



Local Mining Supply Chain Preparedness for the GREEN TRANSITION

This brief explores the implications of the green transition for the procurement of goods and services by the mining sector, particularly for suppliers in host countries. A just transition must consider supply chain actors to ensure that opportunities resulting from increased mining activity are leveraged, suppliers displaced by reduced mining activity are supported, and expectations on suppliers from efforts to reduce upstream scope 3 emissions are addressed. If governed correctly, the green transition has the potential to foster economic diversification and horizontal linkages to renewable sectors.

INTRODUCTION

The green transition from conventional energy and means of transportation will see increased demand for key mined materials. Among these are lithium, copper, manganese and graphite for power grids and battery technology for electric vehicles, iron ore for the replacement of concrete structures with steel, and aluminium for more efficient transport. A recent study showed that many of these commodities, particularly copper, nickel, cobalt, and lithium, will be in deficit by 2025-2026.¹ Specifically, copper demand is expected to double by 2035, with an estimated 20% shortfall in supply, despite ambitious capacity utilisation and recycling rates.² The uptake of technologies like solar photovoltaic and concentrated solar power, wind, geothermal, as well as energy storage, will result in increased mining activity in many regions, and focus on critical and strategic mineral exploration is evident. For instance, Canada's first Critical Minerals Strategy will commit \$80 million to public geoscience and exploration programs and will double the Mineral Exploration Tax Credit to 30% for targeted minerals, such as nickel, copper, cobalt, rare earth elements and uranium.³ Conversely, some host countries will experience reduced mining activity due to thermal coal mine closure as electricity generation shifts away from the emissions-intensive fuel. At the same time, the mining sector is under pressure to reduce its own emissions during production, which will have implications for local economies and

workforces along the entire mining value chain. Crucially, procurement of goods and services typically represents the largest financial flow from mining projects and operations to host countries. Indicative figures come from the World Gold Council, with in-country procurement spending by member companies in 2020 totaling US\$26.2 billion, exceeding both employee wages (US\$8.7 billion) and tax payments to governments (US\$7.6 billion).⁴ The green transition means that suppliers to the mining sector will be impacted, not only by the increase or decrease in certain types of mining, but also by pressure on the industry to reduce its carbon footprint.

THE IMPORTANCE OF LOCAL PROCUREMENT IN THE JUST TRANSITION

A critical lever for economic development in mining host countries is the local procurement of goods and services. It contributes to United Nations Sustainable Development Goal 8, the promotion of inclusive and sustainable economic growth, employment and decent work for all, by making procurement opportunities accessible to local firms and building their capacity.⁵ Procurement spend usually represents the largest financial flow from an extractive project to a host country, often exceeding taxes, wages and salaries, and community investment combined. Its role in securing investment, establishing a social licence to operate, and in the creation of economic opportunities for host countries, makes it an integral part of the green transition discussion. Local procurement is increasingly becoming a focus for policy makers, private sector actors, especially through reporting and risk assessment, as well as civil society organisations seeking transparency in procurement processes

1 See page 25, Ernst & Young. (2022). *Top 10 business risks and opportunities for mining and metals in 2022*.

2 S&P Global. (2022). *Looming Copper Supply Shortfalls Present a Challenge to Achieving Net-Zero 2050 Goals*.

3 Government of Canada. (2022). *Minister Alghabra announces investments for Canada's first Critical Minerals Strategy*.

4 See page 17, World Gold Council. (2021). *The Social and Economic Contribution of Gold Mining*.

5 See page 39, Columbia Center on Sustainable Investment, United Nations Development Programme, and World Economic Forum. (2016). *Mapping Mining to the Sustainable Development Goals: An Atlas*.

and spending. A just transition compounds the need for inclusive economic participation, particularly in mining host communities, where suppliers are engaged in long term dialogue to support local resilience and secure sustainable livelihoods. Local procurement must be a focal point when considering the principles of a just transition,⁶ namely distributive justice – the distribution of costs and benefits through avenues such as compensation, retraining and reskilling; procedural justice – ensuring informed dialogue and participation in decision making; and restorative justice – rehabilitation of communities adversely affected and long-term planning for recovery.

Expectations for host country suppliers presented by the green transition come at a time when procurement is being impacted by technological shifts in the mining sector. Increased automation and adoption of other technological advances are making mining safer and more energy efficient but are also impacting the level of direct and indirect employment. Recent reports from the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF) and the International Institute for Sustainable Development (IISD) demonstrate the potential for new technologies to reduce direct employment, as well as employment-related local procurement.⁷ They also show that local procurement of goods and services will become an even greater contributor to the benefits realised by host countries. These technological shifts make it all the more crucial that the mining sector, governments, and community stakeholders collaborate to ensure that the green transition does not undermine the participation of local firms in the mining supply chain.

LOCAL PROCUREMENT AND EMISSIONS CALCULATION AND REPORTING

While scope 1 covers direct emissions from owned or controlled assets, and scope 2 covers indirect emissions from the generation of purchased electricity, scope 3 covers all other indirect emissions across the value chain.⁸ Increasingly institutional investors are driving action on scope 3 reductions, even more so than national laws, international agreements, and consumers.⁹ There exists a host of voluntary initiatives and frameworks for scope 3 reporting, specifically

the GHG Protocol, Global Reporting Initiative (GRI), Carbon Disclosure Project (CDP), International Sustainability Standards Board (ISSB), Task Force on Climate-Related Financial Disclosures (TCFD), as well as the Science Based Targets initiative (SBTi), which is expected to release new guidelines for the mining industry in 2022. Emerging European Union legislation, under the proposed Corporate Sustainability Reporting Directive (CSRD), will follow the TCFD for climate-related sustainability information, and will likely include measurement of scope 1, 2 and 3 emissions, in alignment with the GHG Protocol, as early as 2024.¹⁰ Similarly, the Securities and Exchange Commission (SEC) has announced emissions reporting requirements for publicly traded companies in the United States, whereby scope 3 reporting would become mandatory for companies with public commitments to scope 3 reductions, or where emissions are material to a company's financial performance, also as early as 2024.¹¹

As international reporting standards begin to address emissions calculations that span the entire supply chain, some companies are responding with scope 1, 2 and 3 reduction targets. In a 2021 survey of global mining and metals executives, it was found that about half of companies have set targets to achieve net zero for scope 1 and 2 emissions between 2030-2050, with 26% planning to achieve this by 2025, while 23% have not set scope 1 and 2 targets yet. In the same survey, it was found that timelines to achieve net zero for scope 3 emissions look vastly different, with about 75% of companies having set targets for 2030-2050, 3% planning to achieve this by 2025, while 20% have yet to

6 As defined by McCauley, D. & Heffron, R. (2018). Just transition: Integrating climate, energy and environmental justice. *Energy Policy*, 119, 1-7.

7 Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF). (2021). *New Tech, New Deal: Mining Policy Options in the Face of New Technology* and International Institute for Sustainable Development (IISD) (2016). *Mining a Mirage? Reassessing the shared-value paradigm in light of the technological advances in the mining sector*.

8 See page 25, World Business Council for Sustainable Development and World Resources Institute. (2015). *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*.

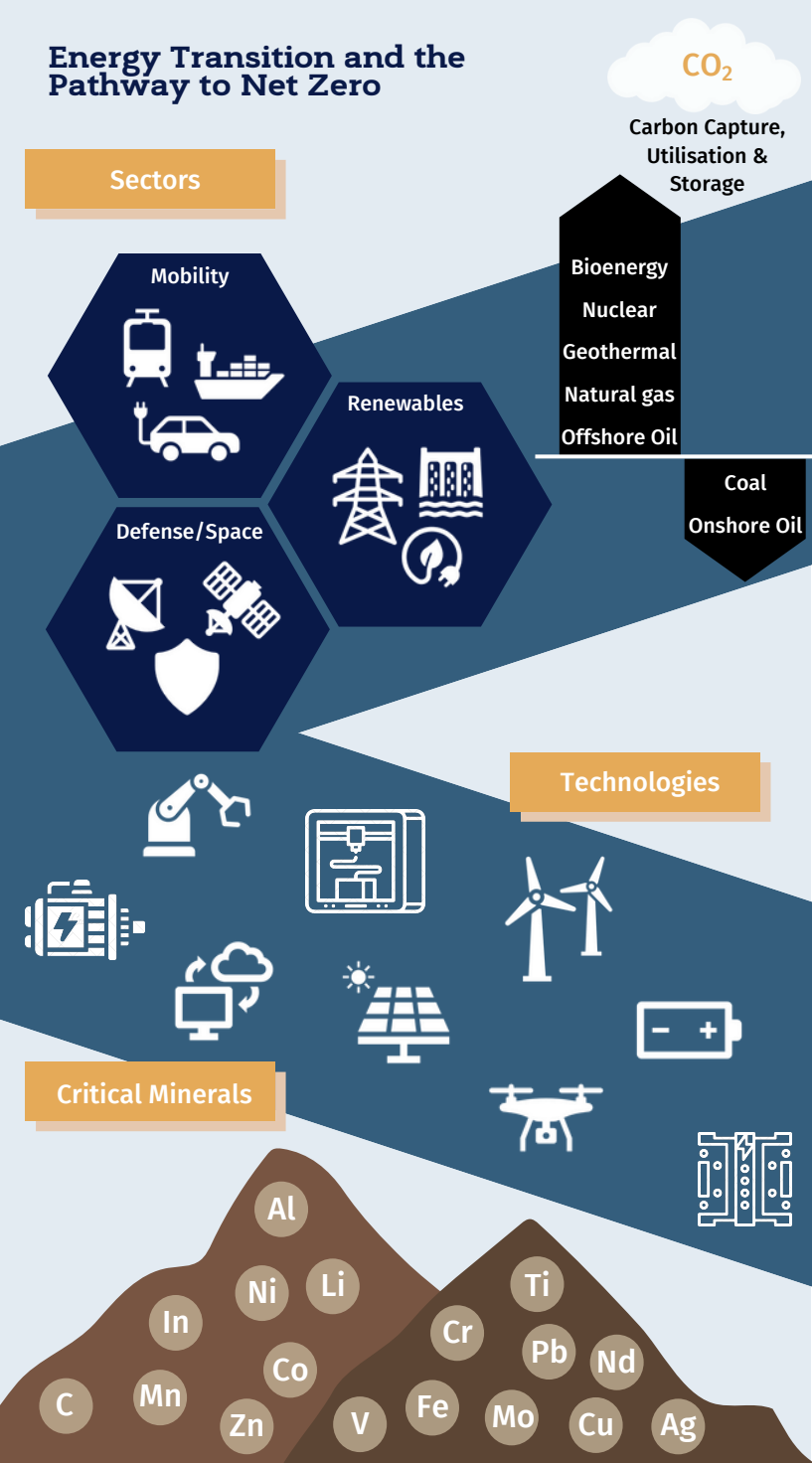
9 See page 13, Mining Journal. (2022). *Running the numbers: Estimating Scope 3 emissions in mining*.

10 Quist, Z. (2022). *How to comply with the Corporate Sustainability Reporting Directive (CSRD)*. Ecochain.

11 Dubey, K. (2022, April 7). *Scope 3 Reporting Requirements Will Bring Big Compliance Challenges*. Sphera.



Energy Transition and the Pathway to Net Zero



distribution and product processing and use, upstream categories, such as purchased goods and services, tend to be overlooked since they are arguably more difficult to quantify. There is also an assumption that downstream emissions from mining are more significant than upstream, which is not the case for all mineral commodities. While those that require significant refining and other forms of beneficiation, such as copper and iron ore, attribute a larger portion of scope 3 emissions to downstream activities, gold and other precious metals attribute a larger portion of emissions to upstream scope 3 categories. However, there remains a gap in institutional knowledge and governance structures around scope 3 emissions, and the capacity and commitment levels of suppliers vary, presenting several challenges for implementation related to data availability, quality, and consistency.

Given their scope 3 emissions profile, gold and other precious metal producers tend to narrow their focus to upstream activities, with emissions from purchased goods and services representing 35% of scope 3 emissions, and 32% of total (scope 1, 2 and 3) emissions (according to metals and mining company responses to the CDP climate change questionnaire on behalf of investors in 2021).¹⁶ Further, a number of companies have started to lay groundwork for scope 3 reporting, with others beginning to establish reduction targets. One example is Barrick Gold, which identified purchased goods and services as the most material and impactful category to address, accounting for 48% of its total scope 3 emissions. The company has devised a roadmap for reducing associated emissions that includes, in the near term, supplier engagement, evolving calculation methodologies from quantity- or spend-based approaches to determining supplier specific emissions, and identifying and prioritising material reduction opportunities, and in the long term, contractual obligations and comprehensive disclosure of targets and performance.¹⁷ Newmont has also adopted a phased approach, and has begun requesting data from its tier 1 suppliers to establish a scope 3 baseline, and plans to integrate emissions performance metrics into procurement standards through 2026.¹⁸

Given that significant emissions from scope 3 categories can be attributed to purchased goods and services,¹⁹ there is a need to ensure that reporting and reduction strategies do not

establish a net zero timeline for scope 3 emissions.¹² Additionally, International Council on Mining and Metals (ICMM) members have collectively committed to a goal of net zero scope 1 and 2 emissions by 2050 and accelerating action on scope 3.¹³ Specifically, BHP's scope 3 goal for 2030 is to support a 40% emissions intensity reduction of BHP-chartered shipping of its products, as well as a 30% emissions intensity reduction in integrated steelmaking through industry support of new technologies.¹⁴ Similarly, Anglo American has introduced a 50% reduction target for its scope 3 emissions by 2040, with plans to reduce upstream emissions through shipping, and downstream by working with customers on low carbon steelmaking technologies.¹⁵ While focus is often placed on the downstream activities that generate scope 3 emissions, specifically transportation and

12 See page 10, Ernst & Young. (2022). *Top 10 business risks and opportunities for mining and metals in 2022*.

13 International Council on Mining and Metals (ICMM). (2022). *Our commitment to a goal of net zero by 2050 or sooner*.

14 BHP. (2021). *Reducing our value chain emissions*.

15 Anglo American. (2021). *Anglo American Sets Ambition to Halve Scope 3 Emissions by 2040*.

16 See page 34, CDP. (2022). *CDP Technical Note: Relevance of Scope 3 Categories by Sector*.

17 See page 119, Barrick Gold. (2022). *Sustainability Report 2021*.

18 See page 14, Mining Journal. (2022). *Running the numbers: Estimating Scope 3 emissions in mining*.

19 See page 21, Farsan et al. (2018). *Value Change in the Value Chain: Best Practices in Scope 3 Greenhouse Gas Management*. Science Based Targets.

lose sight of upstream activities, where the greatest local economic implications are faced. It is also important to acknowledge that participation of local communities most impacted by mining activities is a crucial component of maintaining social licence to operate. The impacts of footprint reduction commitments will be felt by those suppliers at the local level, whose competitiveness may decline as purchasing firms begin to emphasise 'green' criteria. It is clear that evaluation of suppliers against conventional key performance areas, such as quality, delivery, and price, is expanding to consider sourcing, manufacturing, packaging, distribution, usage, and disposal. As procurement systems begin to prioritise carbon footprint monitoring and reduction, larger, multinational suppliers with the financial and human resources to meet expectations may reduce the competitiveness of local suppliers bidding for procurement opportunities, particularly those reliant on coal-fired power generation.

Strategies for scope 1 and 2 footprint reduction from mining activities, primarily changes to power supply, electrification of fleets, and shifts to clean fuels, will also require that supply chain partners evolve to meet new product and service demands. Reducing emissions through procurement will ultimately mean purchasing the same products from different suppliers with lower carbon footprints or shifting to low carbon alternatives.²⁰ The latter will require considerable adaptation on behalf of suppliers, either through a transition to low carbon inputs or technologies, or changes in business models, for instance, from the provision of products to services. Such changes may enable local suppliers to achieve greater efficiency or realise lower operating costs in the long term, but will require upfront investment. This has significant implications, particularly in developing economies where small businesses face barriers to accessing affordable capital. For purchasing firms, local procurement may also present avenues for progress toward scope 3 commitments through reductions in emissions associated with transport, storage, and distribution of goods from tier 1 suppliers to the site. This means sourcing from producers (i.e., food products) or manufacturers (i.e., fixed equipment, piping, grinding media, tires, hand tools, laboratory consumables) in closer proximity to mining operations where feasible.

WHAT IS NEEDED?

The role of mining sector suppliers is based on providing quality goods and services safely, ensuring operational efficiencies for customers at competitive prices. The industry presents unique opportunities to diversify host country economies by empowering local suppliers to move toward the provision of increasingly sophisticated equipment and specialised solutions. Local procurement practices must therefore evolve to include supply chain supports to meet green criteria. This begins with foundational supply-side policy that acknowledges local capabilities and addresses gaps through supplier development programs (SDPs), building supplier networks and facilitating engagement, providing access to finance, and establishing supplier portals and databases.²¹ It also involves reframing industry best practices, specifically by applying an emissions reduction lens to local procurement strategies and supplier due diligence efforts. It also requires the provision of tailored supports for small and medium-sized enterprises (SMEs) that address business needs at various stages of planning, implementation, monitoring, and reporting. Finally, it requires flexibility and adaptive models in the short to medium term, whereby local suppliers are given time to establish inventories and implement reduction initiatives.

Data Collection

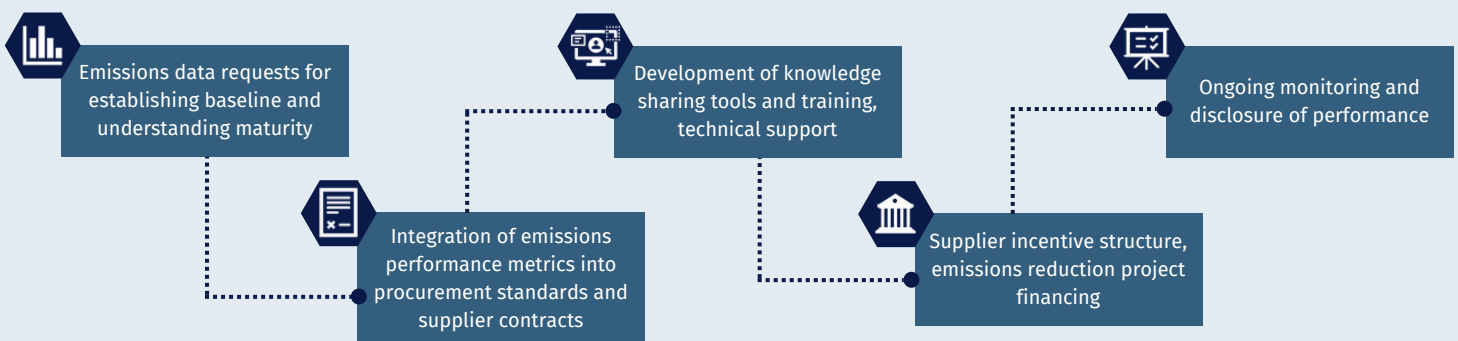
A critical first step is the collection of data to check assumptions and assess the potential for footprint reductions through local procurement. Case studies that examine the footprint of goods from major spend categories, from cradle to site, are required to determine whether shifting to locally procured alternatives is beneficial and to focus supplier development efforts. As a means to examine this, the Inter-American Development Bank (IDB) recently undertook a project²² to develop a calculation tool that measures the carbon footprint associated with various mining inputs

20 See pages 29-30, Farsan et al. (2018). *Value Change in the Value Chain: Best Practices in Scope 3 Greenhouse Gas Management*. Science Based Targets.

21 See pages 28-32, Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF). (2018). *IGF Guidance for Governments: Local content policies*.

22 The project was supported by the Inter-American Development Bank (IDB), the Alta Ley Corporation and the Association of Industrial Mining Suppliers (Aprimin).

Emissions Reduction Through Supplier Engagement





procured from different suppliers, and participating company, Codelco, has since implemented a version of this tool. Such studies should be built upon and used to inform decision making for localising procurement to achieve material emissions reductions.

Policy and Industry Practice

Policies that prioritise local procurement through the green transition must consider the impact that carbon taxes, and other policy instruments for reducing carbon emissions, may have on the competitiveness of domestic suppliers to the mining sector. Rebates or exemptions for local producers that also export, and applying fees to imports, ensures that sourcing of goods, and their associated emissions, do not migrate to jurisdictions with less stringent climate policies.²³ Border Carbon Adjustments (BCAs), also known as carbon import tax or carbon tariffs, are garnering increased attention as a means to address this imbalance. This is evidenced by the European Commission's recently proposed Carbon Border Adjustment Mechanism (CBAM), which would implement reporting requirements for imported products, such as cement, iron and steel, and aluminum, and would apply pricing beginning in 2026.²⁴ However, in recent years, some mining companies in western Canada have realised cost savings by importing select bulk materials over purchasing from local suppliers as a result of Canada's carbon pricing system, introduced in 2019. Therefore, efforts must ensure that such policies mitigate adverse impacts on local firms.

Since decarbonization of upstream supply chains means greater complexity of purchasing company needs, an evolving compliance landscape, and in turn, process and product innovation by suppliers, mining host countries must ensure that local procurement is prioritised through supply side policy. This means facilitating supplier capacity building programs that integrate access to green technology. Demand side policy should also encourage provisions for bid scoring that account for differing maturity levels of local businesses to achieve scope 1 and 2 emissions reductions. Such practices warrant attention by industry associations and voluntary initiatives, to promote efforts that strengthen backward

linkages and account for the challenges faced by local supply chain partners. Emissions reduction through procurement will therefore present new opportunities for supplier engagement by mining companies, taking on a nuanced role in facilitating capacity building for suppliers to quantify, report and reduce emissions. Several companies are already working to achieve scope 3 targets by leveraging supplier engagement through initiatives such as the CDP's Supply Chain Program.²⁵ The SBTi has also outlined steps for engaging with suppliers to reduce emissions across the value chain.²⁶ Engagement strategies begin with supplier selection, which may be based on a number of factors, such as proportion of overall procurement spend, supplier location, associated risks of the supplier not meeting reduction targets, and strategic relationship potential. Strategies then require communicating emissions reduction targets with suppliers, which may take the form of company standards, third party standards, or tailored contract language. Other approaches may be informative, offering support to suppliers in the form of training and tools, such as frameworks and software, or partnering with sourcing teams to increase collaboration with procurement teams. Another approach is establishing expectations with suppliers and integrating these expectations into decision-making through rating or scoring systems. No matter the approach, support is crucial to enable suppliers to meet their agreements, and SME financing of reduction efforts is a key consideration following quantification of emissions. Financing and project support may take the form of incentives in procurement structures, or facilitating supplier access to services or infrastructure, for instance, renewable energy, at a lower price than would normally be available to them. Thus, the creation of domestic business networks and the formation of industrial clusters and government partnerships enables best practice dissemination and, in some cases, cost sharing. Furthermore, supplier engagement presents opportunities for co-innovation and joint ventures or projects, with focus on energy efficiency, alternative fuels, and renewables.

Reporting and Transparency

Establishing required disclosures for suppliers, either privately to the purchasing company, publicly, or through auditing, will propel companies toward meeting their scope 3 commitments. Increased transparency is necessary on scope 3 boundaries, calculation methodologies, reduction targets and strategies, while considering the challenges that exist in standardising disclosure of this information due to the diversity of commodities and material emissions categories.

23 Center for Climate and Energy Solutions. (2022). *Carbon Border Adjustments*.

24 See page 12, Sawyer, D. & Gignac, R. (2022). *Border Carbon Adjustments: The case for a cooperative, principles-based approach*. Canadian Institute for Climate Choices.

25 CDP. (2021). *Supply chain webinar series: Achieving sustainability targets through supply chain transformation*.

26 See pages 22-26, Farsan et al. (2018). *Value Change in the Value Chain: Best Practices in Scope 3 Greenhouse Gas Management*. Science Based Targets.

CONCLUSION

Increased mining activity for critical minerals required for the green transition will present significant opportunities for host countries through procurement of goods and services. At the same time, reduced mining activity and coal mine closure will have implications along the entire value chain. Amidst the global mining sector increasingly automating and adopting other forms of technology that reduce direct employment, the role of local procurement in ensuring economic benefits for host countries becomes even more pronounced.

As the mining sector seeks to reduce its own emissions, efforts will extend along the value chain to include scope 3 emissions from purchased goods and services. Increasingly complex product and service needs will require adaptation by suppliers going forward, shifting to low carbon inputs, new technologies, and even new business models. Government policy and mining industry procurement practices must therefore evolve to support supply chain actors at the local level through the quantification of emissions and the development of reduction strategies. Doing so will help to ensure competitiveness of local suppliers to the mining sector, and secure access to the minerals that are critical for the green transition.

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