Guidebook Launch
Key takeaways and next steps

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The Guidebook is:

1) A **UNECE publication** produced by RMYMG;
2) a result of collaborative work of **17 co-authors, 4 reviewers, and 2 coordinators from 15 countries**;
3) a contribution of young experts to building capacity and raising awareness among a diverse, non-technical audience in an accessible manner;
4) a contribution of young experts to the **ongoing UN-led work on critical raw materials**, including the Working Group on Transforming the Extractive Industries for Sustainable Development;
5) an initiative aimed at **bridging the gap between key stakeholders** along the critical minerals lifecycle.
COP27 Side Event, 2022
Critical Minerals for Net Zero: How to Ensure Sustainability and Circularity

UN System Side Event, COP27, 2022
A global sustainability framework for Critical Raw Materials required for low-carbon transitions

UNECE Youth Dialogue, 2022
Breakout Session: The future of energy

UNECE Resource Management Week 2023
Session: Empowering the Next Generation of Sustainable Resource Managers: The Role of Youth in Resource Management

COP28 Side Event, 2023
Responsible and inclusive management of critical energy transition minerals

COP28 Side Event, 2023
Guidebook Pre-launch session

COP28, 2023
RMYMG Meeting with UNECE Executive Secretary

UNECE Resource Management Week 2024
Official Guidebook launch

Geneva, 24th of April 2024
A global challenge

1. It is expected that by 2040, the **demand for critical minerals will increase fourfold** if the world is on track to achieve net zero.

2. Low-carbon energy technologies, such as electric vehicles, battery storage systems, wind and solar power plants, are generally **more mineral-intensive** than their fossil fuel counterparts.

3. **Over 54%** of the critical mineral resource base is located on or near the lands of Indigenous peoples.

4. Strategic importance of critical energy transition minerals (CETMs) for **economic development of resource-rich countries and communities**.

5. The intergenerational implications of how we tackle challenges around CETMs is fundamentally about equity, not least because **the lifespans of a mine can last over a generation’s time**.
Key takeaways

1. The possibility, affordability, and speed of the energy transition will be heavily influenced by the availability of critical minerals for clean technologies.
2. High exploration-to-mine ratio: on average, for every mine opened, there are over 100 unsuccessful exploration projects.
3. Strategic importance of critical energy transition minerals (CETMs) for economic development of resource-rich countries and communities.
4. The intergenerational implications of how we tackle challenges around CETMs is fundamentally about equity, not least because the lifespans of a mine can last over a generation’s time.
5. Polymetallic nodules found in the Clarion Clipperton zone are estimated to be around 21 billion dry tons and contain cobalt, nickel, copper, and manganese.
6. The deep sea in international waters is the last pristine ecosystem in the ocean which serves as a global carbon reservoir, and even minor disturbances could disrupt the necessary carbon sequestration cycle.
Key takeaways

1. **Criticality assessments are not standardized across regions**, yet many assessment methods share similar indicators, such as economic importance and supply risk.
2. The designation of “critical mineral” is **not necessarily rooted in geological characteristics but rather a political one**.
3. **Almost 10% of global emissions are caused by energy-intensive processes like exploring, mining, smelting, refining, and transportation of primary raw materials**.
4. A lack of secondary raw materials will constrain supply and inflate prices, making the **clean energy transition more expensive**.
5. **Downcycling**, a reduction in the quality of recycled materials, poses a **significant challenge** for circularity.
6. **A 100% fully closed-loop circularity is impossible** due to dissipative losses during all stages of the value chain.
Key takeaways

1. **UNFC** integrates social and environmental considerations, ensuring that the production and utilization of resources are not just economically viable but also socially and environmentally sound.

2. While previously the top risks in the mining industry were political instability and volatile markets, **today this is environmental and social acceptance**.

3. Multiple **UNFC case studies** (e.g. Argentina, Egypt, Italy, Sweden) show the adaptable nature of UNFC across diverse conditions and help countries customize its application to their specific needs, particularly in the face of environmental and social constraints.
Intergenerational action: key considerations

1. **Industry** should engage in meaningful social dialogues with mining and nearby communities, and Indigenous peoples and guarantee community benefits where possible.

2. **Producers** can play a sizeable role in improving the sustainability and resilience of value chains, setting the stage for a balanced convergence of profitability and sustainability.

3. **R&D** should enable, inter alia, more economical and resource efficiency recovery and recycling technologies, and less energy-intensive mining and processing methods.

4. **Governments and policymakers** should foster international collaboration in the global value chain such as through technology transfers and policies for in-country value-addition, especially considering countries that endeavor to move into the processing and manufacturing stage of the value chain.
Next steps

1. **Publication** on the UNECE website.
2. **Guidebook dissemination** to build capacity and educate young people about key challenges, impacts, and existing tools, especially youth active in the climate and energy space.
3. **Cooperation with other UN regional economic commissions** (ESCWA, ESCAP, ECA, ECLAC) to increase outreach to the younger generation and provide meaningful engagement, including through joint events.
4. **Integration of the youth perspective** into the work of the Working Group on Transforming the Extractive Industries for Sustainable Development and the Panel on Critical Energy Transition Minerals to ensure equal representation of youth.
5. **Mainstreaming** youth participation in multilateral decision-making processes involving critical energy transition minerals, including at UNEP, UNFCCC COP29 and COP30, G20, BRICS.
THANK YOU!

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