ASX Announcement

30 November 2022

AGM Presentation

The 2022 Annual General Meeting (**AGM**) of Globe Metals & Mining Limited (ASX: GBE) (**Globe**) will be held today at 2:00pm (WST).

In accordance with ASX Listing Rule 3.13.3, a copy of the CEO's presentation that will be delivered at the AGM is attached.

This announcement was authorised for release by the CEO of Globe.

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Annual General Meeting
30 November 2022



Lake Malawi

Globe Metals & Mining Limited (ASX: GBE)

Disclaimer

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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 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 through the use of reliance 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, demand for niobium, niobium supply, 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, transportation delays and costs, risks and uncertainties related to construction and commissioning, delays in construction of the mining operation, accidents, equipment breakdowns, title matters, labour disputes or other unanticipated difficulties with, or interruptions in, development or production, exchange rate fluctuations, and risks and uncertainties associated with doing business in Malawi. 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 may contain 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, project configuration, construction and commissioning costs and timelines, and general risks and uncertainties. Readers are cautioned not to place undue 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. 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.

Niobium is powering the future. From safer, fast-charge batteries to stronger wind-towers, niobium is a key part of the green revolution.



Huge emerging demand for Nb in Li-on batteries

Why is Niobium important for LIB development?

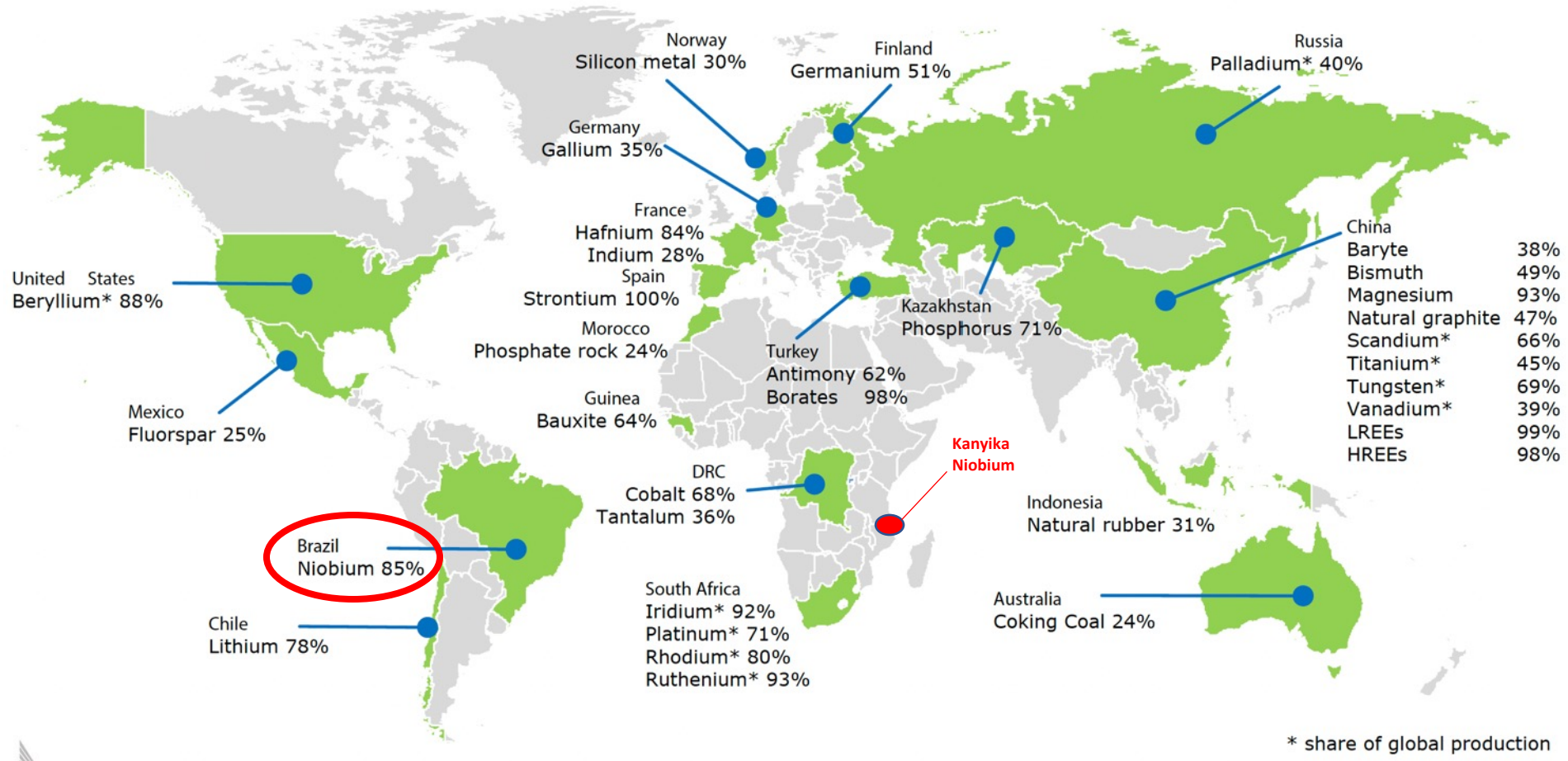
Niobium addresses almost all of the major barriers to EV adoption

Barriers to EV adoption		Niobum's Role
RANGE ANXIETY		
Consumers worry that an EV will not travel as far as an ICE vehicle and that performance will vary		**Niobium** helps increase the energy density of batteries, giving more power and increased range, and improves performance at low temperatures
CHARGING TIME		
Charging times can vary significantly depending upon the car and charging station but can take several hours		**Niobium** materials can increase the rate with which batteries charge and discharge
PERFORMANCE/LONGEVITY		
Batteries have a relatively short operating life as materials degrade during charge/recharge cycle		**Niobium** increases the stability of the battery so it can withstand more charging cycles
COSTS		
Even with subsidies, BEVs are more expensive than equivalent ICE vehicles		**Niobium** is readily available and cost effective compared to other battery materials
CHOICE		
There are few BEVs on the market		This is changing rapidly

Niobium production has risen ~25% over the past 7 years, with major producer (CBMM) recently announcing a 4.5X increase in niobium oxide production capacity to cater for increasing demand from the electric vehicle battery sector.

Kanyika – a solution for supply-side risk

Excessive dependence on single supplier countries makes Europe vulnerable



Action Plan on Critical Raw Materials: European Commission Report 03.09.2020

Electric Vehicles and Niobium Presentation

Can be found on the Globe website:

https://static1.squarespace.com/static/5f1565cb8ca4c17a2080274f/t/6360de48154c925b60c5bfce/1667292786305/Niobium+EV+Battery+Deck+-+FINAL+%28Amended%29.pdf

Strategic Positioning

- Niobium oxide market gaining significant traction – est. possible value of $1.7Bn by early 2030's
- Globe to enter the niobium oxide/metals market as soon as possible
  - Will be the 2nd-vertically integrated producer in the world (after CBMM)
  - Will utilise environmentally-friendly technology
  - Will be regionally-diverse i.e. not located in Brazil or Asia
  - Malawi and Namibia are 'conflict-free' countries of origin
  - Will grow production capacity to match market growth

Status Quo

Kanyika Niobium Project (KNP) is positioned to be the first niobium mine into production in more than fifty years and the first ever in Africa

Fully permitted, advanced staged; Large-scale mining licence, all environmental and land approvals in place to immediately commence construction

An ESG friendly and highly efficient processing facility – staged development planned; Globe will be the only vertically integrated NB-oxide producer outside the Americas

Long life project up to 38 years: JORC (2012) compliant Mineral Resource Estimate of 68 Mt with grade of 0.283% Nb_2O_5 (M+I+I) (Cut-Off Grade = 1,500 ppm Nb_2O_5); based on ~33km of drilling

Strong relationships with community, local leaders and senior government officials, as well as industry operators

Niobium is a critical mineral in high demand across multiple sectors; favourable market dynamics and macro tailwinds;

Phase One: Low-cost start-up operations

Kanyika mine site: Phase One Pilot



Open pit mining:

Drill and blast

Load and haul



Crushing:

Primary jaw and secondary cone



Milling:

EDS mill

Ball mill



Flotation:

Single stage: Rougher, scavenger and cleaners



Drying:

Locally produced biomass as fuel



Concentrate:

Contains radioactive nuclides



Sale and trucking:

Bulk bags loaded onto flat bed trucks

Namibia refinery: Phase One Pilot



Salt (NaCl):

Electrolysis of salt to produce chlorine



Concentrate and chlorine gas:

Chlorine is recycled from oxidation and reduction



Chlorination reactor:

Metals converted to gaseous chlorides at high temperature

Selective cooling gives primary separation of metal chlorides



Distillation and purification:

Very high purity >99% achievable in batch distillation



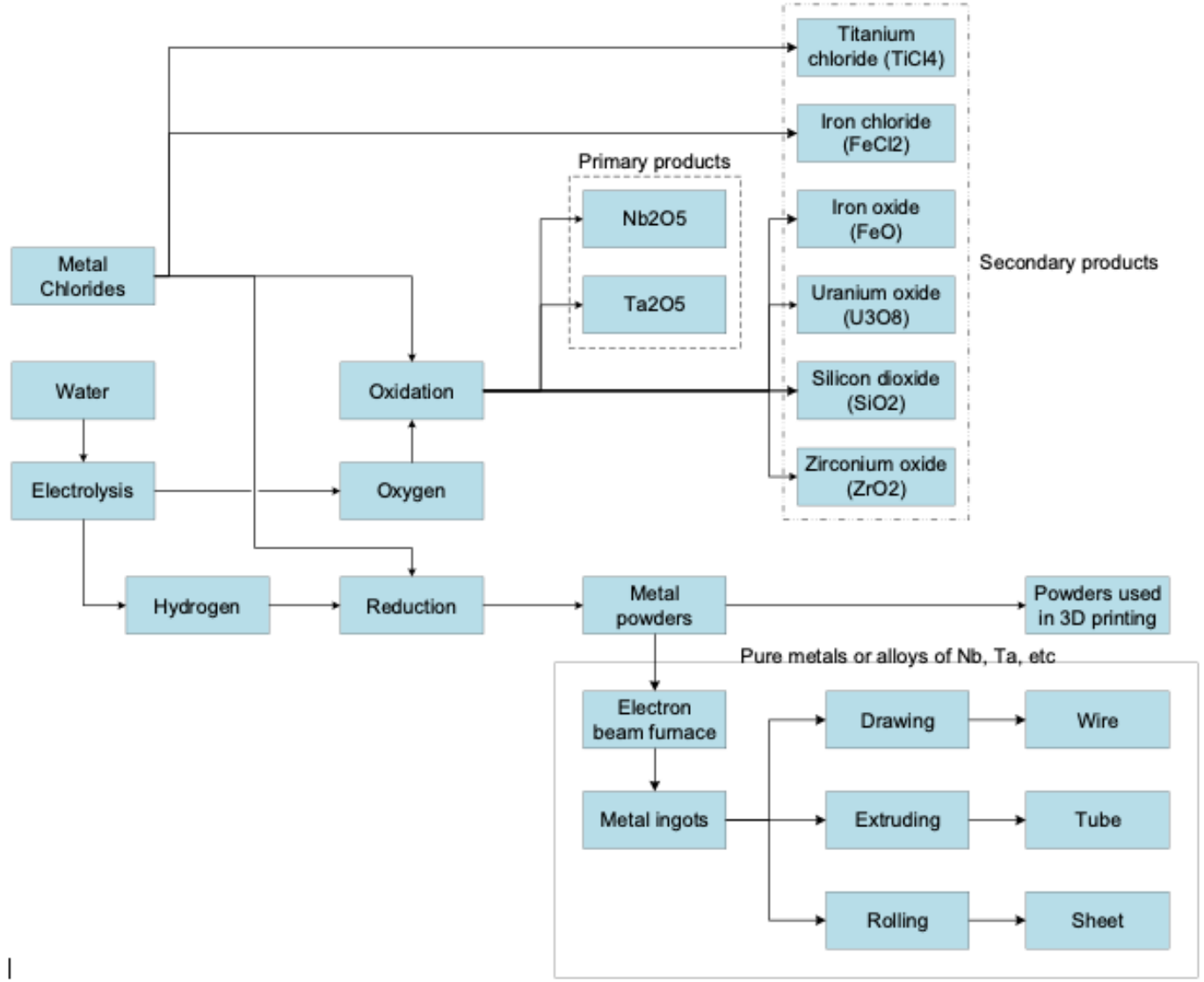
High grade niobium (and other) metal oxides and powders:

Regenerated chlorine is recycled back to the chlorinator

Refinery

- Has received the most focus over the past 10 months
- Hydrofluoric acid leach process problematic
- Gas-phase chlorination identified as best solution
    - Well-known technology - standard process for the production of titanium and magnesium metals
    - Scalable
    - Eminently suitable for ore that contains a suite of potential products
    - Lower operating costs
    - Significantly improved ‘green’ credentials
    - Plant can be built within the region (Namibia)
    - Infrastructure, construction & operational skills readily available in South Africa and Namibia

Potential Product Suite



Namibia Site Location



Phase One: Work to be done: Q4 2022 – Q3 2023

- TCM-Research/Resonant
  - Metallurgical laboratory-scale processing
  - Engineering & technical drawings for new refinery
  - Namibia site location – EIA etc.
- MDA outstanding – negotiations complete awaiting document sign-off from Attorney-General

Near-term value drivers

2022

November

Complete Phase One concentrator and refinery engineering

- Engineering contracts signed
- MDA

December

Commence mine-site sample preparation for advanced engineering test-work

- Commence Phase One engineering programs
- Complete Namibia site selection and commence EIA

2023

June

Complete advanced sample test-work

- Milling through EDS mill
- Gravity volume reduction

Produce concentrate

- Flotation
- Chlorination
- Oxide sample production
- Update engineering design parameters

August

Design review of engineering programs

- Flow sheets
- Hazop studies
- Layouts
- Equipment selection
- Complete CDAs with 'qualified communities'

September

Complete Namibia EIA

- Complete all other Namibian regulatory requirements
- Complete provision uranium offtake agreement
- Produce saleable Nb_2O_5 sample for customer validation

October

Complete engineering and cost estimation programs

- Commence capital raise for Phase One mine and refinery pilot plants
- Commence relocation of Project Affected Persons

December

Commence Phase One project

- Purchase mining equipment
- Mine site development
- EPC contracts for concentrator and refinery
- Exercise option on refinery site

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Competent Persons Statement

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" 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" is available to view at www.globemm.com