



## Acquisition of advanced graphite asset in Malawi Exploration target of 15-20Mt @ 5-10% graphite<sup>1</sup>

Globe Metals and Mining (“**Globe**” or the “**Company**”; ASX: GBE) is delighted to announce that it has entered into an agreement to acquire the Chiziro Project, an advanced graphite project in Malawi.

### Highlights – Technical

- **2,020sqkm licence – two projects and 12 individual graphite deposits (all at surface)**
- **Previously reported resource estimates at Chiziro (1995) not considered sufficiently reliable at present to enable Globe’s technical team to report a JORC resource**
- **Graphite a strategic mineral in high demand, with advanced technology applications such as lithium-ion batteries (some crossover with REEs)**

### Highlights – Commercial

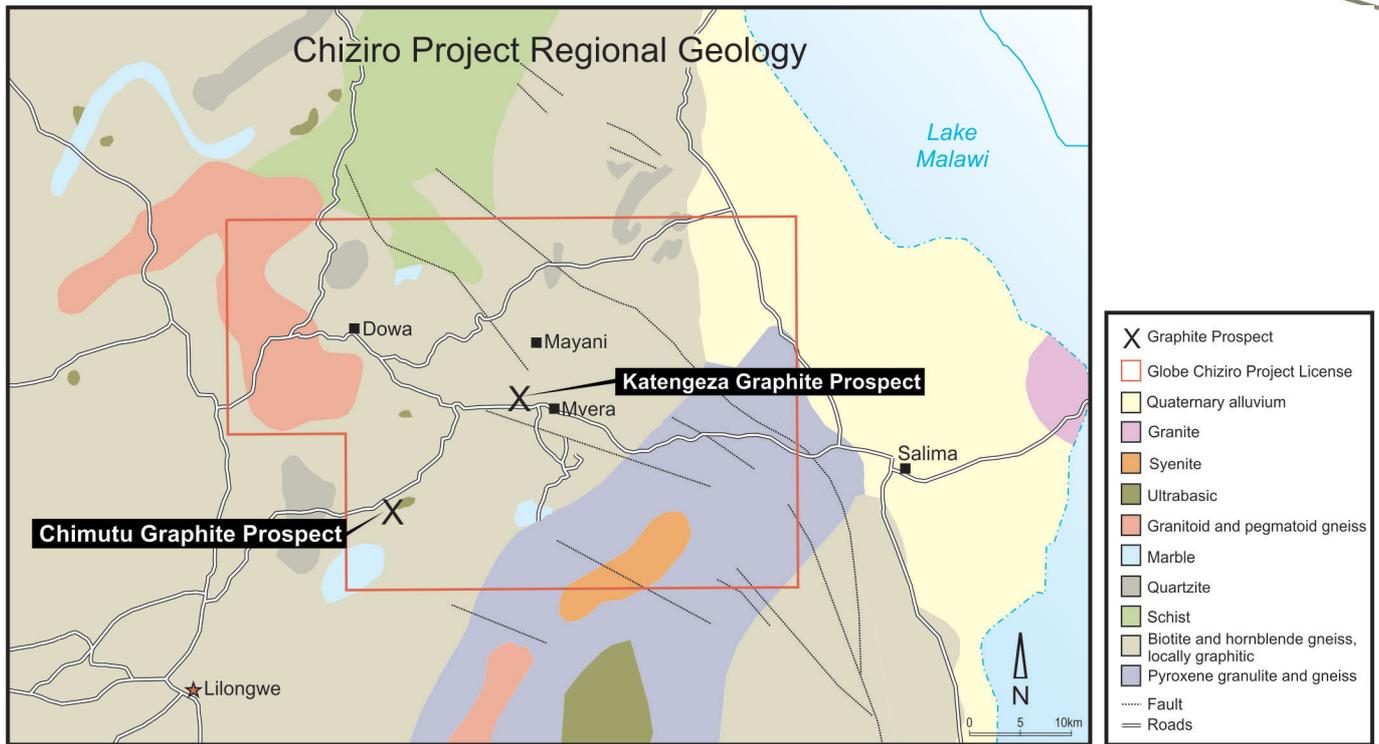
- **Market size approx. 1Mt p.a graphite (equiv. nickel)**
- **Consolidates Globe’s already strong position in Malawi (Kanyika Niobium Project currently in DFS and 2 REE projects)**
- **Acquisition of 100% of project for US\$80,000 plus current year expenses**
- **Globe’s cash at bank currently >\$31 million**
- **China dominates graphite production and consumption – Globe’s partnership with ECE positions the Company to leverage Chinese finance, partners and technology**
- **Transaction subject to due diligence and usual governmental approvals**

Globe’s Managing Director, Mr. Mark Sumich, commented “graphite is not only a highly sought after commodity at present, but it was a natural acquisition for the Company, both in terms of its location in Malawi and the crossover with REEs in relation to the more advanced technological applications.”

“Chiziro compares very favourably with the assets of other notable listed graphite companies such as Syrah Resources (ASX: SYR) and Energizer Resources (TSX: EGZ) – a great deal of historical exploration has already been carried out at Chiziro, which has enabled us to announce the exploration target of 15-20Mt graphite.”

<sup>1</sup> *The exploration target is conceptual in nature; it is uncertain whether further work will result in a mineral resource (required standard ASX Listing Rule disclosure re: exploration targets).*





## Overview

Exploration for graphite has been conducted within the lease area previously and there are two main areas of graphite mineralisation that were identified in the pre-independence era and these are the Katengeza and Chimutu prospects respectively and are considered the two premium graphite prospects in Malawi. In addition to the abovementioned prospects, Globe’s exploration personnel are confident of locating further graphite prospects within the lease area.

The Katengeza deposit was identified by the British and has been the subject of several studies by Malawian government agencies since. “The Geology and Mineral Resources of Malawi” (2<sup>nd</sup> Revised Edition) – 1973 reports that at Katengeza, “Systematic pitting and trenching along about 700m of this zone revealed a content of 5% graphite over a width of 75m. There are indications that the zone persists for several kilometres so that the existence here of a very large graphite (sic) may be inferred.”

Furthermore, the Malawi Department of Mines in 1994 completed a feasibility study of the Katengeza prospect and reported a “flake graphite at an average grade of 4.2% is available in residual soils overlying the graphite gneisses and schists at Katengeza, Dowa district.”

The most recent investigations at Chimutu were completed in 1995 by Canadian company Cachet Limited in a joint venture with Malawi-based company, Industrix Limited. Cachet, in their 1995 report, “Geological Evaluation of the Chimutu Graphite Deposit, Central Province, Malawi, Africa”, details the geology and mineralisation of 11 graphite occurrences that they evaluated for graphite potential.

Of the 11 graphite-rich zone identified at Chimutu, Cachet Limited considered the “Chisale’s No 1 ore body” to be the most significant with a strike length in excess 550m of strongly graphitic schist and another approximately 1,900m of lesser graphitic schist.

**It is important to note that whilst the reports referred to above detail reserves and resources for both Katengeza and Chimutu, none are compliant with either a NI43-101 or the regulations as stipulated by JORC and consequently are not quoted here.** The reports also refer to “ore bodies” and “ore grade” and whilst these terms were considered acceptable at the time, they have been discounted here for the reasons given in the previous sentence.

Despite the above, based on the extent of graphite mineralisation detailed in these quoted reports it is in the opinion of Globe’s exploration personnel that there is the potential for a combined exploration target of 15Mt – 20Mt grading 5-10% C (graphite) across at least 12 zones of graphite mineralisation. This estimate is based primarily on mapping, rock chip sampling and trenching completed by previous exploration companies and until thorough evaluation work is completed by Globe, these remain conceptual exploration targets.

## Geology and Mineralisation

Based on the geological synthesis completed by Little Belt Consulting services on behalf of Cachet Limited in 1995, the majority of the lease area is underlain by a variety of Proterozoic gneiss and schist (granulite facies), quartzite and marble intruded in part by felsic and alkalic rocks, mainly syenite and also there are pegmatite and lamprophyre dykes. In the areas of graphite mineralisation the rocks comprise quartz-feldspar-biotite±hornblend±graphite gneiss. Graphite is ubiquitous throughout this sequence of gneiss; however, there are areas where thick graphite-rich lenses develop and these are the areas of economic interest and are the areas that have been targeted by explorers in the past. There is an overall northeast-southwest strike to gneissic rocks.

There is some surface enrichment of graphite within the weathered horizon; however the bulk of the potential mineralised deposits are within the underlying gneiss.

In the northeast of the tenement area the Proterozoic rocks are covered by Quaternary alluvium.

The “Chiziro Project Regional Geology” figure (above) summarises the geology and structure of licence area.

## About the Agreement

Globe has agreed to acquire 100% of the Chiziro Project (Malawi EPL #0299/10) from Fergie Minerals and Metals Limited for US\$80,000, plus current year costs including rents. The agreement is subject to an exclusive 14 day due diligence period, and settlement can be deferred for up to 90 days in order to obtain the consent of the relevant government departments to the sale of the licence.

## About Graphite

Global **graphite consumption** is approximately 925,000tpa, comparable to nickel consumption. **Price** is dependent on graphite **flake size** and purity and currently varies between approximately USD800/t for graphite powder to USD3,000/t<sup>2</sup> for coarse flake graphite. With respect to **graphite production** China dominates the world graphite market. Based on the rate of China’s and India’s industrial expansion, global graphite consumption is expected to rise by +5% per annum based just on current graphite uses, without taking into account where graphite research and new developments will potentially greatly increase demand. The table below summarises global production in 2011.

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<sup>2</sup> <http://www.indmin.com/Default.aspx>

**Table 1: Global Graphite Production & Reserves 2011<sup>1</sup>**

Country	2011 Production <sup>2</sup>	%	Reserves <sup>2</sup>	%
Brazil	76	8.2	360	0.47
Canada <sup>3</sup>	25	2.7		
China	600	64.9	55000	71.43
India	140	15.1	11000	14.29
Madagascar	5	0.5	940	1.22
Mexico	7	0.8	3100	4.03
North Korea <sup>3</sup>	30	3.2		
Norway <sup>3</sup>	2	0.2		
Romania <sup>3</sup>	20	2.2		
Sri Lanka <sup>3</sup>	8	0.9		
Ukraine <sup>3</sup>	6	0.6		
Others	6	0.6	6400	8.31
<b>Total</b>	<b>925</b>		<b>77000</b>	

<sup>1</sup>Source USGS Commodities Report, 2011; <sup>2</sup>Denotes '000t; <sup>3</sup>Reserves included in Others

Graphite is a naturally occurring mineral consisting entirely of carbon. Its **favourable properties** are as follows: almost fully resistant to chemical attack; remains stable to in excess of 3,600°C; highly conductive of both heat and electricity

**Current/traditional uses for graphite** include steel industry, alloying etc. (52%); an ingredient in refractory kiln bricks; high capacity electrodes, e.g., those used in electric arc furnaces for melting scrap iron; liners for ladles and crucibles used for containing molten metals; solid lubricants; traditional dry batteries; pencils; brake linings for trucks and automobiles.

Some of the more **recent and exciting technological developments and applications** for graphite include:

- Lithium Ion Batteries are increasing their battery market share as efficiency improves. There is ten times more graphite than lithium in a Lithium Ion Battery. Estimated graphite consumption for these batteries alone is 286,000t by 2020.
- Electric Vehicles – Pure EVs use 20-25Kgs/car. The USA aims to have 1,000,000 EVs on the road by 2015
- Pebble Bed Nuclear Reactors are the new generation with uranium embedded in graphite balls. Every 1,000MW generated requires approximately 1,000 tonnes per annum C.
- Graphene is a 21<sup>st</sup> Century 'Sci-Fi' discovery comprising material one atom thick but super strong with potential for the military, superconductors, biotech, replacing carbon fibre technology,

Catalysts (replacing PGMs and more efficient), conductive coatings applications. 200x stronger than steel.

- Megapower storage and generation. This is noiseless, with harmless emissions. Potential to consume more graphite than all other uses put together.

See [http://www.energizerresources.com/images/egz\\_gam\\_120628.pdf](http://www.energizerresources.com/images/egz_gam_120628.pdf) for a recent interesting article on graphite.



## About Globe Metals & Mining

Globe is an African-focused resource company, specialising in rare metals such as niobium, tantalum and rare earths, as well as other commodities including fluorite, uranium and zircon. Our main focus is the multi-commodity Kanyika Niobium Project in Malawi, which will produce ferro-niobium, a key additive in sophisticated steels.

Globe also has a number of other projects at an earlier stage of development: it owns 100% of the Machinga Rare Earth Project in southern Malawi, and the Company can earn up to a 90% interest in the Mount Muambe REE – Fluorite Project and the Memba Titanium – Iron Project, both in Mozambique.

Globe's corporate head office in Perth, Australia is supported by African offices in Lilongwe, Maputo, Tete and Nacala. The Company has been listed on the ASX since December 2005 (Code: GBE).

In April 2011, the Company entered into a strategic partnership with East China Mineral Exploration and Development Bureau (ECE), a Chinese State Owned Enterprise with extensive mining operations in China and overseas. ECE is now the largest shareholder in Globe, and a key partner for Globe's growth ambitions in Africa.

*The information in this presentation that relates to Globe Metals & Mining (ASX:GBE) is based on information compiled, reviewed or prepared by Mr. Fergus Jockel, Exploration Manager for Globe Metals & Mining, who is a Member of the Australasian Institute of Mining & Metallurgy and of the Australian Institute of Geoscientists. Mr. Jockel has sufficient experience, which is relevant to the style of mineralization and type of deposits under consideration and to the activities undertaken, to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code). Mr. Jockel consents to the inclusion in this presentation of the matters based on this information, in the form and context in which they appear.*

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