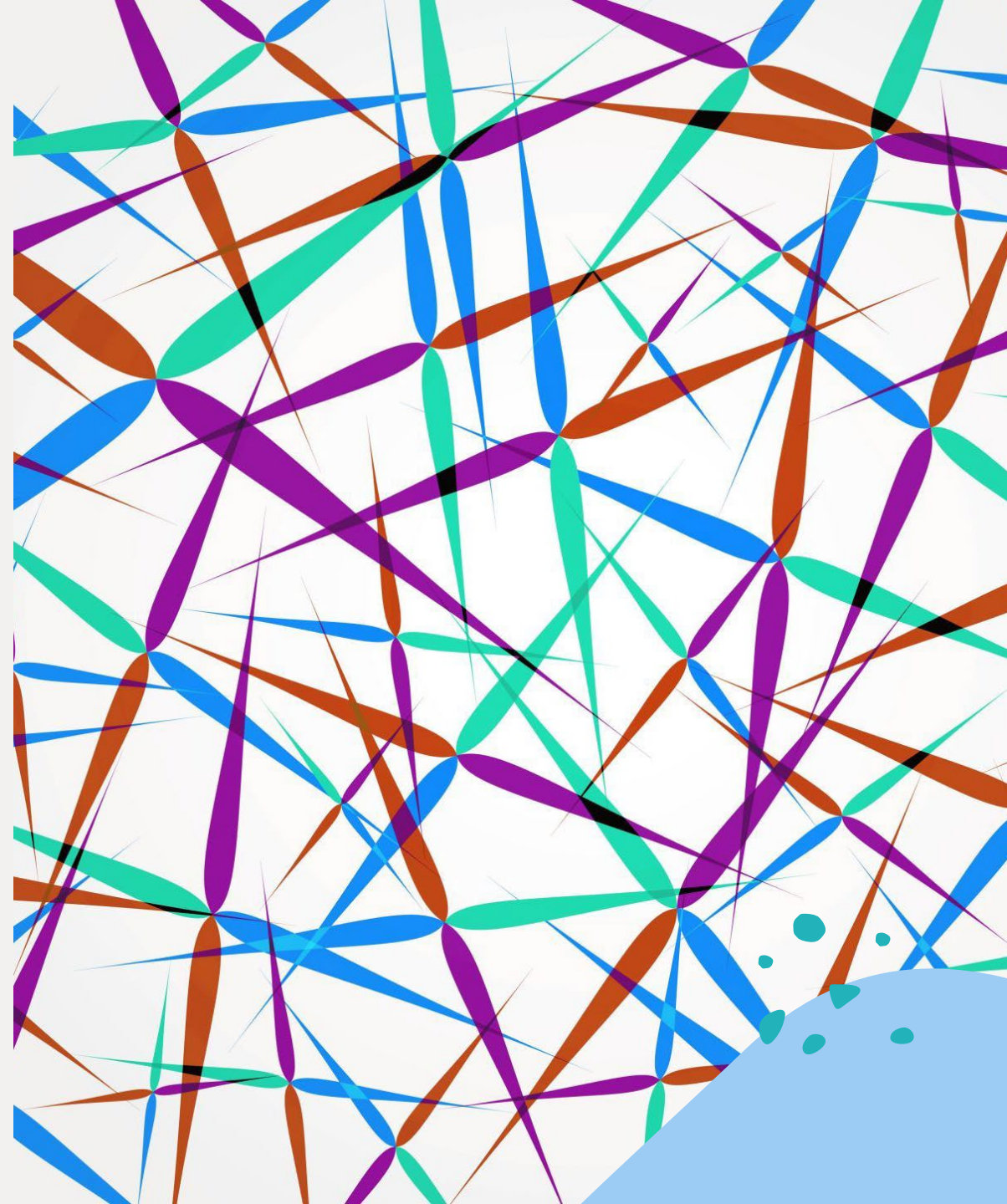


UNFC and UNRMS:
Applications in the
Critical Raw Materials
and Value Chain
Transparency and
Traceability



The Power and Peril of Critical Raw Materials

Critical raw materials are necessary for sustainable development and climate change mitigation in technologies such as wind turbines, solar panels, EVs, and smartphones

By 2050, mineral trade is projected to surpass oil and gas trade

The mining industry faces social acceptance risks due to environmental, climate, and biodiversity concerns.





UNFC: Global Resource Classification Standard



UNFC classifies and reports resources based on 3 sets of criteria

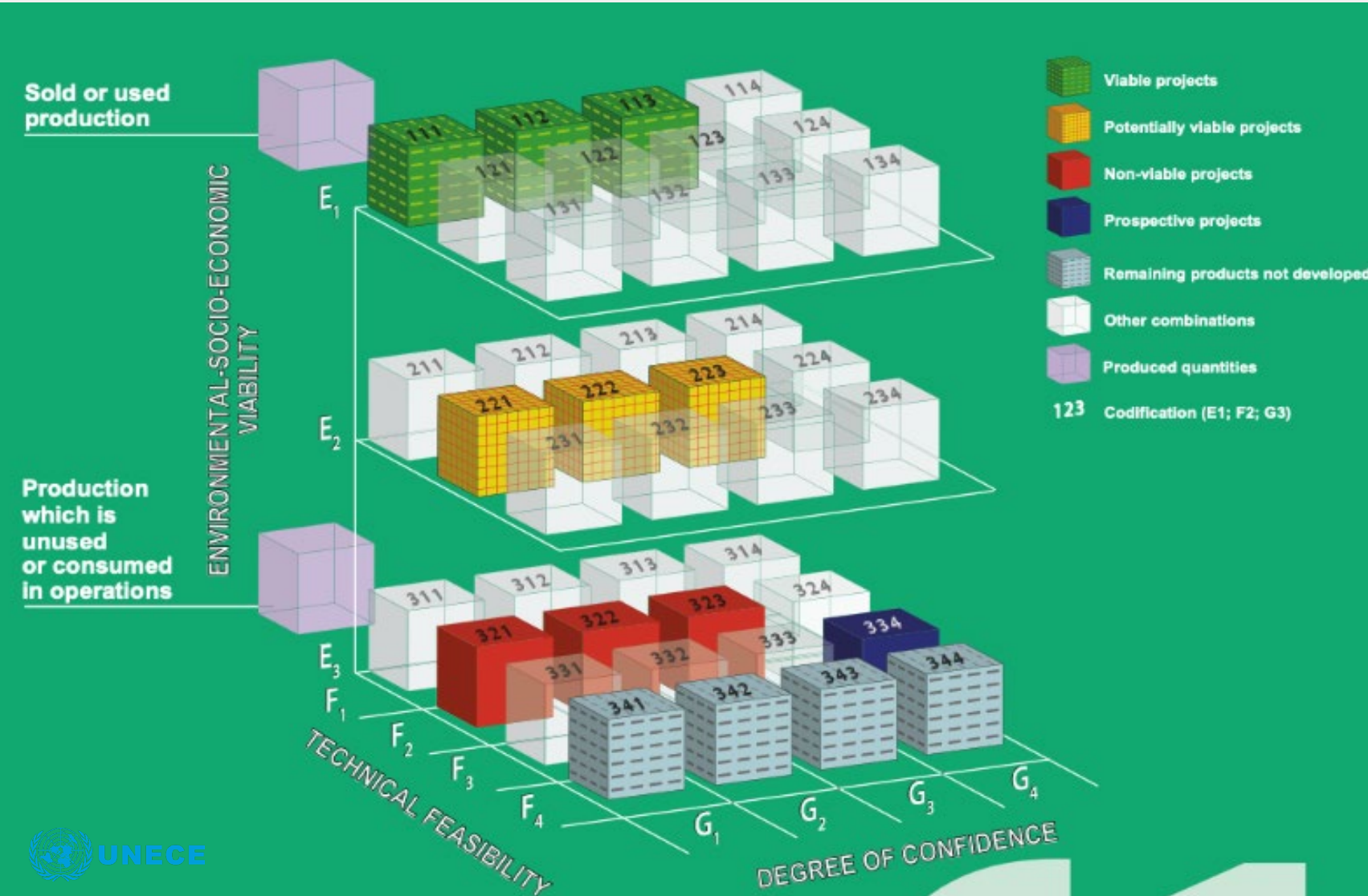


Emphasizes social, environmental, and economic factors



A global standard for all resource types

UNITED NATIONS FRAMEWORK CLASSIFICATION FOR RESOURCES (UNFC)



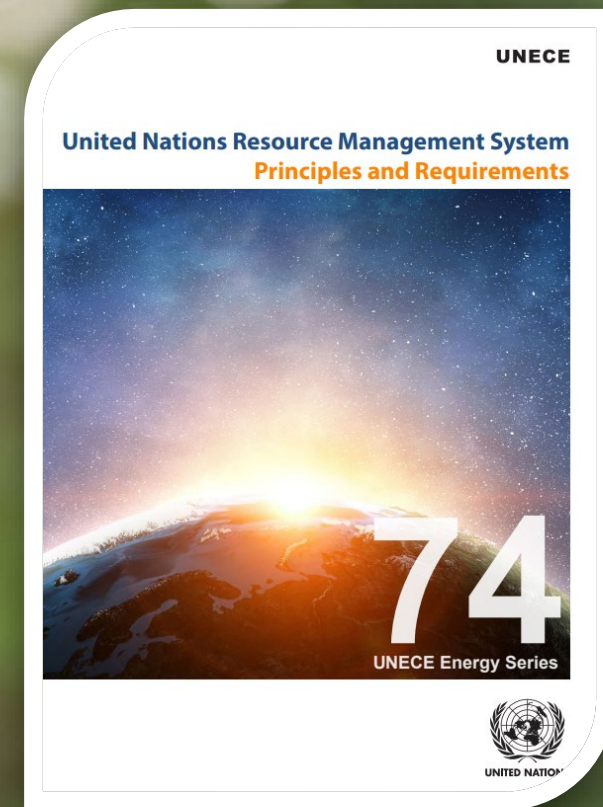
- Applicable across resources and countries
- Includes environmental, social, and economic dimensions

UNRMS: Balancing Development and Sustainability

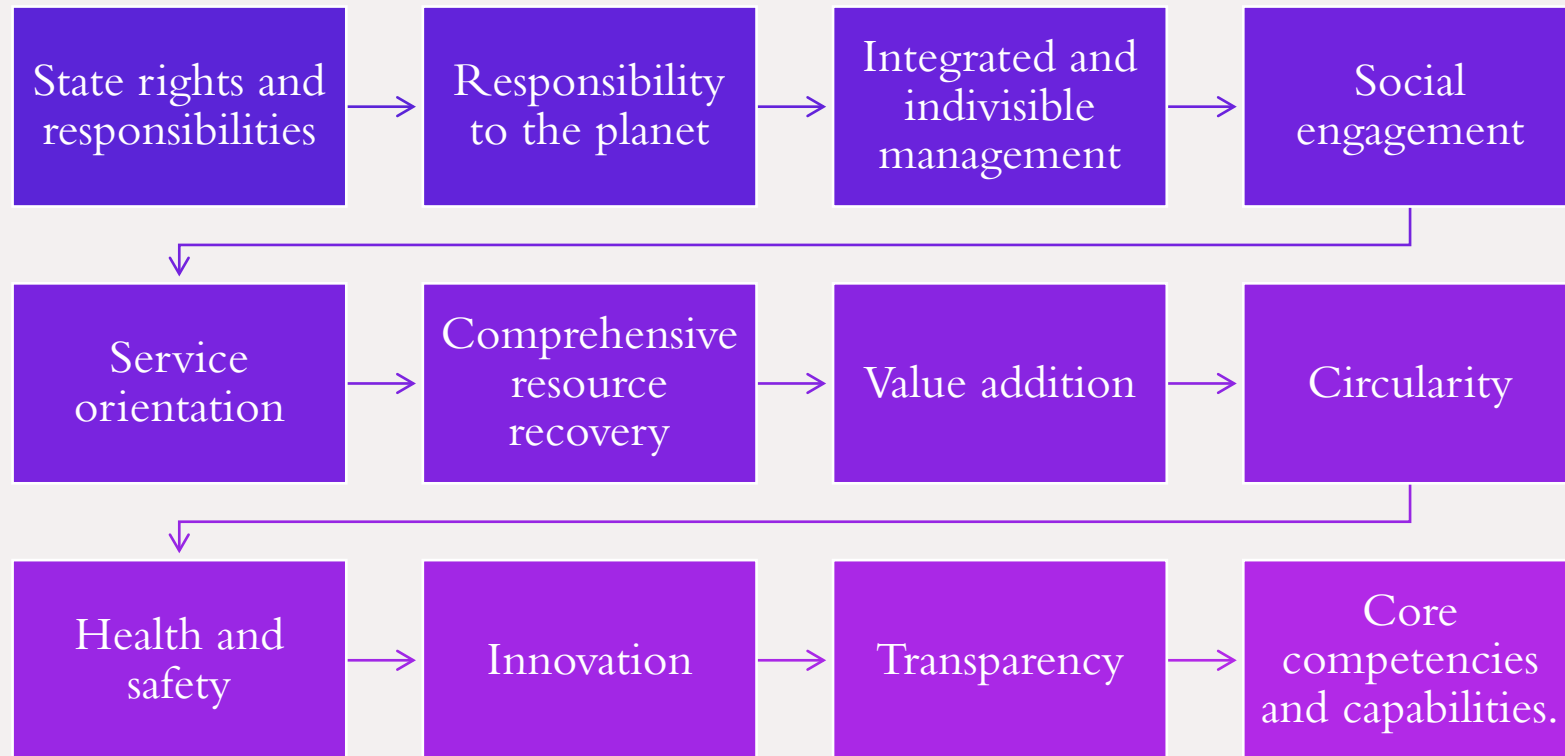
UNRMS principles guide resource full production cycle

Balancing economic development, environmental sustainability, and social responsibility

Ensuring responsible resource management practices



UNRMS Focuses on 12 Fundamental Principles



The Future of Sustainable Resource Management

Developed by the Expert Group on Resource Management
(**EGRM**)

Strengths

- **ECOSOC** recommended
- Facilitates **energy transitions**
- Enables responsible production and use **of critical minerals, renewables, nuclear, anthropogenic and storage resources**
- International Centres of Excellence
- Promoted by the **European Union (EU CRM Act), African Union**, and others

Challenges

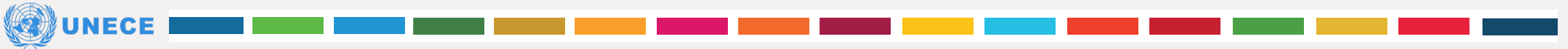
- Regular and agile **updates**
- Increase the **awareness and adoption**
- Ensure the **alignment and harmonization**
- Address the **data gaps and capacity needs**

Partners

- European Commission - Funds XB project
- UK DEFRA - Proposed XB Project
- EuroGeoSurveys
- European Federation of Geologists
- EIT Rawmaterials
- African Union Commission
- UN Regional Economic Commissions
- Coordinating Comm for Geosci Prog in E & SE Asia
- International Atomic Energy Agency
- International Geothermal Association
- World Economic Forum
- World Nuclear Association
- International Standardization Organization
- Intergovernmental Forum on Mining, Minerals, Metals
- Latin American Mining Organization

Transparency, Trackability, Traceability

Putting UNRMS to work



Putting UNRMS effectively to work requires a step change in approaches to natural resource management

From linear to circular: The global resource management step change is a “whole system” holistic reset based on transitioning from a broken linear, commoditised model to a fully sustainable, circular, “resource as a service” (RaaS) model.

Blockchain and AI: The technologies of Blockchain (Distributed Ledger) and generative Artificial Intelligence (AI)/ Machine Learning (ML) technologies make this possible and affordable. UNRMS uses readily available, open-source blockchain and AI tools and scalable, distributed hosting platforms.

Optimisation: together AI and blockchain technologies can drive and optimise both the UNRMS, and the UN Framework Classification (UNFC) of and are especially suited to working with circular economic principles of resource value conservation and progressive value addition.

UN mandate: Both UNFC and UNRMS are referenced in Recommendation 15 of the UN Extractives Policy Brief (May 2021) and have now been adopted for global use by the UN ECOSOC (July 2023).

UNFC and UNRMS based Sustainable Resource Management



UNFC and UNRMS: Comprehensive frameworks for managing mining risks and promoting sustainable resource management



Incorporates ESG criteria and covers all stages of the resource life cycle



UN/CEFACT: Under the Critical Minerals Traceability and Sustainability project, UNECE is developing global interoperable traceability standards for the CRM value chain



Benefits include improved reputation, reduced costs, enhanced efficiency, and access to new markets

Thank you

