The United Nations Resource Management System (UNRMS).

An overview.

Background and Structure.

The United Nations Resource Management System (UNRMS) is a global framework developed by the United Nation European Commission for Europe (**UNECE)** to guide the **sustainable and equitable use of natural resources**. It uses **12 key principles** for managing resources after classification using the **UN Framework Classification (UNFC).** It is developed and directed by the UNECE **Expert Group on Resource Management (EGRM),** is **voluntary** in its application and is **not a legal requirement.**

EGRM	**UNECE Expert Group on Resource Management**	*"…subsidiary body of the **UNECE Committee on Sustainable Energy** responsible for **promoting and further developing the United Nations Framework Classification for Resources (UNFC)** and the **United Nations Resource Management System (UNRMS)**"*
UNFC	**United Nations Framework Classification**	*"…**globally applicable standard for classifying resource projects** based on their **environmental, social, and economic viability, technical feasibility, and confidence in estimates.** UNFC **covers various activities** such as minerals, petroleum, renewable energy sources, nuclear resources, anthropogenic resources, geological storage, and groundwater.*
UNRMS	**United Nations Resource Management System**	*"… **comprehensive resource management system** that **builds on UNFC** and provides a **framework for integrated and sustainable resource management**. UNRMS aims to help countries, organisations, and companies **address sustainability challenges and advance the Sustainable Development Goals (SDGs)**."*

UNFC classifies, UNRMS manages.

The **UNRMS** is built on the foundation of the **UN Framework Classification (UNFC)**. Essentially, the UNRMS **manages** resources which are **classified** by the UNFC. Each system aims to address and incorporate the 17 SDGs from the 2030 agenda for sustainable development.

Projects and resources could include:
Geothermal, Biofuels, Renewable Energy, Nuclear Energy, Injection Projects, Oil and Gas, Minerals, Anthropogenic Resources, Groundwater, Hydrogen.

The **UNRMS** is built on the foundation of the **UN Framework Classification (UNFC)**. **UNFC** helps classify and assess a wide range of resource projects by combining:

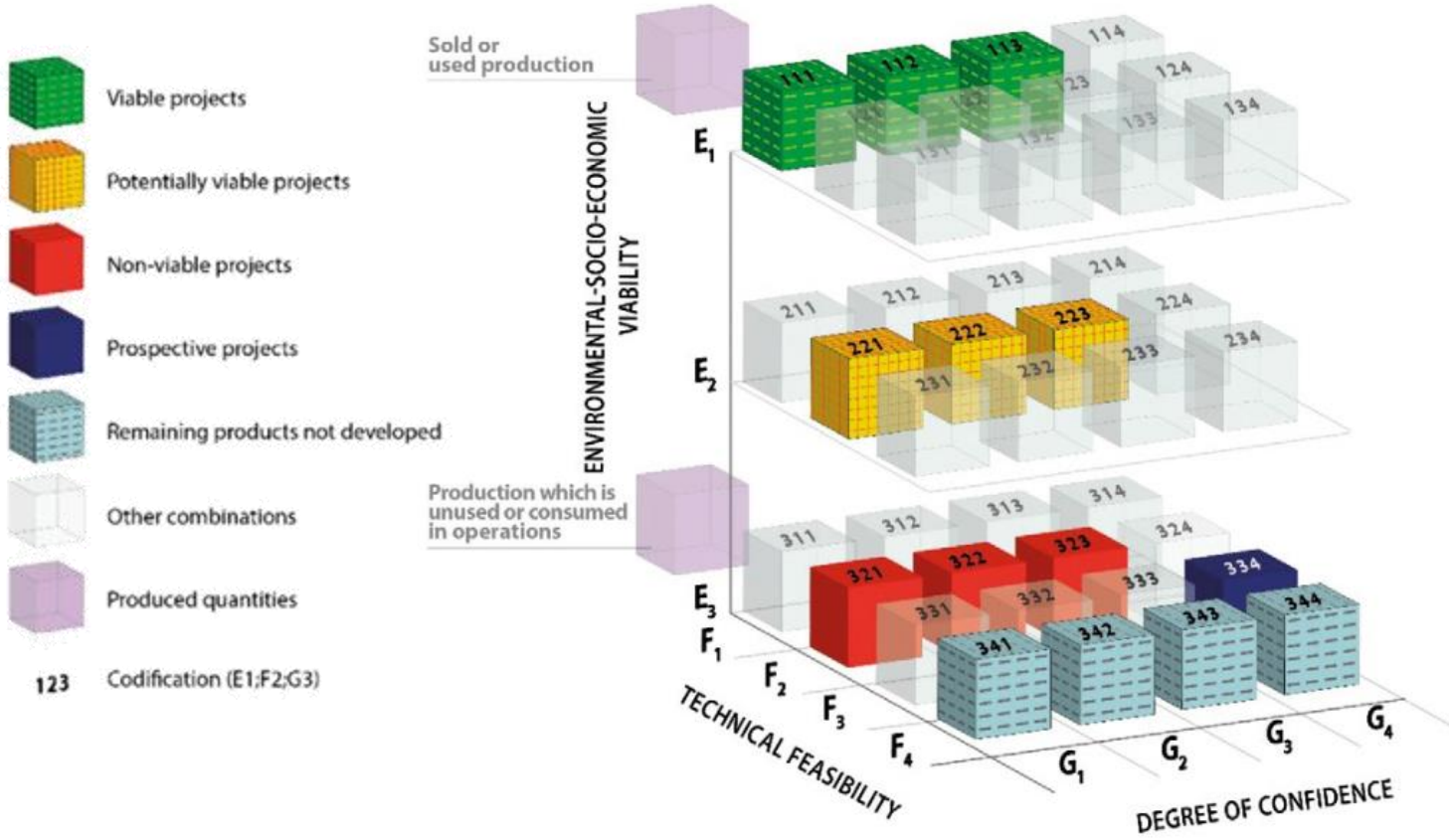
- **E**: Socio-environmental & economic viability.
- **F**: Technical feasibility.
- **G**: Confidence in resource estimates.

The **UNRMS** can then be used to manage these resources effectively when classified. The structure produced by the UNFC can:

- Inform sustainable governance decisions.
- Track project development.
- Integrate circularity, equity, and long-term planning.

Together, they turn data and classification into **practical strategies** for sustainable resource use.

UNFC Categories and Examples of Classes

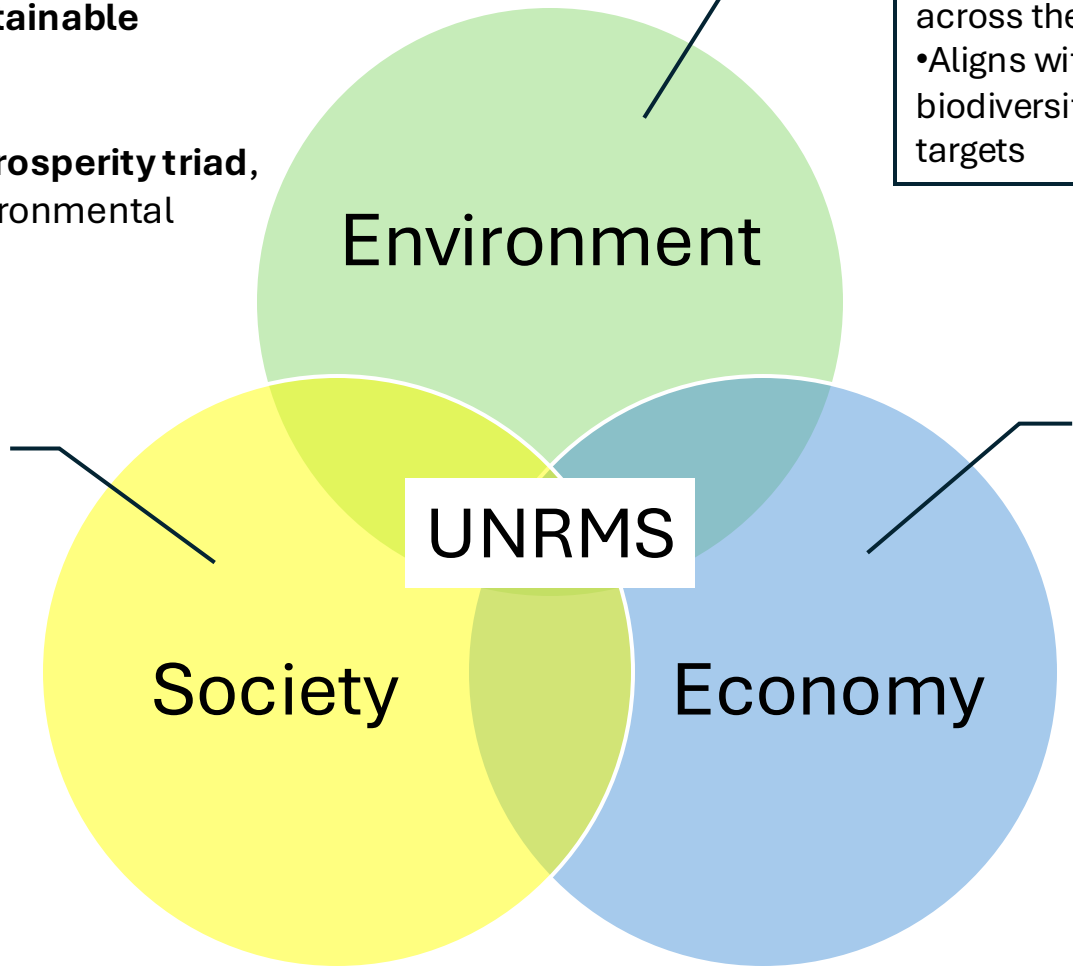


The Purpose of The UNRMS.

UNRMS provides a framework to manage natural resources in ways that are **sustainable**, **transparent**, and **inclusive**, aligning with the **2030 Agenda for Sustainable Development**.

It is built around the **People–Planet–Prosperity triad**, which prioritises social wellbeing, environmental protection, and economic resilience.

Environment
- Encourages circular resource use and regeneration
- Reduces environmental impacts across the resource lifecycle
- Aligns with climate action, biodiversity protection, and SDG targets



Society
- Promotes transparency and public accountability
- Recognises the role of communities and Indigenous knowledge
- Encourages equitable access, participation, and a just transition

Economy
- Supports long-term value creation, not just short-term profit
- Aligns resource management with fiscal planning and ESG principles
- Promotes resource efficiency, innovation, and risk reduction

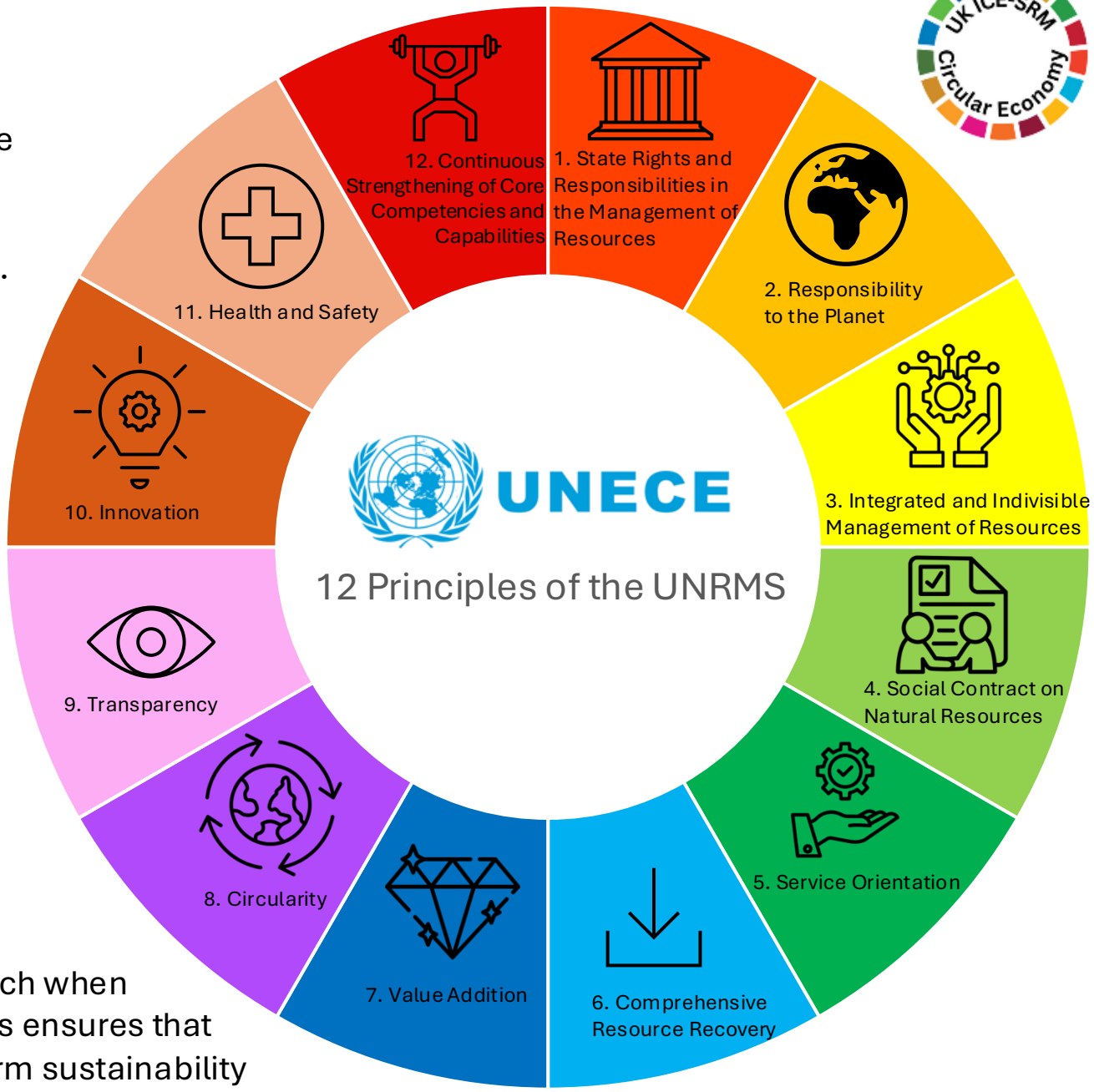
The UNRMS helps restructure resource management systems to serve people and protect the planet, with prosperity as the long-term outcome. This integrated approach ensures that environmental and social wellbeing are not compromised by economic decision-making.

The 12 Core Principles

The UNRMS is built around **12 interlinked principles** that guide how resources should be managed to align with the SDGs. These principles are designed to ensure decisions are made with a **lifecycle perspective**, considering **equity**, **transparency**, **innovation**, and **collaboration** across all stages of resource use.

These principles are not stand-alone—they are **integrated, indivisible, and mutually reinforcing**, reflecting the complexity of resource systems and the need for holistic, coordinated governance.

- **Systems thinking** — integration of environmental, social, and economic factors
- **Lifecycle management** — from discovery to regeneration
- **Circularity** — reuse, recycling, and minimising waste
- **Equity and inclusiveness** — just transition and stakeholder engagement
- **Transparency** — accountability and traceability across decisions
- **Innovation and capacity building** — continuous improvement and learning



These principles consider the **54 underlying requirements**, which when addressed and included form the core of the UNRMS toolkit. This ensures that resource use is responsible, equitable, and aligned with long-term sustainability goals.

The UNRMS in Three Parts

The 12 principles can be transferred into a 3-tiered scheme, by joining principles relating to each other into constituent parts. This makes it easier to focus efforts in particular areas, allowing for broader institutional collaboration and easier implementation of the system.

1. Priority Determination

"Priority Determination articulates the role of the body adopting UNRMS in managing resources and a summary of the policies and strategies related to managing resources. This principally outlines the body(s) responsible for coordinating resource management plus the legal and strategic frameworks that resource management will support"

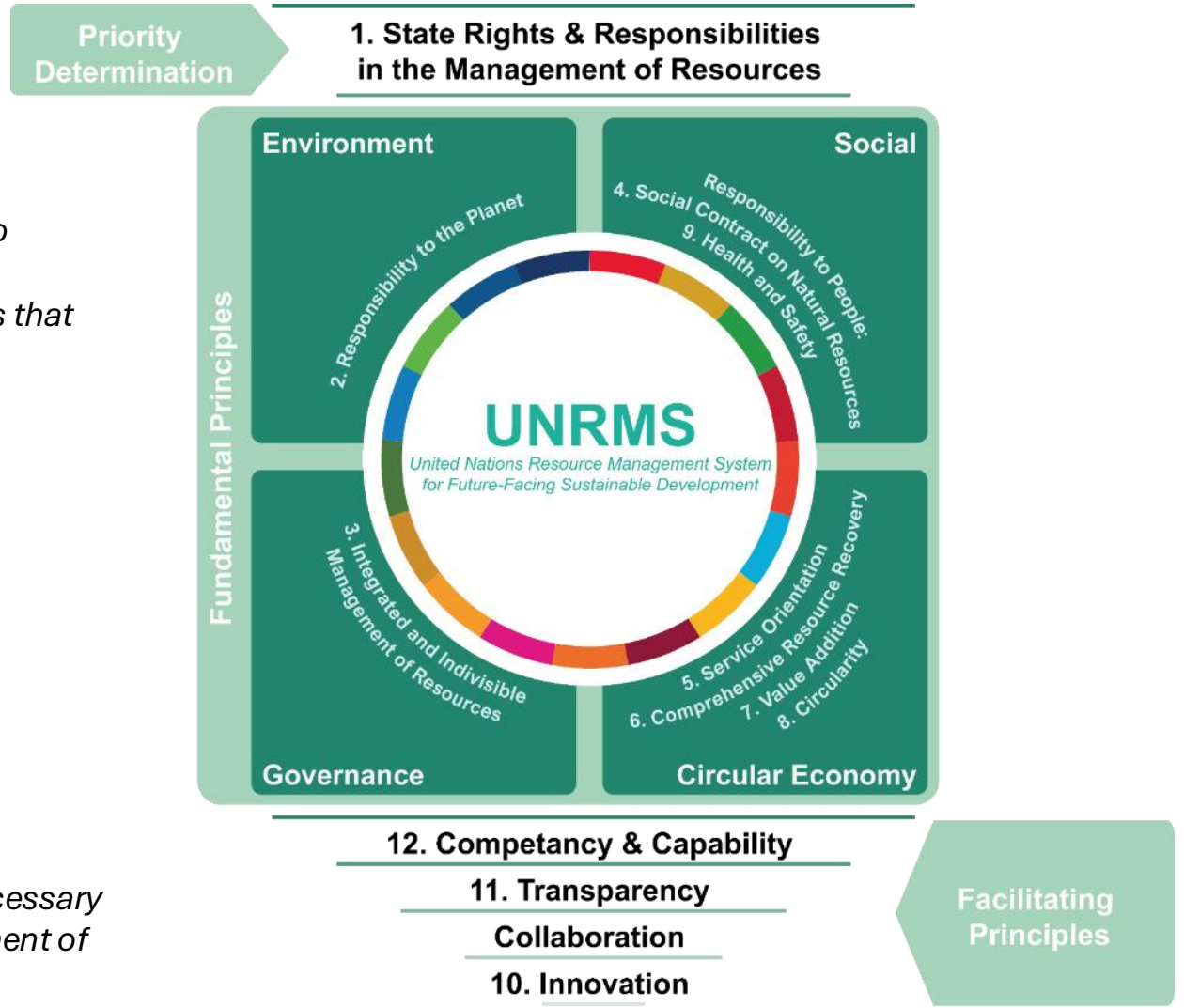
2. Fundamental Principles

- Environment
- Social
- Governance
- Circular economy

"Fundamental Principles are our four groups of principles relating to Environmental, Social and Governance (ESG), as this is a term recognised by industry and investors, and economics, in particular, 'Circular Economy' as the UNRMS principles relating to economic aspects are aligned with circular principles"

3. Facilitating Principles

"Facilitating Principles map across the Fundamental Principles and are necessary for implementing those principles, strengthening the responsible management of resources and sustainable development of a region"



Strategic Direction: Priority Determination

A good starting point for applying UNRMS is the determination of strategic priorities. This principle establishes the **State's rights and responsibilities** in managing natural resources and defines the **legal, institutional, and policy frameworks** that guide resource governance.

It ensures that all actions taken under UNRMS are grounded in a clear vision, aligned with national and regional goals, and coordinated across responsible bodies.

Scenario:

National Government Establishing a Critical Minerals Strategy.
A country with known lithium deposits is developing a national **Critical Minerals Strategy**.

It must define:
- *Who has authority to regulate and manage these resources.*
- *How extraction aligns with national energy transition goals.*
- *What legal and planning frameworks guide resource allocation.*

This reflects **Principle 1**: setting strategic objectives and clearly defining roles, responsibilities, and governance structures before implementation.

Core Values: Fundamental Principles

The Fundamental Principles express the core sustainability values embedded in UNRMS. These are grouped into four well-established domains:

- **Environment** – Managing resources within planetary boundaries
- **Social** – Engagement, inclusion, health and safety
- **Governance** – Integration and accountability in decision-making
- **Circular Economy** – Resource reuse, recovery, and long-term value creation

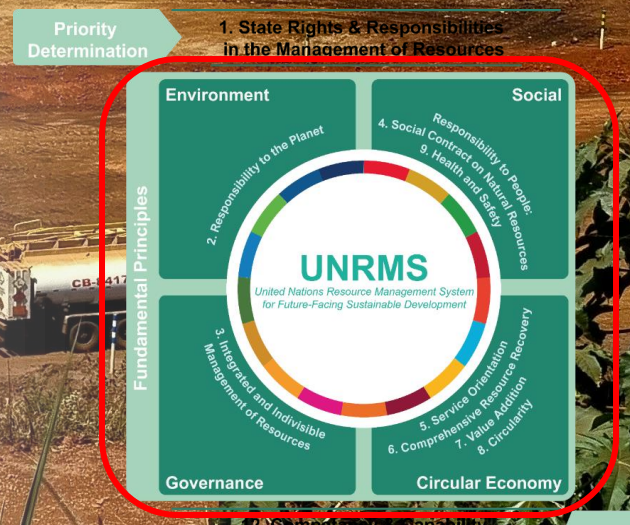
These principles reflect international sustainability standards and guide how resources should be planned, used, and stewarded.

Scenario:

Planning a New Rare Earth Element Extraction Project.
A company is preparing a project proposal for rare earth extraction. The permitting process must account for:

- **Environmental impact assessments** (Principle 2).
- **Community consultation and benefit-sharing** (Principle 4).
- **Worker safety measures** (Principle 9).
- **How materials will be recovered and reprocessed** (Principles 5–8).
- **Combining each of these to effectively manage efforts** (Principle 3).

These are **core operational values** that must be embedded into the design and management of the project — aligning with ESG and circular economy goals.



Enabling Action: Facilitating Principles

The Facilitating Principles enable practical implementation of the UNRMS. They strengthen institutions, support informed decision-making, and ensure continuous improvement.

These principles operate as the **bottom-up mechanisms** that make the system functional across different contexts. These include:

- **Innovation** – Adapting to new technologies and methods.
- **Transparency** – Ensuring public trust and accountability.
- **Capacity Building** – Strengthening competencies and institutional readiness.
- **Collaboration** – (Additional principle included in the Cornwall case study) Recognising the need for multi-stakeholder cooperation.

Scenario:

Local Authority Implementing a Regional Resource Monitoring System.
A regional government introduces a digital system for monitoring water and aggregate use.

Success depends on:
- **Data transparency and public reporting** (Principle 11).
- **Training local staff to manage the system** (Principle 12).
- **Using open-source tools or co-designing new solutions** (Principle 10).
- **Partnering with local communities, universities and businesses** (Collaboration).

These principles are what **make the system work in practice** — they strengthen the ability to act on the fundamental principles.

Tools and Functional Components of the UNRMS.

With the principles from the UNRMS now forming a structured toolkit, the system can support transparent and integrated decision-making method for resource management. It is designed to be used **across sectors, scales, and resource types**. Sometimes known as the **'Swiss army knife'** of resource management.

Key components include:

- A **common language and terminology** for consistency across stakeholders.
- Tools for **resource classification, monitoring, and reporting.**
- Alignment with **UNFC structures** and national/regional planning frameworks.
- A focus on **systems thinking** and **cross-sector collaboration.**
- Support for **data-informed choices** at policy, programme, and project levels.

These components work together to guide decisions that are consistent with sustainability goals, while allowing flexibility to adapt across different contexts.

From Framework to Action.

Principles → Toolkit → Application → SDG Impact

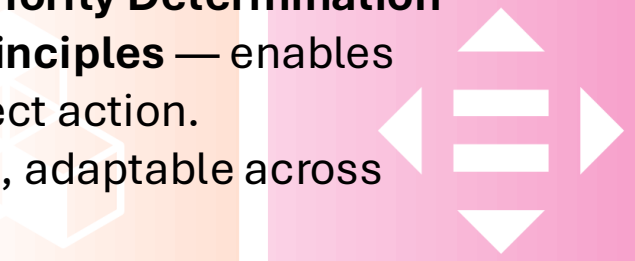
UNRMS is a **flexible, principle-based system** for sustainable resource management.

- It supports **lifecycle planning**, **stakeholder inclusion**, and alignment with the **SDGs**.
- The structured approach — from **Priority Determination** to **Fundamental** and **Facilitating Principles** — enables both high-level policy and local project action.
- UNRMS can be applied as a **toolkit**, adaptable across disciplines and scales.

Looking Ahead:

- Case studies and pilot programmes are emerging globally
- More digital tools and training are in development
- Academic and professional collaboration opportunities are expanding

How could these principles and tools apply in your field or practice?
What would it take to apply them successfully?



THE GLOBAL GOALS
For Sustainable Development

Institution	Area of Expertise	UNRMS Themes	Example Resources / Sectors
University of Exeter	Critical raw materials, mining, mapping circular resource flows.	Resource classification, lifecycle thinking, circular economy.	Lithium, copper, rare earth elements, mine tailings, products and materials.
British Geological Survey	Subsurface resource data, material flow analysis, long-term modelling.	Inventory building, forecasting, data-informed decision-making.	Groundwater, hydrocarbons, minerals, geothermal energy.
UCL	Construction materials, governance, public policy, socio-economic frameworks.	Principles-based policy design, stakeholder inclusion, just transition.	Construction products, land access, energy justice, water rights.
Brunel University London	Metallurgy, solidification science, recycling, lifecycle design for circular economy.	Circularity, materials innovation, lifecycle resource efficiency.	Light metals, recycled metals, casting by-products.
Swansea University Prifysgol Abertawe	Materials science, process engineering, renewable technologies.	Technology development, sustainable supply, clean energy transitions.	Solar PV materials, hydrogen, steel, smart composites.