

MANAGER INSIGHTS

CHINAFRICA.

Why China's Future is Resting on Africa.

By: Charl Malan, Portfolio Manager



Overview

- Rapid urbanization and industrialization has made China the largest consumer of base and industrial metals worldwide, but increasing demand has been met with supply constraints
- The African continent has shown substantial unexploited resources of these minerals, however, the underlying countries face significant infrastructure constraints
- In our view, Africa will continue to grow into its new role as China's most important supplier, but not without considerable foreign direct investment (FDI) from China for extensive infrastructure developments, thus keeping commodity markets tight for the foreseeable future

Introduction

The continuation of the Chinese economic revolution is highly dependent on its ability to secure a staggering volume of a range of different minerals. Africa could become the strategic supplier of these mineral resources, but requires substantial Chinese funding to overcome what we view as significant and broad ranging infrastructure constraints (see Figure 1). Therefore, we believe that supply of these critical commodities will continue to be disappointing. As a result, we expect that commodity prices will remain elevated in the short to medium-term as high marginal cost producers keep the commodity market in balance.

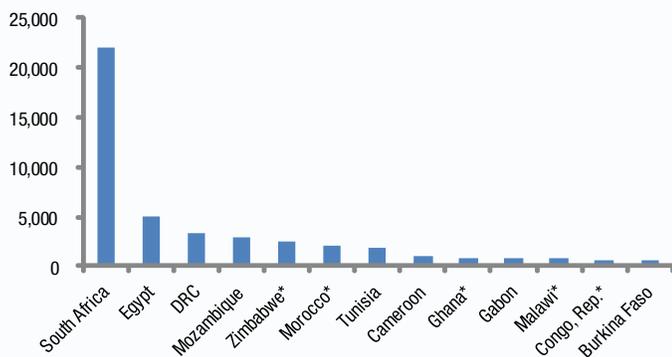
Increasing Demand from China

China's demand for raw minerals continues to increase to support its growth needs. According to McKinsey Global Institute, nearly 350 million people will be added to its urban population (more than the United States population) by 2025, roughly, an urbanization level

on-par with Japan and the United States. In addition, when China's current consumption levels are taken into account, we believe that the capacity for growth is quite compelling (see Figure 2).

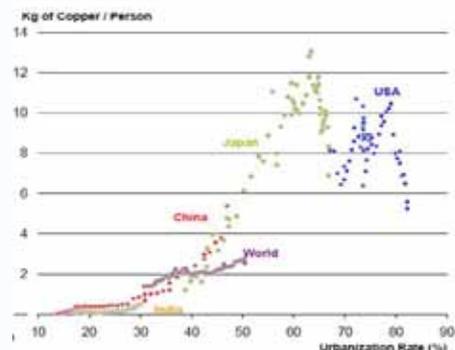
The industrialization and urbanization process has been a critical force behind making China the largest consumer of many commodities, including steel, copper, iron ore, nickel, aluminum (bauxite), and thermal and coking coal. As this urbanization continues to develop over the medium-to-long-term, we believe commodity demand will also grow, potentially increasing copper consumption, for example, by 50%. Importantly, Van Eck's Emerging Market Research Team has highlighted that such rapid urbanization can only be achieved via low-cost government sponsored housing, which is typically more commodities intensive.

FIGURE 1: DISTRIBUTION OF AFRICAN RAILROADS IN KM, AS OF 2009 (* = 2008)



Source: World Bank, NKC Consultants

FIGURE 2: URBANIZATION AND COPPER CONSUMPTION PER PERSON, 2009



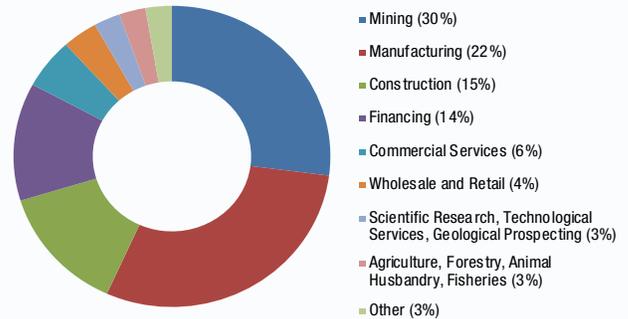
Source: Macquarie

FIGURE 3: SOCCER STADIUM (40,000 CAPACITY) BUILT AND FUNDED BY THE CHINESE



Source: Van Eck

FIGURE 4: CHINESE FDI TO AFRICA BY SECTOR, 2009



Source: CMC, Rencap

Africa is the second most-populous continent in the world, and is the host to about 30% of the planet’s unexploited mineral reserves. Not only is it a major producer of precious minerals such as gold, platinum group metals (PGM) and diamonds, but also basic/industrial minerals such as bauxite, cobalt, nickel, chromium and uranium. Historically, exploration and mine development in Africa have been primarily focused on these minerals, but in our view, future exploration lies in base and industrial minerals, such as copper, iron ore and coal, which are critical to China’s infrastructure.

During the past few years, China has become an undisputed force in fueling Africa’s commodity exploration. China’s influence in Africa has deep historical roots and, by 2009, China had overtaken the United States as Africa’s largest trading partner, with trade of \$90 billion. In 2009, China also became a leading source of direct foreign investment (FDI) with the Forum on China–Africa Cooperation (FOCAC), announcing a \$10 billion package earmarked for programs in agriculture, education and health (see Figure 3). The China–Africa Development Fund also made available more than \$5 billion of new money for private equity investments. Following one of our recent one-on-one meetings with the China–Africa Development Fund, we learned that funding of infrastructure to secure iron ore, coal and

copper supplies is considered a critical national security imperative (see Figure 4). Despite this intense focus and aggressive investment, we feel that infrastructure constraints will continue to be the limiting factor to meaningful supply increases of these minerals out of Africa over the medium term.

West Africa’s Wealth of Supply

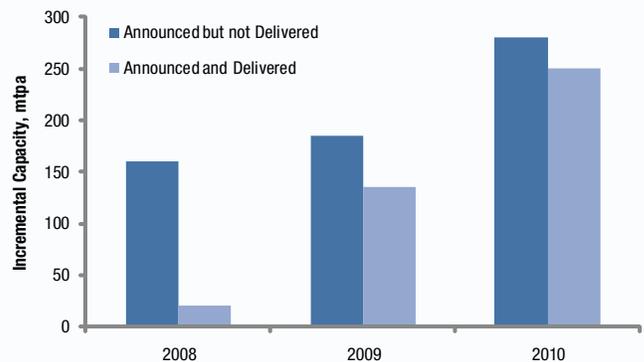
West Africa, Guinea, Sierra Leone and Liberia have emerged as the source some of the world’s greatest iron ore resources (see Figure 5). The region is not only host to major iron ore deposits but also the largest single magnetite deposit. Major players such as Chalco, Rio Tinto, BHP Billiton, Vale and Arcelor Mittal are actively evaluating projects that we estimate could reach 300 million tons per annum by 2015 and over 500 million tons per annum by 2020 (25% of global supply). If these projects are brought on-line and on time, we expect that they would go a long way to quenching the Chinese thirst for iron ore and would likely push the seaborne iron ore market into a surplus. However, we expect that the build-up will be significantly slower (see Figure 6) and more expensive than stated plans. As a result, the timeline for “swinging into a surplus” continues to be pushed out, and we believe it likely to keep the market tight until the end of this decade.

FIGURE 5: IRON BELT OF BRAZIL AND AFRICA



Source: Zanaga Iron Ore

FIGURE 6: ANNOUNCED IRON ORE SUPPLY ADDITIONS VS. ACTUAL INCREMENTAL DELIVERED



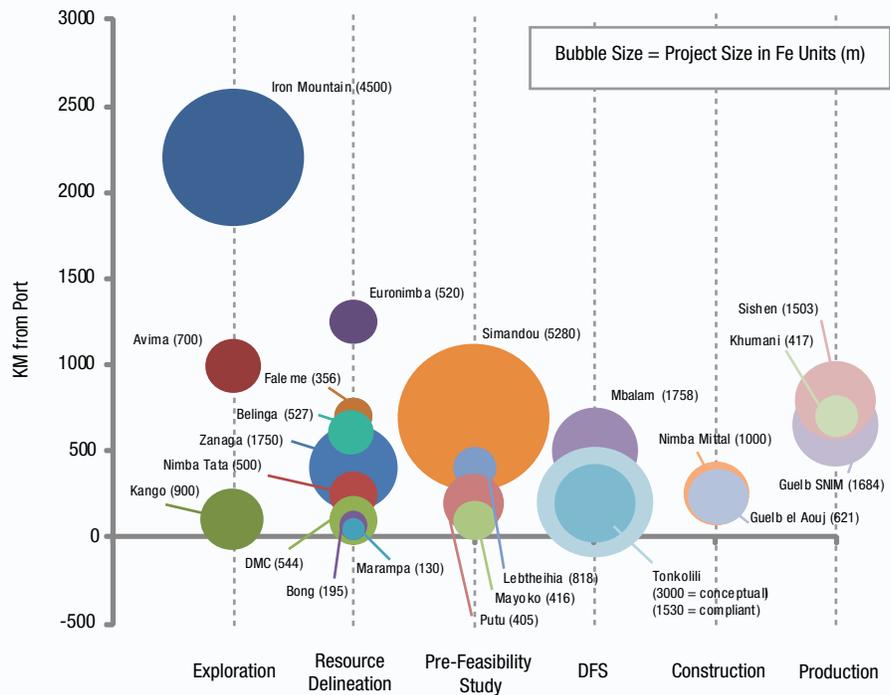
Source: BHP Billiton, Macquarie

FIGURE 7: CONSTRUCTION ACCESS ROADS AND RAILS



Source: African Minerals

FIGURE 8: AFRICAN IRON ORE PROJECTS AS OF 2010

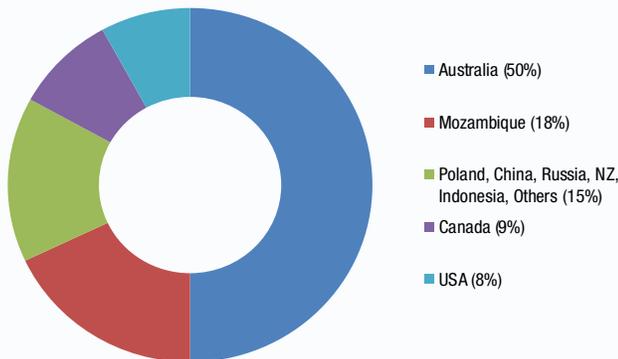


Source: African Minerals

Infrastructure is key with all iron ore projects, but none more so than in West Africa where there is a limited current base to leverage from (see Figure 7). What also concerns us is that a number of near-term projects are being developed by junior miners during a time where capital intensity has doubled in the past five years, from \$60 per ton to \$126 per ton. Therefore, we believe that capital cost will be a key development hurdle, even if funded by the Chinese. Distance from port is a significant hurdle both in terms of cost and terrain (see Figure 8).

In conversation with Engineering, Procurement and Construction (EPC) contractors, rail capital expenditures could be as much as \$8 billion (\$4 million per kilometer), depending on the topographic and geomorphometry conditions. Port infrastructure will also require massive capital investment. Additionally, it is our opinion that power generation remains the bigger challenge as sufficient grid power is generally not available and there appears to be a meaningfully insufficient gap between major project requirements and generation growth forecasts.

FIGURE 9: POTENTIAL SIZE OF MOZAMBIQUE COAL SEABORNE MARKET, 2010

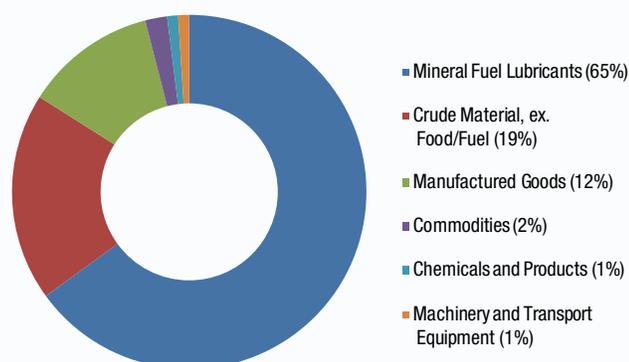


Source: Riversdale Mining

Untapped Opportunities in South Africa and Mozambique

South Africa and Mozambique have significant unexploited coal resources that need to be mined to satisfy the ravenous demand of China (and India, among others). South Africa is the largest producer of coal on the continent and has a global market share of about 4%. Mozambique, on the other hand, has limited current production, but we believe that it is well positioned to become a major coal exporter. With an estimated 2.5 billion tons of resources in the Tete province (Moatize, Mucanha and Vuzi basins), it is endowed with one of the largest undeveloped coal deposits outside of Australia (see Figure 9). However, both these countries face significant infrastructure constraints, particularly related to rail and power generation. South Africa does not have sufficient rail capacity (72 million tons per annum), as compared to its 91 million tons per annum export capability. CoalLink, the parastatal that operates South Africa’s coal rail network, is expected to invest ZAR10.1 billion over the next five years to improve efficiency, which could increase capacity to 81 million tons per annum by 2015.

FIGURE 10: DISTRIBUTION OF CHINESE IMPORTS FROM AFRICA, 2009



However, with our expectations that rail capacity will only operate at approximately 85% utilization, we believe short- to medium-term coal supply estimates are overstated. In Mozambique, the 670 kilometer-long, six million tons per annum Sena Line, between Moatize to Beira, needs to be rebuilt after it was almost completely destroyed by civil wars that raged in the country from 1964 until 1992. A new 750 kilometer-long, six to 11 million tons per annum Moatize-Nacala line is expected to be completed by 2015. At the same time both Beira and Nacala ports are being upgraded to handle bulk commodities. Nevertheless, the market currently expects production of nearly 40 million tons per annum from the Moatize basin, but without any additional rail and port capacity it is difficult to foresee that this coal will actually reach the seaborne market.

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Conclusions

In our view, China should access the vast mineral resources of the African continent to support its growth mandates. Over the past several years, we have logged countless miles traversing across Africa, visiting mines/projects, meeting government officials, parastatals, labor unions, rail officials, port operators and EPC firms.

This on-the-ground, fundamental research is a core aspect of our investment research process, and we believe it has allowed us to gain unique insights into timing, costs and execution risks associated with development of these important global resources.

We believe that Africa has a large number of projects in the pipeline and will ultimately become a critical supplier to China (*see Figure 10*). Some market participants are concerned that if these projects do rollout as planned, they will have a material impact on global supply/demand balances and prices.

However, our analysis suggests there will be delays in bringing major projects on-stream within forecast time frames. Even more importantly, and often ignored by the market in our opinion, we expect substantial impediments to bringing large scale infrastructure projects on-line and on time.

While these research efforts add to our expectation that many commodity markets will remain tight over the foreseeable future, they have also enabled us to identify a number of compelling stock ideas that can potentially capitalize on these global trends.