African Copper and China

This working paper uses Comtrade data for 2001-2024 (HS codes 2603 and HS 74) to trace China's rise to become the world's leading importer of copper, with its share increasing from 13 per cent to 41 per cent of global imports, and the structural shift in this demand, which is increasingly focused on raw ore rather than processed copper. The study shows that China faces no serious competition for the purchase of raw ore, but continues to compete with other countries, including those in the European Union, for processed copper. It then examines the specific role of Africa, dominated by the DRC (cathodes, HS 7403) and Zambia (anodes, HS 7402), and documents the DRC's rapid shift towards exporting cathodes since 2019. Two thematic sections complement the analysis: firstly, an estimate of transport costs highlighting the decisive impact of the form of the exported product, illustrated by the Kamoa-Kakula case; and secondly, an examination of the Chinese tariff exemption granted to least developed countries, the effect of which proves to be limited in this context.

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7 September 2026

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On 29 June 2026, the Democratic Republic of Congo (DRC) issued an inter-ministerial order to regulate the marketing, export and nomenclature of marketable mining products. This text repeals earlier measures and their exemptions, replacing them with a broader framework governing ore exports.

Following the announcement of this ban, the three-month copper price on the London Metal Exchange (LME) rose by 1.8%, reaching USD 14,369.50 per tonne, the highest level since its historic peak on 29 January 2026. This reaction chiefly reflects market concerns about the global supply of copper concentrate (and hence about foreign smelters), rather than about refined copper, whose flows are unaffected. Since the Congolese measure bans exports of copper (and cobalt) concentrate with immediate effect, its direct impact on Congolese refined-copper supply should be limited, given that the DRC exports most of its copper in the form of cathodes[1]. In other words, the inter-ministerial order comes at a time of global price tension without really affecting it, except perhaps psychologically.

This situation provides an opportunity to take stock of Africa's role in supplying China. Our general approach will be to explore the data available on the Comtrade website as reported by China. Where relevant, we will supplement this with by other actors' "mirror" data. Two headings are involved. The first, HS 2603, covers the flows of "copper ores and concentrates"; no subcategory distinguishes between raw ore and concentrated ore. This is not a drawback, since raw ore, which contains between 0.3% and 2% copper, is rarely exported over long distances, as the transport costs would not be worthwhile given its low copper content. It is therefore almost always concentrated at the mine head before being shipped. The second, HS 74, covers flows of "copper and articles thereof" and allows nearly 70 subcategories to be distinguished. We will now use this data to try to characterise the importance of Africa in China's copper supply.

1. China's Supply Sources

Between 2001 and 2024, Chinese imports of copper (HS 2603 and HS 74 lines) rose from USD 6 billion to USD 140 billion, a 24-fold increase. During the same period, total world imports only increased eightfold. Consequently, China's share therefore rose continuously, from 13% in 2001 to 41% in 2024 (see Figure 1). China has thus become a major player in the copper industry.

The value composition of these imports has also changed considerably. Whilst China imported more than 80% of processed copper (HS 74) in the early 2000s, this share has gradually fallen to no more than half (52% in 2024), while imports of raw or concentrated ores rose steadily (see Figure 2). This situation could stem from supplier countries' inability to produce sufficient quantities of processed copper products. Be that as it may, it is a major obstacle to the industrialisation of these countries, since China has established the necessary production facilities on its own territory rather than that of its suppliers. There are concerns that this may be a hard-to-reverse phenomenon. According to U.S. Geological Survey data, China accounts for almost half (48%) of the world's copper-refining capacity, while its mine production is said to account for only 8% of world production and its reserves for only 4% of world reserves[2].

1 Dylan Duan and Lewis Jackson, "Copper Holds Near Six-Month High After Congo Concentrate Export Ban", *China Global South Project*, 8 August 2026. "Cuivre et cobalt : la RDC resserre l'étau sur les exportations de concentrés", *Congo Monde*, 7 August 2026.

2 Daniel M. Flanagan, "Copper", *U.S. Geological Survey, Mineral Commodity Summaries*, February 2026, p. 2.

Figure 1.– Chinese copper imports (2001–2024)

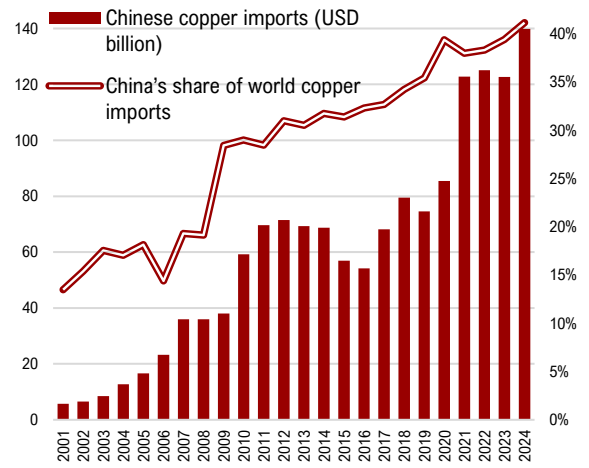
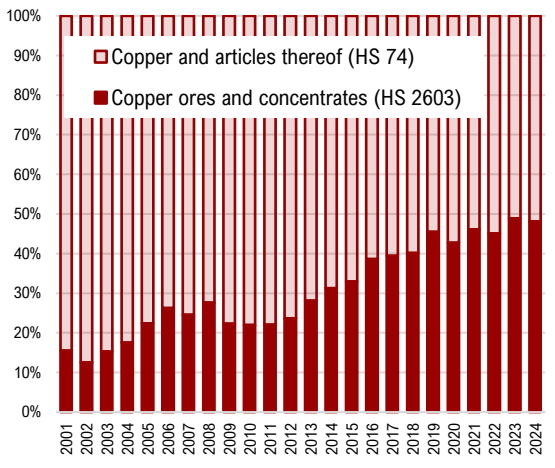


Figure 2.– Composition of Chinese copper imports (2001–2024)



2. CHINA AND ITS COMPETITION

China does not face the same competitive pressures everywhere in the world. It clearly faces no serious competitors when it comes to acquiring copper ore and concentrates (HS 2603). By contrast, when it comes to processed copper (HS 74), it is in direct competition with countries in the European Union, and to a lesser extent in South and South-East Asia (see Figure 3).

Figure 3.– Importer weight by geographic zones, in USD billion (2024)

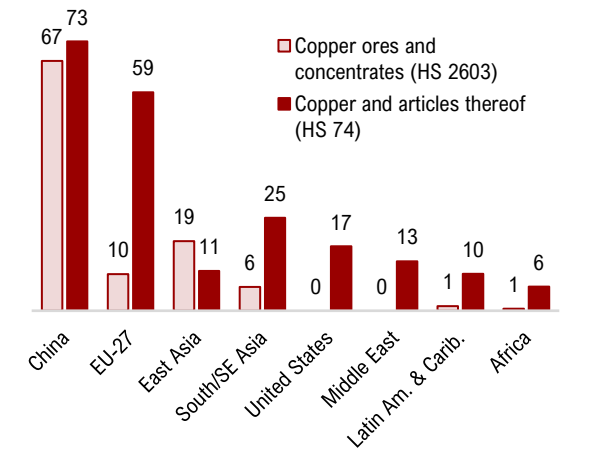
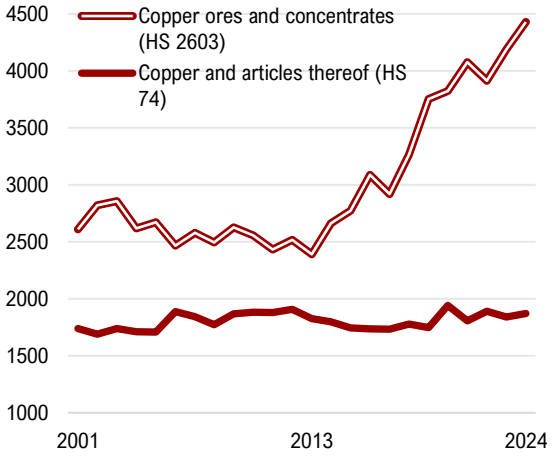


Figure 4.– Importer concentration index (2001–2024)



This situation is not the result of a cyclical effect, as shown by the concentration index[3] calculated for the 2001–2024 period (see Figure 4). The concentration index for copper ore showed high level of strong concentration as early as 2001 (2,610); this trend worsened significantly from 2013 onwards. By 2024, the index had almost doubled to 4,429. This indicates an erosion of competition to the benefit of a dominant buyer, and *ipso facto*, to the detriment of suppliers. By contrast, the

[3] The Herfindahl-Hirschman concentration index, whose value can range from 0 to 10,000, indicates a highly concentrated market once it exceeds 2,500.

index for processed copper remained virtually unchanged throughout the period, reflecting at the same time moderate concentration (between 1,740 and 1,871) and hence the persistence of competition which could potentially benefit suppliers.

3. COPPER ORE SUPPLIERS (HS 2603)

In 2025, two supplier countries (Chile and Peru) dominated the landscape, accounting for 57% of China's copper supply. The seven countries shown in Figure 5 met almost 80% of China's needs that year. The DRC is the only African country to appear in this "top 7", but, as we have noted when discussing the ban on copper ore exports, its share is very small.

Figure 5.– Share of the seven leading copper suppliers (2024)



Table 1.– Dependence of China's suppliers on China (2024)

China's supplier countries	Exports to China relative to production	Exports to China relative to total exports	Total exports relative to production
Chile	41.8%	68.8%	60.8%
Peru	63.7%	77.3%	82.4%
Mexico	51.3%	88.4%	58.0%
Mongolia	n/a	100.0%	n/a
Kazakhstan	53.3%	97.4%	54.7%
DR Congo	5.2%	83.3%	6.2%
Indonesia	13.3%	24.0%	55.4%
Australia	15.3%	20.2%	75.7%
United States	10.9%	30.1%	36.2%
Russia	10.1%	96.4%	10.5%
Canada	18.0%	31.1%	57.9%

Table 1 adopts two distinct angles to measure supplier countries' dependence on their main Chinese customer. First, it is first measured by the share of production that these countries export to China[4]; then, it is measured by the proportion of exports to China within suppliers' total exports. Taking into account the proportion of production actually exported, three profiles emerge[5].

Some countries show strong dependence in terms of volume, insofar as large quantities of copper concentrate are exported and sold to China. This is the case for Peru where 82.4% of production is exported, 77.3% of which goes to China. Similar trends are seen in Chile (60.8%/68.8%), Kazakhstan (54.7%/97.4%) and Mexico (58.0%/88.4%). For these countries, China represents an almost unique outlet. Conversely, other countries that export a substantial share of their production have diversified their outlets, even though China still plays a significant role. This is the case for Australia (75.7%/20.2%), Canada (57.9%/31.1%) and Indonesia (55.4%/24.0%). The United States also falls into this category, but with weaker export dependence (36.2%), particularly towards China (30.1%). Lastly, some countries export very little, but these exports go to China: the DRC (6.2%/83.3%) and Russia (10.5%/96.4%). Whereas the DRC's choice reflects an industrial strategy

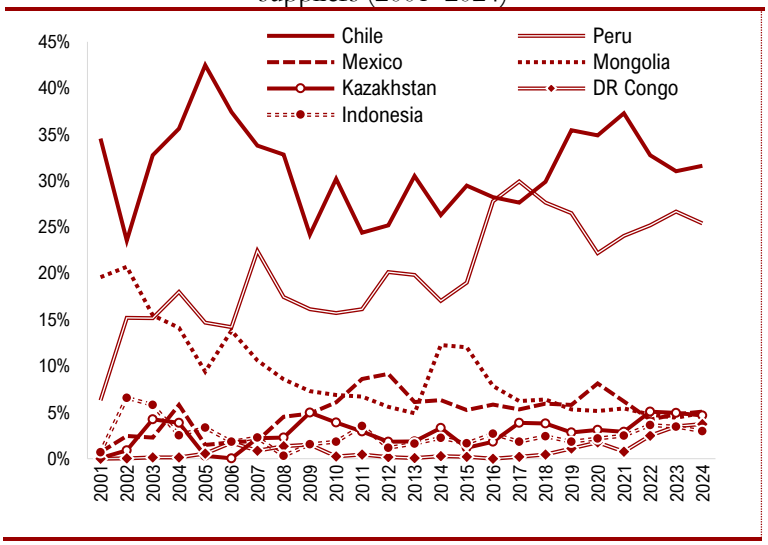
4 Production data are drawn from the Daniel Flanagan article already cited (see note 2); the author there provides an estimate of major countries' production, calculated on the basis of the copper content of the concentrated ore. As a general rule, concentrated copper ore contains between 20% and 30% pure copper. We adopted an intermediate rate (25%), which we applied to the volume of exports by China's suppliers to obtain the figures in Table 1.

5 Our own calculations based on the table's data.

(not exporting unprocessed copper ore), Russia's is constrained by the sanctions imposed by part of the international community.

Throughout the 2001–2024 period, China's dependence on its suppliers was most pronounced for Chile and Peru (see Figure 6). Mongolia also played an important role, but this gradually faded. Apart from these two leading suppliers, all others play a marginal role today contributing to the diversification of China's supply base.

Figure 6.– China's dependence on its seven leading copper suppliers (2001–2024)



4. PROCESSED COPPER (HS 74) IMPORTED BY CHINA

About 31% of Chinese imports of processed or semi-processed copper (HS 74) originate from Africa. The majority of these imports consist of "refined copper, unwrought, cathodes" (HS 7403), accounting for 72%, as well as "unrefined copper, anodes" (HS 7402), accounting for 27%. Therefore, as a share of China's total imports in these categories, Africa thus accounts for 39.6% of cathode imports and 71.0% of anode imports (see Figure 7 and Table 2). Importing anodes means importing a semi-finished product that still has to be refined in China. This implies that the value added by refining (as well as that generated by the silver and gold by-products) accrues on Chinese territory rather than in the country of extraction. Importing cathodes, on the other hand, means importing a refined product ready to be processed (wire-drawing, alloy casting or rolling), which presupposes that the producing country has benefited from domestic or foreign investment.

It should be noted that while China imports significant quantities of "copper waste and scrap" (HS 7404) from around the world (the second-largest heading, at 24.5%), Africa's contribution is very limited (2.1%). This scrap forms a kind of "secondary deposit". It consists of production offcuts, cables, end-of-life equipment and other industrial scraps which is remelted to produce refined copper or alloys directly, without going through mineral extraction. This explains why China's main suppliers in this category are industrialised economies such as the United States and the European Union, rather than mining countries.

Figure 7.– Chinese imports of processed copper (2024)

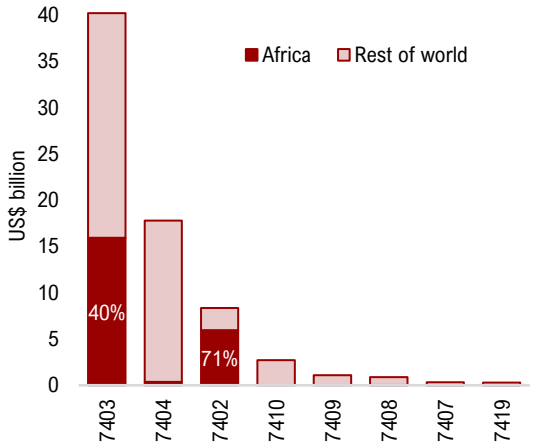


Table 2.– Value and share of Chinese processed-copper imports (2024)

Processed copper categories	Amount imported by China from Africa (US$ billion)	Africa's share of Chinese imports
7403 Refined cathodes	15.94	39.6%
7404 Waste/scrap	0.37	2.1%
7402 Anodes	5.95	71.0%
7410 Foil	0.00	0.0%
7409 Plates/strip	0.00	0.0%
7408 Wire	0.00	0.0%
7407 Bars/profiles	0.00	1.0%
7419 Articles n.e.s.	0.00	0.0%

n.e.s.: not elsewhere specified.

5. AFRICAN SUPPLIERS OF PROCESSED COPPER (HS 74)

African exports are essentially driven by two countries: the DRC and Zambia. Across all processed-copper subcategories combined, the DRC accounts for 68.0% of African exports to China (i.e. 20.9% of China's total imports), while Zambia represents only 21.7% (i.e. 6.7% of China's total imports). South Africa comes third (4.6%/1.4%), while other supplier countries such as Morocco, Nigeria, Tanzania and Egypt play only a marginal role. However, it should be noted that the two main suppliers follow diverging trajectories. Zambia remains structurally a supplier of anodes (HS 7402), whereas the DRC has organised itself to shift significantly towards exporting cathodes (HS 7403)[6].

Figure 8.– Share of the DRC and Zambia in China's copper imports (2001–2024)

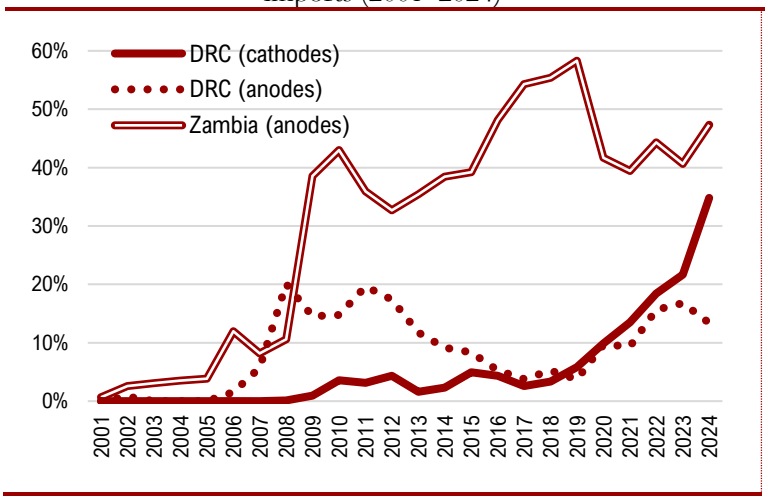


Figure 8 shows that cathode exports from the DRC were close to nil for a long time before rising slightly up to 2018. From that date onwards, exports have shown ever-stronger growth (5.8%; 9.9%;

[6] It should be added that the other categories require technical capabilities that African countries lack, in particular heading HS 7410, whose products are essential for the production of printed circuit boards and lithium-ion batteries (the exact heading reads: "Copper foil (whether or not printed or backed with paper, paperboard, plastics or similar backing materials), of a thickness (excluding any backing) not exceeding 0.15 mm").

13.5%; 18.5%; 21.7%; 34.8% for the years 2019 to 2024 respectively), thereby overtaking, *ipso facto*, Chile, the leading supplier until then. Zambia, for its part, has lastingly dominated the anode segment since 2010, peaking at 58.3% in 2019.

The Congolese turning point of 2019 is undoubtedly explained by the promulgation of the new mining code[7] on 9 March 2018. This code raised royalties on non-ferrous metals (including copper) from 2% to 3.5%, and those on "strategic" mineral substances (such as cobalt, germanium and coltan) from 2% to 10%. The fiscal stability clause was also shortened from 10 to 5 years. In addition, the text requires mining operators to process, or have processed, raw ores within the DRC, unless a waiver is granted in exceptional cases. This new code prompted opposition from mining companies, but it clearly did not curb the Chinese investment which continued to flow in.

In the recent period (2018–2024), two mining projects funded by Chinese capital have expanded rapidly in the DRC. The older of the two is Tenke Fungurume, an open-pit mine which is said to be the world's fifth-largest copper mine and second-largest cobalt mine. After changing hands several times between 1998 and 2007, it was acquired by China Molybdenum (CMOC) in 2016. CMOC increased its stake from 56% to 80% in 2019 by buying out the stake held by the Chinese fund BHR. In recent years, CMOC has recently made substantial investments with the aim of becoming one of the world's leading copper producers. In 2021, the company announced its intention to double copper and cobalt production by 2023. Two new ore-processing plants were brought into service in 2023. In 2024, CMOC announced plans to double its copper output from the Tenke Fungurume and Kisanfu mines in order to meet the growing global demand for the metal. CMOC is targeting a production capacity of between 800,000 and 1 million tonnes by 2028. All these developments contribute to the growth we have described[8].

The Kamoa-Kakula site is one of the most significant deposits to be discovered in decades. Commercial production began on 1 July 2021 through a joint venture involving the Congolese State (20%), Ivanhoe Mines (39.6%, Canada), Zijin Mining Group (39.6%, China) and Crystal River Global (0.8%, Hong Kong). The on-site smelter, which has a capacity of 500,000 tonnes per year and was commissioned in 2024, enables the mine to produce copper in the form of anodes itself. According to the terms of the contract, this output will be partly refined in Europe by the German group Aurubis (20%) and partly in China by two offtakers who will share the remaining 80% (CITIC Metal, a subsidiary of CITIC Group, and Gold Mountains Intl., a subsidiary of Zijin Mining). Since the available statistical data ends in 2024, it is not possible to show the effects of this smelter's operation in Figure 8, whose output began in December 2025, particularly given that the Kakula mine suffered a major earthquake in May 2025, requiring a complete overhaul[9].

6. Competition and Transport Costs

We wondered whether transport costs might fuel competition between European and Chinese industrial players. As we lacked the appropriate tools, we entrusted an AI agent[10] with gathering and analysing the relevant material, enabling us to draw certain conclusions.

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7 See Isabelle Minnon's presentation at the "Chinese Presences" seminar on 21 April 2021, at.

8 Jacqueline Zimmerman and Katherine Walsh, *Tenke Fungurume Copper-Cobalt Mine Lualaba Province, DRC – Chinese Financing for Transition Minerals*, Williamsburg, VA: AidData at William & Mary.

9 Ivanhoe Mines, *Kamoa-Kakula Copper Complex*, March 2026; Solomon Ekanem, "Africa's Lobito Corridor records first copper shipment as Canadian miner exports 99.7% anodes to Europe", *Business Insider Africa*, 24 March 2026.

10 This refers to Claude, developed by Anthropic.

The cost of transporting copper from the DRC and Zambia is dominated by the overland leg rather than the sea leg: moving copper concentrate containing between 35% and 40% pure copper from the Copperbelt to a port costs between USD 200 and 300 per tonne via the southern route and takes between 30 and 45 days, whereas bulk sea freight to China costs only USD 25 to 40 per tonne. Therefore, the determining factor is not so much the final destination (China or Europe) as the form of the product exported. The Kamoa-Kakula mine's operations show this clearly. By switching from low-grade copper concentrate to anodes assaying 99.7% pure copper, thanks to the on-site smelter, the cost of logistics fell from around USD 1,600 per tonne to USD 530 per tonne, a two-thirds reduction due solely to the increased copper content of the transported product. The second structuring factor is the rise of the Lobito rail corridor, which reduces the total logistics costs to around USD 100-130 per tonne for delivery to the nearest Atlantic port by rail (a journey of around seven days) before sailing to Europe. This is more cost-effective than the historic southern routes to Asia, which cost USD 165-220 per tonne and take 30-45 days. This is why this route was inaugurated in early 2026 to deliver the first anodes to Aurubis in Europe[11].

Aurubis's latest annual and interim reports make no mention of the Kamoa-Kakula copper mine or its delivery via the Lobito corridor. However, they do refer at length to the memorandum of understanding with Troilus Gold Corp., a Canadian company that operates a copper mine without a smelter and produces copper in the form of concentrate. This deal is presented as an illustration of a supplier diversification strategy aimed at reducing the risk of supply disruption[12]. It is doubtless in this light, rather than any other, that their presence in the DRC should be understood, with competition against Chinese companies being fought more over access to suppliers than over securing better prices.

7. WHAT OF AFRICAN COPPER AND THE CHINESE TARIFF EXEMPTION?

However desirable and welcome China's tariff exemption may be, can it affect trade flows in such a way as to boost trade relations between African countries, specifically the DRC and Zambia? For such a measure to have a real effect on trade, two conditions must be met. Firstly, the removed tariffs would need to effectively constrain these two countries' exports to China. Secondly, they would need the supply capacity to respond to this removal.

Both these countries are among the "least developed countries" (LDCs) and as such already benefited, from 2005 onwards, from a tariff exemption covering only 190 tariff lines, already including those affecting imports of copper in all its forms[13]. Consequently, the measure decided by Peking in December 2024 removes no constraint on copper exports to China. Moreover, the Chinese measure provides no new incentive for Europe to change its tariff policy, since LDCs have enjoyed duty-free access to the European market for all goods except arms and munitions since 2001[14]. The main obstacle for these two countries is their ability to meet demand, whether through extracting more copper or withstanding competition from other suppliers.

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11 *Ibid.*; see also *The Lobito Corridor in 2026: Complete Guide to Africa's Most Strategic Infrastructure Project*, 2026.

12 Aurubis AG, *Annual Report 2024/25*, 2026, p. 27.

13 **商务部公布非洲 190 种商品进口关税特惠税率** [MOFCOM Announces Preferential Import Tariff Rates for 190 African Goods], 20 January 2005.

14 European Commission, Everything but Arms (EBA), 2019.