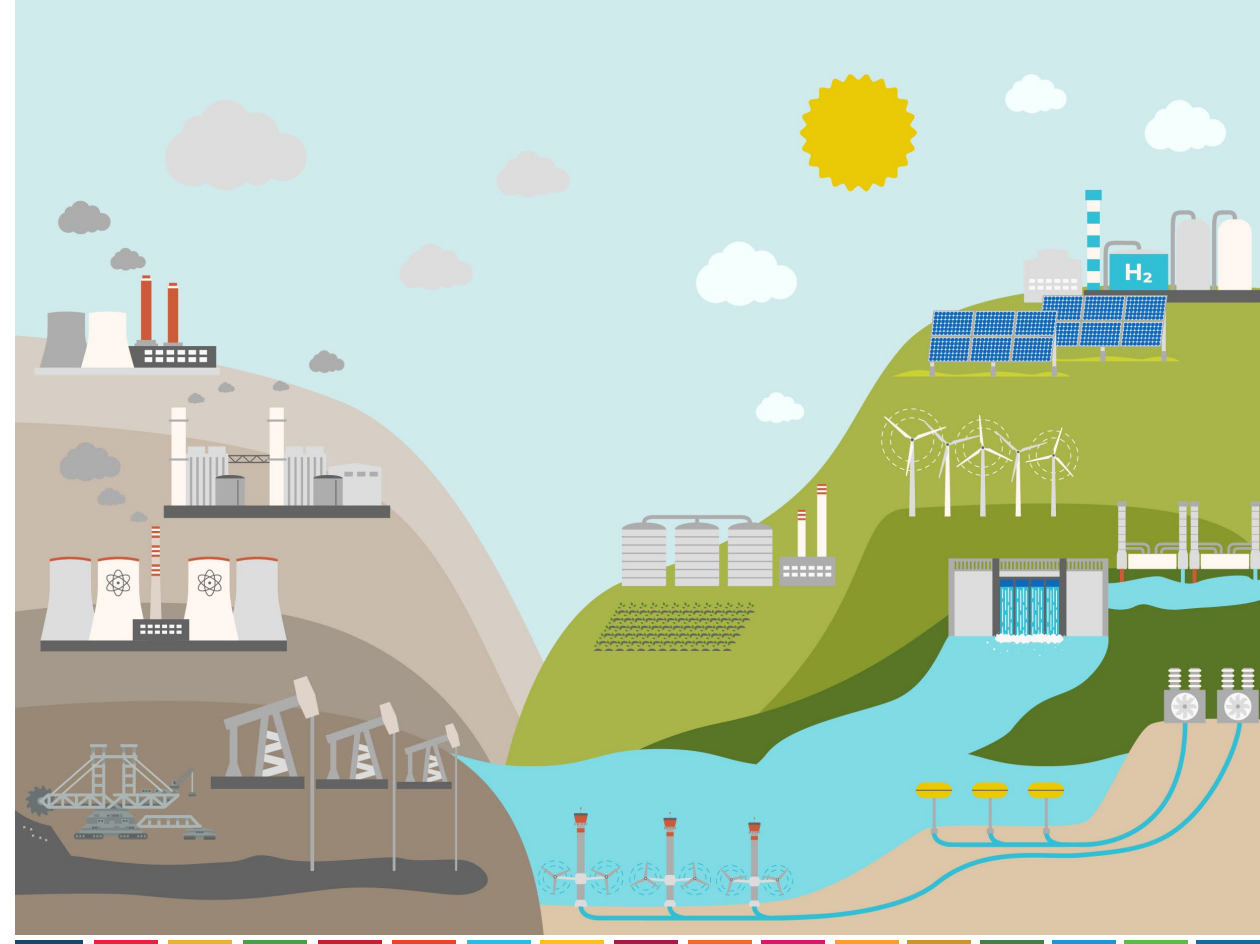


# Overview of UNRMS

The importance of sustainability



RESOURCE MANAGEMENT WEEK

2024



UNECE

# Integrated and indivisible



- 1. Renewable Energy Infrastructure:** wind turbines, solar panels, or hydroelectric dams represent **decarbonization** efforts by transitioning from fossil fuels to renewable energy sources. Energy electric, thermal and gas backbone. These structures demonstrate the shift towards cleaner energy production methods, reducing carbon emissions and mitigating climate change.
- 2. Urban Green Spaces:** Pictures of parks, gardens, or urban forests showcase efforts to enhance **biodiversity** within urban environments. These green spaces provide habitats for various plant and animal species, promote ecological diversity, and contribute to ecosystem resilience in cities.
- 3. Reforestation and Afforestation:** Images of tree planting initiatives, forest restoration projects, or newly established forests illustrate efforts to combat deforestation and restore natural habitats. These activities contribute to biodiversity conservation by creating habitats for wildlife, enhancing ecosystem services, and sequestering carbon dioxide from the atmosphere.

# Integrated and indivisible



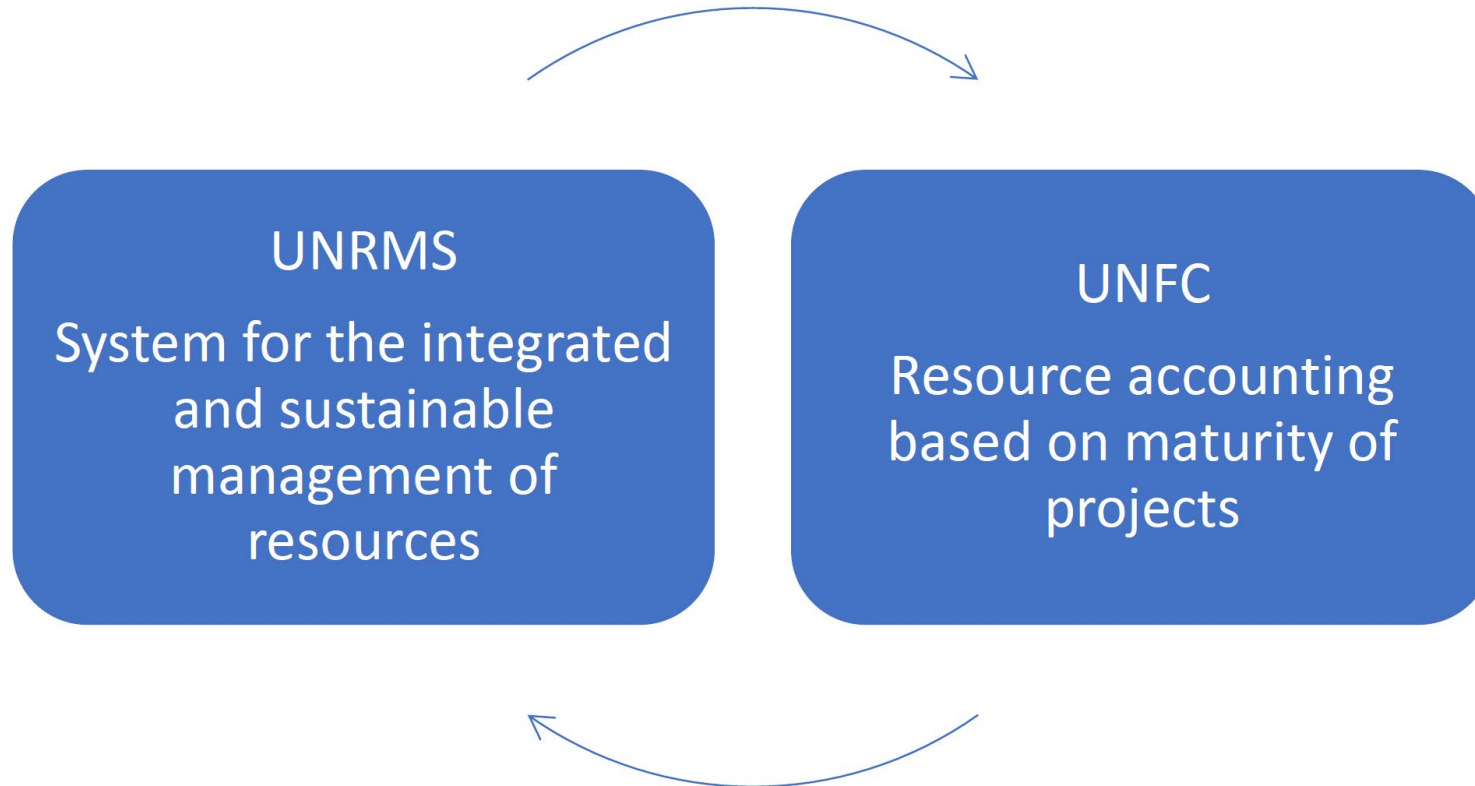
- 4. Protected Areas and Nature Reserves:** national parks, wildlife sanctuaries, or marine protected areas highlight conservation efforts aimed at preserving biodiversity and safeguarding natural ecosystems. These protected areas serve as refuges for threatened species, promote biodiversity conservation, and support ecosystem functions and services.
- 5. Agroecological Farming Practices:** organic farms, agroforestry systems, or diversified cropping systems demonstrate sustainable agriculture practices that promote biodiversity conservation while reducing carbon emissions. These farming methods prioritize ecological diversity, soil health, and natural resource conservation, contributing to both decarbonization and biodiversity conservation goals.
- 6. Coastal Ecosystems:** mangrove forests, coral reefs, or estuarine habitats depict coastal ecosystems that support high levels of biodiversity while also providing valuable ecosystem services such as coastal protection, nutrient cycling, and carbon sequestration. Conservation and restoration efforts in these ecosystems contribute to both decarbonization and biodiversity conservation objectives.

# What is UNRMS to the 2030 Agenda?



- UNRMS is a **framework** to assure that resources are produced and utilized in a sustainable manner.
- Comprehensive, sustainable RMS that supports and enables the implementation
- Meets specific governmental requirements for supporting and mediating the supply, the use and the value-chain of natural resources
- Voluntary global standard for integrated and sustainable development of resources.
- Principles-based, so could serve different needs of stakeholders.

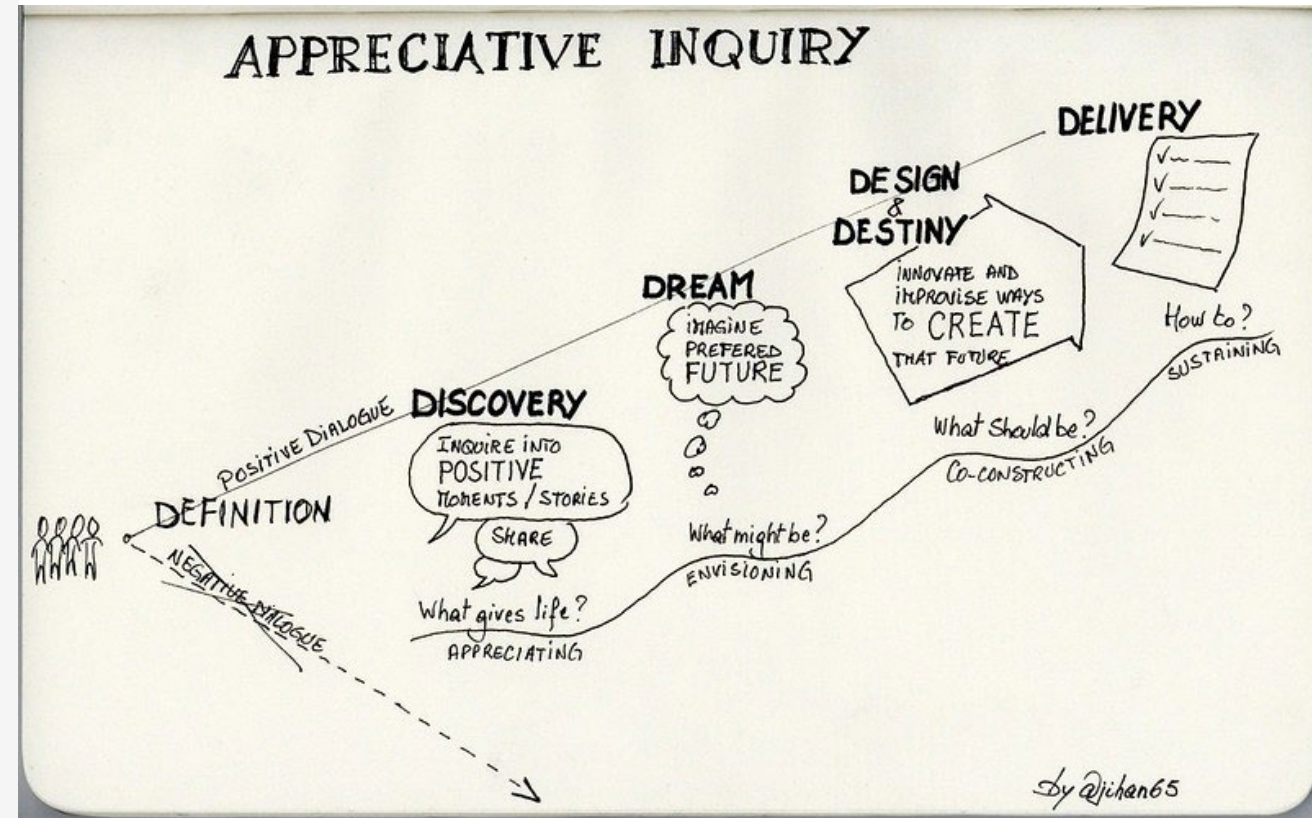
# UNRMS builds on the strengths of UNFC



# Discovering long-term value



- The appreciative inquiry (AI) involves concentrating on the strengths, positive attributes and potential of a project rather than weaknesses.
- AI focuses on the whole organization on identifying its greatest assets, capacities, capabilities, resources, and strengths – to create new possibilities for change, action, and innovation.
- A natural resource project does not exist in isolation rather within a network of people.
- People, service and experience – A new pathway for resources.



# EGRM – 12 Decisions



- Following the request of the Committee on Sustainable Energy, the Expert Group requested the UNRMS Subgroup to:
- **accelerate the development of UNRMS as a framework in line with the proposals outlined in the document "Draft UNRMS: Provisional structure and guidelines" (ECE/ENERGY/GE.3/2021/10).**



# UN Policy Brief, May 2021



**15. Implement a shared principles-based, integrated, sustainable resource management framework** using tools such as the existing United Nations Framework Classification for Resources (UNFC) and the United Nations Resource Management System (UNRMS) under development.

**16. Create or improve regional frameworks aligning extractive industries with the Sustainable Development Goals**, the Universal Declaration of Human Rights, the Convention on Biological Diversity, the Minamata Convention and the Paris Agreement. Adhere to and support the implementation of existing frameworks, such as the African Mining Vision (AMV) and the Escazú Agreement.

**17. Capitalize on United Nations Regional Economic Commissions to bolster regional coordination and policy dialogue** on extractive activities. Issues to be addressed include harmonizing the implementation of carbon pricing and border adjustments, developing a comprehensive framework for traceability and transparency in global value chains, illicit activities, cross-border conflicts and disputes, transparency on trade and financial flows, and strengthening extractive sector fiscal frameworks to encourage value addition and economic diversification.

**Need for speed**



# Stakeholders

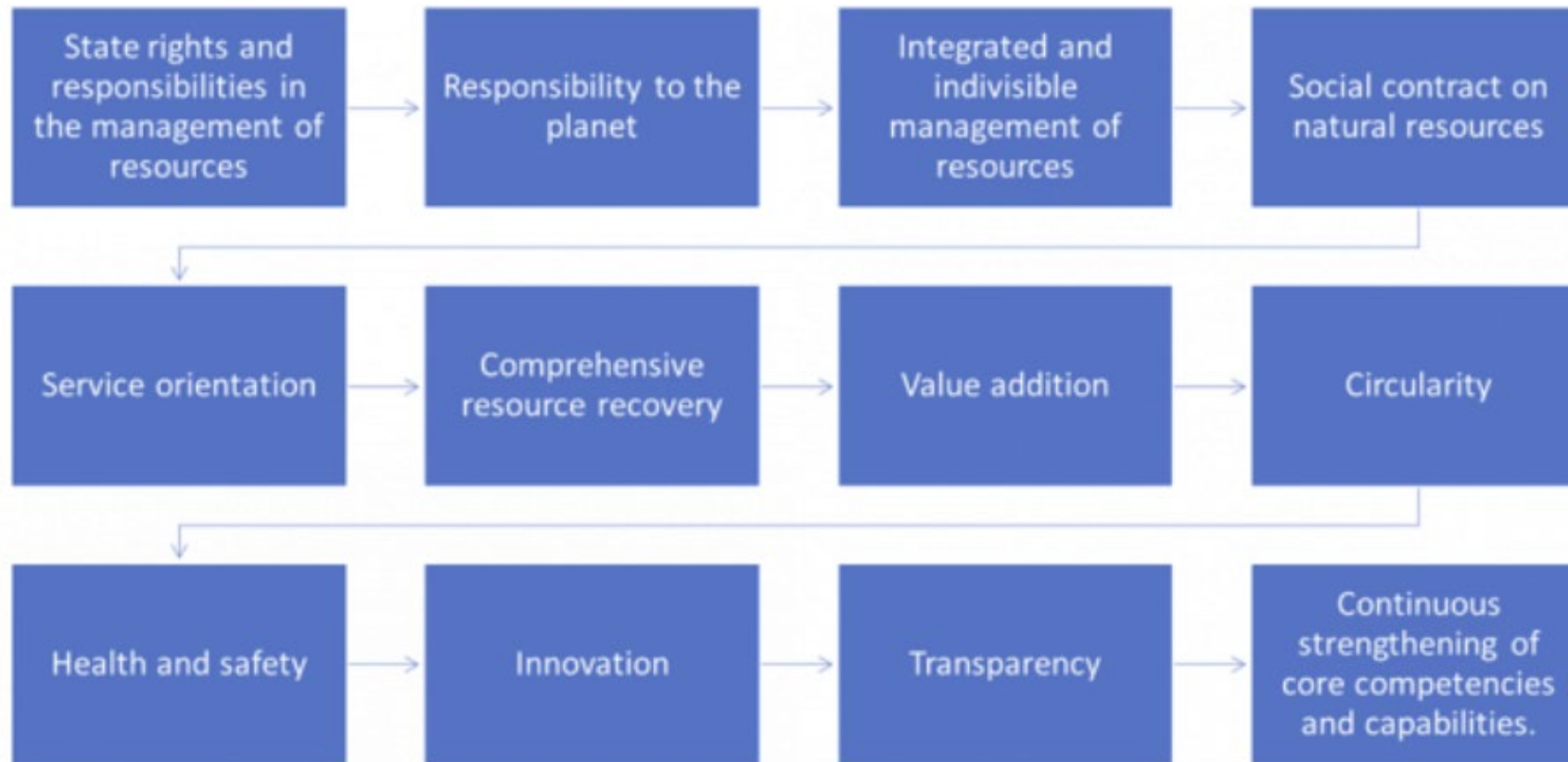


- It is expected that UNRMS will be widely used by resource management stakeholders across all sectors and jurisdictions
- The primary stakeholders are:
  - Governments/Regional bodies
  - Industry
  - Investors and financial regulators
  - Academia, Non-profits, Indigenous Communities and the Public.



# Fundamental principles of sustainable resource management

A provisional view



**UNRMS Fundamental Principles**

# UNRMS requirement generic template

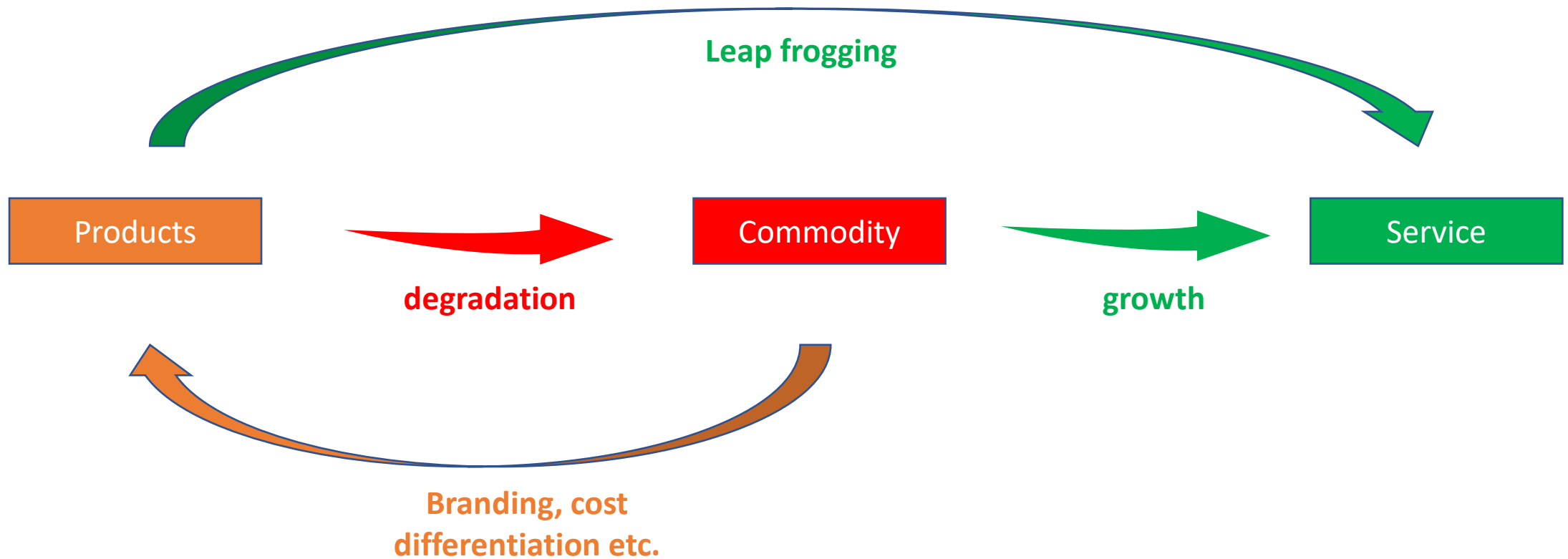


## UNRMS Requirements

- Requirements are based on the fundamental principles
- Requirements should help with assuring that activities confirm to 2030 Agenda
  1. Normative references
  2. Terms and definitions
  3. Integration with all UNRMS principles
  4. Scope and context
  5. Sustainable Development Goals alignment
  6. Planning
  7. Support
  8. Operation
  9. Improvement

**We need volunteers to develop  
the individual requirements**

# Resources as a Service (as an example)



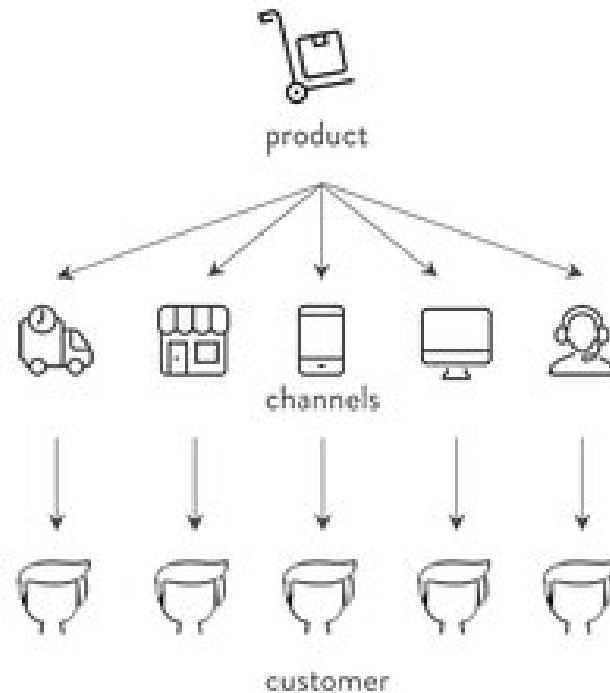
# Product-focus to Outcome focus

## The circularity



## A NEW WAY OF THINKING

Old Business Model



New Business Model



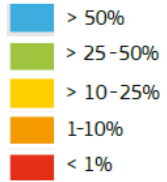
# Product-focus to Outcome focus

## The circularity



End-of-life recycling input rate (EOL-RIR) [%]

|    |     |                    |     |     |     |     |     |     |     |     |     |      |     |     |    |     |     |    |
|----|-----|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|----|-----|-----|----|
| H  |     |                    |     |     |     |     |     |     |     |     |     |      |     |     |    |     | He  | 1% |
| Li | Be  |                    |     |     |     |     |     |     |     |     |     | B*   | C   | N   | O  | F*  | Ne  |    |
| 0% | 0%  |                    |     |     |     |     |     |     |     |     |     | 0.6% |     |     |    | 1%  |     |    |
| Na | Mg  |                    |     |     |     |     |     |     |     |     |     | Al   | Si  | P*  | S  | Cl  | Ar  |    |
|    | 13% |                    |     |     |     |     |     |     |     |     |     | 12%  | 0%  | 17% | 5% |     |     |    |
| K* | Ca  | Sc                 | Ti  | V   | Cr  | Mn  | Fe  | Co  | Ni  | Cu  | Zn  | Ga   | Ge  | As  | Se | Br  | Kr  |    |
| 0% |     | 0%                 | 19% | 44% | 21% | 12% | 31% | 35% | 34% | 17% | 31% | 0%   | 2%  |     | 1% |     |     |    |
| Rb | Sr  | Y                  | Zr  | Nb  | Mo  | Tc  | Ru  | Rh  | Pd  | Ag  | Cd  | In   | Sn  | Sb  | Te | I   | Xe  |    |
|    |     | 31%                |     | 0%  | 30% |     | 11% | 9%  | 9%  | 55% |     | 0%   | 32% | 28% | 1% |     |     |    |
| Cs | Ba  | La-Lu <sup>1</sup> | Hf  | Ta  | W   | Re  | Os  | Ir  | Pt  | Au  | Hg  | Tl   | Pb  | Bi  | Po | At  | Rn  |    |
|    | 1%  |                    | 1%  | 1%  | 42% | 50% |     | 14% | 11% | 20% |     |      | 75% | 1%  |    |     |     |    |
| Fr | Ra  | Ac-Lr <sup>2</sup> | Rf  | Db  | Sg  | Bh  | Hs  | Mt  | Ds  | Rg  | Cn  | Uut  | Fl  | Uup | Lv | Uus | Uuo |    |



|                                  |    |    |     |    |    |    |     |    |     |    |    |    |    |    |    |
|----------------------------------|----|----|-----|----|----|----|-----|----|-----|----|----|----|----|----|----|
| <sup>1</sup> Group of Lanthanide | La | Ce | Pr  | Nd | Pm | Sm | Eu  | Gd | Tb  | Dy | Ho | Er | Tm | Yb | Lu |
|                                  | 1% | 1% | 10% | 1% |    | 1% | 38% | 1% | 22% | 0% | 1% | 0% | 1% | 1% | 1% |
| <sup>2</sup> Group of Actinide   | Ac | Th | Pa  | U  | Np | Pu | Am  | Cm | Bk  | Cf | Es | Fm | Md | No | Lr |

|            |           |              |           |          |        |             |           |           |              |                  |                |                   |         |             |             |      |
|------------|-----------|--------------|-----------|----------|--------|-------------|-----------|-----------|--------------|------------------|----------------|-------------------|---------|-------------|-------------|------|
| Aggregates | Bentonite | Coaking Coal | Diatomite | Feldspar | Gypsum | Kaolin Clay | Limestone | Magnesite | Natural Cork | Natural Graphite | Natural Rubber | Natural Teak Wood | Perlite | Sapele wood | Silica Sand | Talc |
| 7%         | 50%       | 0%           | 0%        | 10%      | 1%     | 0%          | 58%       | 2%        | 8%           | 3%               | 1%             | 0%                | 42%     | 15%         | 0%          | 5%   |



3rd Raw Materials Scoreboard (2021)

\* F = Fluorspar; P = Phosphate rock; K = Potash, Si = Silicon metal, B = Borates.

# Case studies



- UK - case study with a specific focus on "Resources as a Service"
- USA – Green Steel Project
- Mexico – Mineral projects
- Russian Federation through the new ICE-SRM Moscow
- China
- African Union - Namibia and Uganda
- EU - Finland, Portugal etc.
- Ukraine
- Tajikistan
- Focus on Critical Raw Materials
- Focus on Block Chain.



# The Role of Science

...and the classification of projects



- Survey data (geophysics, remote sensed data, natural resources data)

- Knowing and understanding the natural resources environment

## MAPS

- Understanding the processes that give rise to resource potentials

## MODELS

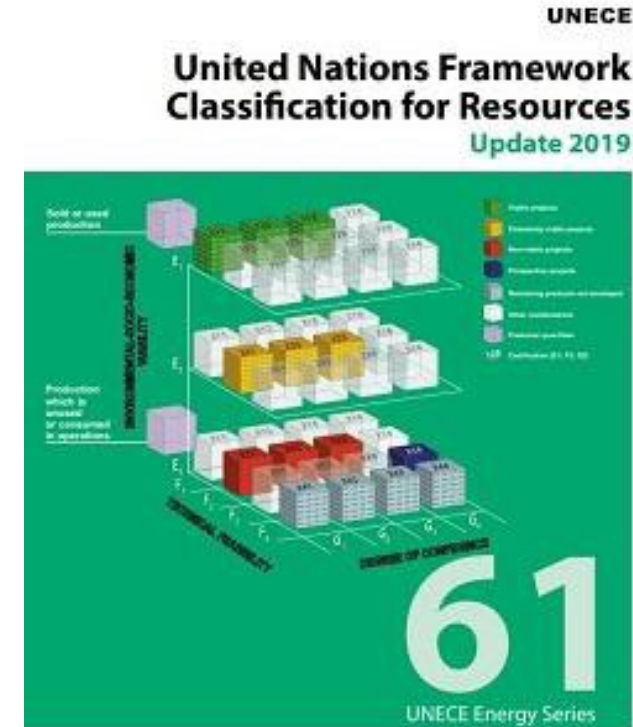
- Inventorying the surface and subsurface for (CRM & SRM, geothermal...)

## INVENTORY

- Turning individual small data packages into large data packages

## DATA HOMOGENISATION

- **UNFC classification**



# The Role of Science

...and the classification of projects



“Raw materials are becoming increasingly important for the competitiveness of Europe’s industry, for innovation and for the transition to a low-carbon, more circular economy.

Many new enabling technologies rely on materials that are predominantly produced outside of the European Union, such as cobalt for Lithium-Ion batteries powering low-emission mobility or rare-earth elements for energy-saving electronics.

International competition for such raw materials is becoming more intense.”

*Vladimír Šucha and Lowri Evans, Raw Materials Scoreboard 2018*



# The Role of Science

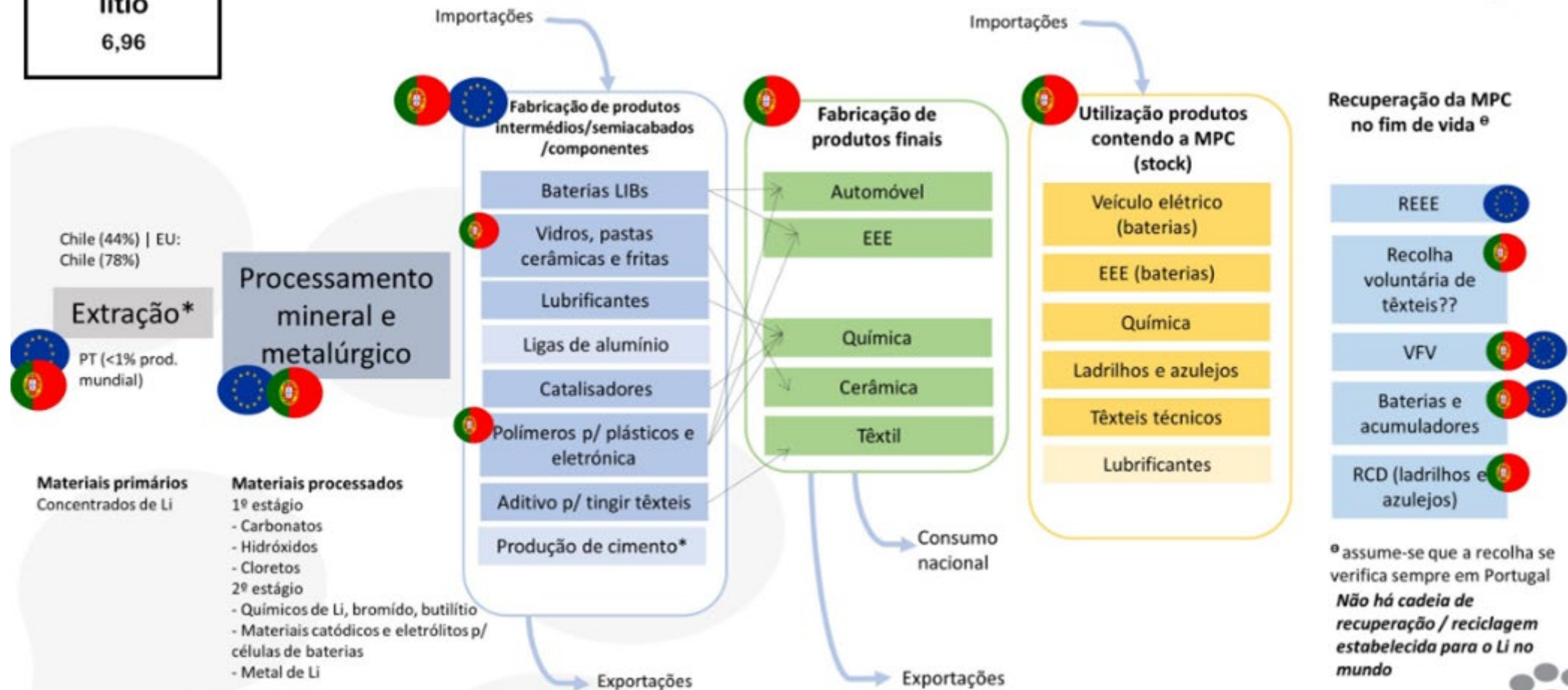
## ...and the classification of projects



3

**Li**  
lítio  
6,96

Considerada MPC devido risco abastecimento para a fase de "processamento"

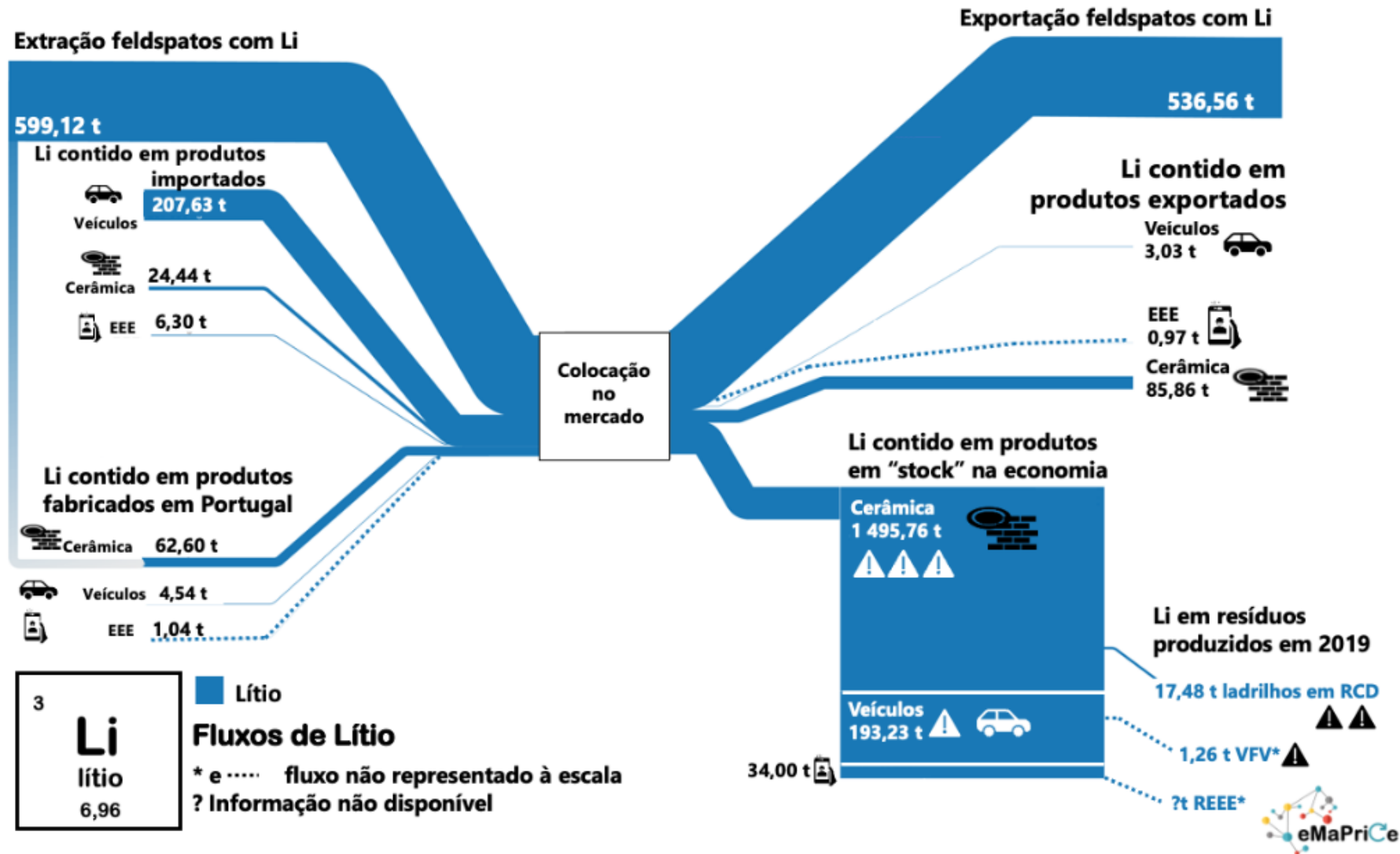


\* Em Portugal a extração de pegmatito com lítio usado na indústria cerâmica ocorre em vários locais. Foram extraídos entre 17 120-76 818t 2015-'20 (23 185t em



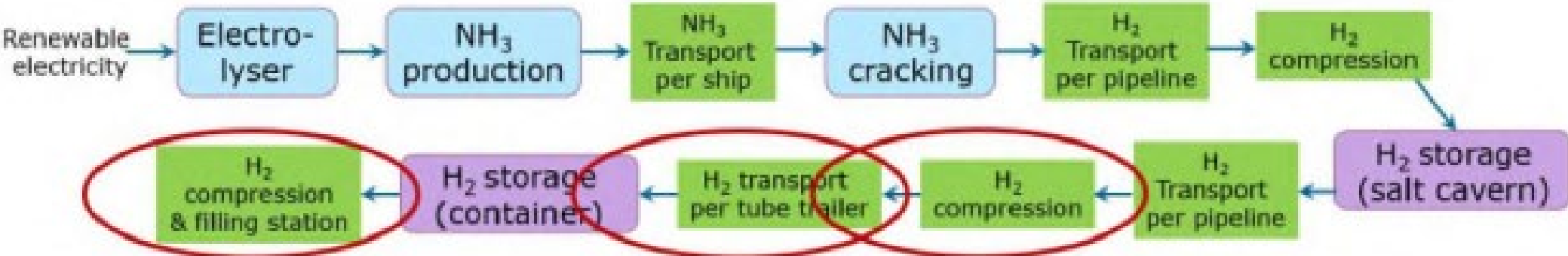
# The Role of Science

## ...and the classification of projects



# The Role of Science

...and the classification of projects, the H2 from production to storage





**General information**

|                                    |  |  |   |
|------------------------------------|--|--|---|
| Passport reference                 | <input type="text" value="CHP-CD"/>  | Publication date   | <input type="text" value="05/05/2022"/> |
| Building name                      | <input type="text" value="Apartment building Girona"/>                     | <input type="text" value="Insert image(s) of the building"/> |   |
| Building type                      | <input type="text" value="Private"/>                                       |  |   |
| Usage                              | <input type="text" value="Housing building - multifamily"/>                |  |   |
| Year of construction               | <input type="text" value="2020"/>  |  |   |
| Year of renovation                 | <input type="text"/>   |  |   |
| Description of renovation          | <input type="text"/>   |  |   |
| Status                             | <input type="text" value="New Building"/>                                  |  |   |
| Total area                         | <input type="text" value="540 m2"/>  |  |   |
| Sustainability certification       | <input type="text" value="none"/>  |  |   |
| Energy label                       | <input type="text" value="A"/>   |  |   |
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| Author(s) responsible for the data | <input type="text" value="Aida Saitogqi"/>                                 |  |   |

# The Role of Science

## and the digital passport for materials



Building layers



Site



Skin



Structure



Services



Space plan

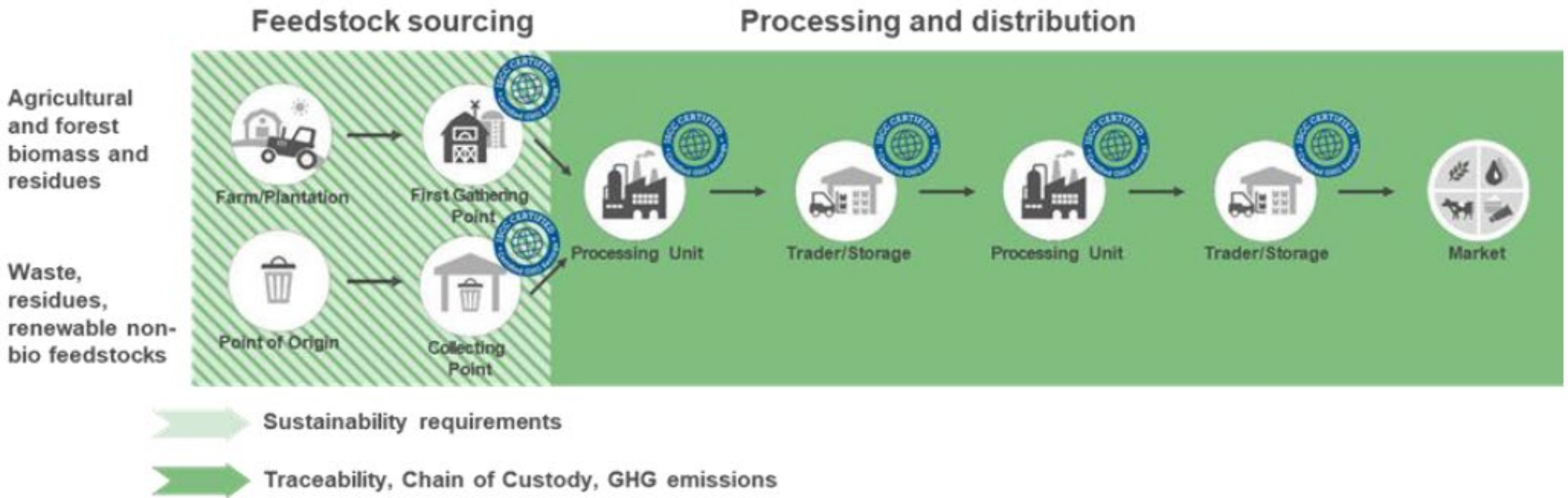


# The Role of Science

...and the classification, the certification of sustainability








## Biofuels





# The Role of Science

...and the classification, the EU Taxonomy

-  Climate change mitigation
-  Climate change adaptation
-  sustainable and protection of water and marine resources;
-  transition to a circular economy
-  pollution prevention and control;
-  protection and restoration of biodiversity and ecosystems.

# "Lightning Advance strategy"



- Development of UNRMS with grass-root engagement
- Several workshops involving EGRM all workgroups to expand the 54 requirements included in UNRMS
- With input and cooperation from all WG Chairs.
- UNRMS Session to showcase case studies – (EGRM-13 and 14)
- **UNRMS at EGRM 15, 2024**

# Timelines

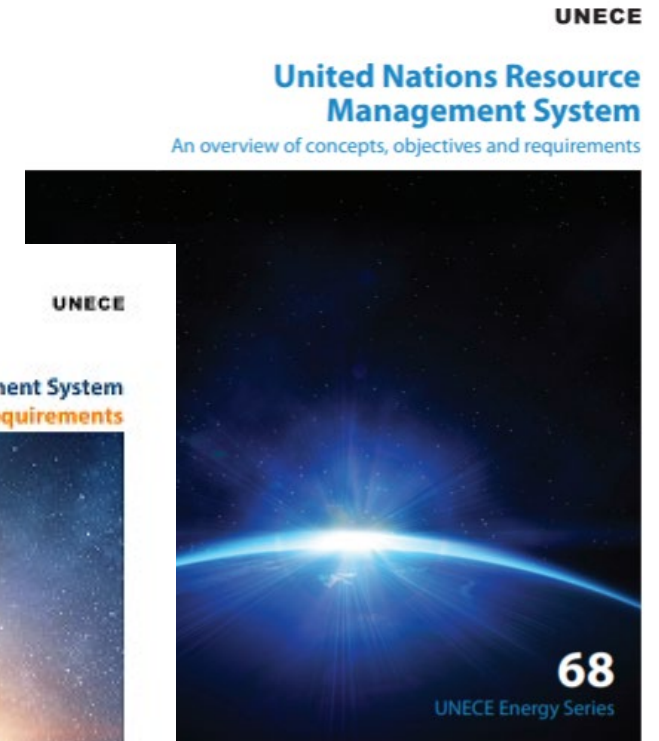
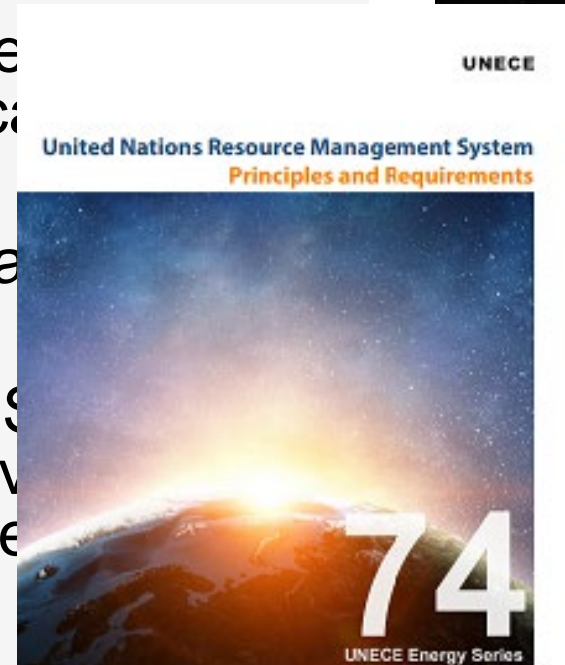


- 2018 – Idea germinated with with the concept note "Transforming our world's natural resources: A step change for UNFC?"
- 2019 - A concept note on the design of UNRMS
- 2020 - UNRMS concept note: Objectives, requirements, outline and way forward
- 2020 – Synthesis Report: United Nations Resource Management System: An overview of concepts, objectives and requirements
- 2021 - UNRMS survey was open from 7 May to 10 June
- 2021 – UNRMS principles and requirements approved by EGRM-12, December. 11 Principles and 54 requirements
- 2021 – Recommended for global adoption by the UN Secretary-General’s Policy Brief on Transforming the Extractive Industries
- 2022 – Publication of UNRMS ECE Energy Series 74 Series
- 2023 - Approval by ECOSOC
- UNRMS Tool development by small teams
- Case Studies Ongoing
- Workshops planned – **EGRM15 (example)**

# Build Forward Better



- Short-termism is the greatest threat faced by humanity
- It is the present bias that favours short-term payoffs over long-term rewards.
- Integrated management of the natural resource nexus of food, energy and water is critical to meeting universal needs.
- These resources must be managed as a common good to achieve key SDGs.
- United Nations Resource Management System (UNRMS) provides the right tools to move commodity business to a food-water-energy industry.



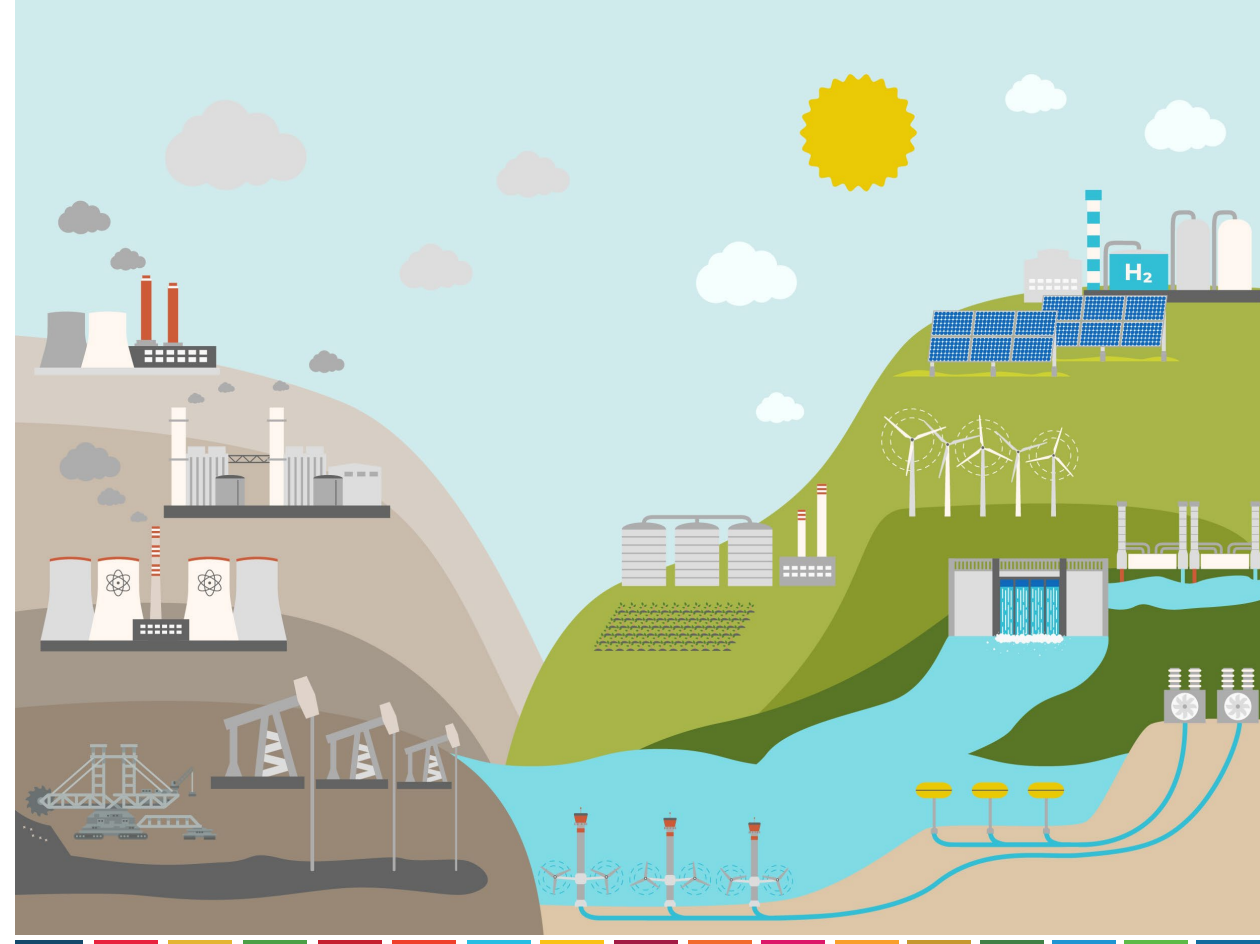
THE VIEWS EXPRESSED ARE THOSE OF [Teresa Ponce de Leão] AND DO NOT NECESSARILY REFLECT THE VIEWS OF THE UNITED NATIONS.

# Thank you!

Teresa Ponce de Leão  
Vice-president EGRM / Chair sub-group UNRMS

**UNECE**

Date 23 | 04 | 2024, Geneva



## RESOURCE MANAGEMENT WEEK 2024



**UNECE**