GBR

GLOBAL BUSINESS REPORTS

MACIG

THE OFFICIAL MINING IN AFRICA COUNTRY INVESTMENT GUIDE

Kings of Copper

An exclusive look at investing in DRC and Zambia

MACIG 2016

PRE-RELEASE EDITION

Dear Readers,

The Central African Copperbelt is home to one of the world's largest copper and cobalt resources. The 450-kilometer strip extends from Zambia's Copperbelt province through the Democratic Republic of Congo's (DRC) mineral-rich Katanga province. While the geological wealth of both nations is beyond doubt, there are several challenges for miners looking to set up shop.

Zambia, well known for its political stability, has recently shocked investors by implementing a shake-up of the tax system. The DRC's reputation as a difficult country to do business in has been further compounded by proposed changes to the 2002 Mining Code.

As the countries compete for new investment dollars, decisions around quality of ore body, political stability and development of infrastructure will continue to influence investor decisions. The way in which governments deal with these immediate challenges will shape the long-term sustainability of their mining industries.

This pre-release edition of our thorough research in the Democratic Republic of Congo explores the history, geological potential and complex business environment of the country. We discuss the myriad of challenges investors face and the substantial rewards for those who overcome them. Our researchers are now based in Zambia, profiling in the same manner the opportunities available there, and providing a comprehensive comparison of the African Copperbelt giants.

We want to thank all the company and association leaders who generously donated their time and insights. We look forward to meeting with many more industry players in the coming months, as our team travels across the continent to profile other key investment destinations including Ghana, Mali and Nambia. The release of the final report of The Official Mining in Africa Country Investment Guide will be in February 2016 at the Africa Mining Indaba, in Cape Town, South Africa.

Molly Concannon
Project Director

Nathan Allen
Journalist

Global Business Reports

Coming next,

Following on from our in-depth research in the DRC, the MACIG team is now present in Zambia where we will be conducting further interviews with leading figures from the mining industry.

Stay tuned for our forthcoming pre-release as well as a special feature on ZCCM, including a comprehensive interview with the CEO Dr Pious Kasolo.

If you wish to participate in our research, please contact Molly Concannon locally on +260 (0) 962 486 457 or mconcannon@gbreports.com.

Table of Contents

GBR
GLOBAL BUSINESS REPORTS

Kings of Copper
An exclusive look at investing in DRC and Zambia

Journalist: Nathan Allen
Project Director: Molly Concannon
Additional Research: Katie Bromley

Regional Director, EMEA: Sharon Saylor
General Manager: Agostina Da Cunha

Senior Partner: Mungo Smith
Executive Editor: John Bowlus
Graphic Designer: Leigh Johnson and Gonzalo Da Cunha

Cover Image: Courtesy of DEM Group (DRC)
Geological Maps: Courtesy of Sems Exploration

A Global Business Reports Publication
For updated industry news from our on-the-ground teams around the world, please visit our website at gbreports.com, subscribe to our newsletter by signing up to our VIP list through our website, or follow us on Twitter: @GBReports.

www.gbreports.com

DRC

High grades in the heart of Africa

The DRC's geological wealth has long been well known. In 1892, following initial exploration of Katanga, the Belgian geologist Jules Cornet noted in his diary: "I would not dare to venture a figure concerning the enormous quantity of copper present at the sites I have recently examined: if I did, it would sound all too outrageous and unbelievable." Subsequent missions confirmed that his enthusiasm was entirely justified. While in Chile, the world's largest producer of copper, giant open pit mines are exploiting deposits with average grades of 0.5%, miners in Katanga rarely touch anything below 3%.

In more recent times, the introduction of a clear regulatory framework in the form of the 2002 Mining Code paved the way for a decade of prolonged investment in new projects. Between 2000 and 2014, total copper production rose from around 30,000 mt/y to 1 million mt/y and the country recently overtook Zambia as Africa's largest producer of the red metal.

After seven years as a candidate, the DRC became fully compliant with the Extractive Industries Transparency Initiative (EITI) in 2014. According to the most recent reconciliation report, in 2012, mining generated over $1 billion in revenue for the state and accounted for 88% of total exports. GDP growth in the country reached 8.5% in 2013 and is forecasted to rise to 8.6% in 2015, thanks in part to these increases in mining activity.

Thus far, Congolese mining has largely been a story of two minerals – copper and cobalt – with most of the action taking place in Katanga. Yet, the country has much more to offer.Diamonds in the two Kasai provinces have been exploited by artisanal miners for centuries and there is great potential to mechanize some of these operations. Meanwhile,geologists are hungrily eyeing up deposits of the 'three Ts': tin, tantalum and tungsten and, more recently, copper/gold discoveries have been made in the Bas-Congo, although exploration remains at an early stage.

Many believe that it is this geological diversity that will lead the Congo to future growth. "Most of the success stories in Africa are based around the exploitation of a single commodity: gold in South Africa, oil in Angola and Nigeria," said Josh Foster, general manager of Bell Equipment (DRC). "In contrast, the DRC's wealth is based on a wide range of different minerals."

Foreign media covering the DRC tend to fixate on stories concerning military conflict and civil strife. While itwould be callous toignore the violence, to focus unduly on the fighting is to do the country a disservice. During the course of our research, not one company identified security as a major concern; the violence is generally relegated to a few areas along the Rwandan and Ugandan borders, while most mines are located in the south. From an industry standpoint, there are far more pressing issues: the lack of power, the low quality of transport infrastructure and uncertainty surrounding the new mining code.

There is also the shadow of the forthcoming general election looming over the country. President Joseph Kabila, who has overseen one of the most stable decades in the DRC's history, is obliged to step down when his second term comes to an end in November 2016. However, some fear that when the time comes, he may refuse to leave. In January, anger at proposed legislative changes that would

Ariel view of the Congo River. Photo courtesy of MONUSCO/ Myriam Asmani

have removed the constitutional two-term limit bubbled over into violent protests in Kinshasa, Goma and various other urban centres. For now, the streets are calm and most are cautiously optimistic that elections will be held peacefully.However, many mining houses will be keeping a watchful eye on how the situation develops before giving the green light to new investments.If all goes well, the DRC should see a sudden surge in FDI. If not, it will be a different story. •

"Most of the success stories in Africa are based around the exploitation of a single commodity: gold in South Africa, oil in Angola and Nigeria. In contrast, the DRC's wealth is based on a wide range of different minerals."

- Josh Foster, general manager, Bell Equipment (DRC)

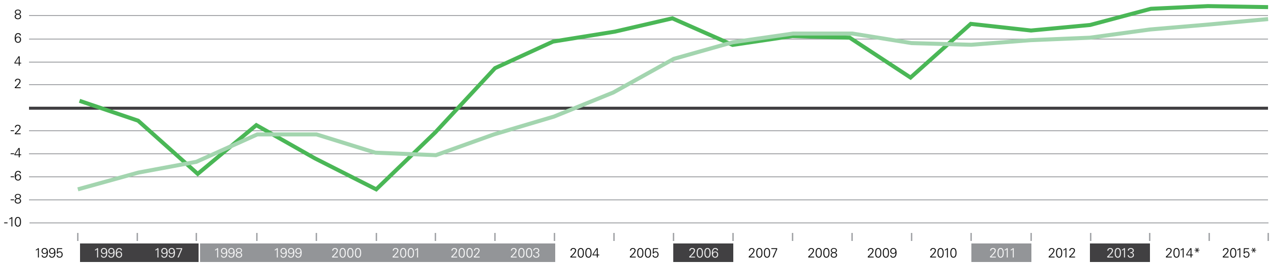
Democratic Republic of the Congo

The Democratic Republic of the Congo gained infamy under Belgium's colonial rule, and the problems caused by this legacy continue to play a role in the sporadic violence that continues to this day. Despite this, there are signs that some regions are significantly improving. The mineral potential of the Democratic Republic of the Congo is among the most exciting in the world. Despite the challenges facing investors, the country is a globally significant producer of cobalt, copper, diamonds, tantalum and tin.

Population: 77,433,744 (July 2014 est)
Land Area: 2,344,858 sq km
Official Language(s): French
Capital: Kinshasa
Chief of State: President Joseph Kabila
Head of Government: Prime Minister Augustin Matata Ponyo Mapon
GDP (PPP): $29.39 billion (2013 est.)
Growth Rate: 6.2% (2013 est.)
GDP per Capita: $400 (2013 est.)
Economic Sector Breakdown: agriculture: 44.3%, **industry:** 21.7%, services: 34% (2013 est.)
Exports: $9.936 billion (2013 est.): diamonds, copper, gold, cobalt, wood products, crude oil, coffee
Imports: $8.924 billion (2013 est.): foodstuffs, mining **and other machinery, transport equipment, fuels**
Major Trade Partners: China, South Africa, Belgium, Zambia, France

GDP GROWTH (%)

SOURCE: WORLD BANK, EIU



First Congo War leads to the installation of Laurent-Desire Kabila as president and the renaming of Zaire to the Democratic Republic of the Congo

Second Congo War, the deadliest in modern African history, officially ends with the establishment of a transitional government, although conflict with the Lord's Resistance Army and the Kivu and Ituri conflicts continues until 2008

First multi-party elections won by Joseph Kabila

Critics claim that constitutional changes make it easier for Kabila to remain in power

M23 troops briefly caputre Goma, the capital of North Kivu province

INFLATION

SOURCE: WORLD BANK

2012 **9.7%**

2013 **1.6%**

TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL

RANK 2013 **154**

RANK 2014 **154**

ALL-IN SUSTAINING COSTS ($/OZ AU)

SOURCE: BANRO CORPORATION Q3 2013 FINANCIAL STATEMENT

1059

AISC is based on the World Gold Council's guidance note of June 2013 and is a metric including all costs related to production plus costs related to sustaining production. Country values represent the average from those companies who make this information available, and is taken from Q3 results.

MINE PRODUCTION

SOURCE: BRITISH GEOLOGICAL SURVEY

as of 2012
in mt unless otherwise stated

Coal (bituminous)	132,000
Cobalt	86,433
Columbite-Tantalite	261
Copper	608,400
Diamond**	20,140,000
Gold**	2,422
Silver**	12,342
Tin	2,462
Tungsten	4
Zinc	5,286

**in carats

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2008 **6.4%**

2013 **4.6%**

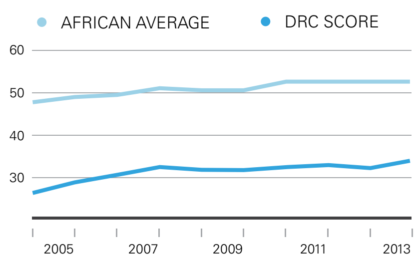
These values do not include artisanal mining. The USGS placed the 2008 value at 13.4% of GDP, and a report by the French Ministry of Foreign Affairs placed the value at 28% in 2011.

FRASER INSTITUTE ANNUAL SURVEY OF MINING COMPANIES

SOURCE: FRASER INSTITUTE

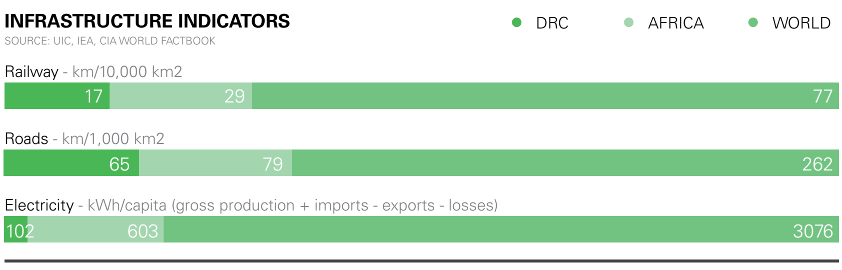
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION



INFRASTRUCTURE INDICATORS

SOURCE: UIC, IEA, CIA WORLD FACTBOOK



BUSINESS ENVIRONMENT RANKING

SOURCE: WORLD BANK, IFC, HERITAGE INSTITUTE, WEF

Name (out of)	2012	2013	2014
Doing Business Rank (189)	178	183	183
Index of Economic Freedom (177)	167	171	-
Global Competetiviness Report (148)	-	-	-

Hon. Martin Kabwelulu

Minister of Mines, Ministry of Minerals, Democratic Republic of Congo (DRC)

"If investors are attracted to the DRC, it is because of our mining code. The code enables the investor to establish and grow operations very quickly."

Mining in the DRC is synonymous with Katanga, but there are significant developments in other provinces, such as Randgold's Kibali project. What is the ministry doing to promote exploration in other parts of the country?

In principle, there is vast mineral wealth across the Democratic Republic of Congo (DRC). We have identified 19 target areas in various provinces that will be explored to understand the geological composition of the mineral resources in those areas, not limited to specific minerals. It is a matter of time, one cannot determine the mineral resources it in one year or two years. It will take four to five years for us to see that the entire nation is richly endowed.

The DRC has diverse wealth, including copper, gold, diamonds, and manganese to name a few and there exists massive potential beyond Katanga, but before companies can begin exploring, we need to understand what is in the ground. We need to know the exact reserves, which will allow us to make informed decisions before we sign new contracts with foreign investors.

Changes to the new mining code are immanent. What impact will the changes have on both new and current investors?

The new mining code will not be very different. The major issue we have at the moment with the current code is the fiscal stability clause. The mining code provides a certain guarantee of stability: the existing tax, customs, exchange and other benefits applicable to mining activities remain in effect for 10 years in favor of each concerned mining title holder in the event that the mining code is amended. Through consultation with current investors, we have agreed that the changes in the mining code, specifically to the fiscal stability clause will not be retrospective, but the ten years will apply and we will continue with the same terms. For new investors, we will reduce the clause to five years.

Infrastructure is the backbone to the development of a prosperous mining sector. What plans are being made to address the infrastructure and energy challenges?

There are two main infrastructure challenges that the government is currently addressing in the DRC. First is the issue of electricity. The pace of growth in the mining sector outpaced energy supplies, resulting in major power shortages. At the moment, there is a deficit of 400 megawatts (MW) to 500 MW in the Katanga province. However in the other provinces, they have not felt an energy crisis, as the mining activities have not accelerated at the same pace. To combat these issues we have authorized mining companies to fulfill their own energy requirements as we await the completion of some major energy projects, such as the Inga and Zongo 2 hydro power plant and Katende hydropower plant. TFM and KCC are working to finish the rehabilitation of the Koni and Mwadingusha hydropower plants. The energy potential of the DRC is comprised of significant hydroelectric resources, which will come to fruition, and we expect to be restore sufficient electricity by 2017.

Transportation infrastructure is also problematic. The movement of minerals exceeds one million metric tons (mt), demanding many trucks, which cannot carry more than 30 mt at a time, and places huge demands on our roads. As a result, we are focused on rehabilitating the Congo railway, the SMCC. The government has already purchased 18 locomotives and is rehabilitating the railways cars as well as the line. Several mining contractors have already signed agreements to utilize it.

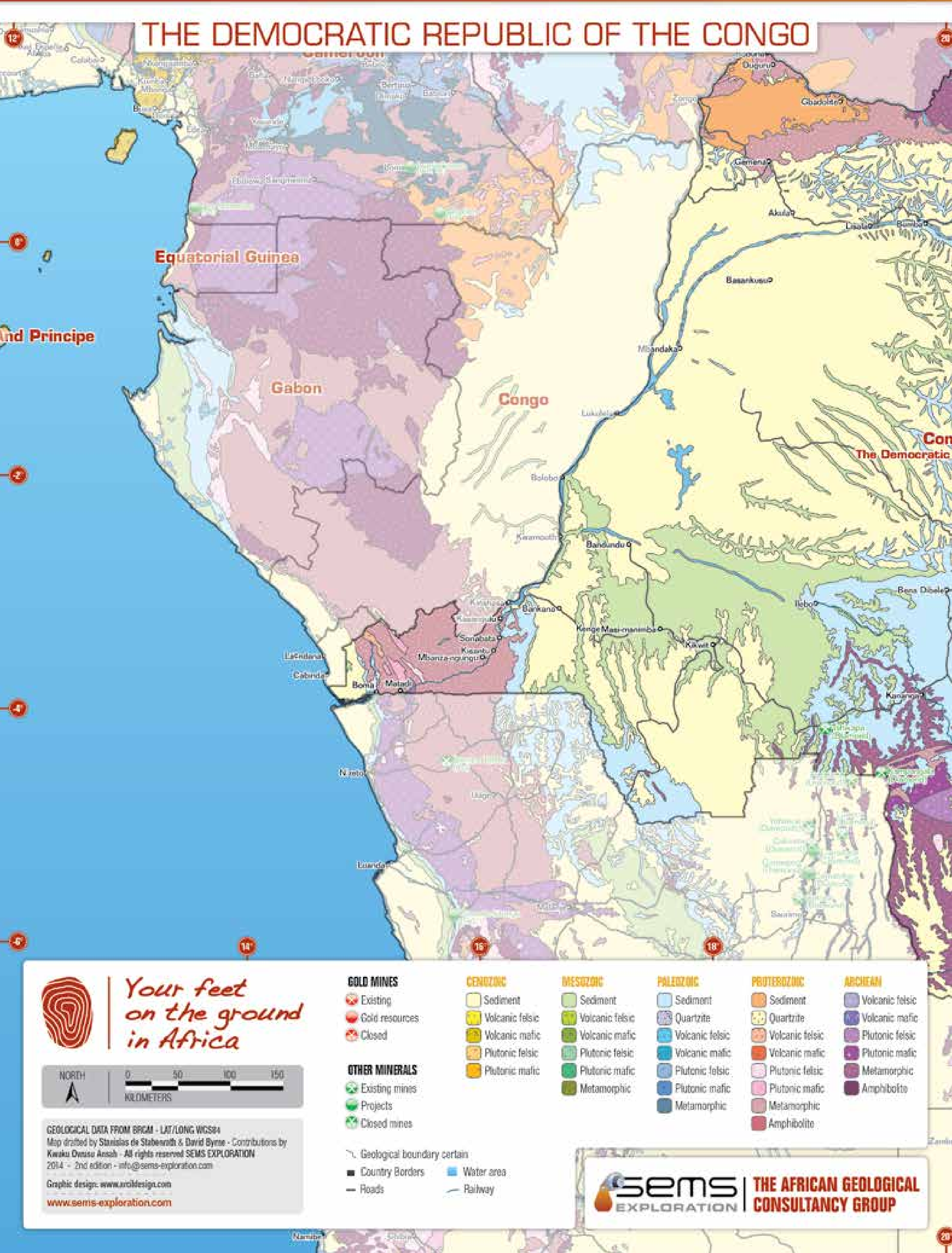
In the south we face a similar issue. The transportation costs are very high to bring manganese to Lubumbashi, but it is possible to export through the Angolan border, past Dilolo, from on Katanga-Benguela railway line. Efforts have been made to rehabilitate the railway and upgrade and improve the Port of Lobito. We understand the urgency, but it will cost more than $500 million.

The DRC's vast mineral resources will continue to attract international interest. What steps is the ministry taking to promote long-term sustainable growth?

If investors are attracted to the DRC, it is because of our mining code. The code enables the investor to establish and grow operations very quickly. We have several tax benefits in place for investors. Import duties at preferential rates for instance, before the effective commencement of exploitation work, all goods and products imported strictly for mining use are subject to import duties at the preferential rate of two per cent, as from the effective commencement of exploitation work, the import duty rate of 5% applies under the same conditions. However, fuels, lubricants, reagents and consumables for mining activities remain taxed at three per cent. There are also exemptions on export duties for mining companies.

The ministry has also developed a streamlined process to obtain mining licenses and generous timeframes to complete exploration activity. For instance, once granted your mining license, a mining company has six months to start activity and five years to confirm significant reserves for production. There is an additional five years granted if the mining company was unable to prove the viability of its asset. •

THE DEMOCRATIC REPUBLIC OF THE CONGO



Your feet on the ground in Africa

NORTH | 0 50 100 150 KILOMETERS

GOLD MINES
- Existing
- Gold resources
- Closed

OTHER MINERALS
- Existing mines
- Projects
- Closed mines

CENOZOIC
- Sediment
- Volcanic felsic
- Volcanic mafic
- Plutonic felsic
- Plutonic mafic

MESOZOIC
- Sediment
- Volcanic felsic
- Volcanic mafic
- Plutonic felsic
- Plutonic mafic
- Metamorphic

PALEOZOIC
- Sediment
- Quartzite
- Volcanic felsic
- Volcanic mafic
- Plutonic felsic
- Plutonic mafic
- Metamorphic

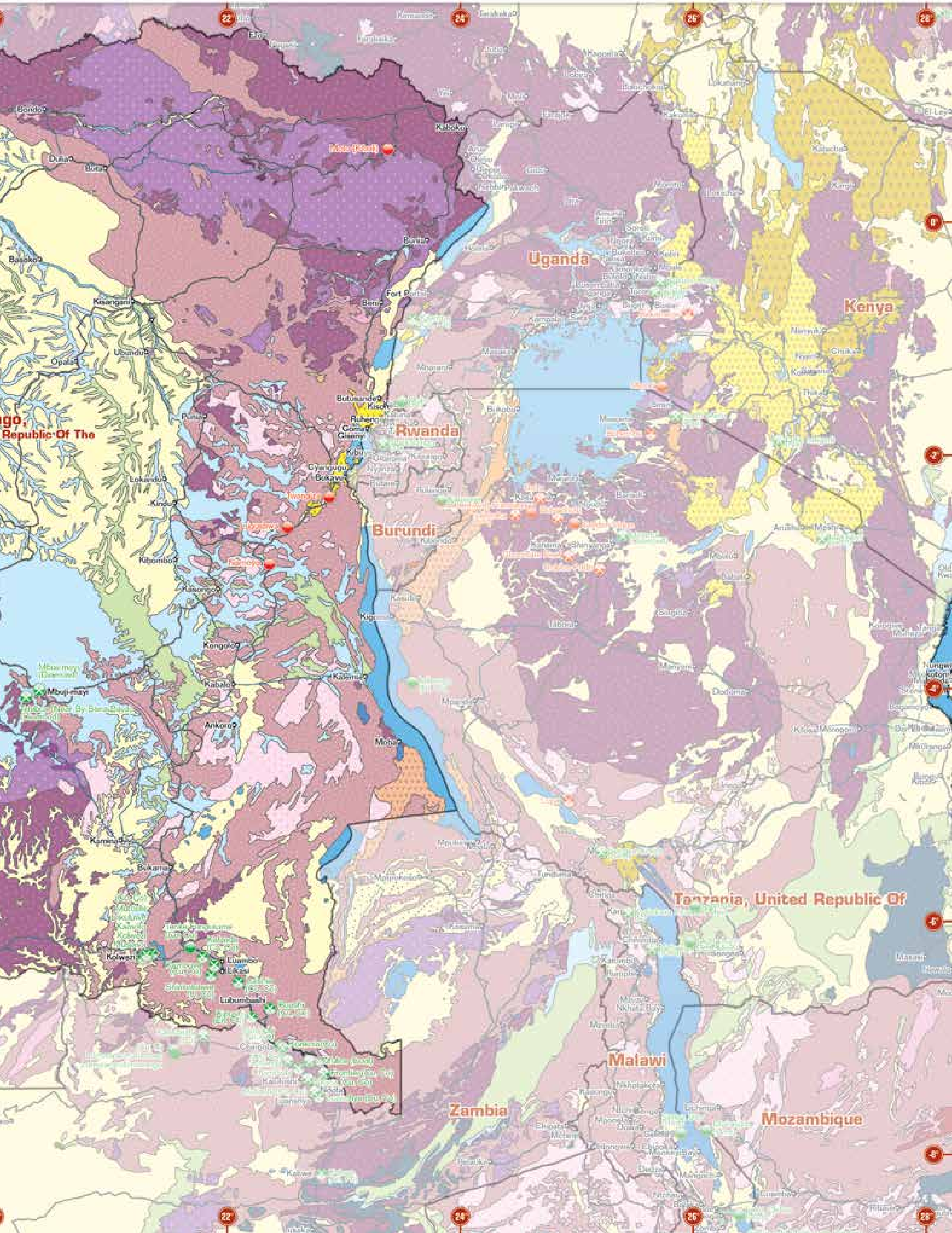
PROTEROZOIC
- Sediment
- Quartzite
- Volcanic felsic
- Volcanic mafic
- Plutonic felsic
- Plutonic mafic
- Metamorphic
- Amphibolite

ARCHEAN
- Volcanic felsic
- Volcanic mafic
- Plutonic felsic
- Plutonic mafic
- Metamorphic
- Amphibolite

- Geological boundary certain
- Country Borders
- Roads
- Water area
- Railway

GEOLOGICAL DATA FROM BRGM - LAT/LONG WGS84
Map drafted by Stanislas de Stabenrath & David Byrne - Contributions by Kwaku Owusu Ansah -
2014 - 2nd edition - info@sems-exploration.com
Graphic design: www.arcildesign.com
www.sems-exploration.com

SEMS EXPLORATION | THE AFRICAN GEOLOGICAL CONSULTANCY GROUP



22°
24°
26°
28°
0°
-2°
-4°
-6°
-8°
Uganda
Kenya
Rwanda
Burundi
Tanzania, United Republic Of
Malawi
Zambia
Mozambique
Republic Of The
Bondo
Kaboko
Buta
Basoko
Kisangani
Ubundu
Opala
Bunia
Beni
Fort Portal
Kampala
Butembo
Kisoro
Ruhengeri
Goma
Gisenyi
Kibuye
Cyangugu
Bukavu
Kindu
Lokandu
Kibombo
Kasongo
Kongolo
Kabalo
Kalemie
Kigoma
Ankoro
Moba
Mbuji-mayi
Kamina
Bukama
Kolwezi
Luambo
Likasi
Lubumbashi
Tabora
Dodoma
Mpanda
Mbeya
Nkhata Bay
Nkhotakota

Photo courtesy of Bell Equipment.

Changing the Mining Code

A fork in the road for the industry

Since 2002, the DRC's mining code has served as a staunch reserve of stability in a country plagued by uncertainty. The combination of the country's unparalleled geology with a transparent regulatory framework proved an attractive combination for investors, and new developments poured in.

At present, miners enjoy certain advantages compared with other industries: corporation tax, which is levied on net profits, is set at 30% rather than the standard 35%. Import taxes stand at 2% for exploration projects and 5% for operational mines, compared to around 15% for general imports. Royalty payments also compare favourably with neighbouring countries, at 2% for non-ferrous metals and 2.5% for precious metals.

However, plans to change the code have brought consternation to the sector.

Politicians feel that while mining has boomed over the past 10 years, tax receipts have not seen a corresponding rise. Miners complain that the politicians do not understand the long-term nature of the industry.

"It is important to remember that a mine is a huge investment that takes between four and seven years of operation before it starts delivering returns to its stakeholders," said Marius Boates, general manager of Ruashi Mining. As the code was only introduced in 2002, several of the mines are only just starting to turn a profit and make a real contribution to tax revenues. As copper prices - and tax revenues - continue to fall, those in power seem to believe that the only way to make up for this shortfall is with a tax hike.

Proposals include an increase in state equity participation in new projects from 5% to 10%, a rise in corporation tax from 30% to 35% and a general increase in royalty payments across all minerals. "Companies already operating in DRC could probably live with the legislation although they would not make any further investment; the only real change would be a hike in royalty payments," claimed Charles Brown, chief operating officer at Tiger Resources. "However, this would have a very negative effect on future investments."

An analysis carried out by the DRC Chamber of Mines suggests that if these changes are enacted then it could set the industry back by 10 years. It has been estimated that return on gold projects would drop to virtually zero. Meanwhile, investors in copper/cobalt projects would stand to earn just 20% of total cash flow over the life of a mine, compared with the government's 80% take.

At present, the Council of Ministers has approved a draft that will be taken forward to Parliament for further debate. This means that there is still an opportunity for miners to lobby the government before the bill is passed into law. There is a strong feeling that there has not been enough consultation with the private sector and that now is not the time to make sweeping changes to the legislation. "If the operating environment here were perfect I do not believe any of the producers would have a problem paying slightly higher royalty rates, but this is not the reality. The DRC suffers from some serious underlying issues so any shakeup to the regulations now will cause investors to think twice before putting their funds here," cautioned Somika's chairman, Chetan Chug.

DOING BUSINESS IN THE DRC

Many investors are wary of entering a country infamous forbureaucracy and corruption. Regulations are often unclear, the political situation is in a state of uncertainty and, admittedly, one still hears of payments going astray and draconian fines being levied for trumped up technicalities. Nevertheless, several reforms instituted over the past few years have helped bring more formality to the DRC.

The first and most far-reaching of these was the country's accession to the Treaty for the Harmonization of African Business Law (OHADA). In existence since 1993, the DRC joined in 2012, making it the 17th member state. The agreement consolidates nine separate aspects of the law into one universal code. In the past, legal practitioners had to make reference to a long litany of confusing and often conflicting laws, some of which date back to the 19th Century. OHADA's nine uniform acts supersede this older legislation and serve as a common reference to ensure that all parties are playing by the same rules.

Several of the OHADA acts have a direct bearing on how foreign companies operate in the DRC. The act governing general commercial law provides a framework for fundamental issues such as contracts. Clear procedures are outlined for companies looking to bring in outside financing, which explain how both investors and banks should act and what documentation is required.

The treaty has also simplified the process of incorporating new companies. Previously, there were five types of commercial companies, many of which were rarely used. OHADA introduced several more practical options. Notable among these is the Société de Action Simplifiée (SAS). While more common francophone organisational denominations, such as SA or SARL, require strict corporate structures, SAS grants a company more freedom to implement a management hierarchy of their choice. This has proved popular with Anglo-Saxon and Chinese investors who are less familiar with the French system.

In the case of dispute, there is a common court of arbitration based in Abidjan, Cote d'Ivoire, which can hear cases from all member states. "This common court facility means that there is now an established body of case law that has been built up over more than 20 years," explained Regina Ayuk, compliance manager at Tiger Resources. "If we have a case here in Lubumbashi then we do not rely solely on resolutions from the DRC, we can draw upon jurisprudence from the 17 member countries, which is of real benefit to all parties."

"If the operating environment here were perfect I do not believe any of the producers would have a problem paying slightly higher royalty rates, but this is not the reality. The DRC suffers from some serious underlying issues so any shakeup to the regulations now will cause investors to think twice before putting their funds here."

- Chetan Chug, chairman, Somika

The second major reform was the introduction of a 16% value added tax (VAT) in 2012. "After VAT was introduced…companies were forced to rapidly become more formal. More and more SMEs are working with banks and routing their funds through the proper channels,"said Louis OdilonAlaugillaume, director southern region for BCDC. While the measure has reduced the number of companies operating on a purely cash basis there have been some teething problems with the implementation.

Unsurprisingly, most of these issues seem to arise with the terms of reimbursement: VAT contributions should be repaid to companies within 30 days but the process can take several months. "In response, miners are extending the terms of payment for their suppliers; instead of paying within 30 days, they will pay within 90 days. The end result is that the companies bearing the real cost for introducing VAT are the SMEs," said Michel Schittekatte, business development manager for Trust Merchant Bank.

In the long-term, the treasury should be able to organise a more robust pre-financing scheme to improve the turnaround time for the payments but for now the mines continue to complain.

Applying for expatriate worker documents can be another headache for DRC registered companies. Local labour laws encourage the employment of Congolese workers but the lack of skills means that most companies rely to some extent on expats. The larger mining houses tend to have a dedicated department to manage the necessary documentation but this is not always realistic for new entrants or smaller companies with limited resources. In these cases it is common to turn to local agencies that specialise in assisting new arrivals. Boutique advisory firm BFG was established in 2011 to cater to this growing demand. Since that time, they have helped many foreign companies bring over personnel. "In the DRC there are many different kinds of visa and it can be difficult for outsiders to know which one to apply for," said managing director, TuzziKiaku, "It is important to point out that the work visa and the work permit are two different documents. The work permit is issued by the Ministry of Labor, while work visas are the responsibility of the Ministry of the Interior."

Without assistance, it can take up to eight weeks to receive a work permit but local agencies can arrange for an interim visa to be issued in just 20 days.

PRODUCTION

In 2013, Katanga's governor, MoiseKatumbi, confidently predicted that the DRC'scopper production would reach 1.5 million mt/y by 2015. The country has not quite reached these lofty heights but 2014'stotal output of 1.03 million mt is still respectable, and represents a 12.6% rise on 2013 levels. Approximately 84.2% of this total took the form of copper cathodes, with the remainder made up of concentrate. The government is keen to encourage more local beneficiation and add value to exports but in the current climate this seems unlikely. For the past 10 years

Photo courtesy of DEM Group.

production has increased exponentially, however, predictions for the next two years are for output to remain flat. Most existing mines are unable to expand due to power constraints, while new investments will probably be put off until there is a resolution over the mining code and the general election has concluded.

The copper price has continued to fall but Congolese miners have tended to fare better than their peers in other countries. Grades are high and operating costs are relatively low. “Although margins are being reduced and there is more of an incentive to reduce costs, none of the mines here are at risk of shutting down. This is a completely different reality to the marginal low-grade, high-throughput mines seen in the Americas,” said Charles Taschereau, director general of Congo Equipment, the DRC’s exclusive CAT dealer. Nevertheless, some copper/cobalt producers have chosen to focus more on cobalt production, which is enjoying greater price stability.

Some miners are still bucking the trend toward cost cutting and continue to invest. Chemaf is a wholly owned subsidiary of Shalina Resources that operates the Etoile mine and Usoke processing plant. In spite of the difficulty of sourcing finance they are investing heavily in expansions. “We have commissioned a heap leach plant which is already financed and under construction. The heap leach plant will be completed in 18 months. This will add 20,000 mt of copper to existing capacity,” said Katembo Jo, general manager process for Chemaf.

The DRC has always struggled to attract pure greenfield exploration; most operational mines exploit deposits that were first discovered several decades ago by the state-owned miner, Gécamines. However, Canadian-listed Ivanhoe Mineshas proved that it is possible to still make important discoveries in unexplored regions. In 2012, an independent mineral resource estimate ranked their Kamoa project as the world’s largest undeveloped high-grade copper discovery. Construction of the initial underground section began in July 2014 and the mine is expected to come online in the next two years. •

Chetan Chug

Chairman, Somika

"In the next 10 years, we would like to become a five metal producer, adding value in all our operations through the empowerment of national human resources."

Somika was established in the DRC in 2001, before most other foreign mining houses entered. How has the company grown since that time?

I have been in Congo since 1990. In the early days, my business was more focused on trading soft commodities. When the mining code was introduced in 2001, allowing for the private operation of mines, we recognized that this would be a more sustainable long-term option than simply trading.

We are part of the Vinmart Group, which is a diversified group of companies with operations across the DRC. Somika is the metal processing arm of the group, offering a range of copper and cobalt products to the market. Under the Somika umbrella we also have another company, Mining Metal Resources, which mines tin, tantalum and tungsten. In the beginning, we were a small family company but over the years we have grown to include a broader mix of shareholders. We have had to adapt to this growth by modifying our business model and diversifying our product portfolio.

Approximately 80% to 90% of our yearly output is sold via fixed-price off-take agreements. We sell the re-mainingthrough spot contracts. This avoids us overcommitting our production and allows us to hedge our position and leverage any major price fluctuations in our favor.

What is the source of the copper concentrate processed by Somika? Do you operate your own pits?

Since 2011 we have had our own mining operation,Kimin, which operates the Kinsanfa pit. There is a Dense Media Separation (DMS) plant at the site to produce concentrate, which is then shipped to Somika where we transform it into cathodes. We also purchase excess concentrate from other mines in the area, sometimes through off-take agreements, sometimes at the spot price. Today, mechanized mining has almost entirely replaced small-scale miners, and we do not buy from them anymore. In 2014, we produced 10,000 metric tons (mt) of copper cathodes and this year we expect production to rise to 15,000 mt.

Running an SX-EW plant requires a considerable amount of energy. Is Somika connected to the grid?

In 2011 we came to an agreement with SNEL whereby they would provide us with 22megawatts(MW), as our operation expanded to full capacity. Unfortunately, the power supply crisis of the last three years has prevented us from receiving the full amount. On average, we probably receive around 7MW, which curtailed our growth. We are only running at around 50% capacity today and only rely on our own generators as a last resort.

While copper prices have dropped over the past three years, cobalt has been more stable. Has this en-couraged you to focus more on cobalt processing?

Historically, cobalt prices have fluctuated quite dramaticallyfrom \$5/lb to \$60/lb, but the past three years have seen more stable levels of between \$12/lb and \$18/lb. The DRC is the world's main supplier of the metal, satisfying between 60% and 70% of global demand. As cobalt is a main by-product of most of the large copper mines, production has been relatively stable. Nevertheless, it would not be profitable for any company to function as a pure-play cobalt producer.

What was the rationale behind founding Mining Metal Resources (MMR) as a separate entity in 2008?

During the 2008 global financial crisis, copper and cobalt prices plunged dramatically. We decided to diversi-fy into other minerals and established MMR to work with tungsten, tin and tantalite. This means that we currently trade in five different metals, which reduces our risk of overexposure to volatility in one commodity. Extraction is focused in Katanga, and we are currently mechanizing our operations with a view to securing 80% to 90% of our minerals from mechanized mines. They are all in remote areas, where artisanal mining is common, so we are trying to work with the local communities to incorporate them into our production chain and provide a more reliable source of income.

As Somika mainly processes rather than extracts minerals, will the proposed changes to the mining code have an impact on your business?

Any changes to the mining code will have an immediate impact on our business. Ultimately, extraction and processing are all combined, as any change that increases costs at a given point in the value chain will be detrimental to overall profitability. So far, the current mining code has proved to be very effective at encouraging investment. If the operating environment were perfect, producers would not have a problem paying slightly higher royalty rates, but this is not the reality.Any shakeup to the regulations will cause investors to think twice.

How do you hope to see Somika and the local mining sector grow in the coming years?

Our vision for Somika is to grow into a solid mid-tier producer and continue to add value to our current pro-duction. In the next 10 years, we would like to become a five metal producer, adding value in all our opera-tions through the empowerment of national human resources. •

Photo courtesy of Bell Equipment.

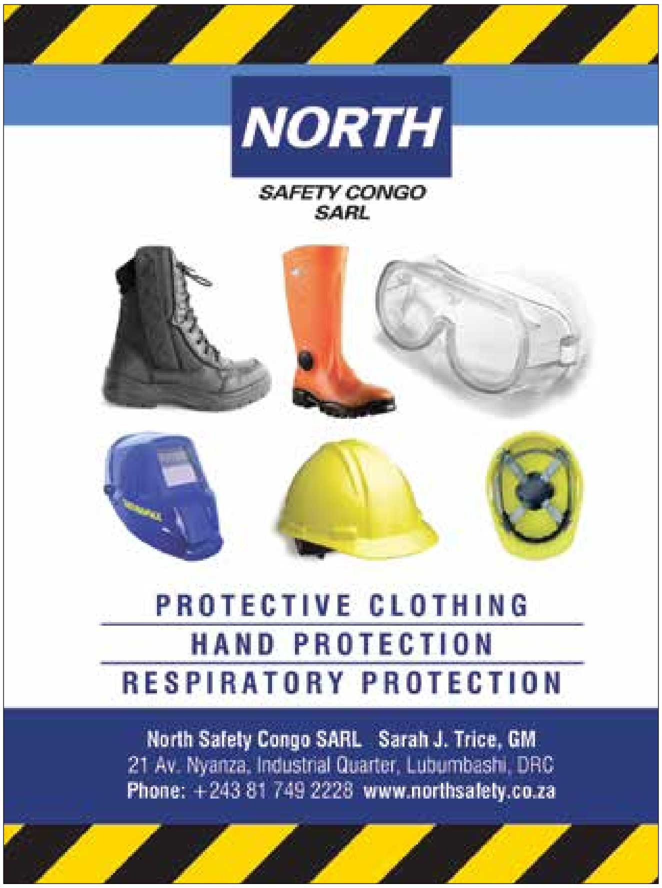
Regional Diversification

Replicating the success of Katanga

Nowhere is the success of the DRC's mining boom more apparent than in the Katangan provincial capital of Lubumbashi. "Compared with 10 years ago, Lubumbashi has undergone a thorough transformation," explained Sarah Trice, general manager for safety equipment providers North Safety. "Now the roads are paved, there are streetlights on the main avenues, the electricity supply is more stable and the business environment is far more open to international companies."

Unsurprisingly in a country that suffers from a crippling lack of infrastructure, the central government is keen to reproduce the success that Katanga has enjoyed in other provinces, many of which are largely unexplored.

The Kasai Oriental and Kasai Occidental provinces, for example, hold vast deposits of diamonds. However, exploitation remains woefully inefficient. According to data from the Kimberley Process, in 2013 the DRC was the second largest producer in Africa by volume, extracting approximately 15.7 million carats. However, total production was valued at just \$138 million. This compares poorly with other major producers, such as Angola, which produced 9.3 million carats but generated over \$1 billion in revenues. The reason behind this discrepancy is the prevalence of small-scale mining in DRC's diamond production. Artisanal miners lack the necessary technology to produce the higher quality stones that com-



mand higher prices. It is therefore necessary to attract industrial mining to the province in order to extract the maximum value from its resources.

In the northeast, Randgold and AngloGold Ashanti's $2.5 billion Kibali joint venture in Orientale Province has served as a case study, demonstrating that it is possible to bring a world-class mine to fruition far away from the traditional hub of Lubumbashi. Fully operational since 2014, Kibali has already increased the DRC's total gold output by 213%. Work is now being carried out to develop the underground section of the mine. The pit is estimated to hold 12 million oz and production is forecasted to reach 650,000 oz/y by 2018, which would make it one of the largest gold mines in the world.

The South Kivu province is home to another gold producer, Canadian-listed Banro Corporation, which operates the Twangiza and Namoya open pit gold mines. Both sites lie on the 210 km Twangiza-Namoya gold belt, which straddles South Kivu and Maniema provinces. Between its two operational sites and two development projects – Kamituga and Lugushwa – the company has identified 2.36 million oz mineral reserves and an inferred

Continued on page 19 →

"Compared with 10 years ago Lubumbashi has undergone a thorough transformation. Now the roads are paved, there are streetlights on the main avenues, the electricity supply is more stable and the business environment is far more open to international companies."

- Sarah Trice, general manager, North Safety

A motor grader builds infrastructure in Katanga Province, DRC. Photo courtesy of DEM Group.

Kazadi Kaninda

Business Development Manager,
AEL Mining Services DRC

"In 2014 the total production from the private sector was nearly 1 million mt/y. There is still a lot of room for growth."

AEL has been present in the DRC market for many years. Could you talk us through the development of the company up to the present day?

AEL's first foray into the DRC came in the 1990s when we established distribution sites at several mines across Katanga, which were supplied by our plants in Zambia and South Africa. We opened our first permanent office in the DRC in Lubumbashi in 2006. As demand increased we realized that it made sense to build a manufacturing base here. In October 2013 we completed our plant at Kansuki, next to Mutanda Mining. The facility can produce enough bulk emulsion to supply the entire province. Primers and detonators are brought in from South Africa and Zambia and stored in magazines we rent from Afrodex. After eight years of operations in the country we are now looking to expand outside the province and create a larger footprint across the nation. For many years we were the only international explosives provider in the DRC and enjoyed a market share of 90%. Following the boom in the mining industry, market dynamics have shifted and other providers have moved in. Nevertheless, we still command around 80% of the explosives market.

Explosives providers are beginning to focus on adding value beyond simple product supply. What extra services does AEL offer in the DRC?

AEL is not a commodity trader; we do not simply sell explosives. We offer a full blasting service to our clients. We send personnel out to the pits where they work together with the operators to optimize their blasting systems. Our technicians can assist with all the calculations to deliver the optimal blasting pattern that will increase efficiency while reducing vibrations and noise. We can even include community notifications and blast warnings within our service offering.

Well-established in Katanga, AEL is now looking to move out of the province. Where do you see the most potential in the rest of the country?

Katanga province is the most economically developed area of the DRC and this is why we see such a high concentration of businesses here. Nevertheless, there are a further 10 provinces in the country, which are seeing rapid growth in the mining and quarrying industries. In the East there is a lot of activity in cement production while the central Kasai provinces there is a concerted effort to exploit the rich diamond deposits. At the same time, several major gold producers have been carrying out exploration campaigns for some years and now want to start developing projects. AEL is already supplying to some clients in the Kivus, the Oriental province and the Kinshasa region.

How is the current state of legislation relating to explosives?

The current legislation dates back to 1955, when miners were still using TNT and dynamite, which are fairly primitive technologies by today's standards. The main concern was security and the correct storage of charges. Now, in keeping with the predominance of safer bulk emulsion products, the authorities have stated that now it is time to update the old laws. By the end of 2015 there should be a special parliamentary hearing with representatives from the mining sector to discuss potential changes. We predict that the new regulations will have a greater focus on safety and environmental stewardship.

How have you seen investor appetite for projects in the DRC evolve over the past decade?

The past 10 years have borne witness to a boom in the DRC's mining industry. Since 2005, Kolwezi has been transformed beyond recognition. What was once a ghost town is now full of life and activity. In 1996, Gécamines record copper production was 400,000 mt/y; in 2014 the total production from the private sector was nearly 1 million mt/y. There is still a lot of room for growth. Many mines are still producing concentrate and are yet to upgrade their facilities to produce cathodes. Aside from copper, investors are also starting to take note of the country's potential for gold, tin, cement and other minerals. There are still notable problems in the shape of inadequate power supply and poor quality transport infrastructure, but other provinces are following Katanga's lead and investing in new roads and airports.

To what extent does the DRC deserve its reputation for violence and political instability?

The DRC covers territory equivalent to 2,345,409 km2. Approximately 20% of this total area can be called stable. The least stable area is the Ituri area in the Orientale Province, close to the Ugandan and Rwandan borders. Even given the challenges of operating in this zone, we have seen over $2 billion invested in the province. This is a sure sign that the DRC is a solid investment destination. Our lengthy experience of working in Katanga has allowed us to build up an unparalleled level of expertise in deploying throughout the country.

There was some unrest in Kinshasa in January 2015 as people took to the streets to protest potential changes to the constitution. However, this is normal in any democracy. Look at the riots in the USA over racial violence or the mass demonstrations against political corruption in Brazil. Compared to many places in Africa, the DRC is a safe place to visit with very low levels of street crime. •

← Continued from page 16

resource of 5.32 million oz. Twangiza is a relatively low-cost operation, with all-in sustaining cash costs in 2014 reaching $698/oz. While power supply is problematic, the possibility of installing hydro, wind or solar plants is under investigation. Since the company first began operations in 2011, infrastructure in the local area has improved dramatically. Banro has upgraded more than 420 km of roads between Uvira and Namoya and reconstructed 10 bridges along the route. The Banro Foundation has also contributed significant amounts to community development schemes.

Aside from gold, tin, tungsten and tantalum could feasibly be mined in the north, but there is a real need for the government to fast-track the validation process of mine sites. Exploitation of these minerals still carries a very negative association with conflict mining. Operations in the region are generally small and do not operate to the same standards as the larger mines in the South. As a result, many western companies are reluctant to purchase output from these areas. To some extent, this perpetuates the situation as producers are unable to find legitimate buyers and must resort to exporting illegally.

Servicing the Mines in the DRC photo provided by AEL Mining Serives DRC.

Although Orientale, Maniema and the Kivu provinces are extremely prospective for a number of minerals, it will be some time before they are in a position to threaten Katanga's title as mining hub. The security situation, while improving, remains unpredictable. Lengthy periods of stability are often interrupted by clashes between DRC troops and rebels. On top of this, the available geological data is patchy and there are many black spots on the map. Junior explorers are unlikely to enter such a risky area without at least some data to back them up. The government understands the need for solid geological groundwork and has proposed to establish a National Institute of Geology. However, the plan has yet to become a reality.

There are also logistical issues to overcome. While the power supply may be unreliable in Katanga, the electricity shortage in the northeast is far more acute. Grid connectivity is severely limited and all mines operating in the region have to rely solely on their own diesel generators.

Most service providers are based in Lubumbashi but the lack of roads between Katanga and the north means that alternative supply routes will have to be established. "Transporting an excavator from Lubumbashi to Bukavu or Goma is extremely difficult. When you have an entire fleet of equipment to move around, the difficulty is increased even further," said Christakis Christodolou, general manager of contract miners Rulco "We would have to bring new machines in from Dar Es Salaam and set up new operating bases in the region." The railway should be a viable option but at present it can take up to a month for trains to cover the distance between Kindu and Kalemie. This is a real setback for the few producers that already export from the province. Delays in deliveries against LME contracts are a common occurrence and result in excessive fines, further hindering local development.

Recognising the supply gap, several equipment suppliers are already eyeing up opportunities to establish a more permanent presence in the region. DEM is the exclusive distributor of Hitachi and John Deere mining and construction equipment in the DRC. Previously, the company focused on mine sites in Katanga and infrastructure in Kinshasa but they are now taking steps to set up a new office in Goma."We see a lot of potential for growth in the East," said general manager, Gaëtan Falesse. "There is a scramble to build infrastructure and demand for equipment is booming but few providers have permanent representation there."

While it may still be a gamble, early investors in the region believe that by arriving first on the scene they will reap rich rewards. "When we first came to Katanga in 2006, it took eight months to secure our first client but since that time it has become a huge success story. We are confident that some of these locations in the north will be equally successful," said Xavier Pollet, general manager for logistics and customs clearing specialists, Comexas. •

Environment and CSR

Digging for development

As in many countries, miners in the DRC often come in for criticism from the press, politicians and certain NGOs.They are accusedof acting in a purely self-interested way, extracting valuable resources from the ground without giving anything back to the communities that host them.According to Alex Van Hoeken, former president of Kilo Gold Mine: “This is grossly unfair, the mining sector is fundamental to supporting growth in the DRC.”

Statistics would seem to bear out Mr. Van Hoeken’s argument. In 2012, total social expenditure from the mining industry reached $28.5 million. While all mines in the DRC are obliged to invest a certain amount in developing local infrastructure, most operators’contributions exceeded these mandatory payments: TFM donated $7.5 million in voluntary social payments while Boss Mining delivered $3.5 million beyond their legal obligations.

Relations between mines and communities are generally positive. There are occasional issues with striking workers shutting down production but there is little of the entrenched enmity between mines and villagers that has arisen in other jurisdictions.“In the Katanga province, communities are not against the way the mines are operating; the main friction arises with artisanal miners. However, this is no simple conflict over resource ownership; it is part of a much larger developmental problem, claimed Susa Maleba, country manager DRC for SRK Consulting. It is important to distinguish between artisanalminers, who are legally entitled to dig on land with no title, and illegal miners,who trespass on operational concessions to steal minerals. The latter have been the source of some violent conflicts taking place in the pits themselves. Besides the inherent safety issues associated with unauthorized personnel entering a mine, the practice is damaging on several levels. Illegal miners tend to take high-grade material from the surface just after blasting is conducted. This means that operators have to remove more waste material to get to the valuable ore beneath, thus driving up their costs. On a developmental level, the opportunity to make $50 per day digging lures young children away from school, exacerbating the existing skills gap.

While progress has been made in making supply chains more transparent, as attested to by the country’s acceptance to EITI, a market for this illegal ore must still exist. The material makes its way back into process plants via a shady system of intermediaries known as negotiants. Most of the country’s mines work to world-class standards, but it seems there are still a few that operate below the radar. “Some mines prefer to be more discrete and do their best to avoid any attention. They tend to be less interested in high-level analytical and certification services because purity is not a major issue for them,” explained Xavier Jack de Longueville, director of sales and marketing at Robinson International, the DRC’s only ISO certified test lab.

As the problem is not going to disappear anytime soon, some of the mines are looking at ways of cooperating with the diggers, delineating specific areas where they can work and paying a fair price for their production.

POWER SUPPLY

The Congo River has the potential to generate enough electrical energy to supply the whole of Southern Africa. Yet, only a fraction of this immense force has been harnessed. Today, it is almost universally acknowledged that the biggest setback to industrial growth in the DRC is the lack of reliable power supply.

In theory, the country's total installed capacity stands at 2,100 MW, with the most important contributor being the 1,424 MW Inga II plant. However, the dam is poorly maintained and on most days it delivers much less than its nameplate capacity. Total demand in the southern region alone has risen from 400 MW in 2008 to 1,200 MW in 2014. If all planned mining projects come online according to schedule,demand is projected to soar to 2,500 MW by 2016.

This leaves the National Electricity Company (SNEL) in a very uncomfortable position. Demand for electricity keeps increasing and it is already unable to fulfil commitments to its existing clients.In 2011, Somikacame to an agreement with SNEL whereby they would receive 22 MW from the grid as their operation reached

Continued on page 23 →

"In the Katanga province, communities are not against the way the mines are operating; the main friction arises with artisanal miners. However, this is no simple conflict over resource ownership; it is part of a much larger developmental problem."

- Susa Maleba, DRC country manager, SRK Consulting

← Continued from page 21

capacity."Unfortunately, the power supply crisis of the last three years has prevented us from receiving the full amount," explained Chairman, Chetan Chug. "On average we probably receive around 7 MW from the grid."

Aside from the insufficient generation capacity, SNEL suffers from severe problems with its distribution infrastructure. Pylons, transformers and sub-stations are routinely vandalised and power outages are common. Some miners report experiencing up to nine power cuts in a single day. This has dire consequences for mines and processing plants. If a production cycle at an SX-EW plant is interrupted due to an outage it can take 45 minutes to restart the equipment. When this happens multiple times per day, downtime starts to impact seriously on production capacity and eat into profits.

To make up for the supply shortfall, mines rely heavily on diesel generators. This is a very costly means of producing electricity. While falling oil prices should have softened the blow somewhat, DRC fuel taxes rose throughout 2014 to the point where there has been very little real-term reduction in cost.

One might expect that in this situation some of the larger miners might have invested in larger, more sustainable generation programs, but so far this has not been the case. "Solar and wind farms as well as small hydro plants are all viable options but the cost for one mine to commit to such an undertaking would be prohibitive," explains Ruashi Mining's general manager, Marius Boates. "It will need a consortium of several mines to bring anything meaningful to fruition." Given that most of the DRC's mines are only just beginning to turn a profit, it might be premature to expect any developments of this kind right away, but it is likely to become an increasingly attractive option in the long-term.

In an effort to remedy the current situation, some big mines have started to collaborate with SNEL, lending out of their own pockets to fund infrastructure rehabilitation programs. TFM lent approximately $140 million towards the Nseke power plant, while Ruashi Mining invested $4 million in a project to strengthen Lubumbashi's urban distribution network. Tiger Resources is currently replacing approximately 240 km of overhead power lines between Lubumbashi and their site at Kipoi."The existing lines can only handle 90 MVA but the new lines will take 120 MVA thus reducing line losses and saving 20 MW," claimed COO Charles Brown. "This will ultimately reduce our cash cost by around $0.20 / lb."

Until more capacity comes online, the industry remains stuck in a holding pattern. Mines are unable to expand, even if they have the resources, because it is impossible to predict the cost of electricity. Meanwhile, the government's long-term strategy to move away from concentrate exports and encourage more domestic beneficiation makes little sense while there is not enough power to drive the plants.

Nevertheless, there is some hope on the horizon. In 2013, SNEL and its Zambian counterpart, Zesco, signed an agreement to jointly develop a $3 billion, 1,400 MW plant, which should be operational by 2017. Output will be distributed evenly between the DRC and Zambia. Work is already being carried out on two smaller projects in the Kolwezi area – Busanga (240 MW) and Nzilo II (120 MW) – but it is unclear how long it will take before these begin to contribute to the grid.

Looking even further ahead, there is also the Inga III project, which is slated to generate an additional 4,800 MW, of which half will be exported to South Africa. The $12 billion investment is envisioned as the first phase in the development of the Grand Inga dam, which would be the largest hydroelectric plant in the world, generating some 42,000 MW and doubling Africa's total generation capacity in one fell swoop. However,with an estimated price tag of $50 billion, some analysts are sceptical that it will ever become a reality, leading to its nickname of Africa's biggest white elephant. •

Logistics and Transportation

More competition among supply corridors

The DRC covers territory of more than 2.3 million km2. This vast tract of land is served by a coastline of just 37 km, in the far west, thousands of kilometres from the mining centres of Katanga. As such, mines in Katanga make use of several competing ports to transport their products to market and bring in supplies from outside. Durban is currently the most popular corridor for both imports and exports. While it is not the cheapest or the nearest option, it is considered to be the most efficient. That being said, recent improvements to the infrastructure at Dar Es Salaam have made it a more attractive proposition: "A few years ago it was common for vessels to wait two weeks to berth, now the average wait is just three days," said Eric Kalala, general manager for Bolloré Africa Logistics. As a result, a growing number of businesses are choosing to route their shipments through Tanzania.

Infrastructure within the country is fairly poor, and connections between the major cities are sorely lacking. Nevertheless, within Katanga, great strides have been made to improve the roads. Whereas a few years ago, it was almost impossible for trucks to run during the rainy season, a network of asphalt roads now connects the mining outposts of Kolwezi, Likasi, Fungurume and Kakanda with Lubumbashi, and with the Zambian border at Kasumbalesa. Joe Kipanga is general manager of ESC, a supplier of electrical equipment to mining clients around Katanga. He believes that the country's transport difficulties are often overstated: "In total, it usually takes us less than one week to deliver a truck from the point of origin to our clients in Katanga… We are able to bring transformers to Kasumbalesa in just four days."

Nevertheless, the country is overly reliant on one border post, creating frequent bottlenecks. The governments of both DRC and Zambia have proposed several solutions. The first, and simplest, is to fast-track all empty trucks as soon as the border opens, leaving more time to process the laden vehicles. The second idea is to keep the border running 24 hours a day. However, this requires approval from the Zambian parliament and, even though political will is strong on both sides, this will probably be a lengthy process. Finally, there are plans to build a new road and a second border crossing, which would be exclusively for outbound traffic, leaving Kasumbalesa for incoming trucks.

Copper production is forecast to double over the next five years, and even if the roads are working at capacity and the border crossings are made more efficient, it will not be enough to handle the increase in traffic. It is vitally important to improve the rail network as well.

The DRC's principal railway, the SNCC, covers 3,640 km and runs across five provinces, making it the fourth largest railway in Africa. However, since its heyday in the 1970s, the network has entered into a prolonged decline, exacerbated by years of underinvestment. In 2009, the rail operators entered into talks with the central government, the World Bank and representatives from the mining industry. The end result was a $700 million investment program financed by the DRC and the World Bank to restore the network's financial and operational viability. Currently in the implementation phase, the program

Photo courtesy of CSI.

has earmarked $180 million towards new investments in track and rolling stock.

At present the network accounts for just 2% of total mineral exports. Some operators, including ENRC and Tiger Resources use the railway to export concentrate over the border to Zambia for smelting, but for now it is considered as too risky to ship more valuable cathodes. “There is great potential to expand our market share, but it is first necessary to improve our standards of service and demonstrate that we are a low-risk option in terms of safety, security and social unrest,” said the chairman of SNCC’s board, Nicolas Gregoir.

EQUIPMENT

Equipment supply is extremely competitive in the DRC. There are still relatively few mines in operation but all the major OEMs are represented. While in more developed copper producing countries, the trend is to invest ever more in new technologies that will help shave a few cents off the operating cost, this is not the case in the DRC. “Advanced technology such as remote operation, computer assisted drilling or automation is not a priority for most of the DRC market. In fact, the opposite is true. Most miners want a simple, rugged machine that will not break down and is easy to fix and operate,” explained StéphaneGoupil, country manager, Atlas Copco DRC.

The one priority for the mines is to minimize downtime, which has led to a dynamic whereby suppliers must differentiate themselves through services and spare parts availability. Typically, most distributors operate on maintenance and repair contracts, keeping a dedicated team of technicians at the client’s site. As mechanized mining was stopped between 1985 and 2002 the talent pool for qualified mechanics is fairly shallow. Equipment suppliers have necessarily invested heavily in developing rigorous training programs. Bell Equipment runs a seven-year apprenticeship course, which incorporates on-the-job training and specialised modules that are given in South Africa. “At present we have around 90 people enrolled. The first group of fully qualified apprentices graduated in 2014 and we are looking forward to seeing the next batch of 15 come through in 2015,” said general manager, Josh Foster.

One of the challenges faced by equipment providers is the need to send large components out of the country for refurbishment. CAT representatives, Congo Equipment are investing $25 million in a new repair and rebuild centre in Lubumbashi but it will be some time before this facility comes online. Recognising the need for high-quality local repair work, one company has chosen to relocate from South Africa to Lubumbashi, specifically to cater

Continued on page 27 →

Yannick Mbiya & Michel Schittekatte

YM: Director
MS: Business Development Manager
Trust Merchant Bank (TMB)

Since it was founded in 2002, TMB has quickly become the DRC's largest bank in terms of retail network. What were the main milestones in the bank's history?

YM: Trust Merchant Bank (TMB) was founded in 2004 in Lubumbashi by Robert Levy. At that time, almost all the existing banks focused on large corporate clients. We saw room in the market for a modern bank that could offer a superior service, particularly in the retail space. In the first few years we concentrated our efforts on Katanga, opening branches in Kolwezi and Likasi to cater to the mining industry. The DRC, and Katanga in particular, was hit hard by the 2008 global financial crisis, as copper prices tanked. We had to diversify, so in 2009 our CEO Oliver Meisenbergbuilt up the largest network of branches in the country. Today, TMB has over 600,000 clients and operates 76 branches across 26 cities spread throughout all 11 provinces.

The hyperinflation crisis of the 1990s led to a loss of trust in the financial sector. How has this situation developed since then?

MS: The lack of trust in banks was still evident when TMB set up shop, but our shareholders came from a respected family that had been doing business in the DRC for three generations. This familiarity helped to convince our first depositors. Since that time, we have been able to demonstrate our credibility over 11years of successful operations.

What type of relation does TMB maintain with the mining sector?

YM: Our main involvement with the mining industry is providing working capital loans, payroll services, and loans to employees. Our lending capacity is limited by regulations, but we can offer loans of up to $12 mil-lion. People complain that local banks do not offer competitive rates but they do not understand the process by which interest rates are set. The cost of funds here is simply higher than in other jurisdictions. Most banks can source funds at 7%, so when you add in other expenses and the bank's own margins, the rates for clients come to around 12%. A second factor to consider is the risk of default, which is still fairly high in the DRC and drives up rates even further.

Since the DRC adopted VAT in 2012, what have been the immediate effects on the business environment and what will the long-term effects?

MS: In the long-term, VAT will clearly have a positive impact on the economy as it delivers higher revenues to the government. However, there are certain issues with the implementation. Looking at the mining sec-tor, the introduction of VAT implies some kind of pre-financing by the treasury because large companies should have VAT contributions reimbursed within a certain number of days. While this should take 30 days, in reality it often takes several months. In response, miners are extending their terms of payment for their suppliers; instead of paying within 30 days, they will pay within 90 days. The end result is that the companies bearing the real cost for introducing VAT are the SMEs.

The government and the IMF both agree that the Congolese economy should take steps towards de-dollarization. What is the reasoning behind this strategy and how will it be achieved?

YM: From 1997 to 2005 the DRC suffered a hyperinflation crisis, which led many people to lose trust in Con-golese francs (CDF). The US dollar became the currency of choice because of its stability. However, over the last five years, the government's monetary policy has successfully maintained the value of the CDF, restoring a greater level of confidence among Congolese and outside investors alike.
De-dollarization is a good idea for the Congolese economy. This does not, however, imply a ban of foreign currency accounts, which would be disastrous for foreign investment. It is simply a government program to encourage a greater number of transactions in Congolese francs (CDF). Around 90% of transactions made in the banking system are conducted in U.S. dollars, so now the government is making it mandatory for some payments, such as electrical and water tariffs, to be made in CDF. In the future, dollar transactions will continue to play an important part in the economy but we would like to see maybe 40% or 50% conducted in CDF.

Despite a high number of banks in the country, only a very small portion of the people has a bank account. What strategies will TMB be deploying to increase participation?

YM: Mobile banking is the future in the DRC. Approximately 30% of the people have a mobile phone, while less than 3% have a bank account. There is a mismatch between the service that banks are offering and the needs of most Congolese people. Developing a more effective mobile banking solution will help to redress this situation by giving normal people more control over their finances and greater freedom in how they pay their bills or transfer money. •

"In the future, USD transactions will continue to play an important part in the economy but we would like to see maybe 40% or 50% conducted in CDF."

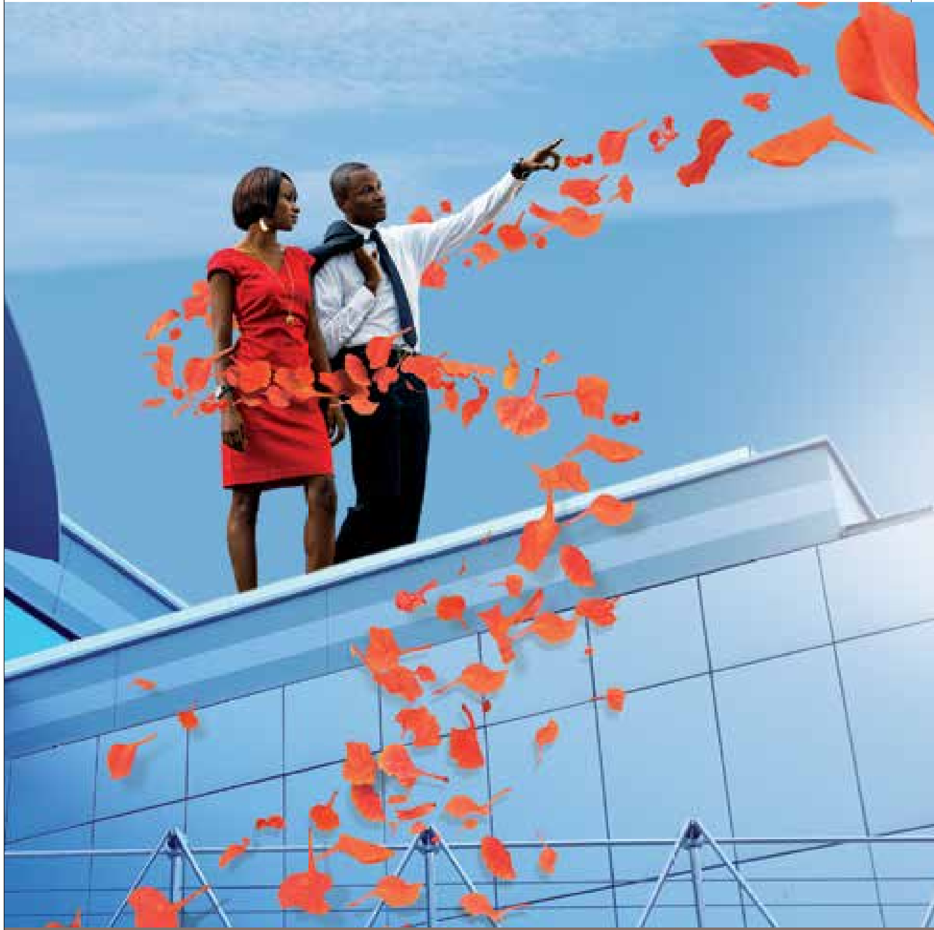
← Continued from page 25

to this need. Yellow Metal specialises in repairing drive train components for all the major brands of construction and mining equipment. General manager, Jason Roy, believes that his operation has a distinct advantage over the more established distributors: "For a major OEM to send a transmission down to South Africa, repair it, then bring it back it will take four months. Our turnaround time is just two weeks," he said.

The idea of local equipment manufacture in the DRC is attractive. An overreliance on commodity exports leaves the economy vulnerable to fluctuations in global markets. At present, it seems unlikely that any of the OEMs will establish production facilities in the country: the perennial problem of power persists and there is a lack of skilled labour. However, smaller scale production of specialised goods could prove successful. CSI is a South African manufacturer of tankhouse equipment for copper processing. Since 2011 they have run a sales office in Lubumbashi but now they believe local production could be the next step. "We are currently involved in discussions with a Chilean specialist producer,Inpament, to embark on a joint venture in the DRC to produce cathodes and anodes. The market is more than sufficient to support a domestic manufacturing facility. The contract should be finalized in May and we hope to start installing the equipment by July," said ArceneNgandu, CSI's marketing manager - Africa.

While after-sales support may be a key differential, securing financing prior to making a sale is equally important. A wave of new banks have set up shop in the DRC in the past five years, but they are still very risk-averse. Miners and contractors complain that they are unable to get fair rates on loans for capital expenditure. "Although interest rates have come down in recent years, there is still limited access to credit here so alternative financing programs from Europe are growing in popularity," explained AmauryLescaux, managing director of Volvo distributor, SMT.

Volvo has a long history of working with the Swedish export promotion authority, EKN, which will assume the risk of financing large deals in the country. •



Banking and Finance

Still young but highly competitive

The hyperinflation crisis of the 1990s led to a severe lack of trust in the DRC's banks and its local currency. Many Congolese resorted to using US dollars and carried out most of their transactions in cash. The situation has improved considerably since that time but market penetration remains very low: less than 3% of the population has a bank account. Seeing huge room for expansion, a swathe of new banks have set up shop in the past decade. Most recently, several pan-African banks, such as Ecobank, FBN and Standard Bank have established operations in the country.

Balance sheets at local banks remain modest and relatively underleveraged compared with other countries. At present, they do not have the lending capacity to finance large mining investments, although working capital loans up to around $10 million are possible. The high number of new entrants to the market should make the sector more competitive but there is a persistent feeling that interest rates are still too high. Banks claim that they themselves are only able to borrow at 7%, so when other expenses and the bank's own margins are factored in, clients can expect rates of around 12%. While high compared to more developed countries, in a Central African context, this is not unreasonable. High rates are exacerbated by the unreliability of the DRC's insurance providers. According to several earthmoving contractors, if a valuable machine is stolen or breaks down they are expected to cover the cost out of their own pockets. The government has recently opened the market to foreign insurance providers, but it will be some time before the effects are felt.

"De-dollarization is a program that the government is keen to pursue, as it will allow them much greater control over monetary policy. However, if it is forced through too fast, it may create economic instability. It will take years for CDF to become the dominant currency,"

- Célestin Mukeba Muntuabu, chief executive officer, Procredit Bank Congo.

Aside from working capital loans, the banks' main involvement with miners takes the form of payroll services, and personal loans to mine employees. By working their way down the value chain from the mining houses to the suppliers and eventually to the employees Rawbank, the DRC's largest bank by assets, has managed to capture a considerable market share within the Katanga region. They have developed specific strategies to appeal to the Congolese market. To avoid the payday rush on their branches, they introduced ATMs at the mine sites. Now workers can access their salaries without having to travel into town. There is not a strong savings culture in the DRC and many workers still withdraw their entire salary as soon as they receive it. Mine operators and financial service companies are trying to tackle this issue by running courses to promote financial literacy.

The DRC is a dual-currency economy and the banking sector remains highly dollarized: 92% of Rawbank's deposits and 95% of credits in Katanga are in dollars. Most of the mines run their payroll in USD as well. However, the IMF and the DRC government want to reduce this reliance on dollars and promote the use of Congolese Francs (CDF). "De-dollarization is a program that

Local currency with the Congo African Grey. Photo courtesy of Molly Concannon.

the government is keen to pursue, as it will allow them much greater control over monetary policy. However, if it is forced through too fast, it may create economic instability. It will take years for CDF to become the dominant currency," Célestin Mukeba Muntuabu, chief executive officer at Procredit Bank Congo.

De-dollarization will likely be a long and drawn out process. "There are some practical difficulties associated with tipping the balance towards CDF. For example, it is very difficult to operate ATMs in francs because the notes are of such low denominations that you need a huge amount of currency to keep just one machine stocked," said Yannick Mbiya, director of Trust Merchant Bank. That being said, some of the largest mining companies will soon begin to pay certain taxes in CDF, which should greatly increase the volume of transactions in the local currency. In parallel, foreign exchange regulation brought in in 2014 stipulates that payments made by DRC residents for house rental, short-term loans, school fees, medical expenses, water and electricity bills must be conducted in CDF. •

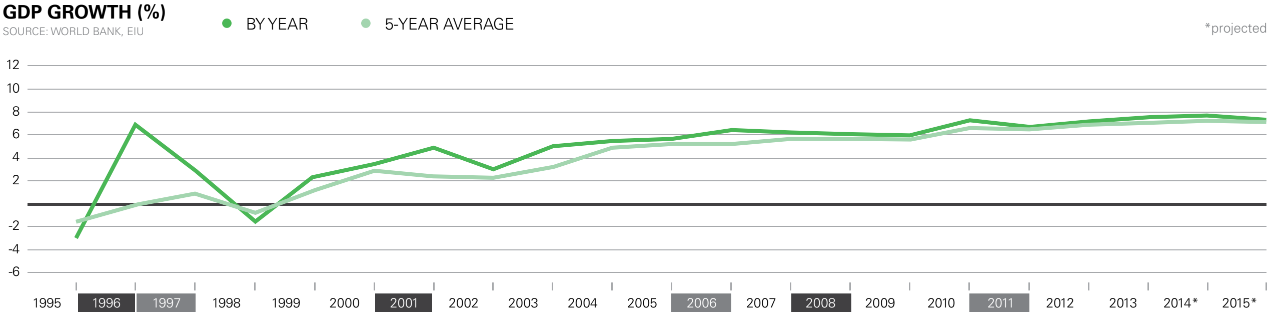
Zambia

After independence from the British, Zambia was ruled by 18 years by the founding president. Since 1991, however, it has established a democratic system. Economically, it has high and stable growth and shows a long-term improvement in business environment indicators. Zambia is one of the world's largest producers of copper and cobalt and is a significant global producer of gemstones. Potential also exists for gold, iron ore, zinc, lead, manganese and nickel.

Population: 14,638,505 (July 2014 est)
Land Area: 752,618 sq km
Official Language(s): Bemba, Nyanja, Tonga, Chewa, Lozi, Nsenga, Tumbuka, Lunda, English
Capital: Lusaka
Chief of State: President Guy Scott
Head of Government: President Guy Scott
GDP (PPP): $25.47 billion (2013 est)
Growth Rate: 6% (2013 est)
GDP per Capita: $1,800 (2013 est)
Economic Sector Breakdown: agriculture: 19.8%, industry: 33.8%, services: 46.5% (2013 est)
Exports: $8.547 billion (2013): copper/cobalt, cobalt, electricity; tobacco, flowers, cotton
Imports: $8.216 billion (2013): machinery, transportation equipment, petroleum products, electricity, fertilizer, foodstuffs, clothing
Major Trade Partners: South Africa, China, DRC, Kuwait

GDP GROWTH (%)

SOURCE: WORLD BANK, EIU



Elections are boycotted by the main opposition party, UNIP, and Frederick Chiluba of the MMD is reelected.

An attempted coup d'etat fails. 84 people, including former president Kenneth Kaunda, are arrested.

Levy Mwanawasa of the MMD wins the presidential election. The MMD lost parliamentary majority, but regained it in byelections.

Mwanawasa is reelected with 43% of the vote and the MMD win 75 of the 159 national assembly seats.

Mwanawasa died in a Paris hospital and was suceeded by his vice president Rupiah Banda.

20 years of MMD rule come to an end when Michael Sata of the Patriotic Front wins the 2011 elections.

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

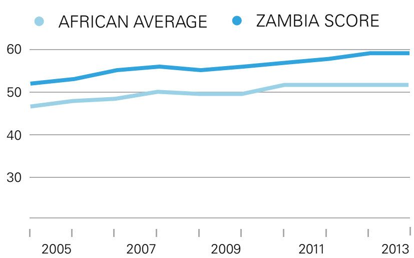
2008 **3.9%**

2013 **2.2%**

These values do not include artisanal mining. In 2012 the Minister of Mines said the sector accounted for 9% to 10% of GDP, which he planned to double to 20% by 2020.

IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION



BUSINESS ENVIRONMENT RANKING

SOURCE: WORLD BANK, IFC, HERITAGE INSTITUTE, WEF

Name (out of)	2012	2013	2014
Doing Business Rank (189)	84	90	83
Index of Economic Freedom (177)	96	93	88
Global Competetiviness Report (148)	113	102	93

MINE PRODUCTION

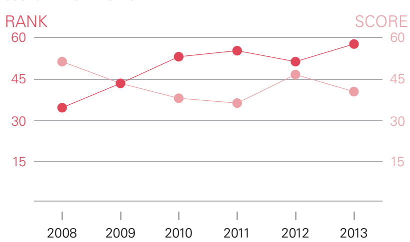
SOURCE: BRITISH GEOLOGICAL SURVEY

	as of 2011 in mt unless otherwise stated
Beryl	6
Cobalt	5,956
Copper	739,759
Gold**	3,493
Nickel	2,869

***in kilograms

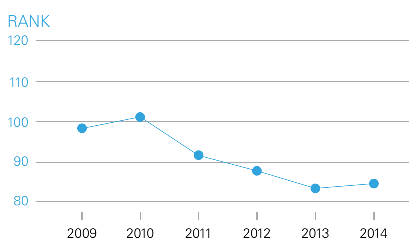
FRASER INSTITUTE ANNUAL SURVEY OF MINING COMPANIES

SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL



INFRASTRUCTURE INDICATORS

SOURCE: UIC, IEA, CIA WORLD FACTBOOK

	ZAMBIA	AFRICA	WORLD
Railway - km/10,000 km2	28.66	18.2	76.2
Roads - km/1,000 km2	121.5	204	904
Electricity - kWh/capita (gross production + imports - exports - losses)	606	592	2933

| % | 25 | 50 | 75 | 100

INFLATION

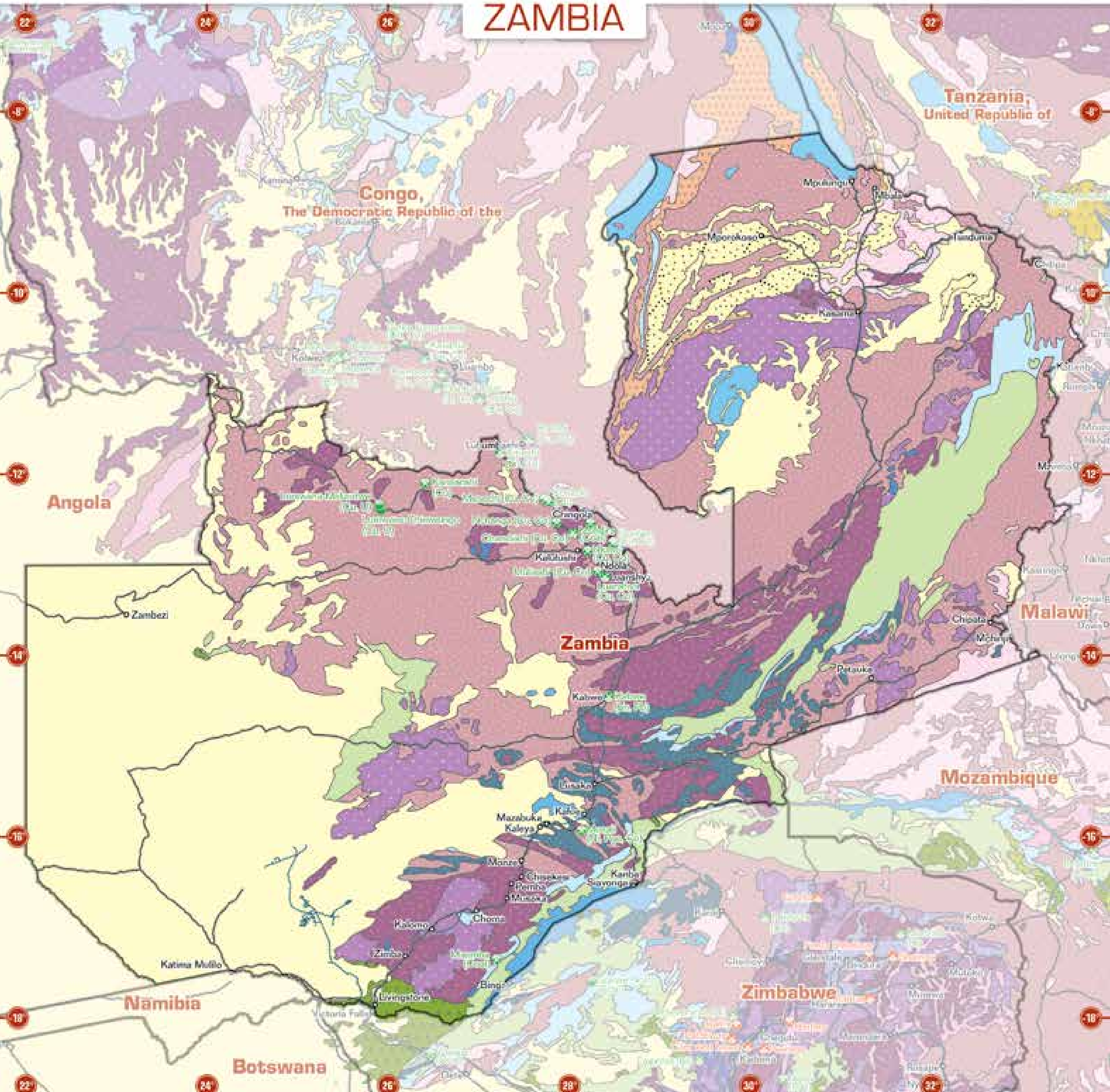
SOURCE: WORLD BANK

2010 **8.5%**

2011 **6.4%**

2012 **6.5%**

ZAMBIA



GOLD MINES
- Existing
- Gold resources
- Closed

OTHER MINERALS
- Existing mines
- Projects
- Closed mines

- Geological boundary certain
- Country Borders
- Roads
- Water area
- Railway

CENOZOIC	MESOZOIC	PALEOZOIC	PROTEROZOIC	ARCHEAN
Sediment	Sediment	Sediment	Sediment	Volcanic felsic
Volcanic felsic	Volcanic felsic	Quartzite	Quartzite	Volcanic mafic
Volcanic mafic	Volcanic mafic	Volcanic felsic	Volcanic felsic	Plutonic felsic
Plutonic felsic	Plutonic felsic	Volcanic mafic	Volcanic mafic	Plutonic mafic
Plutonic mafic	Plutonic mafic	Plutonic felsic	Plutonic felsic	Metamorphic
	Metamorphic	Plutonic mafic	Plutonic mafic	Amphibolite
		Metamorphic	Metamorphic	
			Amphibolite	

Your feet on the ground in Africa

NORTH

0 50 100 150 200

KILOMETERS

GEOLOGICAL DATA FROM BRGM - LAT/LONG WGS84
Map drafted by Stanislas de Stabenrath & David Byrne - Contributions by Kwaku Owusu Ansah -
2014 - 2nd edition - info@sems-exploration.com

Graphic design: www.arcildesign.com

www.sems-exploration.com

SEMS EXPLORATION | THE AFRICAN GEOLOGICAL CONSULTANCY GROUP

Zambia's Mineral Wealth

Beyond copper

Zambia's vast mineral wealth is globally recognized. While it is currently the world's seventh largest copper producer behind Chile, China, Peru, the United States, Australia and Russia, the country is poised to rank amongst the top five copper-producing jurisdictions in the near future as expansions plans for key mines and new developments in Solwezi near completion. However, Zambia's mineral wealth does not end solely with copper. The country hosts a wide range of other mineral reserves such as gold, lead and zinc and gemstones.

COPPER AND COBALT

Zambia is widely recognized as the largest copper producer in Africa in 2013. Earlier in 2014 it was reported that the Democratic Republic of Congo, which shares the rich Archean belt with Zambia, had overtaken the country as the number one copper producer in Africa, but this is yet to be confirmed. Zambia is responsible for approximately 4.5% of global copper production annually. Another key feature of Zambia's copper deposits is that it yields an exceptionally high grade of 2% to 3%, compared to the global average yield of around 0.8%. An estimated one billion mt of copper ore has already been mined in Zambia, with a further two billion mt of reserves that are yet to be exploited.

With expansion plans at leading mines such as First Quantum's Kansanshi mine and new mines such as the Sentinel project in the Solwezi region that started production in Q3 2014, Zambia is on track to delivering on the projected 1,2 million mt of copper annually. John Gladston, in charge of Zambia Government Affairs for First Quantum Minerals explained the production plans for its copper mines: "By the end of 2014 FQM is going to have two world-class producing mines. I have confidence that the increased production that we will see out of Sentinel and the expansion of Kansanshi will get Zambia back into the number one position. First Quantum would like to produce copper at a rate of 300,000 mt/y at Sentinel. Sentinel mine has a billion tons of copper at a grade 0.5%, while Kansanshi has 860 million tons with an oxide component, which typically yields better grades than pure sulfides. With a relatively low-grade ore body at Sentinel we will need to mill around 60 million mt/y of very hard ore. When Kansanshi started, it was designed for about 110,000mt/y copper and is now producing 260,000 mt/y. At the current expansion rate, production will raise will to about 400,000 mt/y. Sentinel will be an even bigger grassroots project and if more material is found, there is always the prospect of adding a third train to take it above 400,000 mt/y."

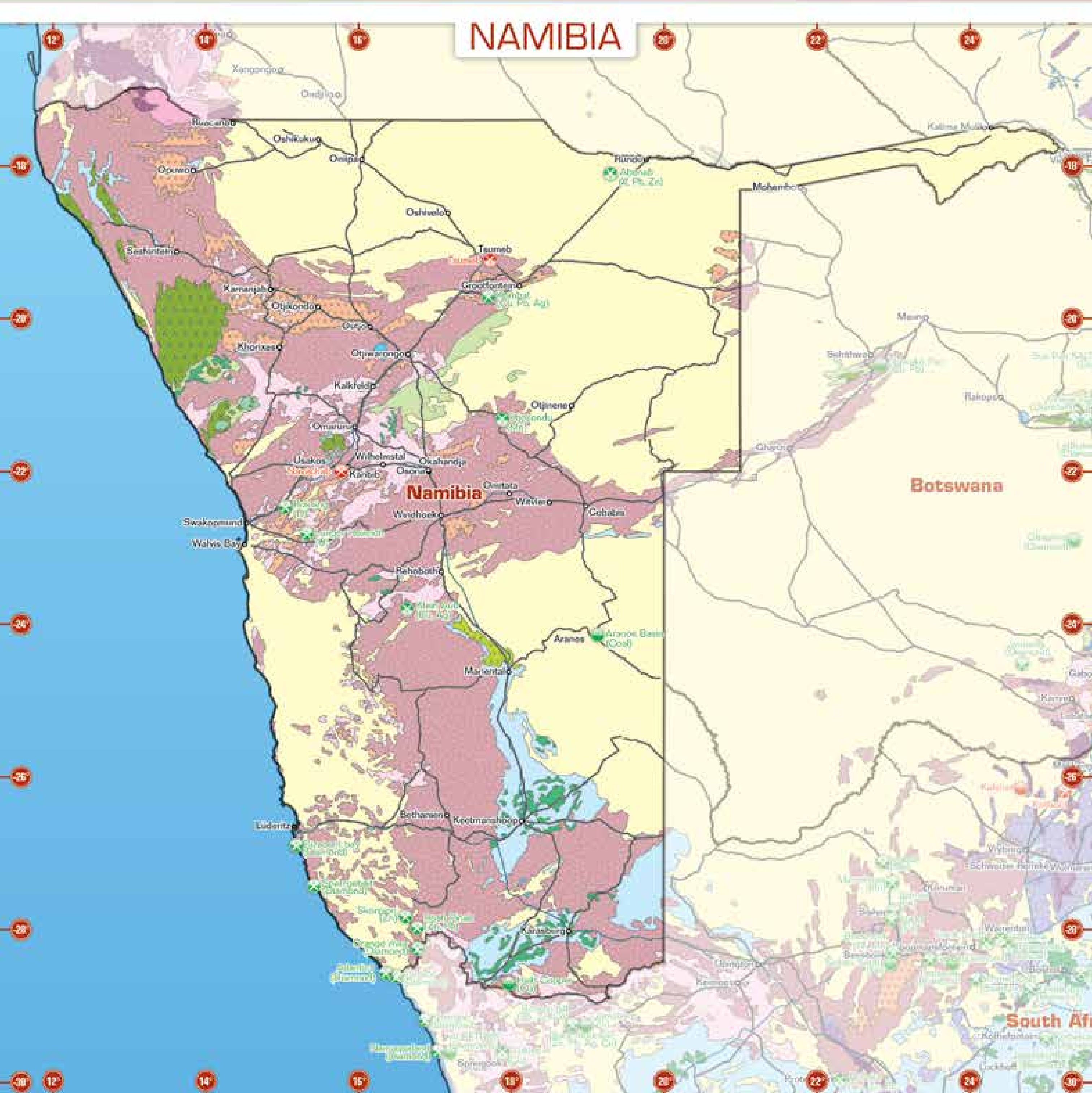
As the backbone of the mining industry, other prominent copper mines include the Lumwana copper mine owned by Barrick Gold Corporation; the Mopani mine owned by Glenocre Xstrata (73%), First Quantum Minerals (17%) and ZCCM-IH (10%); Konkola copper mine, owned by Vedanta Resources (79%) and ZCCM-IH (21%); Lubambe copper mine owned by Vale SA (40%), African Rainbow Minerals (40%) and ZCCM-IH (20%); and the Chibuluma copper mine owned by Metorex (85%) and ZCCM-IH (15%).

The softening of copper prices since a high of $8,000 per mt in 2012 combined with the recent announcement of increased royalties on sales has caused widespread unease among active mining companies. Low-grade mines such as Lumwana will be especially affected as the open-pit operation already has constrained margins and a 20% royalty tax will seriously challenge the mine's economic viability. Geoffrey Mulenga, president of the Association of Zambian Mineral Exploration Companies (AZMEC) also believes that the new policy is not conducive to the sector and further investment. He said, "There are a few uncertainties at the moment. There are certain things that government do not realize that it effects the income from investors."

As new applications for copper are continually discovered and developing countries continue to grow, the long-term demand for copper should continue to drive up its value. The metal has already recovered slightly from the 2013 low of $6,000 per mt to the current $6,700/mt. However, the Zambian government is also aware that copper is a depletive resource and the country's over-reliance on the metal is not only risky in terms of short term price fluctuations, but for long-term, sustainable growth. Paul C. Richards, head of corporate and investment banking of Stanbic Zambia, agrees that from a financial perspective there is a definite trend to diversify. "Copper and agriculture underpins the Zambian economy. Copper is the formal underpinning of the economy and agriculture underpins the informal sector, but Zambia continues to make significant strides in diversifying the economy away from the overreliance on copper. Commercial agriculture is growing exponentially and attracting substantial investment. Fundamentally the Zambian economy is growing and there is significant appetite for Zambian risk. Local currency interest rates have increased over the last couple of months and thus foreign investors are coming into Zambia," said Richards.

While copper is thriving, the country should leverage the benefits and wealth accrued to build a serious manufacturing sector around the mining sector as well as a sustainable agriculture sector. On a smaller scale, diversification within the mining sector is also an important goal, as the areas further away from the copperbelt remain largely under explored. At the moment, the Zambian mining industry remains synonymous with copper, accounting for an estimated 75% of the country's total export earnings. As expansion of the industry continues, this will remain the case for a long time to come. However, Zambia's vast mineral wealth and further mining potential should not be ignored. •

NAMIBIA



Your feet on the ground in Africa

NORTH

0 100 200

KILOMETERS

GOLD MINES

- Existing
- Gold resources
- Closed

OTHER MINERALS

- Existing mines
- Projects
- Closed mines

CENOZOIC

- Sediment
- Volcanic felsic
- Volcanic mafic
- Plutonic felsic
- Plutonic mafic

MESOZOIC

- Sediment
- Volcanic felsic
- Volcanic mafic
- Plutonic felsic
- Plutonic mafic
- Metamorphic

PALEOZOIC

- Sediment
- Quartzite
- Volcanic felsic
- Volcanic mafic
- Plutonic felsic
- Plutonic mafic
- Metamorphic

PROTEROZOIC

- Sediment
- Quartzite
- Volcanic felsic
- Volcanic mafic
- Plutonic felsic
- Plutonic mafic
- Metamorphic
- Amphibolite

ARCHEAN

- Volcanic felsic
- Volcanic mafic
- Plutonic felsic
- Plutonic mafic
- Metamorphic
- Amphibolite

- Geological boundary certain
- Country Borders
- Roads
- Water area
- Railway

SEMS EXPLORATION | THE AFRICAN GEOLOGICAL CONSULTANCY GROUP

Clive Johnson

President and CEO
B2Gold Corp.

"Based on this commitment to CSR in Nicaragua, B2Gold was recently presented an 'Economic Empowerment and Community Impact' National CSR Award."

What role will B2Gold's Otjikoto mine in Namibia play in the company's production forecast for 2015, and how will 2014's exciting discovery of the Wolfshag zone contribute towards the success at Otjikoto?

With overall company forecasts for 2015 at 500,000 oz gold to 540,000 oz gold, B2Gold is predicting yet another record year. Production at Otjikoto will play a big part in B2Gold's overall portfolio and will be a significant contributing factor towards B2Gold's projected 35% increase in production for 2015.

In 2014, a high-grade deposit coined the Wolfshag zone was found near to the original point of discovery (now ideally located close to the mill) at Otjikoto. This deposit has a higher grade at 8 grams per metric ton (g/mt) gold compared to 1.4 g/mt gold within the main Otjikoto open-pit ore body. Timing could not have been better and with the Wolfshag zone discovery in mind, the Otjikoto mill was designed with the capacity to expand. By investing an additional $15 million into the construction of the mill and by installing, at little cost, two additional tanks and pebble-crushing facilities, the mill will be able to accommodate a 25% to 30% increase in production, thereby increasing the plant's capacity from 2.5 metric tons per year (mt/y) to 3 mt/y. The mill expansion will be completed by Q3 2015. Wolfshag will be incorporated in late 2016, meaning more gold will be produced from the same tonnage as the grade is higher. Therefore, production at Otjikoto this year will be 150,000 oz gold, rising in 2016 to 200,000 oz gold. With low operating costs of approximately $540 per ounce of gold, higher grades also result in lower operating costs so Wolfshag is set to-further boost B2Gold's profit.

Can you please outline the reasons behind Otjikoto's accomplished milestones thus far?

In December 2014, Otjikoto's first gold bar was poured ahead of schedule (and on budget). Otjikoto continues to exceed company expectations and the mine has already declared commercial production ahead of schedule. Construction was carried out so well that ramp up was brief and in the first month B2Gold exceeded the 1,600 mt/d mill forecast. B2Gold's ramp up estimation for Otjikoto is now at 6,100 mt/d. Results from Q1 2015 surpassed production and operating cost estimates.

The key to B2Gold's success is the discipline the company brings to mine construction by not sub-contracting construction management and being fully responsible for construction, controlling its process and schedule. B2Gold is currently one of the few intermediate gold mining companies that is delivering on promises, and is profitable and growing.

With the acquisition of Papillion Resources in October 2014, can you please outline how the Fekola project in Mali will assist in B2Gold's growth?

B2Gold's Fekola property was acquired from Papillion Resources in October 2014, and is set to become one of B2Gold's chief flagship assets. With its history of mining activity and established world-class deposits, Mali is a good country to operate in. B2Gold has received considerable support from Mali's minister of mines to build the mine.

Initial road construction has been completed, and the feasibility study will be finalized by June 2015. Fekola is anticipated to be up-and-running by late 2017 or early 2018. The capital costs will range from $400 million to $500 million and will be funded by operating cash flow generated through worldwide production over the next three years, along with a $200 million (possibly $400 million) in revolving bank debt credit. The estimated operating costs will be an attractive $550/oz gold range, with annual production projected to be over 300,000 ounces. With Fekola and B2Gold's other assets combined, the company's annual production will be 900,000 oz gold, complemented by diminishing operating costs.

B2Gold's success can be attributed to the company's commitment to corporate social responsibility (CSR). What have been the defining moments of B2Gold's CSR achievements?

When B2Gold went to Nicaragua, there was an anti-mining lobby, as the local perception was that mining was detrimental to the environment. B2Gold allayed these fears by explaining how a modern mine is con-structed, operates and creates local jobs, and assuring that it would safeguard the environment. Based on this commitment to CSR in Nicaragua, B2Gold was recently presented an "Economic Empowerment and Community Impact" National CSR Award. B2Gold's CSR policy in Nicaragua soon formed a company blueprint for CSR initiatives worldwide. For example, B2Gold are actively involved with the two towns, Otjiwarongo and Otavi, near Otjikoto, where it is conducting several community programs, including a housing program to ensure workers have the opportunity to acquire a local home.

One of B2Gold's principal CSR initiatives is to employ local people. At Otjikoto, B2Gold has employed 1,000 local people, which 90% of all employees. Similarly, B2Gold will employ the local population near the Fekola property in Mali to construct a self-sufficient camp, including airstrip and road, and the mine facilities. •

GBR

Global Business Reports