### Black Rock Mining Mahenge Graphite Mine

**Simply Better Graphite: Investor Update** 

121 & Indaba Mining Conferences, Cape Town February 2025



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#### **Production Target**

The information in this report that relates to a production target, or forecast financial information derived from a production target has been extracted from the Company's ASX announcement released on 10 October 2022 titled "Black Rock Completes FEED and eDFS Update". The Company confirms that all material assumptions underpinning the production target, or forecast financial information derived from the production target, in the original announcement continue to apply and have not materially changed.

#### Forward Looking Statements

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### Black Rock at a glance

#### Premium graphite player

#### **Developing the Mahenge graphite project in Tanzania:**

- Tier 1 scale (2<sup>nd</sup> largest reserve globally)
- Forecast first quartile costs due to hydro-dominated grid
- Very low carbon-footprint products (decarbonisation)

#### Backed by largest ex-China anode producer POSCO:

- Strategic Alliance: Black Rock major shareholder at 10.1%
- Cornerstone offtake partner (3 offtake agreements)<sup>1</sup>
- Providing up to US\$50m in funding<sup>1</sup>
- Exploring other opportunities to collaborate

#### **US\$229m of funding in place**

- US\$179m funding signed with DBSA, IDC and CRDB<sup>2</sup>
- US\$50m in funding signed with POSCO1

#### Substantial upside if Black Rock team can execute:

- Mahenge NPV<sub>10</sub> US\$1.4bn (A\$2.1bn)<sup>3</sup>

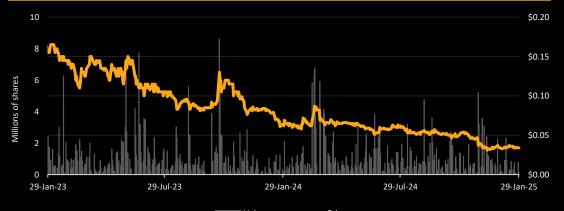
<sup>1</sup>Slide 22 provides more details of Black Rock's Strategic Alliance with POSCO.

#### **Capital structure**

ASX ticker	ВКТ
Share price (29 January 2025)	\$0.034
Shares on issue	1,252.0m
Options and performance rights	84.4m
Market capitalisation (undiluted)	A\$43m
Cash (31 Dec 2024)	A\$2.1m
Debt (31 Dec 2024)	Nil

#### Major shareholders<sup>4</sup>

Copulos Group	11.9%
POSCO Group	10.1%



<sup>&</sup>lt;sup>2</sup>DBSA & IDC are both wholly-owned subsidiaries of the South African Govt. See ASX release 16 Sept 2024.

<sup>&</sup>lt;sup>3</sup>Project metrics updated Oct 2022. NPV post-tax, post Govt 16% free carry. More detail on Slide 10.

### **Black Rock team**

#### **Board of Directors**



**Richard Crookes**, Non-exec Chairman: Geologist with over 30 years executive experience in the resources and finance industries; raised capital and financed a number of projects globally, including across Africa. Previous roles include Investment Director at Mining PE Fund EMR Capital, Executive Director in Macquarie's Metals & Energy Capital and Chief Geologist / Mining Manager at Ernest Henry Mining.



John de Vries, MD & CEO: Mining Engineer with over 40 years experience in mine development and operations; professional experience spans Africa, the Pacific, the former Soviet Union, North and South America and Australia. Previously General Manager Technical Services with St Barbara, integral in the 2014 turnaround; earlier operational management roles at BHP Nickel West, Orica Mining Services and Western Mining Corp.



lan Murray, Non-exec Director: Finance Executive with over 20 years corporate experience in the publicly listed resources sector; led highly successful project developments, major acquisitions, company restructures and stock exchange listings. Previous roles include CEO of Gold Road Resources, CEO and CFO of DRDGold Ltd, Director of Rand Refinery Ltd and GoldMoney.com, and senior positions at KPMG, PwC and Bioclones.



**Ursula Phillips**, Non-exec Director: Ms Phillips has over 10 years experience in management of major organisations spanning technology, operations and risk, and more than 20 years in complex program management and transformation. Ms Phillips' prior experience includes CTO for Tattarang, CTO at PepsiCo ANZ and Chief Information / Chief Risk Officer at Real Pet Food Company.

#### Management



**Steuart McIntyre**, GM Corporate Development: Mining analyst with over 15 years experience. Previous roles include sell-side mining analyst for Royal Bank of Canada and Blue Ocean Equities and associate at Cutfield Freeman, a mining-focused corporate finance boutique in London. Steuart has degrees in Civil Engineering and Commerce from the University of Sydney and a diploma of corporate finance from the London Business School.



**Daniel Pantany**, GM Engineering & Technical: Civil Engineer with over 25 years experience in mining project development in Africa and Australia across a broad range of project delivery roles including EPCM, EP, and lump sum EPC contracts. His most recent position was with CPC Engineering including secondment as Project Engineering Manager for Syrah's Balama project. Black Rock's Study Manager for Mahenge since 2018.



**Paul Sims**, CFO: A highly credentialled finance resources executive with over 25 years of executive experience in the resources industry, spanning both commercial and financial roles at BHP, Western Mining Corp, Minara Resources and Karara Mining. Mr Sims has extensive experience in debt finance, project management and cost control. He has a Bachelor of Business degree from Curtin University and is a Fellow of CPA Australia.



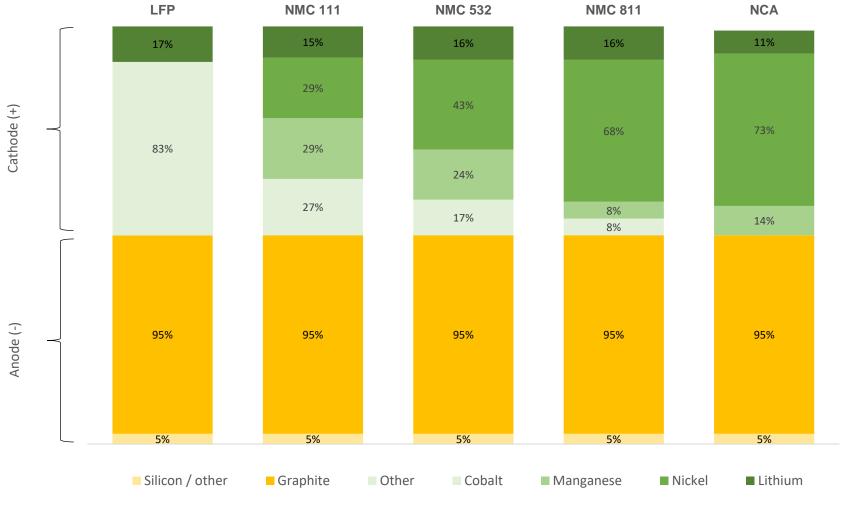
Rae Wyatt, Chief People and Sustainability Officer: Experienced HR professional with 15 years experience in the resources industry, specialising in project development and stakeholder engagement with communities. Ms Wyatt has most recently held senior roles at Clean TeQ (Sunrise Metals), Gold Road and Macmahons. She has a degree in commerce from Curtin University in HR and Industrial Relations and is a graduate of AICD.

# **Graphite in batteries**

Li-ion batteries
typically contain
~7-10x more graphite
than lithium.

LFP batteries expected to be 50% of global passenger EV sales within 2 years\*

#### Graphite is the dominant anode material, regardless of battery chemistry





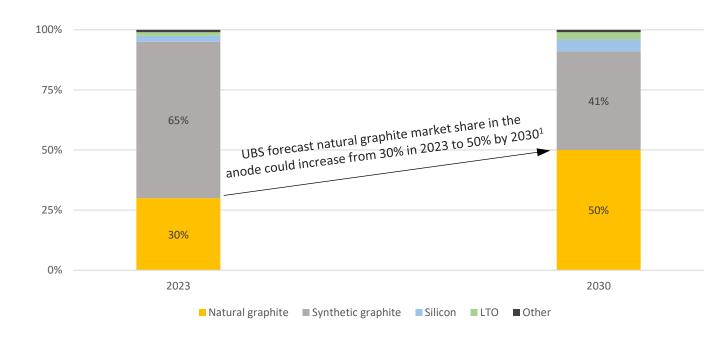
Source: Pallinghurst-Traxys battery analysis. %s represent the proportions of cathode and anode in each battery respectively. NCA batteries contain 2% aluminium (not shown) \*Bloomberg New Energy Finance Report, 12 June 2024:

https://about.bnef.com/blog/electric-vehicle-sales-headed-for-record-year-but-growth-slowdown-puts-climate-targets-at-risk-according-to-bloombergnef-report/

# More natural graphite in batteries

The use of natural graphite in batteries has potential to grow from 30% of the anode to 50% by 2030

#### **Growing importance of natural graphite in batteries**



In late Sept 2023, UBS published a research report on natural graphite<sup>1</sup>:

- Natural graphite looks to be preferred in low-cost lower-carbon profile LFP batteries
- Natural graphite market share in the anode could increase from 30% today to 50% by 2030
- Forecasting a 6x growth in natural graphite demand by 2030 to 6.3mt

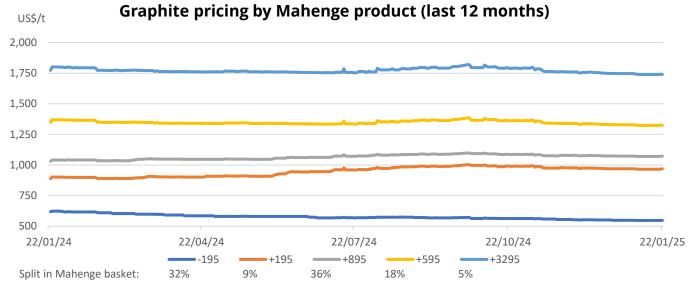
This forecast would require ~5mt of new natural graphite supply by 2030 or around 14 new mines the size of Syrah's Balama mine (based on a nameplate capacity of ~350ktpa)<sup>2</sup>.

Given the significant barriers to entry for new natural graphite supply, Black Rock believes this scenario would likely lead to substantial supply deficits and much higher graphite prices.

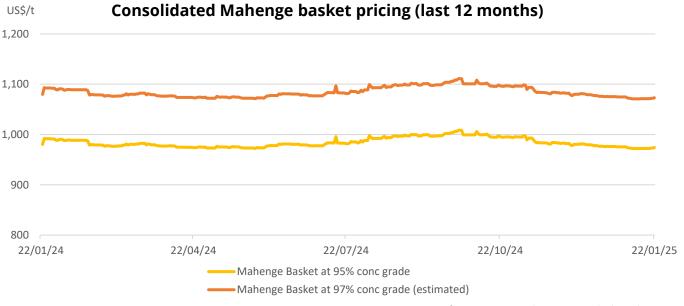


# Healthy margins at spot prices

Current graphite prices support healthy potential margins at Mahenge at forecast AISC of US\$518/t



Source: RefWin, Asian Metals, ICC Sino, Black Rock Mining

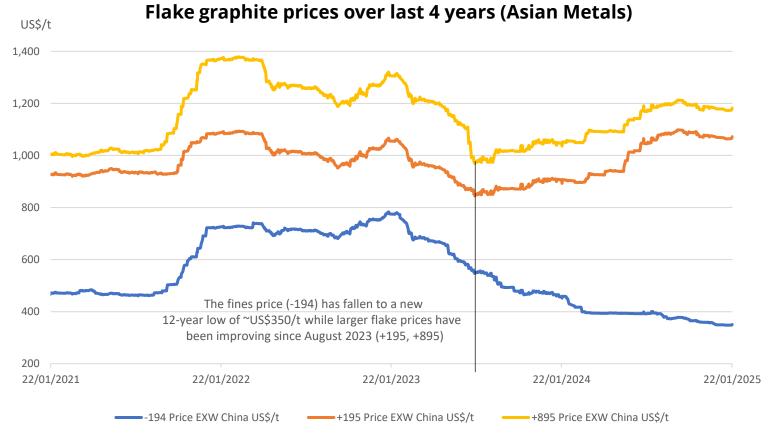




Source: RefWin, Asian Metals, ICC Sino, Black Rock Mining

## Diversified revenue stream

Mahenge basket price has been relatively steady as weaker fines price has been offset by stronger large flake price

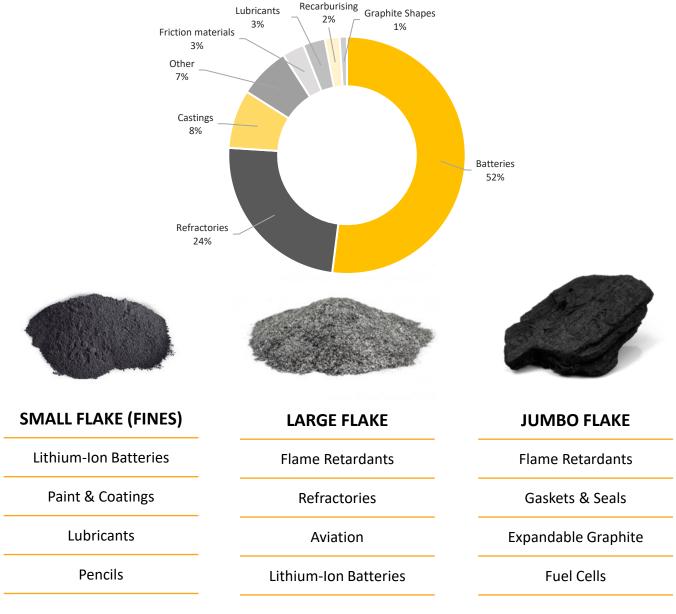


Source: Asian Metals



## **Graphite Uses**

Black Rock has a diversified product mix with 60% exposure to the high margin large flake market





Price increases with flake size

### A snapshot of the Mahenge Graphite Project

Simple open pit mine development with outstanding forecast returns<sup>1</sup>

US\$1.4bn

NPV<sub>10 nom</sub> post tax, post 16% FC

36%

Post-tax, ungeared IRR

89ktpa

Module 1 production\* (1mtpa)

US\$231m

Module 1 capex + power line\*

347ktpa

Steady production (4 x 1Mtpa)

95 – 99%+ TGC purity
59% +80 mesh, 41% -80
Concentrate product

US\$1,709/t

Basket graphite price\*\*\*

US\$518/t

All-In-Sustaining-Cost\*\*

26 years

Initial operating life

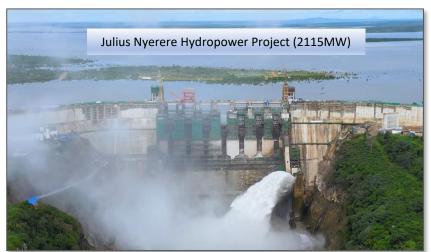
<sup>1</sup>See Black Rock ASX release dated 10 October 2022, Black Rock completes FEED and eDFS Update. All technical parameters, including in the estimation of Mineral Resources or Ore Reserves, underpinning the estimates continue to apply and have not materially changed. The estimated Ore Reserves and Mineral Resources underpinning the production and financial forecasts were prepared by Competent Persons in accordance with the requirements in Appendix 5A (JORC Code).

\*Includes US\$182m for Module 1 capex + US\$33m for power line + US\$16m for early works & other costs (not included in the eDFS Update). Power line capex plus interest to be recouped over the first 4 years and power costs expected to be ~US8c/kWh. Forecast Capex has been classified as a Class 2 estimate with accuracy of ±10% as defined by AACE. \*\*Average over first 10 years. \*\*\*Expert Consensus is the average forecast from Benchmark Mineral Intelligence, Fastmarkets and Wood Mackenzie over the first 10 years.



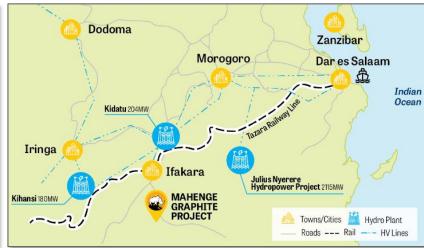
# Why Mahenge?

Unique competitive advantages driven by geology and substantial existing infrastructure









#### Geology

- ★ Mahenge's 70.5mt Reserve makes it the 2nd largest graphite Reserve in the world
- ★ Low deleterious impurities and favourable metallurgy means that Mahenge is able to produce up to 99% TGC concentrate purity, solely with conventional flotation processing

#### **Substantial existing infrastructure**

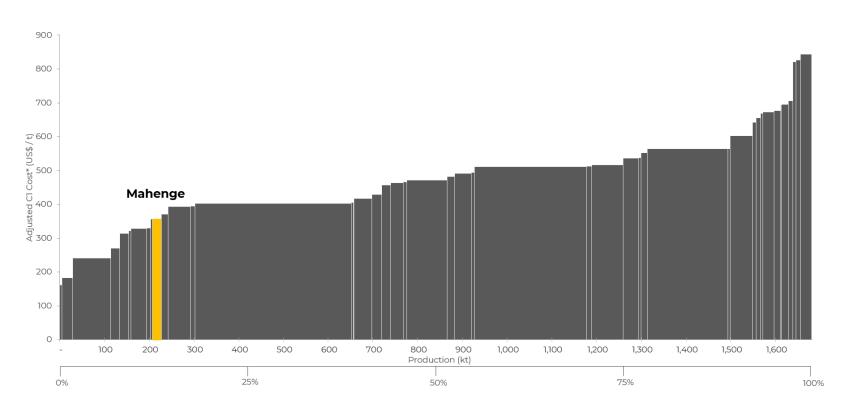
- Access to key infrastructure, hydro-dominated & competitively priced grid power, rail, airstrip, water and dry stack tailings disposal
- ★ Logistics advantages with processing through Dar es Salaam high volume container port



# Forecast first quartile costs

First quartile assets are higher margin and more robust through the cycle

#### 2024 Adjusted C1 Cost Curve\*



Sources: Benchmark Mineral Intelligence Flake Graphite Report Q2 CY22, Black Rock Mining, Company Data

C1 Cash Costs are defined as Cash Costs excluding royalties and sustaining capex.

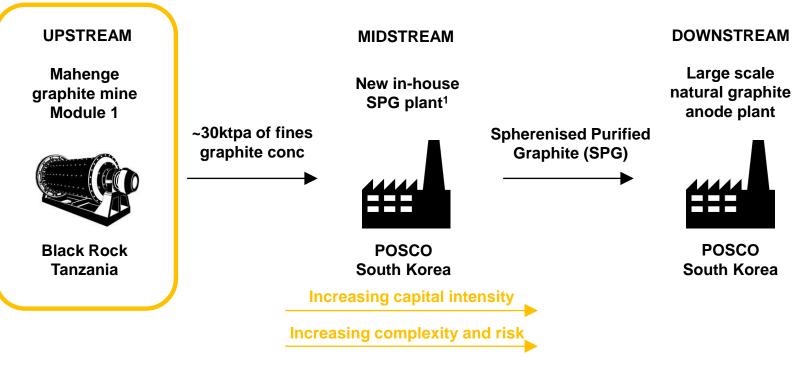
\*C1 Costs adjusted for flake size distribution: Based on forecast pricing for 94-95% in 2024, Mahenge's average price is forecast to be US\$107/t above the peer average due to a higher proportion of large flake. Mahenge's Adjusted C1 Costs of US\$359/t are based on C1 Costs of US\$466/t less the US\$107/t for above average revenue compared to the peer group.

Ignores the benefit of Mahenge's higher purity concentrates of up to 98% which could potentially improve Black Rock's relative position by up to ~US\$40-60/t per 1% above 95% pricing.



# A simpler development plan

A lower risk, much lower capex pathway to cashflow than most peers



Black Rock initially focused on an UPSTREAM business only. i.e. Focused on the section of the supply chain where it has *competitive advantages*, *proven expertise* and which makes *healthy margins at current prices*.

This approach is <u>strongly differentiated from most peers</u> and Black Rock:

- Does not compete with its customers
- Has much lower capital intensity
- Has much lower complexity and much lower risk



### **ESG** focused ecosystem

A new greener source of graphite with best practice whole of supply chain strategy







Creating Markets, Creating Opportunities



Environmental and Social Impact

posco



Large Flake

FARU GRAPHITE CORPORATION

**Customer Markets** 

#### **Permitted**

#### **Local Content & Community**

- 55% of capex in Tanzania, 76% in SADC
- Resettlement Action Plan prepared
- Interim Livelihood Restoration Program underway



#### **Robust Compliance**



#### Simple Processing

- Three stage polishing
- No wet screen
- Low energy



- High-grade graphite
- Low deleterious elements
- Low strip ratio





#### **Hydro Electric Power**

Low carbon power supply, and transport footprint



#### **Dry Tailings**

- Reduced footprint
- Eliminates risk of tailings dam failure

Does not compete with local communities for water



### Development timetable

First production expected to be 24 months from FID

- US\$179m facility agreement in place with DBSA, IDC and CRDB¹:
  - US\$113m Term Debt
  - US\$20m Working Capital Facility
  - US\$20m Cost Overrun Facility
  - US\$26m Bank Guarantee for Mine Closure
- Up to US\$50m from POSCO agreed<sup>2</sup> (US\$40m equity + US\$10m prepay)
- Targeting first production in CY27, 24 months from FID<sup>3</sup>

1mtpa

Module 1



Module 2 1mtpa



Capex US\$107m Production 85ktpa+

Module 3 1mtpa



Capex US\$117m Production 85ktpa+

Module 4 1mtpa



Capex US\$104m Production 85ktpa+



<sup>&</sup>lt;sup>1</sup>Based on ~7.5-year tenor, interest rate based on SOFR + margin. More detailed debt terms provided in Schedule 1 of ASX release 16 Sept 2024. <sup>2</sup>Slide 22 provides more detail on Black Rock's Strategic Alliance with POSCO

<sup>&</sup>lt;sup>3</sup>FID is Final Investment Decision. 24 months comprises 4 months of early works + 20 month construction period.

<sup>&</sup>lt;sup>4</sup>Initial Capex = US\$182m for Module 1 capex + US\$33m for the power line + US\$16m for early works & other costs. More detail on Slide 10. Initial Capex excludes financing costs, interest during construction, taxes, working capital and lender requirements (DSRA, insurance, etc)

# Potential de-risking milestones

Several key share price catalysts expected near term

Several potential de-risking milestones due near term:

- Financing milestones:
  - Signing POSCO offtake agreement + US\$10m prepay agreement
  - POSCO agreement to invest up to US\$40m in Black Rock¹
  - US\$179m facility agreement signed with DBSA, IDC and CRDB<sup>2</sup>



- Secure remaining regulatory approvals:
  - Bank of Tanzania approval for new project debt facilities
  - Australian FIRB approval for POSCO's US\$40m investment
  - Tanzanian FCC approval for POSCO's US\$40m investment



- Key near term potential share price catalysts:
  - POSCO to take up it's right to a Black Rock board seat<sup>3</sup>
  - Potentially bring in partner at project level as a less dilutive option



# Black Rock ready to deliver

The significant Tier 1 scale Mahenge graphite mine into an undersupplied and growing market

#### **Compelling Project Metrics**

Tier 1 Scale
1st Quartile Costs
(low-cost green power, low strip)
Higher proportion of large flake
Higher purity concentrates
Strong macro tailwind

#### **Reduced Execution Risk**

Experienced Team
Backed by POSCO
Modular Approach
Access to Skilled Labour
Upstream Focus Initially

#### **Compliant Project**

Govt Agreements in place
All key permits in hand
Compliance with Equator
Principals & IFC Performance
Standards





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## **Appendix**



### Project Milestones

In the last 12 months
Black Rock has
delivered several
critical de-risking
project milestones for
Mahenge



- US\$40m equity investment in Black Rock signed with POSCO in exchange for offtake rights for Module 2 fines<sup>1</sup>
- US\$179m Facilities Agreement signed with DBSA, IDC and CRDB<sup>2</sup>
- Mahenge recognised by US State Department as a Mineral Securities Partnership backed project
- Mining services contract with TAIFA Mining and Civils Limited (Taifa) for an initial term of 3 years
- Full form offtake agreements executed for large flake graphite concentrate with two key cornerstone customers
- A\$10m in new equity raised from existing and new investors
- Appointment of Ms Ursula Phillips as Non-Executive Director



## **ESG Milestones**

In the last 12 months
Black Rock has
delivered several
critical de-risking ESG
milestones for
Mahenge



- Meeting environmental and social standards to satisfy debt approvals based on compliance with Equator Principals and IFC Performance Standards
  - ESIA for Mahenge complete (April 2023) and subsequent studies
  - ESIA for Faru John Rd complete
  - ESIA for Idenke Settlement Area complete
  - Supplementary ESIA for Power Line corridor complete
- All compensation contracts for Project Affected Persons on the SML now complete for Module 1 & Module 2
- Implementation of the Interim Livelihood Restoration Plan including farming value chain training and demonstration crops (7x more yield). New agricultural land opened up.
- Corporate Social Responsibility (CSR) Plan approved by Local Govt Minister and Ulanga District Council for CY24
- Signing MOU for the Idenke Settlement Area with Ulanga District Council
- Stakeholder Engagement in the region from village to District Council
- Completed first Annual Sustainability Report



### Strategic Alliance with POSCO

Black Rock has a strong and growing relationship with POSCO

- POSCO is Black Rock's major shareholder holding a 10.1% stake
- POSCO is Black Rock's cornerstone offtake partner:
  - Module 1:
    - Binding offtake agreement for fines<sup>1</sup> (32% of volume)
    - MOU for 6ktpa of large flake<sup>2</sup> (7% of volume)
  - Module 2:
    - Binding offtake agreement for fines<sup>3</sup> (32% of volume)
    - Marketing agreement for large flake
- POSCO is providing up to US\$50m in development finance for Module 1:
  - US\$10m binding prepayment<sup>1</sup>
  - Up to US\$40m equity investment in Black Rock agreed³
- Exploring other opportunities to collaborate:
  - Also exploring other opportunities to develop an IRA-compliant anode supply chain



<sup>&</sup>lt;sup>2</sup>Source: 23 May 2023, Black Rock Expands Offtake Partnership with POSCO



<sup>&</sup>lt;sup>3</sup>Source: See ASX release 3 Sept 2024, POSCO Signs Binding Agreements for US\$40m investment in Black Rock. Subject to shareholder approval, regulatory approvals and confirmation all necessary funding to build Module 1 is in place. POSCO's US\$40m investment is subject to ASX maximum holding of 19.99% in Black Rock.

### Tanzania: An improving jurisdiction for investment

- Moody's recently upgraded Tanzania to a B2 Positive due to reduced political risk and structural reform agenda<sup>1</sup>
- Equinor/Shell/Exxon Mobil recently struck a deal for the development of an LNG terminal in Tanzania expected to cost tens of billions of dollars<sup>2</sup>
- BHP plans to invest US\$100m in the Kabanga nickel project
- Since Tanzania launched the Development Vision in 2020 to attract investment, the mining sector's contribution to GDP has grown from 3.5% to 9.7%<sup>3</sup>
- Tanzania has now agreed 11 framework agreements with foreign mining companies and is negotiating an additional 5 agreements<sup>4</sup>





<sup>1</sup>Source: https://www.thecitizen.co.tz/tanzania/news/national/moody-s-gives-tanzania-favourable-credit-rating--4206196

<sup>2</sup>Source: https://www.reuters.com/business/energy/equinor-shell-exxon-agree-lng-project-with-tanzania-2023-05-19/

3Source: https://www.thecitizen.co.tz/tanzania/news/national/how-government-plans-to-boost-mining-s-gdp-contribution-to-10-percent-before-2025—4245214

<sup>4</sup>Source: <a href="https://dailynews.co.tz/why-mining-investment-forum-crucial-for-tz/">https://dailynews.co.tz/why-mining-investment-forum-crucial-for-tz/</a>

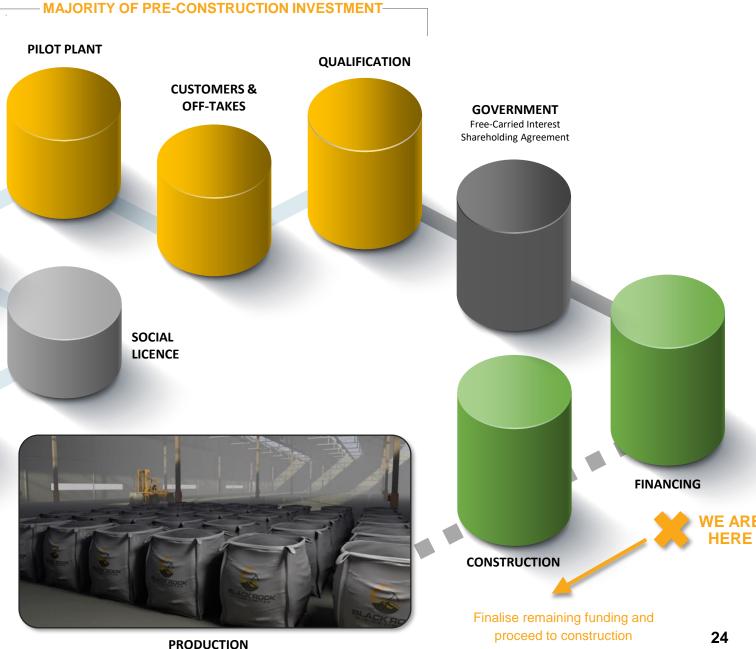


# Graphite playbook

Sequential development that is customer driven

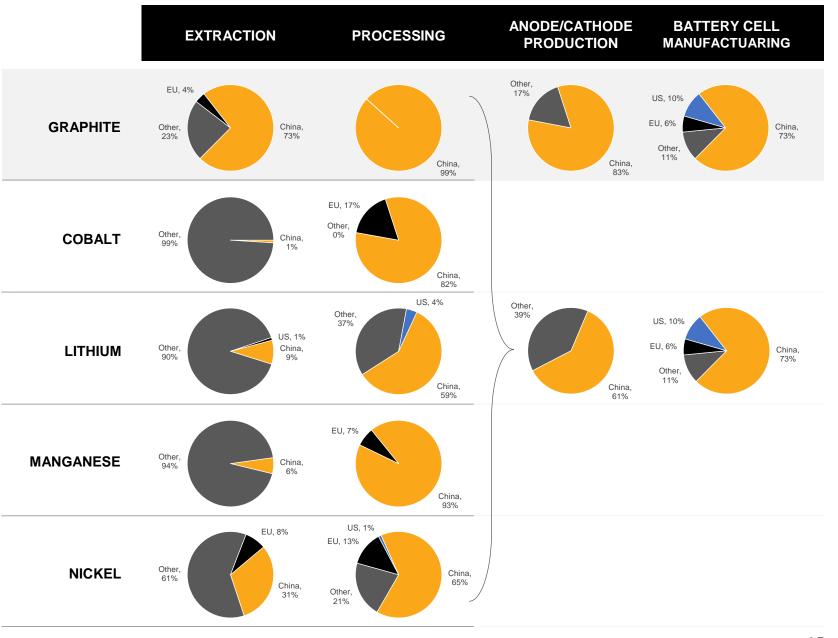


**EPC** 



# Li-ion battery raw materials supply chain by country

Graphite supply chain for batteries is more dependent on China than any other material

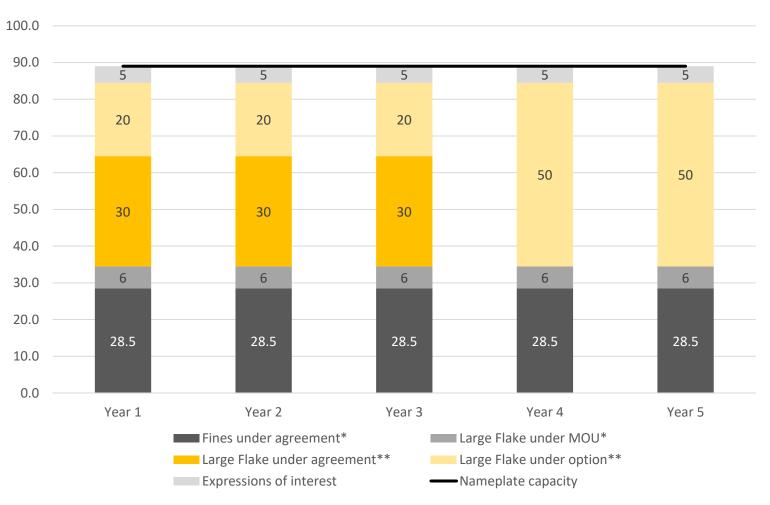




# Offtake agreements

~95% of Mahenge's Module 1 production is under binding offtake, option or MOU

#### Mahenge Offtake for Module 1 (89ktpa)



\*With POSCO. \*\* With Muhui International Trade (Dalian) Co. Ltd (Muhui) & Qingdao Yujinxi New Material Co. Ltd (Qinqdao)

