



STRATEGIC FINANCING FOR THE ENERGY TRANSITION: ADDRESSING CHALLENGES AND UNLOCKING OPPORTUNITIES IN CRITICAL ENERGY TRANSITION MINERALS

Key messages

- **Critical Energy Transition Minerals (CETM) represent a unique opportunity to mobilize Financing for Development (FfD) for CETM-producing developing countries.** As global demand for these minerals rises, these countries can leverage their mineral wealth to attract significant FfD resources for CETM extraction, processing and broader economic diversification and infrastructure development.
- **However, CETM projects require a long-term perspective due to their complexity and lengthy timelines.** Therefore, **establishing a stable investment environment is crucial for attracting and maintaining the necessary financing.** Government regulations should ensure accountability and transparency to reinforce this stability.
- **Expanding the capital base for CETM projects in developing countries is crucial to overcoming financial barriers.** Innovative financing mechanisms can attract diverse investors and reduce risks. These mechanisms are key to overcoming financial barriers and advancing the development of CETM value chains in developing countries.
- **Reducing the cost of borrowing for CETM projects, particularly in developing countries, is critical.** International development cooperation can contribute significantly by providing concessional loans, guarantees, and technical assistance. This cooperation can reduce financial risks, increase the attractiveness of projects to private investors, and facilitate access to the necessary capital.
- **Developing countries should adopt a holistic approach when financing CETM projects, extending beyond traditional mining activities.** By exploring various strategies to finance activities that add value, they can increase their economic benefits and help diversify supply sources. Establishing the production of energy transition technologies near emerging consumer markets cuts transportation costs and carbon emissions and aligns production with consumption patterns.

RELEVANT ACTION AREAS



ABOUT THIS SERIES

The Financing Policy Brief Series has been prepared by the Inter-agency Task Force on Financing for Development to inform the substantive preparations for the Fourth International Conference on Financing for Development (FfD4), to be held in Sevilla, Spain, from 30 June to 3 July 2025.

The Inter-agency Task Force on Financing for Development is comprised of more than 60 United Nations Agencies and international organizations. The policy briefs in this series were not subject to review by Task Force Members, and represent the views of the authoring organizations.

The full series is available at:
<https://financing.desa.un.org/iatf/report/financing-policy-brief-series>

MORE ABOUT THIS TOPIC

For further information on the topic of this brief, please see:
<https://unctad.org/topic/commodities/critical-minerals>



🌸 Problem statement

The energy transition is leading to increased demand for solar panels, wind turbines, and electric vehicles. These renewable energy technologies use more CETMs for their production. Meeting this growing demand for renewables requires enhancing CETM supply.

Reserves of CETMs are largely located in developing countries, which often lack the financial resources to invest in extraction, processing and value-addition activities. These resource-endowed economies have a unique opportunity to leverage CETMs as a pathway to a more resilient and diversified economy by fostering the emergence of new industries throughout the value chain – from mines to finished renewable energy products. Thus, financing strategies should encompass not only extraction but also value-added activities, local infrastructure development, environmental considerations and capacity building to ensure that CETMs contribute to long-term economic growth.

Expert insights on supply and demand indicate potential shortfalls in the coming decades,¹ despite the existence of adequate geological reserves of critical minerals to support the energy transition. The most significant gaps are anticipated in copper and nickel, accounting for 36 per cent and 16 per cent of the total deficit, respectively.² The investment needed between 2022 and 2030 ranges from USD 360 billion to USD 450 billion, potentially leaving a gap of USD 180 billion to USD 270 billion.³ According to a forecast by Benchmark Mineral Intelligence, the world needs more than 300 new mines to avoid a shortfall in meeting battery demand by 2035: 121 copper, 70 lithium, 65 nickel, and 93 cobalt mines.⁴ Moreover, incorporating and embracing circular economy practices will be essential.

Opening new mines is costly, risky, and procedurally complex. It requires navigating regulatory and environmental compliance, meeting complex technical demands, and securing Free, Prior and Informed Consent

from Indigenous Peoples, who are both rights holders and decision-makers. Managing the high initial capital costs and market and economic risks associated with fluctuating commodity prices presents significant challenges. Additionally, infrastructure development in remote areas and the availability of a skilled workforce further complicate the process. Nevertheless, there is an opportunity for local communities to enhance connectivity, supporting development and economic diversification through CETMs. Although sharing infrastructure between inward investors and local communities can be mutually beneficial, it requires coordinated efforts among the government, the local community and investors.

The concentration of CETMs in specific regions poses supply chain risks. Mining activities are susceptible to geopolitical vulnerabilities, infrastructure bottlenecks, and technological limitations. Future supply may be constrained as existing mineral deposits are depleted or extraction becomes more challenging. Moreover, evolving battery technologies could alter CETM demand, affecting the revenue flow stability of investments. All these risk factors increase the cost of financing by heightening uncertainties. Addressing them requires substantial strategic investment in exploration, infrastructure, and value-addition activities to ensure stable and sustainable CETM supply chains.

🌸 Policy solutions

Accessing finance for CETM-related projects remains a significant challenge for developing countries. A collaborative effort between governments, financial institutions, and the private sector is needed to create a favourable investment climate.

Government policies can contribute by providing clear, transparent regulations and fiscal incentives, which reduce legal risks and create a stable framework for long-term investment. For example, while promoting value

1 UNCTAD. "Critical Minerals Boom: Global Energy Shift Brings Opportunities and Risks for Developing Countries." Accessed August 27, 2024. Demand and production forecasts are UNCTAD calculations based on data from IEA and USGS.

2 Ibid.

3 Ibid.

4 Benchmark Intelligence forecast presented at CETM Panel Co-Chairs' Dialogue on Investment and Finance, 29 July 2024.



addition in its nickel extraction sector, Indonesia focused on investment promotion, regulation and procedures for ease of doing business, reviewing permitting and licensing procedures, and providing fiscal incentives such as tax holidays, VAT incentives and import duty exemptions for capital goods materials. Minimizing regulatory changes also provides a stable framework for long-term investment in the CETM sector.

Financial institutions can support CETM projects by investing in up-, mid- and downstream sectors and employing innovative financing mechanisms. For example, blended finance, a mix of public and private funds for a single investment, can be structured as debt, equity, risk-sharing, or guarantee products with different rates, tenor, security, or rank. Pooled funding reduces individual risk for investors, making projects more attractive, while the mix of concessional donor funds further lowers the overall risk profile, drawing additional private sector investment. Syndicated finance allows several lenders to spread risk and jointly take part in financial opportunities that may be too large for their individual capital base. An example of syndicated finance is the USD 600 million financing facility arranged by the Eastern and Southern African Trade and Development Bank in partnership with Trafigura in support of the development of the Mutoshi and Etoile mines in the Democratic Republic of Congo to boost the supply of copper and cobalt. The Mutoshi mine is expected to become the third-largest cobalt mine globally.

Financial instruments such as green bonds, sustainability loans, and strategic investment funds can finance CETM projects with high ESG standards, attracting investors committed to environmental and social governance. Financial institutions may also offer sustainability loans on favourable terms for projects that meet ESG criteria. Strategic investment funds, such as sovereign wealth funds and sustainability-focused funds, can invest in sustainable CETM projects. Companies reliant on these minerals, including battery manufacturers and technology companies, may invest directly in mining and processing operations or secure long-term off-take agreements. Resource-rich developing countries can partner with foreign companies on joint ventures to develop capital-intensive critical mineral projects. This shared approach can reduce financial burdens on partners and increase project efficiency by combining complementary expertise and resources.

International financial institutions facilitate international partnerships that mobilize resources, expertise, and technology for sustainable development. They can establish partnerships to provide financing, grants, and concessional loans for mineral value-addition projects. They contribute to de-risking investments by mobilizing funds, offering technical assistance, and facilitating knowledge-sharing and capacity-building among countries. Collaboration with private sector entities, multilateral organizations, and donor countries can further mobilize resources, expertise, and technology transfer. For example, the partnership between Zambia and the Democratic Republic of the Congo launched in 2022, involving Africa Export-Import Bank (Afreximbank) and the United Nations Economic Commission for Africa, aims to establish special economic zones to produce electric vehicles and related services.

✿ Specific recommendations for FFD4

Government policies and regulatory framework:

- Governments should promote a favourable investment environment across the CETM value chain. They should establish training and capacity-building programmes, R&D facilities to improve mining technologies and processing methods, manufacturing activities, and innovation hubs.
- Governments should aim to negotiate contract terms that provide predictability and stability while also providing flexibility to respond to economic changes, such as using variable royalties within reasonable limits.
- Representatives of the CETM industry must collaborate to set clear and harmonious sustainability standards, and foster industry-wide dialogue on sustainable mining and green premiums.

Innovative financing mechanisms:

- CETM-producing countries seeking funding should leverage proposed financing options, such as blended finance and syndicated finance, to secure the necessary resources for their projects. By diversifying their financing strategies and embracing innovative solutions, these countries can overcome the challenges in access to finance and actively participate in the various stages of the value chain.



Alternative strategic investments:

- Governments should consider developing industrial parks focused on CETM processing, along with downstream manufacturing, to attract investment, create jobs and boost exports while also addressing potential challenges such as infrastructure needs and environmental impact.

International partnership and long-term financing:

- An open and predictable multilateral trading system is essential for the global energy transition.
- Multilateral banks and financial institutions should offer accessible financing mechanisms to support the resource and value-added sectors of CETM-producing developing countries.

To facilitate the energy transition in developing countries, the FfD4 outcome document should prioritize recommendations that:

1. Promote coordinated debt restructuring efforts and explore innovative debt relief mechanisms;
2. Support developing countries in improving domestic revenue generation and optimizing public expenditure priorities;
3. Encourage sustainable debt management practices;
4. Foster regional cooperation for joint debt management and energy projects; and
5. Assist countries in implementing structural reforms and strengthening social safety nets.