

## Joint Study Groups' Seminar

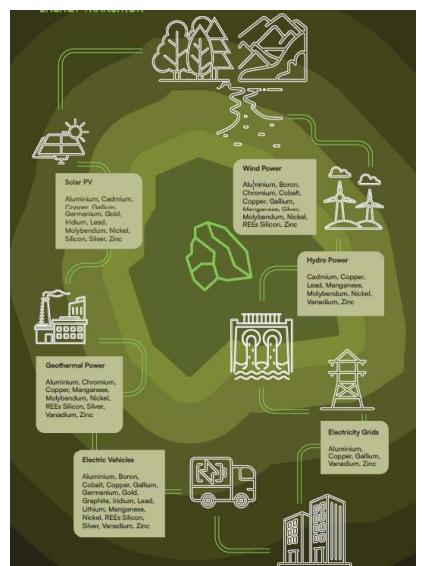
### The Impact of Policy on Base Metal Trade Flows

#### Embedding environmental perspectives in trade policy

24 April 2025

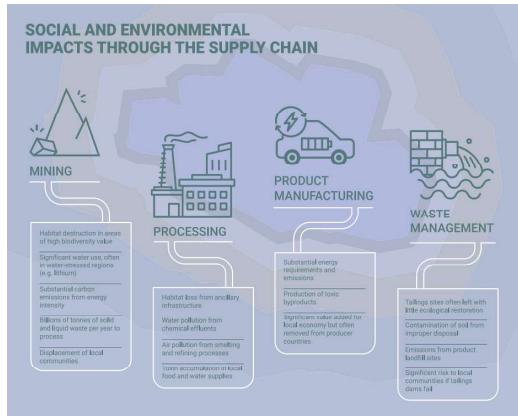
#### The energy transition: Critical and mineral hungry

- **80% of global energy and transport system** is powered by **fossil fuels**, exacerbating the climate change crisis.
- **Sustainable energy and renewable energy technologies:** Critical to achieve the Paris Agreement goals, net zero emissions by 2050.
- **Twenty-six minerals** are essential to clean energy technologies – zinc, copper, nickel and lead, among them.
- Achieving net zero by 2050 implies a **six-fold increase in production of these minerals** from 2022 levels.
- Mining of minerals and metals for jobs and improved economic prospects: In 2022, mining contributed to **24.2 million jobs globally** and **US\$943 billion in total revenue** of the leading 40 companies.



Source: UNEP (2024).  
*Critical Transitions: Circularity, equity, and responsibility in the quest for energy transition minerals - Working Paper.*

## The energy transition: Environmental and social impacts



Source: UNEP (2024).

*Critical Transitions: Circularity, equity, and responsibility in the quest for energy transition minerals - Working Paper.*



Mining energy transition minerals and renewable energy technologies contribute to **climate instability, biodiversity loss and pollution**.



**Energy and water intensive:** +50% of lithium product is in regions with high water stress levels, conflict with arid areas competing for water demands.



Increase in energy transition mineral mining could result in **13 billion tons of waste rock** yearly, but less than 15 billion tons of fossil fuels currently extracted, burned each year.

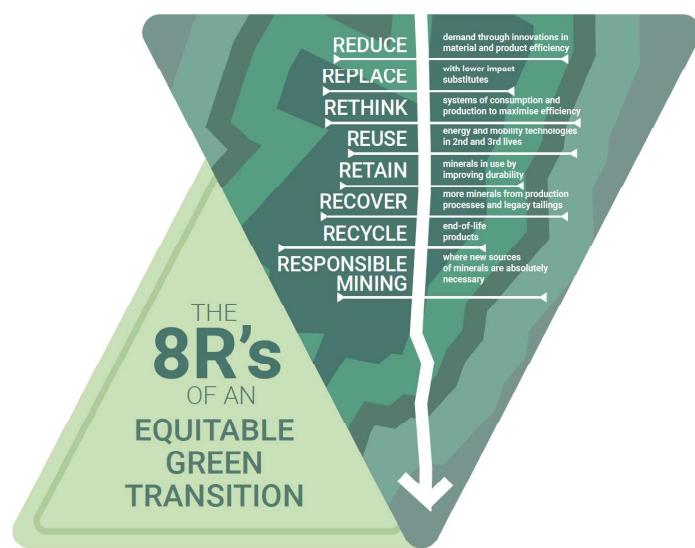
Speed and scale of energy transition is uneven: Depends on access to critical energy transition minerals, technologies and to benefits.

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## Toward a green energy transition: Circularity and responsibility

Circularity, efficiency and equity to address three challenges:

**supply shortages** of energy transition minerals,  
**time lags** in ramping up supply, and potential  
**environmental and social impacts**  
of a rapid mining expansion.



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## Toward a green energy transition: Circularity and responsibility



### Seven (7) Guiding Voluntary Principles

**PRINCIPLE 1**  
Human rights must be at the core of all mineral value chains.

**PRINCIPLE 2**  
The integrity of the planet, its environment and biodiversity must be safeguarded.

**PRINCIPLE 3**  
Justice and equity must underpin mineral value chains.

**PRINCIPLE 4**  
Development must be fostered through benefit sharing, value addition and economic diversification.

**PRINCIPLE 5**  
Investments, finance and trade must be responsible and fair.

**PRINCIPLE 6**  
Transparency, accountability and anti-corruption measures are necessary to ensure good governance.

**PRINCIPLE 7**  
Multilateral and international cooperation must underpin global action and promote peace and security.



### Actionable Recommendations

A High-Level Expert Advisory Group to accelerate greater benefit-sharing, value addition and economic diversification in critical energy transition minerals value chains as well as responsible and fair trade, investment, finance, and taxation.

A global traceability, transparency and accountability framework along the entire mineral value chain – from mining to recycling – to strengthen due diligence, facilitate corporate accountability and build a global market for critical energy transition minerals, though the framework should not be used as a unilateral trade barrier.

A Global Mining Legacy Fund to build trust and address legacy issues as a result of derelict, ownerless or abandoned mines, and strengthen financial assurance mechanisms for mine closure and rehabilitation.

An initiative that empowers artisanal and small-scale miners to become agents of transformation to foster development, environmental stewardship and human rights.

Equitable targets and timelines for the implementation of material efficiency and circularity approaches across the entire life cycle of critical energy transition minerals.

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## Delivering green energy transition: Environmental perspectives in trade policy formulation

Embedding environmental provisions in trade policy through:

- **Trade policies** that promote and support **traceability** and **transparency** regarding circularity in mineral and metal value chains;
- **Technical assistance** to implement **standards and certification systems** for responsible mining and market access: Mandatory requirements and voluntary and market-based schemes, such as labeling.
- **Provisions for capacity building on environmental issues:** Cooperation on enforcement and compliance programmes for environmentally sound management of used metals.
- Favorable conditions for **transfer and dissemination of technology** for circular solutions and **promote technology-sharing**.
- Removal of **trade and investment barriers** to enable access, sustainable production, deployment of critical energy transition minerals and renewable technologies.

## Thank you

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