



Regional Policy Dialogue on CETM in the Arab Region
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CETMs and their Implications to the Arab Region



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Critical energy transition minerals (CETMs)

	Copper	Cobalt	Nickel	Lithium	REEs	Chromium	Zinc	PGMs	Aluminium*
Solar PV	●	○	○	○	○	○	○	○	●
Wind	●	○	●	○	●	●	●	○	●
Hydro	●	○	○	○	○	●	●	○	●
CSP	●	○	●	○	○	●	●	○	●
Bioenergy	●	○	○	○	○	○	●	○	●
Geothermal	○	○	●	○	○	●	○	○	○
Nuclear	●	○	●	○	○	●	○	○	○
Electricity networks	●	○	○	○	○	○	○	○	●
EVs and battery storage	●	●	●	●	●	○	○	○	●
Hydrogen	○	○	●	○	●	○	○	●	●

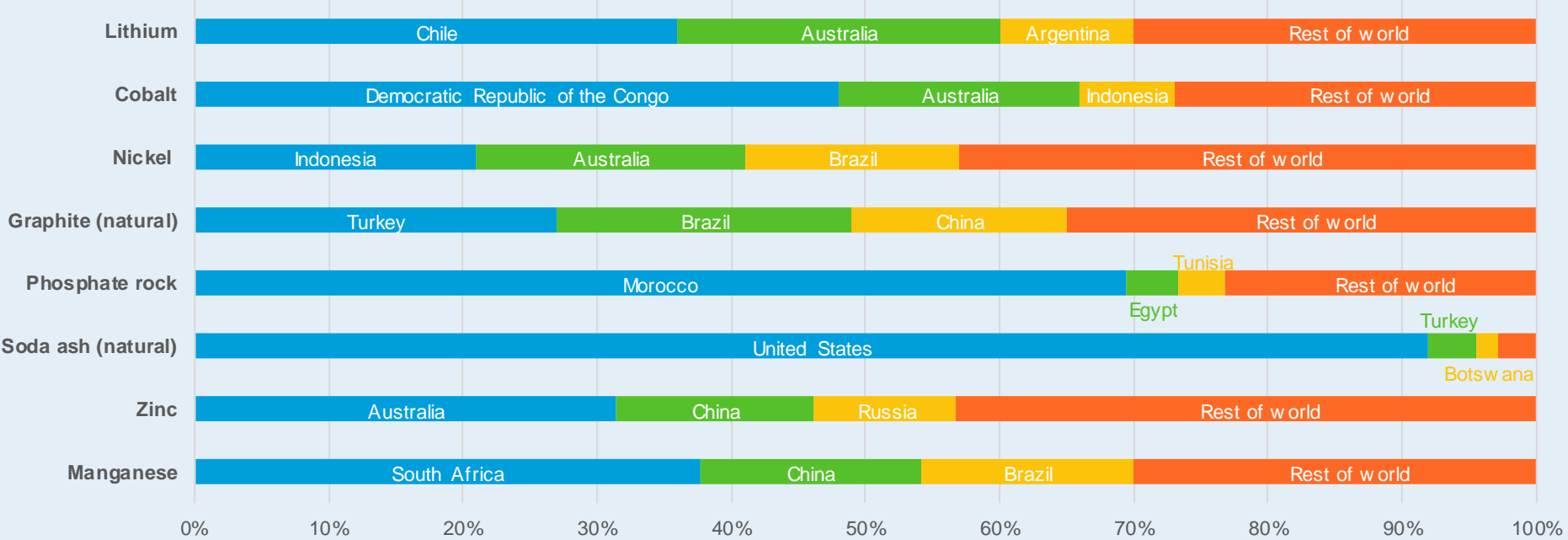
Source: IEA.

Notes: Shading indicates the relative importance of minerals for a particular clean energy technology (● = high; ● = moderate; ○ = low).

CSP = concentrating solar power; PGM = platinum group metals.

* Aluminum demand is assessed for electricity networks only and is not included in the aggregate demand projections.

Many developing countries hold large reserves of Critical Energy Transition Minerals (CETMs)

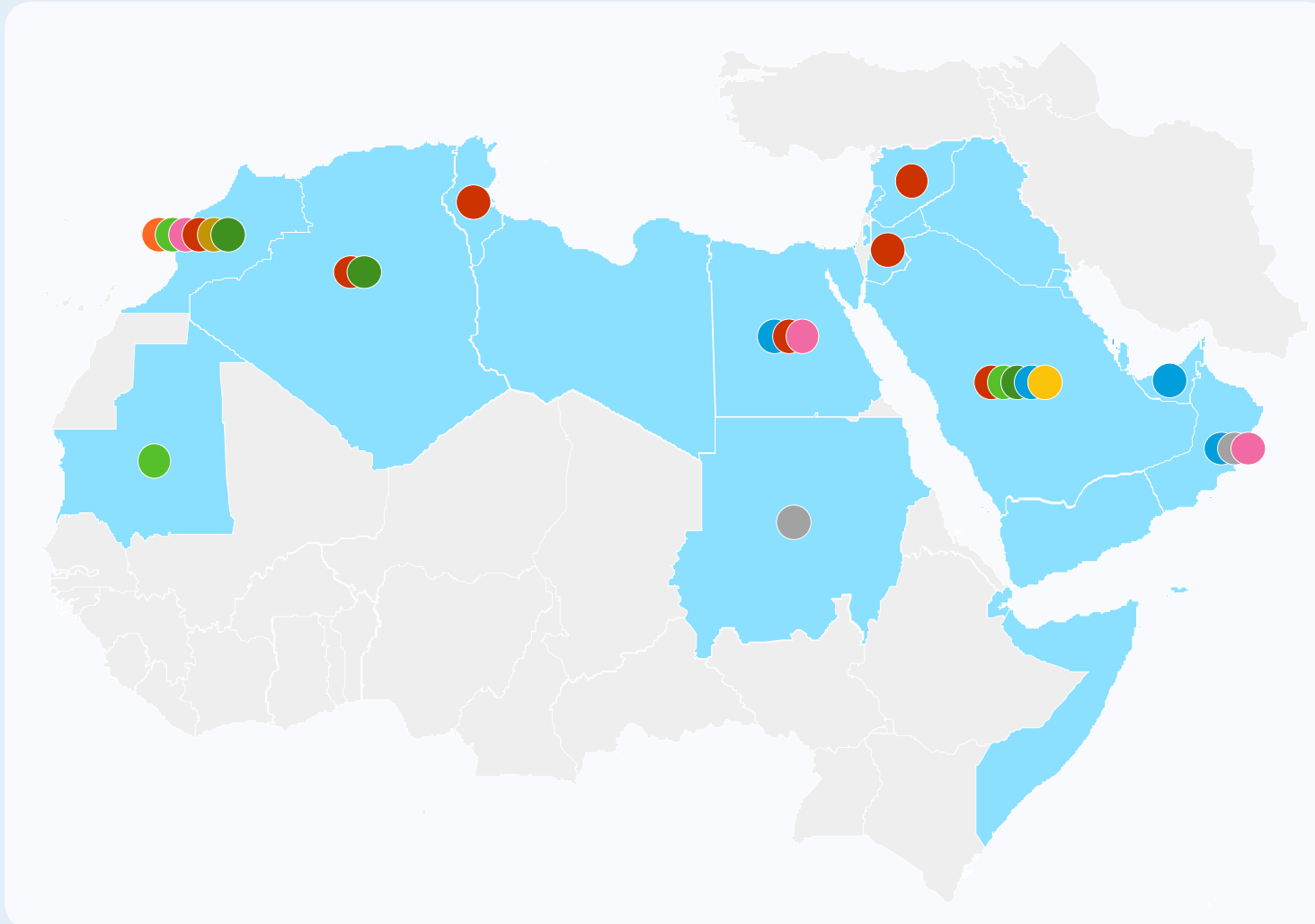


Reserves of selected minerals, 2022

Source: UNCTAD using USGS Data.



Minerals Found in the Region



Green Transition Minerals

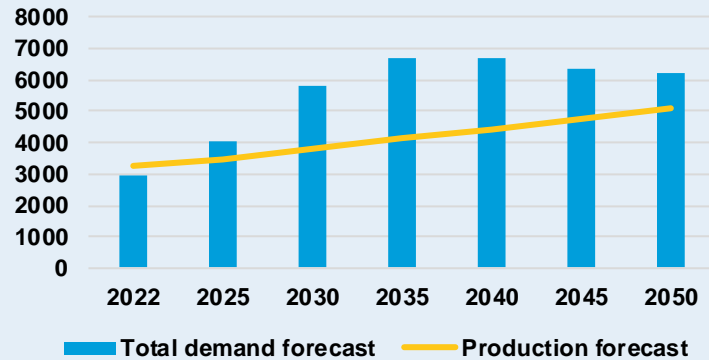
- Aluminium
- Bauxite
- Chromium
- Cobalt
- Copper
- Manganese
- Nickel
- Phosphate Rock
- Zinc

Note: Bahrain and Qatar produce Aluminium (not shown due to readability issues).

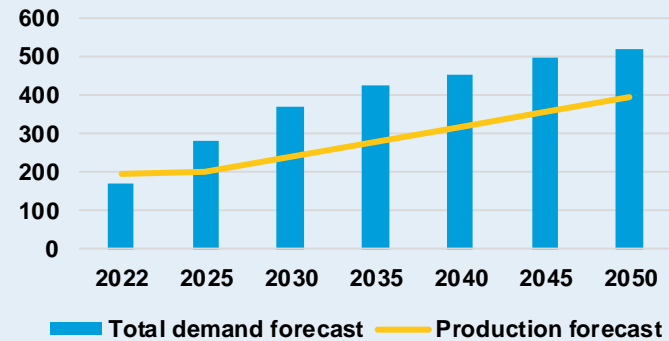


Increasing demand for critical energy transition minerals outstrip supply

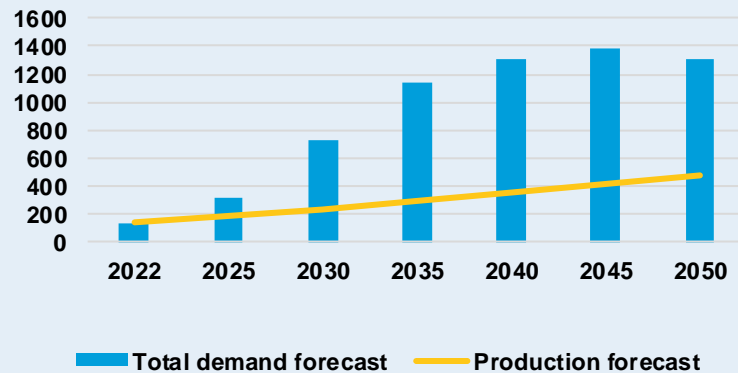
Nickel, kt



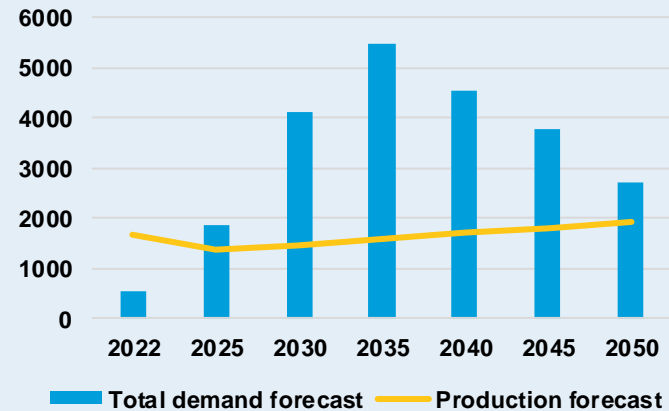
Cobalt, kt



Lithium, kt



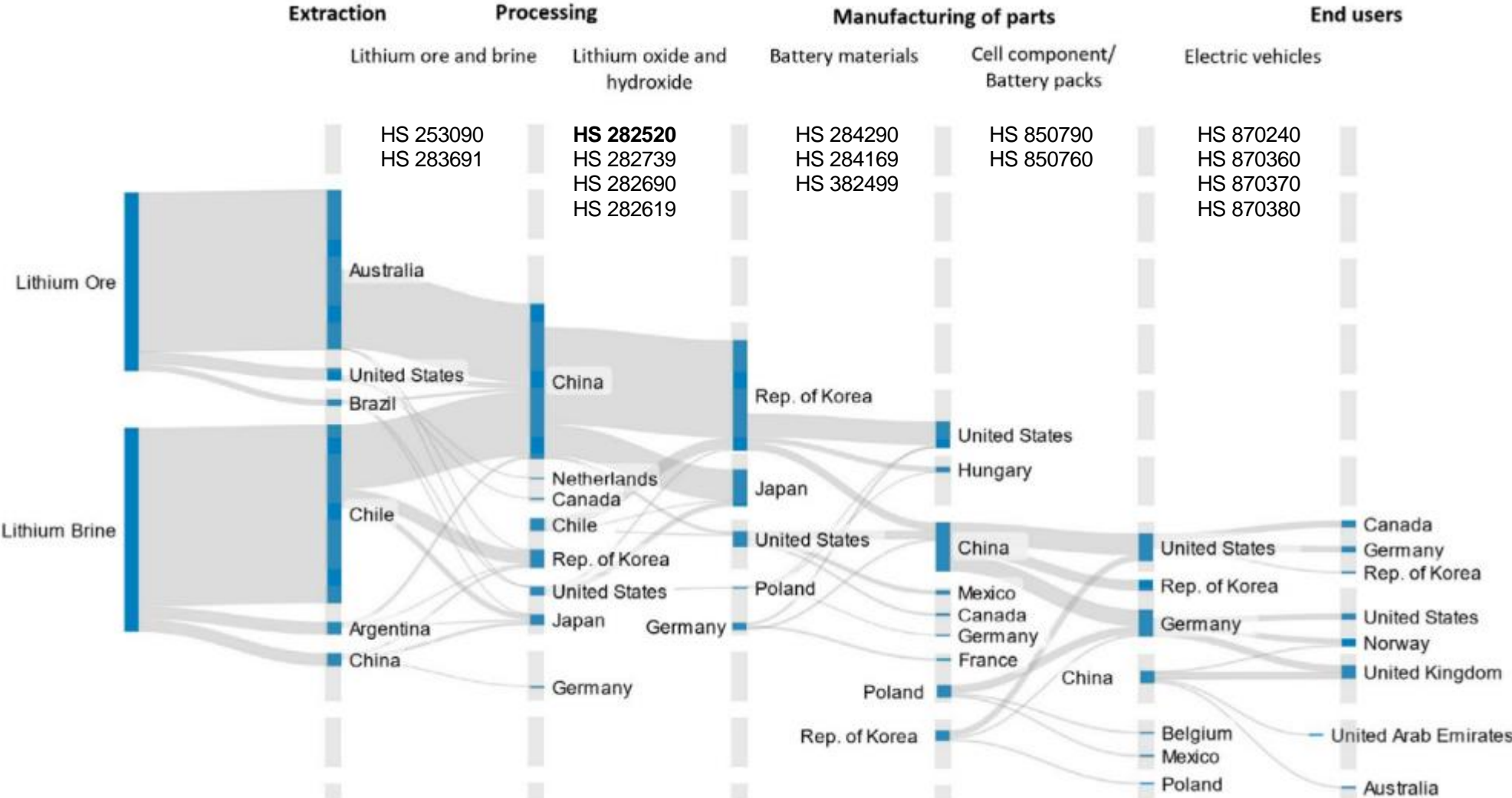
Graphite, kt



Source: IEA, UNCTAD.

Trade is concentrated upstream in the value chain

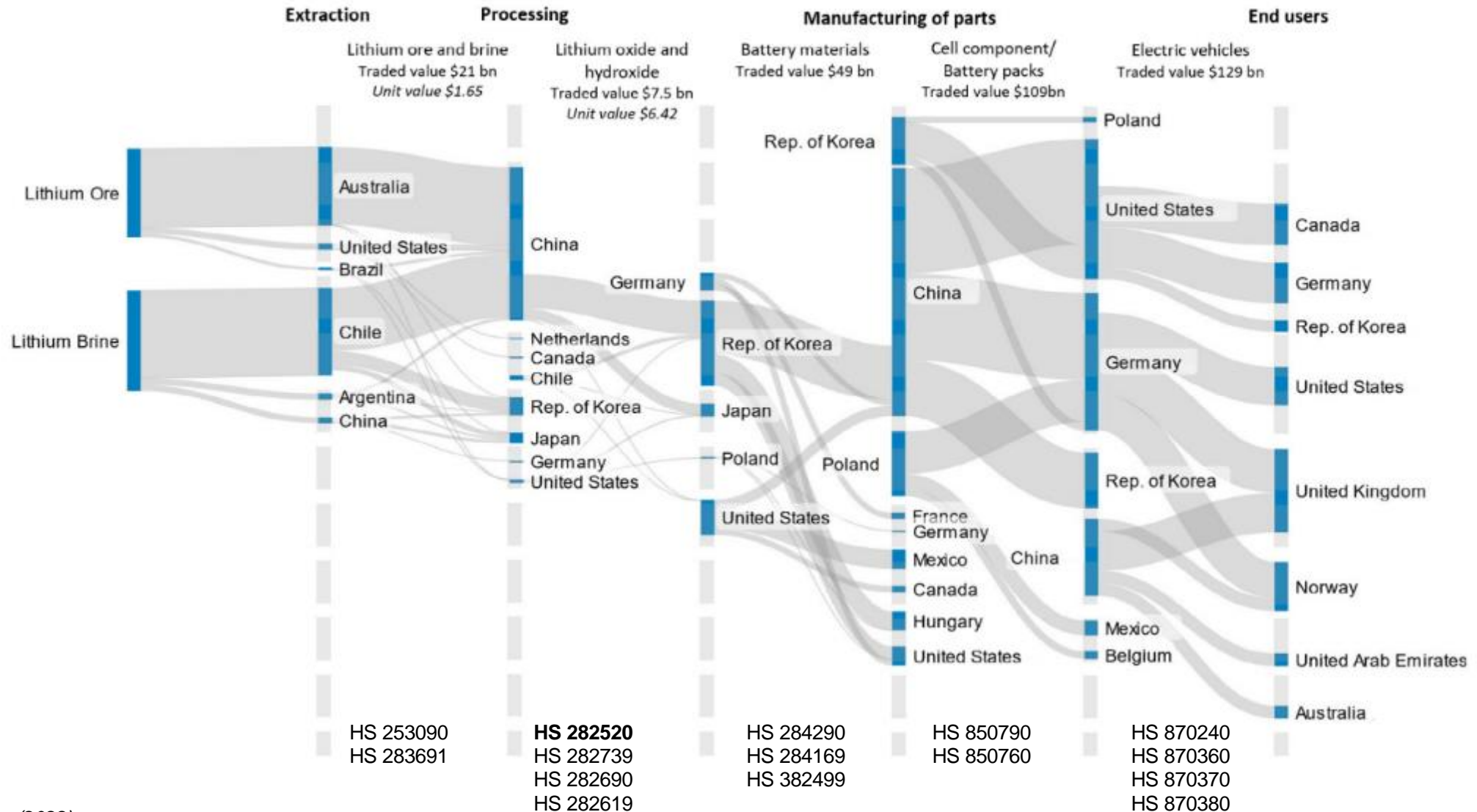
Lithium trade flows along the EV value chain, 2022 (percentage of total exports)



Note: export value (2022)
 Source: UNCTAD Secretariat based on calculations from UN Comtrade.

Trade values increase downstream in the value chain

Lithium trade flows along the EV value chain, 2022 (USD)

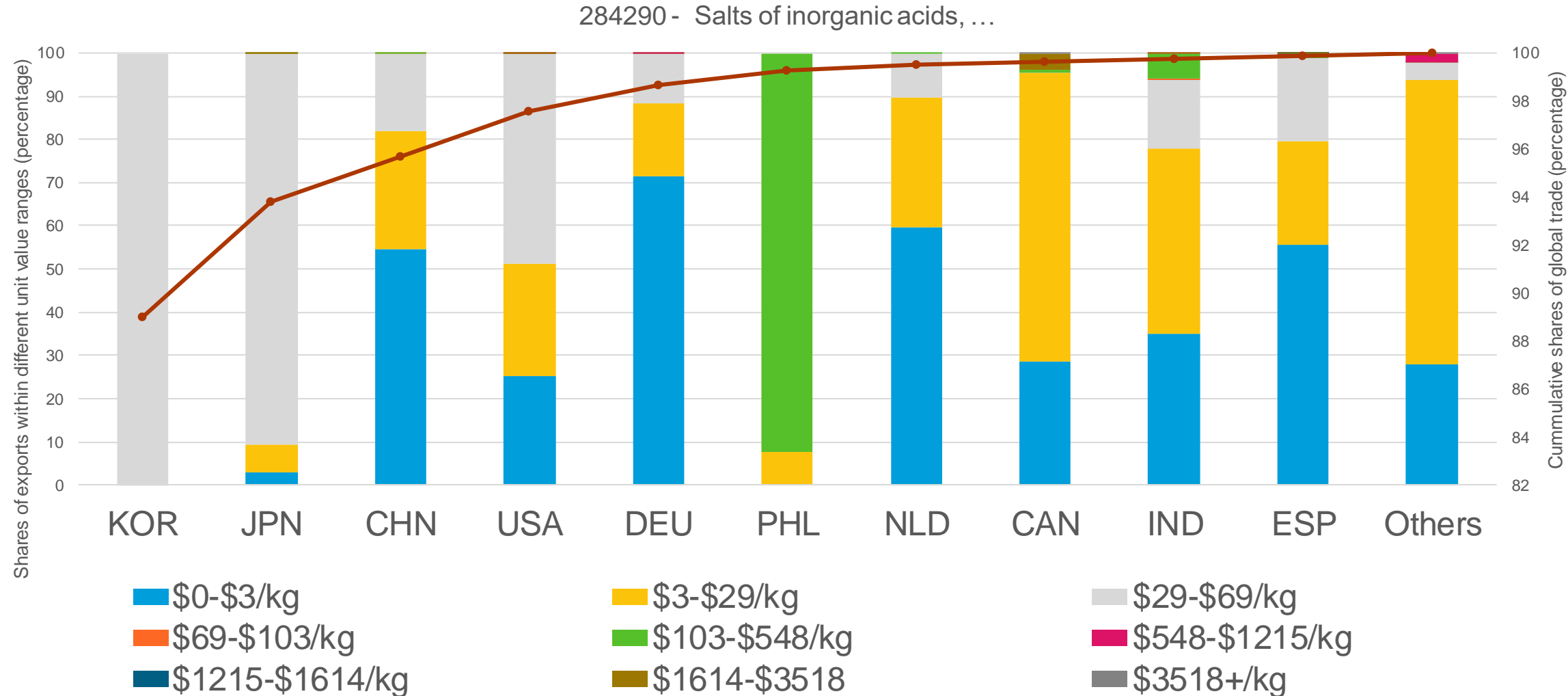


Note: export value (2022)

Source: UNCTAD Secretariat based on calculations from UN Comtrade.

Battery material are traded in various ranges of unit values, mainly by developed countries

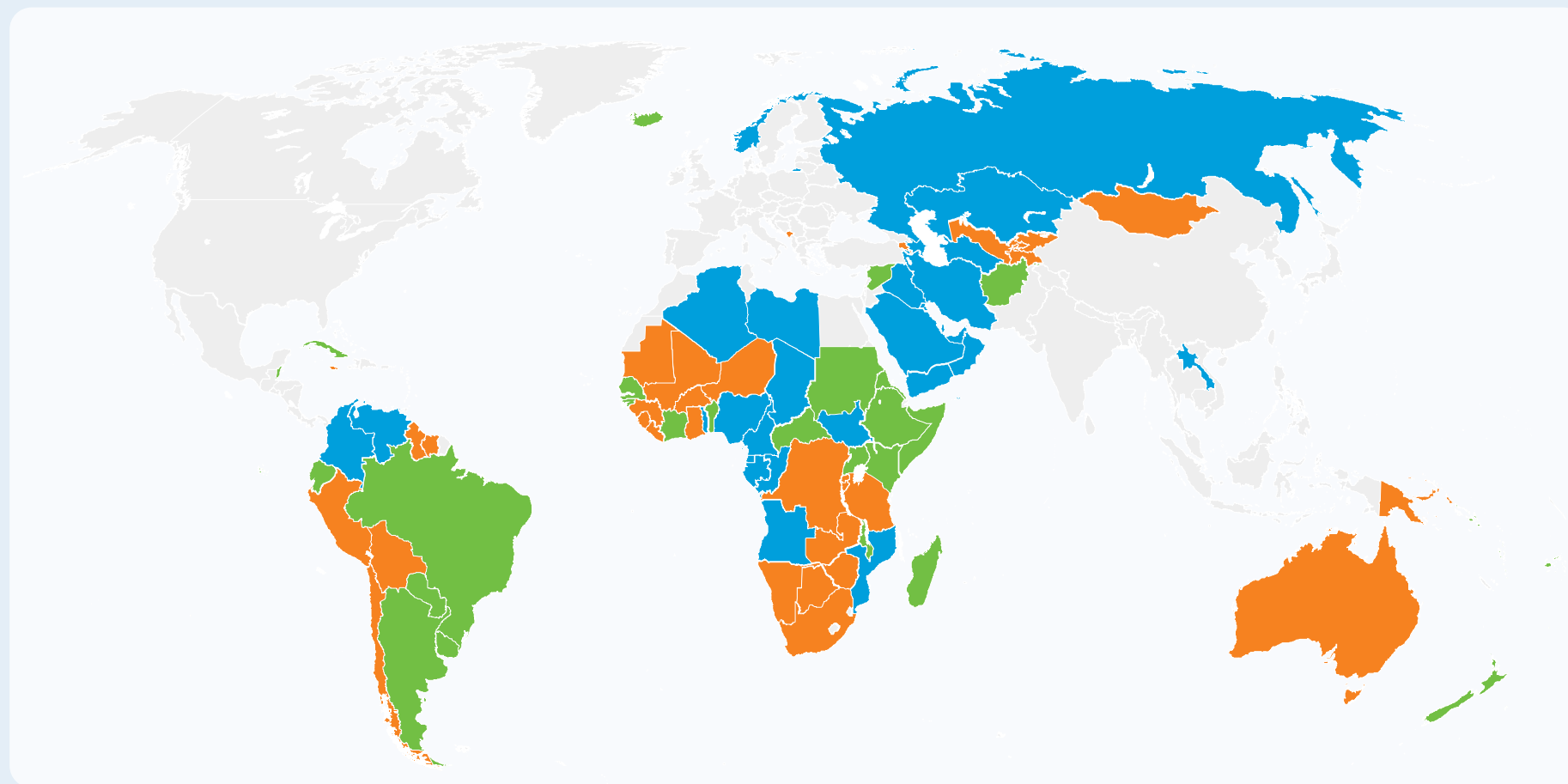
Unit value of exports| Battery material containing Lithium| EV value chain



Note: export value (2022)

Source: UNCTAD Secretariat based on calculations from UN Comtrade.

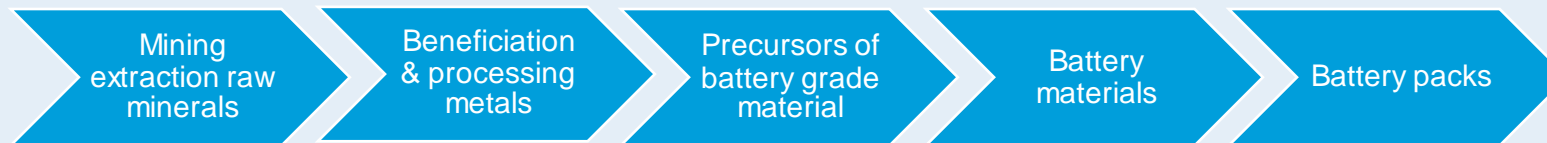
Commodity dependence remains a critical issue for developing countries



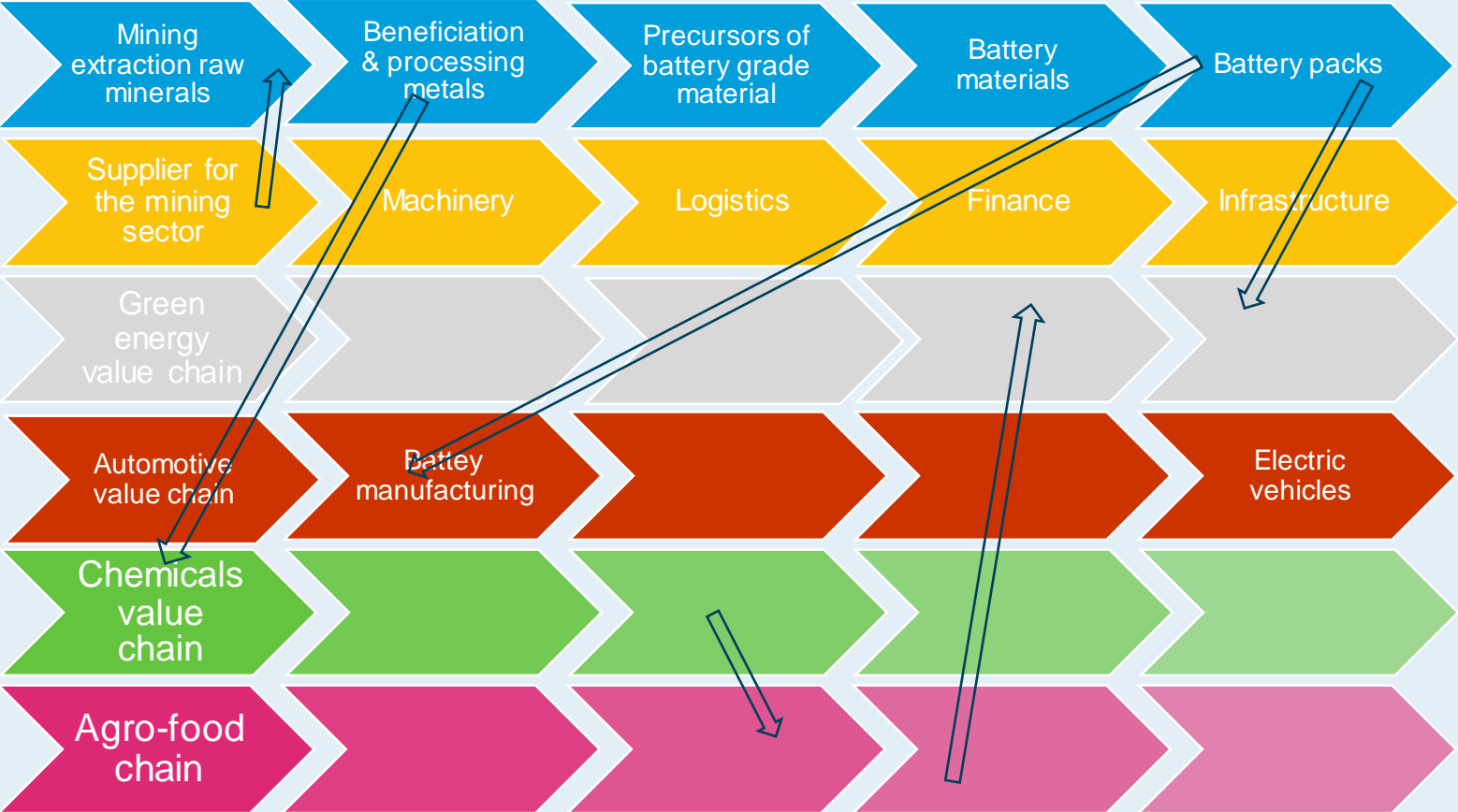
Legend:

- Agriculture
- Mining
- Energy

Value addition and diversification: Structural transformation perspective



Value addition and diversification: Structural transformation perspective



Source: UNCTAD based on Andreoni A and Avenyo E (2023). Critical Minerals and Routes to Diversification in Africa: Linkages, Pulling Dynamics and Opportunities in Medium-High Tech Supply Chains. Background paper commissioned by the UNCTAD secretariat for the 2023 edition of the Economic Development in Africa Report. https://unctad.org/system/files/non-official-document/edar2023_BP1_en.pdf

Implications for CETM-endowed commodity-dependent developing countries

- CDDCs need to quickly leverage their critical minerals because:
 - This advantage will not last forever due to changing technologies
 - Need a strategy: avoid dependence from one commodity to another (critical mineral)
- Building domestic or regional value chains
- Need to strategically consider the possibilities for diversification along the values chain and also outside of the value chain (using the rent from resource extraction)



The UN-wide initiatives on CETMs

The United Nations Secretary-General's initiative on CETM will...

- Support CETM-producing countries to harness economic opportunities → UN Interagency by Working Group on Extractive Industries to deliver “modules” of knowledge in partnerships with the UN across 4 pillars.
- Build trust, reliability, resilience, and benefit-sharing in existing critical mineral supply chains → UN Secretary-General's Panel on CETM to identify “common and voluntary” principles of fair, just, and sustainable management of CETMs.



Critical minerals



© Shutterstock/ Freedom_wanted | Lithium evaporation ponds in northern Argentina



We cannot repeat the mistakes of the past with a systematic exploitation of developing countries reduced to the production of basic raw materials. The race to net zero cannot trample over the poor.

António Guterres
Secretary-General of the United Nations

As the climate crisis intensifies, global demand is soaring for minerals that are critical for clean energy technologies – from wind farms to solar panels and electric vehicle batteries.

Many of these critical energy transition minerals, such as copper, lithium, nickel and cobalt, are also powering the global digital transformation.

Opportunities and risks for developing countries

Developing countries hold the bulk of the world's critical mineral reserves.

The surging demand offers them a pivotal opportunity to create jobs, diversify economies and boost revenues – but only if the minerals are mined and processed in a sustainable, fair and just way.

To fully benefit from their critical mineral wealth, these nations must add maximum value locally.

They must move beyond mere raw material supply and diversify their economies, advancing up clean energy and high-tech value chains.

Otherwise, the critical minerals boom risks deepening commodity dependencies, exacerbating economic vulnerabilities and worsening inequalities.



There is now an opportunity to leverage these new commodities to update our trade regime, promote structural diversification and turn the tide of commodity dependence once and for all.

Rebeca Grynspan
Secretary-General of UN Trade and Development (UNCTAD)

Summary of Discussions

UNSG's Panel on CETM | Value addition and diversification

- Economic transformation in commodity-dependent developing countries is needed to drive broad-based benefit-sharing and economic diversification.
- Little beneficiation or processing is added to CETM exports from developing countries. dependency on raw mineral exports exposes them to market volatility and economic vulnerabilities.
- Local value addition can boost revenues, create jobs, increase tax income, stabilize export revenues, and foster industrial development.
- Enhance mid- and downstream capacities to diversify value chains, making CETM supply chains more resilient.

Summary of Discussions

UNSG's Panel on CETM | Fair trade and investment

- Some producing countries say that international institutional and legal frameworks fall short of ensuring equitable outcomes in the extraction, production and trade of mineral commodities.
- Asymmetries in multilateral trade and investment rules towards more equitable outcomes should be addressed through dialogue, transparency and respect. Such equitable outcomes must balance CETM-producing countries' right to development.
- Harmonized standards, based on credible criteria, are crucial for equitable outcomes. Streamlining their implementation and traceability minimizes compliance burdens in supply chains.
- Transparency in investments, procurement, and other commercial transactions, reduces misinformation and mitigates corruption. To achieve this, all stakeholders in the CETM value chain should openly share info, from policies to geological data, contracts, prices, and payments

Questions for discussion

- How do we balance the objectives of the multilateral trade system with national development objectives in the context of climate change and CETM?
- What trade-related policy instruments have been successful in promoting domestic value addition and responsible production?
- How could alternative emerging technologies affect the expected mineral demand?
- What incentives exist to promote trade of responsibly produced minerals and mineral-based products?
- How can regional supply chains be fostered to build resilience, add value, downstream diversification, reduce supply chain vulnerabilities, and ensure stability in the mineral value chain?

Thank you

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