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Mining Nationalism and Export Restrictions

The Challenges of Economic Development

Thibault MICHEL
Candice ROCHE
Emmanuel HACHE

With the collaboration of:

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Ifri

27 rue de la Procession 75740 Paris Cedex 15 – FRANCE

Tél. : +33 (0)1 40 61 60 00 – Fax : +33 (0)1 40 61 60 60

E-mail : accueil@ifri.org

Website: Ifri.org

Authors

Thibault Michel has been a Research Fellow at Ifri's Center for Energy and Climate since January 2024.
Prior to joining Ifri's Center for Energy and Climate, Thibault Michel worked as a business intelligence and geopolitical analyst at RTE, the French Transmission system operator (TSO), notably on electricity interconnections. He also worked on security and companies' protection issues at L'Oréal.
Thibault holds a Master's degree from Sciences Po Strasbourg in European affairs and geopolitics as well as a degree in geoeconomics from IRIS SUP'. He also studied history and historical research at Grenoble Alpes University.

Candice Roche is a Ph.D. candidate at IFP Énergies nouvelles and the EconomiX-CNRS laboratory (Université Paris-Nanterre). She graduated from ENS Paris-Saclay, specializing in ecological and energy transitions. She focuses on the geopolitics of the energy transition and the security of metal supplies. She has been contributing to the Observatoire des ressources minérales pour les filières industrielles (OFREMI) since 2024.

Emmanuel Hache is a scientific associate at IFP Énergies nouvelles. He works on energy foresight, focusing on the natural resources needed to achieve the ecological transition. He is an associate researcher at Economix (EconomiX-CNRS, Université Paris-Nanterre) and a research director at the Institute for International and Strategic Relations (IRIS). He is also an expert at the Observatoire des ressources minérales pour les filières industrielles (OFREMI). He holds a Ph.D. in Economics (Université Paris I), is authorized to supervise research (Université Paris-Nanterre), and also holds a degree in Geopolitics and Foresight from IRIS.

Executive summary

Since the end of the 2000s and especially the 2010s, resource nationalism has been on the rise. Resource nationalism refers to policies aimed at maximizing the value a state derives from the production and export of resources within its territory, including through higher taxes on mining operations, restrictions on mineral exports, nationalizations, or seizures of infrastructure. This can also take the form of cartelization measures—similar to the Organization of Petroleum Exporting Countries (OPEC)'s model for oil—by bringing together several producers to act in concert on resource availability and pricing. However, cartelization attempts involving copper, bauxite, or tin have not succeeded, as the associations in question proved unable to establish discipline similar to that of OPEC, for materials with more substitutes than oil and reserves often more widely dispersed across the globe.

Examples such as the Democratic Republic of the Congo's (DRC) recent policy on cobalt illustrate the aspiration of many resource-extracting countries to move down the value chain to capture more added value. This strategy involves, in particular, export restrictions aimed at promoting local mineral processing. These policies also allow influence over prices, either by stabilizing them or increasing them, especially when local production accounts for a large share of global supply, as is the case for cobalt production in the DRC. The case of South American lithium, meanwhile, highlights the different strategies that states may employ in exploiting the same resource—strategies that are shaped, in particular, by institutional legacies.

The objective of capturing more value-added raises the issue of export restrictions and their effectiveness in promoting local mineral processing. The five case studies analyzed (chromium in Zimbabwe; copper in Zambia; nickel in Indonesia; lead in Mexico; phosphates in Morocco) reveal that the success of policies to develop refining industries depends less on the type of measures taken than on a country's possession of attractiveness factors: access to sufficient and affordable energy; adequate water resources; logistics suited to the creation of industrial infrastructure; presence of a downstream market capable of absorbing potential refined output; a skilled workforce; and financing capacity to support investment dynamics.

Analyzing costs and benefits of resource nationalism thus remains complex, particularly because states' motivations are not solely financial but may also be political or social. Nevertheless, nationalistic mining policies must be paired with concrete, well-funded strategies to deliver tangible benefits and transformations.

The key factor remains the extent to which a country controls global reserves of a raw material, provided global demand is sufficient. However, the level of reserves required to achieve the status of a virtually indispensable

player—and thus compensate for the potential absence of the factors mentioned above—may prove to be relatively high.

The effectiveness of export restrictions in promoting local mineral processing has therefore not been demonstrated: while such measures may play a role in this development, this role is limited to acting as a catalyst for existing dynamics (see the case of Indonesia and nickel) rather than as an enabler of those dynamics.

Mining nationalism and export restrictions are therefore not a silver bullet for ensuring the economic and industrial development of resource-rich countries. Such development requires overcoming structural obstacles and can only take place through an approach that extends beyond the sole mining sector (infrastructure development, training of a skilled workforce, etc.). For Europe, which aims to secure its supplies upstream in the value chains, understanding the aspirations of resource-extracting countries is therefore key to developing effective partnerships and establishing a win-win model.

Résumé

Depuis la fin des années 2000, et *a fortiori* depuis les années 2010, le nationalisme des ressources connaît un nouvel essor. Le nationalisme des ressources désigne les politiques visant à maximiser la valeur qu'un État tire de la production et de l'exportation des ressources présentes sur son territoire, notamment par une hausse de la fiscalité sur les activités minières, des restrictions aux exportations de minerais, des nationalisations ou des saisies d'infrastructures. L'analyse des coûts et des bénéfices du nationalisme des ressources demeure donc complexe, notamment parce que les motivations des États ne sont pas uniquement financières, mais peuvent également être politiques ou sociales. Ces politiques permettent également d'influer sur les prix, soit en les stabilisant, soit en les augmentant, en particulier lorsque la production locale représente une part importante de l'offre mondiale, comme c'est le cas de la République démocratique du Congo (RDC) pour le cobalt. Le cas du lithium sud-américain met, quant à lui, en évidence les différentes stratégies que les États peuvent employer pour exploiter une même ressource – stratégies façonnées notamment par les héritages institutionnels.

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Introduction

On February 25, 2026, the Zimbabwean government announced the suspension of exports of raw ores and lithium concentrates for the year 2026. This action is part of a broader trend of strengthening mining nationalism since the mid-2010s.

While the logic of resource nationalism is longstanding—with origins generally accepted as dating back to the 1930s[1]—actions of this type have experienced a new surge in recent years. These take the form of a broad spectrum of measures, ranging from changes in tax regimes to nationalizations, including export restrictions. Measures of this type have increased sharply over the past twenty years, notably since 2020 and Indonesia's ban on exports of unrefined nickel ore. This measure, followed by a significant development of refining infrastructure in the country, is seen as an example to follow by many developing countries. Restrictions with a similar logic have thus been put in place by the Democratic Republic of the Congo (DRC) on cobalt (since 2025), by Malaysia and Vietnam on rare earths (2024 and 2025), and by Mozambique on graphite (2026), while Gabon has announced its intention to ban exports of unrefined manganese from 2029.

This return of mining nationalism illustrates the desire of a number of developing states to derive greater benefit from the resources present on their territory, an ambition driven by financial motivations but not only, as political or social considerations also come into play. The nationalist phenomenon is part of the global dynamic of weaponizing metal value chains. Analyzing its logics is therefore of critical importance for European states, whose reduction of upstream dependencies in value chains relies largely on developing partnerships with extracting states. Understanding the aspirations and strategies of these states is thus crucial to implementing this partnership-based approach.

This study analyzes the main logics of mining nationalism, in particular its motivations, how it translates into concrete actions, and their effects. It examines in detail the role of export restrictions in moving down value chains. Through five case studies, it analyzes the effectiveness and limits of these measures in developing local refining infrastructure.

1. J. Salah Ovadia, R. G. Saunders and J. T. Nem Singh, *Handbook of Resource Nationalism*, Cheltenham: Edward Elgar Publishing, 2026.

This study focuses on the use of these policies as a lever for industrialization and for moving down value chains, and therefore does not include Chinese restrictions on exports of metals and ores, whose main motivations lie outside this framework.

This study stems from broader work on these issues, carried out within the framework of the French Observatory of Mineral Resources for Industrial Sectors (OFREMI). Launched in 2022, OFREMI brings together the expertise of the main French players in the analysis of strategic metals value chains.

The resurgence of mining nationalism in the 21st century

Although resource nationalism has returned to the forefront of the international scene since the 2010s, the phenomenon is not new. Hydrocarbons were already the subject of numerous nationalist policies in the previous century and in the 2000s, motivated in particular by a favorable market environment (a marked rise in demand and potential supply tensions), but also by domestic political reasons (a desire to break with a previous government), driven notably by the inequitable distribution of revenues between states and foreign companies, or by foreign policy reasons (assertion on the international stage).

Definitions, history and logics of mining nationalism

Elements of definition

Resource nationalism refers to policies that aim to maximize the value of a country's natural resources by asserting state control over them. It encompasses policies that favor government (or national) control of the country's resources over foreign companies or foreign capital, and that redistribute revenues in favor of the extracting country. It can take many forms, such as increasing the state's shares in the resource sector, raising taxes on extraction or on the income of foreign operators, amending the mining code, imposing export controls, seizing mining infrastructure, or even nationalization.

Table 1: Types of mining nationalism measures and examples

Mining nationalism measure	Examples
Increase in royalties collected by the state	▪ Madagascar (2023): increase in royalties to 5%
Increase in taxes on foreign operators' income	▪ Chile (2021): windfall profits tax from 15% to 46.5% for copper and lithium
Support for national companies	▪ Zambia (2024): mining license allocation regime favorable to local companies
Obligation to keep profits within the country	▪ DRC (2018): repatriation of 60% of export revenues to the DRC
Ban on exports of raw ores and local processing requirement	▪ Zimbabwe (2022): ban on exports of raw lithium ore ▪ Namibia (2023): ban on exports of raw ores (lithium, cobalt, manganese, graphite, rare earths) ▪ Gabon (2025): decision to ban exports of raw manganese from January 1, 2029
Changes to contractual clauses on state participation	▪ Senegal (2016): the Mining Code gives the state the right to acquire 25% of the capital of mining companies with compensation (including a mandatory and free 10% stake) ▪ DRC (2018): 10% of the share capital of mining companies reserved for physical persons of Congolese nationality ▪ Mali (2023): maximum state participation of 30%, including a 10% free stake ▪ Burkina Faso (2024): state pre-emption right over the mining sector
Changes to contractual clauses on the participation of local populations	▪ South Africa (2017): *Mining Charter III*, Black shareholding requirement for companies for mining licenses (30%) and prospecting licenses (50%)
Export controls	▪ DRC (2025): introduction of a ban on cobalt exports, followed by export quotas
Classification of metals allowing enhanced control	▪ Mexico (2022): declaration of lithium as being "of public utility"; exploration and exploitation are reserved to the state through a public entity
Seizure of mining infrastructure or mining production	▪ Mali (2025): seizure by the Malian junta of gold stocks from Barrick Gold's production ▪ Niger (2024): takeover of Orano's uranium mining infrastructure, followed by the cancellation of the Arlit mining concession (2026)
Nationalization	▪ Chile (2023): lithium nationalization project; creation of a national company owned by the state, with a minority stake held by a private company

These policies thus form a continuum, extending from measures that alter the sharing of mining rent without calling into question investors' property rights to measures that progressively transfer economic and legal control of resources to the state. This continuum varies according to the degree of public intervention, the challenge to foreign investors' rights, and the extent of sovereignty exercised over the mining value chain.

Another way of conceptualizing this continuum is to distinguish three broad families of measures:

- **Fiscal nationalism measures** encompass royalties and taxes, which aim primarily to increase the share of rent accruing to the state;
- **Regulatory nationalism measures** include local processing requirements, export restrictions, and requirements for national participation or profit repatriation. They strengthen state control without entirely calling private property into question;
- **Patrimonial nationalism measures** encompass public monopolies, asset seizures and nationalizations, which reflect a desire to transfer effective control of mining resources to the state.

This classification is particularly suited to comparative analysis as it allows distinguishing policies that simply increase public rent from those that alter the ownership and governance structure of the mining sector.

Motivations for mining nationalism

The dynamics of mining nationalism respond to numerous motivations, which are political, economic and symbolic at once.

On the one hand, they imply a form of reconquest of a sovereign governance space. In this context, mining nationalism is analyzed not only as a set of public policies, but also as a discourse that expresses collective belonging through the idiom of natural resources, the state being presented as the legitimate guarantor and administrator of the national mining heritage. Historically, this movement often arises in reaction to the neoliberal reforms of the 1980s-1990s. The current resurgence of mining nationalism can thus be read as an attempt to rebalance this relationship, with states seeking to regain decision-making capacity over the exploitation of their subsoil rather than delegating it to foreign actors.

On the other hand, they are driven by the pursuit of a greater share of mining rent, mobilizing public power to give priority to national and local interests, through taxation, royalties and various duties, in order to maximize public revenues. This logic has become particularly pronounced after the economic and financial crisis of 2020. It often coincides with the ambition to capture more local added value beyond extractive rent alone, through the development of local ore processing. This "downstreaming policy"[2] reflects a desire to anchor more jobs, skills and tax revenues on the national territory, breaking with a model of exporting low-value-added raw materials. Policies

2. "Downstreaming" strategies aim to develop industrial activities for processing ores, manufacturing semi-finished products and, ultimately, manufactured products. These strategies aim to go beyond the mere export of raw ore in order to capture more added value and foster local economic and industrial development.

in the economic field are often driven by a short-term economic trigger, notably the rise—and sometimes the fall—of prices observed on markets.

Increasing state revenues: a central but not exclusive objective

Attempts to cartelize metal markets: the difficulty of replicating the OPEC model

The oil shock of 1973-1974 gave rise to a series of attempts at cartelization in various metals: by quadrupling the price of a barrel of oil in a few months, the Organization of the Petroleum Exporting Countries (OPEC) demonstrated—apparently—an ability to free itself from the market structure imposed by Western companies and industrialized countries, and to act directly on prices. The 1960s and 1970s thus saw various attempts to develop a similar scheme.

The Intergovernmental Council of Copper Exporting Countries (CIPEC) was created in 1967, initially bringing together Zambia, Zaire, Peru and Chile (the world's largest exporter), and was then expanded in 1975 to include Australia, Indonesia, Papua New Guinea and Yugoslavia. Despite a market share that would reach 35% with this enlargement, CIPEC's ambition to obtain a concerted rise in prices—notably during the overproduction crisis of 1975-1976—ended in failure, with each member seeking above all to preserve its market share and its foreign-currency export revenues.

Created in 1975, the International Bauxite Association (IBA) adopted a different approach, focusing not on production volumes but on indexing the remuneration received by producing states to the international price of refined aluminum. It brought together seven countries[3], including Australia, which then accounted for 30% of world bauxite production. Nevertheless, the IBA did not manage to establish discipline comparable to that of OPEC-type cartels. The persistent weakness of aluminum prices in the 1980s eroded the profits obtained, while Australia's withdrawal in 1991 deprived the IBA of legitimacy and ultimately led to the organization's dissolution in 1995.

A final example is that of the International Tin Agreement (ITA), negotiated (for the first time) in 1954, before the period of the oil shocks. The ITA's mechanism relied on a buffer stock, financed through contributions from member states, which could obtain supplies on the London Metal Exchange (LME). Buying tin stocks when prices fell below a floor and selling them when prices rose allowed it to influence prices without resorting to production quotas. However, the organization was progressively weakened by the development of substitutes for tin (notably plastic and aluminum

3. Australia, Guinea, Guyana, Jamaica, Sierra Leone, Suriname, Yugoslavia.

packaging), as well as by the emergence of new producers, until it collapsed in 1985.

Several explanatory factors can be put forward in analyzing the failure of these initiatives:[4]

- A far greater dispersion of reserves than for oil, with a significant share of production provided by industrialized countries (United States, Canada, Australia);
- A structurally higher elasticity of residual demand than for oil, due to the availability of substitute materials (aluminum versus copper in electrical cables, plastics versus tin in packaging, recycled steel) and active recycling markets;
- The absence of any swing producer capable, like Saudi Arabia within OPEC, of single-handedly adjusting its production to enforce collective discipline and absorb the short-term cost of a restriction policy;
- Long investment lead times and high entry costs in the mining sector, paradoxically unfavorable to cartels;
- A marked political and economic heterogeneity among member states, pitting economies highly dependent on a single ore (Jamaica, Zambia, Zaire) against diversified producers (Australia) or those pursuing economic liberalization (Chile after 1973);
- The persistent control of the downstream segment of the sector (smelting, refining, processing, marketing) by Western companies, which limited the ability of states producing raw material to influence price formation.

Cobalt in the DRC: leveraging tight control over reserves to move down value chains and control prices

Since 2025, the DRC, the world's largest cobalt producer (74% of global mine production), has initiated a structural transformation of its mining policy by establishing a strict export control regime via the Authority for the Regulation and Control of Strategic Mineral Substances Markets (ARECOMS). This mechanism marks a major turning point toward resource nationalism, aimed at restructuring the global cobalt supply, developing a domestic value chain, and strengthening state control over a strategic ore.

The shift began in February 2025 with the first implementation of a generalized export ban on unrefined cobalt ore (initially a three-month export suspension, then extended). On October 16, 2025, ARECOMS replaced the ban with a system of export quotas. In November 2025,

4. S. D. Krasner, "Oil Is the Exception", *Foreign Policy*, No. 14, The University of Texas at Austin, 1974, available at: https://la.utexas.edu.

ARECOMS integrated new export procedures, consolidating the administrative framework. For the years 2026 and 2027, multi-year quotas were introduced, setting exports at 96,600 tonnes per year, i.e., approximately 52% of 2024 levels. The system thus maintains a lasting constraint on international supply through 2027 and plunges the market into a permanent deficit.

This deliberate break with the usual supply structure is the central element of the new Congolese policy. In addition, a strategic quota, representing 10% of the annual volume (9,600 tonnes), is reserved for the discretionary use of ARECOMS. This mechanism allows the government to adjust volumes based on market conditions or to reward companies most committed to national objectives: domestic investment, environmental compliance, development of processing capacity, or technology transfer.

The quota system also introduces new requirements for producers: participation in monthly allocation cycles and advance payment of mining royalties. Quotas are allocated pro rata based on volumes exported between 2022 and 2024, but explicitly exclude companies that exported less than 100 tonnes, lack a refinery, or have depleted reserves. Unused monthly volumes are automatically reallocated to the strategic quota starting in January 2026, preventing accumulation or speculative arbitrage within companies.

The overall objective of this policy is clear: it is an instrument of resource nationalism aimed at increasing domestic added value. ARECOMS now makes quota increases conditional on concrete commitments in terms of local processing, technology transfer, creation of refining capacity, and use of the national workforce. The system is intended as a lever to attract new industrial investment while strengthening the country's economic sovereignty. The most virtuous companies, that is, those that develop processing facilities or contribute to national industrialization, can benefit from quota increases, which creates a structured incentive system.

Beyond the goal of developing a local processing industry, the export ban brought a sharp rise in cobalt prices, with the DRC's market share in this metal very high (74% of mine production in 2025, according to the United States Geological Survey, USGS). Prices of cobalt hydroxide and sulfate doubled in the weeks following the measure, and remain, like those of cobalt metal, two to three times higher than they were in early 2025[5].

The selective inclusion of cobalt in a quota system also creates a major operational challenge for integrated cobalt-copper operations. While copper continues to be exported freely, the associated cobalt must be stored when quotas are reached, imposing logistical costs and requiring significant adaptation by mining players. These realities illustrate the complexity of

5. "Global Critical Minerals Outlook 2026", International Energy Agency, July 16, 2026, p. 156, available at: www.iea.org.

implementing export controls in a sector where ores are physically interdependent. The DRC's measure also accelerates technological substitution strategies and is likely to accelerate the reduction of certain companies' exposure to Congolese cobalt, whose reputation is already tarnished by environmental, social and governance (ESG) issues.

South American lithium: exploiting the same resource through different strategies

Beyond a hoped-for price effect, mining nationalism can be driven by a desire to "re-appropriate" resources when foreign actors exploit them without significant national economic benefits. South American lithium illustrates this dynamic. However, the different trajectories adopted by Chile, Argentina and Bolivia demonstrate that the ability to steer national policies to increase a state's revenues and industrial capacities also depends on structural characteristics and institutional legacies.

Chile: a moderated nationalism

Lithium was declared a strategic mineral in 1979 under Augusto Pinochet, creating a quasi-monopoly for Albemarle and the Sociedad Química y Minera de Chile (SQM). Since then, the public economic development agency CORFO has played a central role. Rather than extracting the resource directly, it administers mining rights to the Salar de Atacama through contracts that require royalties, environmental commitments and local development contributions in return. CORFO maintains a preferential price mechanism that offers lithium at a reduced price to companies setting up value-added production on Chilean soil.

In concrete terms, the Chilean state requires both producers to sell up to 25% of their production capacity at a preferential price to processors, public or private, located in Chile, so that they produce cathodes, battery components or lithium salts. The National Lithium Strategy of 2023 reinforced this upgrading logic. However, the downward trend in lithium prices is weakening this strategy, as shown by the 2025 cancellation of battery manufacturing plant projects led by the Chinese companies Tsingshan and BYD.[6]

The Chilean framework strengthened at the end of 2025 with the completion of the partnership between the state-owned copper company Codelco and SQM, which gave rise to Nova Andino Litio, a joint venture tasked with steering the exploration, production and marketing of lithium in the Salar de Atacama until 2060. The agreement provides that the Chilean state, via Codelco, CORFO and the Public Treasury, will receive approximately 70% of the operating margin generated by the new production

6. D. Beth Solomon, "China's BYD, Tsingshan Scrap Plans for Chile Lithium Plants", Reuters, May 8, 2025, available at: www.reuters.com.

(85% from 2031), while entrusting Codelco with the majority of the board of directors. This arrangement, combining growing state capital control with the maintenance of an open export framework, fits well with moderate nationalism. It does not call into question the traditional export model, but seeks to capture a growing share of the rent and of the added value.

Argentina: mining nationalism?

The Argentine case calls into question the very relevance of the category of mining nationalism. In Argentina, whose productive base is already relatively established, provincial governments control lithium resources and attract foreign investment with limited federal intervention. Federal regulations govern mining activity, but the Constitution assigns natural resources to the provinces. Far from a project of national sovereignty, the 2024 law reducing taxation for projects exceeding USD 200 million aims above all to attract foreign capital.

Bolivia: strong but thwarted ambitions

Resource nationalism in Bolivia is distinguished by strong but fragile ambition, continuing the political turning point of 2005 that saw the nationalization of gas and the assertion of state control over lithium. The state created a public company, YLB, which holds a 51% stake in lithium exploitation contracts, asserting its desire not only to extract lithium but also to move down the value chain to carbonate production, batteries and, ultimately, electric vehicles. Yet, after nearly eighteen years, Bolivia did not manage to develop large-scale lithium production.

Despite a defined national strategy, the Bolivian state faces obstacles: poor hydrogeological conditions, limited technical capacities, and regional disputes over the distribution of lithium rent. This strategy is also accompanied by a dependence on foreign capital and technology.

Demonstrated benefits?

The case of the Chilean nationalization of copper allows an assessment of the benefits of this type of policy. By establishing an analysis of the potential costs and benefits of the absence of nationalization, it is possible to assess the profitability of the operation (nationalization) carried out by Chile.[7]

The total additional revenues received by the Chilean treasury thanks to Codelco, the national mining company, amounted to approximately USD 147.8 billion between 1967 and 2022, while the costs of nationalization and capital contributions are said to have reached approximately USD 17.9 billion. Thus, Codelco's net contribution to Chile, after deducting costs,

7. A. González, F. Sánchez and F. Castillo, "The Nationalization of the Large-scale Copper Mines in Chile: Successful Investment or Financial Failure?", *Miner Econ*, No. 37, 2024, pp. 787-807, available at: https://link.springer.com.

is estimated at approximately USD 129.9 billion. By contrast, in a counterfactual scenario, that is, without nationalization, hypothetical tax revenues would have reached approximately USD 63.5 billion over the same period. Based on these elements and the assumptions made, nationalization appears more advantageous for the Chilean government than keeping the mines under private control, from a strictly financial point of view. However, the results remain conditional on various parameters such as the capital discount rate and the potential reduction of operating costs by private companies. For example, increasing the Chilean state's levies on foreign companies' profits could have increased state revenues without resorting to nationalization.

A simple estimate of financial benefits, however, is not sufficient, because the motivations behind mining nationalism are not solely financial. Numerous factors—alignment of states' interests with foreign multinationals, a desire to assert greater political power over a territory, an ambition to project an image of independence and autonomy—influence the dynamics of mining nationalism. For example, a case study of the State Mining Corporation (STAMICO)[8] in Tanzania shows that resource nationalism in the country functioned more as a political tool aimed at local populations than as an effective lever for regaining control of mining resources. STAMICO systematically suffered from a lack of capitalization, political interference and inefficient management, preventing any structural transformation of the mining sector. The measures put in place within it most often served to appease internal criticism or respond to popular pressure, without providing public companies with the financial and institutional means necessary for economic success. Taking back control of resources therefore requires more than a change in legal regime. It requires sustained investment, transparent governance and effective institutional autonomy, conditions that are rarely met in sufficient measure.

8. J. Poncian, "Adopting and practicing resource nationalism in Africa: A case of Tanzania's State Mining Corporation", *Social Sciences & Humanities Open*, Vol. 8, No. 1, 2023. STAMICO, a Tanzanian government agency, was created in 1972 to manage mining operations.

Export restrictions on ores: an effective lever for developing local processing?

Among mining nationalism practices, export restrictions on metals and ores are growing rapidly.[9] This is particularly the case for restrictions put in place by countries extracting raw ores, aimed at pushing mining or ore-consuming companies to develop local refining infrastructure, a path toward moving down value chains. In theory, this type of measure (licensing systems, quotas on exportable ore, export bans) can foster the development of a processing industry by restricting the possibilities for exporting ore and increasing the supply available locally, making domestic refining more attractive. These restrictions have multiplied in recent years: Indonesia on nickel (2020), the DRC on cobalt (2025), Zimbabwe on lithium or Mozambique on graphite (2026).

Nevertheless, the effectiveness of these measures remains difficult to establish. Research carried out on this question is limited. One can nonetheless cite the report by Fliess, Idsardi and Rossouw for the OECD (2017)[10]—based on a study of the revealed comparative advantage (RCA) of exports for four African countries that introduced restrictions on ores—which concludes that there is "no evidence that [these restrictions] have in practice influenced the economic activity downstream from the extractive sector". Demonstrating a precise causal link also remains complex, as investments in refining take several years to materialize into operational infrastructure.

Based on five case studies—including the use of export restrictions and alternative strategies—we present here a reflection on the actual role of export control measures in strategies for moving down value chains. These examples focus on developing countries that had a resource in their subsoil without an associated processing industry—or with only a weakly developed one.

9. "OECD Inventory of Export Restrictions on Critical Raw Materials 2026", OECD, April 28, 2026, available at: www.oecd.org.

10. B. Fliess, E. Idsardi and R. Rossouw, "Export Controls and Competitiveness in African Mining and Minerals Processing Industries", *OECD Trade Policy Papers*, No. 204, OECD, 2017, available at: www.oecd.org. On the evaluation of export control measures to develop processing, one may also mention the studies by D. Guberman, S. Schreiber and A. Perry, for the US International Trade Commission (2024), on Indonesia and Zimbabwe.

Strategies for developing processing industries through export restrictions

Chromium industry in Zimbabwe

In 2005, Zimbabwe produced 667 kilotonnes (kt) of chromium ore and concentrates, making it the world's sixth-largest producer, with a market share of 3.5%.[11] At that time, Zimbabwe mainly exported chromium ore and ferro-alloys (ferro-chromium and ferro-silico-chromium).

In 2007, the Zimbabwean government introduced a ban on exports of unrefined chromium ore (briefly replacing it with a 15% export tax between 2010 and 2011). However, local ore-processing capacity proved insufficient, resulting in large stockpiles and a drop in ore prices. Some mines ceased operations or went bankrupt. At the same time, ferro-chromium producers faced electricity supply issues and low global chromium prices (a sharp decline between 2012 and 2015), with production stoppages. In view of these difficulties, the government lifted the export ban on raw ore in 2015.[12]

The study of Zimbabwean production and exports over the ban period (2007-2015) shows a decline in chromium ore production and relative stagnation in ferro-alloy production (Figure 1). Despite the export ban, chromium ore volumes continued to leave the country in the first years of the ban, while ferro-alloy exports stalled in the late 2000s before partially returning to growth (Figures 3 and 4).

Zimbabwe's production and exports remain limited to low-value-added products, while steel production, the main outlet for Zimbabwean ferro-chromium, has dropped sharply since the mid-2000s (Figure 2).

11. World Mineral Statistics, British Geological Survey (BGS).
12. B. Fliess, E. Idsardi and R. Rossouw, "Export Controls and Competitiveness in African Mining and Minerals Processing Industries", op. cit., p. 22.

Figure 1. Chromium ore and ferrochrome production of Zimbabwe, 2000-2024

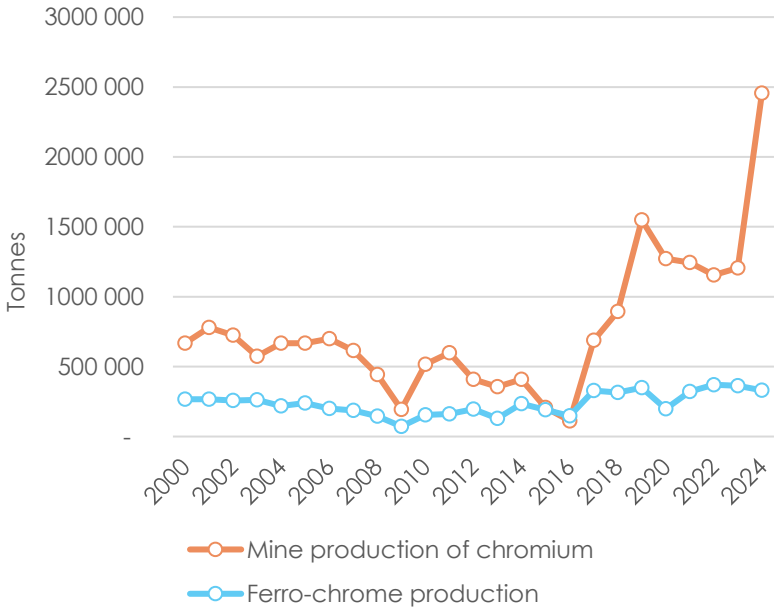


Figure 2. Crude steel production of Zimbabwe, 2000-2024

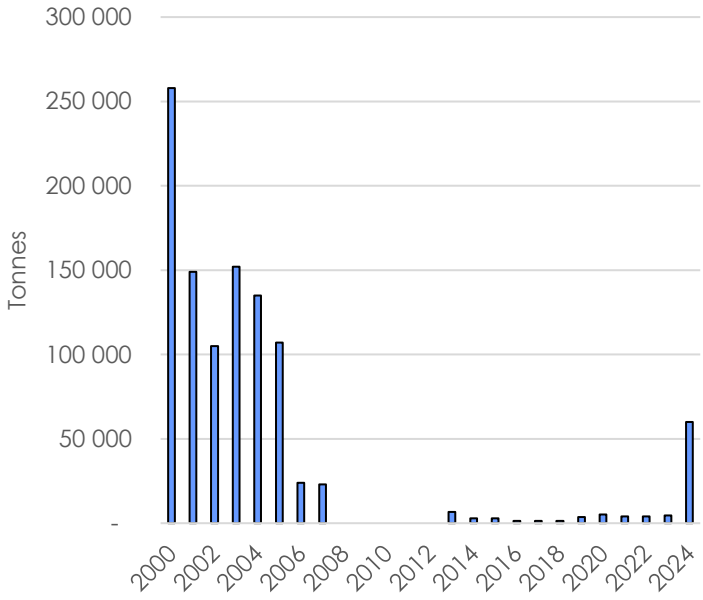


Figure 3. Zimbabwean exports of chromium and derived products, in market value, 2000-2024

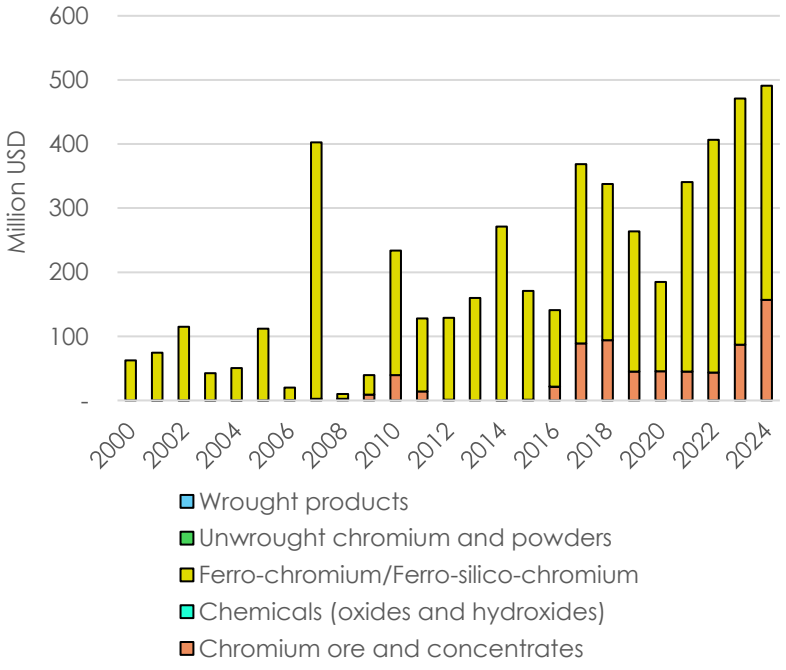
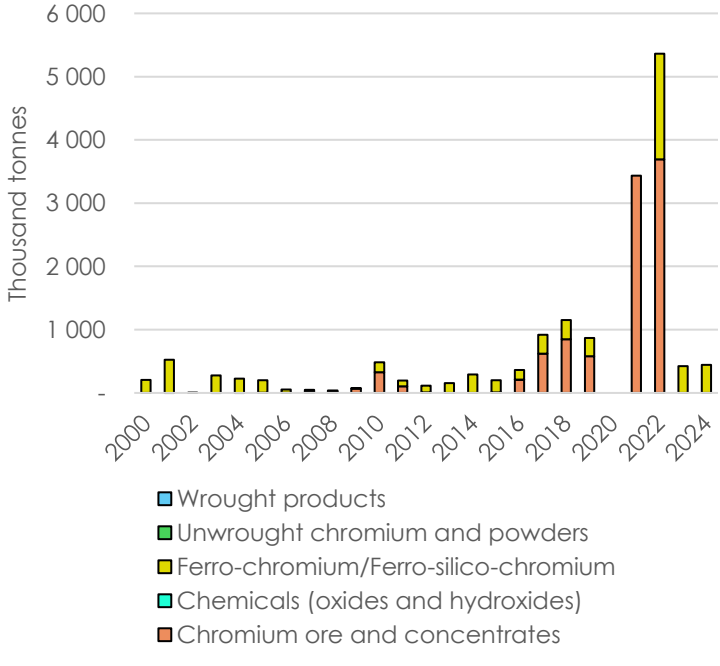


Figure 4. Zimbabwean exports of chromium and derived products, in volume, 2000-2024



Sources: Ifri, based on data from the British Geological Survey (BGS) and the United Nations Comtrade (UNCT).

Note: Export volumes for 2020 were not available. The classification of HS codes by product category is established as follows: "Chromium ore and concentrates" (2610); "Chemicals" (2819); "Ferro-chromium/Ferro-silico-chromium" (720241; 720250); "Unwrought chromium and powders" (811221); "Wrought products" (811229).

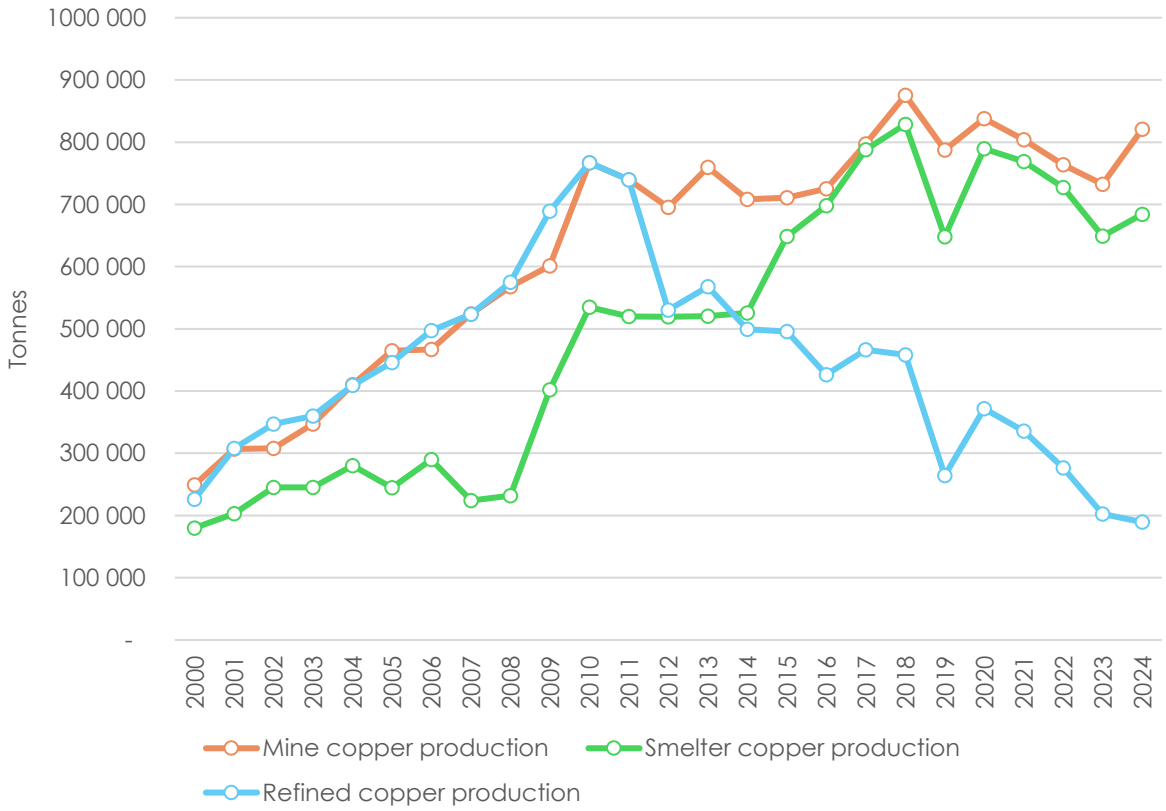
Copper industry in Zambia

In 2005, Zambia produced 465 kt of copper ore and concentrates, 245 kt of unrefined copper and 446 kt of refined copper, representing 2 to 3% of world production for these materials.

From 2008, the Zambian government introduced an export tax on copper ore and unrefined products (including copper anodes), initially at 15%, before lowering it to 10%[13]. In 2013, criticism from mining players, who explained in particular that local refining capacities were insufficient to absorb the volumes of ore extracted, led the government to briefly suspend the tax before reintroducing it shortly afterward. Although tracking this tax remains difficult due to the scarcity of sources, it appears that this measure is still in force in 2026.[14]

The post-2008 period is characterized by a marked increase in production of copper ore and unrefined copper, with, conversely, a major decline in that of refined copper (a fourfold decrease between 2010 and 2024).

Figure 5. Copper production of Zambia, 2000-2024



Source: Ifri, based on data from the BGS.

13. B. Fliess, E. Idsardi et R. Rossouw, "Export Controls and Competitiveness in African Mining and Minerals Processing Industries", op. cit., p. 6.
14. "Zambia Extends Duty-free Copper Concentrate Export Duty Waiver Amid Smelter Outages", Reuters, June 3, 2026, available at: www.reuters.com.

Zambia's exports increased overall (despite a sawtooth pattern between 2008 and 2011), but exported products initially dominated by refined output (cathodes and semi-finished products) were progressively replaced by unrefined products, notably from 2017 (Figures 6 and 7). This coincides with the decline in refined copper production observed in Figure 5.

Figure 6. Zambian exports of copper and derived products, in market value, 2000-2024

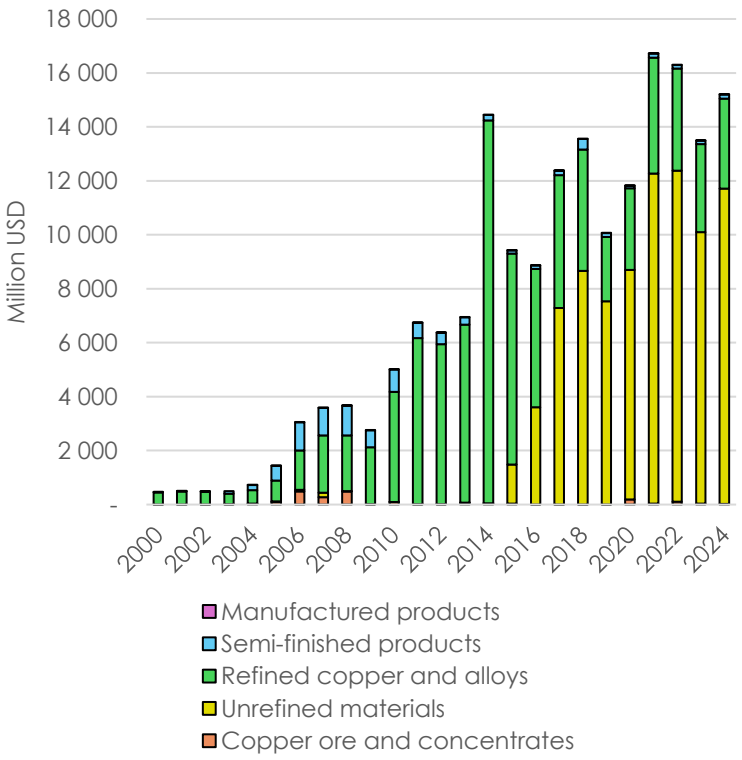
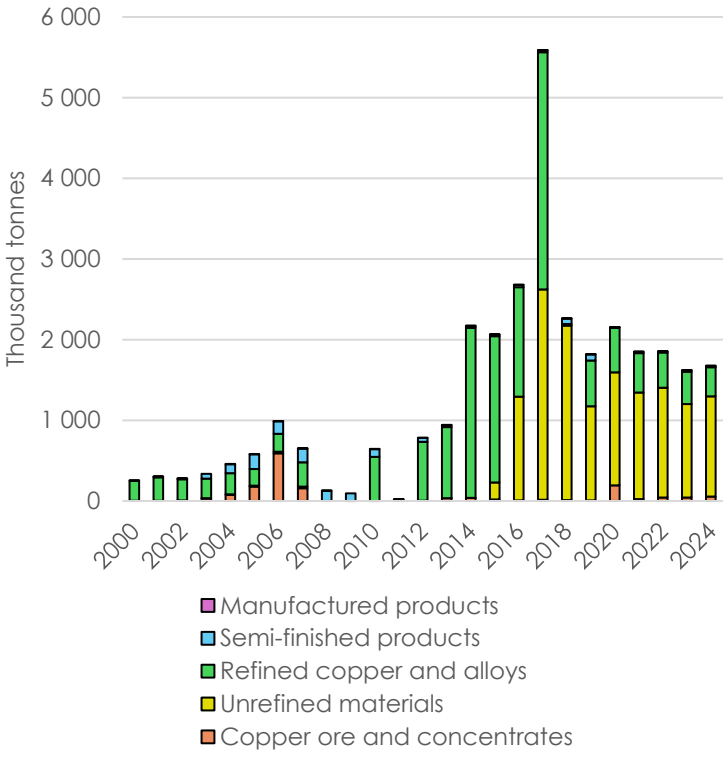


Figure 7. Zambian exports of copper and derived products, in volume, 2000-2024



Source: Ifri, based on data from the BGS and the UNCT.

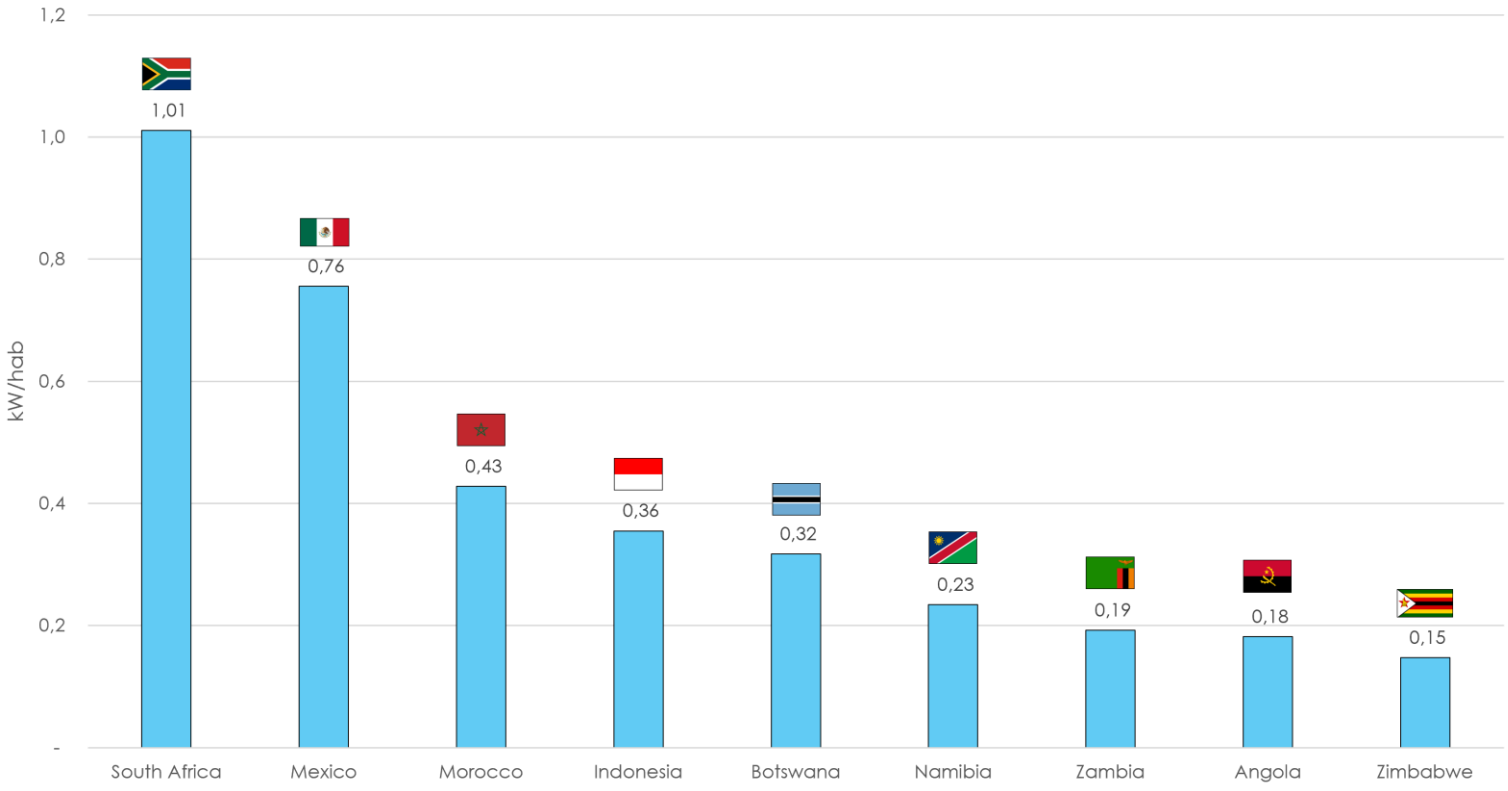
Note: The classification of HS codes by product category is established as follows: "Copper ore and concentrates" (2603); "Unrefined materials" (7401; 7402); "Refined copper and alloys" (7403; 7405); "Semi-finished products" (7406; 7407; 7408; 7409; 7410; 7411; 7412); "Manufactured products" (7413; 7414; 7415; 7416; 7417).

Observations on the Zimbabwean and Zambian cases

First, the export restrictions Zimbabwe and Zambia imposed were not followed by growth in downstream chromium and copper activities, as the OECD's work confirms, noting a "weakening" of the two countries' export performance (based on RCA calculations).

Several factors may be raised to explain this situation. Developing local processing activities requires a sufficient energy supply, which was notably lacking in Zimbabwe's case. Zimbabwe's installed electricity capacity grew by only 400 megawatts (MW) between 2000 and 2024. Compared with the other states studied here (Zambia, Indonesia, Mexico, Morocco) and its main neighbors (Angola, Botswana, Namibia, South Africa), Zimbabwe had the lowest installed electricity capacity per capita in 2024 (Figure 8).

Figure 8. Installed electricity capacity per capita, by country, 2024



Source: Ifri, based on data from the International Monetary Fund and the US Energy Information Administration.

Developing local processing industries also requires water availability and suitable logistics to support the construction of refining infrastructure. Yet road networks in Zambia, and even more so in Zimbabwe, remain largely insufficient. The Zambian government carried out a road development program in the early 2010s, which improved the network but also plunged the country into over-indebtedness, making investment in new large infrastructure programs difficult[15]. Rail networks are also underdeveloped and deteriorating: the National Railways of Zimbabwe transported only 2 million tonnes of freight in 2025, compared with 18 million in 1998.[16] Financial participation in transport infrastructure development can therefore add costs to potential investments in ore processing.

Establishing or strengthening a downstream sector also requires a skilled workforce and, consequently, training if such a workforce is not present in sufficient numbers. A nearby downstream consumer market is also key. Without an industrial fabric able to absorb potential refined output, it becomes necessary to export new output internationally, and thus to be competitive against competitors, some of which are historically established and operate at large scale. In Southern Africa, the main regional consumption hub for potential output of refined chromium and copper or semi-finished products, South Africa, is self-sufficient in chromium. In international markets, the geographic situation of Zimbabwe and Zambia, both landlocked, tends to raise the logistics costs of exporting refined or semi-finished products.

Nevertheless, while the export restriction measures did not lead to significant development of processing and downstream industries, other determinants also contributed to this lack of results, notably exogenous factors (electricity supply problems and a global fall in chromium prices in Zimbabwe's case).

Nickel industry in Indonesia

In 2015, Indonesia ranked as the world's seventh-largest nickel producer (in terms of mine production), with a 6% market share. In 2024, this share reached 62%, and even 67% in 2025, according to data published by the USGS.

Through a process combining mining nationalism actions (increased equity stakes by Indonesian parties in local companies) and export restrictions, the Indonesian state has managed to establish itself as the central player in the global nickel market. The government decreed a first export ban on raw nickel ore in 2014, before relaxing it in 2017. The

15. T. Vircoulon, "L'économie politique complexe des corridors d'Afrique australe", *Études de l'Ifri*, Ifri, June 2026, available at: www.ifri.org.
16. "Zimbabwe : les autorités négocient 115 millions USD auprès d'Afreximbank pour soutenir le transport ferroviaire", *Croissance Afrique*, September 20, 2026, available at: https://croissanceafrique.com.

Indonesian government finally introduced a total export ban on unrefined nickel products, effective January 1, 2020.

The results are significant. From 2015 onward, refined nickel production soared, from less than 50 kt in 2015 to more than 1.5 million tonnes (Mt) in 2024 (Figures 9 and 10). Exports of raw ore effectively ceased from 2020, while exports of nickel matte and ferro-nickel (mainly in the form of nickel pig iron) increased significantly (Figures 11 and 12). Numerous pyrometallurgical smelters (whose output is mainly intended for steel manufacturing) and several hydrometallurgical plants (whose product is intended for battery production) were built.

While the industrial developments following the export ban on raw ore are undeniable, certain aspects of this measure's role need qualification. First, refined nickel production has grown continuously since 2015, several years before the total ban in 2020. A number of investments in smelters, notably by Chinese players, began as early as the mid-2010s. The clear trend emerging from 2015 cannot be explained solely by the first ban introduced in 2014, over which uncertainty hung between 2014 and 2017. Similarly, the first hydrometallurgical plants, operational from 2021-2022, were subject to final investment decisions before 2020. The export ban therefore amplified an existing investment trend rather than enabled the creation of a downstream industry *ex nihilo*, factors reinforced by the general emergence of the Indonesian economy.

Indonesian exports have so far relied mainly on low-value-added products (nickel matte, nickel pig iron), with little in sulfate/hydroxide-type products or semi-finished products, which appear in export data from 2024 in limited quantities. This lag is reflected in downstream industries: steel production, which plateaued but existed in the 2010s, increased 3.5-fold between 2015 and 2024 (Figure 13), while battery plants are emerging, but are still mainly at the project stage.

Figure 9. Nickel production of Indonesia, 2000-2024

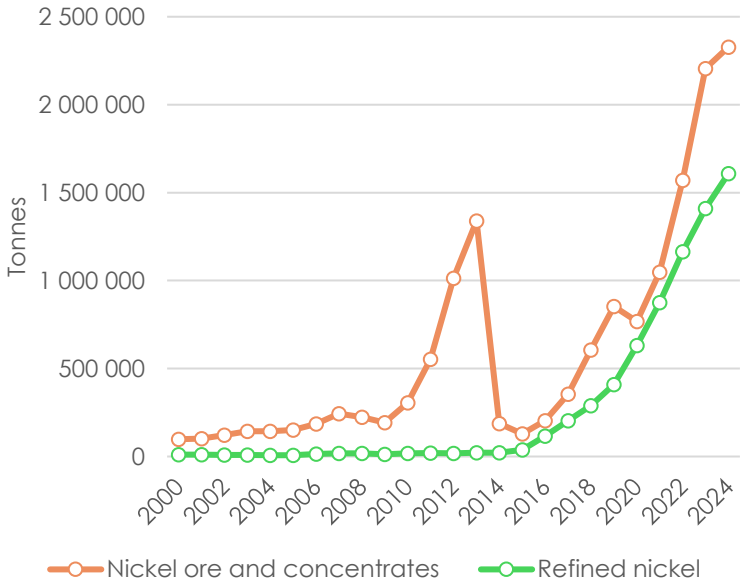


Figure 10. Indonesia's share in world nickel production, 2000-2024

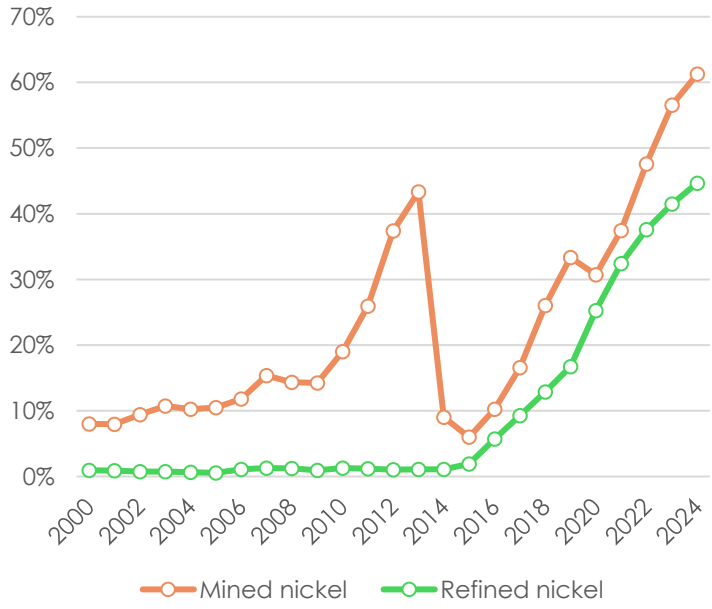


Figure 11. Indonesian exports of nickel and derived products, in market value, 2000-2025

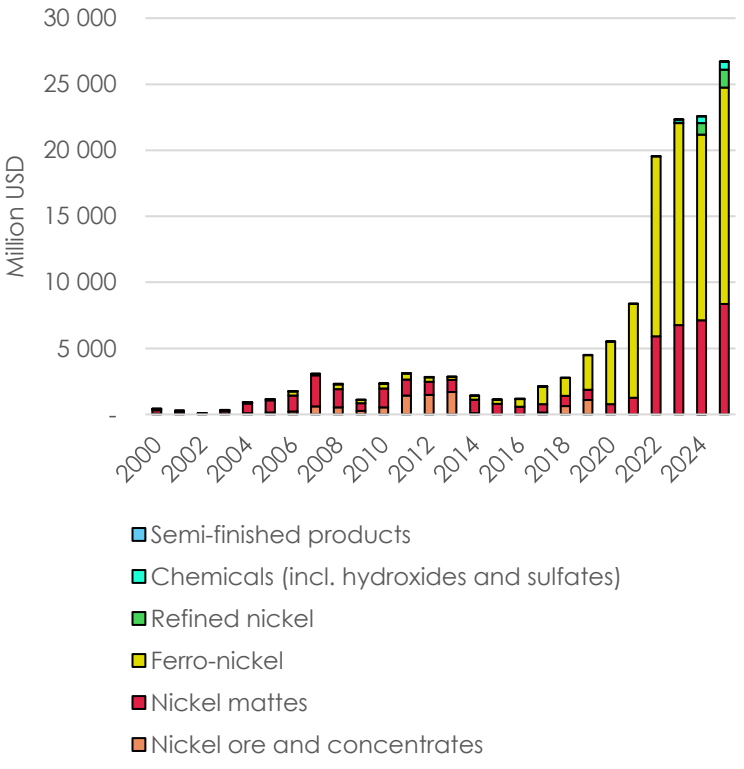
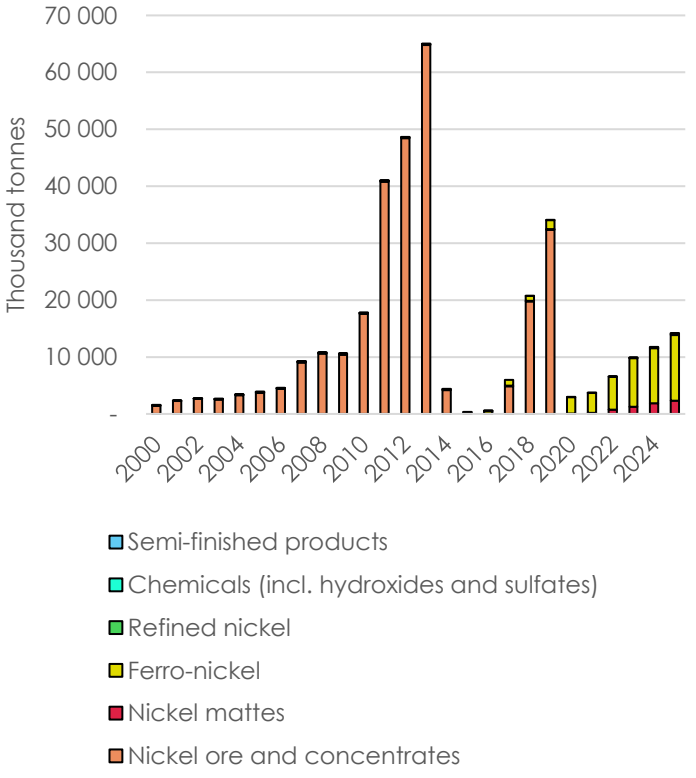


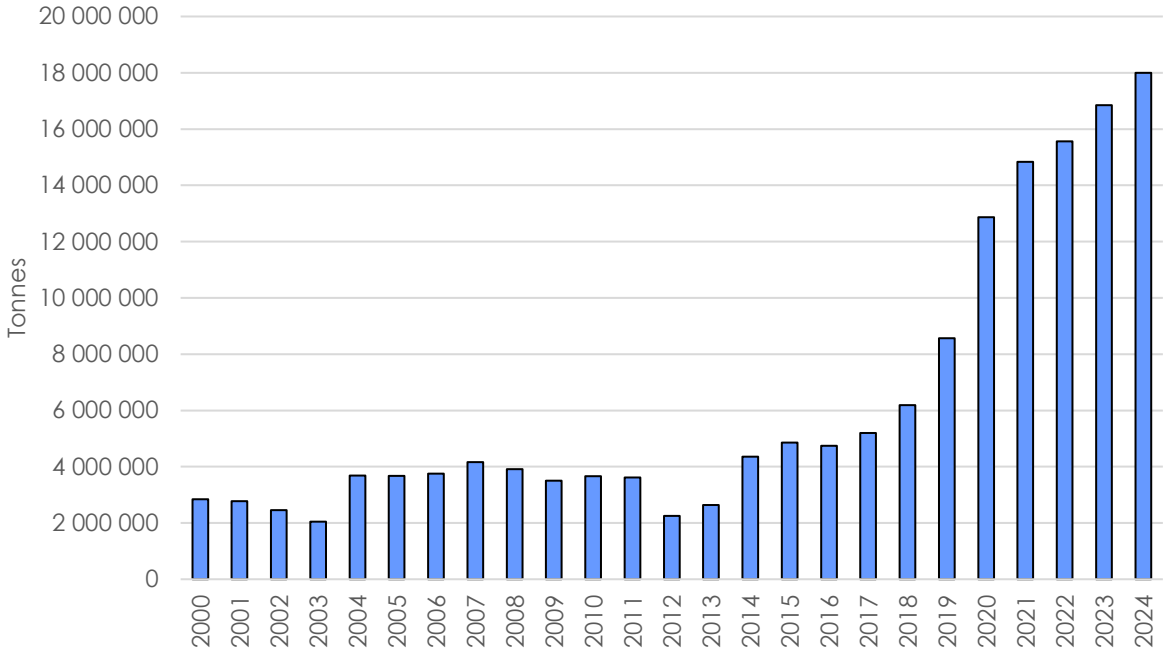
Figure 12. Indonesian exports of nickel and derived products, in volume, 2000-2025



Sources: Ifri, based on data from the BGS and the UNCT.

Note: The classification of HS codes by product category is established as follows: "Nickel ore and concentrates" (2604); "Chemicals" (282540; 283324); "Ferro-nickel" (720260); "Nickel mattes" (7501); "Refined nickel" (7502); "Semi-finished products" (7504; 7505; 7506; 7507).

Figure 13. Crude steel production of Indonesia, 2000-2024



Source: Ifri, based on data from the BGS.

The Indonesian project to develop the downstream segments of the nickel value chain was supported by various assets that Zimbabwe and Zambia did not have—or to a much lesser extent:

- **Cheap and abundant energy:** electricity generation in Indonesia relies largely on coal, a raw material for which the country has substantial reserves, with low electricity production costs, largely subsidized;
- **Facilitated logistics:** although nickel extraction sites are located in regions far from major urban centers (Sulawesi, Maluku), Indonesia's archipelagic situation allows rapid access to these sites by sea;
- **The existence of a downstream market:** Indonesian processing sites were mainly built by mining companies, notably Chinese ones, which previously exported their output to China. These exports have continued, driven by growing Chinese demand, while changing in nature, with a shift from nickel ore to products at the early stages of processing (Figures 14 and 15).
- **The presence of a skilled workforce:** mining companies played an important role in bringing in skilled foreign workers on site or in training Indonesian workers;
- Finally, and above all, **a strong hold over nickel on a global scale:** Indonesia's nickel reserves (44% of world reserves in 2025 according to the USGS) give Jakarta significant influence and the status of a virtually indispensable player in nickel.

Figure 14. Indonesian exports of nickel and derived products to China, in market value, 2005-2025

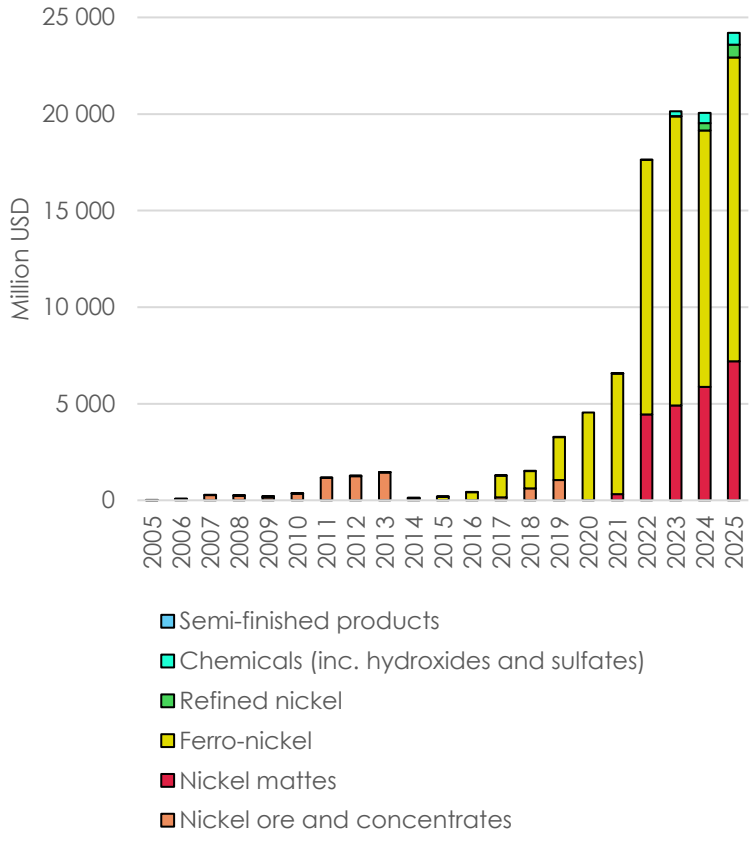
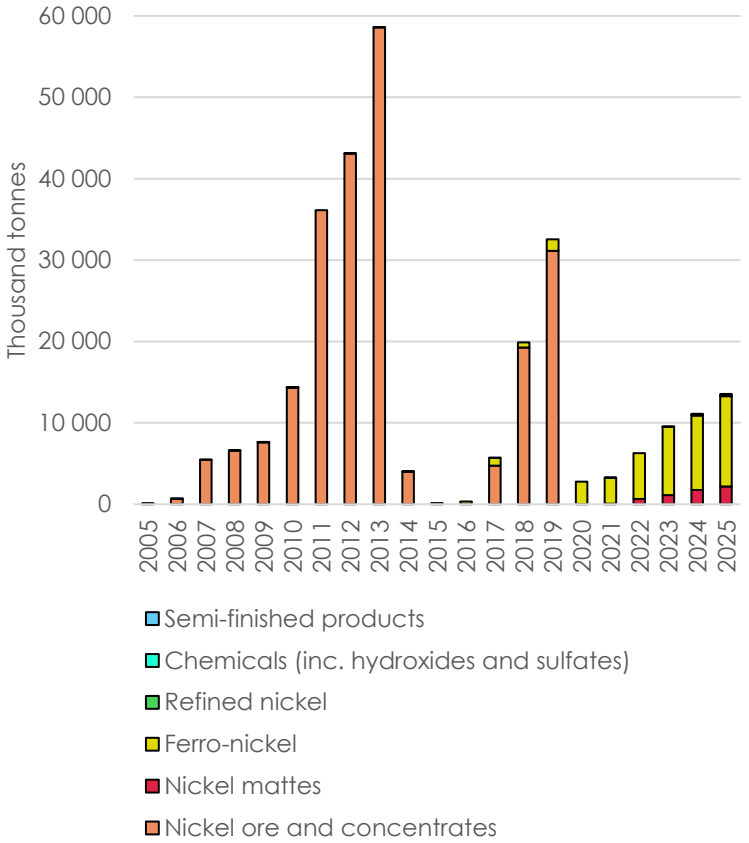


Figure 15. Indonesian exports of nickel and derived products to China, in volume, 2005-2025



Source: Ifri, based on data from the UNCT.

Note: The classification of HS codes by product category is established as follows: "Nickel ore and concentrates" (2604); "Chemicals" (282540; 283324); "Ferro-nickel" (720260); "Nickel mattes" (7501); "Refined nickel" (7502); "Semi-finished products" (7504; 7505; 7506; 7507).

Developing a processing industry without resorting to export restrictions

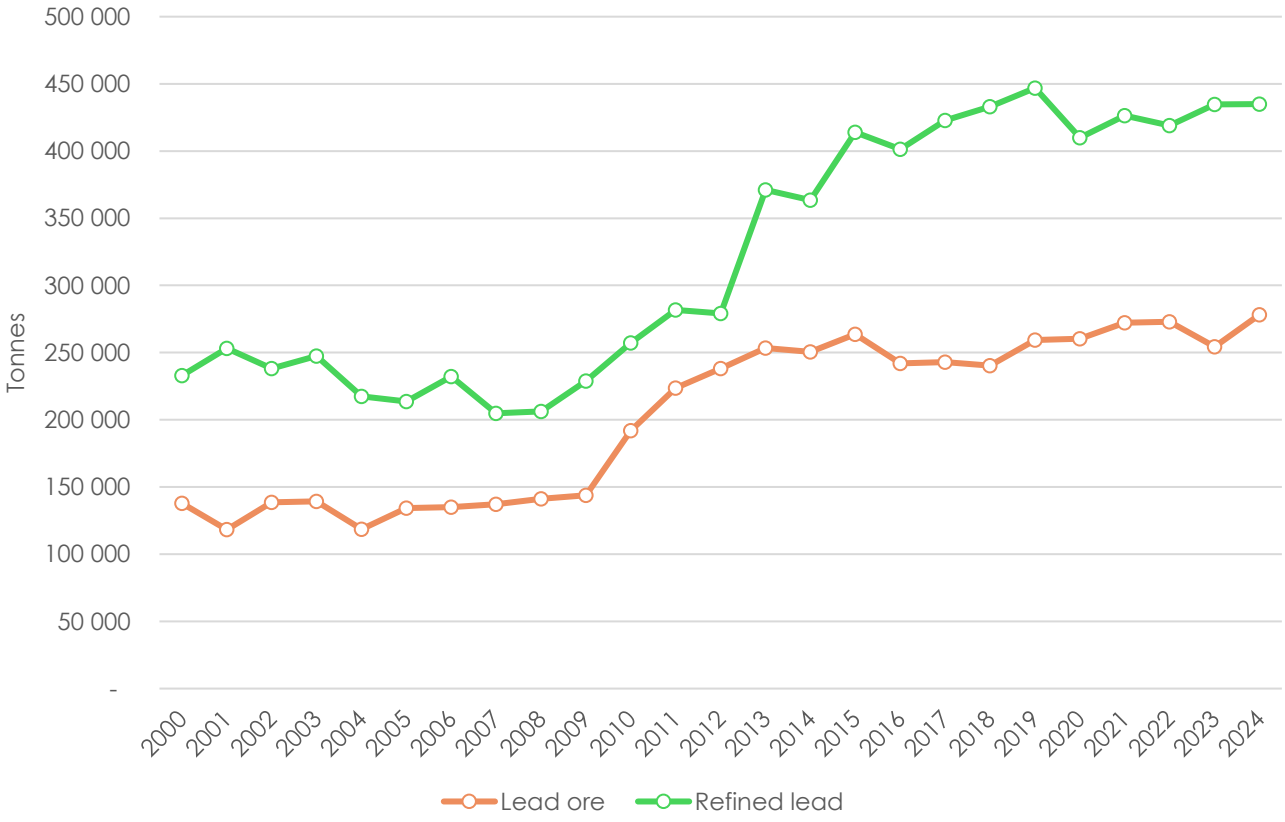
Lead industry in Mexico

Mexico plays an important role in the global lead market, as the fifth-largest producer of refined lead in 2024 (2.9% of world production), within a relatively fragmented market, behind China (50.4%), India (6.9%), the United States (6.8%), and South Korea (5.2%). Lead is obtained more through the secondary route (recycling of lead-acid batteries) than through the primary route (ore processing).

The Mexican lead industry developed significantly in the late 1990s, and especially in the early 2000s. The Mexican government introduced a liberal mining regime, notably through the 1992 Ley Minera, favoring investment in the silver, zinc and lead sectors. Mexico's attractiveness was reinforced by the country's accession to the General Agreement on Tariffs and Trade (GATT) in 1986 and the conclusion of the North American Free Trade Agreement (NAFTA) in 1994.

Mexican refined lead production grew significantly in the late 2000s and early 2010s, rising from 200 kt/year to more than 400 (Figure 16). Mexico's share of Latin American production rose from 35 to 56%, and its share of world production rose from 2 to 4%.

Figure 16. Lead production of Mexico, 2000-2024



Source: Ifri, based on data from the BGS.

Mexican exports of refined lead and lead-acid batteries also increased clearly from 2004 onward (Figure 17). Between 2005 and 2010, Mexico's share of EU imports of lead-acid batteries rose from 1 to 4%.[17]

17. Eurostat.

Figure 17. Mexican exports of lead and derived products, in market value, 2000-2025

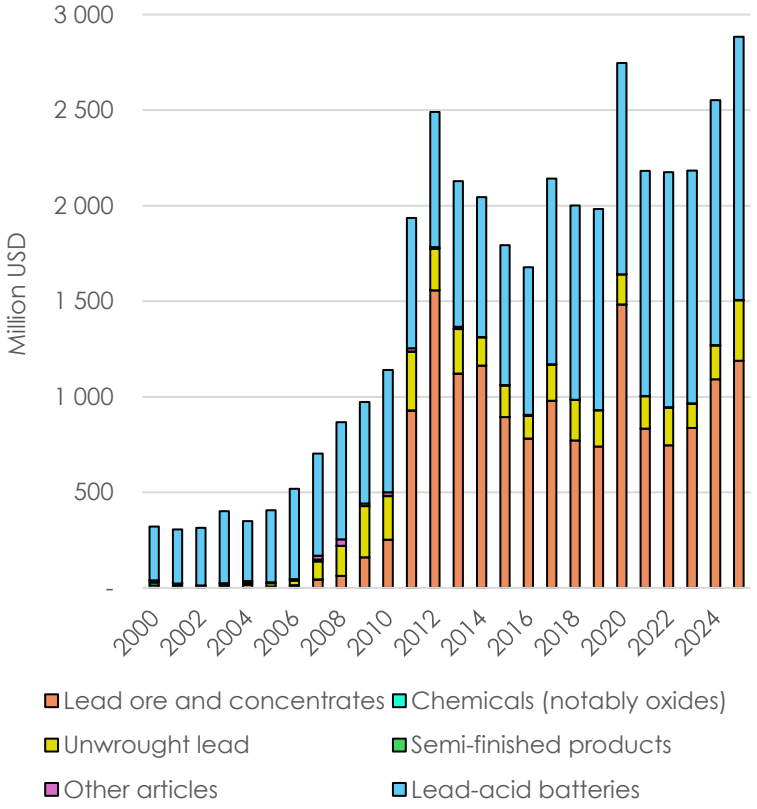
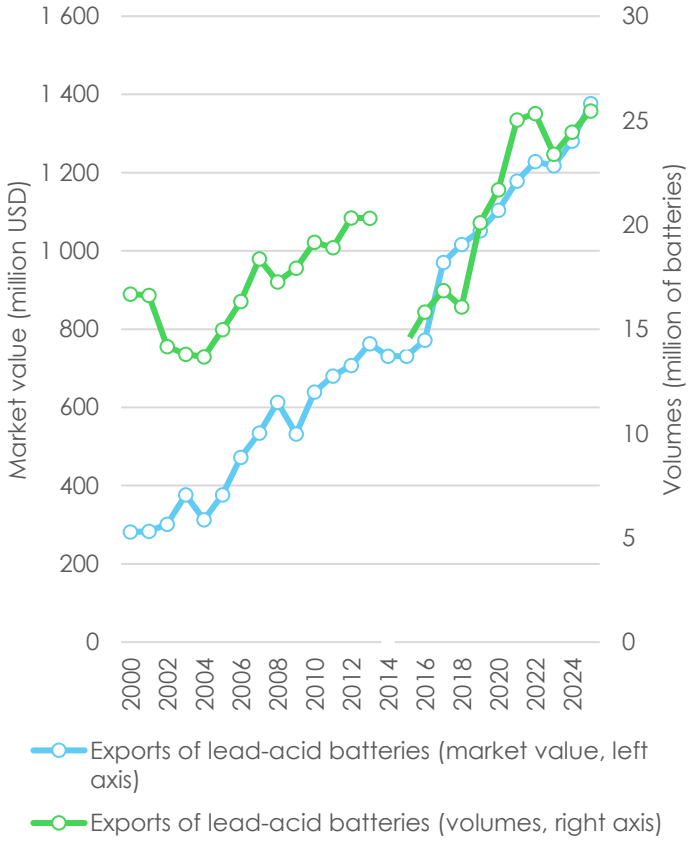


Figure 18. Mexican exports of lead-acid batteries, 2000-2025



Source: Ifri, based on data from the UNCT.

Note: The classification of HS codes by product category is established as follows: "Lead ore and concentrates" (2607); "Chemicals" (2824); "Unwrought lead" (7801); "Semi-finished products" (7803; 7804; 7805); "Other articles" (7806); "Lead-acid batteries" (850710; 850720).

The lead industry's growth was largely enabled by a regulatory framework that facilitated the integration of foreign companies and the import of used batteries. In 2003, the Ley General para la Prevención y Gestión Integral de los Residuos (LGPGIR) regulated but also facilitated the import of hazardous waste (including used batteries) from OECD countries, an organization that Mexico joined in 1994.

Mexico's attractiveness, particularly for American battery recyclers, strengthened in the late 2000s: in addition to lower labor costs, the tightening of air pollution standards in the United States increased Mexico's comparative advantage,[18] while those in the US remained unchanged.

18. J. Rice, "Lead Battery Recycling and the Ecologically Unequal Exchange of a Crescive Contaminant Across the U.S.-Mexico Border", *Journal of World-Systems Research*, Vol. 32, 2026, p. 219, available at:

US exports of lead-acid batteries to Mexico thus rose from approximately 500,000 batteries per month in January 2008 to 2 million in early 2012, then 2.5 million in early 2015.[19] Exports to the rest of the world, meanwhile, remained stable over this period. Whereas Mexico accounted for only about 50% of US exports in the early 2000s, this figure rose to an average of 88% between 2007 and 2021.[20]

The development of the Mexican refined lead industry and downstream products is thus clearly visible, with sharply rising exports of lead-acid batteries (Figure 18), both in terms of market value (a fourfold increase between 2004 and 2025) and volume (+86% over the same period). This development, however, came with severe negative environmental and health externalities.

Phosphate industry in Morocco

Like Mexico, Morocco managed to develop a local processing sector for a resource that it had on its soil, without resorting to export restriction measures. Morocco has a historical production of phosphate rock, through the Office Chérifien des Phosphates (OCP), and holds the world's largest reserves of this raw material, 68% in 2025, according to the USGS.

While Morocco's role long focused on exporting phosphate rock, production of phosphoric acid and phosphate fertilizers (downstream products) has increased significantly since 2008. Moroccan production of these two products has respectively doubled and tripled over the past fifteen years, while phosphate rock production has risen overall, from 25 Mt in 2010 to 35 Mt in 2024 (Figures 19 and 20).

https://jwsr.pitt.edu. In 2008, the US Environmental Protection Agency (EPA) amended its National Ambient Air Quality Standard (NAAQS), which sets, among other things, the maximum legal levels of lead in the air. The EPA reduced these by a factor of 10, from 1.5 µg/m³ to 0.15 µg/m³. Mexican standards, for their part, did not change and remained set at 1.5 µg/m³.

19. S. Tanaka, K. Teshima and E. Verhoogen, "North-South Displacement Effects of Environmental Regulation: The Case of Battery Recycling", Columbia University, 2021, available at: www.columbia.edu.

20. J. Rice, "Lead Battery Recycling and the Ecologically Unequal Exchange of a Crescive Contaminant Across the U.S.-Mexico Border", *op. cit.*, p. 219.

Figure 19. Phosphate rock production of Morocco, 2000-2024

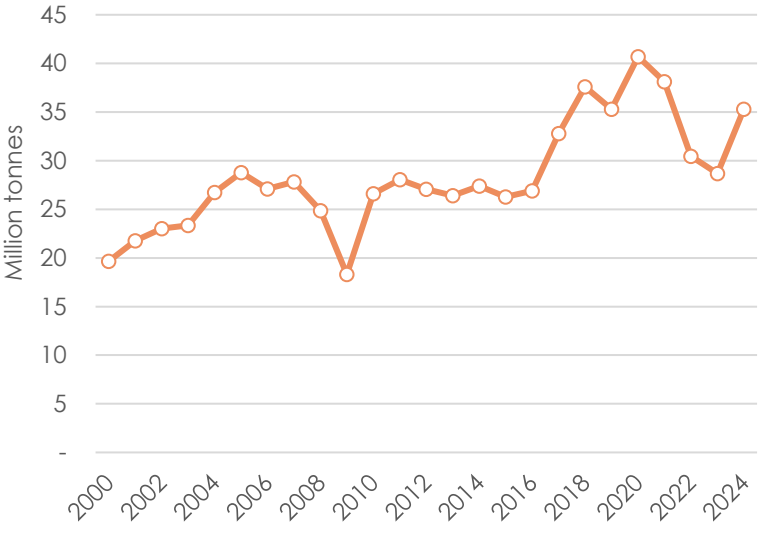
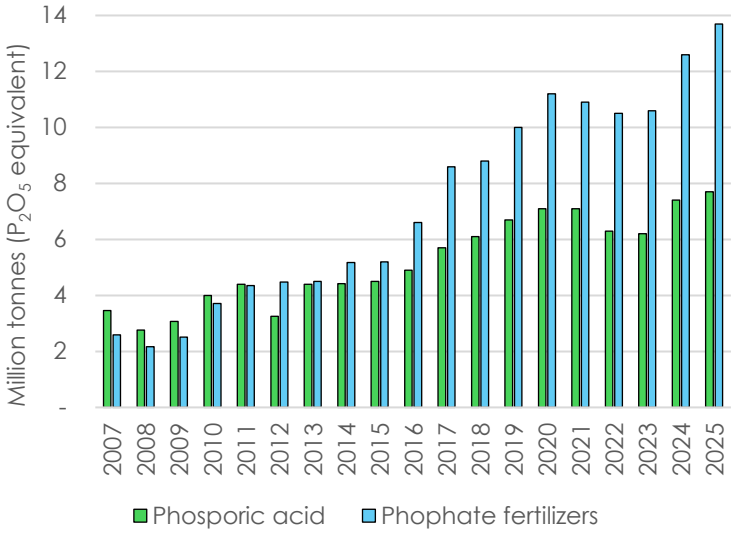


Figure 20. Phosphoric acid and phosphate fertilizer production of the OCP Group, 2007-2025



Sources: Ifri, based on data from the BGS and OCP Group.

The growth of the OCP Group's activities is explained in particular by a reform of its governance (including the shift from a public entity to a joint-stock company (*société anonyme*), the OCP Group being 94% owned by the Moroccan state, with the remainder of the capital shared among various shareholders), but also and above all, by an economic strategy including the creation of partnerships and joint ventures with companies from agricultural states in the 1990s and 2000s (India, Pakistan, Brazil)[21] and a major investment program. Supported by a sharp rise in phosphate rock prices between 2007 and 2008, which provided additional revenue, this program notably enabled the expansion of the Jorf Lasfar industrial complex, both a production site and an export port. The OCP Group also took out a USD 250 million loan from the African Development Bank in 2012 and obtained an investment-grade rating in 2016, facilitating its access to capital markets.[22]

Since the 2010s, Moroccan exports of phosphoric acid and phosphate fertilizers have surpassed those of phosphate rock, in both market value and volume (Figures 21 and 22). In 2024, Morocco was the world's largest exporter of phosphoric acid (37% by market value) and phosphate fertilizers (23%).[23]

21. Notably, Indo Maroc Phosphore, created in 1999; Pakistan Maroc Phosphore, created in 2004; Bunge Maroc Phosphore, created with the Brazilian group Bunge in 2008.
22. "S&P maintient l'Investment Grade d'OCP S.A.", *Financial Afrik*, 27 May 2016, available at: www.financialafrik.com.
23. The Observatory of Economic Complexity, available at: https://oec.world.

Figure 21. Moroccan exports of phosphates and derived products, in market value, 2000-2025

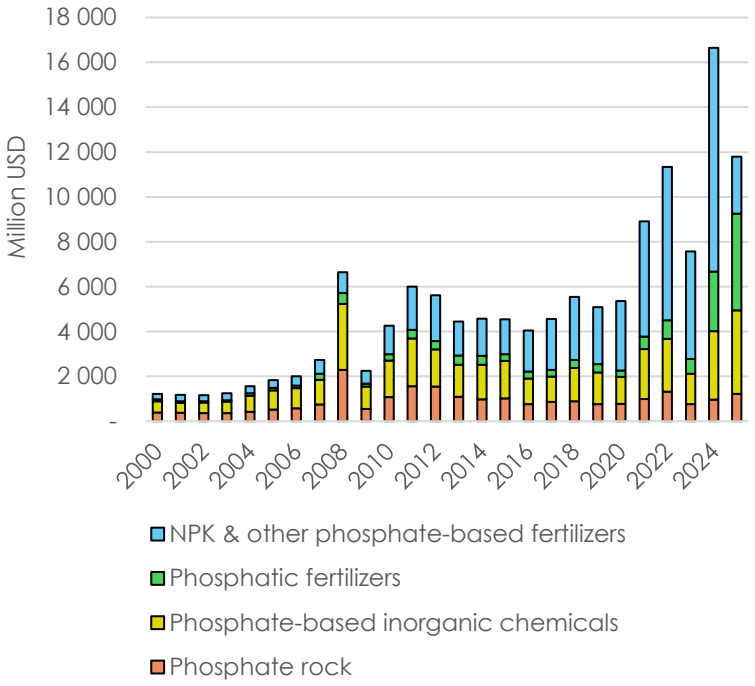
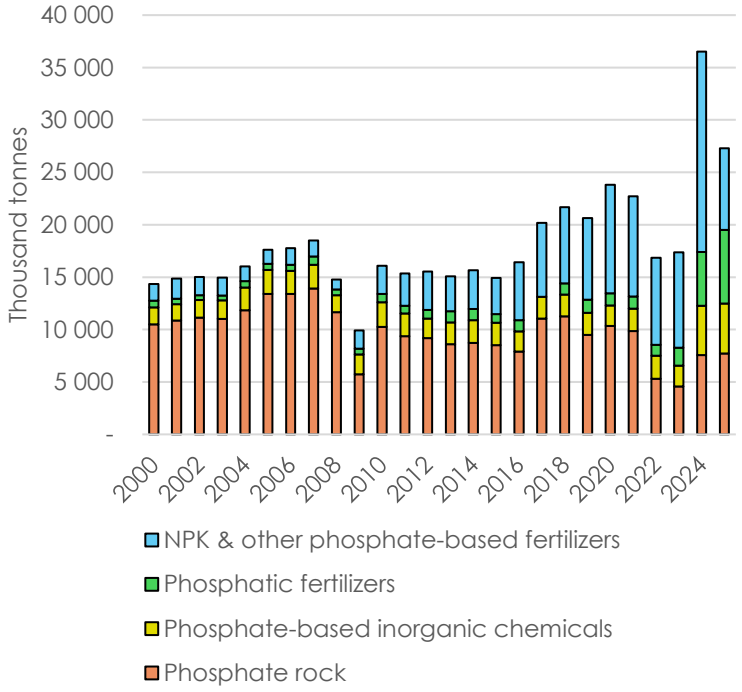


Figure 22. Moroccan exports of phosphates and derived products, in volume, 2000-2025



Source: Ifri, based on data from the UNCT.

Note: The classification of HS codes by product category is established as follows: "Phosphate rock" (2510); "Phosphate-based inorganic chemicals" (2809; 2835); "Phosphatic fertilizers" (3103); "NPK and other phosphate-based fertilizers" (3105).

The development of Morocco's downstream phosphate sector rests on several determinants:

- First, **a very high level of control over phosphate rock**, with nearly 70% of reserves, makes the country virtually indispensable for players in the sector, which notably increased the interest of foreign industrial firms in forming partnerships with the OCP Group.
- These cooperations gave rise not only to the **acquisition of know-how and to investment, but also to the securing of downstream markets**. South American and Asian outlets played a definite role in the growth of Moroccan production, and Brazil and India (countries whose companies have entered into joint ventures with the company) are today the leading buyers of Moroccan fertilizers (Figures 23 and 24). Moreover, global population growth ensured a quasi-mechanical rise in demand for fertilizers.

- The OCP Group also benefited from **favorable economic conditions** (rise in phosphate prices in the late 2000s), enabling the building up of equity for future investments, and from the role of the Moroccan state in guaranteeing its financial soundness in its process of entering capital markets.
- Finally, **the development of this downstream industry relied on a pre-existing national player**, the OCP Group, which was transformed in order to accelerate its diversification and expansion.

Figure 23. Main importers of Moroccan fertilizers, 2008

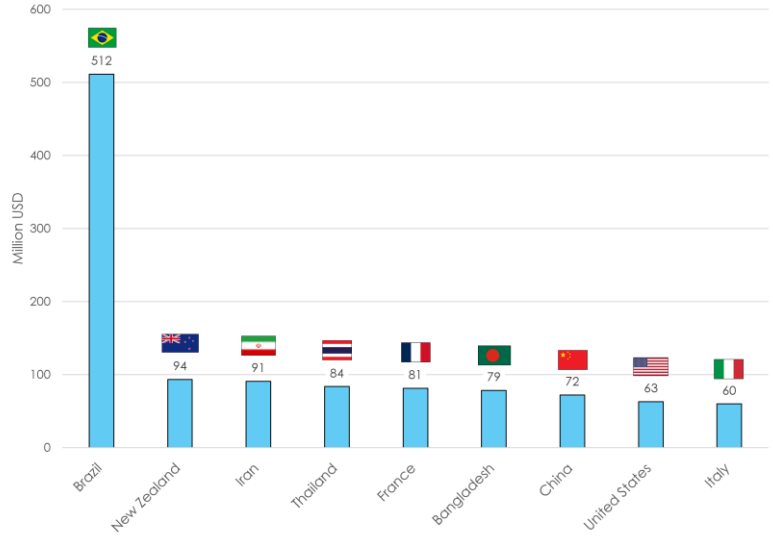
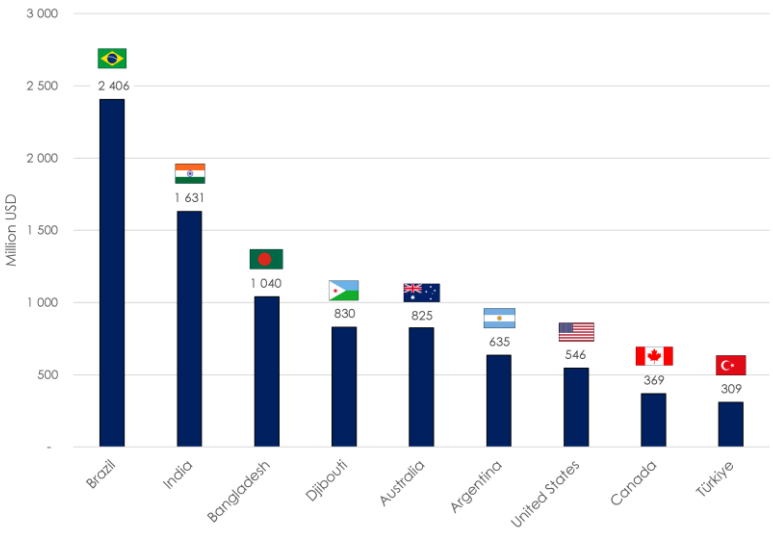


Figure 24. Main importers of Moroccan fertilizers, 2024



Source: Ifri, based on data from the UNCT.

General conclusions

The study of mining nationalism measures, and of export controls in particular, reveals several dynamics at work. First, it shows the erosion of market mechanisms as the foundation of metals governance.[24] This evolution is closely linked to the growing strategic role of metals in many industries. These measures are no longer one-off; instead, they are durably integrated into the legal and industrial framework of a government's resource management. State intervention is increasingly a defining feature of metals governance, no longer an exception.[25]

Second, the types of countries practicing resource nationalism have broadened. While resource-rich developing countries were historically the most active in mining nationalism,[26] marked intervention can now be observed among high-income, resource-rich countries (Canada, Australia) in addition to traditional resource-rich countries (Indonesia, Chile, Mexico). Canada has notably tightened conditions for foreign investment in its mining sector,[27] while Australia's shift away from a traditional liberal approach is more limited but nonetheless emerging.[28]

Finally, export control measures have ambiguous effects on both the capacity to develop a downstream industry and metal prices. Having reviewed the five examples above, it remains difficult to demonstrate a systematic cause-and-effect link between measures restricting raw-ore exports and development of a downstream processing industry. Indonesia's export ban on unrefined nickel, the main "success" in this regard, needs to be qualified, in that it mainly amplified an existing trend and did not create a dynamic *ex nihilo*.

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24. W. Liu, S. Dou and F. Amuakwa-Mensah, "Institutionalized Resource Nationalism: A Global Index of Policy Intervention and Implications for the Energy Transition", *Global Environmental Change*, No. 99, September 2026, available at: www.sciencedirect.com.
25. I. O. Cretini and V. Robert, "From Lithium to Batteries: Opportunities and Challenges for Linking Argentina's Lithium Extraction to National Industrial Development", *The Extractive Industries and Society*, No. 24, December 2025, available at: www.sciencedirect.com.
26. W. Liu, S. Dou and F. Amuakwa-Mensah, "Institutionalized Resource Nationalism: A Global Index of Policy Intervention and Implications for the Energy Transition", op. cit.
27. "Le Canada renforce son protectionnisme dans le secteur minier", French Embassy in Canada, Economic Service of Ottawa, July 12, 2024, available at: www.tresor.economie.gouv.fr.
28. S. Park, A. Elbra and O. Summerfield-Ryan, "Resource ²Nationalism in Australia? Mining Power and Path Dependence", *Handbook of Resource Nationalism*, pp. 113-124, July 2026, available at: www.elgaronline.com.

Capturing investment with the aim of developing a processing industry can be seen as a balance:

- On the one hand, the comparative advantage that makes it possible to attract capital into refining assets rests on several bases: available, reliable and affordable energy; sufficient water resources; logistics facilitating the construction of industrial infrastructure; the presence of a skilled local workforce; a downstream market able to absorb future output; a stable regulatory framework favorable to investment.
- The weakness or absence of this advantage can be offset by strong control over a resource, making the extracting state virtually indispensable (insofar as this resource is subject to sufficient demand).
    - Nevertheless, while it does not seem possible to define a precise market share that must be held, this share can prove to be relatively high. Indonesia holds half of the world's currently identified nickel reserves, and the restrictions it subsequently launched on bauxite in 2023 (2.3% of world production in 2025 and 10% of reserves) and on copper (3.1% of mine production and 2.1% of reserves) do not give it the same influence. These measures have not so far met with comparably significant success.
    - Zimbabwe and Zambia held much smaller market shares: 4% of world mine production of chromium for Zimbabwe in 2025 (with 12% of estimated world reserves), and 4% of copper production for Zambia (2.1% of reserves).[29]
    - There are actually few extracting countries with a non-existent or very limited processing industry that have a degree of control comparable to Indonesia's over nickel. An interesting example is that of Guinea, the world's largest bauxite producer (34% of world production in 2025 and 26% of reserves). Despite this predominance, alternative suppliers to Conakry exist, with Australia (22% of production and 13% of reserves), China (20% of production and 2.5% of reserves), and Vietnam and Brazil (lower production but 11% and 6% of reserves, respectively).

Comparative advantage can be influenced by exogenous factors, as shown by Zimbabwe (processing manufacturers weakened by low chromium prices) and Mexico (lead-acid battery recycling favored by asymmetric environmental standards). A new export ban on unrefined chromium, introduced by Zimbabwe in 2021, could lead to better results than the first, notably through Chinese investment, but there is still insufficient hindsight on this point.

29. USGS 2026.

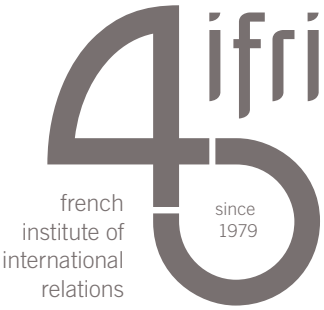
In early 2026, Zimbabwe also froze exports of lithium concentrates to accelerate the development of a local ore-processing industry. Investment announcements have been made, and a first lithium sulfate plant was opened in May 2026, owned by the Chinese-capital company Prospect Lithium Zimbabwe.[30]

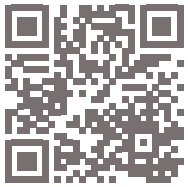
While the contribution of export restriction measures remains difficult to establish, the Mexican example on lead and the Moroccan example on phosphates show that developing a processing industry is not a matter of chance, even with a very high share of world reserves (in the case of Morocco). Both were favored by investment or liberal policies in the mining sector, as well as by exogenous factors such as rising phosphate prices or tightening US environmental standards. Incentive-type policies (tax relief for companies investing in processing, tax credits, subsidies, etc.) or investment policies are an interesting alternative to export restrictions, but require budgetary or borrowing capacities that many developing extracting countries lack. Indonesia, Mexico and Morocco hold investment-grade sovereign debt ratings (BBB, BBB and BBB-, respectively), which is not the case for Zambia (CCC, and facing a situation of over-indebtedness in the 2010s) and even more so for Zimbabwe (unrated and in default on its external debt since 1999).

Faced with this situation, limiting exports may appear as a lower-cost solution, although its success remains uncertain. However, this approach can be economically detrimental for states whose gross domestic product (GDP) and revenues rely heavily on the mining sector and raw-ore exports. These exports also play a key role in providing foreign currency.

Mining nationalism and export restrictions are therefore not a silver bullet for ensuring the economic and industrial development of resource-rich countries. Such development requires overcoming structural obstacles and can only take place through an approach that extends beyond the sole mining sector (infrastructure development, training of a skilled workforce, etc.). For Europe, which aims to secure its supplies upstream in the value chains, understanding the aspirations of resource-extracting countries is therefore key to developing effective partnerships and establishing a win-win model.

30. “L’usine de sulfate de Goromonzi du Zimbabwe confirmée pleinement opérationnelle”, Shanghai Metals Market, August 10, 2026, available at: https://news.metal.com.





27 rue de la Procession 75740 Paris cedex 15 – France

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