

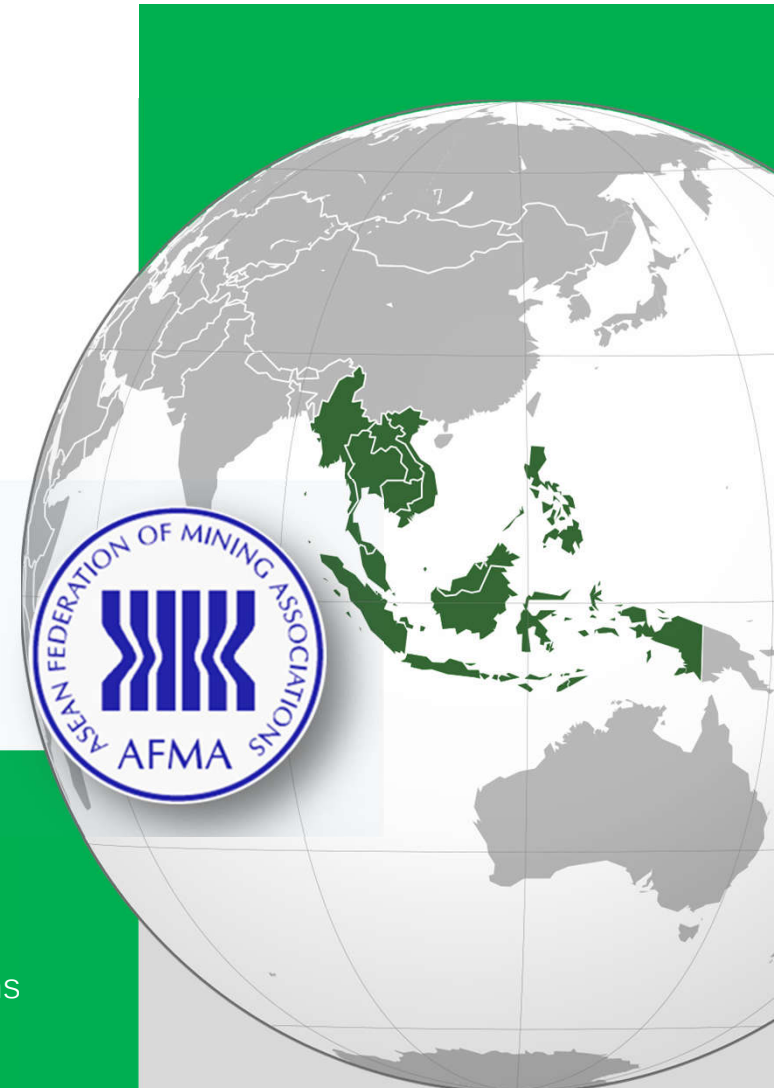
10th PRIVATE SECTOR FORUM ON COOPERATION IN MINERALS IN ASEAN 2022

“Towards creating a conducive environment for responsible and sustainable mineral resource development in ASEAN; focusing on addressing climate change, renewable energy and meeting carbon neutral targets”

KEYNOTE
ADDRESS
BY

DATO' SERI MOHD AJIB ANUAR

President, ASEAN Federation of Mining Associations
President, Malaysian Chamber of Mines



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“Towards creating a conducive environment for responsible and sustainable mineral resource development in ASEAN; focusing on addressing climate change, renewable energy and meeting carbon neutral targets”

1. Introduction

- 2022 ASEAN Summit, in Phnom Penh, Cambodia, held on 11 November 2022, recognised the following;
 1. Strong outlook of the global minerals and metals demand up to 2050 and beyond, and
 2. Opportunities for ASEAN to play an important role in the minerals value chain, including the emerging requirements of the global energy transition and digital age technologies.
- ASEAN Ministers in-charge of the minerals should cooperate and collaborate towards promoting the region as a minerals investment destination including successful implementation of the ASEAN Minerals Cooperation Action Plan (AMCAP-III) Phase 2: 2021-2025 to develop the region’s mineral endowment in a sustainable manner.
- ASEAN recognised the importance of the implementation of the Framework for Circular Economy for the AEC to achieve carbon neutrality in the region under the Paris Agreement 2015.
- ASEAN noted the satisfactory progress in the implementation of the ASEAN Plan of Action for Energy Cooperation (APAEC) Phase II: 2021- 2025
- Timely for AFMA to highlight the importance of creating a conducive environment for responsible and sustainable mineral resource development in ASEAN by focusing on addressing climate change, renewable energy and meeting neutral targets.

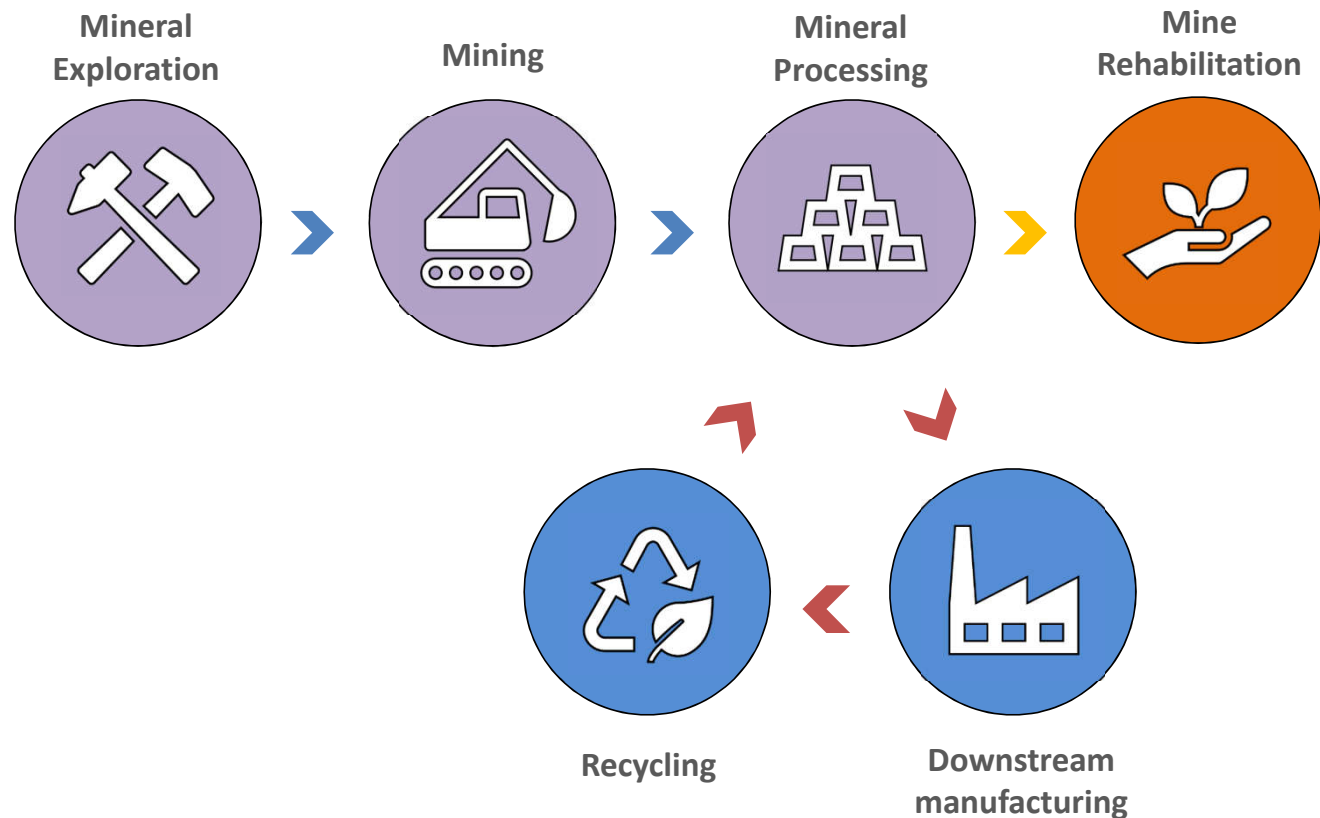


**ASEAN
CAMBODIA 2022**

**ASEAN A.C.T:
Addressing Challenges Together**

2. Environmental, Social and Governance (ESG) Initiatives for Responsible and Sustainable Mineral Resource Development

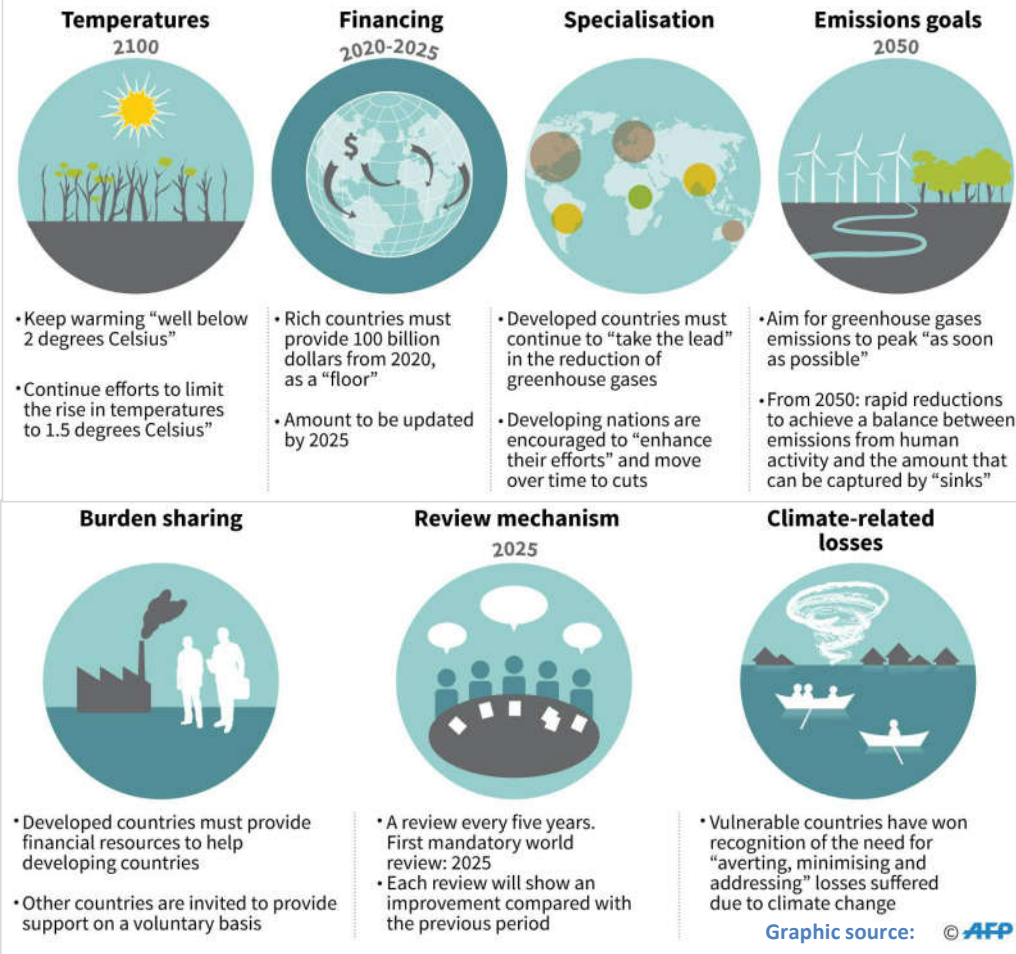
- Mining and metal sectors increasingly becoming exposed to ESG risks.
- ESG relevant throughout the entire mineral industry value chain.
- ESG requirements focus on PEOPLE, PROCESS and PRODUCT.
- Crucial for the mineral sector to upgrade ESG know-how to support low-carbon economy.



3. Global Priority on Climate Change Agenda and Carbon Neutral Targets by 2050

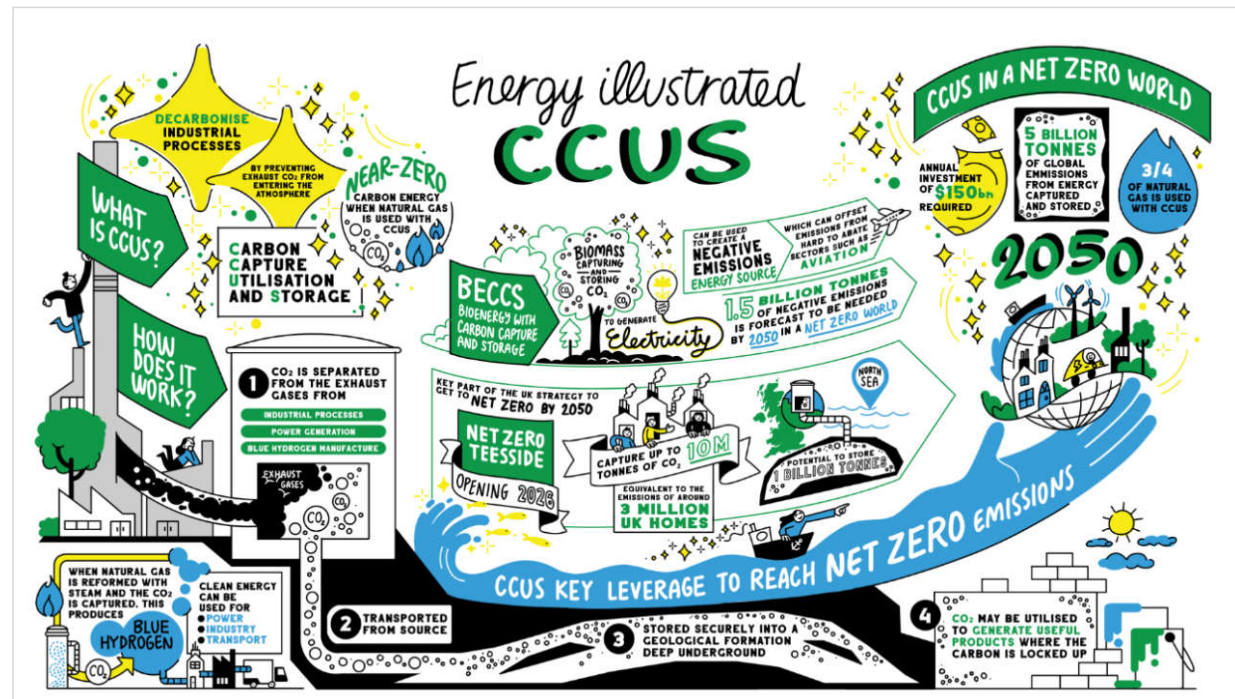
- The Paris Agreement 2015 outlines 6 key points including Emissions Goal by 2050.
- Carbon neutrality equals balancing carbon emission and carbon removal from the atmosphere into natural carbon sinks such as soil, forests and oceans.
- ASEAN countries have expressed their commitments and players in the mineral industry have to do their part in helping the respective Governments to meet those targets.

The Paris climate agreement: key points



4. Carbon Reduction, Decarbonisation, Carbon Capture, Use and Storage (CCUS) and Integrated Net Zero Solutions

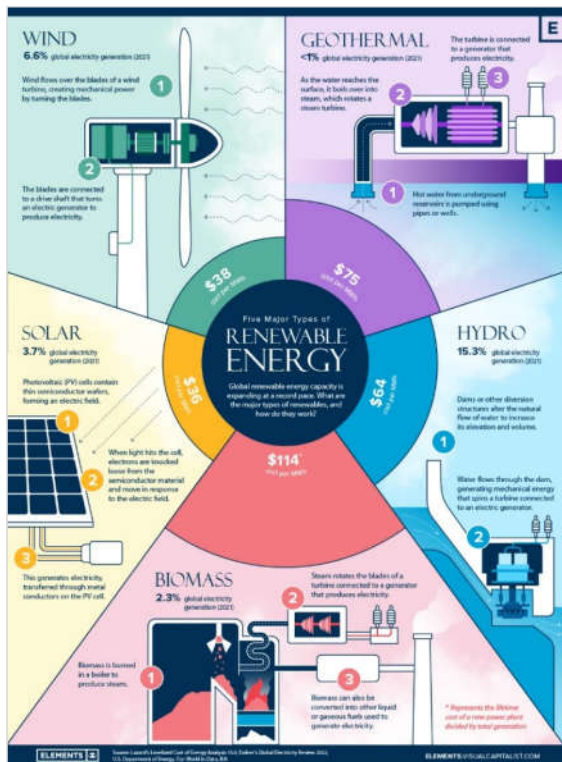
- Carbon neutrality can be achieved through reduction in emission, decarbonisation, carbon capture, use and storage (CCUS) and integrated net zero solutions
- CCUS reduces exhaust CO₂ from industrial processes from entering atmosphere.
- CO₂ can be captured, separated and stored in geological rock formations where it may be retrieved for economic uses in future.



Graphic source: <https://www.linkedin.com/pulse/progress-carbon-capture-storage-requires-global-effort-chierchia/>

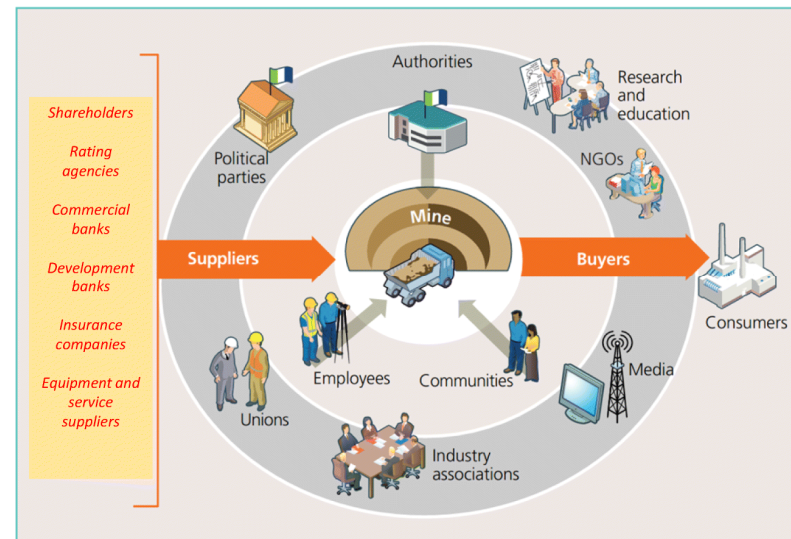
5. Empowering Energy Transition to the Various Stakeholders

- Governments must empower stakeholders to part take in the transition to renewable energy.



Graphic source: <https://elements.visualcapitalist.com/what-are-the-five-major-types-of-renewable-energy/>

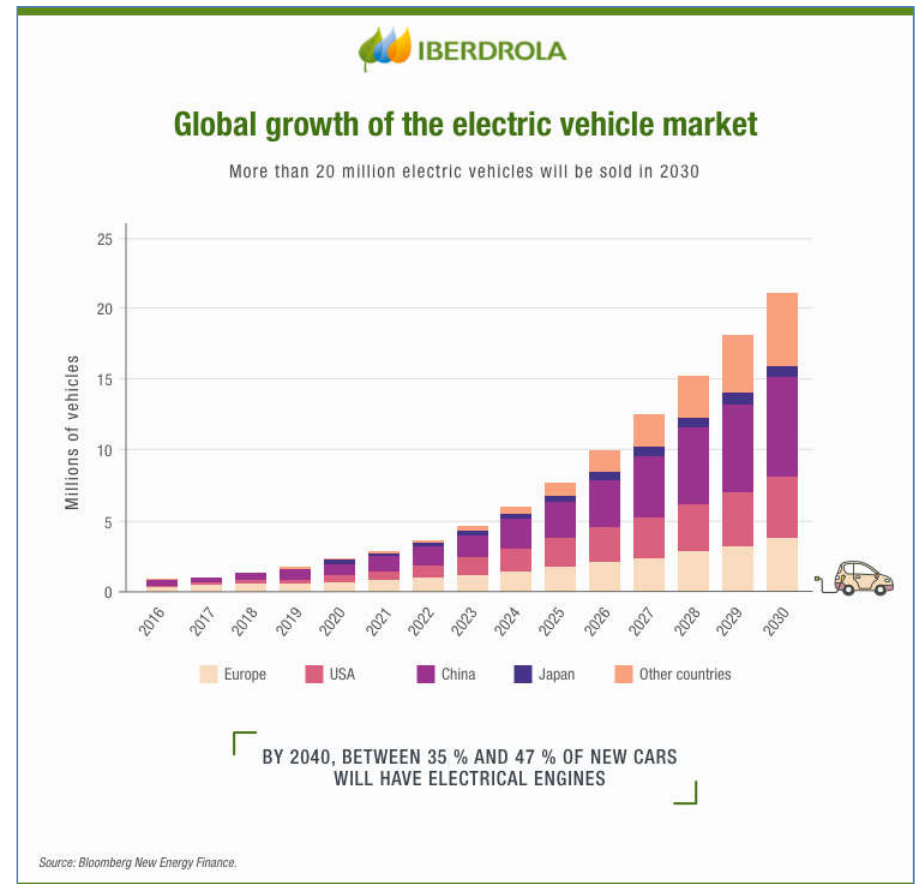
- Government must establish a renewable energy roadmap to harness energy from the sun, wind, water and natural resources.
- Energy transition to renewable power generation needs concerted efforts and coordinated actions between various stakeholders in the public and private sectors in the upstream, midstream and downstream value chain.



Graphic source: Minerals and metals industry stakeholders—Source: Christmann (2017) and IRP (2020)

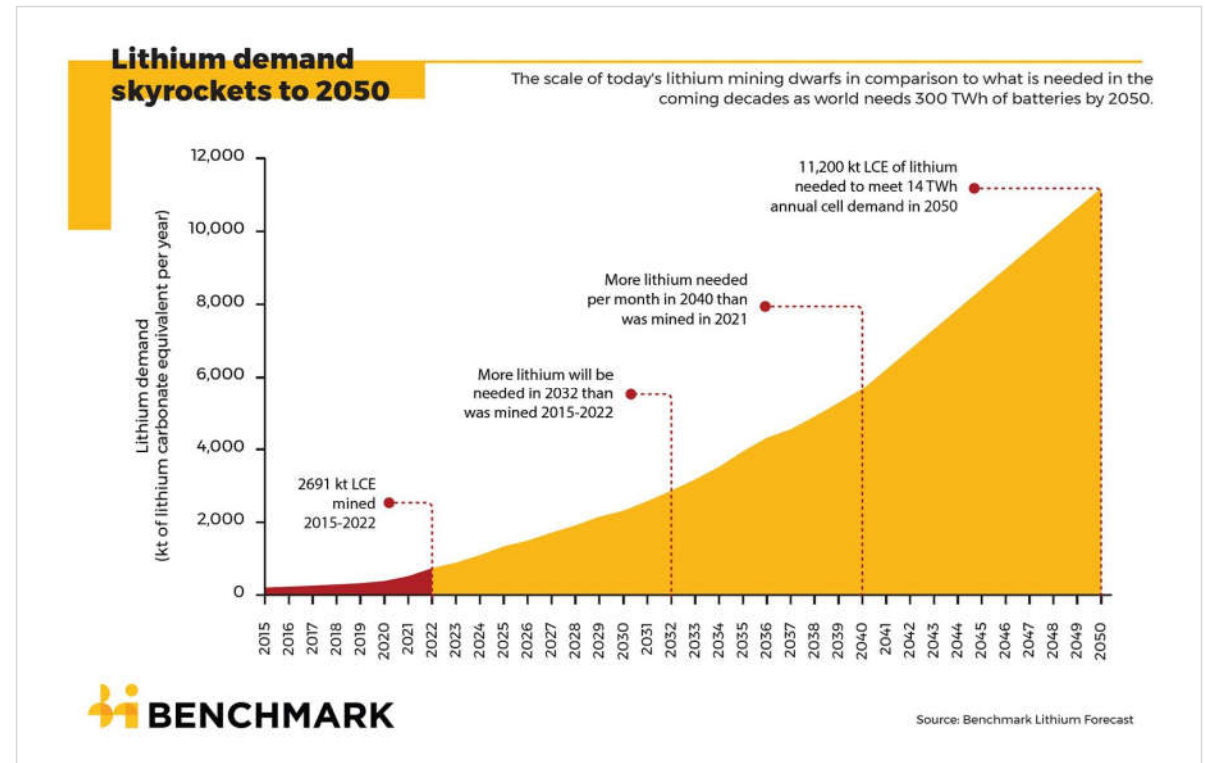
6. Electric Vehicles and Battery Metals for a Cleaner Future

- Exponential growth in the demand for electric vehicles and battery metals expected in the next few decades.
- Electric cars need 6x more metal inputs than conventional combustion engine cars.
- An offshore wind turbine requires 13x more metals than a similar capacity gas-fired energy generation plant on land.
- The search for new economic mineral deposits is crucial in the transition towards renewable energy.



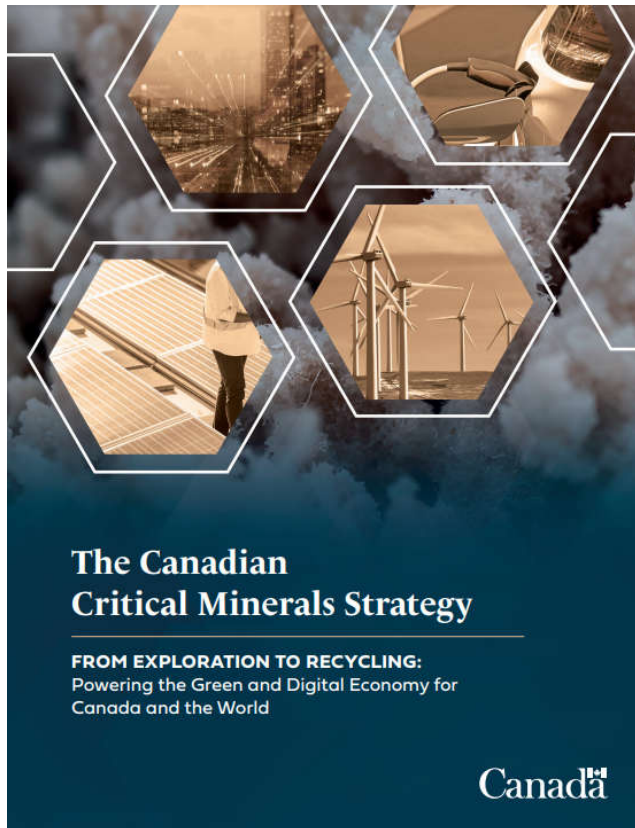
7. Need for Critical and Technological Metals

- Technology metals such as rare earths, lithium and nickel play a very important role in renewable energy and carbon reduction.
- Clean energy technologies clearly require much greater quantities of minerals and metals than their fossil fuel-based counterparts.
- As the world progresses towards carbon neutrality, the rapid shift to these technologies is expected to drive a significant increase in demand for technology metals.
- 300 new mines would be needed, 62 of which for nickel.



Graphic source: <https://www.linkedin.com/company/benchmark-mineral-intelligence/posts/?feedView=all>

8. Critical Roadmap for Responsible and Sustainable Mineral Resource Development



- A roadmap is critically needed for ASEAN region to help mineral resource development to meet the carbon neutral targets.
- The roadmap should be comprehensive covering mineral exploration to enable discovery of new mineral deposits to cater for the demand of renewable, clean energy and carbon neutral targets



Graphic source: <https://www.canada.ca/content/dam/nrcan-rncan/site/critical-minerals/Critical-minerals-strategyDec09.pdf>

9. Conclusion

01

Climate Change, Renewable Energy and Meeting Neutral Targets

Commitment to the Paris Agreement 2015 in addressing issues on climate change and targets on carbon neutral by 2050 had positively impacted the mineral resource industry.

02

High Demand for Critical and High Technological Metals

Demand will definitely be higher in the future for minerals and metals in the production of metals for renewable and clean energy-related applications and to fully comply with carbon neutral targets.

03

Roadmap for Responsible and Sustainable Mineral Resource Development

Critical to develop a comprehensive roadmap for the ASEAN region as a guidance for each ASEAN Member States in developing their mineral resources, responsibly, sustainably and most importantly **SUCCESSFULLY**.



thank you