

Pathways to Sustainable Resource Management: Innovation, Collaboration, and Governance

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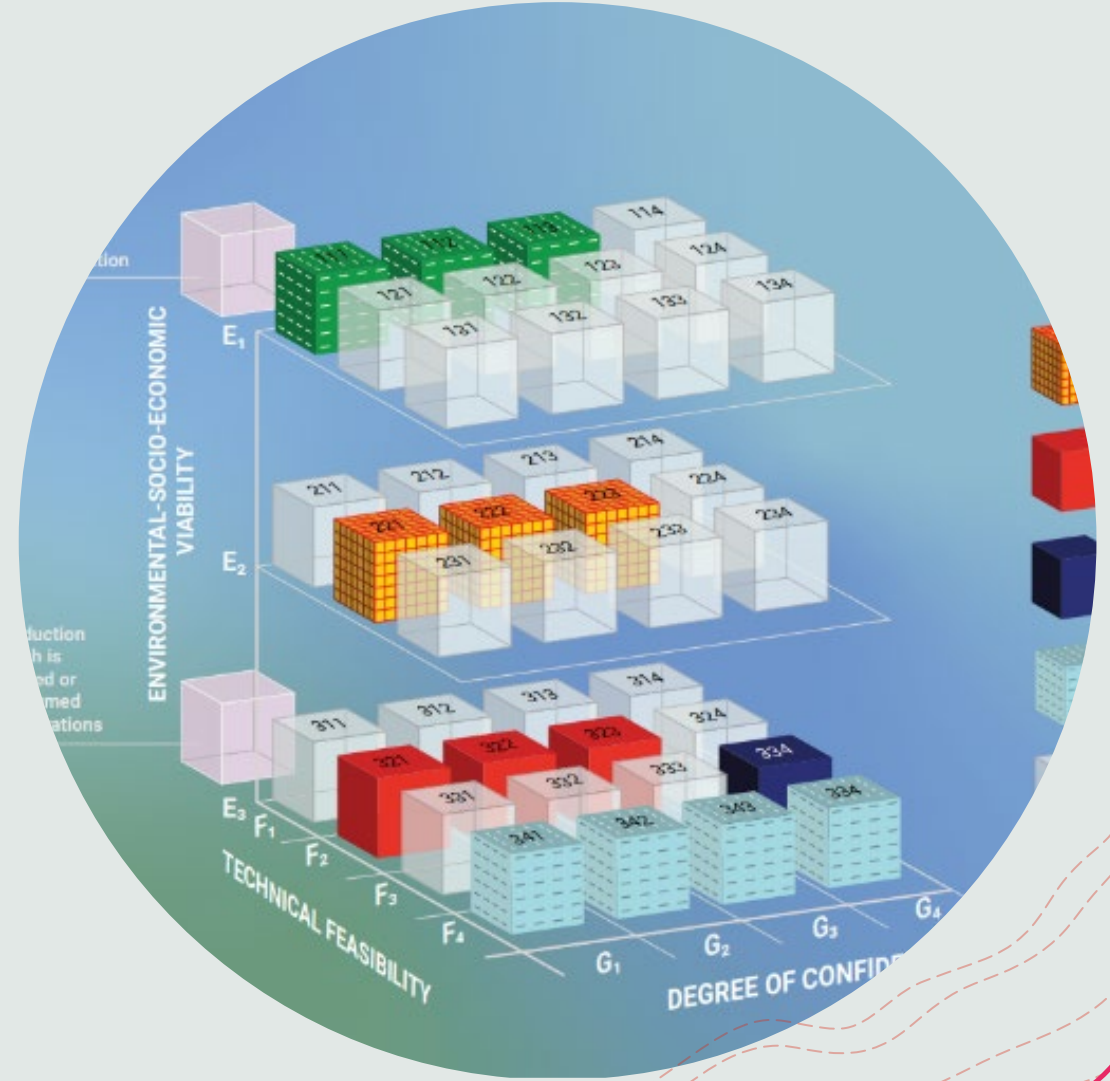
A new era: Minerals and the energy transition

- + **Mineral intensity in clean energy:** Renewables have increased mineral demand by 50% since 2010
- + **Sustainable extraction examples:** UN Framework on Just Transitions aims to guide extractive industries towards sustainable practices for long-term supply security and environmental protection
- + **Strategic investments for sustainability:** Over 3 billion tons of minerals and metals will be needed for energy transition to stay below 2°C by 2050, creating a great opportunity for sustainable development in resource-rich countries



UNFC and UNRMS's role in sustainable resource management

- + **Unified approach to sustainability:** UNFC and UNRMS provide a global voluntary system for integrated resource management, aligned with the SDGs, to optimize the responsible use of natural resources
- + **Innovative technologies for resource management:** Efficient discovery and sustainable management of mineral resources
- + **Supporting circular economy:** UNRMS helps integrate circular economy by considering all resources as part of the whole



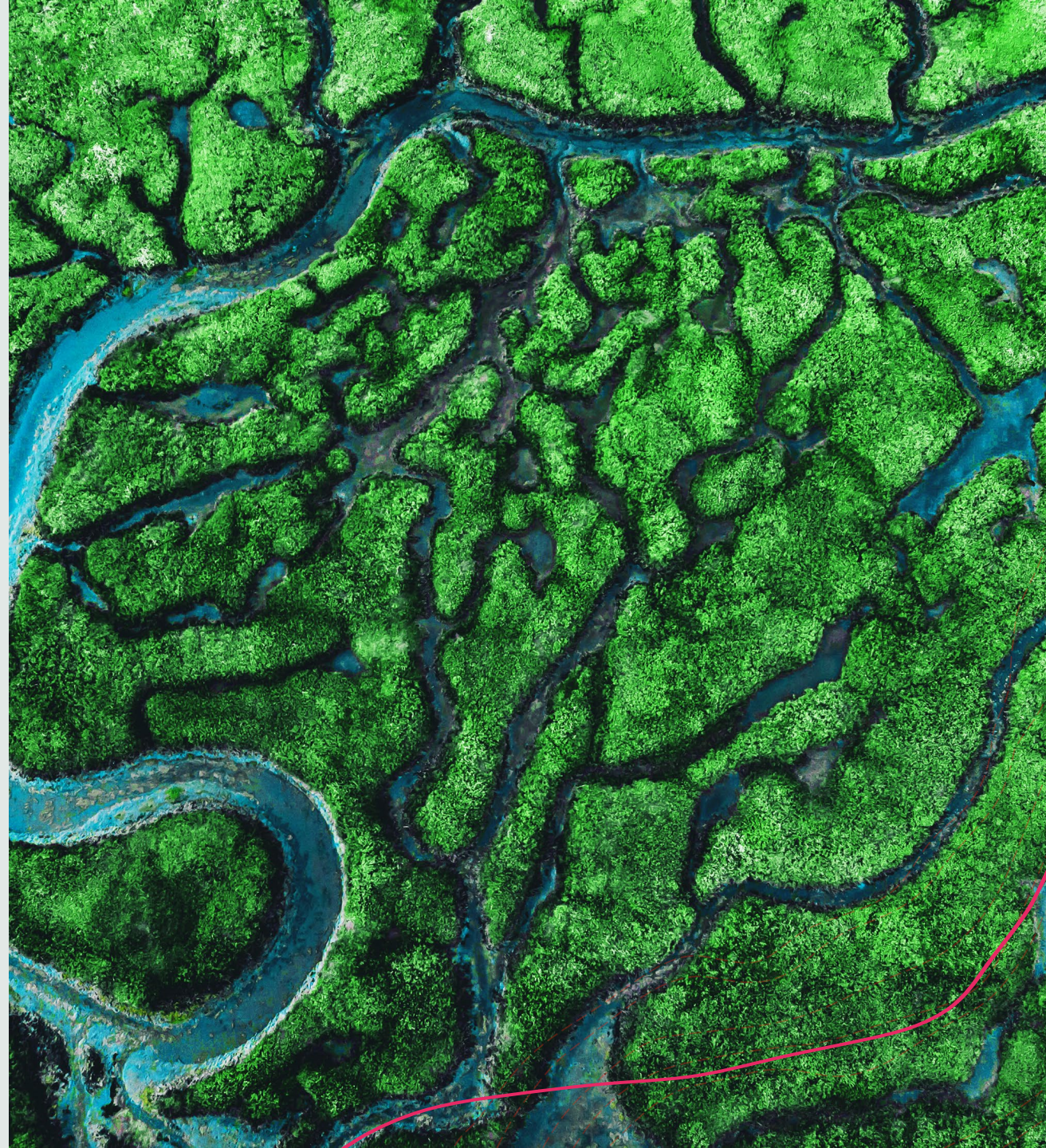
1. Driving high-impact **innovations** in resource recovery

- + **Revolutionizing resource recovery:** Green and deep eutectic solvents are eco-friendly options for resource recovery in the industry, promoting a circular economy
- + **Resource Recovery from Waste:** Recognizing the complex nature of resource flows
- + **Resource servitization:** Moving away from linear commodity models



2. Balancing mineral supply with environmental care

- + **Policy interventions for supply reliability:** • Demand for critical minerals has increased, causing supply chain disruptions, and there's a push for diversification and preparedness for supply disruptions
- + **Sustainable and responsible supply chains:** Low carbon energy requires critical minerals, but their extraction if not managed well can harm the environment and communities
- + **Environmental and social risk management:** Managing environmental and social risks in mineral supply chains is important for stable supply



3. Aligning mineral supply chains with global goals

- + **Policy recommendations for sustainability:** Ensure that critical mineral supply chains are sustainable and responsible, addressing environmental, social, and governance impacts to prevent potential supply limitations
- + **Innovative practices for resource reuse:** Sustainable practices include recycling and reusing tailings and other mine waste, re-mining and re-processing wastes, and incorporating waste reuse options in mine planning and closure planning
- + **Diversification of supply chains:** Global supply chains have diversified and become more resilient in the past decade with new materials and lower costs due to advancements in science and technology



4. Commitment to mine tailings safety

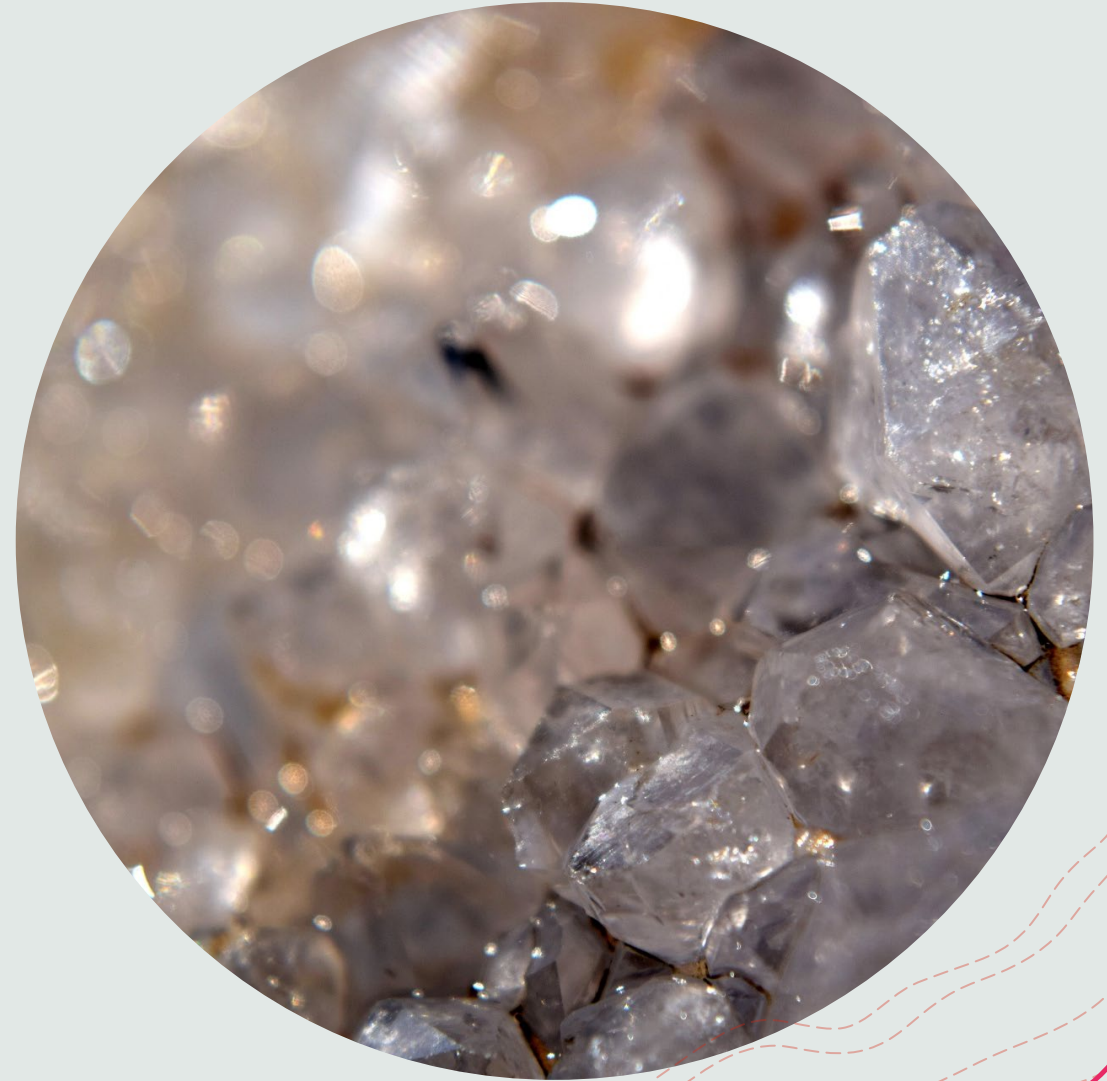
- + **Proactive online toolkit and training:** UNECE has an Online Toolkit and Training to Strengthen Mine Tailings Safety, which includes a three-step practical training course to enhance safe management practices
- + **Preventing environmental catastrophe:** The toolkit aims to prevent accidents at tailings management facilities that have harmed humans and the environment
- + **Strengthening disaster resilience:** Improving TMF safety and management practices helps achieve the objectives of Agenda 2030 and the Sendai Framework for Disaster Risk Reduction



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5. A vision for **transparent CRM** value chains

- + **Enhancing supply chain transparency:** Promoting transparency in sustainable value chains for critical minerals that contribute significantly to environmental pollution and greenhouse gas emissions
- + **ESG traceability for regulatory compliance:** UNEC's traceability systems are crucial for verifying products' ESG credentials and supporting efficiency in value chains, especially with the rise of ESG compliance legislation
- + **International collaboration and harmonization:** The UNECE promotes regulatory compliance through ESG traceability approaches and fosters international collaboration in global value chains



Preserve and Nurture: Global Natural Capital Trust

- + **Valuation and Integration:** Develop comprehensive methods for valuing natural capital in environmental-social-economic terms to integrate it into national, regional and global financial systems. This would involve creating standardized metrics for measuring the value of ecosystems and biodiversity.
- + **Conservation and Restoration:** Focus on funding and supporting large-scale conservation and restoration projects. This would include protecting critical habitats, reforesting degraded lands, and restoring ecosystems that provide essential services such as clean water and air.
- + **Innovation and Collaboration:** Foster innovation in sustainable resource management and encourage collaboration between governments, private sector, academia, civil society, and indigenous communities. Support would be given to cutting-edge research and cross-sector partnerships that aim to preserve and enhance natural capital.



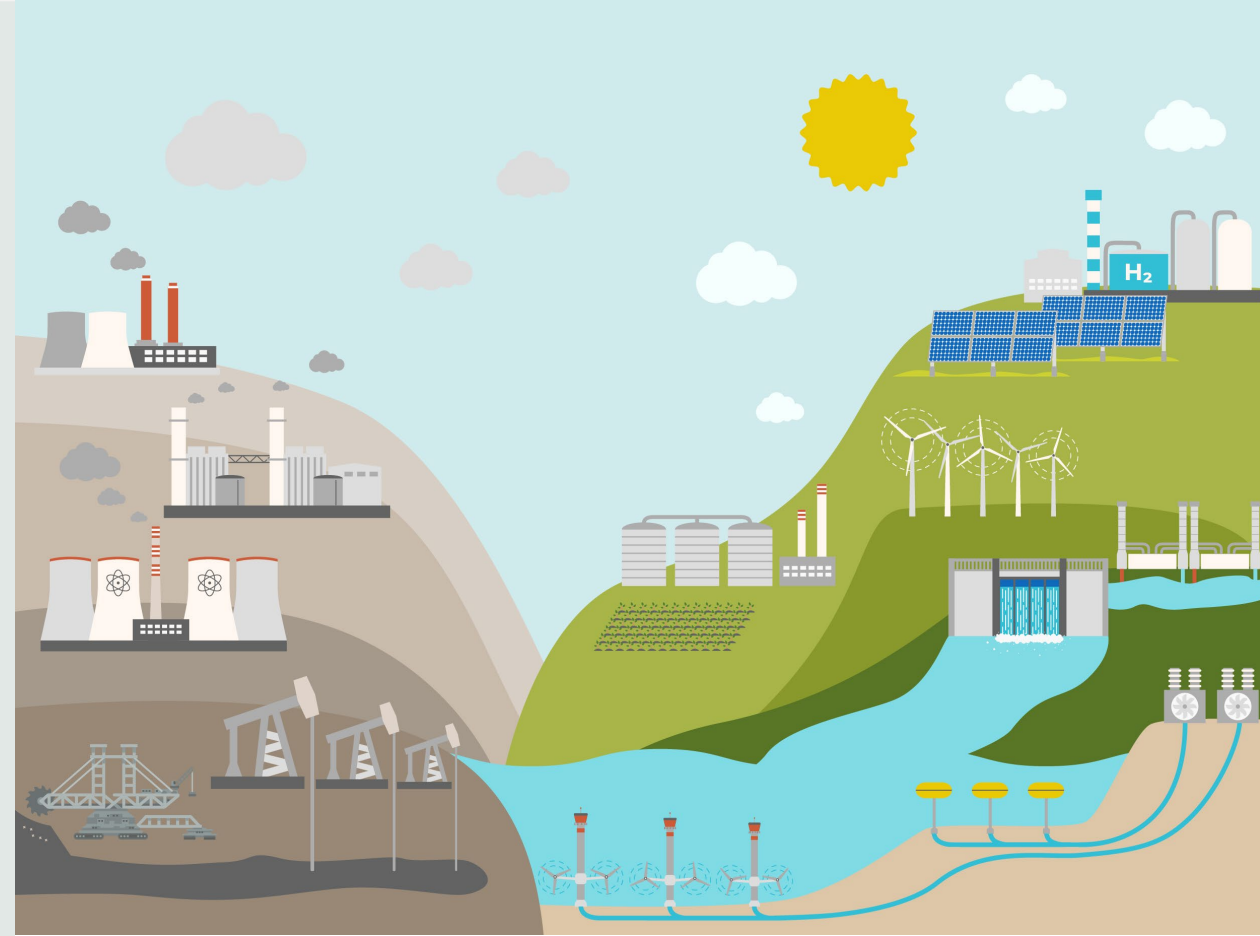
THE VIEWS EXPRESSED ARE THOSE OF HARI TULSIDAS AND DO NOT NECESSARILY REFLECT THE VIEWS OF THE UNITED NATIONS.

Thank you!

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Date 24 | 04 | 2024, Geneva



RESOURCE MANAGEMENT WEEK
2024



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