

# Powering the green transformation

## Africa Down Under Conference

2 September 2022



**ASX: PEK**

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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

# A world-class project to power the green transformation

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

### Peak ... unique value proposition

<b>Stage I</b> Ngualla Rare Earth Project	<ul style="list-style-type: none"><li>✓ One of the largest and highest grade undeveloped NdPr deposits</li><li>✓ High-grade of <b>4.80% TREO</b> (Ore Reserves)</li><li>✓ <b>+20 year</b> life-of-mine (based on Ore Reserves only)</li><li>✓ Significant development upside (Monazite and HRE mineralisation)</li><li>✓ Integrated mine and flotation plant which will produce high grade concentrate of <b>45% TREO</b> that is low in radionuclides and impurities</li></ul>
<b>Stage II</b> NdPr Oxide Production	<ul style="list-style-type: none"><li>✓ Optionality around location of downstream refinery</li><li>✓ Completed Bankable Feasibility Study considering refinery development at Teesside with update imminent</li><li>✓ Commencement of independent technical study following FWA that evaluates feasibility of a Tanzanian refinery</li><li>✓ 10+ years of testwork and optimisation with fully piloted flow sheet</li></ul>
<b>Peak's sequenced development strategy</b>	<ul style="list-style-type: none"><li>✓ Maintains optionality around the potential of a Tanzanian refinery</li><li>✓ Significantly reduces capital expenditure and funding requirements</li><li>✓ Lowers commissioning and technical risk around the concurrent development of the Ngualla Project and Teesside Refinery</li><li>✓ Capitalises on growing offtake appetite for Ngualla's high-grade rare earth concentrate</li></ul>





# 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



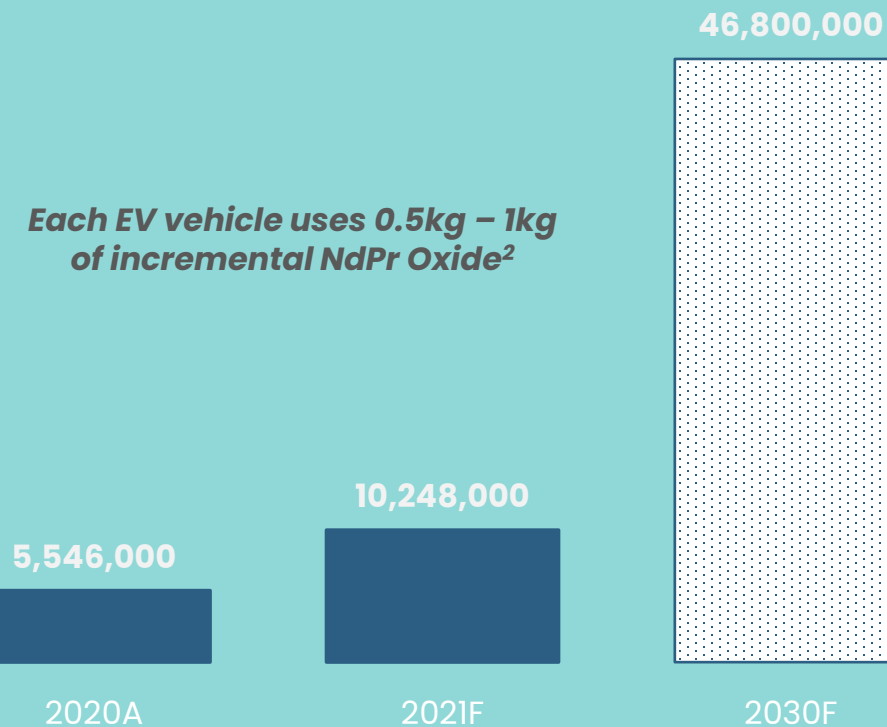
European Union will invest more than **€1.8b** in large-scale innovative cleantech projects as part of its Innovation Fund

# EV market growth accelerates














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

### EV Growth<sup>1</sup>

(global registrations)



### Manufacturer EV targets

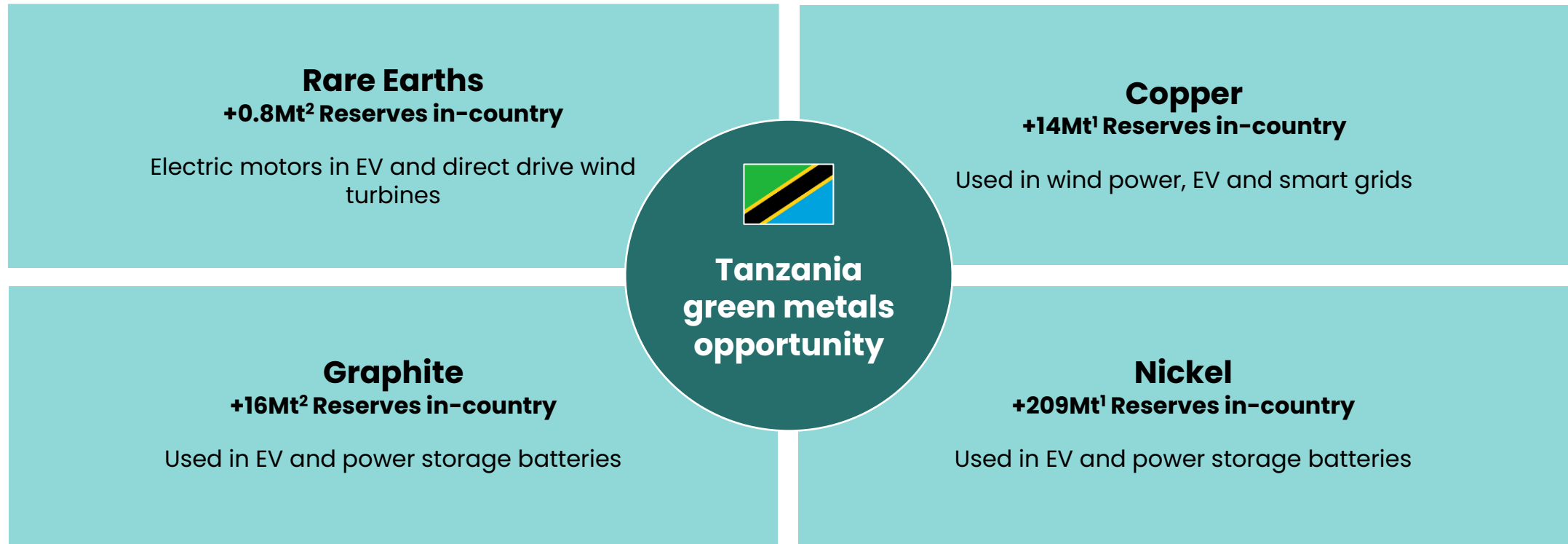
	+1m EV capacity		ICE phase-out by 2030
	40% EV sales by 2030		70% EV Europe by 2030
	ICE phase-out by 2035		ICE phase-out by 2030
	100% EV by 2025		15x new BEV in 2025
	ICE phase-out by 2030		50% sales EV/hybrids by 2030
	ICE phase-out by 2030		ICE phase-out by 2040
	ICE phase-out by 2036		

### 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

# Tanzanian green metals opportunity ... utilising endowments of rare earth and battery metals

Leveraging the global green transformation to become a global player in net-zero carbon materials and to generate national wealth, economic development and jobs

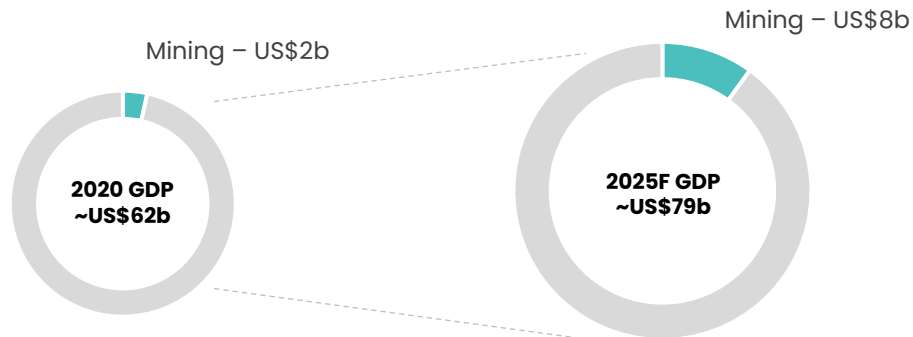


# Tanzania ... a rapidly emerging mining sector

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

### Tanzania – mining & resources snapshot

- Highly prospective for a range of different commodities including base and precious metals, graphite and rare earths. Fourth largest gold producer in Africa
- Government has publicly stated its intention to grow the mining sector to be 10% of GDP by 2025 (currently 3.5%)
- Significant momentum under President Hassan with five Framework Agreements (FWA) executed and Special Mining Licences (SML) granted through 2021
- Recent signing of a FWA with Shell and Equinor on a US\$30–40b LNG project
- Government has also recently signed a Host Government Agreement supporting the \$3.5b East African Crude Oil Pipeline
- BHP has recently entered Tanzania following its US\$100m earn-in agreement over the Kabanga Nickel Project announced 10 January 2022<sup>1</sup>



### Recent FWA/SML grants within Tanzania

Company	Commodity	FWA/SML Grant
<b>Kabanga Nickel<sup>1</sup></b> (Kabanga Project)	Nickel / Copper / Cobalt	3 November 2021
<b>OreCorp</b> (Nyanzaga Project)	Gold	13 December 2021
<b>Black Rock Mining</b> (Mahenge Project)	Graphite	13 December 2021
<b>Strandline</b> (Fugoni Project)	Mineral Sands	13 December 2021
<b>Petra Diamonds</b> (Williamson Mine)	Diamonds	13 December 2021

<sup>1</sup>BHP will invest up to US\$100m into the Kabanga Nickel Project, currently owned by private British mining company Kabanga Nickel, to earn up to 18% of the project

# 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)



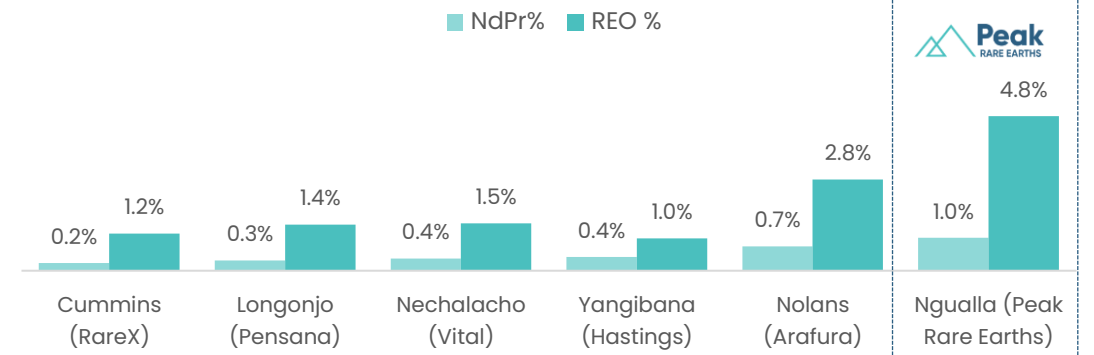
# World-class project ... Ngualla is large scale and high-grade

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

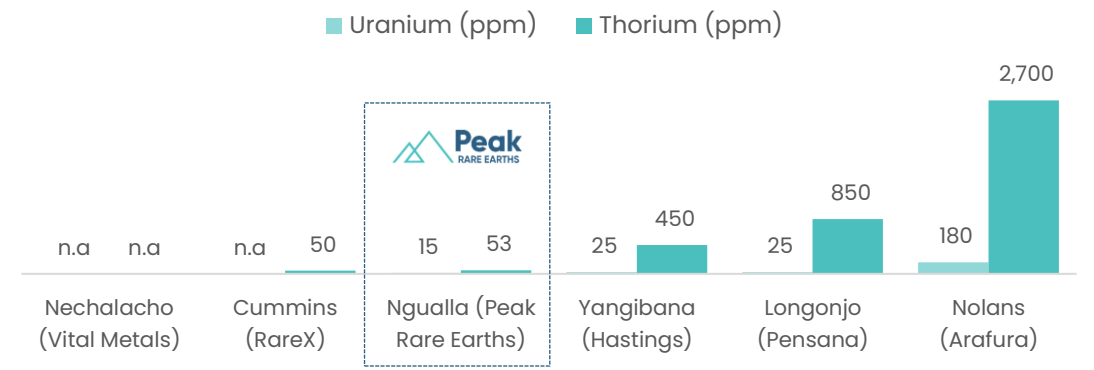
### Ngualla project overview<sup>1</sup>

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

### Grade<sup>2</sup>

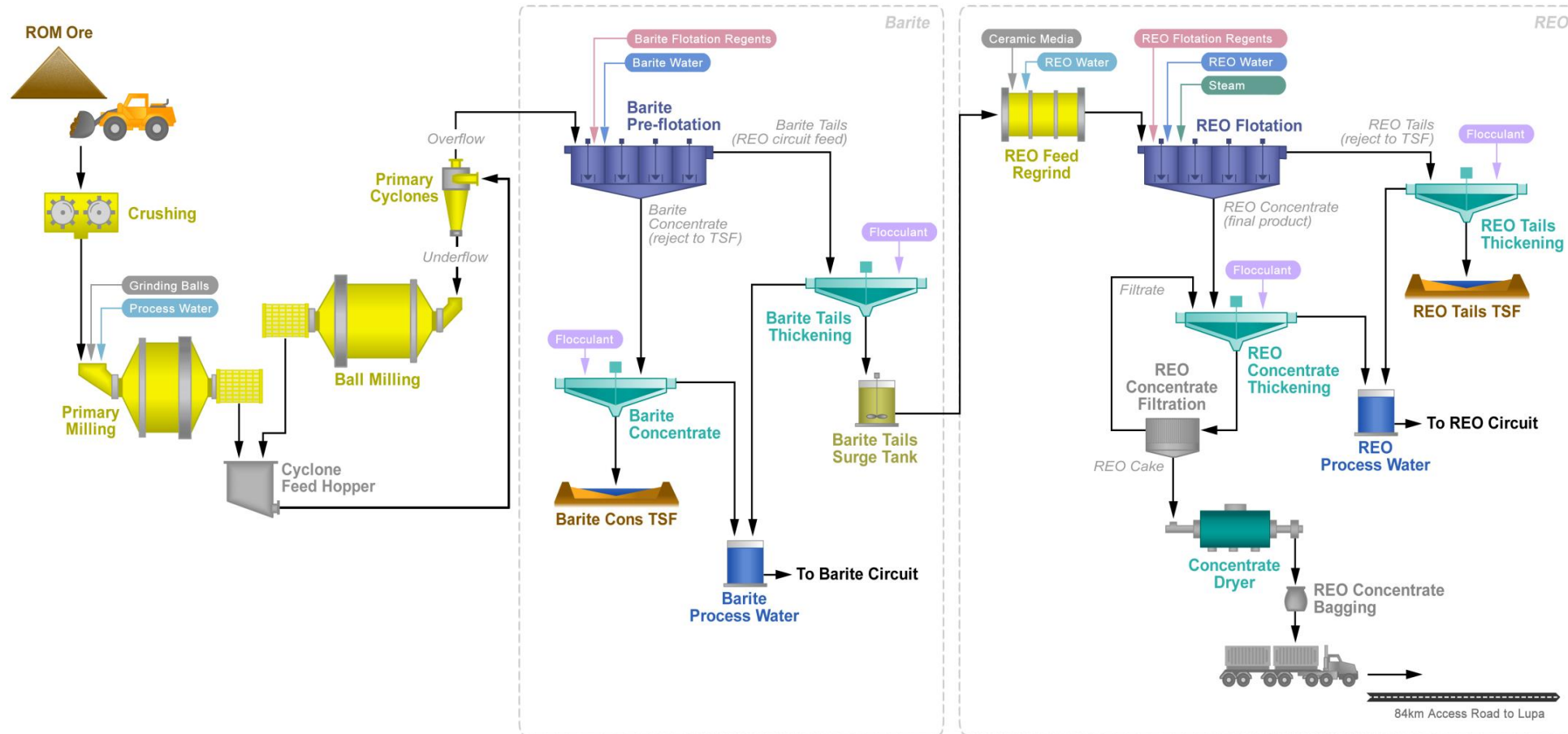


### Radionuclides



# The Ngualla flowsheet ... significant in-country processing and value add

Ore with a head grade of 4.8% is upgraded ~10x to produce a 45% high-grade rare earth concentrate

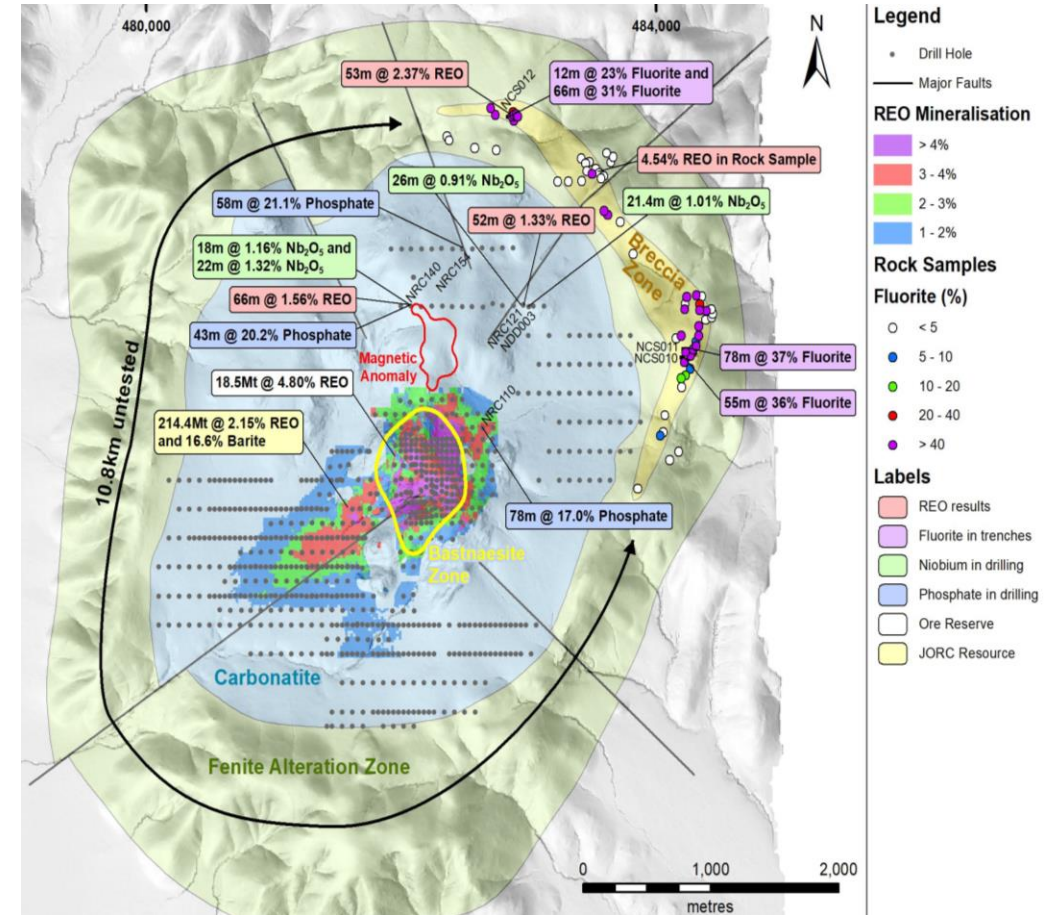


# Looking forward ... potential growth options in Tanzania

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

### Ngualla ... future growth optionality

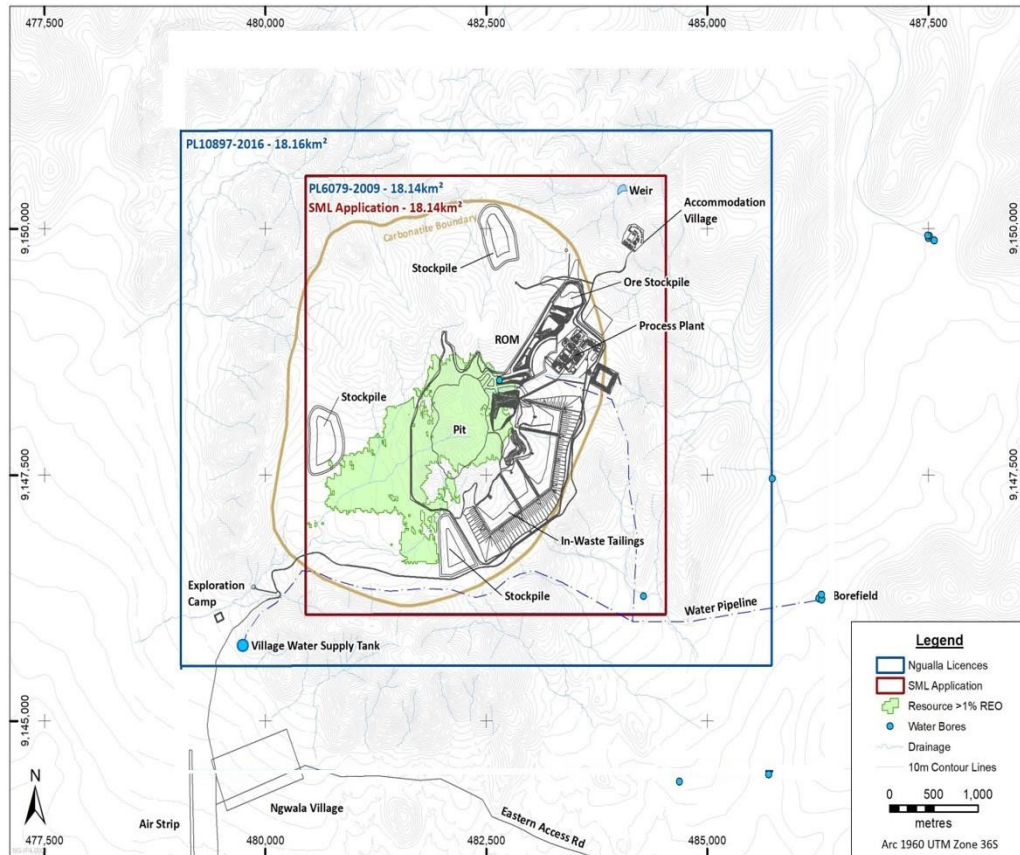
- 1 Monazite Concentrate**  
Ngualla contains significant monazite mineralisation within its Southern Rare Earth Zone which could support a direct concentrate export operation
- 2 Heavy Rare Earths**  
Apatite mineralisation rich in heavy rare earths including Dysprosium and SEG has been identified within the Northern region of the Ngualla deposit
- 3 Downstream Refining**  
Peak will undertake an independent feasibility study on a Tanzanian refinery following signing of FWA which will also consider the production of an intermediate MREC product within country
- 4 Other Commodities**  
The Ngualla deposit is highly prospective for a range of other commodities including niobium, fluorspar and phosphate



# 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 ... SML and PL



## Ngualla SML ... specifics

- SML application approved by Tanzanian Cabinet
- Exclusive rights to mine over 18.14km<sup>2</sup> area
- To be issued to PR NG Minerals Ltd ("PR NG"), a 100% Peak subsidiary
- PR NG to transfer the SML to a newly incorporated entity to be owned beneficially
  - 84% by Peak and 16% by the Tanzanian Government
- Remaining Prospecting Licences ("PL") to be retained by PR NG

## Next steps

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



# Ngualla Project ... substantial direct and indirect job creation

Ngualla's sizeable resource base provides the potential for multi-generational job creation opportunities

## Current employment

- **98%** of employees are Tanzanian nationals
- **92** employees during active exploration
- Community programs and contributions generate further indirect employment

## Employment during construction

- **+800** personnel to be directly employed
- **+3,000** personnel to be indirectly employed

## Employment during steady state operation

- **225** directly employed and 92% Tanzanian Nationals
- **+1,000** personnel to be indirectly employed





# Ngualla Project ... infrastructure development

The Ngualla Project will deliver infrastructure to the local community and broader region

## Southern Access Road

- US\$0.9m works on Ngwala-Kininga Road complete
- Further US\$10m of road works planned as part of project development

## Permanent Accommodation

- To serve 225 plant and mine personnel consisting of accommodation units, canteen and kitchen, recreational centers and more

## Solar Farm

- Hybrid Solar – Battery – Diesel power generation for the Project

## Water Supply

- New water supply to the Ngwala Village using solar operated pumps

## Airstrip

- Repairs and expansions planned to existing airstrip



# Ngualla Project ... committed to ESG best practice

Peak is committed to improving the communities in which it operates in whilst maintaining best practice environmental management compliant with IFC / World Bank guidelines

## School Development Program

- 2 new classrooms under construction in Itiziro
- 2 new classrooms and refurbishment of 5 existing classrooms in Ngwala
- Donation of new school desks, beds, mattresses, textbooks, stationery and equipment

## Teacher's Accommodation

- Construction of 9 teacher's houses

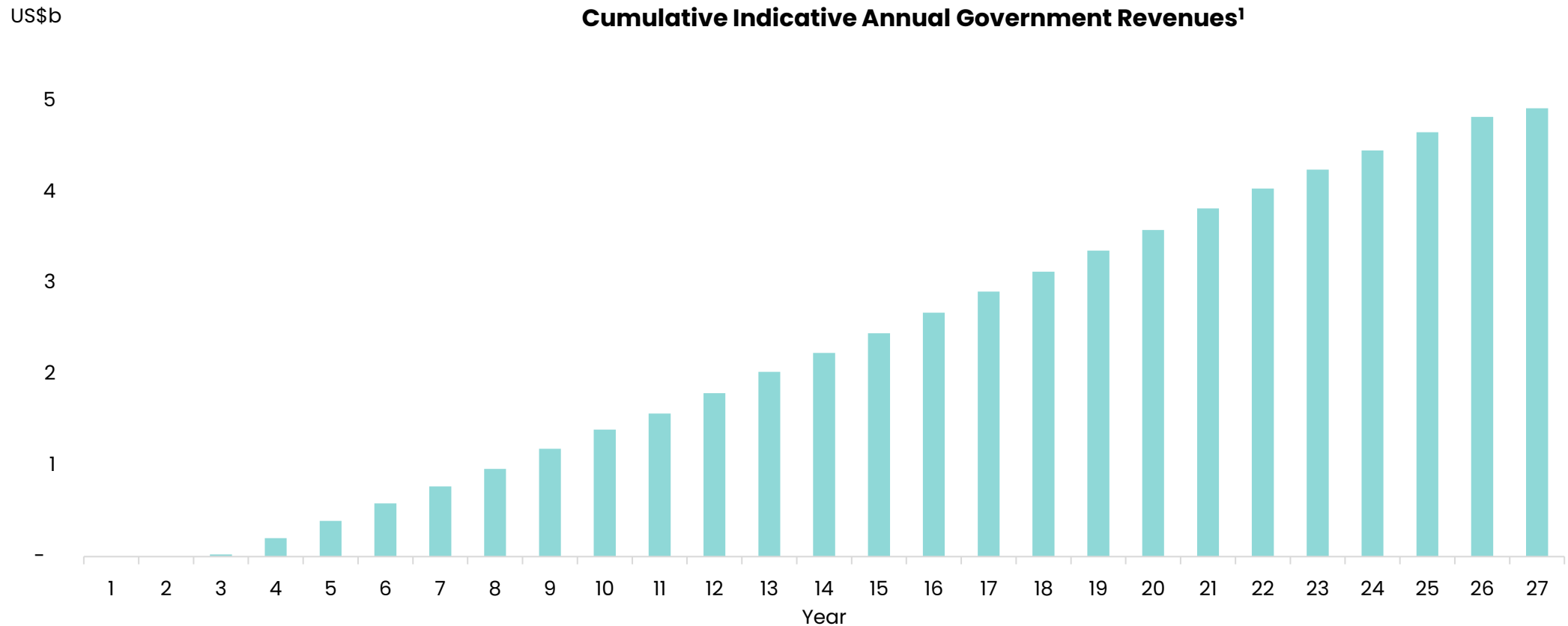
## Others

- Water bores in Madodomia and Itiziro
- Ngwala Clinic, waiting area
- Sporting events
- Other community programs and donations'
- Provision of emergency medical treatment



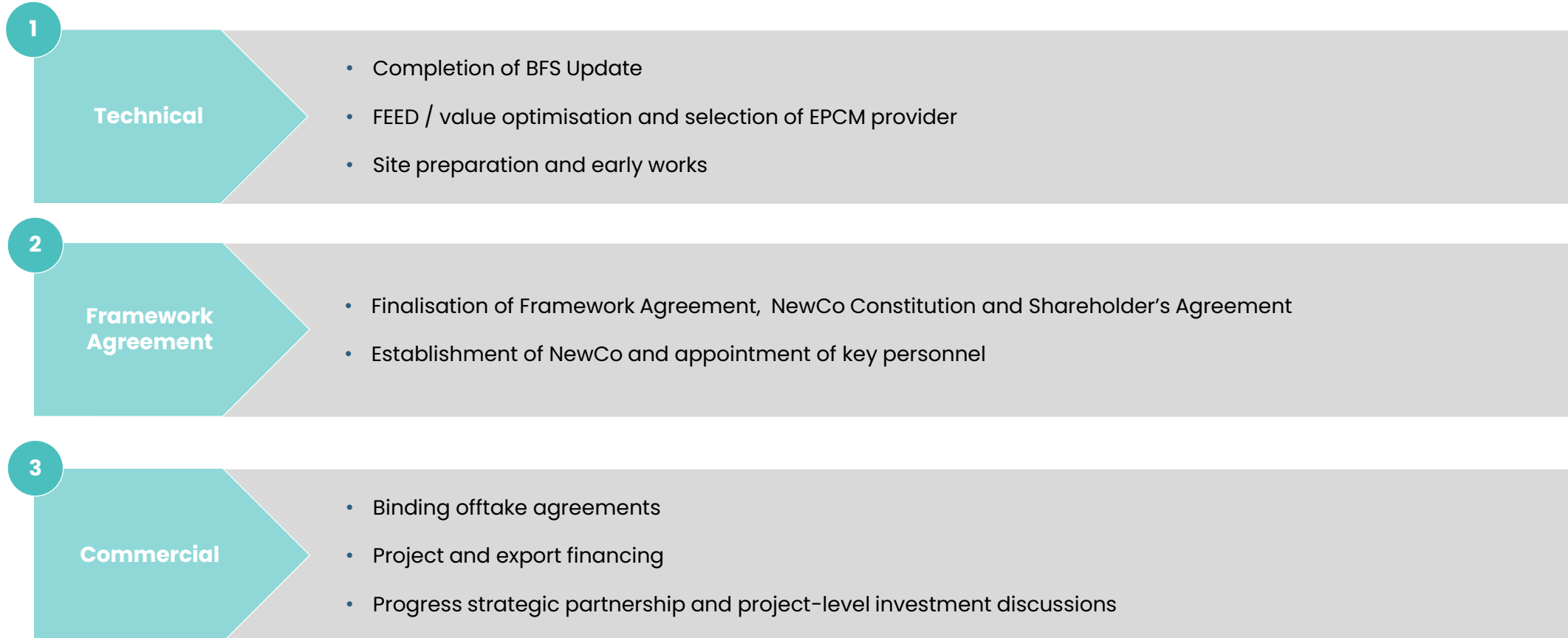
# Ngualla ... delivering significant economic benefits

Based on current rare earth prices, Ngualla will indicatively deliver the Tanzanian Government +US\$4.9b of direct revenue over the next 20 years



# Looking forward ... immediate next steps

Key workstreams continue to be progressed prior to a Final Investment Decision



# Appendices





# Appendix – peer positioning

## Information Sources

### Radionuclides

Company	Update
<b>Vital Metals</b>	n/a
<b>RareX</b>	<a href="https://www.rarex.com.au/post/high-neodymium-praseodymium-enrichment-confirmed-at-cummins-range-rare-earths-project">https://www.rarex.com.au/post/high-neodymium-praseodymium-enrichment-confirmed-at-cummins-range-rare-earths-project</a>
<b>Hastings Technology</b>	<a href="https://www.epa.wa.gov.au/sites/default/files/Referral_Documentation/Hastings%20APPENDIX%205-6.pdf">https://www.epa.wa.gov.au/sites/default/files/Referral_Documentation/Hastings%20APPENDIX%205-6.pdf</a>
<b>Pensana</b>	<a href="https://www.asx.com.au/asxpdf/20140124/pdf/42m93lvmv1kv4q.pdf">https://www.asx.com.au/asxpdf/20140124/pdf/42m93lvmv1kv4q.pdf</a> (previous asset owner, Rift Valley Resources)
<b>Arafura</b>	<a href="https://www.arultd.com/images/NEW_RADIATION_FACT_SHEET.pdf">https://www.arultd.com/images/NEW_RADIATION_FACT_SHEET.pdf</a>

### Ore Reserves & Mineral Resources

Company	Update
<b>Vital Metals</b>	<a href="https://vitalmetals.com.au/resources/">https://vitalmetals.com.au/resources/</a>
<b>RareX</b>	<a href="https://www.rarex.com.au/post/rarex-delivers-major-resource-upgrade-at-cumminsrange-rare-earths-project-wa">https://www.rarex.com.au/post/rarex-delivers-major-resource-upgrade-at-cumminsrange-rare-earths-project-wa</a>
<b>Hastings Technology</b>	<a href="https://www.investi.com.au/api/announcements/has/3cb813a3-067.pdf">https://www.investi.com.au/api/announcements/has/3cb813a3-067.pdf</a>
<b>Pensana</b>	<a href="https://pensana.co.uk/wp-content/uploads/2020/09/longonjo-mineral-resource-estimate-upgraded-14-Sept-2020.pdf">https://pensana.co.uk/wp-content/uploads/2020/09/longonjo-mineral-resource-estimate-upgraded-14-Sept-2020.pdf</a>
<b>Arafura</b>	<a href="https://www.arultd.com/projects/nolans.html">https://www.arultd.com/projects/nolans.html</a>

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