

## PROGRESS REPORT

Black Rock Mining Limited (**Black Rock**) via its Tanzanian subsidiary, Mahenge Resources Ltd (**MRL**) is well advanced in progressing the development of the world-class Mahenge Graphite Project (**Mahenge Project** or **Mahenge**). Since mid-2017 MRL has delivered a Pre-Feasibility Study, an Optimised Pre-Feasibility Study, a Definitive (Bankable) Feasibility and an *Enhanced* Definitive (Bankable) Feasibility Study (**eDFS**). These studies have involved demonstrating project metallurgy through operating the largest, and the second largest pilot plants ever run for a graphite project globally. Concentrate from these pilot plants has been used to develop market interest to support financing and project development. To date Black Rock's investors have invested over USD \$22.5m into the Mahenge Project.

The development of the Mahenge Project requires a capital spend of USD\$140 million, which Black Rock needs to raise from its shareholders and project financiers. Discussions with both international and local project financiers are being pursued, we have formally engaged with Tanzania Investment Bank (**TIB**) and Tanzania Investment Centre (**TIC**) to assist with in-country matters and local funding requirements. Engagement with the local community has progressed well, with completion of the Resettlement Action Plan (**RAP**) in October 2020. To date, all potential debt investors have indicated that engagement with a cornerstone non-Chinese Offtaker is a condition precedent to financial closure.

Black Rock has engaged with POSCO of Korea as a potential cornerstone investor and Offtaker for Mahenge. POSCO is one of the world's largest anode manufacturer for Lithium Ion Batteries. POSCO has completed Due Diligence and is satisfied with the technical merits of the project and the quality of the trial concentrate. POSCO is considering an investment of \$USD 7.5m to complete detailed design and to produce a commercial scale concentrate sample. This sample is to be processed into battery anode material for distribution to POSCO's customers for final customer qualification.

Having progressed key project third-party workstreams to near completion (including product marketing and construction terms), clarity on certain critical in-country matters are now required in order to finalise finance and commence construction of the Mahenge Project by May 2021 for planned production in 2021/22. Resolution of in-country issues is fundamental in order for Black Rock to seek to raise equity capital for the Mahenge Project. If this is not resolved in early 2021, a lack of available funds will unfortunately force Black Rock to further delay project development.

The purpose of this discussion paper is to highlight potential resolution to the critical in-country matters, and to develop a shared pathway to development.

### PROJECT UPDATE

The global graphite market is undergoing profound change, a consequence of the rapid growth of the Lithium ion Battery (**LiB**) battery market, a consequence of the electrification of transport, and demand for renewable energy storage. Graphite is used as an anode material in the LiB, and Mahenge graphite is considered an ideal feedstock due to its purity and flake size.

Five features drive the graphite market structure:

- LiB is currently the dominant technology for batteries, however, alternative technologies, such as polymer, silicon and solid-state batteries are rapidly advancing. It is likely that within 25 to 30 years (or sooner) the LiB battery will become technologically obsolete. At this point graphite demand for battery use will fall. Therefore the window for the development of the Tanzanian Graphite industry may be very small.
- Mahenge is characterised by a large portion of large flake graphite. Large flake has traditionally been limited in availability, and is in demand for the rapidly growing “expandable graphite” market. This market includes fire retardants, seals & gaskets, thermal management and friction products. An abundance of large flake currently affords Mahenge a unique market entry strategy while the market for small flake is developed.
- Graphite end users modify their factories to suite and individual mine’s product signature. This process requires sequential trials, with product sent to customers for detailed testing before final approval and long-term offtake agreements can be established. Once an Offtaker has qualified a unique mine signature, it is very difficult to introduce alternative supply. That is, once a market has been lost to a competitor, it unlikely such a decision can be reversed without significant and prolonged discounting. Therefore the window of for development of the Tanzanian Graphite Industry may be small.
- Historically, China has dominated the global graphite market and until recently has held +80% market share. China is now transitioning to imported graphite supplies. Since mid 2017, Mozambique and Madagascar have rapidly developed mines and exports, and have secured significant market share at the expense of Tanzania (see Table 1). Both countries continue to develop new mines and increase market share at Tanzania’s expense. Increased production from these new sources has already impacted market pricing (see Fig 1).
- Geologically graphite is not a scarce mineral. Abundant resources occur in China, Mongolia, Madagascar, Mozambique, Norway and Canada. A significant number of development stage projects exist outside of Tanzania. Mahenge’s advantage lies in its combination of clean product, a function of geology and geography giving access to ports and railways. Delays in developing the Mahenge Project will allow other projects to develop, as will the infrastructure supporting these projects further eroding Mahenge’s current competitive position.

#### Chinese Graphite Imports July – August 2019

*(Pre-Covid impact)*

	<b>Jul tonnes</b>	<b>Aug tonnes</b>
Mozambique	17,419.0	8,484.2
Madagascar	2,286.0	1,544.0
Tanzania	-	324.0
USA	10.1	-
Namibia	-	183.0
Vietnam	-	25.0
Germany	-	15.0
Japan	1.2	9.1
China	-	0.9
Taiwan	-	0.4
UK	-	0.3
Canada	-	0.0
<b>Total</b>	<b>19,716</b>	<b>10,586</b>
<b>Annualised</b>	<b>236,596</b>	<b>127,031</b>

Source: RefWin.com

Table 1 Chinese import data

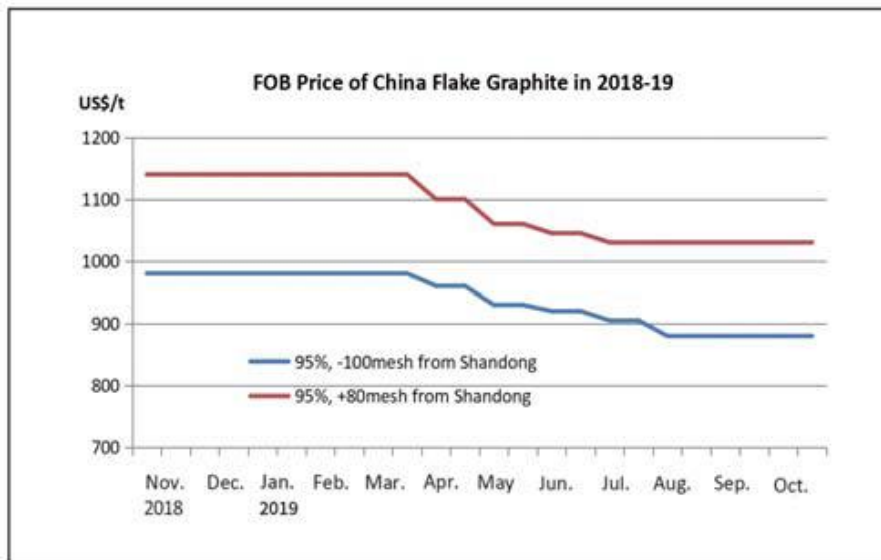


Figure 1 Chinese Export Pricing \$USD FOB Shandong

(Pre Covid)

Source: RefWin.com

**MAHENGE DEVELOPMENT MODEL AND BENEFITS**

Black Rock intends to develop the Mahenge Project to world-class standards and for the long-term benefit of all project stakeholders, including local communities, and the Tanzanian economy (employment, taxation, royalties, local content). With respect to environmental/social/governance (ESG) matters, Black Rock is developing the Mahenge Project to IFC Performance Standards, including the Equator Principles, and has engaged Tanzanian advisors to oversee it with this.

Black Rock’s eDFS (July 2019) details a project with an initial operating life of at least 26 years. We are intent on establishing excellent relationships with all relevant Tanzanian stakeholders from the outset. Black Rock fully understands the commitment of the local regulatory regime and legislation with respect to mining project development in Tanzania, and the general expectation that benefits will be shared amongst all stakeholders.

Black Rock considers that in working closely and collaboratively with the Tanzanian Government that the Mahenge Project can be established as a model of project development to be emulated by other projects and countries – a ‘win-win’ for both Black Rock and Tanzania. Black Rock envisages Tanzania using the Mahenge Project development model to promote investment in Tanzania generally.

Black Rock’s current estimates of the expected benefits directly flowing to Tanzania from development of the Mahenge Project are c. US\$3.6 billion (assumes a long term graphite price of \$1,301/t FOB Dar es Salaam as per eDFS) and includes dividends, taxation, royalties and clearance fees. The Mahenge Project will employ up to 320 Tanzanian construction workers and a total of c.970 full-time Tanzanian employees for the long 26-year mine life once commissioned, greatly enhancing the regional economy around the Ulanga Mahenge district. The estimated benefits to the Tanzanian economy are set out in table 2 below.

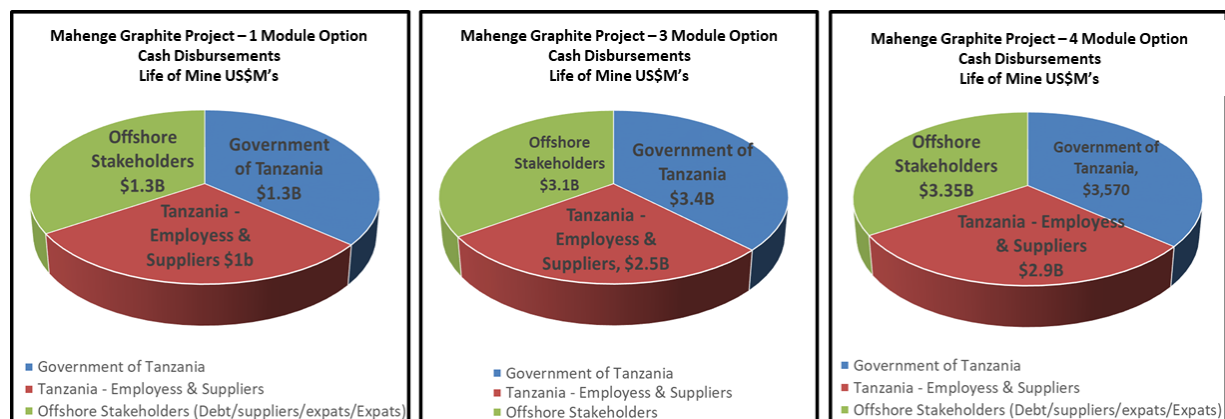
In order to build Mahenge, and to deliver the significant benefits to Tanzania, Black Rock will need to raise by way of debt and equity approximately USD \$140m for construction and working capital. This investment is considered risk capital and must be raised from our shareholders and potential lenders, such as banks and specialist debt funds. Debt investors require debt to be repaid prior to dividends being made available to shareholders, this would include the GoT's shareholding.

### Government of Tanzania Payments – Life of Mine – One, Three and Four Module Options

Government of Tanzania Payments LOM - (real)	US\$M's	US\$M's	US\$M's
Corporate Tax	\$ 610	\$ 1,630	\$ 1,730
Dividend - Tanzania 16%	\$ 225	\$ 610	\$ 640
WHT - Parent Co Interest/Dividend	\$ 125	\$ 330	\$ 350
Royalty	\$ 110	\$ 270	\$ 290
FOB & Port Handling Costs	\$ 60	\$ 150	\$ 170
Transport Rail Costs	\$ 60	\$ 140	\$ 150
Handling Fee 1%	\$ 40	\$ 90	\$ 100
Salaries Nationals /Locals - PAYE /Pension/ Skills Levy	\$ 90	\$ 150	\$ 140
Salaries Expats - PAYE/Skills Levy	\$ 10	\$ 10	\$ 10
<b>Total Payments to Govt of Tanzania</b>	<b>\$ 1,330</b>	<b>\$ 3,380</b>	<b>\$ 3,580</b>

Table 2 Government of Tanzania project benefits

In addition to this are the significant indirect benefits expected to flow from other associated factors such as enhanced workforce education, employment multipliers and local technological and knowledge leadership in the global graphite industry. Black Rock plans to provide significant training to all employees, including education in health, safety protocols and technical and job related skills. An outcome of this investment in training, is to progressively transition to a predominantly local management team.



Payments to Stakeholders - LoM (real)	1 Module US\$M's	3 Modules US\$M's	4 Modules US\$M's
Government of Tanzania	\$ 1,315	\$ 3,370	\$ 3,570
Tanzania - Employees & Suppliers	\$ 1,030	\$ 2,520	\$ 2,920
Offshore Stakeholders (Debt/Suppliers/Investors)	\$ 1,300	\$ 3,130	\$ 3,360
<b>Cash Payments - Total</b>	<b>\$ 3,645</b>	<b>\$ 9,020</b>	<b>\$ 9,850</b>

Figure 2 The Mahenge Graphite Project will make significant contributions to Tanzania increasing as each stage is constructed

In the absence of a successful development of the Mahenge Project, the vast majority of these benefits are highly unlikely to accrue. The Black Rock team has the mine development experience that can deliver these benefits.

### **Resettlement Action Plan (RAP)**

In October 2020, the company completed community engagement associated with RAP. The Company was formally advised that the RAP submission to the Office of the Chief Government Valuer has been accepted and approved. Total compensation payable to affected persons is around \$5.8m USD. This payment will be made available once we have finance which is contingent of completion of the Free Carried Interest agreement.

A 100% acceptance rate for RAP is a very clear statement of the desire of the Mahenge community to see the project developed and to receive the associated benefits of the development in terms of jobs and improved economic conditions. The company is committed to a positive legacy of community engagement, and with a 26 year mine needs to long term perspective on a sustainable platform of community engagement.

A significant advantage of the Mahenge project is the pool of potential employees in the Mahenge area. This means the very people who impacted the most, also have the most to gain. While the project is not able to employ everyone who wants a job, the project is determined to leave a positive and sustainable legacy in the community through local procurement and improved skills.

### **TAZARA / TAENCO / Port of Dar es Salaam**

An important competitive advantage of the Mahenge Project is its access to infrastructure in the form of power through TANESCO and logistics through TAZARA and the Port of Dar es Salaam. With all four modules operating the project is expected spend approximately \$20m USD per annum on power, \$7.5m USD on rail haulage, and \$8.0m USD for Port export services. This is a material contribution to the financial parastatal entities, who in general terms will incur very little of additional costs to earn this income.

### **FINANCING**

The global mining project finance market is a mature market and dominated by particular international banks and specialist mining funds. Black Rock has discussed the Mahenge Project with many such financiers. It is generally acknowledged that the Mahenge Project, from a geological/technical/size perspective, is world-class.

However, discussions with these potential financiers have also highlighted that clarity is required with respect to aspects of legislative and regulatory environment in order to achieve successful funding and therefore development of the Mahenge Project. The achievement of such clarity would significantly increase the likelihood that Black Rock can successfully attract cornerstone investors and Offtakers and finance the Mahenge Project using traditional, lower-risk project financing instruments. Using this type of funding will reduce the cost of funding which will leave more of the proceeds from the Mahenge Project to be shared amongst stakeholders.

In the context of collaboratively developing a model of Tanzanian mining project development, Black Rock would appreciate the opportunity to accelerate discussions and resolve these matters with Government. In doing so we would achieve the mutual objective of delivering a Resources Project Investment model suitable for other projects. Such an outcome could significantly accelerate inbound investment for Tanzania.

Ideally the next step would be for the expeditious appointment of a relevant point-of-contact with sufficient delegated authority and support and to facilitate concluding arrangements with Black Rock. This could then be ratified by the executive, thus enshrining the development model with Government.



## **NEXT STEPS**

Black Rock believes with the pending agreement as to the mechanics of the 16% and 5% interests, the outcome will materially enhance the finance ability of the Mahenge Project. This would enable the benefits outlined earlier to accrue to all stakeholders and present the Tanzanian Government with a successful mining investment promotion model.

If sufficient authority can be delegated to a Government point-of-contact and/or working group, we would endeavour to deliver a successful project investment model to support the 2017 changes to the Mining Laws of Tanzania.