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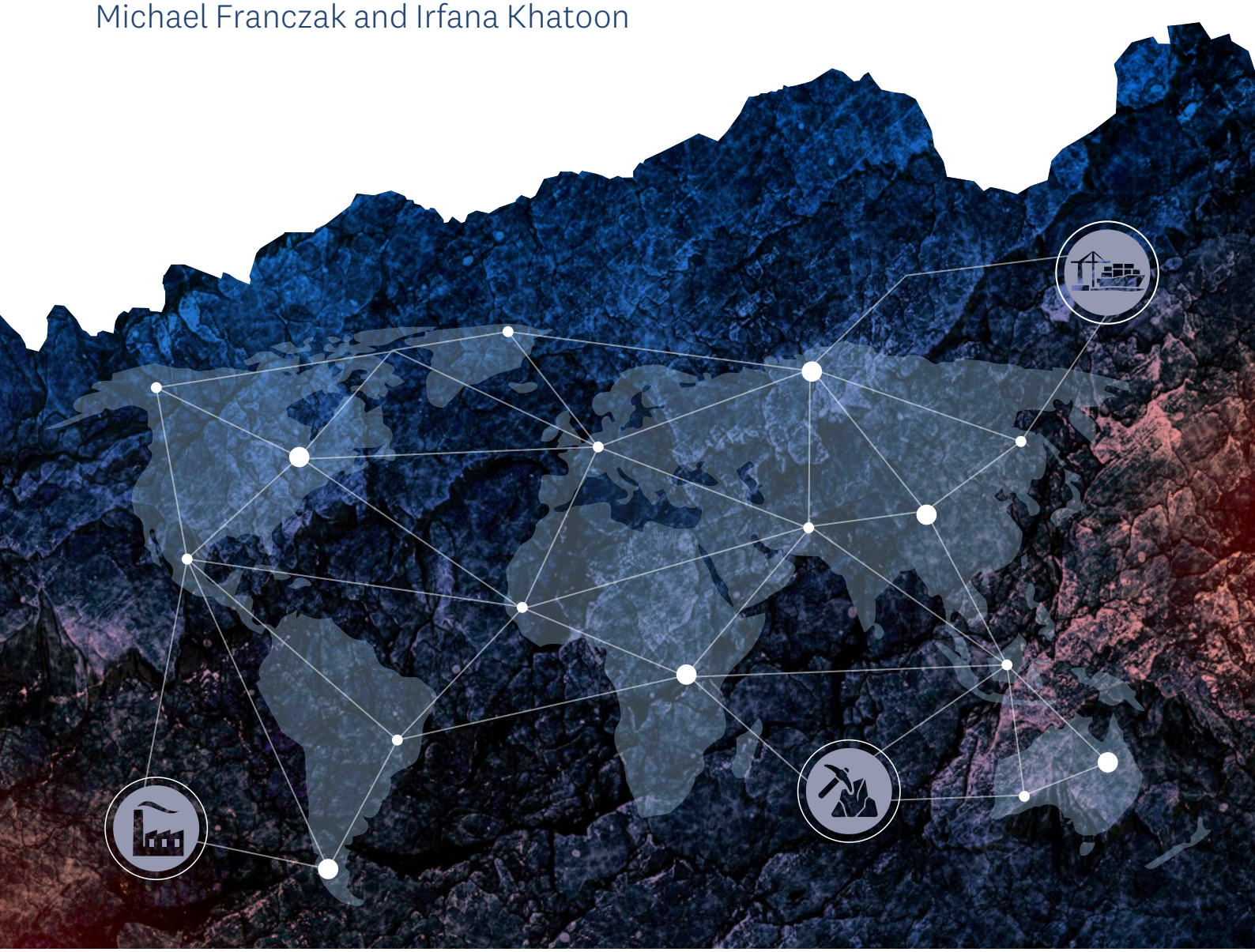
Governing Critical Minerals

Histories, Gaps, Actions and Innovative Models

Michael Franczak and Irfana Khatoon



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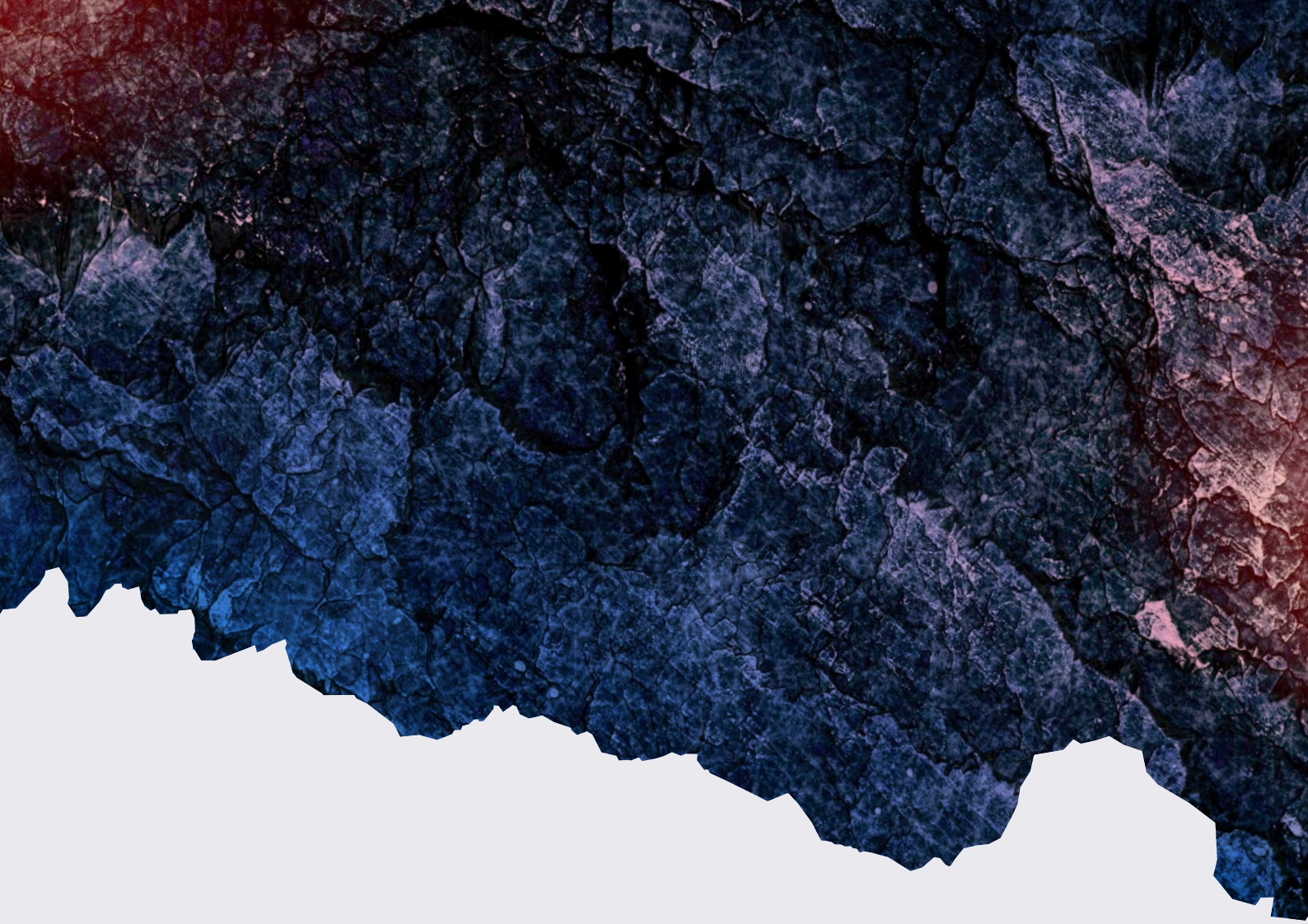

Executive Summary

Critical minerals – including lithium, cobalt, nickel, copper, graphite and rare earths – are foundational to the twenty-first century global economy. They are essential not only to the energy transition, but also to artificial intelligence (AI), digital infrastructure and advanced manufacturing. Demand is rising rapidly, with overall demand projected to nearly double by 2040 under current policy settings. Yet governance remains fragmented across national policies, bilateral agreements, investment treaties, voluntary standards and competing geopolitical initiatives.

As powerful blocs move quickly to secure critical mineral supply chains through exclusive agreements, stockpiling and new investment arrangements, global rules risk being shaped by great power competition rather than multilateral coordination. These dynamics echo earlier periods of resource-driven industrialization, when advanced economies depended heavily on inexpensive fuel and raw materials from "Third World" commodity exporters, many of which remained locked into patterns of dependence, limited diversification and unequal terms of trade.

Critical minerals could reproduce these patterns – or help break them. The transition to clean energy and AI is creating new markets and opportunities for resource-rich countries, but also new forms of dependence.

This paper examines these governance gaps, maps the emerging architecture and evaluates institutional models that could help transform fragmented competition into a more cooperative and equitable system. It concludes with a layered approach to critical minerals governance, drawing on institutional models that have helped address coordination problems in other domains.

Five priorities emerge:

First, build global coordination around a legitimate and incremental International Minerals Agency (IMA). The International Energy Agency was created by major energy-consuming countries in response to the 1973–74 oil crisis, while the International Atomic Energy Agency offers a precedent for universal participation under United Nations auspices. An IMA should follow the latter model, bringing producing and consuming countries into its governance and beginning with geological data, market monitoring and supply-and-demand foresight before expanding its mandate.

Second, build producer coordination through technical and legal cooperation. Producer countries could pool geological, financial, environmental and legal expertise to strengthen their position before major concessions, infrastructure agreements and supply contracts are negotiated. The African Legal Support Facility and the Critical Minerals Information and Knowledge Hub provide existing building blocks. The introduction of Collective Action Clauses in the 2000s and "pause clauses" during the global pandemic also show the potential of strategic advocacy around changes to contracts and international law.

Third, protect policy space for value addition through trade rules and development finance. Producer countries should have greater scope to pursue processing, manufacturing and other forms of domestic and regional value addition. A World Trade Organization code of best practices could clarify approaches to geological cooperation, technical assistance and time-bound measures supporting industrialization, while multilateral development banks (MDBs) could finance processing capacity, infrastructure, skills, technology and regional connectivity.

Fourth, develop durable mechanisms for managing mineral-market and sector-specific risks. Commodity-stabilization mechanisms from the 1970s provide precedents for managing price and export-earning risks while illustrating the challenges of annual appropriations. The Secretary-General's Panel on Critical Energy Transition Minerals has proposed a fund for legacy issues associated with derelict, ownerless and abandoned mines. The International Oil Pollution Compensation Funds provide a potential precedent for financing such a facility through industry contributions.

Fifth, embed accountability and community participation across the governance architecture. Existing systems – including Organisation for Economic Co-operation and Development due diligence, the Great Lakes Regional Certification Mechanism and traceability initiatives – provide building blocks for stronger oversight and more coherent accountability. Future arrangements should give affected communities formal roles in monitoring and governance, provide effective grievance channels and ensure that lessons from community engagement and contestation inform regulation. These principles should also apply to MDBs and other public financiers, alongside legal and technical support that enables governments and communities to shape major agreements before investments are locked in.

The choices made now will shape who controls critical mineral supply chains, who captures the value they generate, and whether resource-rich countries can turn this new era of demand into greater economic autonomy and development.

Introduction: What's at Stake in the Governance of Critical Minerals

Critical Energy Transition Minerals (CETMs) – including lithium, cobalt, nickel, copper, rare earths and graphite – sit at the centre of the twenty-first century global economy. They are essential for decarbonization and renewable energy technologies, as well as for the digital infrastructure and rising electricity demand associated with artificial intelligence (AI). These resources are extracted largely in developing countries, processed predominantly in China, and consumed mainly in advanced industrial economies. As a result, consumer countries are increasingly competing and collaborating to secure control over mineral supply chains.

Yet critical minerals lack the kind of integrated global governance that exists for other strategic commodities such as oil. Instead, rules and practices are spread across bilateral agreements, investment treaties and investor-State dispute settlements (ISDS), voluntary standards, and national policies. This fragmented system does little to address a central problem: many producing countries remain concentrated in low-value extraction, while processing, manufacturing, finance and technology generate greater value elsewhere.

Producing countries also bear associated environmental and social costs. In 2024, 456 billion litres of water were used to extract 240,000 tons of lithium globally, often from arid regions like Chile's Atacama Desert. In the Democratic Republic of Congo's (DRC) cobalt-producing belt, 64 per cent of the population lacks water, and communities face severe health issues from nearby mines.[1] These concerns have contributed to growing demands from producing countries for greater control over the terms of mineral extraction. South African President Cyril Ramaphosa has called for a united African stance on mining operations, ensuring that business with the continent is conducted on African terms.[2]

The stakes are rising rapidly. The United States, the European Union, China and other powerful actors are intensifying efforts to secure critical mineral supply chains through exclusive agreements, stockpiling and new investment arrangements. These efforts are largely shaped by great power competition rather than multilateral coordination. They also echo earlier periods of resource-driven industrialization, when the economic growth of advanced economies depended heavily on inexpensive fuel and raw materials from "Third World" commodity exporters. Many of these countries remained locked into patterns of dependence, limited diversification and unequal terms of trade.

Critical minerals could reproduce these patterns – or help break them. The transition to clean energy and AI is creating new markets and opportunities for resource-rich countries, but also new forms of dependence. This is particularly important during what has been described as the "mid-transition": a period in which fossil fuel and clean energy systems coexist, neither system is fully optimized, and both require major investment and coordination.[3] Investment is shifting away from aging fossil fuel infrastructure, but the clean energy systems replacing it are still being built – and depend heavily on critical minerals. Geopolitical shocks – wars, a pandemic, persistent inflation – have exposed the fragility of highly concentrated supply chains in critical minerals markets and the absence of effective global governance.

These governance gaps are being locked in during a period of rapid demand expansion. The International Energy Agency (IEA) projects that, under current policy settings, overall demand for critical minerals will nearly double by 2040. Lithium demand is expected to more than triple, while demand for nickel, graphite and rare earths is projected to increase by roughly

1 Luke Taylor, "Critical minerals are 'oil of 21st century' as demand fuels poverty and pollution in poorer countries", *The Guardian*, 29 April 2026. Available at https://www.theguardian.com/global-development/2026/apr/29/critical-minerals-are-oil-of-21st-century-as-demand-fuels-poverty-and-pollution-in-poorer-countries.

2 Carien du Plessis, "Ramaphosa on Rubio: Africa must 'avoid a new colonialism'", *The Africa Report*, 15 February 2026. Available at https://www.theafricareport.com/408922/ramaphosa-on-rubio-africa-must-a-avoid-a-new-colonialism/.

3 Emily Grubert and Sara Hastings-Simon, "Designing the mid-transition: a review of medium-term challenges for coordinated decarbonization in the United States", *WIREs Climate Change*, vol. 13, No. 3 (2022). Available at https://emilygrubert.org/wp-content/uploads/2022/10/Grubert-and-Hastings-Simon-2022-Designing-the-mid-transition-A-review-of-medium-t.pdf.

50–90 per cent.[4] At the same time, critical mineral markets are characterized by extreme price volatility and repeated boom-bust cycles, undermining fiscal stability in producing economies and complicating long-term investment and diversification strategies.

"Critical minerals are essential for economic and national security," explain researchers at the United Nations University Institute for Water, Environment and Health, "serving as the oil of the 21st century, i.e., the fuel of the Fourth Industrial Revolution (Industry 4.0)."[5] The choices made now will shape these markets – and the global economy – for decades. The critical question for multilateralists is not how to secure supplies, but how to govern the systems that produce them.

Calls for new governance structures have followed. In April 2024, Secretary-General António Guterres launched the UN Panel on Critical Energy Transition Minerals to develop principles for more equitable and sustainable mineral value chains. He warned that "a world powered by renewables is a world hungry for critical minerals" and called these resources a "critical opportunity" for developing countries to create jobs, diversify economies and boost revenues – but only if they are managed properly. "The race to net zero cannot trample over the poor," he cautioned.[6] In December 2025, the UN established a Task Force to advance the Panel's recommendations across the UN system and provide "targeted, tailored, country-level support" to developing countries. At its launch, Selwin Hart, Assistant Secretary-General for Climate Action and Special Adviser to the Secretary-General on Climate Action, called it "the next decisive step" to "turn those ideas into action".[7]

Other proposals, from developed and developing country groups, civil society and industry, include binding, "hard law" treaties and agreements, dedicated international organizations and funds, and coordinating and capacity-building platforms. While varying in ambition and political feasibility, these efforts point to a growing recognition that critical minerals cannot be governed through markets, geopolitics and voluntary standards alone.

This paper contributes to that emerging debate in four ways.

First, it provides some historical context for today's critical minerals debates, including past efforts by developing countries through the UN and groups like the Organization of the Petroleum Exporting Countries (OPEC) to reshape commodity markets and the "terms of trade" for commodity producers.

Second, it identifies the global governance gaps and political economy challenges that characterize current governance arrangements, with particular attention to the vulnerabilities of low- and middle-income producers.

Third, it maps the emerging governance architecture for critical minerals, including initiatives from the UN, Group of 7 (G7), Group of 20 (G20), the African Union and other actors, as well as proposals from civil society and the private sector – and analyses their trade-offs and implications for multilateral cooperation.

Fourth, it draws on precedents from other domains of global governance to identify institutional models that might be adapted to the political and economic realities of the minerals sector.

It concludes with a series of actionable policy recommendations designed to foster a more stable, transparent and equitable architecture for the governance of critical minerals.

4 IEA, "Global Critical Minerals Outlook 2026". Available at https://www.iea.org/reports/global-critical-minerals-outlook-2026/outlook.

5 A. Nunbogu and others, *Critical Minerals, Water Insecurity and Injustice* (Richmond Hill, Ontario, United Nations University Institute for Water, Environment and Health, 2026). Available at https://collections.unu.edu/eserv/UNU:10642/UNU-INWEH-Critical-Minerals-Water-Insecurity-and-Injustice.pdf.

6 United Nations, "Secretary-General's remarks for the Launch of the Panel on Critical Energy Transition Minerals", 26 April 2024, New York, United Nations Secretary-General's remarks. Available at https://www.un.org/sg/en/content/sg/statements/2024-04-26/secretary-generals-remarks-for-the-launch-of-the-panel-critical-energy-transition-minerals-delivered?.

7 United Nations, Selwin Hart, "Remarks of Special Adviser to the Secretary-General on Climate Action and Assistant Secretary-General for Climate Action, at the Launch of the UN Task Force on Critical Energy Transition Minerals", 10 December 2025, Nairobi. Available at www.un.org/sites/un2.un.org/files/asg_selwin_hart_remarks_cetm_tf_launch_10dec2025.pdf?utm.

1.

Governing "Critical" Commodities: A Historical Perspective

The extraction, processing and exchange of raw materials between rich and poor countries have a long history, one marked by gross abuses and exploitation, often under a colonial or semi-colonial relationship. After the Second World War, developing countries began to organize their interests through the UN system. Through organizations such as the Economic Commission for Latin America and the UN Conference on Trade and Development (UNCTAD), the Group of 77 (G77) challenged the international division of labour. In their "terms-of-trade" argument, raw materials exporters faced a secular or long-term decline in the prices of their exports relative to the prices of the consumer and capital goods or processed commodities (oil, food) they imported.[8]

Decolonization heightened the visibility and stakes of this asymmetry as newly independent countries in Africa, Latin America and the Caribbean, and Asia found themselves politically independent but locked in older patterns of colonial exchange. The zenith of this effort came in the form of the Declaration and Programme of Action for a New International Economic Order (NIEO).[9] Introduced by the G77 and passed by the UN General Assembly in 1974, the NIEO was an effort to form a "trade union of the poor countries" (in the words of Tanzania's Julius Nyerere) to renegotiate those terms of trade on a more equal footing.[10] OPEC was part of this effort, too, as the quadrupling of oil prices in 1973–74 demonstrated the potential economic and diplomatic power of structurally poor but resource-rich developing countries.[11]

The NIEO did not succeed, though many of the organizations formed in the North-South dialogue of the 1970s remain: the IEA, International Fund for Agricultural Development (IFAD) and the Common Fund, to name a few. These institutions all promised to transform commodity markets: the IEA to manage oil supply for wealthy consumers; IFAD to increase food production for chronic and low-income food importers; and the Common Fund to manage export price volatility for a wide range of commodities.

We explore some of the lessons from those bodies in a later section (Section 4). It is enough to say here that NIEO's vision did not come to fruition. As a political project, it collapsed in the early 1980s under the weight of the Latin American debt crisis. And as an economic one, developing countries took divergent paths in the 1990s: some (e.g. in East Asia and Latin America) found success in developing light and advanced manufacturing industries that could outcompete (and sell in) the West,

8 John Toye explains, "The history of the Group of 77 (G-77) is so intimately bound up with the history of the UN Conference on Trade and Development (UNCTAD) that it is hardly possible to narrate the history of the one without also narrating the history of the other." See John Toye, "Assessing the G77: 50 years after UNCTAD and 40 years after the NIEO", *Third World Quarterly*, vol. 35, No. 10 (2014), pp. 1759–1774. Available at https://www.tandfonline.com/doi/full/10.1080/01436597.2014.971589?scroll=top&needAccess=true; The "terms-of-trade" argument advanced by Hans Singer and Raul Prebisch, UNCTAD's first Secretary-General, bound the two together. UNCTAD's Charter of Algiers (1967) declared: "Producing developing countries should consult and cooperate among themselves in order to defend and improve their terms of trade by effective coordination of their sales policies." See Group of 77, "Charter of Algiers", adopted at the First Ministerial Meeting of the Group of 77, Algiers, 10–25 October 1967. Available at https://www.g77.org/doc/algier~1.htm.

9 A/RES/S-6/3202; Ahmed Mahiou, "Declaration on the Establishment of a New International Economic Order", United Nations Audiovisual Library of International Law, 2011. Available at https://legal.un.org/avl/pdf/ha/ga_3201/ga_3201_e.pdf (accessed 22 July 2026).

10 Julius K. Nyerere, "Unity for a New Order", speech in Arusha, Tanzania, February 12, 1979. Available at https://www.juliusnyerere.org/resources/view/unity_for_a_new_order_1979_arusha_1979.

11 For the importance of OPEC in the NIEO and G77 coalition, see Michael Franczak, *Global Inequality and American Foreign Policy in the 1970s* (Ithaca, Cornell University Press, 2022), especially chapter 1; and Giuliano Garavini, *The Rise and Fall of OPEC in the Twentieth Century* (Oxford: Oxford University Press, 2019), especially chapter 2.

while others struggled to find their place in a rapidly globalizing, "flattened" world economy.

In some respects, the current moment recalls the debates of the North-South dialogue. Once again, access to raw materials has become a central concern of international economic and geopolitical competition, while resource-rich developing countries are seeking greater control over how their natural wealth is extracted, processed and exchanged. The difference is that this is not occurring through a unified political project comparable to the NIEO. Rather, it is being driven by the convergence of the energy transition, the rapid expansion of digital technologies and artificial intelligence, and growing geopolitical competition among major powers. These developments have created an unprecedented demand for a range of minerals – including lithium, cobalt, copper, nickel, graphite and rare earth elements – that are essential to batteries, renewable energy technologies, electricity grids, data infrastructure and advanced military systems.

Certain minerals have always been "critical". During the Second World War, a range of commodities were classified as "strategic minerals" due to their importance for military production and were subject to extensive State planning, stockpiling and control. The oil shocks of the 1970s similarly demonstrated that access to essential resources could become a source of geopolitical vulnerability.

What changed during the era of globalization was not the strategic importance of these resources, but the assumption that their supply would remain secure. Beginning in the 1980s and accelerating after the end of the Cold War, many advanced economies embraced a model of global supply chains built around efficiency and low costs. Domestic mining, refining and processing capacities declined as production shifted abroad, particularly to countries with lower costs and less stringent environmental regulations. Governments generally assumed that open markets and diversified trade relationships would guarantee continued access to the minerals required for industrial production.

That assumption unravelled through a series of geopolitical and economic shocks. China's 2010 restrictions on rare earth exports to Japan showed that control over key minerals could be used to shape diplomatic outcomes. The United States-China trade war, beginning in 2018, revealed that supply chains could themselves become instruments of competition. The COVID-19 pandemic exposed the fragility of highly concentrated, just-in-time global supply chains and the risks of dependence on a small number of suppliers.[12] Finally, Russia's invasion of Ukraine in February 2022 reinforced concerns about dependence on strategic commodities, particularly in energy markets. "The hopeful and entirely open post-Cold War world order that we all tried to build starting on November 9, 1989, the day the Berlin Wall fell, ended on February 24 of this year," declared Canadian Finance Minister Chrystia Freeland in June 2022. "In its place, we've entered a period of friendshoring, one in which our allies know that it's worth strengthening their partnerships and building their supply chains with other democracies."[13]

The lesson for policymakers was that the same economic interdependence once seen as preventing great power conflict could become "weaponized" to expose and exploit new areas of vulnerability.[14] As a result, advanced economies now view access to these resources as a core measure of national security and economic resilience. This has triggered a proliferation of industrial policies, supply chain alliances and bilateral investment agreements aimed at securing access to mineral resources and processing capacity (discussed in the following section).

For many resource-rich developing countries, this moment presents both opportunity and risk. Rising demand for critical minerals should, in principle, strengthen the bargaining position for producer countries, opening possibilities for industrial upgrading, value capture and strategic coordination among exporters.

In practice, the rush by major powers and multinational firms to secure supply is accelerating a wave of bilateral deals and investment arrangements, negotiated asymmetrically and outside multilateral frameworks. For

12 Writing in 2021, before Russia's invasion of Ukraine further intensified concerns about resource security, Nakano attributed the growing strategic importance of critical minerals to three developments. First, clean energy technologies have turned mineral supply chains into a site of geoeconomic competition, especially as China has moved from being "a simple mineral producer or component assembler" to a "higher-value manufacturer" across key stages of production. Second, China's position in these supply chains has raised concerns about potential geopolitical leverage, reinforced by earlier episodes such as the 2010 rare earth restrictions on Japan and signals during the United States-China trade conflict. Third, the COVID-19 pandemic exposed the fragility of global supply chains, including disruptions to the transport of critical minerals.

13 United States, Department of the Treasury, "Transcript of joint press conference between Secretary of the Treasury Janet L. Yellen and Canadian Deputy Prime Minister and Finance Minister Chrystia Freeland", press release, 20 June 2022. Available at https://home.treasury.gov/news/press-releases/jy0829/.

14 See Henry Farrell and Abraham Newman, "Weaponized Interdependence", International Security, vol. 44, No. 1 (2019), pp. 42–79.

instance, in Zambia, the United States linked discussions over the future of support for 1.3 million HIV/AIDS patients to secure access to copper and cobalt through the United States President's Plan for AIDS Relief.[15] China has long secured access to critical minerals through State-backed lending and long-term deals linked to infrastructure and mining, especially in the DRC, where Chinese firms hold stakes in many of the largest copper and cobalt mines and account for a large share of industrial cobalt production. In response, the United States and European Union-backed Lobito Corridor initiative links infrastructure investment and regional development goals to efforts to build alternative copper and cobalt supply chains outside China's influence.[16]

Such deals have been extended to a wide range of producer economies. In 2025, the United States negotiated a critical minerals agreement with Ukraine tied to reconstruction financing and continued strategic support during the war with Russia.[17] In February 2026, the United States signed 11 bilateral critical minerals frameworks or MOUs at the Critical Minerals Ministerial with Argentina, the Cook Islands, Ecuador, Guinea, Morocco, Paraguay, Peru, the Philippines, the United Arab Emirates, the United Kingdom and Uzbekistan.[18] In May 2026, the United States and India signed a bilateral Critical Minerals Framework covering mining, processing, recycling and investment,[19] alongside a parallel Quad Critical Minerals Initiative with Japan and Australia targeting up to $20 billion mobilized through loans, guarantees, subsidies and long-term purchase agreements.[20] The bilateral and plurilateral architecture now spans Global South producers, post-conflict reconstruction economies and rising powers.

Especially worrying is the emergence of violent non-State actors as mineral brokers. In May 2026, the Rwanda-backed March 23 Movement (M23) rebel group, which controls the Rubaya coltan mines and other mineral-rich areas of eastern DRC, prepared a slide presentation pitching itself to the Trump administration as a supplier of 3T (tantalum, tin and tungsten).[21] Rwanda's ambassador to the United States subsequently acknowledged security coordination with M23 during Congressional testimony.[22] The pitch did not result in United States engagement.

Together, these dynamics are creating a de facto governance architecture for critical minerals. Powerful consumer countries negotiate bilaterally and collectively through geopolitical and economic alliances. Low- and middle-income producers bargain individually, with their sovereignty as leverage. Armed State actors and irregular suppliers test the edges of what existing structures will tolerate. Currently, none of these interactions are coordinated through dedicated multilateral frameworks.

15 Stephanie Nolen, "No H.I.V. Aid without More Access to Minerals: U.S. Ponders 'Sticks' against Zambia", *The New York Times*, 16 March 2026. Available at https://www.nytimes.com/2026/03/16/health/zambia-hiv-aid-minerals-trump.html?unlocked_article_code=1.T1A.ePqU.clySVUzYiw8j&smid=nytcore-ios-share.

16 Pietro Rinaldi and Pier Paolo Raimondi, "Minerals and the Lobito Corridor: Between Domestic Needs and the EU's Derisking Strategy", IAI Briefs, No. 26l15 (Rome, Istituto Affari Internazionali, March 2026). Available at https://www.iai.it/en/publications/c41/minerals-and-lobito-corridor-between-domestic-needs-and-eus-derisking-strategy.

17 Tinatin Akhvlediani, "Much More Than Minerals: The US-Ukraine Minerals Agreement and Its Geopolitical Implications", CEPS Explainer, No. 2025-06 (Brussels, Centre for European Policy Studies, June 2025). Available at https://cdn.ceps.eu/wp-content/uploads/2025/06/2025-06-FP-Mineral-deal-1.pdf.

18 United States of America, Department of State, Office of the Spokesperson, "2026 Critical Minerals Ministerial", fact sheet, 4 February 2026. Available at www.state.gov/releases/office-of-the-spokesperson/2026/02/2026-critical-minerals-ministerial.

19 Sarah Shamim, "India, US Strike Critical Minerals Deal: What's in It, Why Does It Matter?", *Al Jazeera*, 26 May 2026. Available at https://www.aljazeera.com/economy/2026/5/26/india-us-strike-critical-minerals-deal-whats-in-it-why-does-it-matter.

20 Reuters, "Quad to Build Port in Fiji, Unveils Pact on Critical Minerals", *Dawn* (Karachi), 27 May 2026. Available at https://www.dawn.com/news/2003358.

21 "A Congolese Militia Wants to Sell Critical Minerals to Donald Trump", *The Economist*, 10 May 2026. Available at https://www.economist.com/middle-east-and-africa/2026/05/10/a-congolese-militia-wants-to-sell-critical-minerals-to-donald-trump.

22 XtrAfrica, "Rwanda's U.S. ambassador admits security cooperation with M23 rebels — a major shift in Kigali's official position", post on X, 25 January 2026. Available at https://x.com/xtr_africa/status/2015286520538595824.

2.

Gaps and Challenges in Governing Critical Minerals

This section discusses some of the gaps and challenges in critical minerals governance. The selection is not meant to be comprehensive and instead highlights some less considered gaps, especially for low- and middle-income producing countries, for whom the stakes are high but leverage often low.

2.1 Stark – but Changing – International Division of Labour

A defining feature of the critical minerals economy is its stark international division of labour. Extraction is concentrated in developing economies and China. Refining and processing are heavily concentrated in China. High-value manufacturing, finance, intellectual property and technological deployment, meanwhile, remain concentrated in advanced economies.[23]

According to IEA projections, refining operations for most minerals are set to remain highly concentrated over the next decade, with China remaining the dominant refined supplier for almost all minerals. By 2035, China is expected to supply over 60 per cent of refined lithium and cobalt, and around 80 per cent of battery-grade graphite and rare earth elements.[24]

This division of labour is now being reshaped by a wave of competitive re-shoring. After years of disinvestment, advanced economies are now investing heavily in rebuilding domestic refining and processing capacity in response to China's dominance. Industrial policies such as the United States Inflation Reduction Act (2022) and the European Union Critical Raw Materials Act (2024) use a mix of macroeconomic tools to expand domestic processing and reduce dependence on external suppliers[25] alongside "friendshoring" and "nearshoring" efforts at vulnerable points in the supply chain.[26]

23 UNCTAD, *Critical Minerals, Critical Decisions: Industrial Policy for the Energy Transition*, UNCTAD/GDS/2025/5 (Geneva, 2026). Available at https://unctad.org/publication/critical-minerals-critical-decisions-industrial-policy-energy-transition.

24 IEA, *Global Critical Minerals Outlook 2025* (Paris, International Energy Agency, 2025). Available at https://www.iea.org/reports/global-critical-minerals-outlook-2025/overview-of-outlook-for-key-minerals.

25 The Inflation Reduction Act operates primarily through demand-side industrial policy tools, using large-scale tax credits (e.g. production and investment tax credits), subsidies and local content requirements to shift private investment toward domestic clean energy manufacturing and mineral processing, including "domestic or allied sourcing" incentives embedded in eligibility rules for clean energy tax credits. The European Union's CRMA is a more centralized strategic planning framework that sets binding benchmarks (e.g. targets for 10 per cent domestic extraction, 40 per cent processing and 15 per cent recycling by 2030), streamlines permitting for strategic projects, and coordinates financing and permitting across Member States to reduce dependence on a small number of external suppliers, particularly China.

26 The concept of "friendshoring" was formally articulated by United States Treasury Secretary Janet Yellen in June and July 2022, when she described it as shifting supply chains to "trusted" countries to "lower risks for our economy and theirs". She also made clear where those risks come from: "We cannot allow countries like China to use their market positions in key raw materials, technologies or products to disrupt our economy or exercise unwanted geopolitical leverage." See Sam Kim, Heejin Kim and Christopher Condon, "Yellen touts 'friendshoring' as fix for global supply chains", *Bloomberg*, 18 July 2022. Available at https://www.bloomberg.com/news/articles/2022-07-18/yellen-touts-friend-shoring-as-fix-for-global-supply-chains. In a joint press conference at the G7 Finance Ministers' meeting in June 2022, Canadian Finance Minister Chrystia Freeland placed friendshoring within a longer narrative about world order: "The hopeful and entirely open post-Cold War world order that we all tried to build starting on November 9, 1989, the day the Berlin Wall fell, ended on February 24 of this year. In its place, we've entered a period of friendshoring, one in which our allies know that it's worth strengthening their partnerships and building their supply chains with other democracies." See United States Department of the Treasury, "Transcript of joint press conference between Secretary of the Treasury Janet L. Yellen and Canadian Deputy Prime Minister and Finance Minister Chrystia Freeland", press release, 20 June 2022. Available at https://home.treasury.gov/news/press-releases/jy0829/.

This creates a new challenge for low- and middle-income producers seeking to move up the value chain: in a race for investment, technology and processing capacity, they risk losing out to advanced economies that are actively reshoring and subsidizing these same industries. Moreover, opportunities for value addition differ across minerals. For minerals such as copper, downstream processing is highly competitive and often generates limited returns, making efficient extraction and revenue collection more realistic strategies. By contrast, minerals such as lithium or nickel may offer greater opportunities for domestic processing, but this requires reliable energy, advanced technology and large-scale investment.[27]

2.2 Contracts and Clauses Privilege Investors

Producer-country governments often negotiate investment treaties, ISDS provisions and long-term concession agreements with less technical capacity while facing deep fiscal pressures. The consequences of these asymmetries can persist long after an agreement is signed.

Stabilization clauses are a particularly important example. Long used in investor-State mining contracts, they may cover both fiscal and non-fiscal measures and can constrain governments' ability to adopt new laws and regulations after an investment has been made. A 2008 review commissioned by the International Finance Corporation and undertaken in the context of the work of John Ruggie, the UN Special Representative of the Secretary-General on Business and Human Rights, found that stabilization clauses can affect governments' ability to implement measures relating to human rights, environmental protection, labour standards and other public interest objectives.[28] While the normative framework around stabilization clauses has continued to develop through different voluntary initiatives – most recently, the Organisation for Economic Co-operation and Development (OECD) *Guiding Principles on Durable Extractive Contracts*[29] – their use remains controversial.[30]

Bargaining power for producers may be enhanced by internal and external factors. Research on mining contract renegotiations in Africa between 2000 and 2013 found that rising commodity prices, political change, post-conflict transitions and civil society pressure created a "window of opportunity" for some governments to pursue contract renegotiations with mine operations. However, the window was short lived and appeared to close with the decline of commodity prices.[31]

2.3 Limited National Mapping = Low Valuations

The ability to negotiate effectively depends in part on knowing what a country possesses. Yet many producer countries have not mapped their mineral deposits well enough to value them accurately. The DRC supplies most of the world's cobalt, yet only about a fifth of its territory is geologically mapped, and much of the data is more than seventy years old.[32] The pattern is seen across the continent. Africa's share of global mineral exploration spending fell from about 16 per cent in 2004 to around 10 per cent in 2024.[33] In that year, Canada and Australia received more exploration investment than the whole of Africa, even though Africa's land mass is three times that of the two countries combined.[34]

27 Tom S.H. Moerenhout and Juan Carlos Jobet, eds., "Downstream Diversification of Mineral-Rich Countries: Challenges and Opportunities to Add Value in Energy Transition Supply Chains", Future of Energy series (Cham, Springer, 2026), pp. 147–148. Available at https://doi.org/10.1007/978-3-032-06139-3_9.

28 Andrea Shemberg, "Stabilization clauses and human rights", research project conducted for the International Finance Corporation and the United Nations Special Representative to the Secretary-General on Business and Human Rights, 11 March 2008. Available at https://media.business-humanrights.org/media/documents/files/reports-and-materials/Stabilization-Clauses-and-Human-Rights-11-Mar-2008.pdf.

29 OECD, "Guiding Principles for Durable Extractive Contracts", OECD Development Policy Tools (Paris, OECD Publishing, 2020). Available at https://www.oecd.org/content/dam/oecd/en/publications/reports/2020/12/guiding-principles-for-durable-extractive-contracts_05594a8d/55c19888-en.pdf.

30 For a comprehensive overview of those developments and initiatives, see Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, *Evolving Standards on Stabilization: A Practical Guide to the Organisation for Economic Co-operation and Development's Guiding Principles on Durable Extractive Contracts, Principles VII and VIII* (Winnipeg, International Institute for Sustainable Development, 2025), sect. 3. Available at https://www.iisd.org/system/files/2025-03/evolving-stabilization-standards-mining.pdf.

31 Sarah G. Katz-Lavigne, "The renegotiation window: resource contract renegotiations in the mining industry in Africa from 2000 to 2013", *Resources Policy*, vol. 51 (March 2017), pp. 22–30. Available at https://www.sciencedirect.com/science/article/abs/pii/S0301420716303695.

32 John Connor, "Geological maps: key to securing critical minerals supply chains", *Geopolitical Monitor*, 27 May 2026. Available at https://www.geopoliticalmonitor.com/geological-maps-key-to-securing-critical-minerals-supply-chains/.

33 Gracelin Baskaran, "Underexplored and undervalued: addressing Africa's mineral exploration gap", *CSIS Commentaries*, 9 May 2025. Available at https://www.csis.org/analysis/underexplored-and-undervalued-addressing-africas-mineral-exploration-gap.

34 John Connor, "Geological maps: key to securing critical minerals supply chains", *Geopolitical Monitor*, 27 May 2026.

Conflict and political instability also reduce exploration. An insurgency in Mozambique's northern province of Cabo Delgado has disrupted graphite exploration, and the 2023 coup in Niger has also impacted the country's uranium exploration.[35] In each case, security concerns negatively impact new exploration and unsettle investments already in place.[36]

These information gaps have direct political and economic consequences. Countries that lack reliable geological data may be negotiating over resources they cannot fully value. This weakens their bargaining position, increases their dependence on foreign firms for information about their own mineral endowments, and makes it more difficult to plan national strategies for taxation, infrastructure, conservation and industrial development.

2.4 Limited National Ownership – and Sovereignty

Local ownership of mining operations and extraction also remains very low. For example, while cobalt mining is concentrated in the DRC, Congolese-owned firms control less than five per cent of production.[37] In these cases, Africa's critical minerals are effectively being exchanged for vague or opaque security guarantees. As one observer notes regarding a recent United States-brokered agreement involving the DRC and Rwanda, the arrangement creates a "resources-for-security arrangement" in which mineral access is tied to uncertain strategic commitments. Such agreements deepen dependency, weaken sovereignty and generate corruption and elite capture.[38]

Resources-for-infrastructure and resources-for-security deals may offer African nations some short-term political and economic benefits. However, these deals can substantially weaken long-term sovereignty, achieved through several recurring contractual mechanisms. Stabilization clauses can freeze future regulatory reforms, limiting legislative autonomy for years.[39] Pricing clauses may lock in low prices for years, leaving resource-selling States unable to benefit when commodity prices surge.[40] Arbitration clauses often shift disputes to international forums,[41] bypassing local courts, and infrastructure loans are often secured via resource revenues and used as loan security.[42] This effectively ringfences exports and undermines sovereign fiscal control.

2.5 Fragmented and Voluntary Global Initiatives

A substantial architecture of international initiatives already seeks to improve the governance of mineral supply chains. The Extractive Industries Transparency Initiative (EITI), established in 2003, is the leading global transparency standard for the extractive sector, requiring participating governments and companies to disclose revenues, contracts, licensing information and beneficial ownership data. The *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*, established in 2011, provides a widely used framework for companies to identify and manage risks related to conflict financing, human rights abuses and corruption in mineral supply chains. The Global Battery Alliance has brought together governments, mining firms, battery manufacturers and civil society to develop common standards for battery

35 Gracelin Baskaran, "Underexplored and undervalued: addressing Africa's mineral exploration gap", *CSIS Commentaries*, 9 May 2025.

36 Ibid.

37 Future Earth, the Earth League and the World Climate Research Programme, "Closing governance gaps in the energy transition minerals global value chain is crucial for a just and equitable energy transition", in *10 New Insights in Climate Science 2024/2025* (Future Earth, the Earth League, the World Climate Research Programme, 2024). Available at https://10insightsclimate.science/year-2024/closing-governance-gaps-in-the-energy-transition-minerals-global-value-chain-is-crucial-for-a-just-and-equitable-energy-transition/.

38 Hanri Mostert and Tracy-Lynn Field, "Africa's minerals are being bartered for security: why it's a bad idea", *The Conversation*, 21 July 2025. Available at https://theconversation.com/africas-minerals-are-being-bartered-for-security-why-its-a-bad-idea-260594.

39 Suzy H. Nikièma and others, "Stabilization clauses: the hidden provisions that can hinder tax and investment policy reform", *International Institute for Sustainable Development*, 22 November 2024. Available at https://www.iisd.org/articles/insight/hidden-clauses-tax-investment-policy-reform.

40 Tiago Duarte-Silva, David Persampieri and Zawadi Lemayian, "Arbitration Involving Offtake Agreements: Industry and Damages Considerations", *Daily Jus*, 7 September 2023. Available at https://dailyjus.com/world/2023/09/arbitration-involving-offtake-agreements-industry-and-damages-considerations.

41 Dominic Npoanlari Dagbanja, *The Investment Treaty Regime and Public Interest Regulation in Africa* (Oxford, Oxford University Press, 2022).

42 Duncan Miriri, "China's collateral demands curbing emerging countries' ability to manage finances, study shows", *Reuters*, 26 June 2025. Available at https://www.reuters.com/markets/asia/chinas-collateral-demands-curbing-emerging-countries-ability-manage-finances-2025-06-25/.

traceability, sustainability and recycling, including the emerging "Battery Passport" system.[43]

These initiatives have helped make mineral supply chains more transparent and reduce some opportunities for armed groups to profit from the trade. But their effects have often been limited by the ability of armed groups and trading networks to adapt. In eastern DRC, for example, certification and monitoring have reduced armed-group involvement at some validated mine sites, while those groups have shifted toward uncertified mines, alternative transport routes and cross-border trading networks. As a result, "responsible sourcing can yield development gains without automatically delivering conflict prevention gains".[44]

These limitations reflect a broader problem with the existing governance architecture. A review of 44 transnational initiatives governing critical minerals found significant gaps in what is covered and identified "accountability traps", where actors are judged against standards that reflect their own priorities rather than whether governance is addressing the harms experienced by affected communities.[45] Nor are the benefits always clear for informal and small-scale miners, for whom formalization means new fees and taxes collected by government officials. Measures aimed at eliminating illicit flows can therefore displace economic activity without changing the underlying incentives that sustain it.[46]

2.6 "Static" Trade and Investment Rules for Producers

Existing multilateral frameworks for trade and investment are also insufficient for addressing producers' needs. Indonesia remains a prominent case. In November 2022, a World Trade Organization (WTO) panel found that Indonesia's export ban on nickel ore and domestic processing requirements was inconsistent with WTO rules. Indonesia had introduced the measures as part of a broader strategy to move beyond raw material exports and develop domestic processing and manufacturing capacity, including for the electric vehicle industry.[47] The dispute therefore became a flashpoint in global trade and development discussions. Indonesia subsequently appealed the decision, but the appeal remains unresolved because the WTO Appellate Body is not functioning.[48]

The dispute illustrates the tension between existing trade rules and the industrial strategies pursued by resource-rich countries seeking to move up value chains. Producing governments may lack the fiscal resources to subsidize domestic industries while simultaneously facing trade rules that constrain the use of export restrictions, local-processing requirements and other industrial policy tools.

The UN Secretary-General's Panel on Critical Energy Transition Minerals has called for improving "static" trade and investment rules to help producer economies achieve industrialization and prevent past extraction patterns.[49] To date, this request remains unaddressed at the WTO.

43 Extractive Industries Transparency Initiative (EITI), "EITI Standard 2023". Available at https://eiti.org/eiti-standard; OECD, *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas* (Paris: OECD Publishing, 2011). Available at https://doi.org/10.1787/9789264111110-en; Global Battery Alliance (GBA), "Battery Passport". Available at https://www.globalbattery.org/battery-passport.

44 Erica Gaston, Nicole Goldin, Catharina Nickel and Rebecca Hinkhouse, *Conflict Economies and Peace Operations: A Case Study on Peace and Security and Development Responses to Conflict Minerals in Eastern DRC* (New York, United Nations University, 2026), pp. 19–22. Available at https://unu.edu/sites/default/files/2026-08/conflict%20economies%20peace%20operations.pdf.

45 Susan Park, Teresa Kramarz and Craig A. Johnson, "Governance gaps and accountability traps in renewables extractivism", *Environmental Policy and Governance*, vol. 34, No. 6 (2024), pp. 754–767. Available at https://onlinelibrary.wiley.com/doi/full/10.1002/eet.2122.

46 Gaston et al., *Conflict Economies and Peace Operations*, p. 19.

47 WTO, "Indonesia – Measures Relating to Raw Materials, DS592". Available at https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds592_e.htm: Rafi Adis Subarna, "Indonesia's unnecessary bid for nickel cartel crumbles", *The Jakarta Post*, 27 May 2024. Available at https://www.thejakartapost.com/opinion/2024/05/27/indonesias-unnecessary-bid-for-nickel-cartel-crumbles#:%E2%88%BC:text=The%20proposed%20cartel%252C%20intended%20to,by%20Investment%20Minister%20Bahlil%20Lahadalia.

48 WTO, "Indonesia appeals panel report in dispute regarding Indonesian measures on nickel ore", 12 December 2022. Available at https://www.wto.org/english/news_e/news22_e/ds592apl_12dec22_e.htm.

49 United Nations, Secretary-General's Panel on Critical Energy Transition Minerals, *Resourcing the Energy Transition: Principles to Guide Critical Energy Transition Minerals Towards Equity and Justice*, 11 September 2024. Available at https://www.un.org/sites/un2.un.org/files/report_sg_panel_on_critical_energy_transition_minerals_11_sept_2024.pdf#page=8&:~:text=This%20position%20could%20worsen%20if%20existing%20trade%20rules%20that%20hinder%20structural%20transformation%20remain%20static.

2.7 Long-Term Uncertainty: Technology and Stranded Assets

Developing a mine is a lengthy process. According to the IEA, it takes more than 16 years on average to develop a mining project from discovery to first production.[50] This raises questions about countries' ability to meet projected demand increases, which under IEA's current policies scenario will grow significantly more slowly than what the 1.5 to 2°C pathway requires.[51] Even if sufficient investment occurs, rapid technological change and the drive for alternatives or synthetic substitutes could turn new mines into low-value or stranded assets. In short, while mines take decades to develop, technologies and markets can change in years or months. For producer countries, this underscores the risks of long-term investment decisions based solely on current demand projections.

Synthetics, Stranded Assets and Substitutions in Commodity Markets

History shows that periods of high prices or supply insecurity often accelerate the search for substitutes. The same scarcity that makes a commodity strategically valuable can also spur technological innovation that reduces long-term demand. For mineral-producing countries, this creates an important investment risk: projects developed over decades may face weaker markets by the time they begin production.

In the late nineteenth and early twentieth centuries, a rubber boom driven by bicycles, automobiles and mass mobilization during the First World War led to the expansion of plantation production in Africa and South-East Asia, under brutal systems of colonial labour. Yet the development and commercialization of synthetic rubber – particularly during and after the Second World War – transformed the industry. By the early twenty-first century, synthetic varieties accounted for roughly 60–70 per cent of global rubber consumption, substantially reducing dependence on natural rubber producers but still leaving behind a sizeable market.

Chile's nitrate industry experienced an even more dramatic reversal. The development of the Haber-Bosch process during and after the First World War collapsed demand for natural nitrates, where Chile had a monopoly. As one scholar explains: "The price of nitrate dropped by two-thirds globally between 1913 and 1937 while demand for Chilean nitrate dropped by a third. The loss of tax revenues from the collapse nearly bankrupted the Chilean government and threw tens of thousands of nitrate laborers out of work."[52]

A similar dynamic is already emerging in critical minerals. The rapid adoption of lithium iron phosphate (LFP) batteries – which require neither nickel nor cobalt – has reduced demand for both minerals in electric vehicle batteries. Over the past four years, nickel intensity in batteries has fallen by nearly one-third and cobalt intensity by roughly two-thirds, contributing to sharp declines in global prices despite continued growth in electric vehicle sales.[53]

Importantly, the development of substitutes is not merely a market response but an explicit strategy of major consuming economies seeking to reduce supply vulnerabilities. In 2023, the United States Department of Energy announced a new Critical Minerals Collaborative with American industry and academia to "prioritize investigating substitutes, alternatives, and recycling technologies that secure a reliable supply of critical minerals and materials" for the United States economy.[54]

50 IEA "Promoting exploration, production and innovation", in *Introducing the Critical Minerals Policy Tracker* (Paris, IEA, 2022). Available at https://www.iea.org/reports/introducing-the-critical-minerals-policy-tracker/promoting-exploration-production-and-innovation.

51 Lithium grows fivefold by 2040; graphite and nickel demand double; cobalt and rare earth demand grows 50-60 percent; copper demand grows 30 percent. IEA, *Global Critical Minerals Outlook 2025* (Paris, IEA, 2025). Available at https://www.iea.org/reports/global-critical-minerals-outlook-2025/overview-of-outlook-for-key-minerals.

52 Paul Marr, "Technology, Labor, and the Collapse of Chile's Nitrate Industry", *Middle States Geographer*, vol. 46 (2013), pp. 19–26. Available at https://msaag.aag.org/wp-content/uploads/2013/09/3-Marr-MSG2014-final.pdf.

53 Eric Onstad, "Energy storage boom drives battery shift, leaving nickel, cobalt behind", *Reuters* (via Mining.com), 21 May 2025. Available at https://www.mining.com/web/energy-storage-boom-drives-battery-shift-leaving-nickel-cobalt-behind/.

54 United States of America, Department of Energy, Advanced Materials and Manufacturing Technologies Office, "DOE launches Critical Materials Collaborative to harness and unify critical materials research across America's innovation ecosystem", 21 September 2023. Available at https://www.energy.gov/cmei/ammto/articles/doe-launches-critical-materials-collaborative-harness-and-unify-critical.

2.8 No Multilateral Price Stabilization or Support Mechanisms

An underexamined part of today's critical minerals discussions is price volatility. As mentioned, technological change can rapidly alter demand for particular minerals even as demand for clean energy technologies continues to grow. The rapid adoption of lithium iron phosphate (LFP) batteries, for example, has contributed to sharp declines in the prices of both minerals, despite continued growth in electric-vehicle sales.[55] Lithium prices have been even more volatile: in 2023, they fell by around 80 per cent from their 2022 peak as rapid supply expansion and inventory destocking in China pushed both spodumene and lithium chemical prices sharply lower.[56]

The food and oil crises of the 1970s triggered efforts to build international mechanisms to manage price instability, including commodity agreements and proposals for stabilization funds and buffer stocks. Some of these are discussed in the following section.

While many of these mechanisms were only partially implemented or later dismantled, they reflected an earlier recognition that unmanaged price cycles required collective responses. This gap is increasingly significant given the scale of expected demand growth and the high volatility of transition mineral markets.

3. Emerging Landscape

The governance of critical minerals is expanding rapidly but unevenly. A fragmented architecture is taking shape across multiple levels: multilateral initiatives focused on transparency and sustainability; consumer country coalitions aimed at securing supply and reducing dependence on strategic rivals; producer country efforts to increase domestic value addition and bargaining power; and competing bilateral and regional partnerships.

Advanced economies have made the most substantial gains and are increasingly shaping outcomes through subsidies, trade measures, investment screening, stockpiling and long-term supply agreements. Without broader and more inclusive cooperation, the legal and normative precedents established today will become the de facto governance architecture of tomorrow.

This section maps that emerging architecture by examining the main actors and approaches shaping critical minerals governance, from UN and multilateral initiatives to consumer- and producer-led efforts, China and other developing country coalitions.

55 Eric Onstad, "Energy Storage Boom Drives Battery Shift, Leaving Nickel, Cobalt Behind".

56 Ahmed Mehdi, "Lithium price volatility: Where next for the market?", Energy Insight No. 145 (The Oxford Institute for Energy Studies, February 2024). Available at https://www.oxfordenergy.org/wpcms/wp-content/uploads/2024/02/Insight-145-Lithium-Price-Volatility.pdf.

Table 1: The Emerging Critical Minerals Governance Landscape

Governance Type	Operational / Active	Emerging / Advancing	Proposed / Conceptual
Producer-Led/ Global South	African Green Minerals Strategy (African Union).	Global Minerals Treaty (Colombia, Zambia, Ecuador).	Lithium Producer Coordination ("Lithium-PEC"); Nickel/Cobalt/ Manganese Producer Coalition ("Nickel OPEC"); Organization of Mineral Exporting Countries (OMEC).
Consumer-Led/ Global North / Industrialized	Critical Raw Materials Club (European Union); European Critical Raw Materials Centre; European Critical Raw Materials Board; European Raw Materials Alliance; Quad Critical Minerals Initiative; Minerals Security Partnership (MSP); MSP Forum; Project Vault (United States); G7 Critical Minerals Buyers' Club / Production Alliance.	Forum on Resource Geostrategic Engagement Initiative.	IMA (UNEP's International Resource Panel, Club of Rome, International Investors Commission in Mining); Critical Minerals Preferential Trade Zone.
China	International Economic and Trade Cooperation Initiative on Green Mining and Minerals; Chinese bilateral minerals partnerships and offtake arrangements; China-South Korea Critical Minerals Cooperation Mechanism.	Green Mining and Minerals Initiative.	N/A.
UN / Multilateral	UN Task Force on CETMs.	N/A.	Global Minerals Trust (UNU-INWEH).

3.1 UN and Multilateral

Critical minerals and their governance have moved rapidly from the margins to the centre of the multilateral agenda. The UN Secretary-General's Panel on Critical Energy Transition Minerals, reporting in September 2024, put forward the most substantive global governance proposals to date, including a global traceability framework, a Mining Legacy Fund, and a coordinating Task Force overseen by the Executive Office of the Secretary-General, United Nations Environment Programme (UNEP), United Nations Development Programme and UNCTAD, which was formally established at the seventh session of the United Nations Environment Assembly (UNEA-7) in December 2025.

The same negotiations also revealed the political limits of a more ambitious "hard law" approach. A Colombia-Oman proposal to establish legally-binding commitments on traceability was blocked, demonstrating the continued

reluctance of States to create binding international obligations in this area.[57]

The 2025 Sevilla Commitment on Financing for Development showed a strong and shared agreement on critical minerals governance. Member States committed to "increase the added value and competitiveness of the exports of critical minerals and commodities of developing countries" by strengthening domestic industries and supporting their participation in regional and global value chains. The commitment endorsed greater support for domestic processing and diversification through "risk-sharing financing, technical assistance, capacity-building and developing market linkages", while encouraging "enhanced traceability, transparency and accountability along the mineral value chain". It also recognized the need to strengthen producer-country bargaining power by supporting developing countries to "negotiate commodity contracts with terms that provide predictability and stability for investment, while also providing revenue certainty for governments and flexibility to respond to changes in economic and market conditions".[58] However, the agreement stopped short of calling for new institutional mechanisms or empowering existing ones to implement these goals.

The issue has continued to gain prominence across the UN system. On 5 March 2026, the Security Council held a debate at which speakers framed critical minerals as a development opportunity that risks fuelling geopolitical conflict if not governed well.[59]

Alongside formal institutions, a parallel architecture has emerged around information, forecasting and market transparency. The IEA has become an important knowledge institution in critical mineral governance through its Critical Minerals Market Review, Critical Minerals Data Explorer and policy tracking initiatives.

Outside the UN, proposals for an International Minerals Agency (IMA) modelled on the IEA have been advanced by the Club of Rome and the International Investors Commission on Mining, among others. These proposals envision functions including market surveillance, strategic stockpiling and improved data transparency. Whether such a body would serve producer and consumer interests evenly, and how it would be governed, is a question we return to in section 4.

3.2 Advanced Economies

Advanced economies have moved most rapidly to construct new institutions for critical minerals governance. However, these initiatives have largely emerged outside universal multilateral frameworks and are primarily designed around supply security, industrial competitiveness, and reducing dependence on Chinese processing and refining capacity.

The United States began this shift before the current Trump administration. The United States' Energy Resource Governance Initiative, launched in 2019, represented an early effort to coordinate mineral governance among allied countries.[60] Under the Biden administration, concerns over China's dominance in processing and refining led to a much broader strategy. In his first weeks in office, President Biden signed Executive Order 14017, America's Supply Chains, which mandated a 100-day review of United States critical mineral supply chains.[61] The 2022 Inflation Reduction Act, Biden's landmark achievement, linked electric vehicle incentives to critical mineral sourcing requirements,[62] and the Defense Production Act was employed to support domestic mining and processing.[63] The Minerals Security Partnership (MSP), a collaboration between the United States, the European Union, and 14 other advanced

57 Aimee Gabay, "Minerals treaty proposed by Colombia and Oman gets pushback at UN meeting", *Mongabay*, 9 January 2025. Available at https://news.mongabay.com/short-article/2026/01/minerals-treaty-proposed-by-colombia-oman-gets-pushback-at-un-meeting/#:~:text=Share%20this%20article,move%20beyond%20dialogue%20toward%20policymaking.

58 A/RES/79/323, para. 46.

59 Rosemary DiCarlo, Under-Secretary-General for Political and Peacebuilding Affairs, remarks to the Security Council on Energy, Critical Minerals and Security, New York, 5 March 2026. Available at https://media.un.org/unifeed/en/asset/d354/d3541441.

60 United States Department of State, Bureau of Energy Resources, "Energy Resource Governance Initiative (ERGI)", fact sheet (2019). Available at https://www.state.gov/wp-content/uploads/2019/06/Energy-Resource-Governance-Initiative-ERGI-Fact-Sheet.pdf.

61 Joseph R. Biden, Jr., "Fact sheet: Biden-Harris Administration Takes Further Action to Strengthen and Secure Critical Mineral Supply Chains", The American Presidency Project, 20 September 2024. Available at https://www.presidency.ucsb.edu/documents/fact-sheet-biden-harris-administration-takes-further-action-strengthen-and-secure-critical.

62 International Energy Agency, "Inflation Reduction Act 2022: Sec. 13502 Advanced Manufacturing Production Credit", IEA Policies Database. Available at https://www.iea.org/policies/16282-inflation-reduction-act-2022-sec-13502-advanced-manufacturing-production-credit.

63 The President of the United States explained in March 2022, announcing the measure: "We need to end our long-term reliance on China and other countries for inputs that will power the future." See Ana Swanson, "Biden Invokes Cold War Statute to Boost Critical Minerals Supply", *New York Times*, 31 March 2022. Available at https://www.nytimes.com/2022/03/31/business/economy/biden-minerals-defense-production-act.html.

economies, was launched in 2022 to friend-shore supply chains across major consumer countries. Bilateral agreements, including the 2023 United States–Japan Critical Minerals Agreement, expanded this network.

The Trump administration has accelerated this approach. One of President Trump's first actions in office was a January 2026 Section 232 proclamation targeting processed critical minerals. At the February 2026 Critical Minerals Ministerial, the United States launched the Forum on Resource Geostrategic Engagement (FORGE) as the formal successor to the Minerals Security Partnership.[64] Washington also launched Project Vault, a strategic stockpiling initiative,[65] and Pax-Silica, a nine-country technology bloc covering the full AI supply chain, including mineral extraction, processing, advanced manufacturing and recycling.[66]

The United States has also expanded bilateral partnerships, signing critical mineral frameworks with Argentina, the Cook Islands, Ecuador, Guinea, Morocco, Paraguay, Peru, the Philippines, the United Arab Emirates, the United Kingdom and Uzbekistan, followed by an additional agreement with India in May 2026. Earlier investments include $1.25 billion in the Reko Diq project in Pakistan's Balochistan province in December 2025,[67] and a $50-million stake in the Phalaborwa Rare Earth Project in South Africa in April 2026.[68]

At the plurilateral level, the United States has advanced the Agreement on Trade in Critical Minerals, an agreement designed to establish a minimum market-based price floor among trusted trading partners. While Mexico, Japan[69] and the European Union have agreed to pursue negotiations, South Korea – despite chairing FORGE and joining Pax-Silica – has not participated, due to concerns from domestic battery and semiconductor industries about losing access to lower-cost Chinese processed inputs.[70] The Korean case complicates the picture of a unified consumer country bloc and suggests that the political economy of consumer coordination is more fragile than it appears.

Other plurilateral groupings have also incorporated critical minerals into broader strategic agendas. For instance, in May 2026, foreign ministers from the Quad countries (comprising the United States, India, Japan and Australia) met in New Delhi for the first time since September 2024 and unveiled a Quad Critical Minerals Initiative targeting up to $20 billion in mobilized capital across mining, processing and recycling. The initiative was presented alongside an Indo-Pacific Energy Security Initiative and complemented by a first joint infrastructure project: a port in Fiji.[71]

The European Union has pursued a parallel but distinct approach through the Green Deal Industrial Plan and the Critical Raw Materials Act (CRMA), adopted in 2024. The CRMA established benchmarks requiring that by 2030 the European Union should be capable of extracting at least 10 per cent, processing 40 per cent and recycling 25 per cent of its annual consumption of strategic raw materials, while limiting dependence on any single third country to no more than 65 per cent.[72]

64 United States Department of State, US Mission to ASEAN, "2026 Critical Minerals Ministerial", 5 February 2026. Available at https://asean.usmission.gov/2026-critical-minerals-ministerial/.

65 Meredith Schwartz, "Critical Minerals Ministerial Introduces New International Cooperation Strategy", Center for Strategic and International Studies, 13 February 2026. Available at https://www.csis.org/analysis/critical-minerals-ministerial-introduces-new-international-cooperation-strategy.

66 United States Department of State, US Mission to ASEAN, "2026 Critical Minerals Ministerial".

67 Uroosa Jadoon, "US commits $1.25 billion EXIM financing for Pakistan's Reko Diq mine — envoy", *Arab News,* 10 December 2025. Available at https://www.arabnews.com/node/2625697/pakistan; Michelle Gumede, "U.S. invests in project to remove rare earth minerals despite differences with South Africa", *PBS NewsHour,* 19 April 2026. Available at https://www.pbs.org/newshour/nation/u-s-invests-in-project-to-remove-rare-earth-minerals-despite-differences-with-south-africa.

68 Michelle Gumede, "U.S. invests in project to remove rare earth minerals despite differences with South Africa", *PBS News*, 19 April 2026. Available at https://www.pbs.org/newshour/nation/u-s-invests-in-project-to-remove-rare-earth-minerals-despite-differences-with-south-africa.

69 Office of the United States Trade Representative, "United States-Japan Action Plan for Critical Minerals Supply Chain Resilience", 19 March 2026. Available at https://ustr.gov/sites/default/files/files/Press/Releases/2026/U.S.-Japan%20Critical%20Minerals%20Action%20Plan%203.19.2026.pdf.

70 Jiyeon Han, "K-Battery industry voices concern over U.S. critical minerals pact: 'Profitability burden'", *Maeil Business Newspaper*, 14 April 2026. Available at https://www.mk.co.kr/en/business/12016695.

71 Michael Martina, Saurabh Sharma and John Geddie, "Australia-India-Japan-US Quad to build a port, unveil pact on critical minerals", *Reuters*, 26 May 2026. Available at https://www.reuters.com/world/china/australia-india-japan-us-quad-seeks-relevance-foreign-ministers-meet-new-delhi-2026-05-26/.

72 European Commission, "European Critical Raw Materials Act". Available at https://commission.europa.eu/topics/competitiveness/green-deal-industrial-plan/european-critical-raw-materials-act_en.

The legislation is complemented by an external strategy that includes strategic partnerships with resource-producing countries such as Namibia, Kazakhstan, Chile, Argentina, the DRC and Canada, as well as investments through the Global Gateway initiative.[73] Supporting institutions include the European Critical Raw Materials Board, the European Raw Materials Alliance and the emerging Critical Raw Materials Club.

Compared with the United States' emphasis on strategic alliances and security partnerships, the European Union has pursued a more regulatory model that combines domestic production targets, supply diversification, sustainability standards and external investment partnerships. Nevertheless, both approaches reflect a broader consumer-country effort to reduce dependence on China and secure preferential access to critical mineral supply chains.

At the wider coalition level, the G7 has increasingly treated critical minerals as a strategic economic priority through initiatives such as the Five-Point Plan for Critical Mineral Security and the Critical Minerals Production Alliance launched under the Canadian Presidency in 2025.[74,75]

Building on that plan, G7 leaders meeting in Evian-les-Bains in June 2026, established a non-binding Critical Minerals Resilience and Production Alliance,[76] open to like-minded partners, and set a target to reduce dependency on any single supplier outside the G7 and partner countries.[77] To implement it, they created a G7 platform for Critical Mineral Cooperation, tasked with facilitating discussion, supporting data-driven decisions, and coordinating among members, drawing on the IEA Critical Minerals Security Program and the OECD for analysis and early warning of supply disruptions. A commitment to establish a separate joint cooperation mechanism with the IEA will share data and alert on market stress among the member and partner countries. Australia, a G7 partner country, endorsed the declaration.[78]

3.3 Group of 20

At the G20 level, critical mineral governance has been shaped primarily through the South African Presidency (2024–25), which made the issue a leader's-track priority and developed a voluntary, non-binding Critical Minerals Framework, endorsed at the Johannesburg Leaders' Summit in November 2025.[79] The Framework is structured around six pillars, including exploration, governance, transparency and local value addition. The Framework directs G20 members to support local processing and value capture in producer countries – "beneficiation at source."[80] Unlike other initiatives such as the European Union's, the Framework carries no enforcement mechanism or financing commitment, reflecting the G20's role as a forum for political alignment.

3.4 China

China occupies a structurally distinct position in critical mineral governance. It is a leading producer of several minerals, the world's dominant processor and refiner, and a major consumer. Over the past two decades, it has extended a significant share of official sector financing for transition mineral extraction and processing in developing countries, with 92 per cent directed toward upstream extraction activities rather

73 European Commission, "Raw materials diplomacy". Available at https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/raw-materials-diplomacy_en (accessed on 26 June 2026).

74 Also being referred to as a "buyers' club." see Canada, Office of the Prime Minister, "Prime Minister Carney secures new partnerships in defence and critical minerals at the 2026 G7 Leaders' Summit", news release, 17 June 2026. Available at https://www.pm.gc.ca/en/news/news-releases/2026/06/17/prime-minister-carney-secures-new-partnerships-defence-and-critical.

75 Natural Resources Canada, "Canada secures 30 new critical minerals partnerships and unlocks $12.1 billion in mining project capital", news release, 2 March 2026. Available at https://www.canada.ca/en/natural-resources-canada/news/2026/03/canada-secures-30-new-critical-minerals-partnerships-and-unlocks-121-billion-in-mining-project-capital0.html; Natural Resources Canada, "Canada unlocks 25 new investments and partnerships with 9 allied countries to secure critical minerals supply chains", news release, 31 October 2025. Available at https://www.canada.ca/en/natural-resources-canada/news/2025/10/canada-unlocks-25-new-investments-and-partnerships-with-9-allied-countries-to-secure-critical-minerals-supply-chains.html.

76 It was built on the existing Critical Minerals Production Alliance.

77 G7, "G7 leaders' declaration on securing supply chains for critical minerals", 17 June 2026. Available at https://www.elysee.fr/en/G7evian/2026/06/17/g7-leaders-declaration-on-securing-supply-chains-for-critical-minerals.

78 Ibid.

79 G20, "G20 Critical Minerals Framework", 1 December 2025. Available at https://www.g20.utoronto.ca/2025/251201-critical-minerals-framework.html.

80 Ibid; Kathryn Sturman, "A critical minerals framework for a fair and just transition", *Global Governance Media*, April 2026. Available at https://www.globalgovernancemedia.org/a-critical-minerals-framework-for-a-fair-and-just-transition/.

than processing, securing raw material access abroad while retaining processing capacity at home.[81] These investments are concentrated in a number of African countries and are typically structured with equity stakes and offtake arrangements that give Chinese companies operational control.

At the plurilateral level, China launched the International Economic and Trade Cooperation Initiative on Green Mining and Minerals at the G20 Summit in Johannesburg in November 2025, which has since been joined by more than 20 countries and the United Nations Industrial Development Organization. The initiative is framed around green industrialization and value addition in Africa, positioning China's industrial capacity as a contribution to the energy transition in developing countries. Beijing also maintains a targeted bilateral cooperation. South Korea and China established a hotline and joint committee in February 2026 to facilitate Korean companies' imports of Chinese critical minerals, even as Seoul publicly aligns with a United States-led initiative.[82] This overlap illustrates a central feature of the current transition: many countries, including some advanced economies, seek to balance security partnerships with continued economic integration into Chinese-centred supply chains.

China's approach therefore differs fundamentally from Western efforts to diversify away from concentrated supply chains. Rather than building a new architecture from the outside, China seeks to maintain its central position within existing supply chains while promoting alternative forms of South–South cooperation and industrial development partnerships.

3.5 BRICS

BRICS members collectively possess substantial critical mineral reserves and have periodically discussed greater cooperation. The 2024 Kazan Declaration proposed the creation of a BRICS Geological Platform to coordinate resource mapping and knowledge sharing.[83] However, despite speculation that BRICS could evolve into a producer bloc comparable to OPEC, practical cooperation remains limited. As Ludovic Subran warns that the concentration of critical minerals in a few countries, including BRICS members China and South Africa, could lead to an OPEC-style cartel, or "OMEC," with major adverse effects on global markets.[84] Members occupy different positions across mineral supply chains, frequently compete for investment, and continue to prioritize national strategies and bilateral partnerships over collective market management. At the 2025 Rio Summit, BRICS countries did not advance a common minerals agenda. The 2026 summit in India went further on paper. Leaders endorsed fair and resilient supply chains and affirmed members' sovereign rights over their mineral resources.[85] But the declaration creates no coordinating mechanism. Its focus on sovereignty keeps control national.

3.6 Other Developing Countries

Developing countries are increasingly challenging the assumption of a fixed international division of labour in minerals extraction and processing. Drawing lessons from earlier experiences with extractive industries, many governments are pursuing policies aimed at increasing value addition, domestic industrialization and bargaining power.

The African Union has developed a detailed continental strategy. The African Union's African Green Minerals Strategy, advanced at the Africa Climate Summit in September 2025, commits to value addition at source and regional industrialization, and calls for the establishment of a coalition of African mineral-producing countries to "promote strategic and sustainable regional cooperation".[86] Under the Green Minerals Strategy, the

81 Brooke Escobar and others, *Power Playbook: Beijing's Bid to Secure Overseas Transition Minerals* (Williamsburg, Virginia, AidData at William & Mary, 2025). Available at https://docs.aiddata.org/reports/china-transition-minerals-2025/FULL_REPORT_Power_Playbook.pdf.

82 Heejin Kim and Jack Kim, "South Korea seeks critical minerals ties with China after joining U.S. trade bloc", *Reuters*, 5 February 2026. Available at https://www.reuters.com/world/asia-pacific/south-korea-seeks-closer-china-cooperation-secure-critical-mineral-supply-chains-2026-02-05/.

83 Leaders of BRICS countries, "Kazan Declaration: Strengthening Multilateralism for Just Global Development and Security", declaration at XVI BRICS Summit, Kazan, Russian Federation, 23 October 2024. Available at http://static.kremlin.ru/media/events/files/en/RosOySvLzGaJtmx2wYFv0lN4NSPZploG.pdf.

84 Ludovic Subran, "Will critical minerals get their own OPEC?", Project Syndicate, 16 August 2023. Available at https://www.project-syndicate.org/commentary/critical-minerals-metals-from-opec-to-omec-by-ludovic-subran-1-2023-08.

85 BRICS, "BRICS New Delhi Declaration: Building for Resilience, Innovation, Cooperation and Sustainability", declaration at XVIII BRICS Summit, New Delhi, India, 12 September 2026, art. 67. Available at https://www.mea.gov.in/bilateral-documents?dtl/41776.

86 "African Union climate summit says forming mining coalition", *Africa Daily*, 11 September 2025. Available at https://www.africadaily.net/reports/African_Union_climate_summit_says_forming_mining_coalition_999.html; Agence France Presse, "African Union climate summit says forming mining coalition", *Barron's*, 11 September 2025. Available at https://www.barrons.com/news/african-union-climate-summit-says-forming-mining-coalition-f79572a0?refsec=topics_afp-news&utm_source=semafor.

African Union has planned to form a coalition of mineral-producing countries to manage the global demand for minerals.[75] The Zambia-DRC Battery Council is an early example of cross-border cooperation to develop battery supply chain capacity jointly. United Nations University Institute for Natural Resources in Africa's (UNU-INRA) Critical Minerals Information and Knowledge Hub (C-MINK) has also been established as an African-led platform to support governments with data and analysis for stronger mineral governance.[87]

Some producer countries have pursued unilateral market interventions. The DRC lifted its months-long cobalt export ban in October 2025 and replaced it with a quota regime capping exports at 96,600 tons a year through 2027. On 10 April 2026, the DRC also established a strategic reserve for cobalt and other critical minerals through a decree adopted by the Council of Ministers. The reserve is managed by ARECOMS (Autorité de Régulation et de Contrôle des Marchés des Substances Minérales Stratégiques), whose mandate is strengthened to include acquiring, holding and marketing critical minerals, as well as stockpiling unused export quotas to influence global supply.[88]

In Latin America, discussions on producer coordination for lithium, sometimes referred to as a "Lithium PEC", have been supported by the Development Bank of Latin America and the Caribbean.[89] However, despite the concentration of lithium reserves in the Lithium Triangle – Argentina, Bolivia and Chile – no formal mechanism has emerged.

Indonesia has pursued a different strategy based on domestic industrial policy. Since imposing export restrictions on unprocessed nickel ore in 2020, Indonesia has sought to use its dominant position in global nickel reserves to attract downstream processing and battery manufacturing investment. In 2022, Indonesian policymakers proposed expanding this approach through an OPEC-style arrangement for nickel, cobalt and manganese.[90]

South-South cooperation is also emerging. Brazil and India signed a critical minerals cooperation agreement in February 2026, reflecting an effort to build partnerships outside consumer-led frameworks.[91]

India has emerged as a particularly important new actor, occupying a dual role as both an aspiring producer and a rapidly expanding consumer. New government initiatives seek to develop rare earth mining, processing and magnet manufacturing hubs in Odisha, Kerala, Andhra Pradesh and Tamil Nadu.[92] India holds 13.15 million tons of monazite, containing an estimated 7.23 million tons of rare earth oxides, but currently produces only four critical minerals (copper, graphite, phosphorus and titanium) due to limited exploration and processing infrastructure.[93] India's participation in United States-led initiatives, including the 2026 bilateral framework, Pax-Silica and the Quad Critical Minerals Initiative, positions it as a potential long-term competitor to China in mineral-intensive technology manufacturing, which has driven United States interest in tying India into the architecture early.

Central Asia has also become a growing arena of competition and cooperation. The C5+1 Critical Minerals Dialogue, launched in 2024 and elevated at the 2025 Washington Summit, reflects increasing Western engagement with Kazakhstan, Uzbekistan and other regional producers seeking investment and technology partnerships. It will hold its next formal session on 11 and 12 June 2026 in Astana at the Astana Mining and Metallurgy Congress.

87 Fatima Denton, *Africa Redefining Critical Minerals for a Shared Future: South–South Solidarity in Action* (Accra, Ghana, United Nations University Institute for Natural Resources in Africa, February 2026). Available at https://ghana.un.org/sites/default/files/2026-02/C-MINK%20-%20COP30-2026%20updated.pdf.

88 Reuters, "Congo creates strategic cobalt reserve to influence supply and prices, regulator says", *Mining Weekly*, 16 April 2026. Available at https://www.miningweekly.com/article/congo-creates-strategic-cobalt-reserve-to-influence-supply-and-prices-regulator-says-2026-04-16; Albert Savana, "DRC: creation of a strategic reserve of critical minerals entrusted to ARECOMS", *Financial Afrik*, 16 April 2026. Available at https://www.financialafrik.com/en/2026/04/16/drc-creation-of-a-strategic-reserve-of-critical-minerals-entrusted-to-arecoms/; Fitch Attorneys, post on LinkedIn,16 April 2026. Available at https://www.linkedin.com/posts/fitch-attorney_drcmining-strategicreserve-cobalt-activity-7452023291332079616-ZuGt/.

89 Luis Ini, "A 'lithium OPEC" between Argentina, Bolivia and Chile is proposed'", *pv magazine*, 5 January 2026. Available at https://www.pv-magazine-latam.com/2026/01/05/proponen-una-opep-del-litio-entre-argentina-bolivia-y-chile/.

90 Harry Dempsey and Mercedes Ruehl, "Indonesia considers Opec-style cartel for battery metals", *Financial Times*, 20 October 2022. Available at https://www.ft.com/content/0990f663-19ae-4744-828f-1bd659697468?syn-25a6b1a6=1.

91 Edna Mohamed and AFP, "India signs critical minerals deal with Brazil to curb dependence on China", *Al Jazeera*, 21 February 2026. Available at https://www.aljazeera.com/news/2026/2/21/india-brazil-sign-critical-minerals-deal-as-partners-seek-trade-growth.

92 Government of India, Press Information Bureau, "India's rare earth strategy: manufacturing, corridors, and global integration", PIB Backgrounder, 3 February 2026. Available at https://www.pib.gov.in/PressReleasePage.aspx?PRID=2222413&reg=48&lang=2.

93 Ibid.

4.

Current Proposals and Innovative Models

No single institution or model can address all the governance gaps identified in section 2, nor could it accommodate the diverse interests and ambitions of countries outlined in section 3. More realistic and effective is a layered architecture that draws on different institutional precedents for different functions, while establishing clear lines of authority and responsibility for those functions.

This section examines institutional models and historical precedents from within and beyond the minerals sector, organized according to the governance gaps they intend to address. Rather than identifying an institutional "winner", it evaluates the strengths and limitations of different approaches and considers how combinations of institutions could address the gaps in the current minerals governance landscape.

4.1 Establishing a Global Authority with Global Legitimacy

While the IEA has rapidly expanded its work on critical minerals, including monitoring supply chains, demand projections and market risks, its mandate remains rooted in the energy security priorities of its Member States. The growing strategic importance of critical minerals has therefore generated proposals for a dedicated IMA.

The earliest major proposal came from UNEP's International Resource Panel (IRP). In its 2020 report on mineral resource governance, the IRP argued that "a coordinated international effort to develop foresight capabilities is required to enlighten public and industrial strategies, and to strengthen minerals and metals governance". It proposed "an international body with a similar role to that of the IEA in the energy sector", or alternatively, an international agreement, to coordinate and share information on economic geology, projected mineral demand and the environmental and social impacts and benefits associated with mineral extraction.[94]

Industry and policy actors have also taken up the idea, again citing the IEA as precedent and model. One proposal envisions an IMA established through a G20 declaration, functioning essentially as an IEA for those countries.[95] The Global Investor Commission on Mining 2030, launched in 2023, has released the most detailed proposal. Its 2025 report endorsed the creation of an independent, multi-stakeholder IMA that could coordinate existing initiatives and provide a trusted platform for investors, governments and civil society. Its proposed functions include market surveillance, improved mineral data, standardized Environmental, Social and Governance (ESG) metrics, support for responsible investment and coordination across existing institutions, including EITI, OECD, the World Bank, the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, and the United Nations Task Force on Critical Energy Transition Minerals.[96]

It is worth re-examining the IEA's creation for its utility as a model for a new minerals agency. The IEA was established in 1974 in response to the oil crisis as a mechanism for industrialized consumer countries to coordinate energy security policies in the face of OPEC's market power. It requires members to hold at least 90 days' worth of oil reserves, which the IEA strategically releases to stabilize prices and supply for its members. In April 2026, the IEA made the largest release in its history to stabilize markets

94 UNEP, *Mineral Resource Governance in the 21st Century: Gearing Extractive Industries towards Sustainable Development* (2020), p. 131. Available at https://wedocs.unep.org/items/9888de50-efee-4459-b7f1-c6edf10f43fe.

95 Patrick Schröder, "Towards an international materials agency: filling the global governance gap on critical minerals", *Global Governance Media*. Available at https://www.globalgovernancemedia.org/towards-an-international-materials-agency-filling-the-global-governance-gap-on-critical-minerals/.

96 Global Investor Commission on Mining 2030, *10-Year Vision and Recommendations*, slide 27. Available at https://mining2030.org/wp-content/uploads/2026/05/MINING_2030_10-yearVision_APR25_Final.pdf.

following conflict in Iran.[97] The *New York Times* noted that "the release had a muted impact on economies in Asia that are heavily dependent on Persian Gulf imports but don't have national strategic reserves".[98] The IEA has expanded its mission over time to include economic development and environmental protection, but it remains a consumer-oriented body, with full membership still limited to OECD countries.

The International Atomic Energy Agency (IAEA) provides a different institutional trajectory. Established in 1957 under the authority of the UN General Assembly as part of the Atoms for Peace initiative, the IAEA was created to govern a strategic dual-use technology with both civilian and military applications.

From its inception, the IAEA combined technical assistance and scientific cooperation aimed at enabling peaceful uses of nuclear energy with safeguards designed to prevent the diversion of nuclear materials for weapons purposes. Over time, the IAEA's mandate expanded as political consensus developed around additional functions such as nuclear safety and security standards, emergency response, and capacity-building for developing countries.

The IAEA model offers two important lessons for the design of a future IMA. First, legitimacy was built through a universal intergovernmental framework under UN auspices, rather than through a restrictive club arrangement. This helped create an institution capable of balancing the interests of technologically advanced States and developing countries seeking access to peaceful nuclear technology. Second, the IAEA demonstrates the value of incremental institutional expansion. It did not begin as a comprehensive authority governing every aspect of the nuclear economy; it developed authority over time as States agreed on new functions. Critically, its grounding in a UN General Assembly mandate provided the legitimacy it needed to add those functions.

4.2 Aligning Trade and Investment Rules

Trade governance presents a different set of institutional choices. Whereas agency models primarily address information failures and coordination problems, trade arrangements determine market access, supply chain standards and the degree of policy space available to producer countries seeking industrial development.

The first model involves consumer-led plurilateral agreements that establish standards, price coordination, and preferential market access among a subset of strategically aligned trading partners. Their main advantage is enforceability within a smaller group of members with convergent interests. The trade-off is an exclusion: producer countries are often not part of the rule-making process that determines the terms of their integration into global supply chains. These arrangements can rapidly set supply-chain standards, but risk entrenching a consumer-centred governance architecture. Existing examples include the Minerals Security Partnership, the United States-European Union Trade and Technology Council, and G7 critical minerals coordination frameworks.

The second model is a binding multilateral treaty negotiated through environmental governance institutions, such as the proposed Global Minerals Treaty. The principal strength of this approach is legitimacy, universality and the potential to integrate environmental, social and human rights obligations. The principal weakness is political feasibility. The failure to adopt legally binding commitments on mineral traceability during negotiations at UNEA-7 illustrates this difficulty. The history of environmental treaty-making suggests that universal participation often comes at the expense of weaker commitments, particularly when agreements involve significant distributional consequences.

The third is a plurilateral initiative within the WTO. The case for this option rests on the WTO's 166 members, its neutral Secretariat, its transparency mechanism and its committees with experience facilitating discussions on industrial policy, national security, tariffs and standards.[99] A WTO plurilateral on critical minerals could begin as a code of best practices on technical assistance, geological mapping cooperation and time-bound restrictions for industrialization. Dispute resolution would not be available to producer economies seeking to enforce value addition commitments, but guarantees against the initiation of disputes for pursuing time-bound restrictions would already be a substantive gain. The WTO is not free of power politics, but the model offers

97 Rebecca F. Elliott and Emmett Lindner, "World leaders announce huge oil reserves release but prices keep rising", *The New York Times*, 11 March 2026. Available at https://www.nytimes.com/2026/03/11/business/energy-environment/iran-oil-reserves-release.html.

98 Rebecca F. Elliott and Emmett Lindner, "World Leaders Announce Huge Oil Reserves Release but Prices Keep Rising", *The New York Times*, 11 March 2026. Available at https://www.nytimes.com/2026/03/11/business/energy-environment/iran-oil-reserves-release.html.

99 Sunayana Sasmal, "Critical minerals as an observatory for evolving forms of trade cooperation", *UK Trade Policy Observatory*, 25 March 2026. Available at https://www.uktpo.org/2026/03/25/critical-minerals-as-an-observatory-for-evolving-forms-of-trade-cooperation/.

a more neutral venue than groupings driven primarily by consumer interests.

These models are not mutually exclusive. A binding traceability treaty, a WTO code of best practices, and consumer–led standards agreements could co-exist as different layers of the trade-rules architecture, each addressing different aspects of the problem. The architecture question is which layer carries which function.

4.3 Identifying Producer Coordination Models Beyond Cartels

Some proposals for critical minerals governance seek to replicate the past success of OPEC through the establishment of cartel-like arrangements for individual critical minerals. The goal is understandable: stabilize prices, increase producer leverage, capture more value across the chain and avoid extractive dependency. However, the cartel model travels poorly to critical minerals, for three reasons.

First, mineral producers do not share the political-economic conditions that allowed OPEC to function. OPEC's founding members had similar State-organized petroleum industries and a hegemonic swing producer (Saudi Arabia) willing to bear adjustment costs. Mineral producers vary widely in regulatory regimes, industrial strategies and the balance between the role of the State and the private sector. Feasibility studies for a Lithium OPEC have noted that production levels, regulatory regimes and industrial strategies differ markedly across major lithium producers, leaving no obvious basis for coordinated production or pricing.[100]

Second, critical minerals are not oil. There are many critical minerals, with substitution dynamics within and across them, and demand projections that vary depending on the technology pathway. A cartel that controls a single mineral faces both substitution risk and competition from producers outside the cartel.[101]

Third, the existence of large processors who are also consumers complicates any pure upstream producer cartel. A cartel of upstream producers facing concentrated downstream processing capacity does not have the leverage that OPEC commanded vis-a-vis a fragmented consumer market.

These obstacles do not lessen the importance of producer coordination. Joint data sharing, exploration cooperation and shared negotiating position are feasible at a regional level and do not require political economic homogeneity that a cartel demands. Regional value chain cooperation offers another path. The model being developed by the Zambia-DRC Battery Council, which co-produces nickel, manganese and cobalt battery precursors across borders, represents this alternative.[102] Still, without a substantial regional market for electric vehicles using these batteries, full-scale battery production remains difficult, and the initiative faces governance and political challenges.[103]

A different producer-coordination group is the producer platform model. Continental and regional strategies and the emerging mineral strategy group in Africa show this design. These platforms are not designed to control supply or set prices. They are designed to build collective capacity to negotiate and to share lessons across producer countries. Their lower ambition is their strength as they are politically achievable in a way a cartel may not.

A trade-off across producer coordination models is between ambition and feasibility. Cartels promise more but require political and economic conditions that are hard to achieve. Regional value-chain cooperation and producer platforms promise less but are more achievable. The pragmatic choice is to invest in what works rather than wait for what does not.

100 Ling Sun, "Can lithium OPEC be realized? Feasibility analysis of South America's lithium cartel", *Ibero-América Studies*, vol. 8, No. 2 (2024). Available at https://iberiamerica.org/index.php/p/article/view/105/92.

101 Ibid; Ilenia Gaia Romani, Nicola Comincioli and Sergio Vergalli, "Climate policy and cartelization risk for critical minerals: an application to the copper market", Working Paper No. 2024-18 (MIT Center for Energy and Environmental Policy Research, 2024). Available at https://ceepr.mit.edu/climate-policy-and-cartelization-risk-for-critical-minerals-an-application-to-the-copper-market/.

102 Patience Mususa and Michel Shengo, *A Battery Industry in the Central African Copperbelt? Regional and Geopolitical Dimensions* (Africa Policy Research Institute, 2024). Available at https://afripoli.org/a-battery-industry-in-the-central-african-copperbelt-regional-and-geopolitical-dimensions; Silas Olan'g and Thomas Scurfield, *DRC-Zambia Battery Plant: Key Considerations for Governments* (Natural Resource Governance Institute, 2024). Available at https://resourcegovernance.org/publications/drc-zambia-battery-plant-key-considerations-governments-2024.

103 Ibid.

4.4 Improving Contracts Through Capacity-Building and "Producer's Platforms"

As explained, many mineral-rich developing countries continue to rely on outdated geological maps, incomplete reserve data and limited negotiating capacity when engaging with multinational companies that possess extensive technical expertise and financial resources. This imbalance can significantly shape the terms of concession agreements and the distribution of mineral rents.

One proposal, first advanced by UNCTAD in 2009 and now receiving renewed attention, is the Natural Resources Information Exchange, a digital platform designed to help countries preserve, organize and analyse historical geological information. By creating national and regional databases containing historical maps, exploration records, geophysical surveys, production data and environmental information, such initiatives could allow producer countries to better understand the value of their mineral resources and negotiate more effectively with foreign investors.[104]

Collective capacity-building can also help producers improve their negotiating positions. In trade governance, developing-country coalitions, such as the African Group in WTO negotiations, have used shared technical expertise and coordinated positions to increase their influence despite limited individual bargaining power. Similarly, in sovereign debt governance, the decision to establish a Borrower's Platform promises to counter the coordination advantages of creditors by pooling legal expertise, technical knowledge and lessons from previous debt restructuring processes.

A similar model could be developed for critical minerals. A producer support platform could provide technical assistance on reserve identification and valuation, geological surveying, contract negotiation, environmental regulation and fiscal design. Existing initiatives such as the C-MINK, developed by UNU-INRA, could pilot efforts to share data and expertise between producers. The maintenance of digital repositories and use of AI analysis could help scale these efforts rapidly.

Debt governance also provides lessons on how norms can diffuse through contractual innovation, particularly when broader reforms stall. Collective action clauses (CACs) gained widespread adoption in the 2000s after the proposed Sovereign Debt Restructuring Mechanism was deemed infeasible in 2003, helped by debtor-country pressure, international guidance, and gradual market acceptance. More recently, climate-resilient debt clauses (CRDCs), or "pause clauses", have followed a similar path. The World Bank and regional development banks have incorporated them into lending, with the World Bank extending CRDCs to existing loans in eligible countries.

Critical minerals contracts could evolve in a similar same way: producer coalitions, international organizations and industry initiatives could develop model contract provisions on issues such as local value addition, technology transfer, environmental protections and community benefits. Once adopted by a critical mass of countries and investors, these provisions could become increasingly difficult to exclude from future agreements.

The advantage of the statutory approach is its attainability relative to impact. It does not require producer countries to control global markets or establish new binding international institutions, yet it can bring binding change to both markets and sovereigns in ways international institutions often cannot.

4.5 Stabilizing Export Earnings Through Compensatory Mechanisms

Managing commodity price volatility has been one of the most difficult challenges of international economic governance. Price instability affects both producers, who face unpredictable export revenues and investment cycles, and consumers, who require stable and affordable access to strategic materials. As demand for critical minerals is expected to increase significantly under energy transition scenarios, concerns over future supply shortages and price volatility are likely to intensify.

The 1970s NIEO debates generated several institutional experiments aimed at stabilizing commodity markets. Individual commodity agreements sought to manage supply and maintain price ranges for specific commodities, but they struggled due to weak enforcement, disagreements between producers and consumers, and the reluctance of consumer countries to support mechanisms that maintained higher prices.

Two compensatory mechanisms were built into system. The European Community's STABEX (Système de

104 UNCTAD, "Critical minerals: harnessing data key to unlocking hidden treasures", 8 March 2024. Available at https://unctad.org/news/critical-minerals-harnessing-data-key-unlocking-hidden-treasures.

Stabilisation des Recettes d'Exportation)[105] compensated producer countries for export-earning shortfalls, until its elimination under the 2000 Cotonou Agreement.[106] The International Monetary Fund's (IMF) Compensatory Financing Facility provided balance of payments support during commodity price downturns, though it was discontinued in 2009.[107] The Common Fund for Commodities, originally envisioned as the centrepiece of a broader commodity stabilization system under UNCTAD's Integrated Programme for Commodities, survived but with a significantly narrower mandate than its founders intended.

The disappearance of these mechanisms has less to do with the underlying logic of stabilization than with funding modalities. STABEX and the Compensatory Financing Facility relied on appropriation cycles or quota commitments that funders eventually withdrew or restricted. The Common Fund's mission drift reflected the same pattern of funder reluctance.

The lesson for a critical minerals price stabilization mechanism is to secure a funding source that is not subject to annual appropriations. Industry levies, discussed in the next subsection, offer one route. Endowed funds capitalized through one-time contributions offer another. Recent work on food buffer-stock systems extends related principles to other commodity domains.

4.6 Raising New Funds Through Industry Levies

There are currently no dedicated global financing mechanisms to pay for the social and environmental damages caused by mining. Proposals linked to the IEA model and the United Nations Task Force on Critical Energy Transition Minerals both suggest creating new funds for this purpose. But, a key question remains: who will pay for them, and how?

One option is industry-based levies, where a small charge is placed on production or trade within the sector. Two existing examples show how this can work in practice.

First, the International Oil Pollution Compensation Funds, established in the 1970s and expanded in the 1990s, function in some respects as an industry-financed insurance system. Entities that receive certain types of oil transported by sea contribute based on the quantity of oil received, and the funds compensate victims of oil pollution damage when compensation available from shipowners is insufficient.[108] Crucially, the system is understood as compensation for industry-related risks, not an instrument of development finance or redistribution. This framing helped secure industry acceptance while creating an additional and predictable source of funding for a global public good: responding to oil pollution at sea.

Second, in 2024, the International Maritime Organization (IMO) reached an agreement on a Net-Zero Framework, combining a global marine-fuel standard with a greenhouse-gas pricing mechanism for shipping. This would make the measure the world's first global carbon levy. Revenues would flow into an IMO Net-Zero Fund used primarily for the sector's decarbonization, as well as innovation, infrastructure, capacity-building and measures benefiting developing countries and vulnerable States.

The Framework's adoption was subsequently postponed until 2026, but the negotiations illustrate an important political trade-off for industry-based levies. The mechanism remains closely tied to the sector's own decarbonization and transition needs, rather than – as some vulnerable countries had proposed – new and additional funds for climate adaptation and loss and damage. For critical minerals, this suggests that levies may be more politically feasible when their revenues are linked closely to managing the social and environmental risks generated by the sector itself, even if some revenues are also directed toward broader development objectives.

4.7 Improving Responsible Sourcing by Incorporating Communities Into Governance

Data show that conflict around critical minerals will likely intensify as demand grows and competition increases for control over resources in fragile and conflict-affected regions. For example, Rubaya Coltan Mines in eastern

105 Overseas Development Institute, "Compensatory Finance to Stabilise Export Earnings", Briefing Paper No. 1 (1979). Available at https://media.odi.org/documents/6630.pdf.

106 Ibid.

107 International Monetary Fund, "The Stabilizing Role of the Compensatory Financing Facility: Empirical Evidence and Welfare Implications", IMF Working Paper No. 1988/108 (1988). Available at https://ideas.repec.org/p/imf/imfwpa/1988-108.html.

108 International Oil Pollution Compensation Funds, *Explanatory Note* (April 2026). Available at https://iopcfunds.org/wp-content/uploads/2026/04/APR26_e.pdf.

DRC, which produces approximately 15 per cent of global Coltan, has been at the centre of armed conflict between M23 rebels, the Wazalendo militia and FARDC forces.[109] The DRC Government reportedly offered the Rubaya mines to the Trump administration in exchange for United States military support. The coltan mine is currently mined artisanally and would require $50 million to $150 million to industrialize. The proposed deal is part of a broader package of mineral assets presented to United States investors, including other deposits.[110]

The Kimberley Process (KP) Certification Scheme, developed in the 2000s to address diamond conflict, offers a partial model for conflict-free certification of critical minerals.[111] Three lessons emerge from this model. First, the challenge should be defined by the rights violations rather than the identity of the actors. While the KP focuses on eliminating armed rebel groups from diamond production, it overlooks abuses committed by governments and private companies – the very entities that dominate today's mining industries. Second, communities should have a voice. The KP has tripartite governance involving States, companies, and Civil Society Organizations, with States holding the votes and the other two given a voice. Communities most impacted by mines have no formal role. A future framework should be quadripartite, ensuring communities have a voice. Third, consensus decision-making should be avoided. Any country can veto under the current rule, which lowers ambition and prevents adaptation. In the International Conference on the Great Lakes Region Regional Certification Mechanism for tin, tantalum, tungsten and gold, the International Tin Supply Chain Initiative (ITSCI) and the *OECD due diligence guidelines* can provide a framework (if not fully, then partially) to help us build a future critical mineral governance regime.

4.8 Financing Value-Addition in Producers via Multilateral Development Banks

Achieving greater value addition in mineral-producing countries will require substantial investment in infrastructure, technology and governance capacity. Multilateral Development Banks (MDBs) are beginning to respond to this challenge.

In April 2026, the African Development Bank Group, Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank and the World Bank Group issued a joint statement committing to more coordinated support for critical minerals-to-manufacturing value chains. This includes a specific focus on regional approaches and Lobito-like "corridors that link mining activities with processing hubs, create market access for other economic sectors such as agriculture, strengthen regional trade, attract private investment and promote regional integration".[112] While MDBs have financed mining projects for years, the explicit focus on industrial policy reflects developing country producers' desire to move up value chains as well as MDBs' elevation of job creation and trade as an engine for growth.

The World Bank has also adopted a new critical minerals strategy, focused on job creation and industrial development in producing countries.[113] The push has the support of the Bank's largest shareholder, the United States, and, as DevEx reported in April, the Bank launched critical minerals compacts with Zambia, Malawi, Mauritania and Bolivia, with a goal of hitting about 20 countries by the end of the year.[114] Valérie Levkov, the World Bank's Vice-President for infrastructure, wrote

109 Maxwell Akalaare Adombila and Ange Kasongo, "US struggling to de-risk Congo's 'war zone minerals' even after pact, sources say", *CNBC Africa*, 3 March 2026. Available at https://www.cnbcafrica.com/2026/us-struggling-to-de-risk-congos-war-zone-minerals-even-after-pact-sources-say.

110 "Africa/DR Congo - Fighting for the strategic coltan mine in Rubaya", *Agenzia Fides* (Kinshasa), 24 February 2026. Available at https://www.fides.org/en/news/77396-AFRICA_DR_CONGO_Fighting_for_the_strategic_coltan_mine_in_Rubaya.

111 Nicholas Nhede, "Botswana Diamonds Rebrands, Aligning with National Critical Minerals Push", *Prospect*, 2 March 2026. Available at https://energycapitalpower.com/botswana-diamonds-rebrands-aligning-with-national-critical-minerals-push/.

112 African Development Bank Group and others, "Joint MDB statement on critical minerals to manufacturing value chains", statement made at the G7 Outreach session, Washington D.C., 17 April 2026. Available at https://www.worldbank.org/en/news/statement/2026/04/17/mdbs-powering-critical-minerals-value-chains.

113 World Bank, "Transforming metals and minerals into jobs and lasting prosperity", 15 December 2025. Available at https://www.worldbank.org/en/news/immersive-story/2025/12/12/turning-minerals-and-metals-into-development.

114 See Scott Bessent, Secretary of the Treasury of the United States, statement to the Development Committee at its 113th meeting, Washington, D.C., 16 April 2026 (DC/S/2026-0027), p. 3. Available at https://documents1.worldbank.org/curated/en/099041626185513595/pdf/BOSIB-b6c8e7dc-8d7a-4579-a273-5201cd4e7190.pdf. Bessent stated: "[w]e also expect more from the Bank on critical minerals, which are central to economic growth, technological leadership, and countries' economic security. Building on the recent adoption of a critical minerals strategy, we expect to see all parts of the Bank move quickly to support the policies, projects, and associated infrastructure needed to unlock more deals that will help diversify critical minerals supply chains and increase domestic value capture across the supply chain"; see also Adva Saldinger, "Devex Invested: the World Bank's critical minerals bet", *Devex*, 14 July 2026. Available at https://www.devex.com/news/devex-invested-the-world-bank-s-critical-minerals-bet-112930.

in May that the Bank "plan[s] to quintuple our support to metals and minerals in the next five years".[115]

The opportunity for producing countries in this push is substantial, but avoiding the resource curse will take more than finance and technical assistance. Two lessons are relevant here for MDBs.

First, MDB-financed mining projects need to establish legitimacy in the communities in which they operate and maintain projects throughout the policy process.[116] New research on mining in Argentina and Chile shows that resistance can in fact be institutionally and economically "productive", as "mobilisation has driven the adoption of new legal norms, such as free, prior and informed consent, progressive environmental regulations, community-led monitoring systems, and project redesigns that reduce impacts or adopt cleaner technologies".[117] The gains extend to investors, who benefit from lower risks and better information, but these gains are "often ad hoc and temporary, because institutional frameworks rarely embed them as standard practice".[118] The lesson for MDBs is not simply to consult communities more effectively, but to treat community participation and contestation as a source of institutional learning. MDB-supported projects should prioritize mechanisms through which community monitoring, grievance processes and negotiated safeguards can feed into permanent regulatory and governance improvements rather than remain project-specific practices.

Second, MDBs should invest more systematically in the bargaining capacity of producer countries before major mineral deals are concluded. As this paper has demonstrated, geopolitical competition is rapidly shaping the policy choices available to lower-income producers. Yet agreements made today may govern investment, infrastructure, processing and market access for decades.

The African Development Bank's African Legal Support Facility offers an important regional precedent. MDBs could build on this model by supporting pooled legal and technical expertise, model contracts and databases, and potentially, rapid-response assistance for negotiations over concessions. Financing value addition requires investment not only in infrastructure and industrial capacity but also in collective bargaining capacity. Smart bargaining today will pay outsized dividends tomorrow.

115 Valérie Levkov, "Five ways the World Bank Group is turning mineral wealth into jobs and growth", *World Bank Blogs*, 26 May 2026. Available at https://blogs.worldbank.org/en/voices/five-ways-the-world-bank-group-is-turning-mineral-wealth-into-jobs-and-growth.

116 Anabel Marín, "Critical minerals and the new development dilemma: what the WBG's new strategy must get right", *Bretton Woods Observer* (Winter 2025), 11 December 2025. Available at https://www.brettonwoodsproject.org/2025/12/critical-minerals-and-the-new-development-dilemma-what-the-world-banks-new-strategy-must-get-right/.

117 Anabel Marin and Santiago Cunial, "Legitimacy at the Core: Transformative Green Industrial Policy for a Just mineral extraction", *Debating Development Research*, 30 September 2025. Available at https://www.developmentresearch.eu/?p=2369.

118 Ibid. See also Anabel Marín and Santiago Cunial, "Mining Legitimacy: Governing the Politics of Resource-Based Green Industrial Policy", IDS Working Paper No. 623 (Brighton, Institute of Development Studies, 2025). Available at https://www.ids.ac.uk/publications/mining-legitimacy-governing-the-politics-of-resource-based-green-industrial-policy/.

Recommendations: A Layered Architecture

The analysis above points toward a layered approach to critical minerals governance. The different models examined in Section 4 address different parts of the problem: some improve information and coordination, others strengthen producer bargaining power, expand policy space, manage market and environmental risks or improve accountability.

No single institution is likely to perform all of these functions effectively. The priority, therefore, is to build a more coherent architecture from the institutions and initiatives now taking shape, while ensuring that producing countries have a meaningful role in shaping the rules that govern their resources.

Five actions would help move the emerging system in that direction.

1. Design any future IMA around legitimacy and incremental functions.

Proposals for an IMA respond to a genuine gap in global coordination, but its institutional design will determine whose interests it serves. If such an agency is pursued, it should be established through a universal UN process rather than a consumer-country coalition, with a mandate focused initially on functions where shared information and coordination provide clear collective benefits.

The IAEA offers a useful precedent: established under UN auspices, it combined technical cooperation with regulatory functions and expanded its responsibilities as political consensus developed. A future minerals agency could similarly begin with data, market monitoring, geological knowledge and foresight before taking on more politically sensitive functions. This would give the institution time to demonstrate value while building the legitimacy required for a broader mandate.

2. Strengthen producer countries' capacity to negotiate and coordinate.

Producer countries need greater collective capacity to shape the terms on which their resources enter global markets. An international or regional support platform could pool geological, financial, environmental and legal expertise and make it available before major concessions and supply agreements are negotiated. Existing initiatives such as UNU-INRA's C-MINK and the African Legal Support Facility provide potential building blocks, including for model contractual provisions on stabilization clauses, pricing, local value addition, technology transfer and community benefits. Developing countries' organizing around specific statutory changes to sovereign debt contracts, such as collective action clauses in the 2000s and pause clauses during the global Pandemic, offer important precedents for collective action, as does the emerging Borrower's Platform.

3. Protect policy space for value addition and industrial development.

The international trading system should give producer countries greater room to pursue domestic processing and industrialization. WTO members could develop a plurilateral code of best practices for critical minerals addressing measures such as technical assistance, geological cooperation and time-bound policies to support domestic value addition. Producer countries should also have a meaningful role in developing the standards and market-access requirements increasingly being established through consumer-led supply-chain initiatives.

Development finance should reinforce this policy space. MDBs should prioritize infrastructure, processing capacity, skills, technology transfer and regional connectivity alongside extraction projects. The goal should be to prevent today's critical minerals boom from reproducing the historical pattern in which producer countries capture relatively little value beyond extraction.

4. Establish financing mechanisms to address price volatility and environmental costs.

The international community should explore an industry-financed mechanism to address risks that existing governance proposals have largely overlooked, particularly severe price downturns and the environmental

and social costs of extraction. There is ample precedent for such programmes from the 1970s, but funding remains a challenge. A modest levy on mineral production or trade could capitalize an independently governed fund to support producer-country resilience, remediation and responses to major environmental or social damage.

The mechanism may be designed around risks generated by the sector itself rather than as another channel of development assistance. Again, the 1970s offer a useful precedent: the experience of the International Oil Pollution Compensation Funds shows how industry contributions can be more politically viable when framed as the collective management of sector-specific risks and liabilities.

5. Make accountability and community benefit core requirements of mineral governance.

Responsible-sourcing systems should be strengthened or consolidated rather than multiplied. Existing frameworks, including the OECD due diligence guidance, the Great Lakes Regional Certification Mechanism and traceability systems, provide a foundation for a more comprehensive approach. A future system should address harmful practices and rights violations across supply chains, give affected communities a formal role in monitoring and governance, and avoid decision-making rules that allow individual participants to block stronger standards.

These requirements should extend beyond certification to development finance and project design. MDBs and other public financiers should systematically support community monitoring, grievance mechanisms, local skills and institutional capacity, including the legal and technical expertise governments need to negotiate mineral agreements. Accountability must be part of the economic architecture of critical minerals, rather than treated as a safeguard added after investment decisions have been made.

These measures could build a more balanced governance architecture without requiring agreement on a single global treaty or institution. Together, they could give producing countries greater capacity to understand and negotiate their resources, pursue higher-value economic activities and shape the standards governing their extraction and trade. They would also give consumers, investors and communities stronger mechanisms for managing the risks associated with increasingly important mineral supply chains.

Appendix: Mapping the Emerging Critical Minerals Governance Architecture

The following tables attempt to capture the scale and scope of an emerging critical minerals governance landscape, including recent actions by governments and proposals for new mechanisms from countries, international institutions, civil society and academia.

Table 2: United Nations and Adjacent

Model	Proponents	Functions	Status (Early 2026)
UN Task Force on CETMs	UN Secretary-General.	Coordinates 5 technical clusters: value addition, traceability, Global Mining Legacy Fund, ASM and circularity.	Active; Launched 10 December 2025 to implement 2024 Panel recommendations.
IMA	Global Investor Commission.	Real-time market surveillance; tracking illicit flows; standardized ESG data to de-risk $18 trillion in investments.	Proposed; Final 10-year vision released January 2026; Agency formalization expected March 2026.
International Agency on Minerals & Metals	UNEP (IRP) / Paris Peace Forum.	Specialized agency (IEA model) for science-policy oversight and technology transfer.	Proposed; Building a "Coalition of the Willing" to pilot data functions.
IMA w/ Global Resource Trusts	Club of Rome.	Focuses on "absolute decoupling" and material footprint targets (e.g. 6–8 tons per capita).	Proposed; Pillar of the European Union's 2026 Circular Economy Act.
IMA with Global Data Hub	Chatham House.	A platform for shared stewardship with open-access flow and price data to counter proprietary models.	Proposed; Seeking European Union-led coalition funding for design.
Global Treaty on Traceability	UNEA / Colombia & Oman.	Legally binding international standards for tracing minerals across the full life cycle.	Proposed; Active diplomatic discussions ongoing.

Model	Proponents	Functions	Status (Early 2026)
Global Minerals Treaty	Colombia, co-sponsors (Armenia, Ecuador and Zambia), with broader UNEA support.	A broader international agreement envisioned to set coordinated global norms on environmentally sound management of minerals, covering mining to recycling and potentially binding obligations.	Proposed; subject of contested negotiations at UNEA.
WTO Plurilateral on Critical Minerals (Code of Best Practices)	Proposed by an analyst (not yet a formal proponent).	A plurilateral agreement within the WTO to address the demand and supply side, ensuring the participation of producers and consumers. Offer transparency mechanism, monitoring of trade flows and policies, dispute settlement neutrality.	Proposed by Sunayana Sasmal in her publication in UK Trade Policy Observatory.[119]

Table 3: European Union

Model	Proponents	Functions	Status (Early 2026)
European Critical Raw Materials Centre	European Commission.	Portfolio manager for European Union diversification; coordinates joint purchasing and strategic stockpiles.	Active; Launched January 2026 as the system orchestrator.
European CRM Board	European Commission + Member States.	Oversees CRMA implementation; shares best practices on permitting and strategic projects.	Active; Operational since May 2024.
European Raw Materials Alliance	European Union multi-stakeholder.	Identifies investment gaps and promotes projects to strengthen industrial resilience.	Active; Operational since 2020.
Critical Raw Materials Club	European Commission.	Diplomatic forum for consumer and producer nations; integrated with Global Gateway.	Operational; Formally integrated into RESourceEU Plan (December 2025).

119 Sunayana Sasmal, "Critical minerals as an observatory for evolving forms of trade cooperation", UK Trade Policy Observatory, 25 March 2026.

Table 4: United States-led

Model	Proponents	Functions	Status (Early 2026)
FORGE	United States-led; chaired by Republic of Korea.	Successor to MSP; focuses on price floors, tariff-based "preferential zones", and project scaling.	Emerging; Launched 4 February 2026 at DC Ministerial.
Project Vault	United States (EXIM Bank).	A $12 billion strategic reserve ($10 billion loan + $2 billion private) modelled on the Petroleum Reserve for civilian use.	Active; Launched 2 February 2026.
MSP	United States + 14 Partners.	High-level financial mobilization and ESG alignment for critical projects.	Active; Transitioning many functions to FORGE.
Quad Critical Minerals Initiative	Australia, India, Japan, United States.	Indo-Pacific supply chain resilience and joint technology/exploration cooperation.	Active; Launched July 2025.
C5+1 Critical Mineral Dialogue	United States + Central Asia.	Support for geological exploration and investment in Kazakhstan, Uzbekistan, etc.	Active; New MOUs signed February 2026.

Table 5: G-7 led

Model	Proponents	Functions	Status (Early 2026)
G7 Critical Minerals Buyers' Club	Canada-led G7.	Reduces price volatility through joint purchasing and $6.4 billion in co-investment partnerships.	Active; First 26 investment rounds completed October 2025.
G7 Standards-Based Roadmap	G7 Leaders.	Establishes "minimum thresholds" for responsible sourcing to drive a "race to the top".	Emerging; Launched 2025 (Kananaskis Summit).

Table 6: G20-led and China-led

Model	Proponents	Functions	Status (Early 2026)
G20 Critical Minerals Framework	South Africa.	Voluntary framework for local beneficiation and resilient supply chains; "value addition at source".	Active; Adopted November 2025 (Johannesburg Summit).
International Initiative on Green Mining	China-led.	Open membership platform for sustainable production and supply chain integration.	Launched; Established November 2025 during G20 South Africa.

Table 7: African Union-led

Model	Proponents	Functions	Status (Early 2026)
African Minerals Development Centre	African Union; hosted by UNECA.	Implement Africa Mining Vision; support mineral-based industrialization and policy.	Active; Core implementing body for AGMS as of 2025.
African Legal Support Facility	African Development Bank.	Legal and technical support for African governments negotiating extractive contracts.	Active; Mandate expanded to transition minerals.
Africa Minerals Strategy Group	African producer governments.	Joint exploration; shared negotiating positions; intergovernmental policy coordination.	Emerging; Consolidating 2024–2025.
African Green Minerals Observatory	Regional initiative.	Data analytics; policy research; supporting evidence-based industrialization.	Operationalizing; Expanding functions in 2025.

Table 8: Other Developing Countries

Model	Proponents	Functions	Status (Early 2026)
Lithium Producer Coalition ("Lithium PEC")	Argentina, Bolivia, Chile (Lithium Triangle) and other Latin American producers.	Explore coordinated production policy and pricing, strengthen producer bargaining power and share value across the lithium value chain.	Conceptual; Discussions ongoing among lithium-rich producers to establish a cooperative alliance akin to a commodity producers' club.
Nickel Producer Coordination ("Nickel PEC")	Indonesia (leading nickel producer) and other nickel-producing governments.	Consider collective management of nickel output, harmonize environmental and trade policies, strengthen downstream linkages.	Conceptual; Indonesia has publicly discussed OPEC-like coordination with potential partners.
"OMEC"[120]	Proposed by KPMG analyst Trevor Hart; referenced in industry commentary.	A collaboration model for critical mineral producers and mining companies with climate-aligned targets; coordinates supply and investment strategies but explicitly avoids price-rigging like OPEC.	Conceptual; Envisioned as climate-friendly coordination platform.

120 Tim Treadgold, "Goodbye OPEC, hello OMEC: a shift from petroleum power to minerals power", *Forbes*, 4 May 2021. Available at https://www.forbes.com/sites/timtreadgold/2021/05/04/goodbye-opec-hello-omec-a-shift-from-petroleum-power-to-minerals-power/.

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