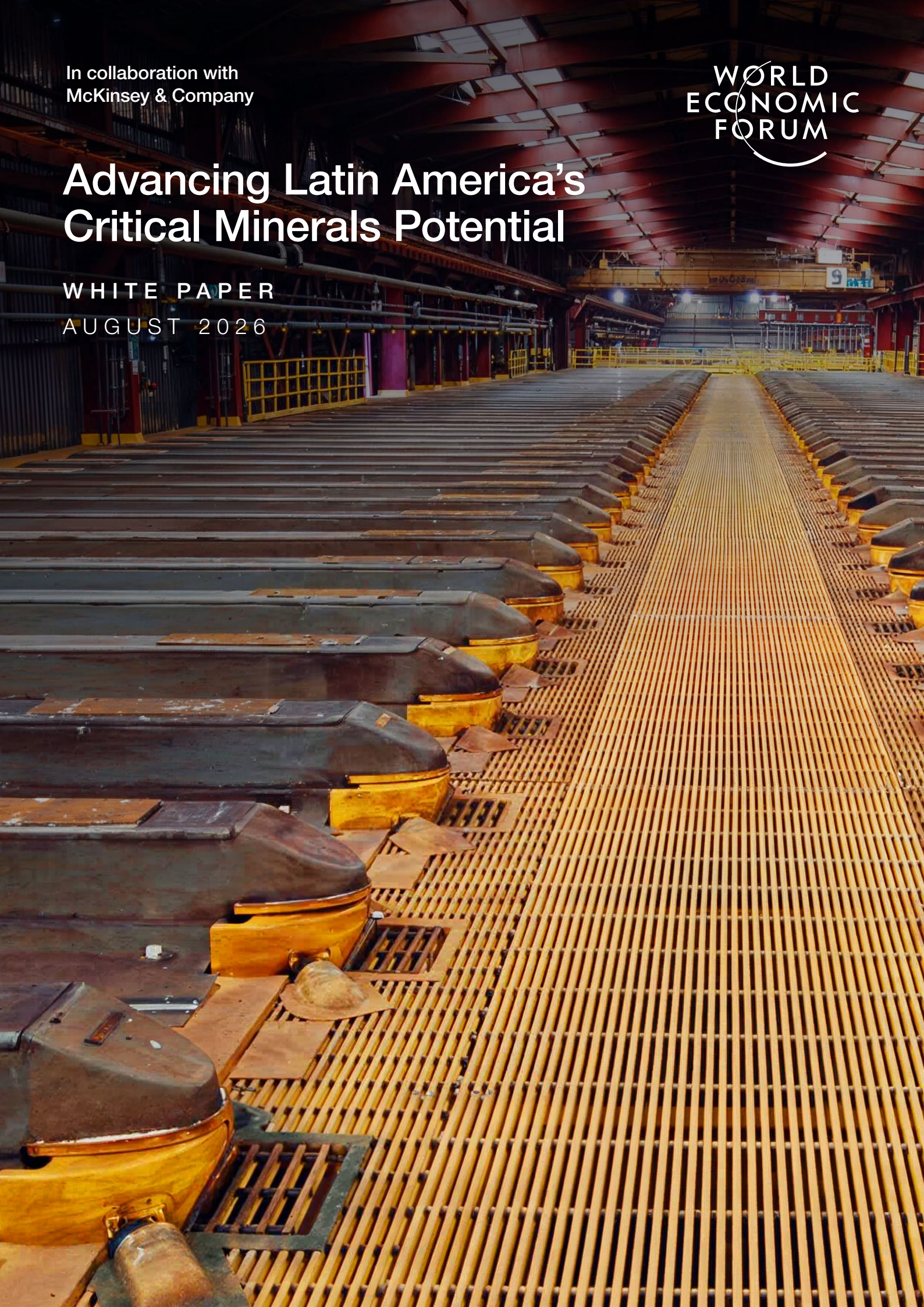


In collaboration with
McKinsey & Company



Advancing Latin America's Critical Minerals Potential

WHITE PAPER
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Foreword



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Latin America has long been central to the global mining economy. It holds some of the world's largest reserves of copper, lithium and other critical minerals and is supported by decades of mining expertise, industrial capabilities and technical talent. With the energy transition, electrification and digital economy accelerating demand for concentrated critical minerals supply, Latin America has a dual opportunity: to support the diversification and resilience of global minerals value chains, while developing its own economy.

However, realizing this opportunity may require more than simply increasing production. Infrastructure gaps, including constraints in access to water and energy, financing challenges, fragmented innovation ecosystems, skills shortages and policy differences continue to limit investment and value creation in the region.

Given the complexity of these challenges and the region's comparative strengths, greater collaboration across Latin America can play a

central role, supported by coordinated action from governments, industry, financial institutions, academia and regional organizations.

The next decade offers a window to convert Latin America's resource abundance into lasting competitiveness. By building on complementary national capabilities, the region can develop critical minerals ecosystems, while generating growth, jobs and capabilities.

In this context, the World Economic Forum's Securing Minerals for Energy and Technologies (SMET) initiative, in coordination with the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) and in collaboration with McKinsey & Company, convened public and private-sector stakeholders to better understand the barriers facing the critical minerals industry and identify practical solutions to overcome them. This report elaborates on these conversations as a contribution towards building more competitive and resilient critical minerals value chains in Latin America.

Executive summary

Greater regional collaboration can strengthen Latin America's position across critical minerals value chains.

Global demand for critical minerals is rising faster than supply, which remains highly concentrated, creating a strategic opportunity for Latin America to increase and diversify global supply. The region has a large and diverse resource base, is a major producer of critical minerals, including copper and lithium, and benefits from an established mining sector, a strong manufacturing base and close proximity to major markets.

However, resource ownership does not automatically translate into broader economic value creation. Several Latin American countries possess world-class mineral resources but have yet to develop them at scale; and while many have established a strong position in upstream mining, participation in processing and downstream manufacturing remains limited. Significant opportunities also exist to expand local and regional supplier ecosystems that provide specialized mining inputs and services, translating the region's resource endowment into broader industrial development and long-term competitiveness.

This report identifies six priority areas for consideration: infrastructure, technology and innovation, financing, policy, social impact and talent, while highlighting greater regional collaboration as a critical enabler of competitiveness and value creation. It reflects multi-stakeholder conversations and

presents case studies already underway across Latin America, including cross-border logistics corridors, shared water infrastructure, renewable energy partnerships, innovation platforms, blended-finance models and workforce development initiatives.

Based on these findings, the report highlights six potential actions for stakeholders:

- Enhance regional collaboration mechanisms
- Identify priority critical mineral clusters
- Advance shared infrastructure projects
- Leverage support from multilateral development banks (MDBs) and development finance institutions (DFIs)
- Coordinate innovation platforms
- Align workforce development with cluster needs

Together, these actions could help Latin America move from fragmented national initiatives towards more integrated, investment-ready regional ecosystems that attract capital, generate greater value across supply chains and strengthen the region's position as a leading global supplier and innovation partner in critical minerals value chains.

1

Context setting

A series of public-private consultations and workshops identified six priority areas for strengthening Latin America's critical minerals value chains, enabled by regional collaboration.

1.1 Methodology

Over a period of nine months between 2025 and 2026, the World Economic Forum, in coordination with ECLAC and in collaboration with McKinsey & Company, convened a public-private community of over 120 experts, from 30 different countries in the region and beyond, to identify challenges and solutions to support the development of integrated, sustainable and value-added critical minerals value chains in Latin America. This report highlights those solutions and real case studies intended to inspire Latin American countries and inform decision-making among stakeholders. It does not advocate for specific public policies, but highlights examples of mechanisms identified through stakeholder dialogue that may support implementation.

This regional deep dive is part of the [Securing Minerals for Energy and Technologies \(SMET\)](#) initiative launched by the World Economic Forum and builds on a similar regional analysis conducted in Southern Africa, available [here](#). The scope of

critical minerals considered in the report is aligned with the US Geological Survey (USGS) *2025 List of Critical Minerals*.¹

While this report provides a regional view, its analysis focuses primarily on six countries: Argentina, Bolivia, Brazil, Chile, Mexico and Peru, based on the size of their critical mineral reserves, production volumes and economic significance of mining. Nevertheless, it draws on transferable lessons from other Latin American countries with smaller resource endowments, which also contribute meaningfully to the sector through mining services, innovation ecosystems, social impact leadership and regional collaboration.

For this report, critical minerals clusters refer to connected ecosystems that bring together mineral resources, infrastructure, industrial capabilities, suppliers, talent and investment around specific minerals or value-chain opportunities.

1.2 Problem definition

Latin America is a global leader in critical minerals production, but much of its potential to generate greater economic value remains untapped. Building on its strong mining base,

the region has an opportunity to strengthen regional value chains, expand processing and attract investment to support broader industrial development.

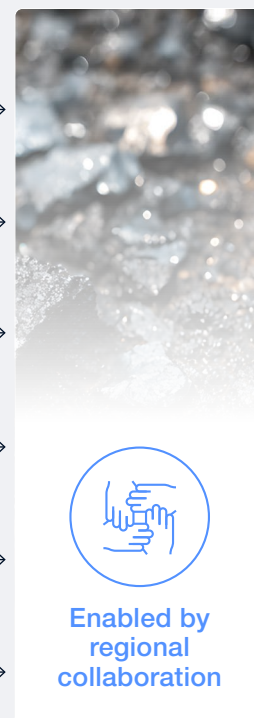
1.3 Focus areas

Through a series of consultations and workshops, stakeholders identified six focus areas for developing the region's critical minerals value chains: infrastructure, technology and innovation,

financing, policy, social impact and talent (see Figure 1). Regional collaboration emerged as an important cross-cutting enabler and is explored in detail in Chapter 3.

FIGURE 1 | Six focus areas for action, enabled by regional collaboration

Focus areas	Barriers	Potential solutions	
 Infrastructure	Limited transport, water, energy and digital infrastructure	Shared infrastructure and logistics corridors	→
 Technology & innovation	Low R&D investment and fragmented innovation ecosystems	Regional innovation platforms and alternative R&D funding models	→
 Financing	Capital constraints and long development timelines	Greater MDB/DFI participation and alternative financing	→
 Policy	Regulatory complexity and divergent frameworks	Enabling policy and regional collaboration	→
 Social impact	Community concerns and environmental risks	Inclusive development models and stakeholder engagement	→
 Talent	Shortages of technical and digital skills	Talent development programmes	→



Not exhaustive

“ Much of Latin America’s critical minerals wealth is concentrated in its driest, most water-stressed areas.

Infrastructure

Transport and logistics

Transport and logistics gaps limit countries’ ability to scale up extraction and fully generate upstream value. Although parts of the region have well-developed transport and logistics infrastructure, limited cross-border connectivity increases costs. The World Bank’s 2023 *Logistics Performance Index* – which reflects perceptions of a country’s logistics, including the efficiency of customs, quality of trade- and transport-related infrastructure, and quality of logistics services – highlights a substantial logistics performance gap in Latin America and the Caribbean, which scores 2.64 (ranging from 2.2 for Cuba to 3.2 for Brazil), compared with OECD countries which score an average of 3.6.²

Water availability

Although Latin America holds over a third of the world’s freshwater resources, availability is unevenly distributed, creating localized scarcity and competition.³ This is especially challenging for copper and lithium production, which is highly water-intensive, as significant reserves are located in water-stressed areas.⁴ The Atacama Desert, one of the driest places on Earth, is home to part of the Lithium Triangle,

containing over half of the world’s lithium resources, as well as the world’s largest copper mine.⁵ These challenges are further exacerbated by uneven water monitoring capabilities across the region.

Energy systems reliability

Latin America has a relatively clean energy mix underpinned by significant renewable energy. It ranks third out of six global regions in the World Economic Forum’s *Energy Transition Index*.⁶ However, grid infrastructure is underdeveloped. Latin America and the Caribbean invests roughly \$3 billion annually in transmission yet requires \$6-8 billion to meet future needs.⁷ Grid and transmission constraints, among other factors, prevented over 53 terawatt hours (TWh) of renewable electricity from reaching the grid in 2024, resulting in approximately \$7 billion in economic losses.⁸

Digital infrastructure

Digital infrastructure development varies across mining regions. Limited connectivity, fragmented operational data systems and uneven capabilities constrain the deployment of remote operations, real-time monitoring, automation and AI. This in turn limits opportunities to improve productivity, such as water and energy use management and value chain coordination across dispersed sites.

🗣️ 62% of mining projects delayed by permitting issues in 2023 were due to stakeholder opposition or concerns about the project's environmental impacts.

Technology and innovation

Innovative technologies

Latin America and the Caribbean invest relatively little in research and development (R&D), spending just 0.7% of GDP in 2023 compared with over 2% in the European Union and approximately 3.5% in the United States.⁹ This is particularly relevant for the mining sector, where limited R&D funding and the risks associated with unproven technologies can constrain the transition from pilots to commercial deployment.

Innovation ecosystems

The critical minerals sector's complex challenges are difficult to address through isolated initiatives. Since large-scale, multi-actor, cross-border innovation programmes are limited, many innovative efforts in the region are fragmented and pursued independently.

Financing

Early-stage greenfield projects face high upfront capital requirements, long project development timelines, commodity price volatility and perceived country risk. These challenges begin at the exploration stage, where investment has remained relatively stagnant over the past decade, despite rising discovery costs.¹⁰ Funding available for refining and downstream manufacturing is also limited, constraining value addition and broader industrial development in the region.

Policy

Policy bottlenecks can arise from uncertainty and inconsistency in regulatory frameworks, planning and permitting processes, community consultations, environmental standards, public procurement, tax regimes and governance structures across countries. These challenges can hinder collaboration and discourage long-term investment.

Social impact

Upholding rigorous environmental and social standards is critical to maintaining companies' licences to operate. Failure to do so can lead to social conflict, legal challenges and material project delays. A global study by ERM in 2023 found that 62% of mining projects delayed by permitting issues were due to stakeholder opposition or concerns about the project's environmental impacts.¹¹

Talent

The critical minerals sector faces a significant global skills gap. In Latin America, labour demand for projects could rise sharply in the next few years. There is an acute shortage of mid- to senior-level geologists, chemical engineers and project execution leaders as experienced professionals retire, while the graduate pipeline is insufficient to replace them. At the same time, digital adoption is increasing demand for skills that are in short supply across the region.¹² Local capabilities in advanced materials, processing technologies and manufacturing are also limited, constraining downstream industrial development. In emerging mining jurisdictions, capability gaps can extend beyond workforce availability to include project development, engineering, operational management and supplier ecosystems.

The six focus areas presented above frame the rest of the report:

- [Chapter 2](#) sets out the region's resource endowment and value-generation opportunity
- [Chapter 3](#) explains why regional collaboration can help address common barriers
- [Chapter 4](#) presents practical case studies
- [Conclusion](#) outlines potential actions for stakeholders

2

From resource endowment to value generation

Global demand for critical minerals creates a strategic opportunity for Latin America to strengthen its industrial ecosystem and economy.



Latin America has a unique opportunity to become a leading supplier of the minerals essential for the energy transition. The region's challenge – and opportunity – is to convert its exceptional geological endowment into sustainable growth, quality jobs and shared value. Achieving this will depend on competitive regulatory frameworks, efficient logistics, long-term investment and strong partnerships between the public and private sectors.

Gustavo Pimenta, Chief Executive Officer, Vale



2.1 The region possesses significant reserves

Global demand for critical minerals is rising rapidly, while growth in supply is struggling to keep pace and remains highly concentrated. The International Energy Agency (IEA) projects that, based on the current project pipeline, global copper supply could fall 25% short of demand by 2035.¹³ A key driver is the long lead time required to bring new copper mines online (more than 15 years). Similar pressures are expected for lithium. These supply risks are compounded by stagnant spending on

greenfield exploration and a sharp increase in the cost of discovering new mineral deposits over the past two decades.¹⁴

Against this backdrop, Latin America could be central to global critical minerals supply chains. The region possesses significant reserves of copper, lithium, nickel, graphite, manganese, rare earth elements (REEs) and other minerals essential to the energy transition, electrification and digital infrastructure (see Figure 2).

BOX 1

Critical mineral reserves in Latin America¹⁵



Argentina and Chile together hold ~40% of global lithium reserves.



Chile and Peru together hold ~30% of global copper reserves.



Brazil holds ~25% of global graphite reserves and ~15% of global REEs.

FIGURE 2 | Critical mineral deposits in Latin America



In production terms, Latin America accounts for approximately 40% of mined copper production and around 30% of mined lithium production globally (see Figure 3). Combined with abundant renewable

energy resources, established mining expertise and proximity to major international markets, these advantages could position the region as an important contributor to future minerals supply.

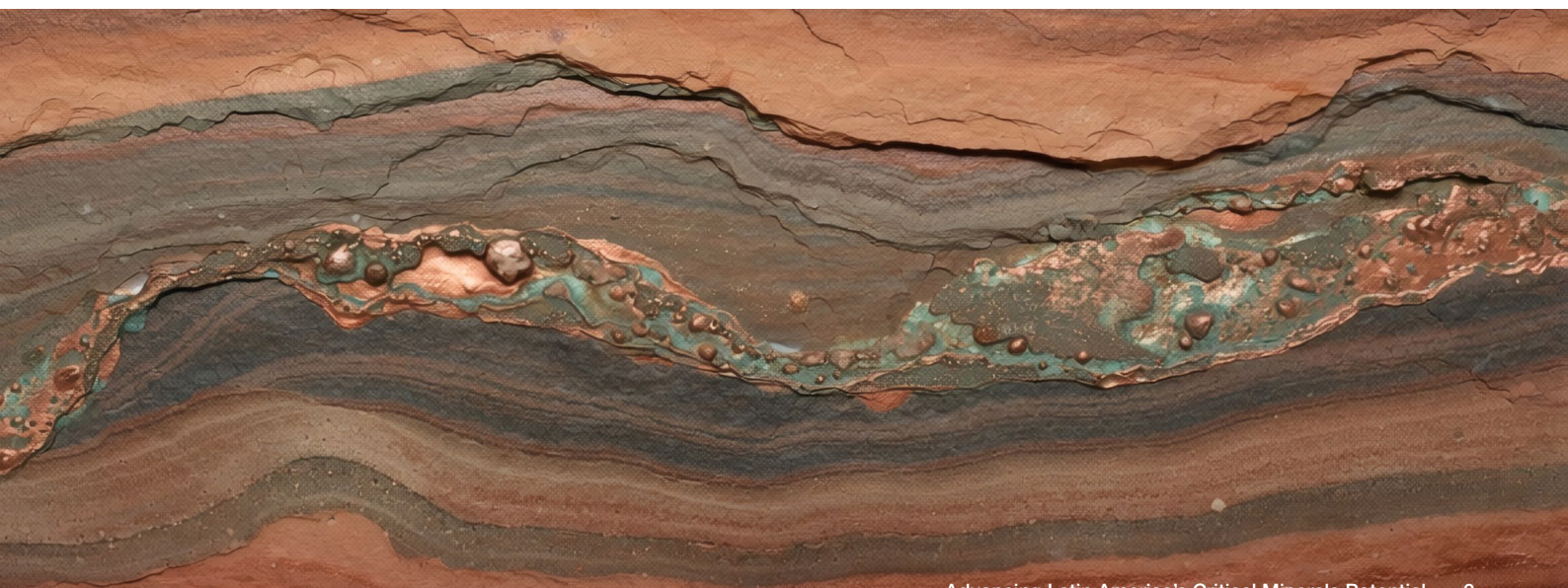
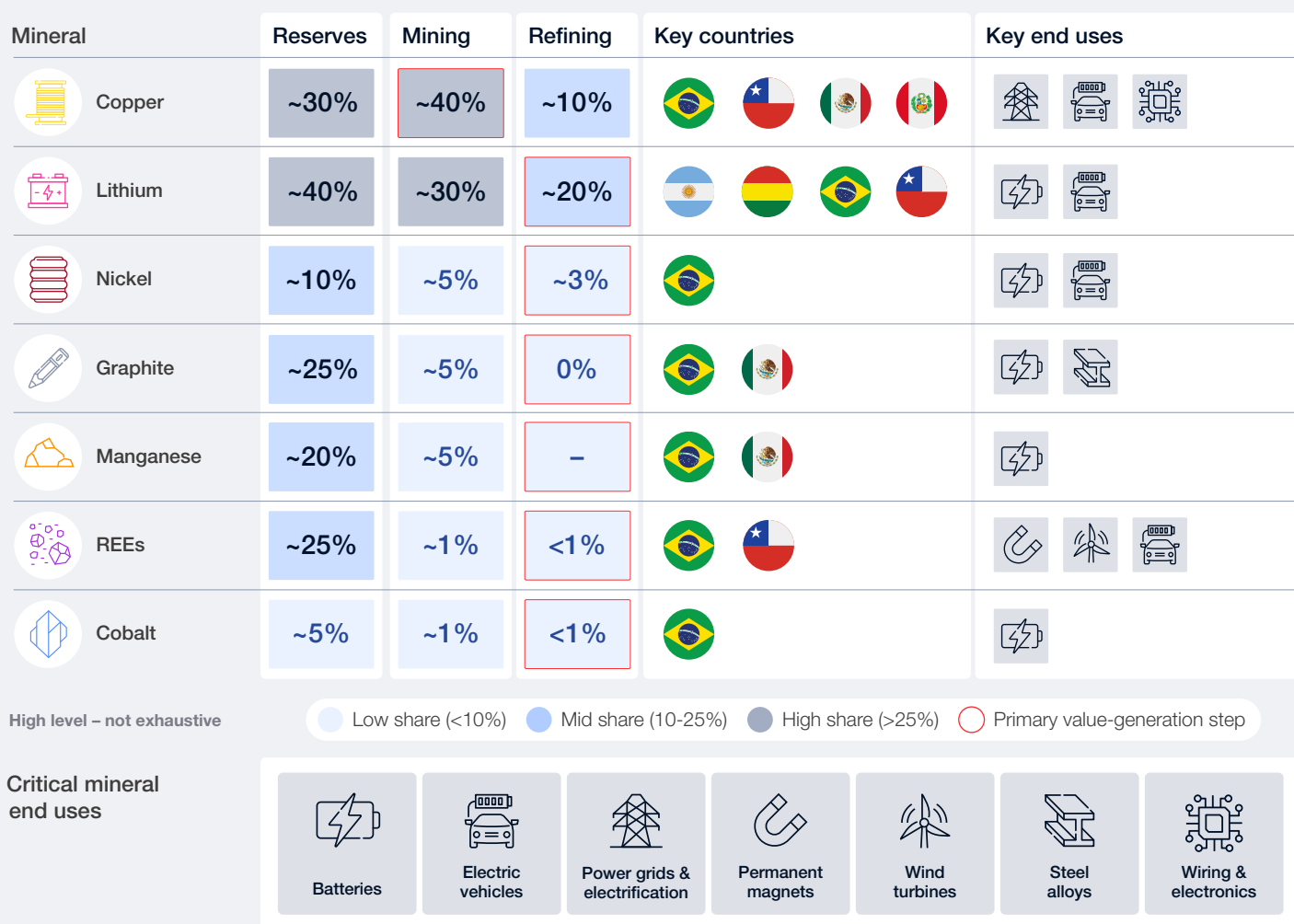


FIGURE 3 | Latin America's share of global reserves, mining and refining in critical minerals



Note: Refined product definition for copper is copper cathode and for lithium is lithium carbonate and lithium hydroxide. Reserves and mining figures are taken from IEA (2026) with exception of cobalt which comes from USGS (2026). Refining figures are based on USGS (2026) for copper and IEA (2026) for the other minerals.

Sources: USGS (2026), IEA (2026).¹⁷

2.2 Endowment is not yet translating into full value generation

“62% of critical minerals exports from Latin America and the Caribbean are raw materials, while only 38% are processed goods.”

Endowment of mineral resources does not automatically translate into production, investment or broader economic value creation. Several countries possess world-class mineral resources but have not yet converted these into production at a scale commensurate with their resource base. For example, Bolivia holds some of the world's largest lithium resources and produces and exports lithium carbonate. However, infrastructure, technology and commercialization challenges have constrained its ability to scale up production and generate broader value to date.¹⁸

At the same time, foreign direct investment (FDI) into Latin America and the Caribbean reached approximately \$189 billion in 2024, increasing by

over 7% from 2023, but remaining below 2010 levels relative to GDP. Mining has represented a meaningful but volatile share of investment, accounting for an average 11% of total FDI across an 11-country sample between 2005 and 2023, with a low of 1.8% in 2017 and a high of 24.5% in 2008.¹⁹

In addition, while Latin America has established a strong position in upstream mining, the region generates less value in midstream refining and downstream activities. The Organisation for Economic Co-operation and Development (OECD) estimates that 62% of critical minerals exports from Latin America and the Caribbean are raw materials, while only 38% are processed goods.²⁰

This disparity reflects a combination of factors: historical specialization in extraction, the dominance of established refining hubs in China, infrastructure constraints and limited integration into downstream manufacturing supply chains. It also reflects some mineral-specific challenges, such as the region's laterite nickel, which requires more complex processing than sulfide ores to reach battery grade. This highlights an opportunity for countries to generate greater

industrial and economic value where competitive advantages exist.

Value generation extends beyond refining and manufacturing. Mining supplier ecosystems, including equipment, engineering services, chemicals, maintenance, logistics, digital solutions and environmental services, can also generate significant economic value, skilled employment, innovation and export capabilities.

2.3 Catalysing greater value generation may require stronger regional collaboration

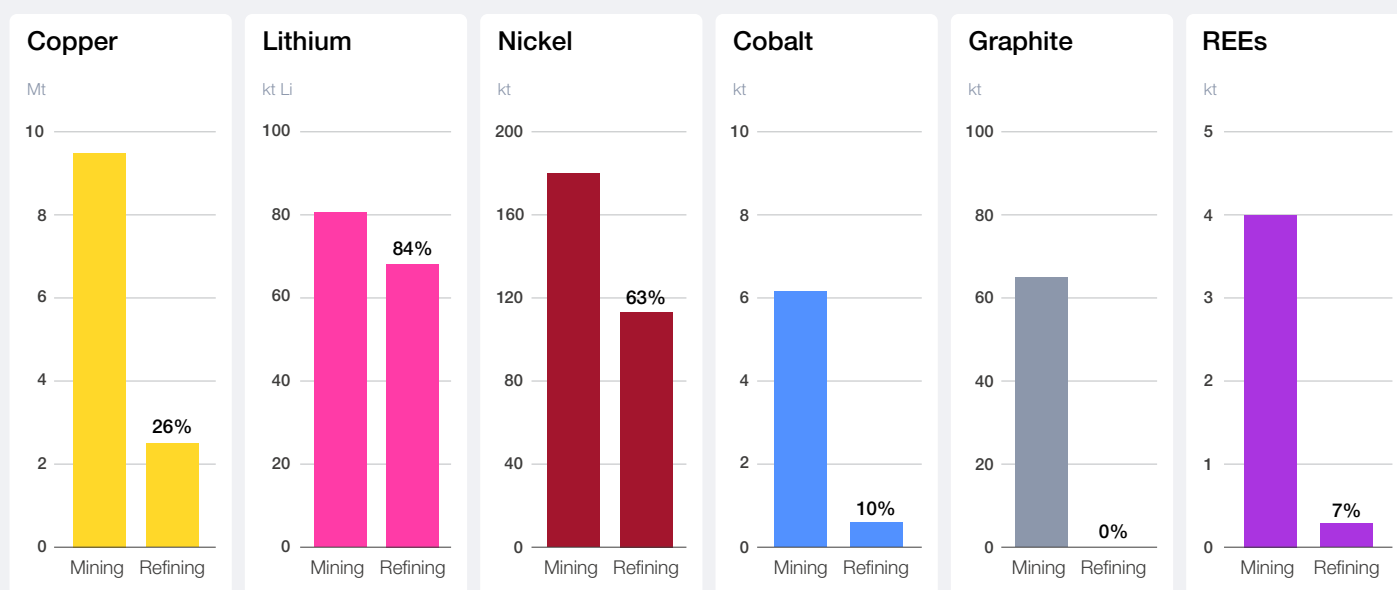
Rising geopolitical competition, accelerating clean energy deployment and growing demand for resilient supply chains are prompting greater interest in new and diversified sources of critical minerals and new investment destinations. As a result, interest in Latin America as a critical minerals partner is increasing as governments and companies seek to improve supply chain resilience through greater geographic diversification. This offers the region an opportunity to strengthen its position in critical minerals and attract long-term investment.

While scale is essential for regional competitiveness, greater long-term value generation in critical minerals does not require every country to pursue the same opportunities across the value chain. Chile's copper sector demonstrates how substantial economic value can be generated from world-class mining operations, technical expertise and

supplier ecosystems. However, the gap between Latin America's resource endowment and its participation in refining, processing and downstream manufacturing highlights an opportunity for countries to pursue differentiated value-generation strategies based on their comparative advantages and the value pool of each mineral.

For some countries, this may mean strengthening upstream productivity; for others, it may mean expanding into processing, technology and manufacturing. Moving beyond raw and intermediate mineral exports will likely require advances in technology and cluster-based ecosystems that connect resources, infrastructure, suppliers, talent and investment, enabling the region to fulfil higher-value steps of the value chain. The next chapter explores how greater regional collaboration can support this.

FIGURE 4 Volume of mined vs. refined minerals in Latin America and the Caribbean, 2025



% = refined volume as a % of mined volume

Source: IEA (2026).²¹

The case for regional collaboration

Regional collaboration can strengthen Latin America's competitiveness by enabling integrated critical minerals value chains that build on the region's complementary strengths.

Regional collaboration is increasingly important for developing globally competitive critical minerals value chains. The scale of investment and capabilities required to build end-to-end critical minerals ecosystems is often too large to be replicated efficiently within individual countries.

3.1 Latin America has complementary strengths

“ Latin America's primary competitive advantage lies in the complementarity of its resources and industrial capabilities.

For Latin America, the case for collaboration is particularly compelling as the region's primary competitive advantage lies in the complementarity of its resources and industrial capabilities.

The examples below, while not exhaustive, highlight how countries' complementary strengths could contribute to a regional critical minerals value chain:

- **Chile and Peru** are well-positioned in copper production and mining expertise.
- **Argentina and Bolivia** hold some of the world's largest lithium resources.
- **Brazil** combines significant rare earth mineral reserves with advanced industrial and manufacturing capabilities.
- **Colombia** holds important nickel reserves.
- **Costa Rica** has a growing electronics industry.

- **Mexico** has a well-established manufacturing base and proximity to major industrial markets.
- **Mexico, Panama, Peru and Chile** serve as key regional logistics hubs.
- **Uruguay** and many of the above countries have strong renewable energy capacity and potential.

These comparative advantages are complementary rather than competitive. For example, developing complex value chains, such as batteries, requires multiple inputs including lithium, nickel, manganese, graphite, copper, processing technologies, manufacturing know-how, logistics and reliable energy. No single Latin American country possesses all of these at scale. Collectively, however, the region has many of the building blocks needed to generate greater value through processing, specialized materials, supplier ecosystems and selected downstream activities where competitive advantages exist.

3.2 Regional collaboration can strengthen the region's competitiveness

Rather than pushing countries to compete for identical positions, collaboration allows them to specialize where they are most competitive while participating in a broader regional ecosystem. This offers isolated national strategies the opportunity to join connected regional clusters, where mining, processing, infrastructure and talent are co-developed. The approach aligns with Ricardo

Labó Fossa's study of mining clusters in Australia, Chile and Peru.²² It is also illustrated by China, whose leadership in refining capacity for several critical minerals reflects the co-development of processing, manufacturing, supplier networks, infrastructure, talent, customers and policy support. Figure 5 shows possible clusters in Latin America.

FIGURE 5 | Possible critical mineral clusters in Latin America



Many of the barriers identified in Chapter 1 are regional and addressing them could benefit from regional collaboration approaches. By coordinating across countries, stakeholders can reduce duplication, lower capital costs, improve asset utilization and accelerate technology transfer, converting individually marginal opportunities into collectively viable ones.

Regional collaboration can also aggregate supply and demand across markets, creating greater scale that can improve bankability and attract long-term investment for capital-intensive projects that may otherwise not be commercially viable.



3.3 Mechanisms for collaboration already exist

Existing bilateral agreements and intergovernmental forums provide a foundation for policy alignment and cross-border coordination. For example, the Chile-Argentina Mining Integration and Complementation Treaty provides a framework for cross-border mining activity; meanwhile projects such as Vicuña District's world-class copper, gold and silver deposits along the Argentina-Chile border illustrate the type of cross-border minerals opportunities that these frameworks can support. At the regional level, forums such as the Conference of Mining Ministries of the Americas (CAMMA) bring policy-makers together around shared mining priorities.

Other collaboration mechanisms can support delivery at the project and cluster level. Regional geological data can improve overall understanding

of resource distribution. Multi-user infrastructure models, such as desalination systems serving multiple operations, can improve asset utilization and reduce capital burdens. Cross-border logistics corridors can connect inland mineral resources to ports and processing facilities. Regional innovation platforms can pool R&D, connect suppliers with mining companies and support technology pilots across multiple markets. Together, these mechanisms show how collaboration can move from dialogue to implementation.

Chapter 4 illustrates some collaborative approaches that are already addressing barriers in practice, where further collaboration could strengthen Latin America's position in critical minerals.

Solution case studies

Latin America could benefit from these solution pathways, many of which are already underway in parts of the region.

This chapter presents practical solutions, illustrated by case studies, across the six focus areas (see Figure 6).

FIGURE 6 Solution pathways and case studies, by focus area

Focus areas	Potential solutions	Case studies
 Infrastructure	Multi-user logistics corridors	1 Capricorn Bioceanic Corridor 2 SONAMI's digital mapping of mining districts in Chile
	Shared water infrastructure and alternative access models	3 Multi-stakeholder water governance at Quellaveco in Peru 4 Aguas Pacifico multipurpose desalination facility in Chile
	Scaled renewable energy with distributed energy systems	5 Long-term power purchase agreements (PPAs)
	Smart mining technologies	6 Digital twins and AI enhance decision-making at Escondida in Chile
 Technology & innovation	Adoption of low-carbon and resource-efficient mining solutions	7 Direct lithium extraction (DLE) for lower-impact lithium production 8 Universidad de Concepción (UdeC) hydrogen-based copper concentrate processing 9 MagBras initiative to develop Brazil's rare earth value chain
	Regional, multi-actor innovation platforms	10 Alternative funding mechanisms for innovation ecosystems
 Financing	Alternative financing	11 Role of MDBs and DFIs to support critical minerals sector development 12 IDB LAC Minerals platform
 Policy	Enabling policies	13 ECLAC's Permanent Technical Dialogue Forum on Lithium Innovation, Technological Development and Value Addition
 Social impact	Social impact partnerships	14 Beyond Extraction: Economic Opportunities in Mining Communities regional programme
 Talent	Talent development	15 Serviço Nacional de Aprendizagem Industrial (SENAI) collaborates with companies to deliver ongoing training and upskilling in Brazil

Not exhaustive



4.1 Infrastructure

Potential solution

Multi-user logistics corridors

Building regional logistics corridors can significantly improve regional connectivity. Greater cross-border logistics coordination and shared use of existing infrastructure can reduce logistics costs, improve

integration and strengthen the region's critical minerals competitiveness. Targeted investment in last-mile links connecting mining areas to processing facilities, logistics corridors and ports would better integrate upstream extraction with downstream activities. Corridors should avoid protected areas, national parks and biodiversity-sensitive areas.

CASE STUDY 1

Capricorn Bioceanic Corridor²⁴

Context	This multi-country infrastructure and trade initiative connecting southern Brazil to northern Chile is near completion, combining investments in transport, energy and digital infrastructure with harmonized customs and transport regulations to strengthen regional value chains.
Challenge	– Hard infrastructure across countries, including roads, rail, ports, energy and water systems, is unevenly developed and requires major upgrades and integration. – Soft infrastructure across countries, including regulations, procedures and information systems, is fragmented. – Absence of a supranational coordination body creates fragmented governance and limited commitments monitoring.
Approach	– Investment in hard infrastructure, including road expansion, rail and waterway integration, port modernization, energy and digital connectivity. – Improvement of soft infrastructure, including harmonized customs procedures, electronic data exchange and aligned transport regulations. – Coordination of multi-country development through milestone projects – for example, planned completion of the final section of National Route 51 to connect Salta in Argentina to Chilean ports.
Impact	– Better east-west connectivity, improving access to Asian and Pacific markets, such as Argentina for lithium and copper, Brazil for agriculture and Chile as a Pacific gateway. – Reduced logistics costs (estimated 30-40% decrease), shipping times (by up to 15 days) and trade costs (estimated \$800-\$1,000 per container).
Replicability	– Replicable across the region to improve connectivity. – Supports lithium and copper clusters by improving east-west logistics between inland mining regions and Pacific export routes.

CASE STUDY 2

SONAMI's digital mapping of mining districts in Chile

Context	SONAMI, the National Mining Society of Chile, has developed a data-driven approach to map mining activity and development potential across Chile, supporting targeted policy and investment decisions.
Challenge	– Mining operations are often developed in isolation, with limited regional collaboration, shared infrastructure or coordinated policy planning. – Limited understanding of mining potential and resource distribution has contributed to uneven development and weak prioritization of high-potential areas.
Approach	– Deployed Geographic Information System (GIS) mapping and clustering algorithms to identify concentrations of mining activity, infrastructure and mineralization that were not yet fully exploited (see Figure 7 for sample output). – Identified productive mining districts (both currently producing and potential districts) based on production, employment, infrastructure, investment and small-scale mining activity. – Developed a territorial planning framework to inform policy, infrastructure prioritization and coordinated investment decisions.
Impact	– Improved identification of priority mining ecosystems and identified 19 mining districts (13 active mining districts currently in operation and 6 potential mining districts with projects under development) with targeted development potential. – Enhanced coordination opportunities across the mining ecosystem. – Established a framework to better align infrastructure planning, policy and investment based on mining potential.
Replicability	– Replicable to identify viable mining ecosystems and shared infrastructure models to support integrated regional planning. – Supports broad cluster identification in the region.

FIGURE 7 | Identified and numbered mining districts in Chile

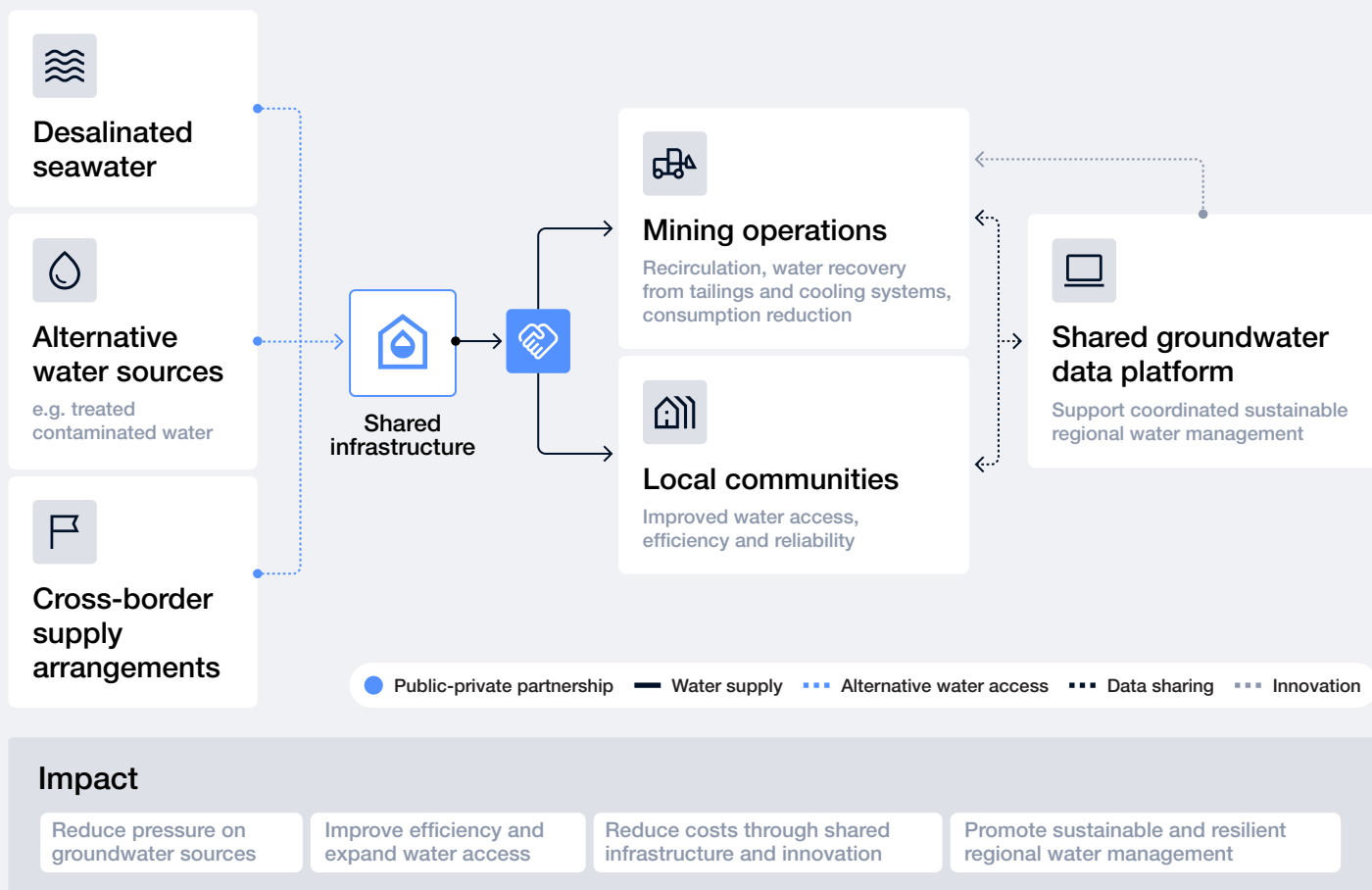


Figure courtesy of Centro de Estudios y Documentación Mineros de la Sociedad Nacional de Minería (SONAMI).

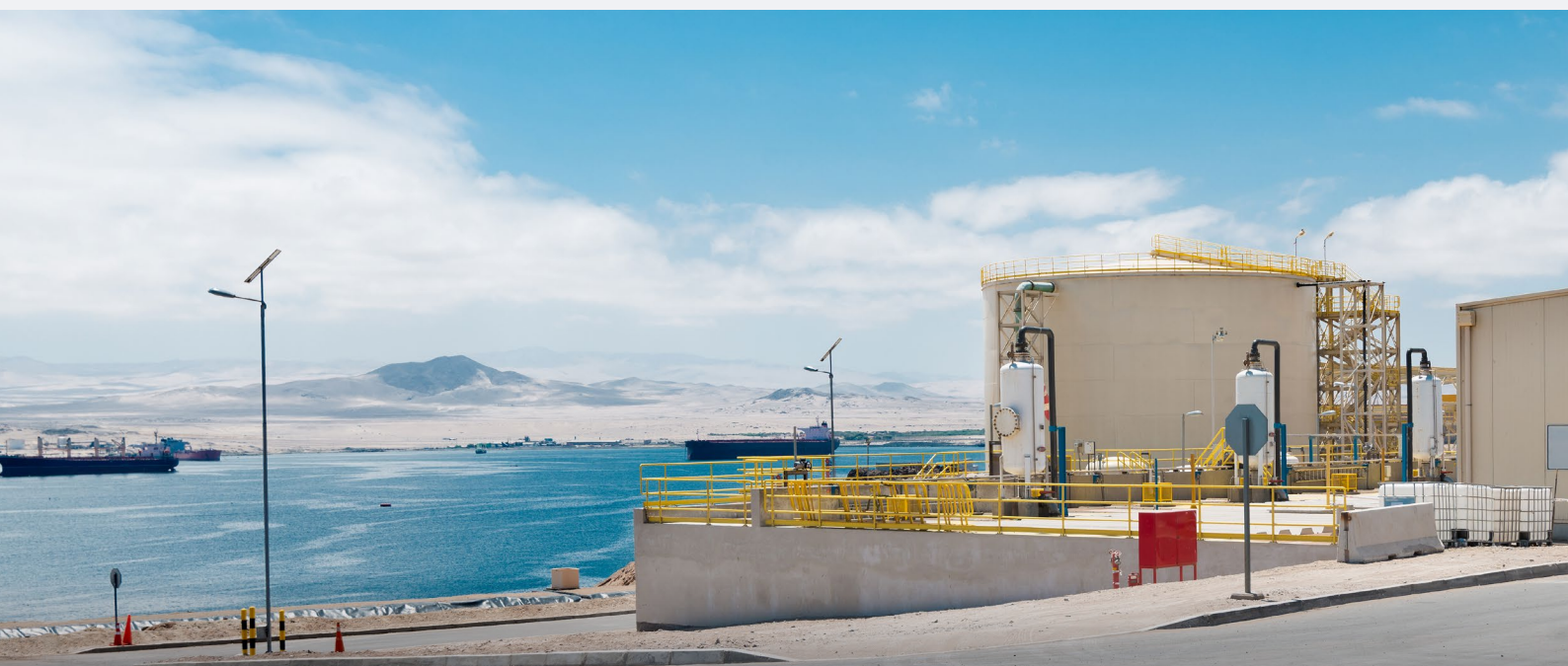
Shared water infrastructure and alternative access models

To reduce pressure on groundwater sources, many mining operations are optimizing processes, such as recirculation and water recovery from tailings, and transitioning to desalination. Given the scale of water infrastructure, greater sharing of water assets through public-private partnerships could be explored (see Figure 8).

FIGURE 8 Shared water infrastructure and alternative access



Illustrative - not exhaustive



CASE STUDY 3

Multi-stakeholder water governance at Quellaveco in Peru

Context	The Quellaveco copper project, operated by Anglo American in southern Peru, involves multiple river basins, institutions and stakeholder groups.
Challenge	– Water quality, availability and competing demands among users created strong community opposition regarding groundwater extraction, leading the project to prioritize surface-water-based alternatives. – The mine needed a long-term water solution capable of supporting operational continuity, securing permits and community support while meeting environmental commitments.
Approach	– Established an early and sustained multi-stakeholder governance process involving dialogue among institutions, communities and authorities, with shared decision-making mechanisms and accountability frameworks. – Maintained a multi-stakeholder monitoring committee, bringing together local, regional and national government representatives, civil society, local NGOs, as well as company representatives. – Implemented an integrated water governance model, including dual-source water supply and water quality exchange mechanisms (poor-quality water is abstracted for mining and equivalent good-quality water volumes are released downstream during dry season). – Operated a high-recirculation water management system to recover, treat and recirculate process water back into the operation, reducing the need for additional withdrawals from natural sources and supporting continuous improvements in water-use efficiency. – Developed integrated water balance modelling to monitor the 34-year life of the mine.
Impact	– Implemented dual-source water system supporting water availability for other users. – Developed major water infrastructure including an approximately 8 km river diversion tunnel and 60 million m³ capacity Vizcachas multipurpose reservoir. – Systematized and recognised by the United Nations Development Programme (UNDP) as a model of democratic governance and sustainable investment.
Replicability	– Replicable in water-stressed, multi-region contexts with competing users, including critical minerals clusters involving diverse stakeholders, shared infrastructure needs and competing resource demands.

CASE STUDY 4

Aguas Pacífico multipurpose desalination facility in Chile

Context	Aguas Pacífico's Aconcagua Desalination Plant is a multipurpose desalination project under Phase 1 construction, designed to supply water to mining, industrial and community users across the Valparaíso and Metropolitan regions.
Challenge	– Water scarcity in central Chile poses increasing risks to communities and copper mining operations. – Large-scale desalination and water transport infrastructure require significant investment.
Approach	– Secured syndicated project financing from a consortium of commercial banks including BNP Paribas, DNB Bank, Natixis and SMBC.²⁵ – Developed a multi-client model supplying mining, industrial and community users across central Chile. – Established a water supply agreement covering 45% of Anglo American's Los Bronces mine water needs from 2026. – Commenced construction of Phase 1, which is expected to begin operations in the second half of 2026, with Phase 2 still under analysis and subject to permits.
Impact	– Increased supply of clean water from Anglo American to approximately 10,000 people in neighbouring communities. – Improved water security for around 40,000 people along the 100-kilometre pipeline corridor.²⁶
Replicability	– Replicable as a model to build shared, multi-user infrastructure projects, including cluster-based projects, leveraging blended financing.

Scaled renewable energy with distributed energy systems



Resilient and affordable electric energy is fundamental for the supply of critical minerals. Increasingly, renewables and low carbon technologies will provide this power and they, in turn, will require a growing supply of critical minerals for their equipment and computing needs. This interdependence is compounded by today’s rapidly growing global demand for electric energy to power data centres and the ‘electrification of everything’. Today, many nations in Latin America have a unique opportunity to attract long-term capital investment to grow their economies by promoting their mining and mineral processing industries, powered by environmentally sustainable energy infrastructure, including solar, wind and energy storage.

Andrés Gluski, Chairman and Chief Executive Officer, The AES Corporation

A coordinated regional energy strategy could strengthen cross-border integration and shared energy systems across Latin America, expanding reliable power across the critical minerals value chain. Modernizing central grids, expanding transmission

infrastructure to remote mining regions and deploying decentralized renewables with battery storage could improve reliability and reduce curtailment. Microgrids can accelerate project development timelines, particularly in remote areas (see Figure 9).

FIGURE 9 Integrated renewable energy systems

Regional integration Cross-border transmission grid	Renewable generation and storage	Distributed demand and microgrids	Impact
	Solar	Mining operations	Faster project and corridor development
	Wind	Processing hubs	Lower curtailment and energy costs
	Hydro	Microgrids and communities	Improved reliability and resilience
	Storage	Electric mobility	Lower emissions intensity

Illustrative - not exhaustive



CASE STUDY 5

Long-term power purchase agreements (PPAs)

Context	Mining companies are increasingly partnering with renewable energy providers through long-term PPAs to decarbonize electricity supply.
Challenge	– Mining is energy-intensive and requires reliable, long-term electricity supply, which is secured through transmission infrastructure or decentralized renewable generation paired with storage. – Transmission infrastructure is costly to build, while renewable generation requires storage or other flexibility solutions to manage variability in wind and solar output.
Approach	– Establishment of long-term PPAs to drive investment in renewable generation and storage assets – for example, Teck's Quebrada Blanca (QB) and Carmen de Andacollo in Chile are supplied through renewable PPAs with AES Andes, and BHP's operations at Escondida and Spence run on 100% renewable energy from ENEL Generación Chile and Colbún. – Co-investment in renewable generation through project SPVs or joint ventures – for example, Anglo American partnered with Casa dos Ventos to support the construction of the 504 MW Rio do Vento in Rio Grande do Norte, Brazil.
Impact	– Reduces mining-related scope 2 greenhouse gas emissions while improving long-term electricity price stability and energy security. – Teck's Quebrada Blanca Phase 2 avoids approximately 1.6 million tonnes of greenhouse gas emissions annually. – Anglo American's Brazilian operations estimated that renewable electricity procurement for its Brazilian operations reduced CO₂ emissions by approximately 70% in 2022.
Replicability	– Replicable in areas seeking to decarbonize while improving price stability and electricity availability. – Supports critical minerals cluster development by enabling a reliable, clean and price-stable energy base for mining, processing and manufacturing hubs.

Potential solution

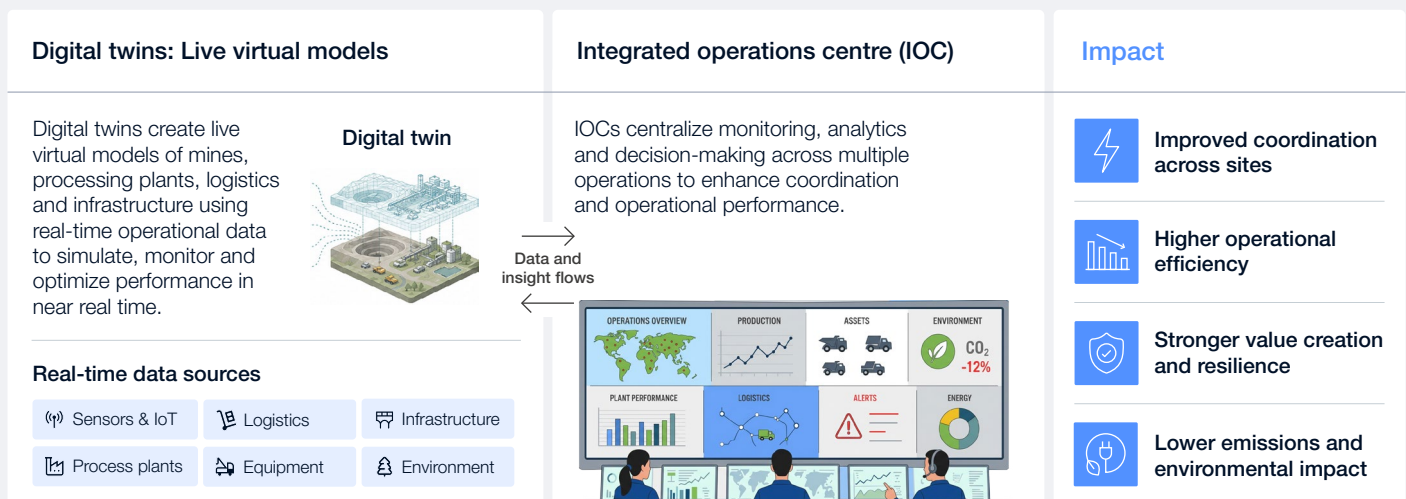
Smart mining technologies

The use of AI, including emerging agentic AI applications, alongside digital twins and integrated operations centres (IOCs), can improve coordination, efficiency and sustainability. AI can analyse large volumes of data to support faster, more informed decisions, while agentic systems can automate workflows and support planning and execution. Digital twins simulate, monitor and

optimize performance in real time, while IOCs centralize monitoring across sites. Together with autonomous mining technologies, these tools can reduce operating costs, improve productivity and strengthen project viability (see Figure 10). By using cloud-based environments, they can also shift parts of operations from remote sites to urban digital hubs, improving access to talent. This is especially relevant in Latin America, where many critical minerals operations are in remote, resource-constrained areas.²⁷

FIGURE 10

Smart mining technologies





CASE STUDY 6

Digital twins and AI enhance decision-making at Escondida in Chile²⁸

Context	BHP is deploying digital twins and generative AI (GenAI) across operations, including at Escondida, to optimize mining, processing, logistics and infrastructure.
Challenge	– Mining value chains involve highly interconnected systems, including mines, infrastructure, processing plants and equipment, making operational optimization complex. – Traditional planning approaches often struggle to account for variability across operations.
Approach	– Developed digital twins (virtual replicas) of the mining value chain to simulate, monitor and optimize operations from mine to port using real-time data. – Integrated GenAI, machine learning and advanced analytics to enable predictive modelling, scenario testing, bottleneck identification and faster operational decision-making. – Connected technologies to remote integrated operations centres, allowing operators to centralize monitoring and decision-making across multiple assets.
Impact	– Identified new opportunities to optimize mine haulage, ore fragmentation, material handling and surface operations. – Reduced monthly production losses through improved blasting, blending and mill optimization. – Improved production forecasting and strengthened operational decision-making.
Replicability	– Replicable across complex value chains, particularly in remote, resource-constrained areas to improve operational efficiency, sustainability and resilience. – Supports critical minerals clusters to operate as integrated ecosystems.

4.2 Technology and innovation

Potential solution

Adoption of low-carbon and resource-efficient mining solutions

Addressing productivity, sustainability and resource-efficiency challenges in critical minerals requires faster adoption of innovative solutions. Government-backed test beds and pilot

programmes, such as Chile's Centro Nacional de Pilotaje, may help de-risk new technologies through testing and validation. Regional innovation platforms that bring together public funding, industry and academia can support the development, testing and scaling-up of new technologies, helping bridge the gap between pilots and commercial deployment.

CASE STUDY 7

Direct lithium extraction (DLE) for lower-impact lithium production

Context	The Lithium Triangle, spanning Argentina, Bolivia and Chile, contains over half the world's lithium resources. Conventional extraction of these primarily brine-based resources uses evaporation ponds, where brine is pumped from underground aquifers and concentrated over time before the lithium is processed.
Challenge	– Conventional brine-based lithium extraction is highly water intensive; it has been estimated to use around 2.2 million litres of water per tonne of lithium²⁹ and requires large areas of land for evaporation ponds. – Solar evaporation can take 12-18 months and even longer in Bolivia's Salar de Uyuni, due to wetter, cooler weather.³⁰ – Traditional evaporation methods recover 40-60% of lithium, leaving substantial volumes unextracted.³¹
Approach	– Investment in DLE technologies by major mining companies, including Rio Tinto, Albemarle, SQM and Bolivia's state-owned Yacimientos de Litio Bolivianos (YLB). – Greater DLE use for new lithium projects in Chile under the National Lithium Strategy – for example, Albemarle is transitioning parts of its Chilean operations to DLE technologies. – Construction of large-scale DLE facilities – for example, Eramet's Centenario-Ratones plant in Argentina is one of the first commercial-scale projects globally to extract lithium exclusively using DLE. – Partnerships with international companies to advance DLE – for example, YLB in Bolivia has partnered with international companies such as Australia's EAU Lithium.
Impact	– Improved recovery and productivity as DLE has the potential to achieve 70-90% recovery rates and reduce processing time from months to days.³² – Reduced environmental footprint as DLE can lower water consumption compared with conventional evaporation.
Replicability	– Replicable across lithium-producing countries as DLE technology matures and moves towards commercial scale. – Supports lithium cluster development by addressing water usage, land disturbance, recovery rates and processing times.



CASE STUDY 8

Universidad de Concepción (UdeC) hydrogen-based copper concentrate processing

Context	UdeC in Chile is developing an innovative technology to process copper concentrates without emissions and waste in collaboration with mining companies and the public sector. ³³
Challenge	– Traditional copper smelting is emissions-intensive and generates waste streams. – Progressing from research to pilot to commercial development requires collaboration across universities, industry and the public sector as well as substantial funding.
Approach	– Collaborated with mining industry partners, including Codelco, BHP Minerals Americas and Aurubis AG, to develop an innovative copper concentrate processing technology that supports decarbonization and the circular economy. – Developed the technology through decades of research led by the Chemical Metallurgy group from UdeC's Faculty of Engineering, with ongoing collaboration between academia and industry. – Established a spin-off company, Kofiln SpA, to support commercialization. – Received financial support from CORFO, Chile's economic development agency.
Impact	– Supports cleaner copper processing with a patented technology that uses green hydrogen, eliminating smelting emissions and smelting slag while producing copper, sulfuric acid and industrial by-products. – Demonstrates competitive capital costs and cash margins versus conventional technology, based on the current level of development. – Recognised as one of the winners of the Sustainable Mining Challenge, a global initiative launched by UpLink, the World Economic Forum's innovation platform. – Entered a new pilot phase for industrial validation and secured \$10 million from CORFO to support larger-scale testing.³⁴
Replicability	– Replicable as a collaboration model to accelerate the development and commercialization of innovative technologies across critical minerals value chains. – Supports copper cluster development by advancing solutions to the environmental and cost challenges of conventional copper refining technology.

CASE STUDY 9

MagBras initiative to develop Brazil's rare earth value chain³⁵

Context	MagBras, launched in 2021, is developing a fully integrated "mine to magnet" value chain to supply green mobility and energy transition sectors, leveraging Brazil's significant reserves of rare earth elements.
Challenge	– Almost all of Brazil's rare earth exports are shipped as raw concentrate with limited domestic value addition. – For every tonne of raw rare earth minerals exported by Brazil, substantial value is lost in potential revenue from finished, high-tech components.
Approach	– Integrates the full magnet value chain, using existing facilities across multiple states, with ore extraction in Minas Gerais, separation in Rio de Janeiro, processing in São Paulo and manufacturing in both Minas Gerais and Santa Catarina. – Brings together public sector entities (e.g. SENAI – Serviço Nacional de Aprendizagem Industrial) with corporate partners such as global automotive group Stellantis and Vale, a global mining and metals company. – Operates as a demonstrator focused on proving technical feasibility and building integrated capabilities across the value chain.
Impact	– Established a fully operational, laboratory-scale factory and achieved initial production. – Built a network of 28 companies, including 12 mining companies, strengthening collaboration across the value chain. – Demonstrated the technical feasibility of developing a domestic "mine to magnet" industry to transition Brazil beyond raw commodity exports.
Replicability	– Replicable as a model to develop integrated critical minerals value chains. – Supports a Brazilian magnets cluster by integrating extraction, processing, manufacturing and recycling.

Regional, multi-actor innovation platforms

Regional, multi-actor platforms can strengthen innovation ecosystems by connecting companies, investors, universities, research institutions and start-ups for knowledge sharing, training and joint problem solving around critical minerals.

This is particularly important for building a competitive base of mining, equipment and technology suppliers, as it can help local firms scale up specialized goods and services for both domestic and export markets. Key to supporting innovation platforms at scale is financing. Alternative funding mechanisms may support technology development, collaboration and commercialization.

CASE STUDY 10

Alternative funding mechanisms for innovation ecosystems

Context	Alternative public-private financing models are emerging to support innovation ecosystems and accelerate innovation and technology development in critical minerals.
Challenge	– Mining companies often face similar operational, productivity and ESG-related challenges, yet pursue innovative solutions independently. – Funding for mining-related R&D remains limited, with innovation efforts typically financed by private companies.
Approach	– Directing sector revenues to R&D – for example, Brazil's MagBras initiative is funded by the Green Mobility and Innovation Programme (MOVER), which allocates 2% of automotive sector revenues to R&D. – Using blended finance – for example, Brazil's Mining Hub is funded by mining companies, investors, the Development Bank of Minas Gerais and IBRAM, the Brazilian mining association.^{36,37} – Mobilizing concession-linked funding, such as Chile's Institute of Clean Technologies (ITL) – an innovation centre financed by a portion of lithium producers' annual revenues.³⁸ – Creating a public-private funding model – for example, Expande Minería, an innovation platform led by Fundación Chile, is supported by private-sector contributions and CORFO.
Impact	– MagBras: established a laboratory-scale factory, built a network of 28 companies, including 12 mining companies and demonstrated the technical feasibility of a domestic "mine to magnet" industry. – Mining Hub: built a network of ~50 associated organizations and over 1,500 registered start-ups, and completed over 150 proof-of-concepts. – ITL: allocated over \$240 million, provided by CORFO, to design, pilot and scale up innovative solutions in the mining and energy industry.³⁹ – Expande Minería: developed a network of ~2,500 suppliers, identified more than 4,300 prospective technological solutions and facilitated over 180 contracts between suppliers and mining companies worth approximately \$50 million.⁴⁰
Replicability	– Replicable as models for financing critical minerals innovation platforms to support new technologies and industrial development. – Supports development of critical minerals clusters by strengthening regional innovation ecosystems.

4.3 Financing

Alternative financing

Addressing financing constraints across Latin America's critical minerals value chain requires stronger de-risking and innovative funding mechanisms to move projects from feasibility to

execution. Multilateral development banks (MDBs), development finance institutions (DFIs), blended finance, long-term offtake agreements and public-private partnerships can help bridge execution gaps by improving bankability, reducing financing risks, mitigating price volatility and mobilizing long-term capital.

CASE STUDY 11

Role of MDBs and DFIs to support critical minerals sector development

Context	Developing critical minerals projects requires long-term capital – not only for mining and processing, but also for the transport, energy and water infrastructure required to make projects viable.
Challenge	– Mining, processing and enabling infrastructure projects require significant upfront capital. – Limited domestic long-term financing is available for large-scale critical minerals developments. – Greenfield projects face financing risks, including commodity price volatility, regulatory uncertainty and long payback periods.
Approach	– Using blended finance and long-term debt to close financing gaps between feasibility, construction and production ramp-up. – Leveraging co-financing models combining public and private-sector capital to de-risk project financing and mobilize larger pools of investment. – Using offtake agreements to improve revenue certainty and mitigate price volatility.
Impact	Examples include: – Rincón Lithium Project: received over \$1 billion from IFC, IDB Invest, Japan Bank for International Cooperation (JBIC) and Export Finance Australia to develop a large-scale battery-grade lithium carbonate project in Argentina, helping Argentina move downstream in the lithium value chain.⁴¹ – Serra Verde Rare Earths Expansion: supported by over \$500 million from the U.S. International Development Finance Corporation (DFC) for the Pela Ema rare earths mine expansion in Brazil.⁴² – Port of Matarani: supported by proposed financing of up to \$125 million from IDB Invest to expand Peru's mineral export capacity, among other exports.⁴³
Replicability	– Replicable for critical minerals projects and supporting infrastructure requiring large-scale financing and risk-sharing mechanisms. – Supports the development of multiple clusters by helping to close project execution gaps.

CASE STUDY 12

IDB LAC Minerals platform⁴⁴

Context	IDB LAC Minerals platform connects Latin America and the Caribbean with international partners to develop resilient critical minerals supply chains by combining technical assistance and blended financing to de-risk projects, bridge investment gaps and mobilize private capital.
Challenge	– Although Latin America and the Caribbean account for a significant share of global critical minerals, historically they have captured little downstream economic value.
Approach	– Established a platform to provide technical assistance and financing solutions for extraction, refining and processing of critical minerals in the region. – Leverages financing tools including blended finance, sovereign lending and private-sector finance. – Supports policy and regulatory reforms, institutional capacity building and value addition beyond extraction, through investment in infrastructure, logistics, processing capacity, local suppliers and skills. – Secured international support from multiple partners, including a \$20 million contribution from the Japan Resilience Initiative, technical assistance from Canada and knowledge support from Finland.⁴⁵
Impact	– Developed a \$890,000 technical cooperation project to improve geological knowledge of lithium, graphite and rare earth deposits in Brazil.⁴⁶ – Advanced a \$928,000 regional cooperation project to develop a road map for critical minerals value chain development in Colombia, Ecuador and Peru with ministries, agencies and industry stakeholders.⁴⁷
Replicability	– Replicable as a model for regional collaboration to develop a critical minerals sector. – Supports critical minerals clusters by enabling coordinated investment and helping move from isolated projects to regional value chains.



4.4 Policy

Potential solution

Enabling policies

Advancing competitive critical minerals value chains requires governments to promote enabling policy environments that support investment, project delivery and regional collaboration. This includes regulatory clarity, harmonized customs and transport procedures, and better access to geological data. Together, these measures reduce uncertainty and delays, creating a more predictable investment environment.

Bilateral agreements and coordination forums provide mechanisms for governments, companies, financiers and regional organizations to align priorities, share knowledge and advance collaboration, but they do not replace the need for concrete policy action. They help define common priorities, identify bottlenecks, sequence implementation and connect national strategies to regional value-chain opportunities.

CASE STUDY 13

ECLAC's Permanent Technical Dialogue Forum on Lithium Innovation, Technological Development and Value Addition⁴⁸

Context	The Permanent Technical Dialogue Forum on Lithium Innovation, Technological Development and Value Addition is an ECLAC initiative, established at the request of Argentina, Bolivia and Chile and expanded to Brazil and Mexico, to foster cooperation, knowledge exchange, technology transfer and regional integration on lithium industrialization, value addition and sustainable extraction.
Challenge	– Lithium value-addition policies and strategies are fragmented across the region. – Lithium-producing countries generate limited additional value beyond extraction.
Approach	– Connects governments, research institutions and the private sector, including Argentina's YPF, Bolivia's YLB, Chile's CORFO and Mexico's Litio para México (Lithium for Mexico) to facilitate collaborative research, technical exchange and capability building. – Facilitates knowledge sharing on downstream lithium activities, such as lithium-ion cells and battery production technology. – Articulates a lithium industrialization and value-addition regional strategy through the forum's biennial action plan.
Impact	– Facilitates regional technical cooperation via technical exchanges and visits including to Y-TEC battery and research facilities in Argentina, YLB pilot battery facilities and the Research Centre for Science and Technology of Evaporitic Materials and Resources of Bolivia (CICYT MAT-REB). – Strengthens technical capabilities via training courses on lithium industrialization, battery technologies and extraction technologies. – Shifts industrial policy discussions from lithium extraction to downstream industrial development and regional value generation.
Replicability	– Replicable as a regional coordination mechanism for countries with common critical minerals to advance industrial policy and technology transfer. – Supports a regional lithium cluster by acting as a coordinated mechanism for countries to advance lithium industrialization, value addition and technology transfer.

4.5 Social impact

Potential solution

Social impact partnerships

Given the importance of maintaining a social licence to operate, embedding environmental and social considerations into project design and regional

strategies is critical for mitigating social conflict, regulatory risk and project delays. When done well, strong environmental and social performance can become a competitive differentiator for Latin America's critical minerals sector.

CASE STUDY 14

Beyond Extraction: Economic Opportunities in Mining Communities regional programme⁴⁹

Context	Beyond Extraction: Economic Opportunities in Mining Communities is a regional programme that is part of a long-standing partnership between Anglo American and IDB, launched in 2013 and formalized in 2016. Structured as a public-private partnership among IDB, IDB Lab (the innovation and venture arm of IDB), Anglo American and TechnoServe (NGO), its objective is to drive inclusive economic development in mining regions beyond direct mining-related employment. It has been delivered in two phases (2016-2020 and 2020-2024/25) across Brazil, Chile and Peru, with continued evolution and future phases under review.
Challenge	– Local mining communities often depend heavily on mine-related employment. – Local workers and businesses may lack skills, networks or scale to benefit economically from mining value chains. – Mining can fail to create broader benefits or local economic resilience.
Approach	– Built a multiphase, region-wide public-private partnership model combining mining, development finance and NGO implementation. – Anchored development programmes around Anglo American's operations, using them as catalysts for broader economic growth. – Designed locally tailored solutions based on diagnostics, instead of replicating models across countries. – Involved TechnoServe as implementation partner to support community-level transformation such as enterprise and local supplier development, youth employability development and value chain development.
Impact	– Supported ~9,000 jobs across the region by the end of both programme phases by training 440 businesses resulting in an average 38% sales increase. – Supported 372 businesses in value chains, with 32% average sales growth and trained around 8,985 youth (many of them young women) who increased their income by 48%. – In the second phase, the programme was able to demonstrate a robust development impact through social return on investment: up to \$5.45 of social value for every \$1 invested in supplier development and ~\$3.30 of social value for every \$1 invested in employability programmes. – Recognised externally, including being a finalist for the 2021 P3 Impact Award and multiple regional awards.
Replicability	– Replicable as a model where companies, DFIs and local implementers can work together to broaden local economic participation. – Supports critical minerals clusters by building local supplier ecosystems and workforce participation.



4.6 Talent

Potential solution

Talent development

Workforce development programmes and regional skills initiatives focused on digital and technical capabilities can help close talent gaps, build workforce resilience and expand participation across the critical minerals value chain.

CASE STUDY 15

SENAI collaborates with companies to deliver training and upskilling in Brazil⁵⁰

Context	SENAI is Brazil's leading industrial training provider that supports the development of a skilled workforce for mining and industry, and ensures that communities can participate in employment opportunities and broader mining-related economic activity.
Challenge	– Local workers need to be equipped with transferable industrial skills relevant to mining, maintenance, construction and operations. – Workforce development opportunities need to be accessible to women, youth and underrepresented groups.
Approach	– Established a two-year partnership with Horizonte Minerals in 2022 to support workforce development and technical training programmes. – Partnered with the State University of Pará (UEPA) to deliver accredited technical training aligned with industry needs.
Impact	– Developed more than 390 accredited traineeships, with the first training cohort achieving 20% female participation. – Reached younger participants, of whom 37% were aged 18-25 and 58% were under 33, helping strengthen the future workforce pipeline.
Replicability	– Replicable as a model to develop regional talent pools. – Supports critical minerals clusters to build a technical workforce pipeline.

Conclusion

Latin America can continue to power regional prosperity and global resilience with its minerals. Realizing this opportunity requires public-private and regional collaboration to develop competitive industrial ecosystems.

Latin America is contributing significantly to global energy and technology development. The region can increase the resilience of global value chains by providing sought-after diversification with its large critical minerals endowment, established mining expertise and renewable energy potential.

However, there is still untapped value in developing downstream activities and their industrial ecosystem. Achieving this requires coordinated action by governments, industry, financial institutions, academia and civil society, to address barriers to critical minerals industry development while building competitive regional ecosystems that generate value beyond extraction.

Identifying priority critical minerals clusters and enhancing regional collaboration mechanisms by building on existing forums, such as CAMMA, can support coordinated development of critical minerals value chains in Latin America and strengthen the region's competitiveness. By leveraging complementary strengths, the region has the potential to attract greater investment, accelerate innovation and expand activities along the value chain.

Advancing shared infrastructure, such as multi-user logistics corridors, shared water pipelines and integrated renewable energy systems, can reduce operating costs, improve access for companies and communities alike, support critical mineral cluster development and improve overall project viability.

Coordinating existing multi-actor innovation platforms and leveraging alternative R&D funding mechanisms can strengthen supplier ecosystems and accelerate the development and commercialization of new solutions for extraction through to refining of critical minerals (e.g. low-carbon, resource-efficient DLE for lithium extraction).

Leveraging innovative financing tools, including blended finance, long-term offtake agreements and public-private partnerships, can help unlock funding for critical minerals projects by improving bankability, reducing financing risks and mitigating price volatility. MDBs and DFIs can play a key role in supporting critical minerals sector development in Latin America by deploying these innovative tools (e.g. IDB LAC Minerals Platform).

Aligning workforce development with industry needs can boost the digital and technical capabilities needed to close talent gaps across the critical minerals value chain.

Embedding environmental and social considerations early on in project design, including partnerships that broaden local economic participation, can strengthen social licence and create shared value for communities across the critical minerals value chain.

Finally, policies that provide regulatory clarity, harmonized customs procedures and better access to geological data can reduce uncertainty and delays, and create a more predictable investment environment. Bilateral agreements (e.g. Chile-Argentina Mining Integration and Complementarity Treaty) and coordination forums (e.g. ECLAC's Permanent Technical Dialogue Forum on Lithium Innovation, Technological Development and Value Addition) can help stakeholders define common priorities and connect national strategies to regional value-chain opportunities.

The opportunity ahead is not simply to produce more critical minerals, but to build stronger ecosystems around them. Many of the building blocks supporting critical minerals industry development in Latin America already exist; coordinated regional collaboration and continued investment are needed to scale these efforts further towards a shared vision.

Appendix: Country profiles





Argentina

Population (2024)

45.7 million

GDP (2024)

\$638 billion

GDP per capita (2024)

\$13,970

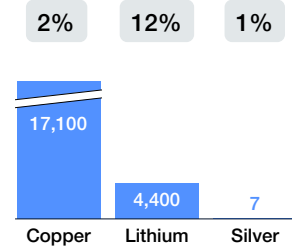
Mining sector contribution to GDP (2021)

0.6%

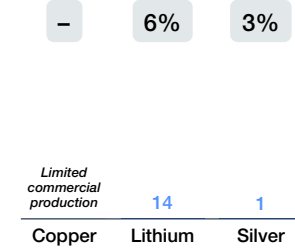
Ore and metals as % of merchandise exports (2024)

0.2%

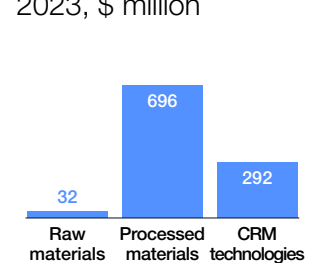
Reserves¹
Kt



Mine production¹
2024, kt



Critical minerals exports²
2023, \$ million



% data = % share of global

Recent developments⁵¹

Policy

- **Mining Investment Law No. 24.196 (1993; amended in 2025 by Decree 449/2025):** Provides 30-year fiscal stability and investment incentives, supporting private-sector development of mining industry
- **Large Investment Incentive Regime (RIGI) (2024):** Provides 30 years of regulatory stability, tax incentives, and foreign-exchange benefits for large-scale mining and critical mineral projects

Partnerships

- **Argentina-US Framework (2025):** Reinforced bilateral cooperation on critical minerals, building on MoU signed in 2024
- **Argentina-France Letter of Intent (2025):** Signed strategic agreement on critical minerals

Non-exhaustive



Bolivia

Population (2024)

12.4 million

GDP (2024)

\$54.9 billion

GDP per capita (2024)

\$4,421

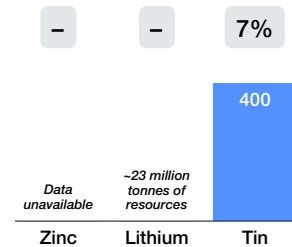
Mining sector contribution to GDP (2021)

5.9%

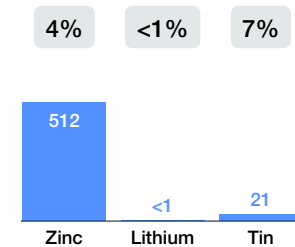
Ore and metals as % of merchandise exports (2024)

44%

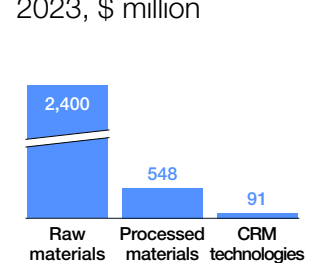
Reserves¹
Kt



Mine production¹
2024, kt



Critical minerals exports²
2023, \$ million



% data = % share of global

Recent developments⁵¹

Policy

- **Economic and Social Development Plan 2021-2025 (2021):** Designated DLE as a national priority under the 2021-2025 agenda to accelerate lithium production and attract foreign investment, technology, and processing capabilities
- **YLB (2017):** Established state-owned YLB to oversee lithium value chain, from resource development to processing and commercialization, focusing on building domestic lithium industries

Partnerships

- **YLB-Citic Guoan lithium partnership (2023):** Partnered as part of a ~\$800 million lithium agreement package to develop resources in Salar de Uyuni – currently suspended in Bolivian courts
- **YLB-CATL agreement (2023):** Signed ~\$1 billion agreement with a Chinese consortium led by battery developer CATL to develop DLE plants – currently suspended in Bolivian courts

Non-exhaustive

Notes: 1. Reserves and mine production reflect data availability and mineral relevance. 2. Exports include raw materials (ores/concentrates), processed materials (refined metals/compounds) and CRM technologies (e.g. semiconductors, batteries, magnets); iron-related products are excluded when ≥10% of export value, as iron is not on the 2025 US Critical Minerals List.

Sources: World Bank, USGS (2026), Columbia University CGEP, Critical Materials Monitor (2024); UN Comtrade.



Brazil

Population (2024)

212 million

GDP (2024)

\$2.2 trillion

GDP per capita (2024)

\$10,311

Mining sector contribution to GDP (2021)

4.5%

Ore and metals as % of merchandise exports (2024)

13%

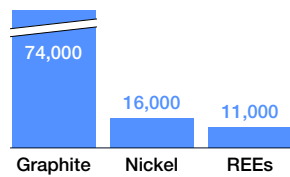
Reserves¹

Kt

24%

11%

15%



Mine production¹

2024, kt

4%

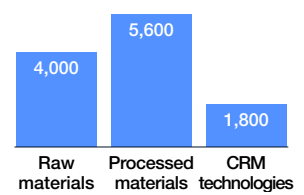
2%

<1%



Critical minerals exports²

2023, \$ million



% data = % share of global

Recent developments⁵¹

Policy

- **New Growth Acceleration Programme (2023):** Allocates approximately \$55 million between 2023 and 2026 for mineral exploration and geological research
- **National Council for Mineral Policy (CNPM) (2022):** Launched to develop the National Mining Plan 2050 with working groups covering tax rates and charges, public and legislative policy for critical minerals, sustainable mining development and oversight of mining activities
- **Pro-Strategic Minerals Policy (2021):** Aims to accelerate permitting and approvals for strategic mineral projects

Partnerships

- **EU-Mercosur Partnership (2024):** Expanded EU market access for Brazilian critical minerals
- **US-Brazil Critical Minerals Working Group (2020):** Strengthened US-Brazil critical minerals development cooperation
- **PlanGeo 2025-2034 (2024):** Expanded geological mapping to identify critical mineral resources and reduce exploration risk

Non-exhaustive



Chile

Population (2024)

19.8 million

GDP (2024)

\$330 billion

GDP per capita (2024)

\$16,710

Mining sector contribution to GDP (2021)

16%

Ore and metals as % of merchandise exports (2024)

56%

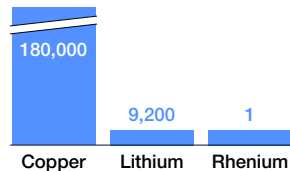
Reserves¹

Kt

18%

25%

56%



Mine production¹

2024, kt

24%

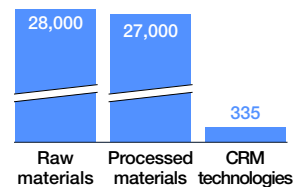
22%

47%



Critical minerals exports²

2023, \$ million



% data = % share of global

Recent developments⁵¹

Policy

- **National Critical Minerals Strategy (2026):** Identifies 14 critical minerals and aims to expand Chile's export mix to shift from an extractive model to greater technological and processing capabilities
- **Chile Intelligent Permitting System (2024):** Aims to streamline permitting processes and introduce a centralized digital permit application platform
- **National Lithium Strategy (2023):** Aims to develop new lithium resources, increase processing capacity, and strengthen domestic value creation through partnerships with

private investors and state-owned mining companies Codelco and Enami

Partnerships

- **Chile-US (2026):** Signed a joint declaration on critical minerals cooperation
- **EU-Chile Critical Raw Materials Partnership (2023):** Launched to strengthen Chile's sustainable raw materials value chains through investment, infrastructure, ESG standards, and workforce development

Non-exhaustive

Notes: 1. Reserves and mine production reflect data availability and mineral relevance. 2. Exports include raw materials (ores/concentrates), processed materials (refined metals/compounds) and CRM technologies (e.g. semiconductors, batteries, magnets); iron-related products are excluded when ≥10% of export value, as iron is not on the 2025 US Critical Minerals List.

Sources: World Bank, USGS (2026), Columbia University CGEP, Critical Materials Monitor (2024); UN Comtrade.



Mexico

Population (2024)

131 million

GDP (2024)

\$1.9 trillion

GDP per capita (2024)

\$14,186

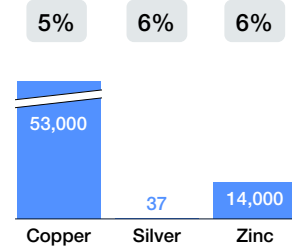
Mining sector contribution to GDP (2021)

1.4%

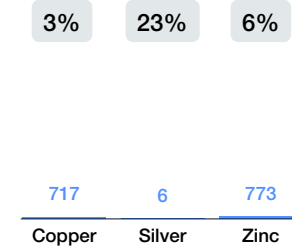
Ore and metals as % of merchandise exports (2024)

2.1%

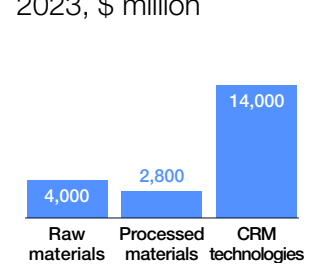
Reserves¹
Kt



Mine production¹
2024, kt



Critical minerals exports²
2023, \$ million



% data = % share of global

Recent developments⁵¹

Policy

- **Mining Law Reform (2023):** Reaffirmed that exploration would remain a priority in the mining sector, and required all new mining concessions to be granted through public tendering
- **Establishment of LitióMX (2022):** Created state-owned LitióMX to lead development of lithium resources and oversee lithium value chain activities, allowing partnerships with public and private institutions

Partnerships

- **EU-Mexico Modernised Global Agreement (2026):** Signed to strengthen supply chains for critical raw materials, prohibit export monopolies, unjustified intervention in price setting and dual pricing practices

Non-exhaustive



Peru

Population (2024)

34.2 million

GDP (2024)

\$289 billion

GDP per capita (2024)

\$8,452

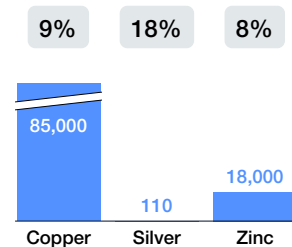
Mining sector contribution to GDP (2021)

12%

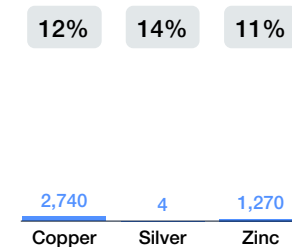
Ore and metals as % of merchandise exports (2024)

48%

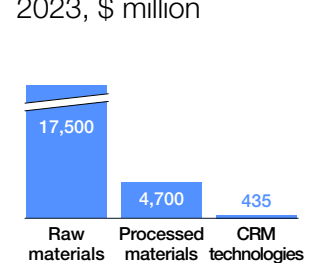
Reserves¹
Kt



Mine production¹
2024, kt



Critical minerals exports²
2023, \$ million



% data = % share of global

Recent developments⁵¹

Policy

- **MINEM (Ministry of Energy and Mines) Digital Single Window (2024):** Streamlines mining permitting through a centralized digital platform
- **National Multi-sectoral Mining Policy to 2050 (2024):** aims to foster an inclusive, sustainable, and socially responsible mining sector

Partnerships

- **Peru-US Critical Minerals MoU (2024):** Signed to promote cooperation including on critical mineral resource sector governance, investment and global supply chain security

Non-exhaustive

Notes: 1. Reserves and mine production reflect data availability and mineral relevance. 2. Exports include raw materials (ores/concentrates), processed materials (refined metals/compounds) and CRM technologies (e.g. semiconductors, batteries, magnets); iron-related products are excluded when ≥10% of export value, as iron is not on the 2025 US Critical Minerals List.

Sources: World Bank, USGS (2026), Columbia University CGEP, Critical Materials Monitor (2024); UN Comtrade.

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Endnotes

1. US Geological Survey. (2025). *What are Critical Minerals?*
<https://www.usgs.gov/programs/mineral-resources-program/science/what-are-critical-minerals-0>.
2. World Bank. (2007-2023). *Logistics performance index. Overall (1=low to 5=high)*.
<https://data.worldbank.org/indicator/LP.LPI.OVRL.XQ>.
3. JP Morgan Private Bank and Economist Impact. (2025). *The paradox of abundance and scarcity: Latin America's water crunch*. <https://privatebank.jpmorgan.com/latam/en/insights/markets-and-investing/the-paradox-of-abundance-and-scarcity-latin-americas-water-crunch>.
4. S&P Global. (2022). *Water in Latin America: Operational challenges*.
<https://www.spglobal.com/sustainable1/en/insights/special-editorial/water-in-latin-america-operational-challenges>.
5. Gonzalez, A. (2025). Why Chile's mines are turning to the sea. *Mining Technology*.
<https://www.mining-technology.com/features/why-chiles-mines-are-turning-to-the-sea/>.
6. World Economic Forum. (2025). *Fostering Effective Energy Transition 2025*.
https://reports.weforum.org/docs/WEF_Fostering_Effective_Energy_Transition_2025.pdf.
7. Inter-American Development Bank (IDB). (2026). *Transmission Will Define the Future Power System in Latin America and the Caribbean*. <https://www.iadb.org/en/blog/energy/transmission-will-define-future-power-system-latin-america-and-caribbean>.
8. OLACDE. (2024). *Latin America and the Caribbean lose nearly US\$7 billion annually due to electricity curtailment*.
<https://www.olade.org/en/noticias/latin-america-and-the-caribbean-lose-nearly-us7-billion-annually-due-to-electricity-curtailment/>.
9. World Bank. (2025). *Research and development expenditure (% of GDP)*. <https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS>.
10. S&P Global Market Intelligence. (2026). *World Exploration Trends 2026*. <https://www.spglobal.com/content/dam/spglobal/mi/en/documents/general/World-exploration-trends-2026.pdf>.
11. Whincup T., Pembroke C., Acosta A., Castillo R. (2023). *Critical Minerals: How the mining sector can accelerate to meet energy security needs*. ERM. <https://www.erm.com/insights/critical-minerals-how-the-mining-sector-can-accelerate-to-meet-energy-security-needs/>.
12. Hidayat, M. (2026). Mining Workforce Challenges Reshaping the Americas. *Discovery Alert*.
<https://discoveryalert.com.au/mining-workforce-challenges-americas-critical-minerals-talent-gap/>.
13. International Energy Agency. (2026). *Global Critical Minerals Outlook 2026*.
<https://www.iea.org/reports/global-critical-minerals-outlook-2026>.
14. S&P Global Market Intelligence. (2026). *World Exploration Trends 2026*.
<https://www.spglobal.com/content/dam/spglobal/mi/en/documents/general/World-exploration-trends-2026.pdf>.
15. US Geological Survey. (2026). *Mineral Commodity Summaries 2026* (Version 1.3, May 2026).
<https://pubs.usgs.gov/periodicals/mcs2026/mcs2026.pdf>.
16. S&P Global Market Intelligence. (2026). *SNL Metals & Mining* [Dataset].
[https://www.marketplace.spglobal.com/en/datasets/snl-metals-mining-\(19\)](https://www.marketplace.spglobal.com/en/datasets/snl-metals-mining-(19)).
17. Sources:
 - US Geological Survey. (2026). *Mineral Commodity Summaries 2026* (Version 1.3, May 2026).
<https://pubs.usgs.gov/periodicals/mcs2026/mcs2026.pdf>.
 - International Energy Agency. (2026). *Latin America and the Caribbean's shares of global reserves and mining output for selected minerals, 2025*. <https://www.iea.org/data-and-statistics/charts/latin-america-and-the-caribbean-s-shares-of-global-reserves-and-mining-output-for-selected-minerals-2025>.
 - International Energy Agency. (2026). *Share of refined material production by country, with the top producer's share, 2023 versus 2025*. <https://www.iea.org/data-and-statistics/charts/share-of-refined-material-production-by-country-with-the-top-producer-s-share-2023-versus-2025>.
18. International Energy Agency. (2023). *Latin America's opportunity in critical minerals for the clean energy transition*.
<https://www.iea.org/commentaries/latin-americas-opportunity-in-critical-minerals-for-the-clean-energy-transition>.
19. Economic Commission for Latin America and the Caribbean. (2025). *Foreign Direct Investment in Latin America and the Caribbean, 2025*. <https://repositorio.cepal.org/server/api/core/bitstreams/302139fa-729d-42ac-b530-b74bdb322861/content>.
20. Organisation for Economic Co-operation and Development. (2026). *OECD Critical Minerals Forum Background Paper: Regional Note on Critical Minerals in Latin America and the Caribbean* [Draft]. <https://www.oecd.org/content/dam/oecd/en/events/2026/04/critical-minerals-forum/oecd-critical-minerals-regional-note-latin-america-caribbean.pdf>.
21. International Energy Agency. (2026). *Global Critical Minerals Outlook 2026*. <https://www.iea.org/reports/global-critical-minerals-outlook-2026>.

22. Labó Fossa, R. (2022). *Gobernanza de los clústeres mineros: Los casos de Australia, Chile y el Perú*. Comisión Económica para América Latina y el Caribe (CEPAL). <https://minsus.net/mineria-sustentable/wp-content/uploads/2022/06/gobernanza-de-los-clusteres-mineros-los-casos-de-australia-chile-y-el-peru.pdf>.
23. S&P Global Market Intelligence. (2026). *SNL Metals & Mining* [Dataset]. [https://www.marketplace.spglobal.com/en/datasets/snl-metals-mining-\(19\)](https://www.marketplace.spglobal.com/en/datasets/snl-metals-mining-(19)).
24. Organisation for Economic Co-operation and Development (OECD). (2025). *Background Note - The Capricorn Bioceanic Corridor in South America* [Draft]. <https://www.oecd.org/content/dam/oecd/en/events/2025/04/oecd-emerging-markets-forum/Panel%20OECD%20EMF%20Background%20Note%20-%20The%20Capricorn%20Bioceanic%20Corridor%20in%20South%20America.pdf>.
25. Aguas Pacifico. (2023). *Aguas Pacifico obtains significant financing for its desalination project*. <https://www.aguaspacifico.cl/noticias/aguas-pacifico-obtiene-importante-financiamiento-para-su-proyecto-de-desalinizacion>.
26. Anglo American. (2025). *How an innovative partnership is addressing Los Bronces' water challenges*. <https://www.angloamerican.com/our-stories/healthy-environment/how-an-innovative-partnership-is-addressing-los-bronces-water-challenges>.
27. Inter-American Development Bank Invest. (2026). *Critical Minerals: Accelerating Investment in Advanced Technologies for Sustainable and Responsible Mining*. <https://idbinvest.org/en/blog/energy/critical-minerals-accelerating-investment-advanced-technologies-sustainable-and>.
28. BHP. (2025). *The role of digital twins and AI in enhancing decision-making in the mining industry*. <https://www.bhp.com/news/bhp-insights/2025/02/the-role-of-digital-twins-and-ai-in-enhancing-decision-making-in-the-mining-industry>.
29. Ellerbeck, S. (2023). *Lithium: Here's why Latin America is key to the global energy transition*. World Economic Forum. <https://www.weforum.org/stories/2023/01/lithium-latin-america-energy-transition/>.
30. National Aeronautics and Space Administration. (2019). *Lithium harvesting at Salar de Uyuni*. <https://science.nasa.gov/earth/earth-observatory/lithium-harvesting-at-salar-de-uyuni-144976/>.
31. Pedersen, A. et al. (2024). *Direct lithium extraction: Is the hype justified by the reality?* Wood Mackenzie. <https://www.woodmac.com/news/opinion/direct-lithium-extraction-is-the-hype-justified-by-the-reality/>.
32. Pedersen, A. et al. (2024). *Direct lithium extraction: Is the hype justified by the reality?* Wood Mackenzie. <https://www.woodmac.com/news/opinion/direct-lithium-extraction-is-the-hype-justified-by-the-reality/>.
33. Pizzoleo, J. (2024). *Chilean technology recognized by the World Economic Forum*. *Mining Reporters*. <https://www.miningreporters.com/noticia/news/2024/09/chilean-technology-recognized-by-the-world-economic-forum>.
34. Revista Química. (2026). *University of Concepción begins pilot phase of innovative technology to process copper concentrates without emissions and without waste*. <https://revistaquimica.cl/universidad-de-concepcion-inicia-fase-de-pilotaje-de-innovadora-tecnologia-para-procesar-concentrados-de-cobre-sin-emisiones-y-sin-residuos/>.
35. Veras, D. (2025). *Brazil seeks investors to tap into rare-earth reserves*. *Valor International*. <https://valorinternational.globo.com/economy/news/2025/04/30/brazil-seeks-investors-to-tap-into-rare-earth-reserves.ghtml>.
36. Instituto Brasileiro de Mineração (IBRAM). (2018). *Brazil will have its first innovation hub for the mining industry*. <https://ibram.org.br/en/noticia/brasil-tera-1o-hub-de-inovacao-para-a-industria-mineral/>.
37. Instituto Brasileiro de Mineração (IBRAM). (2025). *Innovation*. <https://ibram.org.br/inovacao/>.
38. Instituto de Tecnologías Limpas [Chile]. (2025). *Institute of Clean Technologies*. <https://itlchile.com/en/somos/>.
39. Instituto de Tecnologías Limpas (ITL). (2025, 25 June). *ITL and CORFO Sign Historic Agreement Marking the Start of the Country's Largest R&D Investment*. <https://itlchile.com/en/itl-y-corfo-firman-historico-convenio-que-marca-el-inicio-de-la-mayor-inversion-en-id-del-pais/>.
40. Expande Minería. (2025). *About Expande*. <https://expandemineria.cl/sobre-expande/?lang=en>.
41. Rio Tinto. (2026, 11 March). *Rio Tinto Secures \$1.175 billion financing package for Rincon lithium project in Argentina* [Press release]. <https://www.riotinto.com/en/news/releases/2026/rio-tinto-secures-1-175-billion-financing-package-for-rincon-lithium-project-in-argentina>.
42. U.S. International Development Finance Corporation (DFC). (2026, 4 February). *DFC Highlights Landmark Critical Minerals Investments to Strengthen U.S. National Security During State Department Ministerial* [Press release]. <https://www.dfc.gov/media/press-releases/dfc-highlights-landmark-critical-minerals-investments-strengthen-us-national>.
43. IDB Invest, Inter-American Development Bank. (2025). *Financing for the Expansion of the Port of Matarani in Peru*. <https://idbinvest.org/en/projects/financing-expansion-port-matarani-peru>.
44. Inter-American Development Bank. (2026, May 13). *IDB Group launches IDB LAC Minerals* [Press release]. <https://www.iadb.org/en/news/idb-group-launches-idb-lac-minerals>.
45. Inter-American Development Bank. (2025). *IDB LAC Minerals*. <https://www.iadb.org/en/who-we-are/topics/energy/energy-initiatives/idb-lac-minerals>.
46. Inter-American Development Bank. (2026). *Geological Mapping of Critical Minerals in Brazil: Project BR-T1690*. <https://www.iadb.org/en/project/BR-T1690>.
47. Inter-American Development Bank. (2025). *Minerals as leverage for growth in the Andean Region: Dashboard for investment needs: Project RG-T4878*. <https://www.iadb.org/en/project/RG-T4878>.

48. Sources:
- Economic Commission for Latin America and the Caribbean (ECLAC). (2024). *Permanent Forum for Technical Dialogue on Lithium*. <https://www.cepal.org/es/proyectos/foro-permanente-dialogo-tecnico-litio/acerca>.
 - Economic Commission for Latin America and the Caribbean (ECLAC). (2024). *Collaboration for Critical Raw Materials: Activities of the Working Group on Transforming the Extractive Industries for Sustainable Development* [Presentation]. <https://unece.org/sites/default/files/2024-04/07.%20Rodrigo%20Messias%20PPT%20ECLAC%20UNECE%20RMW%202024%202.pdf>.
 - Economic Commission for Latin America and the Caribbean (ECLAC). (2024). *Mechanisms for technology transfer and capacity building – The Lithium Triangle* [Presentation]. <https://www.unescap.org/sites/default/d8files/2024-12/Mechanisms%20for%20technology%20transfer%20and%20capacity%20building%20by%20Rodrigo%20Furtado%20Messias%2C%20ECLAC.pdf>.
 - Economic Commission for Latin America and the Caribbean (ECLAC). (2024). *Permanent Forum for Technical Dialogue on Lithium: Work plan*. <https://www.cepal.org/es/proyectos/foro-permanente-dialogo-tecnico-litio/plan-trabajo>.
49. Sources:
- Anglo American. (2025). *An innovative way of evaluating the impact of our social-investment programmes*. <https://www.angloamerican.com/our-stories/thriving-communities/an-innovative-way-of-evaluating-the-impact-of-our-social-investment-programmes>.
 - TechnoServe. (2025). *Beyond Extraction*. <https://www.technoserve.org/fight-poverty/projects/beyond-extraction/>.
 - Heshusius, K. (2020). *Beyond Extraction: Economic Opportunities In Mining Communities – Case Study of a Regional Local Economic Development Program in Brazil, Chile, and Peru (2016-2020)*. Inter-American Development Bank. <https://publications.iadb.org/en/publications/english/viewer/Beyond-Extraction-Economic-Opportunities-in-Mining-Communities-Case-Study-of-a-Regional-Local-Economic-Development-Program-in-Brazil-Chile-and-Peru-2016-2020.pdf>.
50. Horizonte Minerals Plc. (2022, 19 July). *Community Development Agreement with SENAI* [Press release]. <https://www.investigate.co.uk/announcement/rns/horizonte-minerals--hzm/community-development-agreement-with-senai/7078374>.
51. Sources:
- Center for Strategic and International Studies (CSIS). (2022). *Bolivia Is Pursuing Sustainable Lithium Mining*. <https://www.csis.org/blogs/development-dispatch/bolivia-pursuing-sustainable-lithium-mining>.
 - European Commission. (2026). *EU-Mexico agreement*. https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/mexico/eu-mexico-agreement_en.
 - International Energy Agency. (2026). *Policies Database*. Filtered by country (Argentina, Bolivia, Brazil, Chile, Mexico and Peru) and by topic: Critical Minerals. Accessed August 2026. <https://www.iea.org/policies?qs=plur&top-ic%5B0%5D=Critical%20Minerals&country%5B0%5D=Argentina&country%5B1%5D=Brazil&country%5B2%5D=Chile&country%5B3%5D=Peru&country%5B4%5D=Mexico&country%5B5%5D=Plurinational%20State%20of%20Bolivia>.
 - Ministry of Foreign Affairs of Chile. (2026). *Chile and the United States sign joint declaration on critical minerals and rare earth elements*. <https://www.minrel.gob.cl/sala-de-prensa/chile-y-estados-unidos-firman-declaracion-conjunta-sobre-minerales-criticos>.
 - Mining Technology. (2023). *Bolivia's YLB signs lithium agreements with Russian and Chinese companies*. <https://www.mining-technology.com/news/ylb-lithium-russian-chinese/>.
 - Ministry of Energy and Mines of Peru (MINEM). *Digital Single Window for Information on the Mining Sector – VUD MINEM*. <https://www.gob.pe/institucion/minem/ventanilla-unica-digital/1>.
 - Ministry of Energy and Mines of Peru (MINEM). (2024). *MINEM launches National Multisectoral Mining Policy to 2050*. <https://www.gob.pe/institucion/minem/noticias/1045997-minem-lanza-politica-nacional-multisectorial-de-mineria-al-2050>.
 - Reuters. (2023). *Chinese battery giant CATL seals \$1.4 billion deal to develop Bolivia lithium*. <https://www.reuters.com/markets/commodities/chinese-battery-giant-catl-seals-14-billion-deal-develop-bolivia-lithium-2023-06-19/>.
 - Serviço Geológico do Brasil (SGB). (2025). *PlanGeo 2025–2034: Plano Decenal de Mapeamento Geológico Básico*. https://www.sgb.gov.br/mapeamento_geologico/plangeo.html.
 - U.S. Department of State. (2020). *Joint Statement on the Establishment of the U.S.-Brazil Critical Minerals Working Group*. <https://2017-2021.state.gov/joint-statement-on-the-establishment-of-the-u-s-brazil-critical-minerals-working-group/>.
 - U.S. Embassy in Peru. (2024). *The United States of America and Peru sign MoU to strengthen cooperation on critical minerals*. <https://pe.usembassy.gov/the-united-states-of-america-and-peru-sign-mou-to-strengthen-cooperation-on-critical-minerals/>.



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