



## ASX RELEASE

30 October 2017

### About Globe

- Globe Metals & Mining Limited is a Perth based company listed on Australian Stock Exchange (ASX Code: GBE)
- Globe's primary asset is the Kanyika Niobium Project.

### Investment Summary

- 100% interest in held in Kanyika Niobium Project.

### Directors and Management

**Ms Alice Wong** - Non-Executive Chairperson  
**Mr Alistair Stephens** - Managing Director  
**Mr William Hayden** - Non-executive Director  
**Mr Bo Tan** - Non-executive Director  
**Mr Alex Ko** - Non-executive Director

### Capital Structure

**Shares on Issue:** 469,729,062  
**Options on Issue:** 3,000,000 (various)

### Substantial Shareholders

**Apollo Metals :** 52.37%  
**Ao-Zhong International Minerals:** 25.15%

### Contact

Alistair Stephens  
Managing Director  
[info@globemm.com](mailto:info@globemm.com)  
T: +61 (0)8 9328 9368

## September Quarter 2017 Review of Operations

### Summary

#### Kanyika Niobium Project

- Company continues to negotiate with regulators, stakeholders and parties to maintain opportunistic development options.
- Work during the quarter included consideration of project financing, partnership and design options.

#### Niobium

- *October 3, 2017:* Toshiba announce next generation SCiB™ rechargeable battery for electric vehicles; aims to be in production by fiscal year 2019.
- SCiB battery to deliver a range of 200 miles (320kms) in just six minutes of ultra-fast charging.
- “The secret to both rapid charging and preserving the battery’s robustness is the material used in its anodes – titanium niobium oxide”, *Toshiba*.
- “Rather than an incremental improvement, the titanium niobium oxide anode is a game-changing advance that will make a significant difference to the range and performance of electric vehicles” *Toshiba*.

#### Strategic Review - Ongoing

- Globe is actively reviewing cash flow generating opportunities unconstrained by business sector or nature with the trade of agricultural products, and food and beverage between Australia-China as a key area of interest.
- Globe has and continues to review a number of investment opportunities in this area.

#### Corporate & Finance

- Cash at bank and in term deposits at 30 September 2017 of \$10.865 million.
- On 29 September 2017, the Company announced its decision to relinquish the Chiziro tenement.

Globe Metals & Mining Limited (ASX Code: GBE) (“Globe” or “the Company”) provides its activities report for the quarter ended 30 September 2017.

## 1. Kanyika Niobium Project

### 1.1 Mining Development Process

Negotiations with various regulators, stakeholders and other parties are ongoing in regard to developing the Kanyika project. Various options for project development are being considered. Financing options are progressing and co-development opportunities are being actively explored.

### 1.2 Exploration Activities

No exploration activities were undertaken this quarter.

Work was focussed on assessment of project financing, partnership and design options.

## 2. Strategic Review

Globe is undertaking a strategic review of business and global investment opportunities outside of the mining and metals industry.

The strategic review has identified the burgeoning trade in agricultural products, and food and beverage between Australia and China as a key area of interest and focus, due to its growth opportunities and for the fact that it is considered a good fit with the Company’s networks and capabilities.

Globe has and continues to review a number of investment opportunities in this area. Shareholders will be updated on developments as they occur.

## 3. Corporate

### 3.1 Cash at Bank

Cash at bank for the Company remains robust with A\$10.865 million at bank on call or in term deposit.

### 3.2 Options

As at 30 September 2017, share options remaining on issue are as follows:

Grant Date	Expiry Date	Number	Exercise Price
2 July 2013	30 June 2018	1,000,000	\$0.15
2 July 2013	30 June 2019	1,000,000	\$0.20
2 July 2013	30 June 2020	1,000,000	\$0.25
		<b>4,000,000</b>	

During the quarter, 1,000,000 share options having an expiry date of 2 July 2017 expired.

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#### 4. Chiziro Graphite Tenement

During the quarter ended 30 September 2017, the Company made the decision to relinquish the Chiziro tenement.

The decision to relinquish was based on a thorough review of the Project economics, and a consideration of the investment required to progress the project. By the Company's assessment, advancement of the Chiziro Graphite Project to a decision to mine would have involved considerable risk and required a major investment that is not justified based on the Project's projected returns and when compared to the Company's Kanyika Niobium project.

In addition, graphite is a non-strategic and relatively common commodity in a competitive market where current producers have ample capacity to increase production at incremental capital costs, and where many new project opportunities abound, often with better project metrics.

It is for these reasons that the Company decided not to argue for renewal but rather to relinquish the Chiziro project tenement.

#### 5. Niobium Demand

The use of niobium in rechargeable batteries is an exciting development for niobium. And just one of many new applications that has been developed or proposed for niobium.

The following is a press release issued by Toshiba Corporation on 3 October 2017.

#### Press Release

##### Toshiba Develops Next-Generation Lithium-ion Battery with New Anode Material

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- **New battery realizes driving range of electric vehicles boosted to 320km on 6-minute, ultra-rapid recharge, triple that possible with current lithium-ion battery.**
- **New anode material, titanium niobium oxide achieves double the capacity of the anode of current lithium-ion batteries.**

3 Oct, 2017

TOKYO—Toshiba Corporation (TOKYO: 6502), an industry leader in lithium-ion battery technology, today announced the development of its next-generation SCiB™, which uses a new material to double the capacity of the battery anode. The new battery offers high- energy density and the ultra-rapid recharging required for automotive applications, and will give a compact electric vehicle (EV) with a drive range of 320km\* after only six minutes of ultra-rapid recharging—three times the distance possible with current lithium-ion batteries.

Toshiba launched the SCiB™ as a safe, long-life, fast charging lithium-ion battery in 2008. Since then, the company has constantly refined the technology and improved real-world performance. For its next-generation SCiB™, Toshiba has developed a titanium niobium oxide anode material that has double the lithium storage capacity by volume of the graphite-based anodes generally used in lithium-ion batteries.

The new battery also offers high energy density and ultra-rapid recharging characteristics, and its titanium niobium oxide anode is much less likely to experience lithium metal deposition during ultra-

rapid recharging or recharging in cold conditions—a cause of battery degradation and internal short circuiting.

Toshiba's current SCiB™ employs a lithium titanium oxide anode, and is known for excellent operating characteristics in respect of safety, long life and rapid charging. It has found wide use in vehicles and industrial and infrastructure applications, including automobiles, buses, railroad cars, elevators and power plants. The high energy density of the battery, and its rapid recharging, have made important contributions to enhancing the convenience and promoting the spread of EV.

Building on this heritage, Toshiba has developed a proprietary method for synthesizing and disarranging crystals of titanium niobium oxide and storing lithium ions more efficiently in the crystal structure. The anode of the next-generation SCiB™ realized through this approach has double times the capacity of the anode of current lithium-ion batteries.

“We are very excited by the potential of the new titanium niobium oxide anode and the next-generation SCiB™,” said Dr Osamu Hori, Director of Corporate Research & Development Center at Toshiba Corporation. “Rather than an incremental improvement, this is a game changing advance that will make a significant difference to the range and performance of EV. We will continue to improve the battery’s performance and aim to put the next-generation SCiB™ into practical application in fiscal year 2019.”

Rigorous testing of a 50Ah prototype of the new battery has confirmed that it retains the long-life cycle, low-temperature operation, excellent safety and rapid recharging characteristics of the current SCiB™. The energy density by volume of battery is twice that of the current SCiB™. The next-generation SCiB™ maintains over 90% of its initial capacity after being put through 5,000 charge/discharge cycles, and ultra-rapid recharging can be done in cold conditions, with temperatures as low as minus 10°C, in only ten minutes.

Toshiba will continue to develop higher energy density batteries that extend the range of EVs and support ultra-rapid recharging, and aims to commercialize the next-generation SCiB™ in fiscal year 2019.

Part of the research work on the next-generation SCiB™ was subsidized by Japan’s New Energy and Industrial Technology Development Organization (NEDO).

## 6. Schedule of Mineral Tenements as at 30 June 2017

	Project	Status	Tenement	Interest held by Globe
Malawi	Kanyika	Granted	EPL0421/15 ML*	100%
	Chiziro	relinquished	EPL0299/10R	0%

ML\*- ID number pending completion of DA negotiations

EPL – Exclusive Prospecting Licence (Malawi)

L – Exclusive Prospecting Licence (Mozambique)

**END**

**Contact:**

**Alistair Stephens**

Managing Director

Globe Metals & Mining Ltd

Tel: +61 (0) 8 9328 9368