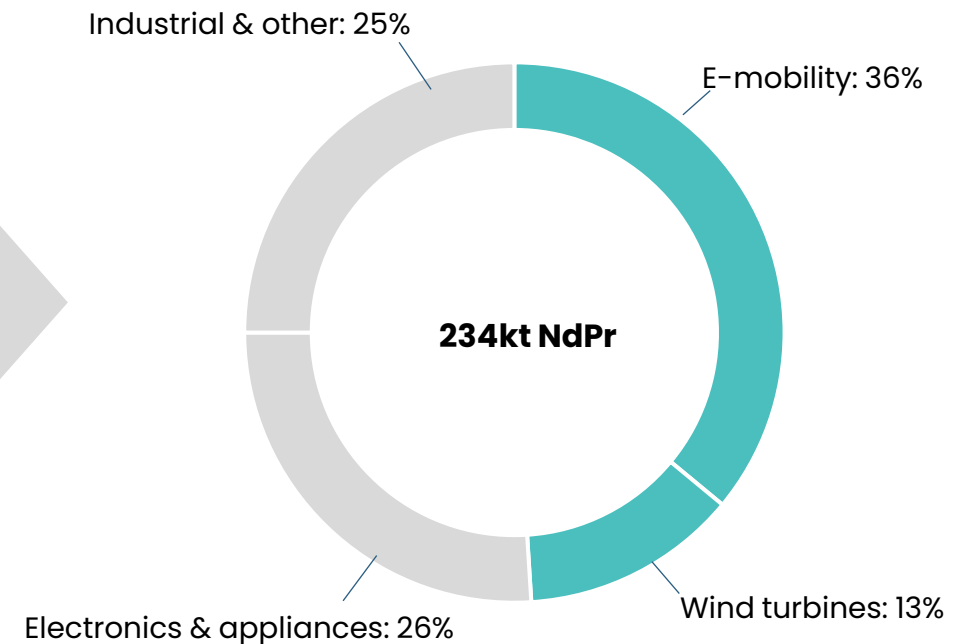
NdPr Oxide demand – 2022¹

Key demand drivers – discretionary household spending & consumer confidence, broader industrial activity and growth



NdPr Oxide demand – 2035F¹

Key demand drivers – decarbonisation and EV transition, renewable energy, hi-tech growth



~8% CAGR

Rare earth market ... rising prices and market deficits

Outlook for NdPr Oxide price supported by decarbonisation and rapid growth in EVs and wind turbines

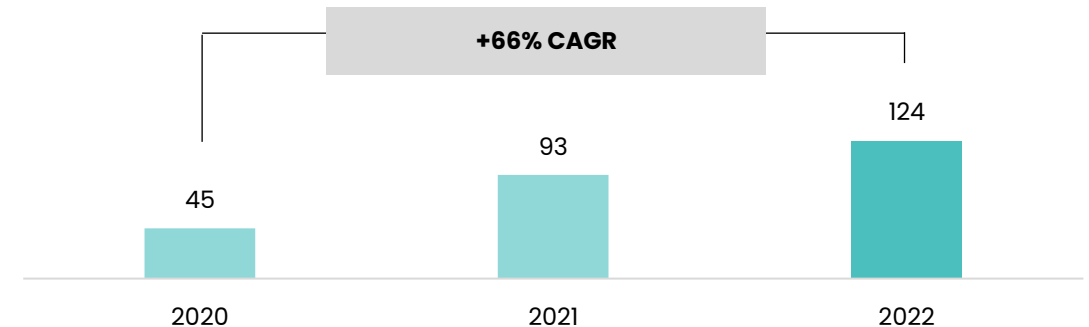
Key demand drivers for NdPr Oxide

- ✓ Global commitment to **decarbonisation**
- ✓ **Rapid growth** in EVs and direct drive wind turbines
- ✓ Growing **deficit** in rare earth concentrate
- ✓ Chinese mine **production quotas**
- ✓ Chinese rare earth **consolidation**
- ✓ Global **supply chain disruptions**

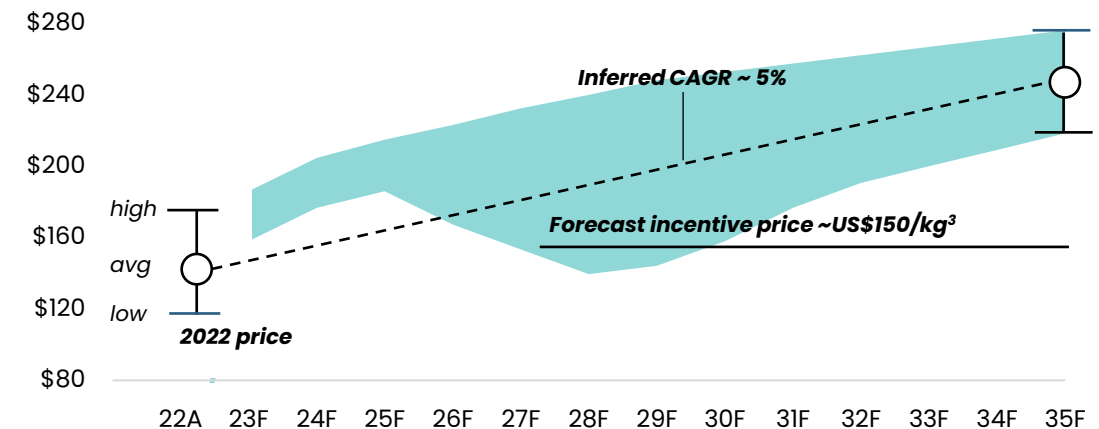
Ngualla bastnaesite concentrate

- ✓ Ngualla **concentrate price** closely **tied** to **NdPr Oxide** price
- ✓ Over **92%** of the **Ngualla basket value** is attributable to **NdPr Oxide**

Historical / current NdPr Oxide price, annual average¹ (US\$/kg)



Forecast NdPr Oxide price² (US\$/kg)



Concentrate market ... growing demand for high-grade bastnaesite concentrate

Increasing surplus of refining capacity and rising competition for feedstock

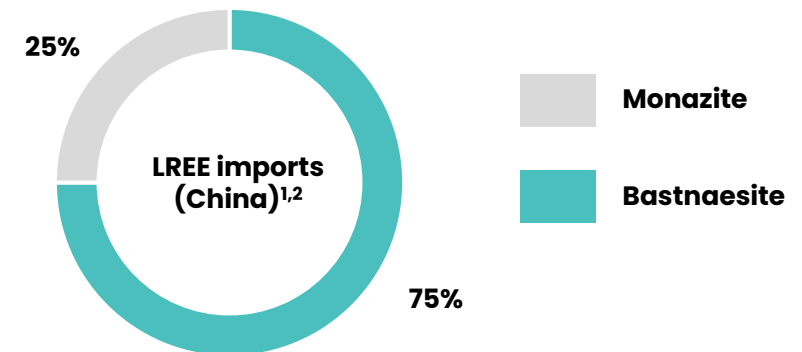
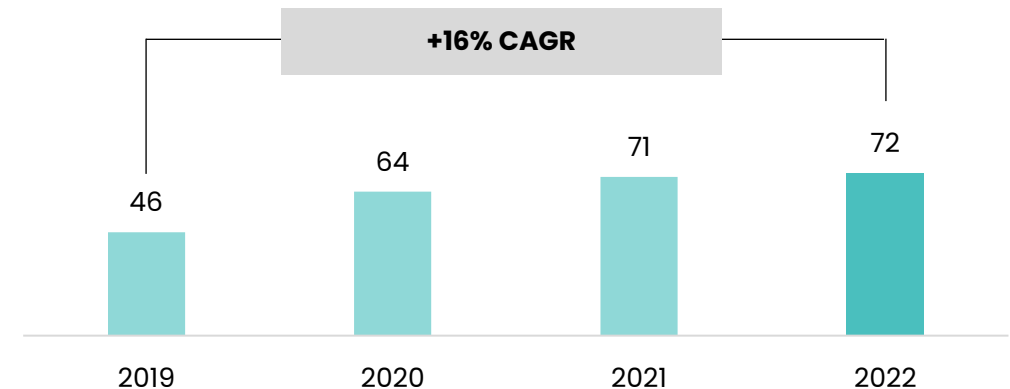
Key concentrate demand drivers

- ✓ Accelerating **depletion** and **declining quality** of primary rare earth **feedstock**
- ✓ Increasing **crack-down** on **illegal mining** in China
- ✓ Restrictive rare earth **mining quotas** within China
- ✓ Growing **surplus** of **refining capacity** and demand for feedstock
- ✓ MP Materials downstream integration **removing ~15%** of **global rare earth concentrate supply**

Ngualla bastnaesite concentrate

- ✓ **High NdPr ratio (22–23%)** – amongst the highest in the market
- ✓ **Low in radionuclides** – avoids shipping constraints and Value-In-Use penalties
- ✓ **Bastnaesite mineralogy** – dominant global rare earth mineralogy
- ✓ **Low acid-consuming minerals** – reducing acid consumption during refining

China import of bastnaesite mineral concentrate¹
(ktpa dry)



Ngualla BFS Update



The Ngualla Rare Earth Project

BFS Update confirms the world-class status of the Ngualla Rare Earth Project

US\$1,483m

Post-tax real NPV_{8%} attributable to Peak

37.3%

Post-tax real IRR based on returns to Peak

16.2ktpa REO

Annual production of high-grade, low impurity bastnaesite concentrate

US\$321m

Upfront capital expenditure

24 years

Initial mine life, based on Ore Reserves only

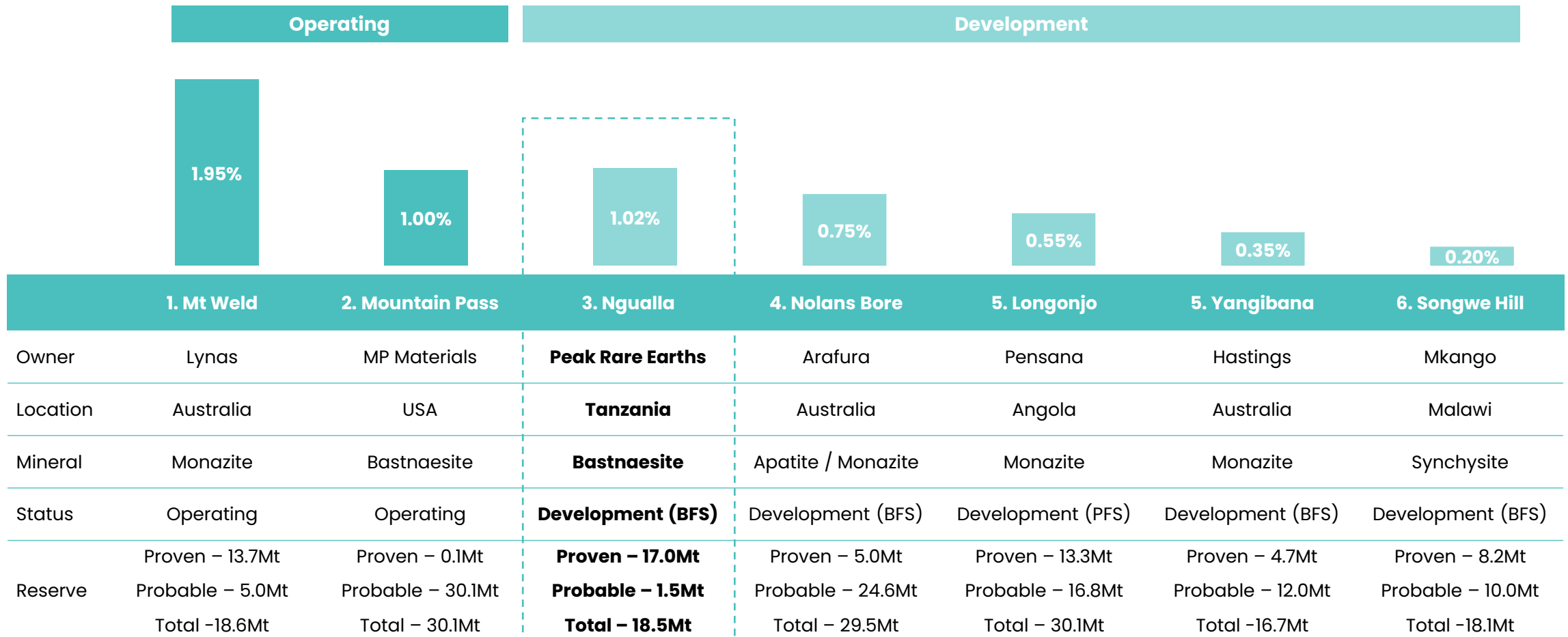
24 months

From FID to first concentrate

Ore Reserves ... comparison

The Ngualla deposit is one of the world's highest grade undeveloped NdPr deposits

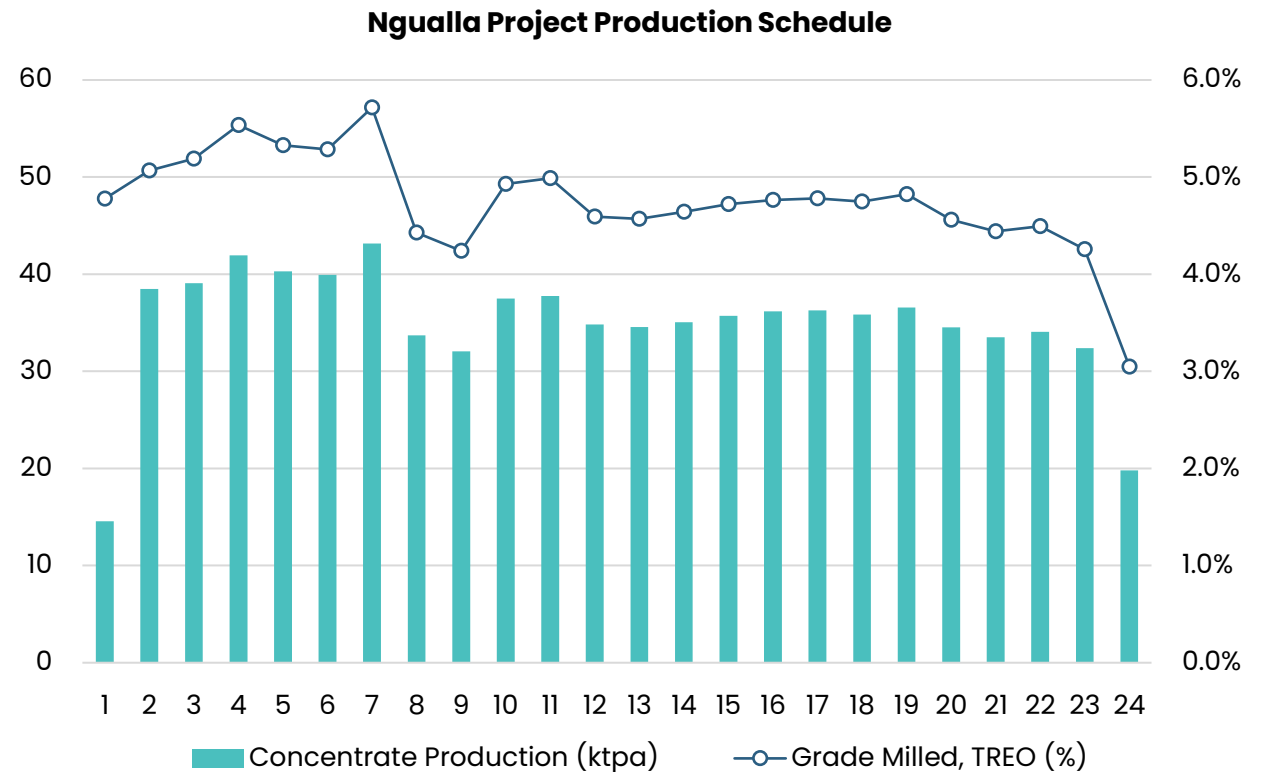
%NdPr (Ore Reserve)



Production profile ... an initial 24 year life supported by Ore Reserves

Initial processing of high-grade ore supports higher production profile through ramp up and first 6 years of operation

	Unit	Years 1-6	LOM
Annual tonnes milled	ktpa	800.7	794.8
Average grade milled	%	5.4	4.8
Average REE recovery	%	42.7	42.7
Concentrate production	ktpa dry	40.5	36.0
Concentrate grade	%	45.0	45.0
Concentrate production	ktpa TREO	18.2	16.2
NdPr % (of concentrate basket)	%	22.6	22.3
Production – Ct NdPr Oxide	ktpa NdPr	4.1	3.6



Indicative timeline ... targeting Final Investment Decision by July 2023

First concentrate scheduled for July 2025, 24 months after a Final Investment Decision

	2022			2023												2024												2025												
	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
BFS Update completed	✓																																							
Early works, procurement and engineering																																								
EPCM tender																																								
FEED																																								
Enabling works / bulk earthworks																																								
Final Investment Decision (FID)										✓																														
EPCM award scope of work											✓																													
Construction																																								
Commissioning																																								
Ramp-up																																								
First concentrate																																								
Schedule contingency added																																								

Future opportunities ... optionality and upside

Future opportunities include further downstream processing / refining and development of other commodities

Optimisation opportunities

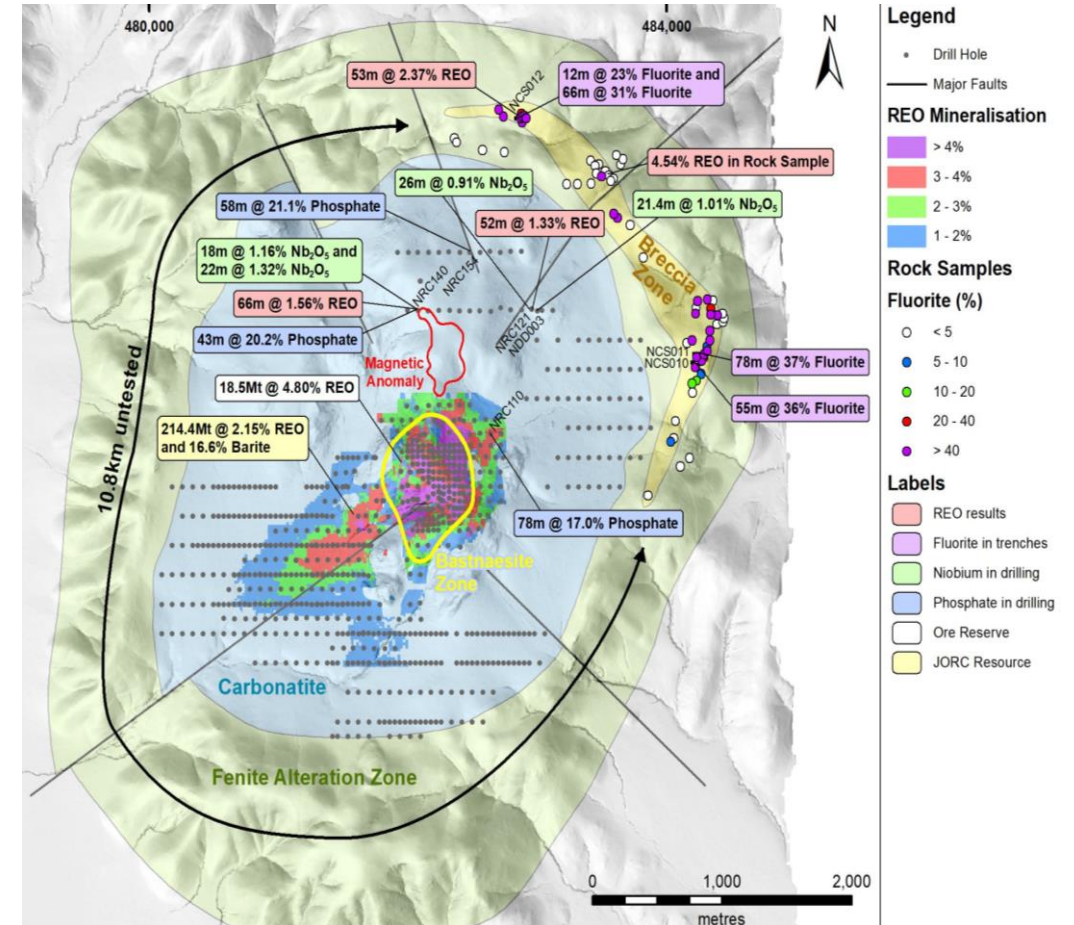
- Further cost optimisations
- Increase recoveries and concentrate grade
- Mine expansions / life extension

Multi commodity potential

- Monazite within Southern Rare Earth Zone
- Heavy rare earths within Northern Zone
- Niobium
- Phosphate
- Fluorspar

Multi commodity potential

- Independent feasibility study on a Tanzanian MREC refinery to be commissioned in partnership with the Government of Tanzania
- Longer term potential to produce refined oxides



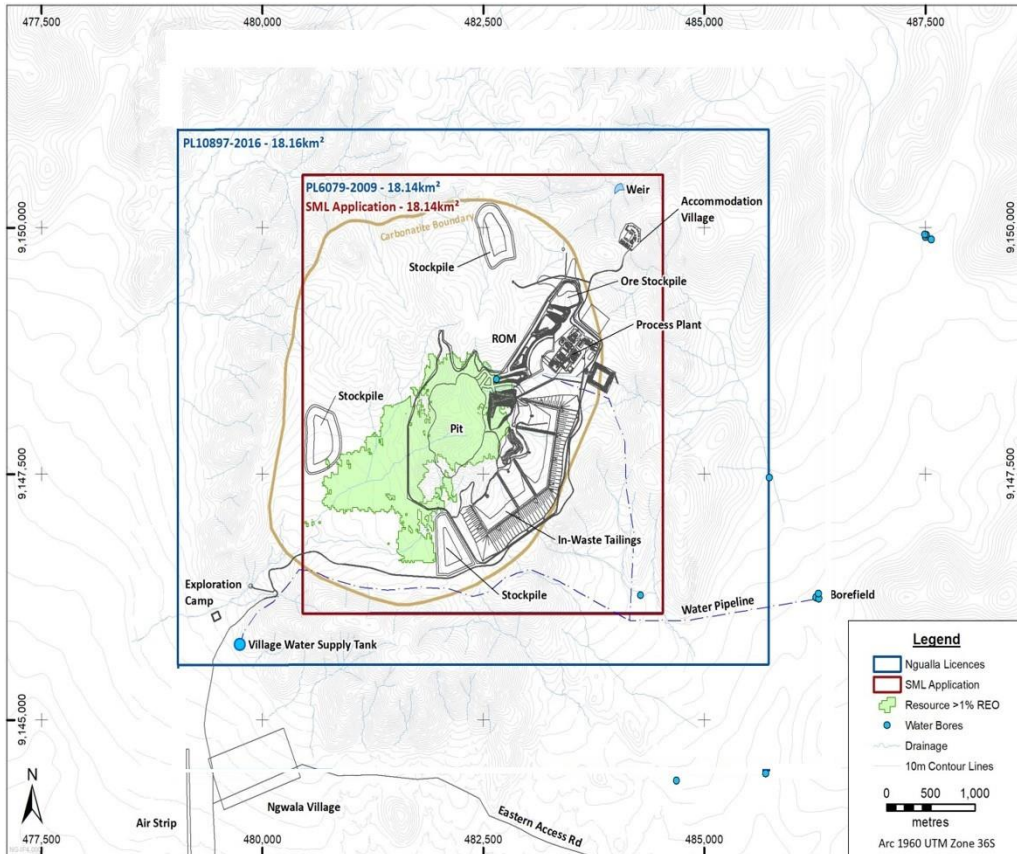
Tanzania Update



Tanzanian approvals ... Framework Agreement finalised and awaiting signing

The SML application was approved by the Tanzanian Cabinet in July 2021 while Framework Agreement negotiations have recently concluded

Ngualla Special Mining Licence (SML) and Prospecting Licence



Ngualla SML – specifics

- SML application approved by Tanzanian Cabinet
- Exclusive rights to mine over 18.14km² area
- Completion of Framework Agreement negotiations
 - supports attractive economic returns for shareholders and strong alignment with the Tanzanian Government
- Incorporation of Tanzanian entities in partnership with the Tanzanian Government



- Will hold the SML and own and operate the Ngualla Project



- Will own and operate any future Tanzanian refining and downstream operations

Next steps

- Execution of Framework Agreement and formal grant of SML

'Kazi Wajibu Utu' ... Work, Responsibility and Humanity

The Ngualla Project will be developed in partnership with the Tanzanian Government and local community

Social investment and community

- Long standing relationship (14+ years) with local Ngwala community
- Peak actively engaged in a wide range community development projects, including:
 - School Development Program
 - Construction of duplex teacher houses
 - Community programs and initiatives
- Community infrastructure development as part of project includes water supply, Southern Access Road, development of airstrip and construction of medical clinic

Government & social

- ✓ Government of Tanzania a partner in the Ngualla Project by virtue of its 16% Free-Carried Interest (FCI)
- ✓ US\$5.6b in revenue delivered to the Government over the life of the Ngualla Project
- ✓ +800 direct and +3,000 indirect jobs during construction
- ✓ +225 direct and +1,000 indirect jobs during operations



Appendices



Experienced team ... well-rounded Board of Directors

Broad mix of technical, commercial, governance, legal and Tanzanian experience



EXECUTIVE CHAIRMAN: RUSSELL SCRIMSHAW

- Highly experienced natural resources executive and company chair
- Founding director and Deputy CEO of Fortescue Metals, and previous Chairman of Sirius Minerals Pl
- Chairman of Garvan Research and Vice-Chairman of Ignition Wealth
- B.Com, Accounting and Finance



NON-EXECUTIVE DIRECTOR: TONY PEARSON

- Experienced natural resources executive and company director
- Chair of ASX-listed Cellnet, Trustee of the Royal Botanic Gardens & Domain Trust and a Non-Executive Director of ASX-listed Xanadu and Communicare Inc.
- B.Com, Accounting and Finance



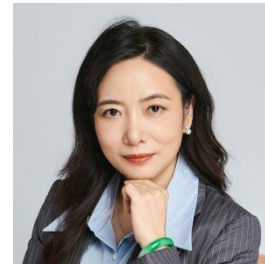
NON-EXECUTIVE DIRECTOR: GILES STAPLETON

- Experienced barrister with significant experience across corporate, commercial, property, equity and family law
- Prior experience in banking, property and funds management, including as Head of Investment Management at Valad Property Group
- LLB (Hons)



NON-EXECUTIVE DIRECTOR: HON. ABDULLAH MWINYI

- Member of Tanzanian Parliament since 2007, and previously a Member of the East African Legislative Assembly (2007 – 2017)
- Chairman of Swala Oil and Gas (Tanzania) Plc
- Lawyer by profession and a founder of the firm Asyla Attorneys
- LLB, LLM



NON-EXECUTIVE DIRECTOR: SHASHA LU

- Deep experience across rare earth supply chain; currently President of Shenghe Resources Pte
- Previously Non-Executive Director of Arafura Rare Earths and Executive Director and Deputy CEO of Globe Metals & Mining
- Visiting scholar at Geneva University which included work for WHO
- Bachelors and Masters Medical Science; PhD, Medicine (Tianjin University); Executive MBA and GAICD



NON-EXECUTIVE DIRECTOR: IAN CHAMBERS

- 35+ years of financial markets experience covering institutional securities, wealth management and capital markets
- Most recently Head of Wealth Management Australia and formerly Head of Institutional Equities at Morgan Stanley
- Part of the ASIC Markets Disciplinary Panel and Financial Services Credit Panel
- B.Bus, Accountancy

Experienced team ... extensive management experience

International and African mining, development, commercial, marketing and rare earth expertise



CEO: BARDIN DAVIS

- 25+ years investment banking and corporate experience in mining and energy sectors
- Former roles include CFO of UPC/AC Renewables Australia, Head of Resources & Energy Group, Asia-Pacific for HSBC and Head of Metals and Mining Asia for Macquarie Capital
- BAg Econ (1st Class Hons), GradDipAcc, MAppFin, GAICD



HEAD OF MARKETING: ANDREA CORNWELL

- 25+ years marketing experience across numerous commodities
- Most recently VP Marketing for South 32, based in Singapore
- Prior roles with Vale, Anglo American, Shell and BHP
- B IntBus, MBA



COMPANY SECRETARY & CFO: PHIL RUNDELL

- 30+ years accounting experience and 10+ years secretarial and compliance experience
- Former Partner at Coopers & Lybrand (now PwC) and Director at Ferrier Hodgson
- B.Com, CA



HEAD OF OPERATIONS: LELLO GALASSI

- 20+ years managing and developing large international mining projects in the Democratic Republic of Congo, Guinea, South Africa, Chile, Guyana, Spain, Australia & Canada
- Previous roles with Sabina Gold & Silver, ICL, Rio Tinto, Freeport McMoran and Phelps Dodge
- MSAE, Aerospace Engineering & Computational Fluid Dynamics



HEAD OF TECHNICAL SERVICES: MARK GODFREY

- 40+ years metallurgical experience across numerous large mining companies including Glencore, Newcrest, MMG, Rio Tinto and BHP
- Extensive experience in feasibility studies, pilot plant test work, flow sheet optimisation and project commissioning
- BSc (Chemical Engineering)



COUNTRY MANAGER: ISMAIL DIWANI

- Background in accounting, government relations and administration
- Commenced with Peak in 2015, and has held several regulatory, commercial and leadership roles
- B.BusAdmin, CPA (Tanzania)

Peak in Tanzania ... our long-standing commitment and senior team

Peak has spent ~US\$45m on exploration, technical studies and community initiatives

Peak's history in Tanzania

May
2008

Peak enters Tanzania via acquisition of Pan African Resources

Sep
2008

Peak acquires 80% of Ngualla Phosphate Project

Aug
2010

Rare earths discovered at Ngualla Project

Dec
2012

Scoping Study

Mar
2014

Preliminary Feasibility Study and maiden Ore Reserves

Apr
2017

Bankable Feasibility Study

Oct
2022

Bankable Feasibility Study Update

Key in-country team members



NON-EXECUTIVE DIRECTOR: HON. ABDULLAH MWINYI

- Member of Tanzanian Parliament since 2007
- Chairman of Swala Oil and Gas (Tanzania) Plc
- Lawyer by profession
- LLB, LLM



COUNTRY MANAGER: ISMAIL DIWANI

- Background in accounting and government relations
- Commenced with Peak in 2015
- B.BusAdmin, CPA (Tanzania)



COMMUNITY LIASON OFFICER: MARY DUNCAN

- Background in community development
- Commenced with Peak in 2015
- Previously at St John's University
- Masters, Community Development



SENIOR ADVISER: PATRICK RUTABANZIBA

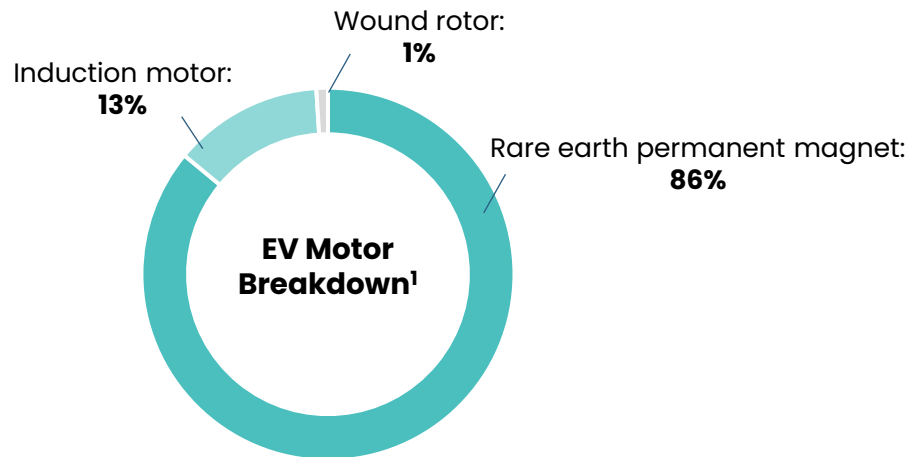
- Country Chair of PanAfrican Energy Tanzania Ltd
- Founding member of African Energy Policy Research Network
- Former Permanent Secretary, Minister of Energy & Minerals
- B.Sc (Chemical Engineering), M.Sc (Chemical Engineering)

Rare earth use in permanent magnet motors

Tesla's potential shift from rare earths is not anticipated to have a meaningful impact

What did Tesla say?

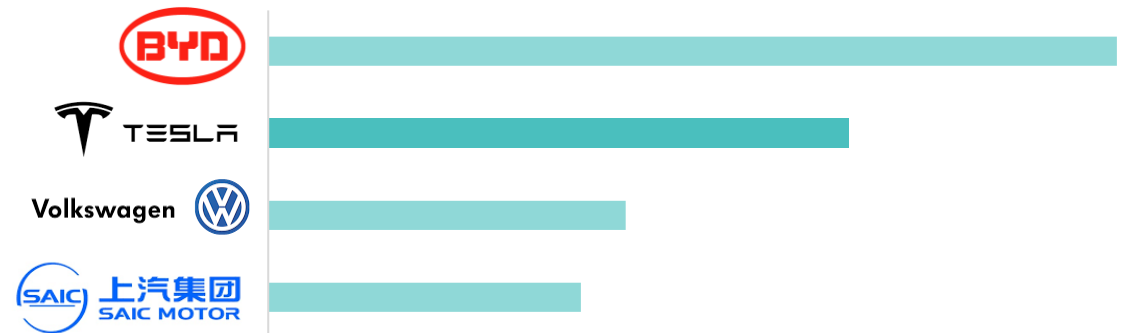
- Tesla's next generation permanent magnet motors will not use rare earths
- Likely to utilise iron-nitride permanent magnet technology
 - Novel technology
 - Not yet reached commercial production
- Key reasons cited by Tesla for moving away from rare earths:
 - Supply challenges
 - EHS issues associated with rare earth mining



Peak's perspective

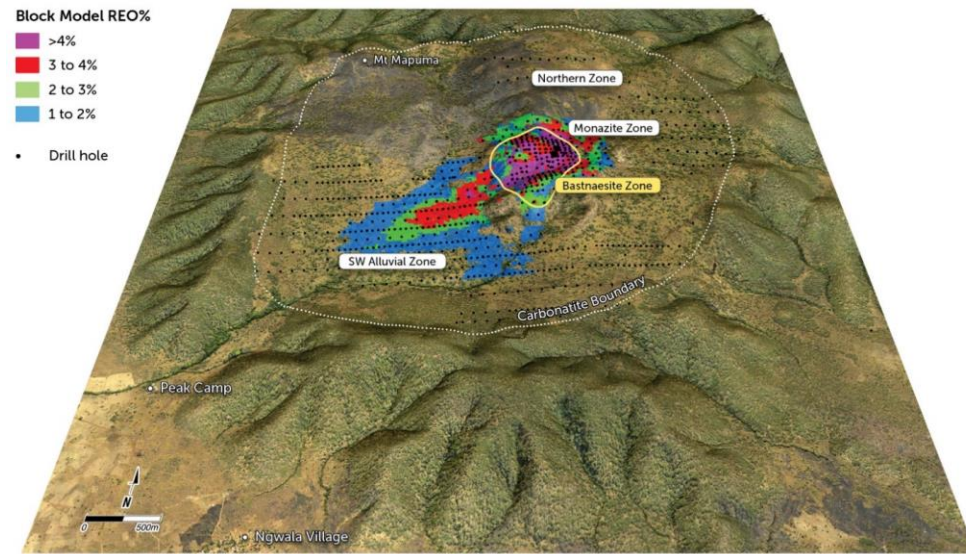
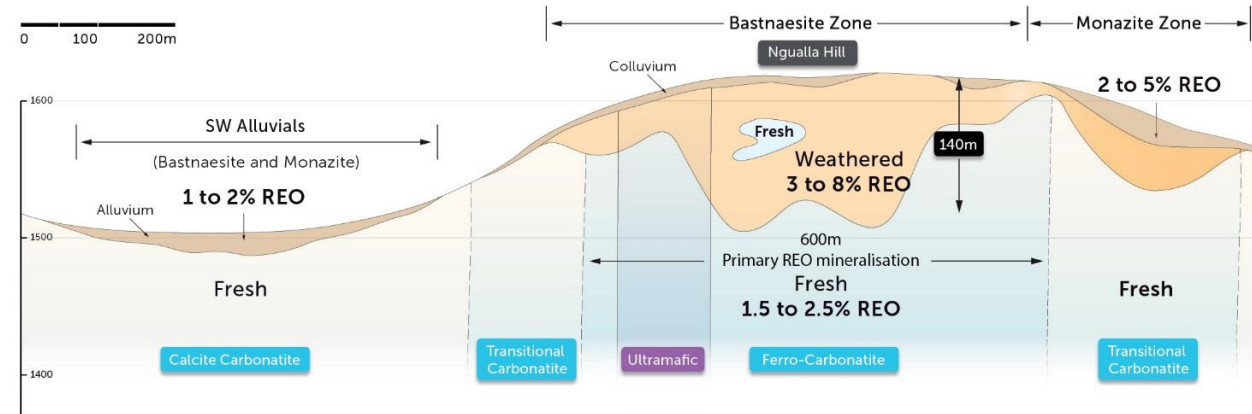
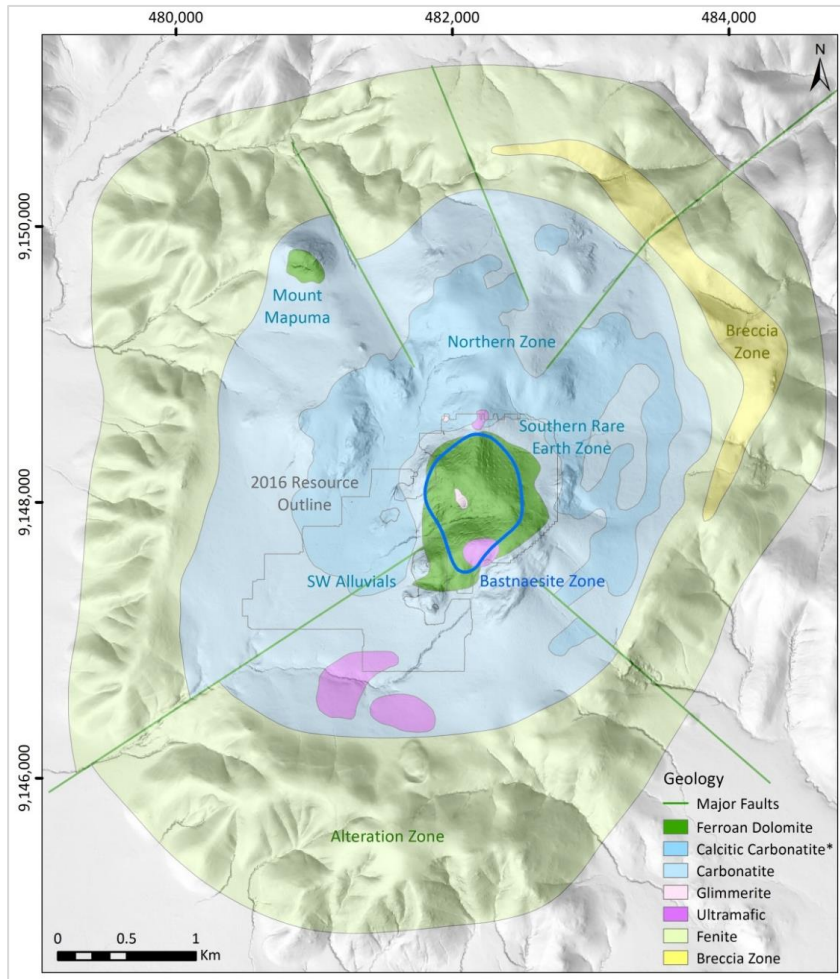
- Consistent with growing rare earths supply deficits
- Tesla accounts for 13% of global plug-in registrations
 - Surpassed by Chinese manufacturer BYD in 2022
 - Rare earth motors continue to be adopted by other manufacturers
- EV motors account for 19% of total NdPr demand
 - Other key uses include wind turbines and electronics
- Peak will not face EHS challenges faced by many peers
 - Ngualla Project is low in radionuclides
- RE motors have significant performance advantages over induction motors
 - Smaller motors, higher magnetic strength / weight, longer drive range

Global Plug-in vehicle sales (2022)²



Ngualla ... significant resource endowment with exploration upside

Project initially targeting high-grade weathered bastnaesite zone



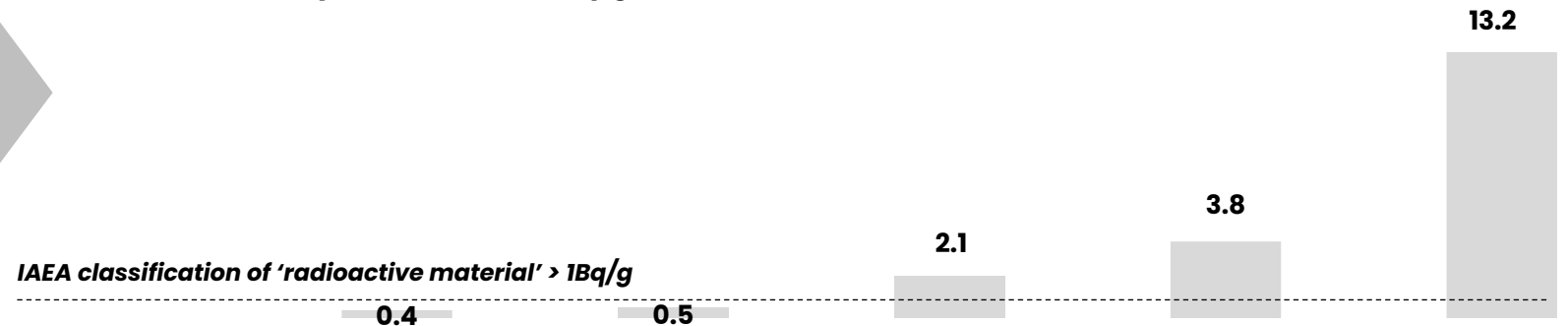
Radionuclides ... peer comparison

The Ngualla deposit has low levels of radionuclides and will largely avoid transportation and waste management challenges faced by peers

Why is radionuclide content important?

- Restrictions on transporting radioactive materials
- Radioactive leach residue waste must be stored on site or treated and disposed
- Rare earth concentrate with higher radioactivity will incur refinery Value-in-Use penalties
- Radioactive deposits may require additional monitoring and safety controls

Natural radioactivity concentration (Bq/g)

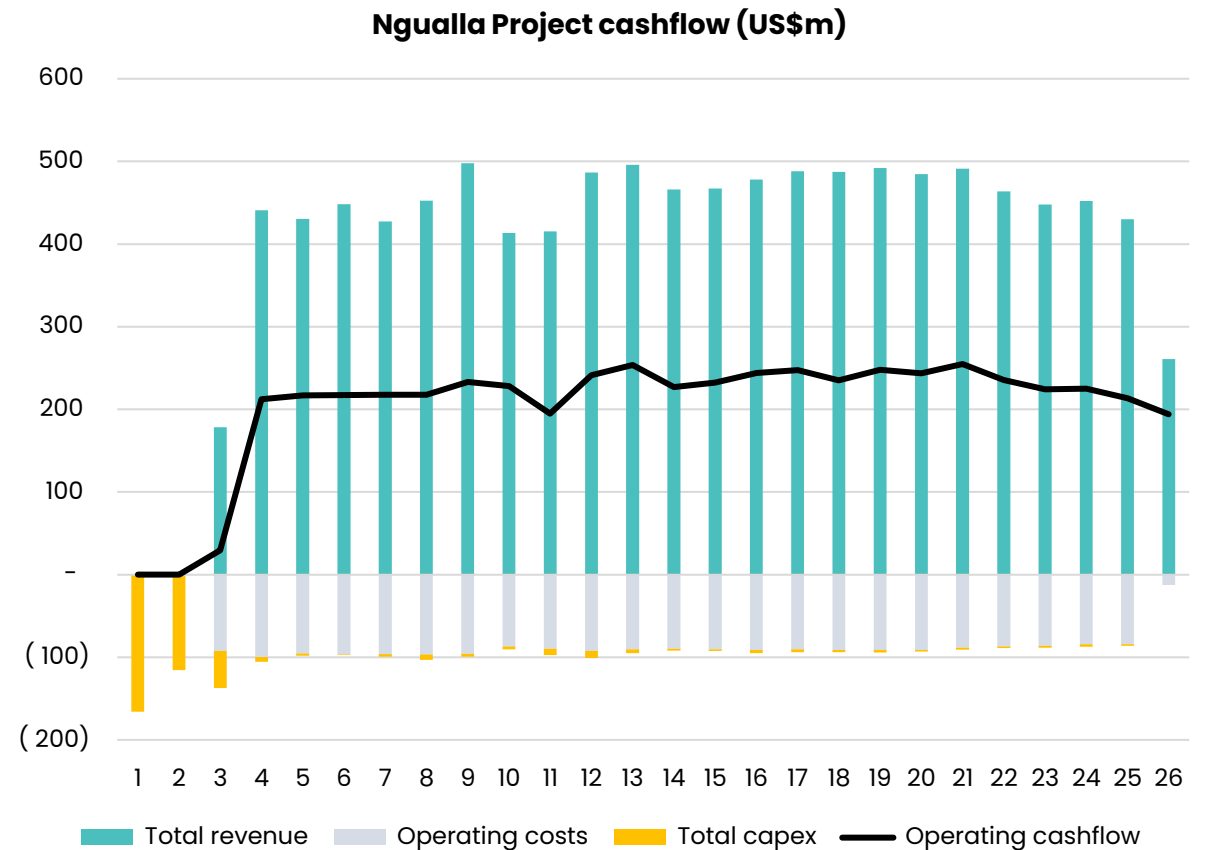


	1. Ngualla	2. Browns Range	3. Yangibana	4. Longonjo	5. Nolans Bore
Owner	Peak Rare Earths	Northern Minerals	Hastings	Pensana	Arafura
Mineral	Bastnaesite	Xenotime	Monazite	Monazite	Apatite
Thorium (ppm)	53	27	450	850	2,700
Uranium (ppm)	15	35	25	25	180

Financial analysis ... compelling economics and returns

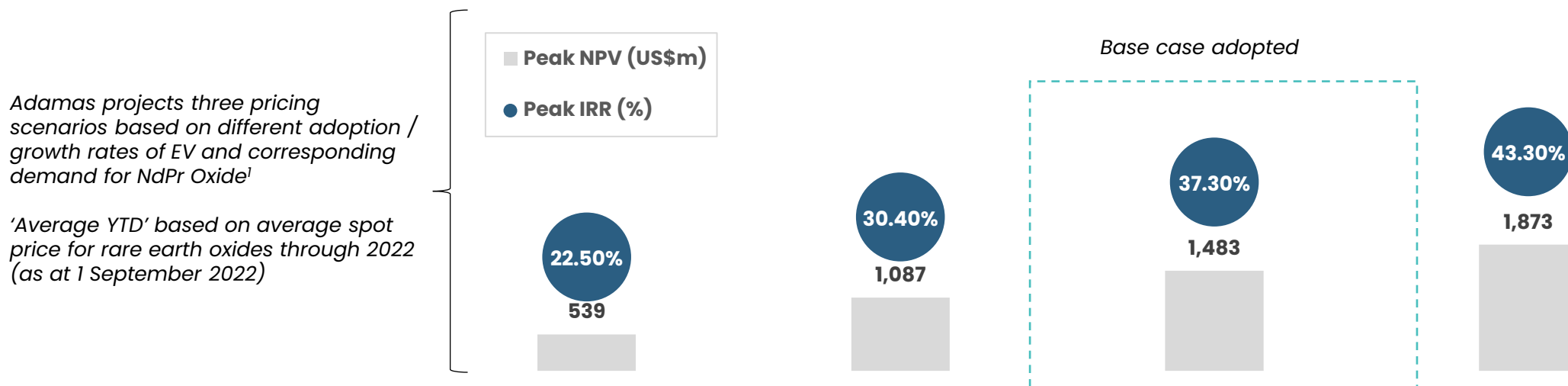
The Ngualla Project is forecast to generate a ~US\$1.5b NPV and a ~37% IRR under the Adamas Base Pricing Scenario

Financial Metric	Unit	Value
Average annual revenue	US\$m pa	538
LOM net operating cash flow	US\$m	6,597
Average annual operating cash flow	US\$m pa	276
Average annual EBITDA	US\$m pa	448
Peak NPV _{8%, real}	US\$m	1,483
Peak NPV _{10%, real}	US\$m	1,156
IRR (post tax, royalties and FCI)	%	37.3
Equity payback period	years	4.0
Commodity Price assumptions	Unit	Value
NdPr oxide (LOM average)	US\$/kg	231.88
Net payability	%	60.9



Scenario analysis ... robust financial outcomes

Scenario analysis supports robust economics and returns at market pricing and substantial upside under the Adamas Upside pricing scenario



Financial Metric	Unit	Q1 – Q3, 2022	Adamas Price Scenarios		
			Downside	Base	Upside
NdPr price (2026–30) ²	US\$/kg	138.80	153.92	195.70	237.48
NdPr price (LOM) ²	US\$/kg	138.80	198.73	231.88	265.03
Average net payability ³	%	56.1	59.5	60.9	61.8
Average annual revenue	US\$m pa	301	453	538	623
Average annual EBITDA	US\$m pa	212	363	448	553

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