

ASX Announcement

28 October 2024

Investor Presentation – Roadshow

Attached is a copy of the Investor Presentation that will be presented at the roadshow in Sydney, Melbourne, Perth, and Singapore between 28 October 2024 and 8 November 2024.

Authorisation for Release

This announcement has been authorised for release by the Company's Chief Executive Officer, Paul Smith.

For further information, please contact:

Globe Metals & Mining Limited

Paul Smith

Chief Executive Officer

P: +61 8 6118 7240

E: paul.smith@globemm.com

Media & Investor Enquiries

The Capital Network

Julia Maguire

P: +61 2 7257 7338

E: julia@thecapitalnetwork.com.au



Globe

Metals & Mining

Developing a globally significant Niobium mine in Malawi, Africa

Globe Metals & Mining Limited (ASX:GBE, G4U:FVB)

Investor presentation

October 2024



Important legal information

This Presentation has been prepared by Globe Metals & Mining Limited ABN 33 114 400 609 (Globe or the Company).

The information in this Presentation is an overview and does not contain all information necessary for making investment decisions. In making investment decisions, investors should rely on their own examination of the Company and the Kanyika Niobium Project and consult their own legal, technical, business and/or financial advisers. The information contained in this Presentation has been prepared in good faith by Globe, however no representation or warranty expressed or implied is made as to the accuracy, correctness, completeness or adequacy of any statements, estimates, options, or other information contained in this presentation. To the maximum extent permitted by law, Globe, its Directors, officers, employees and agents disclaim liability for any loss or damage which may be suffered by any person relying on anything contained in or omitted from this Presentation.

Certain information in this Presentation may refer to the intentions of Globe with respect to the Kanyika Niobium Project, but these are not intended to be forecasts, forward looking statements or statements about the future matters for the purposes of the Corporations Act or any other applicable law. The occurrence of the events in the future are subject to risk, uncertainties and other actions that may cause Kanyika Niobium Project's actual results, performance or achievements to be materially different from the results, performance or achievements implied by the forward-looking statements.

Such factors include, but are not limited to, general economic, market and business conditions, market prices for niobium and tantalum, demand for niobium and tantalum, niobium and tantalum supply, obtaining additional debt and equity funding (as required), concluding of off-take agreements, obtaining of all necessary permits for development and production as and when required, estimation of resources and reserves, development and production costs, processing recoveries transportation delays and costs, risks and uncertainties related to construction and commissioning, delays in construction of the mining and processing operations, accidents, equipment breakdowns, title matters, labour disputes, environmental issues and local community issues involving relocation of project affected people or other unanticipated difficulties with, or interruptions in, development or production, exchange rate fluctuations, and risks and uncertainties associated with doing business in Africa.

In addition, there may be information herein that is information about prospective results of operations, financial position or cash flows and which is provided only to assist in an evaluation of the Kanyika Niobium Project outlined herein but are not to be relied upon as accurate representations of future results and may not be appropriate for any other purpose.

This Presentation contains certain forward-looking statements and comments about future matters. Forward-looking statements can generally be identified using forward-looking words such as, "expect", "anticipate", "likely", "intend", "should", "could", "may", "predict", "plan", "propose", "will", "believe", "forecast", "estimate", "target", "outlook", "continue", "guidance" and other similar expressions. The forward-looking statements including statements regarding our intent, belief or current expectations with respect to Kanyika Niobium Project's performance, market, political, social and environmental conditions, additional feasibility work, improvements and updates, project configuration, construction and commissioning costs and timelines, and general risks and uncertainties. Readers are cautioned not to place reliance on these forward-looking statements. While due care has been used in the preparation of forecast information, actual results may vary in a materially positive or negative manner.

Any such statements, targets, opinions and estimates in this Presentation speak only as of the date hereof and are based on assumptions and contingencies subject to significant uncertainties or change without notice. Forecasts and hypothetical examples are subject to uncertainty and contingencies often outside Globe's control. The information in this presentation is current as at the date of the publication of this presentation.

There can be no assurance that actual outcomes will not differ materially from these forward-looking statements. Except as required by law or regulation (including the ASX Listing Rules), Globe undertakes no obligation to supplement, revise or update forward-looking statements in the future, regardless of whether new information, future events or results or other factors affect the information contained in this Presentation.

Globe Metals & Mining Limited (ASX:GBE, G4U:FWB)

Globe is an emerging vertically-integrated niobium producer

- Has the first globally significant niobium mine in 50 years
- Aims to be the second vertically integrated Niobium oxide player globally
- Kanyika project is well-advanced and development-ready

Globe's Kanyika Niobium Project is located in Malawi, Africa

- Malawi, in southeastern Africa, offers stable investment opportunities, notably in mining
- Malawi is backed by transparent regulations and abundant mineral resources like niobium, uranium, and rare earth minerals.

Niobium top of the critical metal list EU, US, Japan, and India and Australia

- Niobium has many in-demand properties including electronic characteristics, heat resistance, corrosion resistance, strength, weldability, and lightweight
- Key economic importance and significant dependency on imports, into the Western world.



Kanyika Niobium Project - Malawi, Africa

Globe's niobium oxide product meets specialty metal sector demands and caters to the emerging energy transition market



Investment highlights

Creating a better future for all stakeholders through responsible and sustainable acquisition and development of critical metal projects in Africa

- Strategic investment partner sought to develop Globe's Kanyika niobium project in Malawi
- Bottom quartile cost project with a focus on sustainable mining principles
- De-risked, phased development plan
- Forecast project IRR of 35% and NPV of US\$878 million
- In-country beneficiation using HF/SX refinery process
- Situated in a conflict-free zone, ensuring metals' origin is fully auditable
- Fully permitted - Mining Licence, Mine Development Agreement and all environmental and land approvals in place
- Rapid growing global demand for high-purity niobium oxide driven by new battery technologies, alloys, superconductors and electroceramics in aerospace and defense industries
- As only the second vertically-integrated niobium oxide producer Globe offers mitigation against potential supply risk – c.92% of current global production is from two mines

RESERVES AND RESOURCES		
27-year life of mine JORC-COMPLIANT (using a 1,500 ppm Nb2O5 cut-off grade)		
Resources 68.3Mt at grades of: - 2,830ppm Nb ₂ O ₅ - 135 ppm Ta ₂ O ₅	Measured	5.3Mt at grades of: 3,790 ppm Nb2O5 & 180 ppm Ta2O5
	Indicated	47.0Mt at grades of: 2,860 ppm Nb2O5 & 135 ppm Ta2O5
Reserves 33.8Mt at grades of: - 3,038ppm Nb ₂ O ₅ -141 ppm Ta ₂ O ₅	Inferred	16.0Mt at grades of: 2,430 ppm Nb2O5 & 120 ppm Ta2O5
	Total	68.3Mt at grades of: 2,830 ppm Nb2O5 & 135 ppm Ta2O5

PHASED PROJECT DEVELOPMENT
PHASE 1 (PILOT PHASE) <ul style="list-style-type: none"> • 10% of full production • Estimated capital cost - US\$46m • Development and construction - 15 months • Commission mine, concentrator and HF/SX refinery in Malawi • First production – Q1 2026 • Annual production - 313tpa Nb₂O₅, 14tpa Ta₂O₅ • Fully permitted and shovel-ready
PHASE 2 <ul style="list-style-type: none"> • Estimated capital cost - US\$250m • Targeted development – Q2 2026 • Development and construction time – 24 months • Full production – Q3 2028 • Annual production - 3,155tpa Nb₂O₅, 142tpa Ta₂O₅

FINANCIAL INDICATORS	*pre-tax
NPV8*	US\$878m
IRR*	34.51%
Revenue (life of mine)	US\$4.98bn
Gross margin	64.71%
Free cash flow* (life of mine)	US\$3.2bn
Payback period	6.6 years

Corporate overview

Share price

\$A0.037

22 October 2024
52 week high \$0.072, low \$0.030

Market capitalisation

A\$25.6m

22 October 2024

Debt

A\$-m

30 June 2024

Share register

Figures shown are approximate as at 22 October 2024

Holder Name	Holding	% IC
APOLLO METALS INVESTMENT COMPANY LIMITED	351,405,158	50.77%
AO-ZHONG INTERNATIONAL MINERALRE SOURCES PTY LTD	118,143,062	17.07%
TRIPLE TALENT ENTERPRISES LTD	69,428,662	10.03%
BNP PARIBAS NOMINEES PTY LTD <CLEARSTREAM>	15,908,416	2.30%
PATRAS CAPITAL PTE LTD	14,000,000	2.02%
Total	568,885,298	82.19%
Total issued capital	692,153,010	100.00%

Shares on issue

692.15m

22 October 2024

Cash

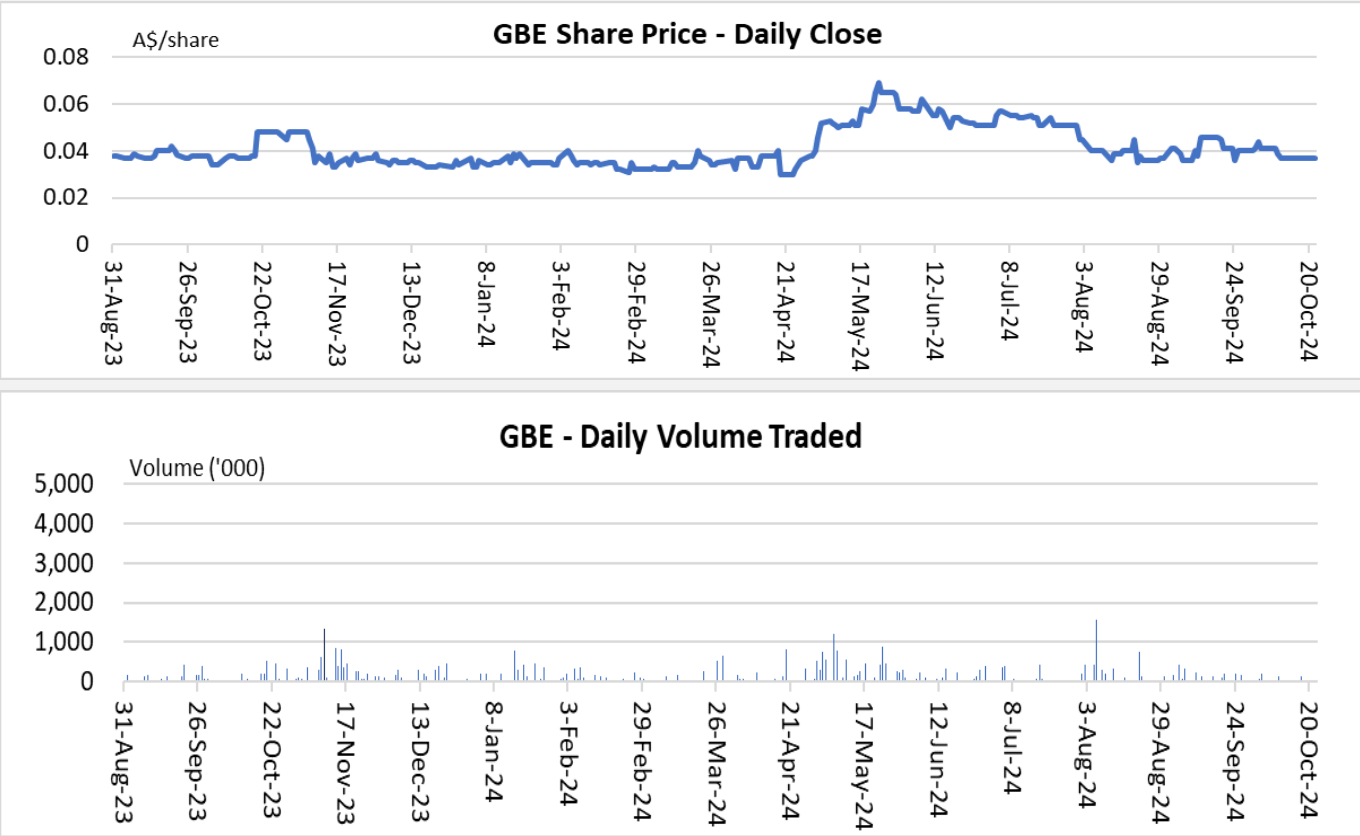
A\$1.1m

30 June 2024

Various options

30m

22 October 2024



Globe Metals and Mining's Board



Alice Wong

Non-Executive Chairperson

Ms. Alice Wong is an accountant by training and commenced her business career with Price Waterhouse. After more than a decade in the investment banking industry in Asia working for large multinational companies including Morgan Stanley, ABN AMRO Rothschild, and BNP Paribas Peregrine, Ms. Wong extended her entrepreneurial endeavor into luxury products and healthcare businesses.



Bo Tan

Non-Executive Director

A Canadian national, Mr Tan has approximately 20 years' experience as a senior manager and director in financial planning, reporting, investment, capital structure and industrial research. Worked for companies such as Bohai Industrial Investment Fund, Lehman Brothers Asia and Macquarie Securities Asia, and across international markets in China, Hong Kong, Canada and USA



Ricky Lau

Non-Executive Director

Mr Lau has over 20 years of experience in the private equity industry in Asia and is presently the Managing Partner of Crane Capital Limited, a regional real estate private equity company based in Hong Kong. Mr Lau has received an Executive MBA degree from Kellogg-HKUST and graduated with honors from the Sauder School of Business at the University of British Columbia.



Michael Barrett

Non-Executive Director

Mr Barrett is a Chartered Accountant with over 30 years' international experience in strategy, capital markets, investor relations, and risk management. Mr Barrett held senior mining sector roles in Western Australia, including with Rio Tinto Iron Ore and WMC Resources Ltd before he took the position of Chief Financial Officer of Rio Tinto's US energy business in Wyoming and Denver from 2004 to 2015.



Michael Choi OAM

Non-Executive Director

Mr Choi has over 30 years' experience in business ownership and management, and was a Member of the Queensland Parliament for 11 years between 2001 and 2012. He was at one stage the Assistant Minister for Mines and Energy and Assistant Minister for Trade. Mr Choi is the founding managing director of a company in property development, project and development management as well as construction management

Globe Metals and Mining's Management



Paul Smith

Chief Executive Officer

Mr Smith has over 30 years' experience as a senior mining industry executive across exploration, feasibility, project development, and operations management on a global platform. He has extensive experience with start-up and turnaround strategies, leveraging significant expertise in stockbroking, corporate finance, and project funding in delivering key business objectives. Mr Smith has previously held senior executive positions with Aquarius Platinum Limited (now part of Sibanye Stillwater Limited), Weiszwe Platinum Limited, and more recently Impala Platinum Holdings Limited.



Rex Zietsman

Chief Technical Officer

Mr Zietsman has over 35 years' experience as a Chemical Engineer with extensive engineering and project management experience across a broad range of industries and commodities including rare earths, niobium, tantalum, uranium, phosphoric acid, and biomass renewable energies. Prior to joining Globe, Mr Zietsman held senior project management and technical roles with Bikita Minerals in Zimbabwe and consulting roles with Tantalite Resources and Frontier Rare Earths in South Africa, and the Botswana Development Corporation. Mr Zietsman holds a BSc Eng (chem) and an MBA from the University of Cape Town, South Africa.



Charles Altshuler

Chief Financial Officer

Mr Altshuler has over 18 years' experience as a Chartered Accountant (CA ANZ and CA SA) and holds an Australian MBA, and advanced project management qualifications from Stanford University. Prior to joining Globe, Mr Altshuler held senior finance positions in Anglo American and other large corporations in various industries in South Africa, and more recently was the Chief Financial Officer of an ASX-listed pharmaceuticals company. Mr Altshuler has extensive experience in capital raises, off-take agreements, introduction of strategic investors, mergers and acquisitions, post-merger synergies, and cost reduction projects.



Paul Hardie

General Counsel & Company Secretary

Mr Hardie has more than 20 years' professional, corporate, and business experience in senior legal and corporate advisory roles, as well as a range of executive management and non-executive appointments. His extensive boardroom experience includes ASX-listed entities, unlisted public companies, and proprietary organisations across different industries including mining and resources, manufacturing, technology, and financial services. Prior to joining Globe, Mr Hardie was part of the mergers and acquisitions team at a top-tier national law firm before establishing his own commercial law

Globe Metals and Mining's Management



Grant Hudson

Regional Advisor – Southern Africa

Mr Hudson is an experienced business executive with decades of experience working in sub-Saharan Africa. He is also a former CEO of Bikita Minerals (Zimbabwe) and the former Chief Executive Officer of Globe and as such is ideally suited to his new role as Regional Advisor for the Group. In this position he will focus primarily on the critical area of community and Government relations in Malawi and will have oversight of the Malawi administrative functions. In addition, Mr Hudson will look at new business opportunities in the region and continue to serve on Globe's executive Committee.



David Young

Chief Consultant Geologist

Mr Young has more than 50 years' experience in the minerals and mining arena across a broad spectrum of metals and mining industries, with particular expertise in commodities and their methods of exploration, evaluation, mining, and valuation. Prior to joining Globe, Mr Young worked as a production geologist in the mining industry before jointly founding a mineral consulting company in Johannesburg specialising in providing geological investment advice, and working as an Independent Consultant Geologist in Cape Town, South Africa.



Louis Schoeman

Project Director

Mr Schoeman has more than 25 years' experience in project management, construction management, and contract management in the chemical, industrial, and mining industries on engineering projects in Africa and Australia. Prior to joining Globe, Mr Schoeman held senior project management positions in various construction and engineering companies and is seasoned specifically in project execution of both greenfields and brownfields projects. Louis has a National Higher Diploma in Mechanical Engineering from Vaal University of Technology (formerly Vaal Triangle Technikon).

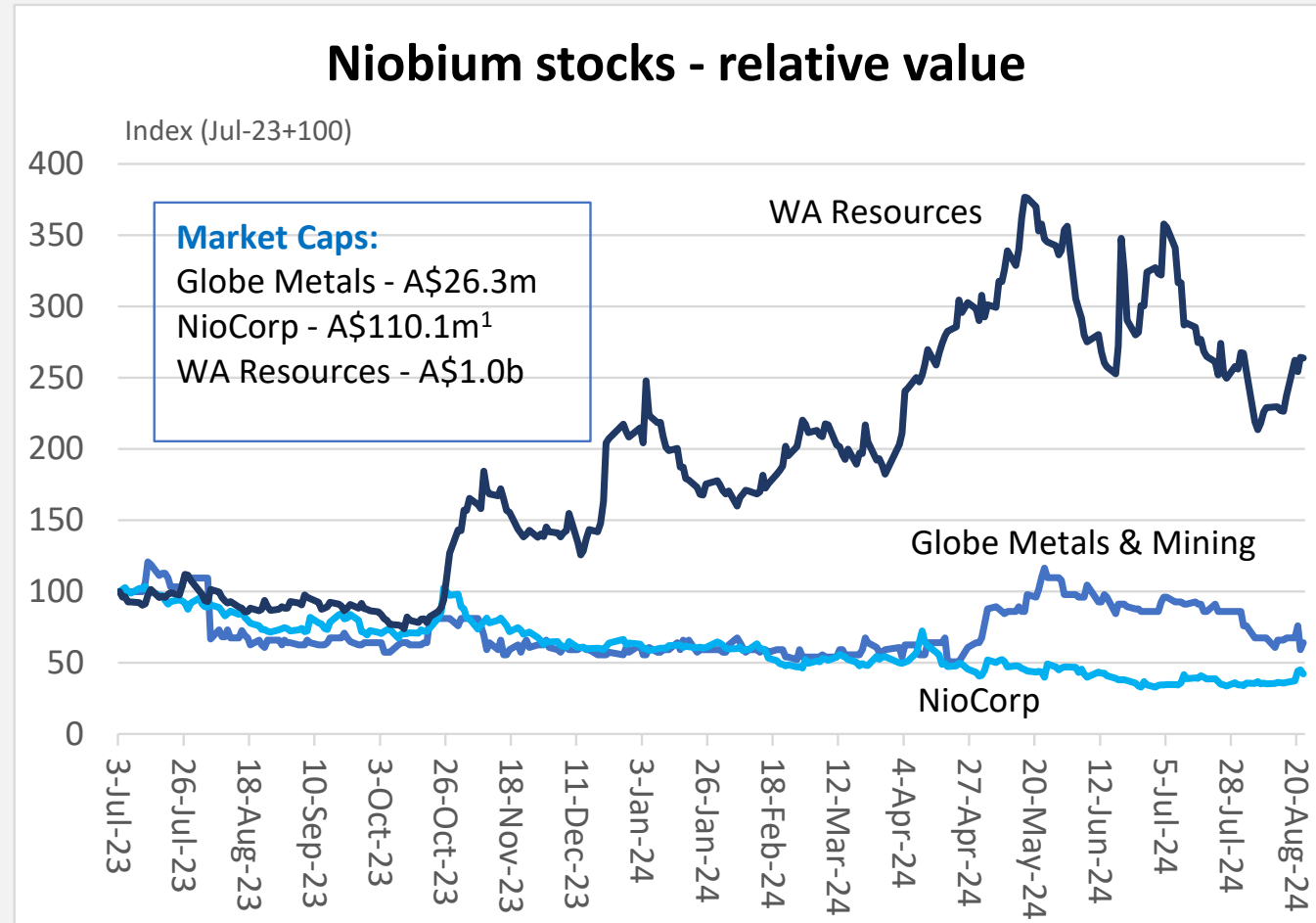


Rogerio Pastore

Senior Marketing Consultant

Mr Pastore is a seasoned global executive with over 25 years' experience in the steel and mining industries. His expertise encompasses strategic development, business model innovation, go-to-market strategies, and market development across more than 50 countries. Prior to joining Globe, Mr Pastore held key leadership roles in prominent organisations like Gerdau and CBMM, where he was recognized for his ability to manage multicultural teams and navigate complex international markets.

Globe's relative value to peers



Sources: ASX; NASDAQ, Yahoo Finance; The Capital Network

1. Based on an A\$/US\$ exchange rate of US\$0.67

Corporate overview

Globe's unique point of difference is that we focus on the specialty oxide markets

01

Low mining cost

Shallow, open-cast mining (low mining costs) and less than 1 stripping ratio in Phase 1. Globe total cash cost - \$US 18,900/t (Nb2O5). Cash margin > 65%.

02

JORC 2012 defined

Large resource base and long mine life

Mineral Resources
68.3Mt (refer to slide 5 for a detailed breakdown of measured, indicated and inferred resources)

Ore Reserves
33.8Mt

03

Efficient concentration

Economic mineral processing and optimised oxide floatation, producing circa 20% Nb2O5 concentrate.

04

Efficient HF/SX refining

Well-known and well-understood refining technology

Efficient – HF/SX
To produce high-purity refined oxide products

05

Serving a speciality market

The high-purity Niobium oxide products will be sold into the specialty metals markets, realizing premium prices over the ferroniobium market. The oxide market includes all oxide grades from standard grade up to optical grades of 99.99% Nb2O5, thus facilitating prices over US\$50/kg.



Globe

Metals & Mining

The project

Kanyika Niobium Project - Malawi, Africa



Kanyika Niobium Project - Malawi, Africa

Malawi, in southeastern Africa, offers stable investment opportunities, notably in mining, backed by transparent regulations and abundant mineral resources like niobium, uranium, and rare earth minerals.

The new mining ministry demonstrates skills in technical expertise, regulatory compliance, project and stakeholder management, risk, financial management, communication, and problem-solving.

Politically, Malawi enjoys peaceful transitions, improving democratic governance, combats corruption, and upholds civil liberties, fostering investment, development, and social stability.

Malawi has not experienced significant civil unrest, armed conflicts, or political violence in recent history.

Malawi is a trusted destination by large mining companies: Rio Tinto acquired a 15% stake in Sovereign Metals (Rutile & Graphite) for \$27.6m. Located in central Malawi.



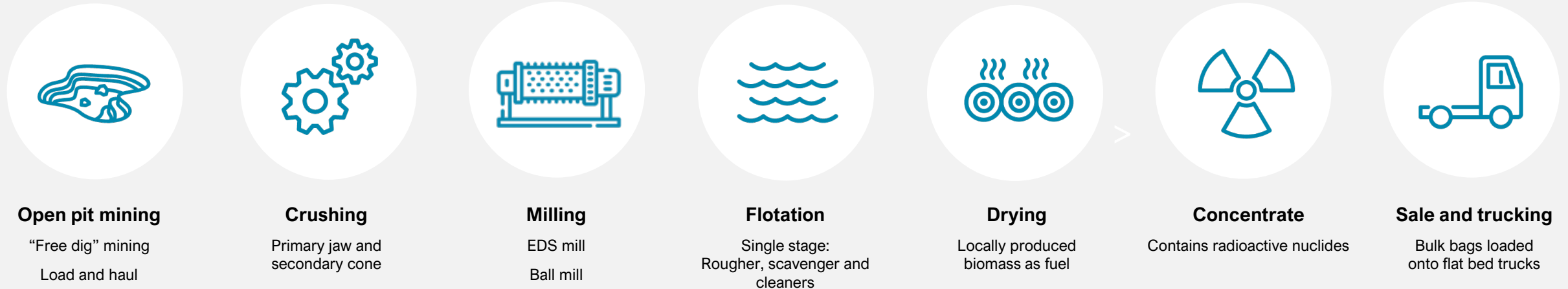
Project location



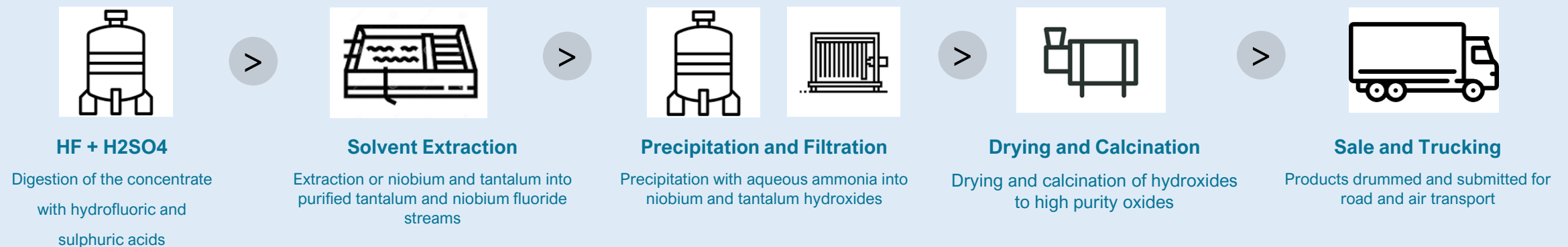
Signing ceremony for the Mining Development Agreement between Globe and Malawi Government : 29 March 2023

Kanyika Mine Phase One: Saleable start-up operations

Malawi mining: Phase One- 86,000t of ore per annum



Malawi refinery: Phase One- 313t of Niobium Oxide per annum



Globe's commitment to ESG practices & policies

A prerequisite for project funding

Globe's niobium oxide product meets specialty metal sector demands, caters to the emerging energy transition market and is non-radioactive

- The Kanyika Niobium Project adopts innovative, eco-friendly production techniques, reducing waste and promoting ESG values.
- Engages in community programs, promotes renewables, and plans biomass use, aligning with sustainability goals, creating over 100 jobs in phase 1.
- Niobium's qualities make it environmentally friendly, enhancing project sustainability.
- Dry tailings disposal minimizes environmental impact.
- Overall, the project aims for economic growth, community improvement, and environmental stewardship in Malawi.



Image: 10-ton sample extraction on 3 May 2023



Globe
Metals & Mining

Financial metrics



Completed Optimization Study

Confirming robust financial and technical outcomes

- Pre-tax NPV at an 8% discount rate stands at US\$878 million with an impressive pre-tax IRR of 34.59%.
- Total Free Cash Flow (pre-tax) throughout the Life of Mine (LOM) amounts to US\$3,172 million.
- Payback period is estimated at 6.6 years.
- Revenue over the LOM is projected to reach US\$4,984 million with a Gross Margin of US\$3,225 million, equivalent to 64.70%.
- EBIT over the LOM is forecasted at US\$2,359 million, while net profit before tax is estimated at US\$3,198 million.
- After taxation, net profit is projected at US\$2,229 million.
- The total unit cost per kg of Nb2O5 at US\$22.28.
- The selling price of Nb2O5 is anticipated to be US\$51 per kg.

Metrics	Units	Phase One	Phase Two
ROM Ore production	ktpa	81	1,459
ROM Grade (Nb2O5)	ppm	4,933	3,166
Concentrate production	ktpa	1.5	18.9
Concentrate grade	%	20%	18%
Refined Nb2O5	tons/year	292	3,396
Refined Ta2O5	tons/year	13	147
Annual Turnover	US\$m	18	214
Annual EBITDA	US\$m	7	103
Capital Cost (Mine & Concentrator)	US\$m	15	205
Capital Cost (Refinery)	US\$m	14	111
Total Capital cost	US\$m	35	316
Operating Cost (Mine & Concentrator)	US\$/kg (Nb2O5)	11.18	6.57
Operating Cost (Refinery)	US\$/kg (Nb2O5)	12.18	9.54
Total operating costs	US\$/kg (Nb2O5)	23.36	16.11
Project NPV pre tax (8%)	US\$m	72	878
IRR	%	14.49%	34.85%

Metrics	Units	2024 Update
NPV 8% (pre-tax)	US\$m	878
IRR (pre-tax)	%	34.51%
Closing cash balance (LOM)	US\$m	2,618
Total FCF pre tax (LOM)	US\$m	3,173
Life of Mine	Years	25
Payback period (Yrs)	Years	6.68
Revenue (LOM)	US\$m	4,984
Cost of goods sold (LOM)	US\$m	1,759
Gross Margin (LOM)	US\$m	3,225
Gross Margin (LOM)	%	64.71%
EBIT (LOM)	US\$m	2,359
Net profit before tax (LOM)	US\$m	3,199
Tax (LOM)	US\$m	969
Net profit after tax (LOM)	US\$m	2,230
Total ore mined	tons m	33.8
Total ore including waste mined	tons m	87.1
Total concentrate produced	Tons (000's)	439.1
Total Nb2O5 production	Tons (000's)	79.0
Total Ta2O5 production	Tons (000's)	3.4
Total unit cost	US\$	52.04
Total unit cost including waste	US\$	20.20
Total unit cost (Per kg of Nb2O5)	US\$	22.27
Selling price of Nb2O5 (Per kg)	US\$	51.00



Globe
Metals & Mining

Niobium market



Niobium market opportunity

Niobium top of the critical metal list EU, US, Japan, and India and Australia

When metals make critical lists in the USA and Europe, they are deemed essential for national security and economic stability but have at-risk supply chains. This status triggers diverse support mechanisms:

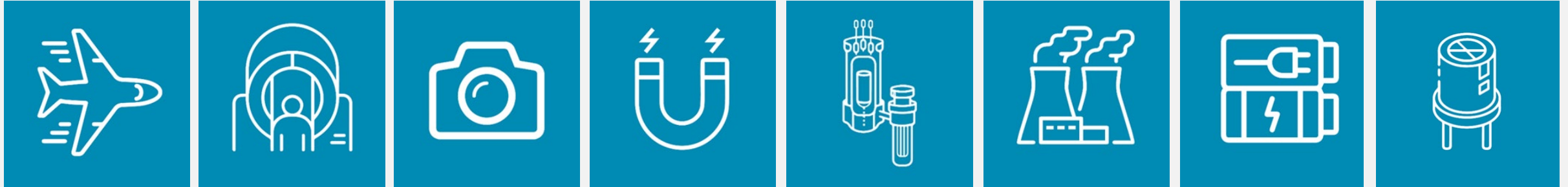
- In the USA, support includes federal grants and loans from agencies like the DOE and DoD, public-private partnerships providing financial and technical support, the Critical Materials Institute's efforts in diversifying supply and improving recycling, and the Defense Production Act, which prioritizes critical materials production.
- In Europe, funding comes from initiatives like the European Innovation Partnership and Horizon Europe, focusing on securing raw material sources and increasing self-sufficiency. The European Raw Materials Alliance and the European Battery Alliance enhance resource sustainability and support critical raw materials for transitions in energy and technology.
- Both regions aim to decrease import reliance, particularly from geopolitically sensitive areas, by fostering a complete, domestic supply chain that encourages innovation and sustainable practices.



Exploration drilling on the Kanyika resource

Niobium market applications

In addition to ferroniobium's (65% niobium) use in the production of High Strength Low Alloy (HSLA) steel



- Niobium oxide presents a promising solution for aerospace and battery technology due to its exceptional properties. It's weldability and fabricability enable the production of complex aerospace parts precisely.
- Its high strength-to-weight ratio makes it vital in aerospace design, ensuring structural integrity while reducing weight. Additionally, its stability at high temperatures suits components in jet engines and rocket propulsion systems.
- Moreover, niobium oxide finds application in ophthalmic lenses, providing high refractive indices and low specific gravity, ideal for vision correction. Superconductors, capacitors and the nuclear industry all benefit from Niobium.
- In battery technology, niobium oxide offers greener, cheaper, and cobalt-free alternatives with rapid charging in under 10 minutes, enhanced energy density, and stability over 10,000 charging cycles.
- This technology is crucial for round-the-clock supply chain operations, where rapid charging ensures heightened productivity. Electric mining trucks utilizing niobium oxide technology eliminate fossil fuel dependency, allowing efficient operation with rapid charging cycles.
- Overall, niobium oxide's versatile properties offer transformative solutions in aerospace, battery technology, and beyond.

Potential customers and offtakes

A shortage of supply but plenty customers

01

Electronics Manufacturers

Significant players in consumer electronics, telecommunications, and semiconductor manufacturing.

02

Optical Coating Companies

Catering to applications in photography, aerospace, defense, and telecommunications.

03

Catalyst Manufacturers

Key in petroleum refining, petrochemical production, and chemical processes.

04

Superconductor Manufacturer

Essential for MRI machines, particle accelerators, and magnetic levitation systems.

05

Battery Manufacturer

Attracting interest for electric vehicles, consumer electronics, and energy storage systems.

06

Advanced Materials Companies

Incorporating niobium oxide into composite materials and coatings

07

Traders in the Niobium Oxide Market

On 2nd Sep 2024 the company signed a letter of intent with Affilips N.V. for up to 100 tonnes of refined high purity Niobium Pentoxide. The letter of intent outlines the framework for both parties to negotiate a binding offtake agreement for 32% of Phase 1 production.

Niobium market dynamics

The market is moving in Niobium's direction due to its properties

Niobium properties include heat resistance, corrosion resistance, strength, weldability, and being lightweight. These are metals that have economic importance, as well as significant dependency on imports.

01

Market trends: East versus West

- Asian urbanization, especially in China and India, will drive consumption growth with expanding middle classes.
- This rise in prosperity, particularly in India and China, will increase demand for healthcare, including imaging technologies like MRIs.

02

Market trends: Supply Chain

- Brazil's dominance (only 3 current players worldwide) in global supply poses risks, spurring the US and Europe to seek alternative mining. China invests in Brazilian firms for diversification.
- To secure supply chains, the US should partner with niobium-rich regions like Canada, Africa, and Europe, essential for aerospace and national security.

03

Market trends: Technology and ESG

- AI will transform data analysis, industry 4.0, and robotics, leading to exponential growth in data centers where capacitors are crucial.
- The Space Race will boost demand for superalloys with increased satellite production, while ESG concerns will drive demand for renewable energy, elevating the need for thermopower technology and materials like superalloys.

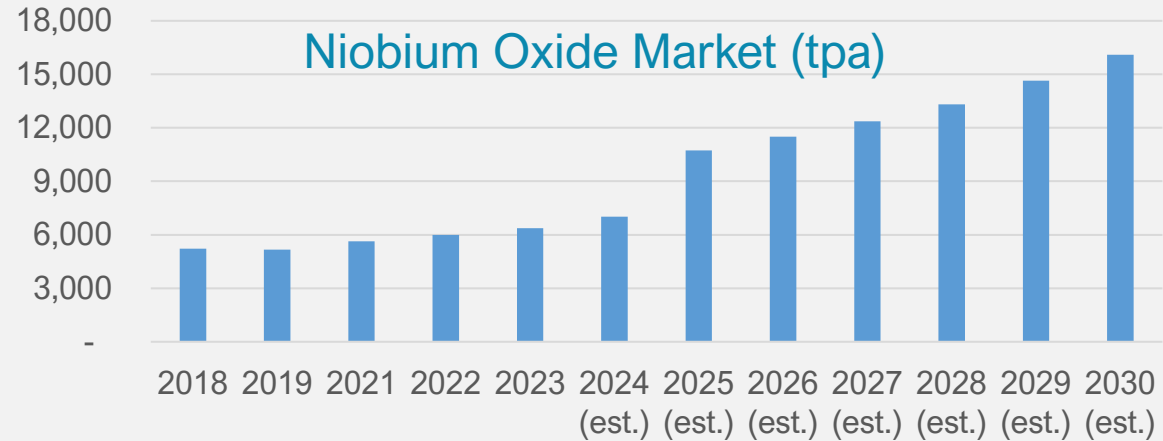
Niobium oxide average market size: \$USD500 million

Asia Pacific has the highest CAGR at 12.59% with a total CAGR of 10% forecast from 2023 to 2028.

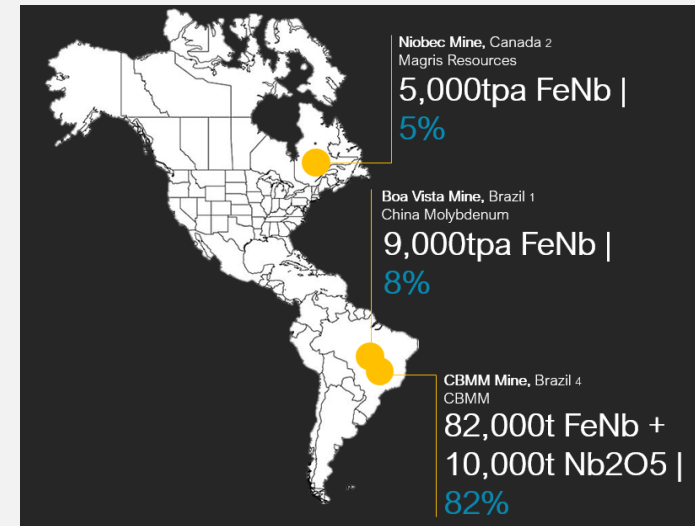
- Niobium oxide currently comprises 9% of the total Niobium market.
- Nb2O5: \$500m total market currently
- FeNb: \$5.6bn total market currently.
- Total Niobium market: \$6bn

Three mines account for over 95% of the global mined niobium supply and no new mines have been brought into production for over 50 years.

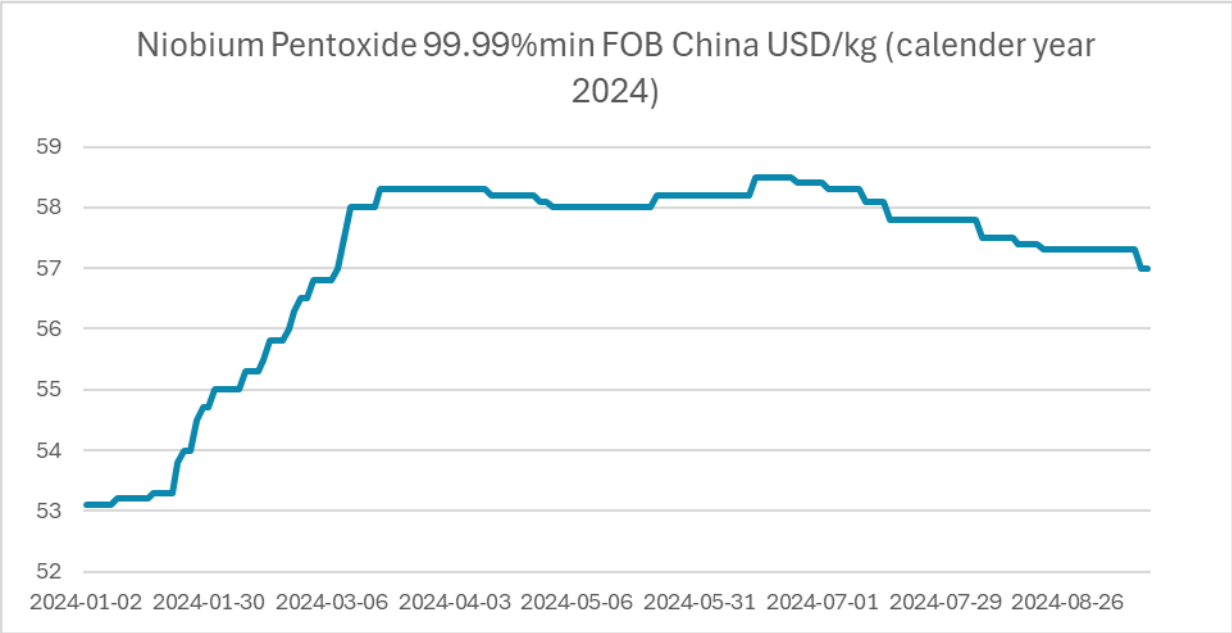
- Niobec and China Moly produce ferroniobium.
- Only CBMM produces Niobium Oxide (Nb2O5) in addition to ferroniobium (FeNb).
- Nb2O5 is a small but growing market with a market



Source: Mordor Intelligence



Niobium oxide prices



Source: Asia Metals

The high-purity Niobium oxide products will be sold into the speciality metals markets, realising premium prices over the ferroniobium market.

- 1) Covering all Oxide markets from standard grade to high quality grade with a focus on Optical grade (99.99%).
- 2) Facilitates selling prices in excess of US\$50 per kg.

Commodity	Price per tonne at 1 April 24
Niobium Oxide	\$US 58,000
Nickel	\$US 16,560
Copper	\$US 8,770
Colbalt	\$US 28,549
Lithium	\$US 15,152

Source: Asia Metals



Globe
Metals & Mining



Planned milestones

Planned project milestones

01

Offtake discussions and Agreements. – Q4 24

02

Complete the update of the BFS. – Q1 25

03

Board approval to execute the project.- Q1 25

04

Mine, Concentrator and Refinery construction (all in Malawi) Phase 1 (15 months of construction)

05

Commission and production Q1 26

06

Phase 2 Commission and production Q2 28

Kanyika Niobium Project Development plan

		2024		2025				2026				2027				2028			
Quarter		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Month number	Months	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54
Offtake agreements (LOI)	3																		
BFS Update	7																		
ESIA Update	6																		
Decision to execute Phase 1	9																		
Mine & Concentrator Phase 1	12																		
Phase 1 Development	12																		
First Concentrate	23																		
Refinery Phase 1																			
Phase 1 Development	10																		
First Refined product	24																		
Decision to execute Phase 2																			
Mine & Concentrator Phase 2																			
Phase 2 Development	27																		
First Concentrate	28																		
Refinery Phase 2																			
Phase 2 Development	27																		
First Refined product Phase 2	28																		

Phase 1 development

Expected tranches of funding	Tranche 1	Tranche 2	Tranche 3	Tranche 4	Total
BFS Update	\$ 600,000	\$ -	\$ -	\$ -	\$ 600,000
ESIA Update	\$ 300,000	\$ -	\$ -	\$ -	\$ 300,000
Mine, concentrator & Refinery feed	\$ 600,000	\$ -	\$ -	\$ -	\$ 600,000
Project development inc Environmental bond and PAP Relocation	\$ 5,880,000	\$ 14,000,000	\$ 7,000,000	\$ 12,800,000	\$39,680,000
GMM Operating costs	\$ 1,620,000	\$ 1,000,000	\$ 1,000,000	\$ 1,200,000	\$ 4,820,000
Total	\$ 9,000,000	\$ 15,000,000	\$ 8,000,000	\$ 14,000,000	\$46,000,000

The table below displays the different financing ranges and their average amounts for the mining, concentrator, and refinery project

Funding instrument	Range from	Range to	Average
Equity	US\$6m	US\$10m	US\$8m
Project and debt financing	US\$10m	US\$20m	US\$15m
Convertible notes	US\$7m	US\$11m	US\$9m
Pre-shipment offtake funding	US\$9m	US\$19m	US\$14m
Total			US\$46m

A funding strategy has been formulated to best support the Project and minimise shareholder dilution.

Capital funding requirements for Phase 1 project development have been finalised at US\$46 million, inclusive of a 15% project contingency allocation.

The Phase 1 project development plan is confirmed with a clear path to project construction.

On 25 July 2024 , the company received a non-binding letter of intent (LOI) from Ecobank Malawi Limited (Ecobank) for a \$US15 million loan facility subject to satisfactory outcome of due diligence, approval of Ecobank's credit committee, and execution of all formal facility and security documentation.



Globe
Metals & Mining

Growth plans



Globe market opportunity

- Globe has identified several very exciting regional exploration projects
- The projects are a good fit for Globe and its strategic development ambitions in the region.
- Globe has identified 5 to 6 projects with drill confirmation of grade and extent of the mineralisation.
- Key commodity focus being:
 - REE (both light and heavy)
 - Niobium
 - Lithium – (pegmatitic)
 - Base Metals & PGM's
- Strategically, the use of Globe's Chlorination refining technology, the refining of REE and Base Metal concentrates would also be amenable to refining - in country.
- Funding via strategic options that are that could be innovative and non-dilutive such as debt funding, equity swaps, partnerships or joint ventures, asset-based financing, convertible instruments and royalty financing as examples.





Globe

Metals & Mining

Globe Metals and Mining Limited (ASX:GBE, G4U:FWB)

Investor presentation - August 2024

ABN 33 114 400 609

Join the Globe Metals & Mining Investor Hub:

<https://investorhub.globemm.com/auth/signup>

- Follow the prompts to sign up for an Investor Hub account
- Complete your account profile
- Link your shareholdings if you are a current shareholder
- The QR code on this page can be used to access Investor Hub

Globe Metals and Mining Limited

Paul Smith

Chief Executive Officer

+61 8 6118 7240

paul.smith@globemm.com

Nathan Barbarich

Corporate Finance

CPS Capital

+61 8 9223 2288

nathan.barbarich@cpscapital.com.au

Media & Investor Enquiries

The Capital Network

Julia Maguire

+61 2 8999 3699

julia@thecapitalnetwork.com.au



<https://twitter.com/GlobeMetalsASX>



<https://www.linkedin.com/company/globe-metals-mining-ltd>

eNews

globemm.com





Globe
Metals & Mining



Appendix

Summary of the optimisation results relative to the 2021 DFS: Kanyika Niobium Project Malawi

Metrics	Units	2021 DFS	2024 Update
NPV 8% (pre-tax)	US\$m	1,009	878
IRR (pre-tax)	%	49.70%	34.51%
Closing cash balance (LOM)	US\$m	4,361	2,618
Total FCF pre tax (LOM)	US\$m	3,759	3,173
Life of Mine	Years	23	25
Payback period (Yrs)	Years	1.32	6.68
Revenue (LOM)	US\$m	4,961	4,984
Cost of goods sold (LOM)	US\$m	1,632	1,759
Gross Margin (LOM)	US\$m	3,329	3,225
Gross Margin (LOM)	%	67.10%	64.71%
EBIT (LOM)	US\$m	2,838	2,359
Net profit before tax (LOM)	US\$m	4,645	3,199
Tax (LOM)	US\$m	134	969
Net profit after tax (LOM)	US\$m	4,511	2,230
Total ore mined	tons m	33.8	33.8
Total ore including waste mined	tons m	87.1	87.1
Total concentrate produced	Tons (000's)	186.3	439.1
Total Nb205 production	Tons (000's)	73.3	79.0
Total Ta205 production	Tons (000's)	3.2	3.4
Total unit cost	US\$	48.28	52.04
Total unit cost including waste	US\$	18.75	20.20
Total unit cost (Per kg of Nb205)	US\$	22.28	22.27
Selling price of Nb205 (Per kg)	US\$	50.00	51.00

Summary of financial results of the optimisation study: Kanyika Niobium Project Malawi

Metrics	Units	Phase One	Phase Two
ROM Ore production	ktpa	81	1,459
ROM Grade (Nb205)	ppm	4,933	3,166
Concentrate production	ktpa	1.5	18.9
Concentrate grade	%	20%	18%
Refined Nb205	tons/year	292	3,396
Refined Ta205	tons/year	13	147
Annual Turnover	US\$m	18	214
Annual EBITDA	US\$m	7	103
Capital Cost (Mine & Concentrator)	US\$m	15	205
Capital Cost (Refinery)	US\$m	14	111
Total Capital cost	US\$m	35	316
Operating Cost (Mine & Concentrator)	US\$/kg (Nb205)	11.18	6.57
Operating Cost (Refinery)	US\$/kg (Nb205)	12.19	9.54
Total operating costs	US\$/kg (Nb205)	23.37	16.11
Project NPV pre tax (8%)	US\$m	72	877
IRR	%	14.48%	34.84%

01

BENEFICATION

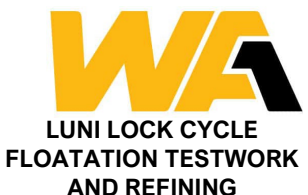
02

REFINING
(Pyrometallurgy or Hydrometallurgy)

03

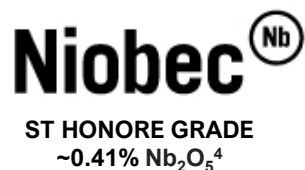
CONVERSION TO FERRONIUBIUM
(Pyrometallurgy)Crushing & Grinding Desliming
Magnetic Separation
Single Stage Flotation²>73% recovery
~19% Nb₂O₅Digestion with HF/H₂SO₄
Solvent Extraction
Precipitation & Calcination

99% recovery

Pyrometallurgy
Not applicableNiobium pentoxide powder
Glass grade >99.95% Nb₂O₅Unoptimised
Crushing & Grinding
Desliming
Two Stage Flotation⁹53% Rec'y
58% Nb₂O₅Calcining
HCL Leaching
(99.9% Recovery in Refining)⁹53% Rec'y
58% Nb₂O₅

Future Programs

Future testwork programs will provide an overall recovery

Crushing & Grinding
Desliming
Magnetic Separation
Single Stage Flotation²Calcining
Two Stage Arc Furnace55-60% Nb₂O₅Electric Arc Furnace^{5,6}
(Aluminothermic Reaction)³Crushing & Grinding
Desliming
Magnetic Separation
Two Stage Flotation²HCl Leaching
NaOH Leaching
Calcining55% Nb₂O₅**Conversion Vessel**
(Aluminothermic Reaction)³Crushing & Grinding
Desliming
Three Stage Flotation⁷HCl Leaching
Calcining58% Nb₂O₅**Conversion Vessel⁴**
(Aluminothermic Reaction)³Overall **niobium** recoveries at existing operations **vary between 30-70%**

Majority of recovery loss for the overall process incurred through desliming and flotation

Typical combined recoveries over 95% in 'Refining' and 'Conversion'

Typical FeNb end product contains ~65% Nb

Source: Refer next slide

NOTE	SOURCE
1	Henrique. P: 'Production of niobium: Overview of processes from the mine to products' Journal of Mining and Metallurgy. (2022)
2	Gibson, C.E: 'Niobium Oxide Mineral Flotation: A Review of Relevant Literature and the Current State of Industrial Operations' International Journal of Mineral Processing. (2015)
3	Shikik. A: 'A review on extractive metallurgy of tantalum and niobium' Journal of Metallurgy. (2020)
; 4	IAMGOLD Corporation, NI43-101 Technical Report, Update on Niobec Expansion. (2013)
5	CBMM Infographic, viewed at https://ccbmm.com/assets/infographic/en/index.html on 13/2/2024
6	China Molybdenum Co., 'Major Transaction Acquisition of Angle America PLC's Niobium and Phosphates Businesses'. (2016)
7	One of Niobec's flotation steps is completed after HCl leaching
8	Does not include niobium pentoxide production steps, outputs or recoveries
9	WA1 ASX announcement "West Arunta Project Initial Refining Testwork Results" dated 7 October 2024

HF/SX Refinery Processing Route

Why did Globe choose HF/SX to oxide powder rather than aluminothermic ferroniobium?

- Using two stages of flotation Globe could only raise Kanyika concentrate to ~35% Nb₂O₅ with recoveries below 60%
 - Note: CBMM, Niobec and CMOC all produce concentrates for ferroniobium in the ~55% Nb₂O₅ range
- Aluminothermic smelting tests by Globe produced an alloy with 39.9% Nb and 2.5% Ta
 - This is not a saleable material
 - Income from the tantalum would be lost
- Using a single stage of flotation with 4 reagents rather than 12, a 22% Nb₂O₅ and 1.0% Ta₂O₅ concentrate with recoveries >70% can be produced
- This concentrate can be digested in a mixture of HF and H₂SO₄
 - Nb and Ta can be extracted into two organic streams from the resulting pregnant liquor via solvent extraction
 - The two loaded organic phases can be washed and stripped before precipitating niobium and tantalum hydroxides
 - The hydroxides are washed, filtered and calcined to oxide with grades >99.95%
 - The high quality niobium oxide falls into the glass grade category that attracts a premium
 - The high grade tantalum oxide is suitable for capacitor production

Competent person's statement

Production target and forecast financial information (Listing rule 5.19)

Mineral resource estimates:

The information in this report that relates to Mineral Resources is extracted from the report titled “Kanyika Niobium Project – Updated JORC Resource Estimate” released to the Australian Securities Exchange (ASX) on 11 July 2018 and available to view at www.globemm.com and for which Competent Persons’ consents were obtained. Each Competent Person’s consent remains in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The Company confirms that is not aware of any new information or data that materially affects the information included in the original ASX announcement released on 11 July 2018 and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the original ASX announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons’ findings are presented have not been materially modified from the original ASX announcement.

Full details are contained in the ASX announcement released on 11 July 2018 titled “Kanyika Niobium Project – Updated JORC Resource Estimate” and is available to view at www.globemm.com

Production target and forecast financial information (ASX Listing Rule 5.19):

The production target and forecast financial information derived from the production target included in this presentation were first announced to the ASX in the announcement released to the ASX on 19 August 2021 titled “Kanyika Niobium Project – Project Feasibility and Economics” and secondly in the announcement released to the ASX on 5 February 2024 titled “Robust Optimisation Study results support Globe’s Kanyika Niobium Project. Globe confirms that all the material assumptions underpinning the production target as reported to the ASX on 19 August 2021, and the forecast financial information as reported to the ASX on 5 February 2024, continue to apply and have not materially changed.

Full details are contained in the ASX announcement released on 19 August 2021 titled “Kanyika Niobium Project – Project Feasibility and Economics” as well as in the announcement released to the ASX on 5 February 2024 titled “Robust Optimisation Study results support Globe’s Kanyika Niobium Project. and is available to view at www.globemm.com.

Ore reserves:

The information in the report that relates to Ore Reserves is extracted from the report titled “Kanyika Niobium Project – Project Feasibility and Economics” released to the Australian Securities Exchange (ASX) on 19 August 2021 and available to view at www.globemm.com and for which a Competent Person’s consent was obtained. The Competent Person’s consent remains in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The Company confirms that is not aware of any new information or data that materially affects the information included in the original ASX announcement released on 19 August 2021 and, in the case of estimates of Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the original ASX announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original ASX announcement.

Full details are contained in the ASX announcement released on 19 August 2021 titled “Kanyika Niobium Project – Project Feasibility and Economics” and is available to view at www.globemm.com