

Powering the green transformation

New World Metals Conference

20 September 2022



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 announcements dated 22 February 2016, 2 March 2017, 12 April 2017, 28 August 2017, 12 October 2017, 25 August 2021, 28 October 2021 and 31 August 2022. The ASX announcements are available to view on <https://www.peakresources.com.au/asx-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 undertaking a Bankable Feasibility Study Update and negotiating an Economic Framework Agreement with the Government of Tanzania, and the outcome of one or both, may confirm new information or data that materially affects the information included in the relevant announcement.

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

Peak Rare Earths (ASX:PEK)

- ASX listed and Perth-headquartered rare earth developer
- Strong nexus to rapid growth in EVs and renewable energy
- Focused on developing the Ngualla Rare Earth Project in Tanzania
- Major shareholder – Shenghe Resources (19.7%)

A\$/sh



Share price (16 September 2022):

A\$0.55/sh

Market capitalisation (undiluted):

A\$114.0m

Cash (30 June 2022):

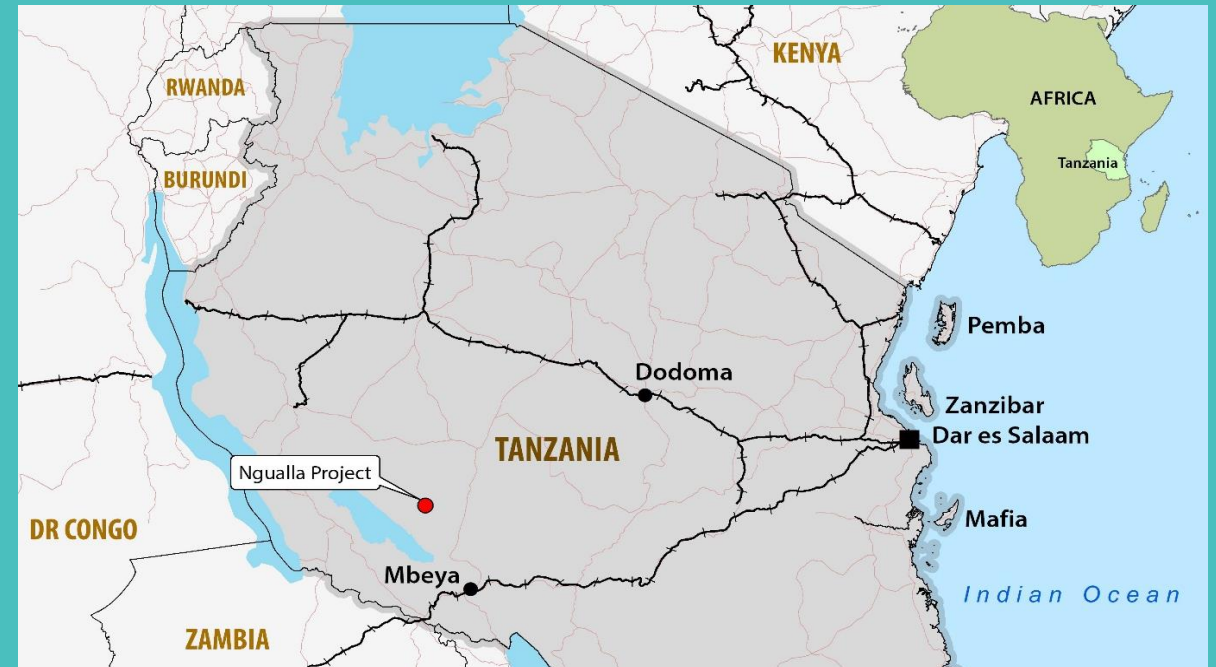
A\$9.5m

Debt (30 June 2022):

–

Ngualla ... a world class project

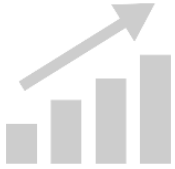
- ✓ One of world's largest and highest grade undeveloped rare earth deposits
- ✓ JORC compliant Ore Reserves
- ✓ Low levels of radionuclides and acid consuming elements
- ✓ Completed BFS with a BFS Update nearing finalisation
- ✓ De-risked sequenced development strategy
- ✓ Final stages of FWA negotiations



Peak's investment thesis

A world class high-grade deposit with 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

2. Attractive Mining Jurisdiction



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

3. World-Class Asset



- ✓ High grade and low radionuclides
- ✓ Multi-generational (20+ years based on Reserves)
- ✓ Significant exploration and development upside

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

5. Experienced Board and Management



- ✓ Well-rounded and experienced Board
- ✓ Strong on-the-ground Tanzanian team
- ✓ Management has extensive international and African mining, marketing and rare earth expertise

6. Strong ESG Credentials



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

Global decarbonatisation builds momentum

Commitments from COP26 will further expedite global transition to green energy



Governments continue to pledge to emissions targets...

- **100+ countries** have signed a pledge to reduce methane emissions by 30% by 2030
- **190 countries and organisations** have committed to phasing out coal generated power
- **20 countries** have committed to cease funding oil, coal and gas projects by the end of 2022. **Five large public banks**, including the European Investment Bank, have committed to the same pledge
- **30+ countries** and **dozens of states and cities**, have committed to the **phase-out** of the sale of new **internal combustion engine (ICE)** vehicles by 2035

...With growing funding for decarbonisation initiatives



Biden Administration has pledged **US\$555b** in incentives and investments aimed at the deployment of renewable energy and electric vehicles in the U.S



UK Government has committed to **£3.2b** in funding towards EV and offshore wind development plus **£350m** to its Automotive Transformation Fund



Canadian Government has committed **C\$964m** to support smart renewable energy and grid modernisation aimed at lowering emissions



Japanese Government has committed to a **US\$17.6b** fund to assist ambitious green projects over the next decade



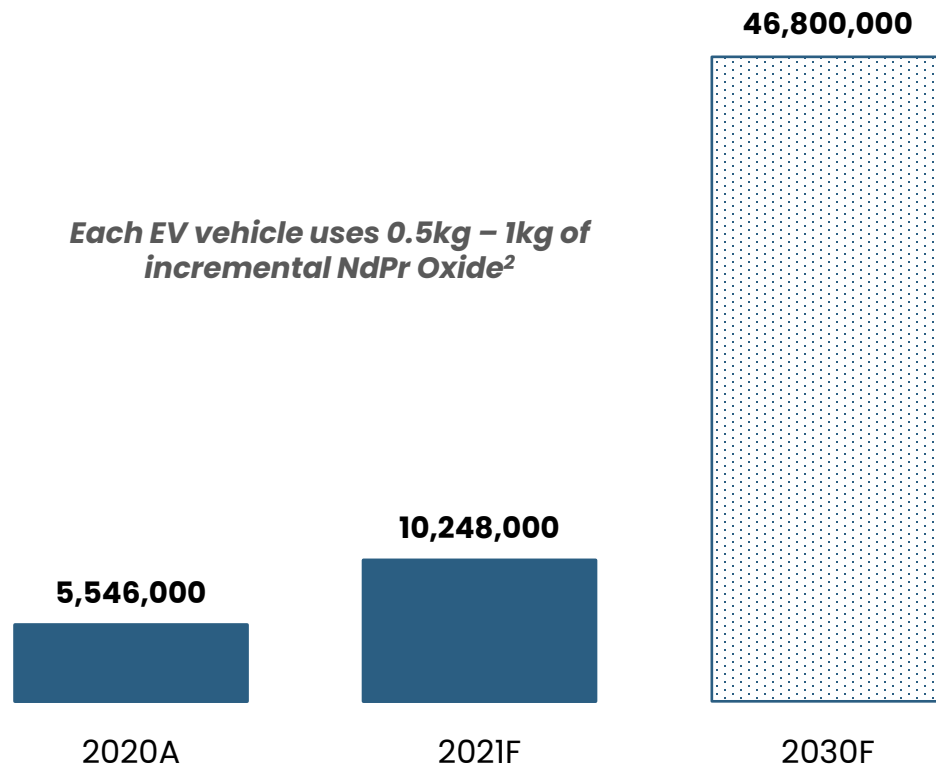
European Union will invest more than **€1.8b** in large-scale innovative cleantech projects as part of its Innovation Fund

EV market growth accelerates














Governments and auto brands commit to the phase-out of ICE vehicles

EV Growth¹

(global registrations)



Manufacturer EV targets

	+1m EV capacity		ICE phase-out by 2030
	40% EV sales by 2030		70% EV Europe by 2030
	ICE phase-out by 2035		ICE phase-out by 2030
	100% EV by 2025		15x new BEV in 2025
	ICE phase-out by 2030		50% sales EV/hybrids by 2030
	ICE phase-out by 2030		ICE phase-out by 2040
	ICE phase-out by 2036		

Government / State EV targets

	Ban ICE sales by 2030		Ban ICE sales by 2030
	Ban ICE sales by 2040		Ban ICE sales 2035
	Ban ICE sales by 2040		Proposed ban ICE sales 2035
	Ban ICE sales by 2025		Ban ICE sales by 2035

NdPr demand growth ... underpinned by EVs and wind turbines

EVs and wind turbines both heavily reliant on permanent magnet motor technology



Mass production of EVs has commenced...

*Behind each Battery is a **Motor***

- Over 90% of all EVs will be equipped with an NdFeB permanent magnet motor¹
- Each EV consumes an incremental **~1kg** of NdPr Oxide
- EVs anticipated to grow at a **CAGR of 29%** over the next five years
- Hydrogen vehicles also reliant permanent magnet motor technology
- Hydrogen vehicles also anticipated to grow at a **CAGR of 11%** through to 2025¹

Transition to renewable power generation ...

200kg NdPr Oxide per 1 MW of wind generation capacity

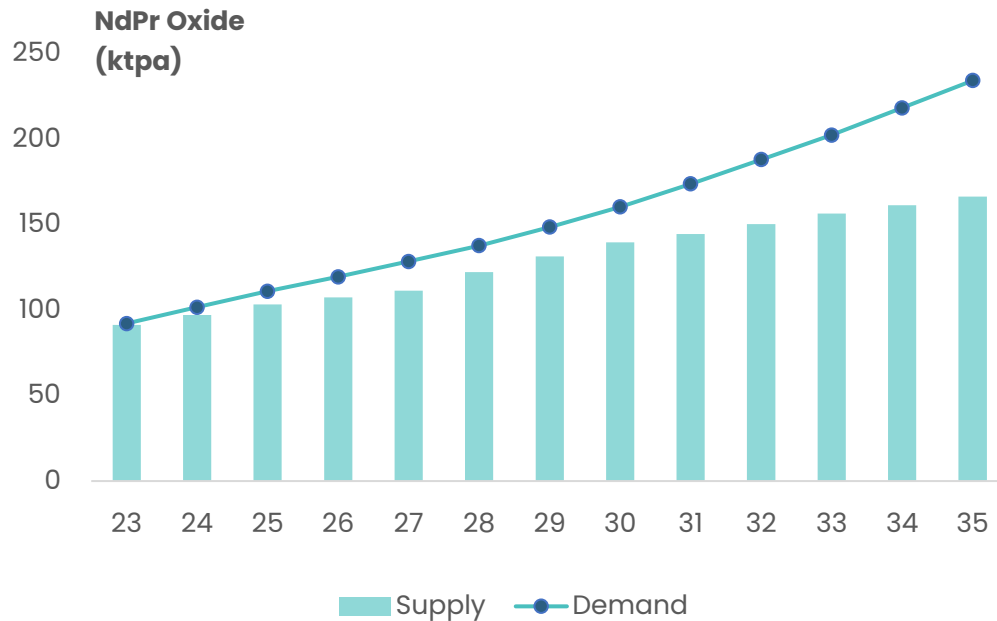
- Each direct drive wind turbine uses a permanent magnet motor that generates between 2-6MW of performance²
- Each megawatt requires approx. 200kg pure NdPr Oxide²
- Wind turbines anticipated to grow at a **CAGR of 17%** through to 2025¹



A rapidly growing NdPr Oxide supply deficit

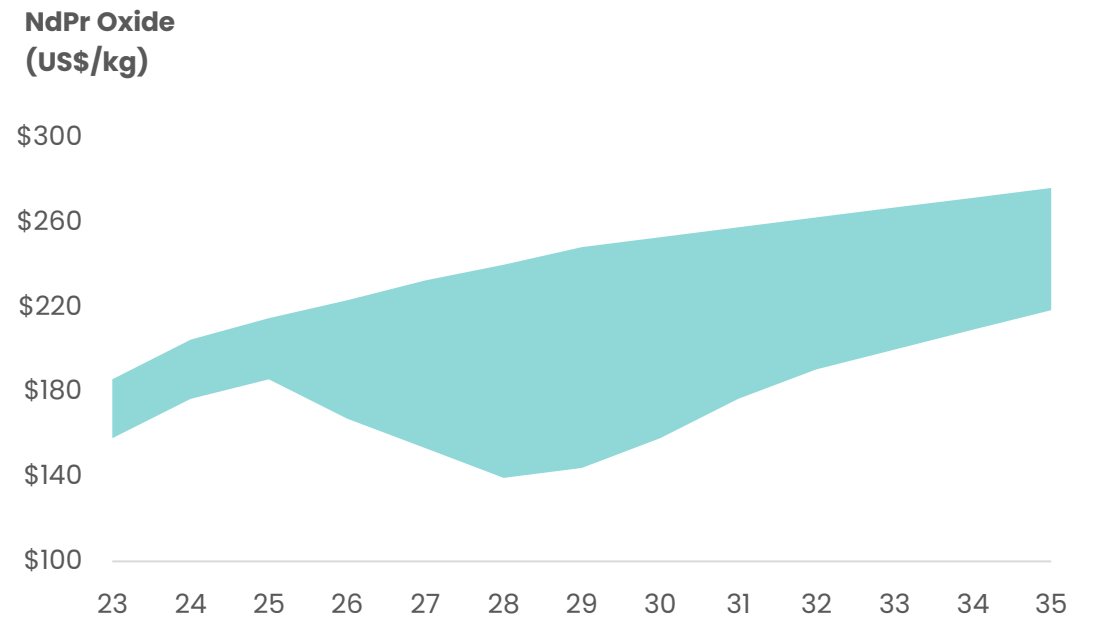
It is anticipated that ~96% of the basket value for Ngualla concentrate will be attributable to contained NdPr

Forecasted NdPr Oxide Supply-Demand Balance¹



Forecasted NdPr Oxide deficit of 68ktpa by the year 2035...
20x Peak's planned contained NdPr production

Forecasted NdPr Oxide Price¹



Forecasted NdPr Oxide price (base case) of US\$247/kg by the year 2035...
A 93% increase in price from today's spot price

Tanzania ... a rapidly developing mining sector

Mining and resources sector to play a critical role in the Government achieving its stated growth targets

Tanzania – mining & resources snapshot

- 4th largest gold producer in Africa
- Under-explored and highly prospective across rare earths, graphite and other critical minerals
- Increased focus on foreign investment, granting mining licenses and finalising Framework Agreements
 - Framework Agreement with Shell and Equinor on a US\$30–40b LNG project
 - Host Government Agreement supporting the \$3.5b East African Crude Oil Pipeline
 - BHP's US\$100m earn-in agreement over the Kabanga Nickel Project announced 10 January 2022¹

Recent FWA / SML grants within Tanzania

Company	Commodity	Grant
Kabanga Nickel¹ (Kabanga Project)	Nickel / Copper / Cobalt	3 Nov 2021
OreCorp (Nyanzaga Project)	Gold	13 Dec 2021
Black Rock Mining (Mahenge Project)	Graphite	13 Dec 2021
Strandline (Fugoni Project)	Mineral Sands	13 Dec 2021
Petra Diamonds (Williamson Mine)	Diamonds	13 Dec 2021

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

Feb
2012

Peak increases stake within Ngualla Project to 100%

Dec
2012

Scoping Study

Mar
2014

Preliminary Feasibility Study and maiden Ore Reserves

Apr
2017

Bankable Feasibility Study

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

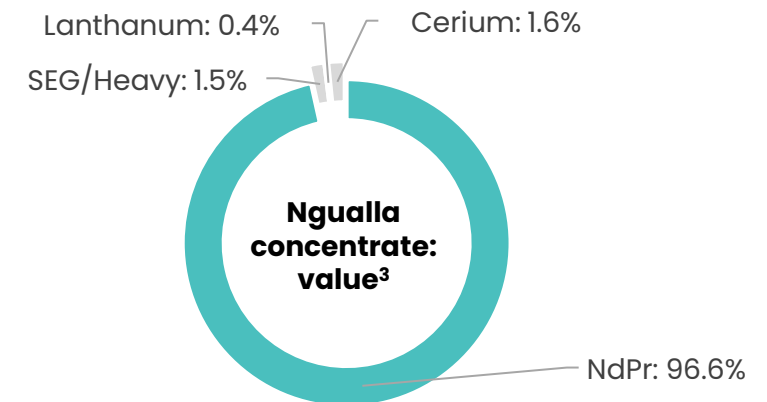
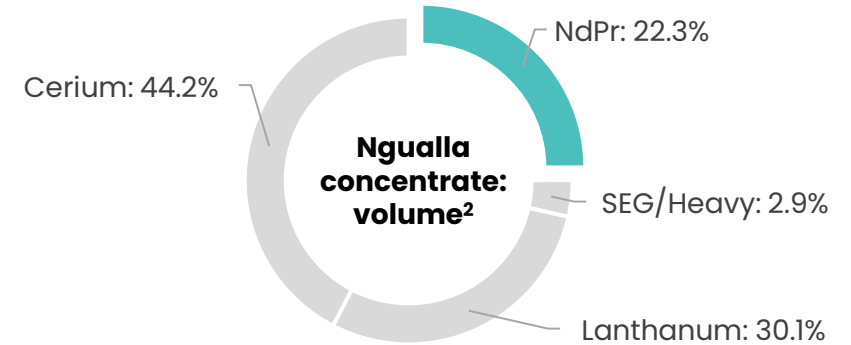
- Country Chair of PanAfrican Energy Tanzania Ltd
- Founding member of African Energy Policy Research Network
- Former Permanent Secretary, Minister of Energy & Minerals
- B.Sc (Chemical Engineering), M.Sc (Chemical Engineering)

World-class project ... Ngualla is large scale and high-grade

Large high-grade Reserves and Resources supporting a low cost and potentially multi-generation project

Ngualla project overview¹

Location:	Tanzania (~1,000km west of Dar es Salaam and ~150km from Mbeya)
Geology:	Weathered carbonatite with a high-grade bastnasite-rich zone, low in acid consuming elements and radionuclides
Ore Reserves:	18.5Mt grading 4.80% REO for 887kt REO
Mineral Resources:	214.4Mt grading 2.15% REO for 4.61Mt REO
Life of mine:	20+ years (covering only Ore Reserves)
Mining:	Open Pit with low strip ratio of 1.77x
ROM throughput:	800ktpa dry ore
Annual production:	37.2ktpa of concentrate (45% TREO grade)
Environmental Certificate:	Received March 2017
Mining Licence:	SML application approved by Tanzanian Cabinet and to be formally granted upon finalisation of Framework Agreement



Integrated strategy ... via a sequenced development approach

Peak's sequenced development strategy underpinned by the high-grade Ngualla Rare Earth Project



Peak ... unique value proposition

Stage I:

Development of Ngualla Rare Earth Project

Initially developed on a standalone basis to export a high-grade rare earth concentrate

Benefits:

- ✓ Maintain optionality around the potential of a Tanzanian refinery
- ✓ Reduce upfront capital expenditure and funding requirements
- ✓ Lowers commissioning and technical risk around the concurrent development of the Ngualla Project and a downstream refinery
- ✓ Capitalises on growing offtake appetite for Ngualla's high-grade rare earth concentrate

Stage II:

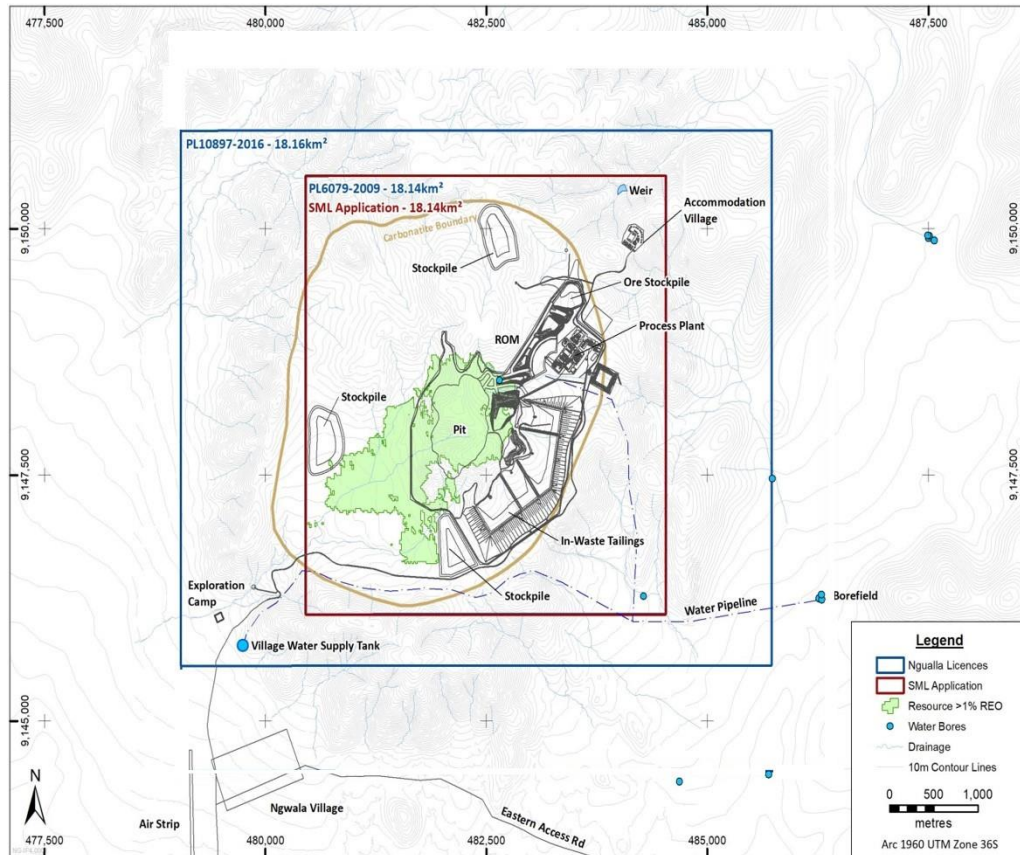
Development of a refinery / further downstream processing

- Retain optionality around location of downstream refinery
- Independent study to be completed on technical, economic and environmental feasibility of a Tanzanian refinery / further downstream processing
- Completed 2017 Bankable Feasibility Study on a Teesside Refinery
- 10+ years of testwork and optimisation with fully piloted flow sheet

Tanzanian approvals ... Framework Agreement close to being finalised

The SML application was approved by the Tanzanian Cabinet in July 2021 and Framework Agreement negotiations are well advanced

Ngualla ... Special Mining Licence & Prospecting Licence



Ngualla SML ... specifics

- SML application approved by Tanzanian Cabinet
- Exclusive rights to mine over 18.14km² area
- SML and Prospecting Licence to be held via a newly incorporated entity to be owned beneficially
 - 84% by Peak
 - 16% by the Tanzanian Government

Next steps

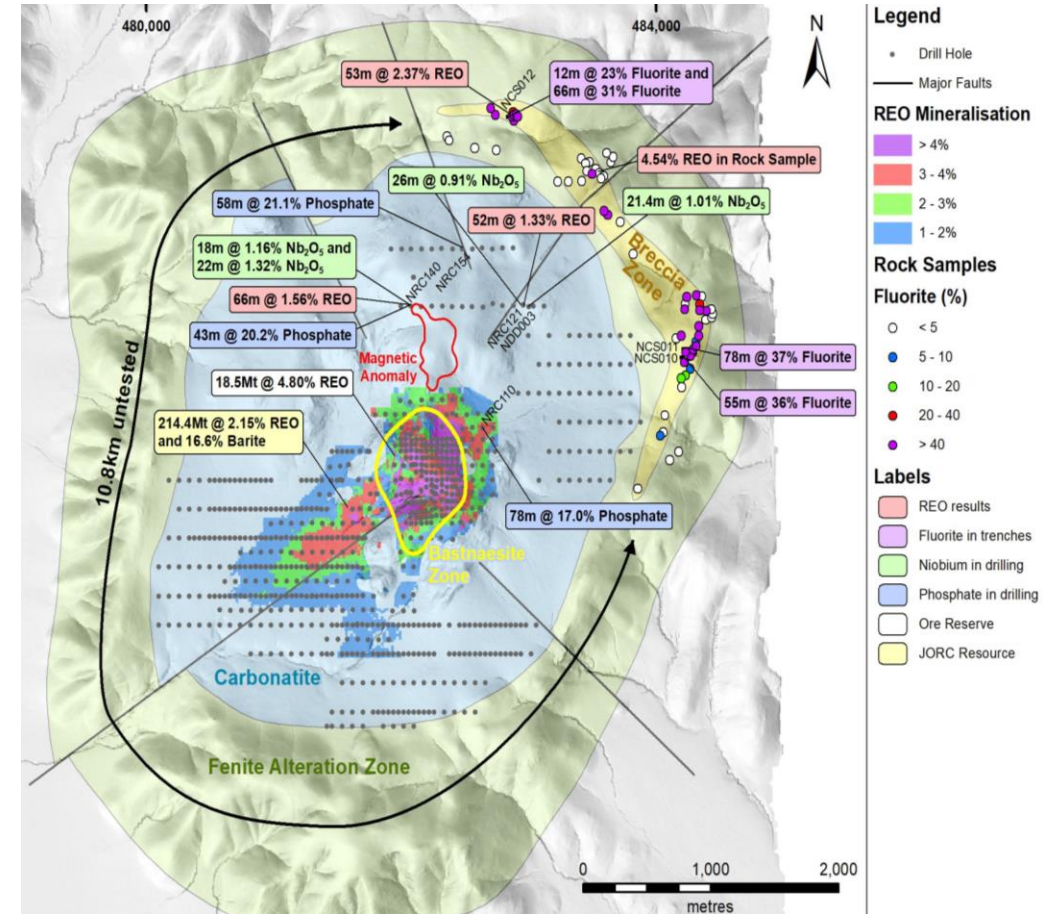
- Finalise NewCo Constitution & Shareholders' Agreement
- Formal grant of SML and execution of Framework Agreement

Looking forward ... potential growth options in Tanzania

Multi-commodity potential at Ngualla and scope for further downstream processing in Tanzania

Ngualla ... future growth optionality

- 1 Monazite Concentrate**
Ngualla contains significant monazite mineralisation within its Southern Rare Earth Zone which could support a direct concentrate export operation
- 2 Heavy Rare Earths**
Apatite mineralisation rich in heavy rare earths including Dysprosium and SEG has been identified within the Northern region of the Ngualla deposit
- 3 Downstream Refining**
Possibility of downstream development within Tanzania including production of a mixed rare-earth carbonate and/or refined oxides
- 4 Other Commodities**
The Ngualla deposit is highly prospective for a range of other commodities including niobium, fluorspar and phosphate





Peak's commitment to ESG... snapshot

Environmental

- ✓ Original ESIA completed in partnership with IFC – a previous shareholder in Peak
- ✓ Incorporation of Global Industry Standard on Tailings Management (GISTM)
- ✓ Adoption of hybrid solar-battery-diesel power plant to lower carbon footprint
- ✓ Potential for longer term access to grid and Tanzania's emerging hydropower supply

Government & Social

- ✓ Significant direct revenue delivered to the Government over the life of the Ngualla Project
- ✓ Infrastructure development including roads, water supply and airstrip
- ✓ +225 direct and +1,000 indirect jobs during operations

Community Initiatives

- ✓ School development program and construction of teacher's accommodation
- ✓ Funding for the local medical clinic
- ✓ Sporting events, community programmes and donations
- ✓ Development and maintenance of water bores

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