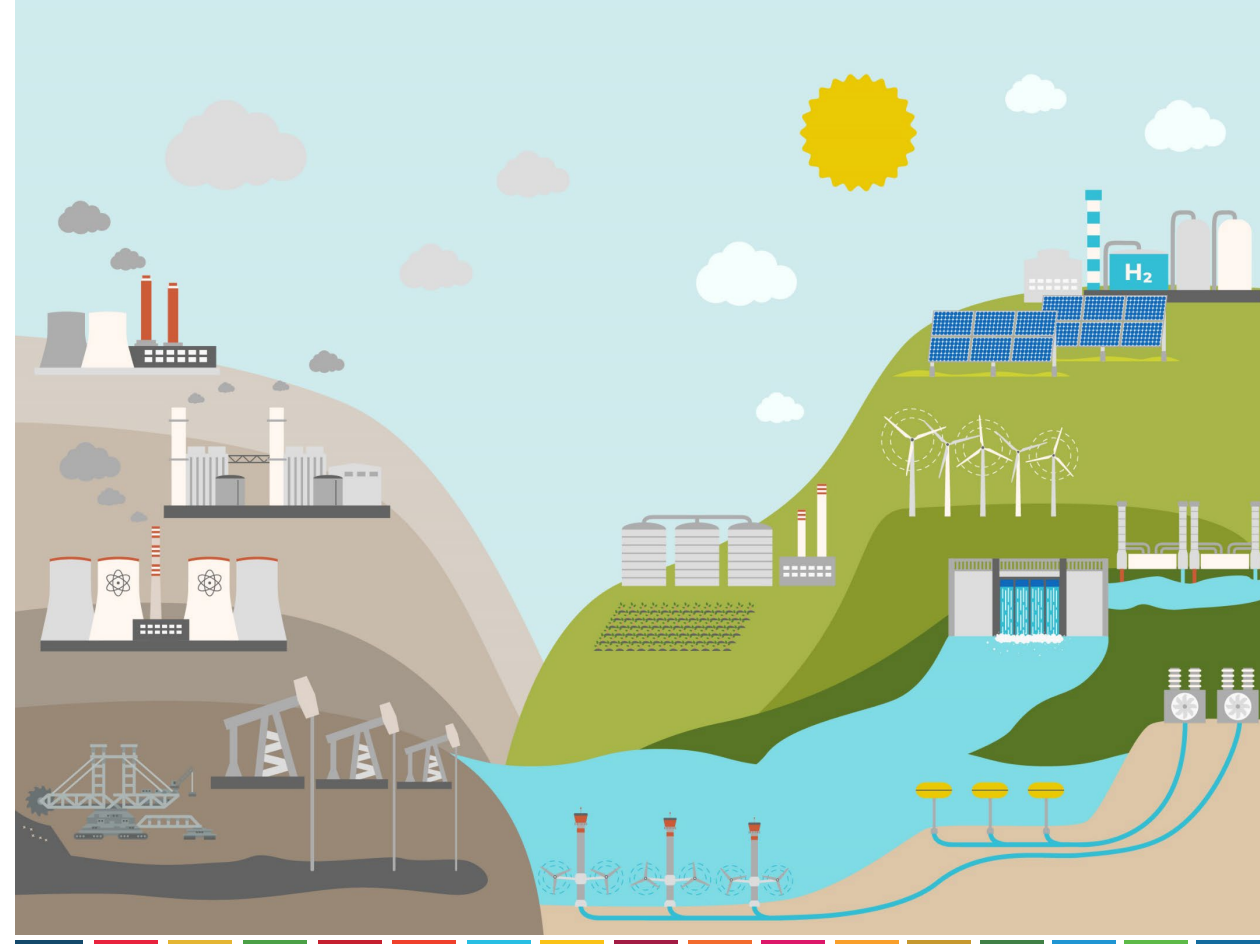


Panel 3
Challenges in Classifying
Secondary Raw Material
Projects



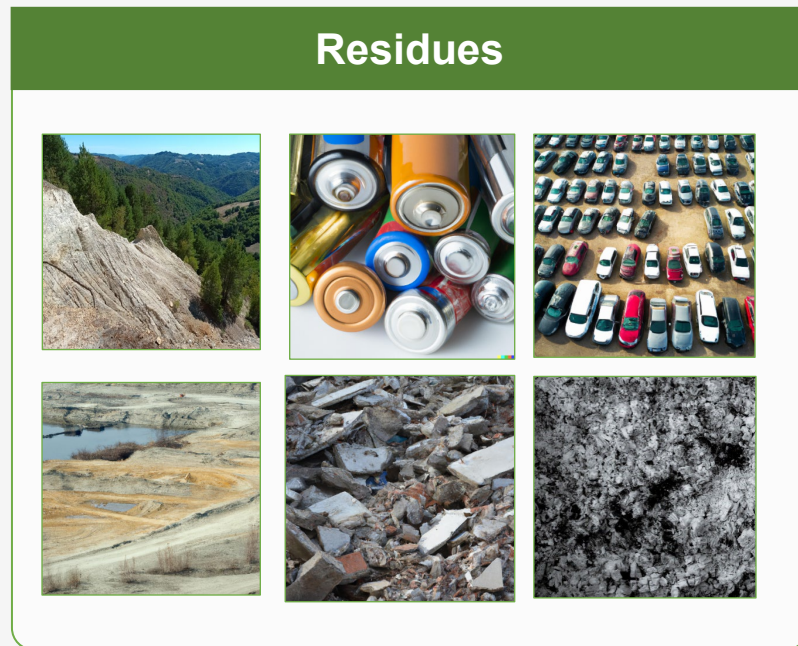
RESOURCE MANAGEMENT WEEK
2024



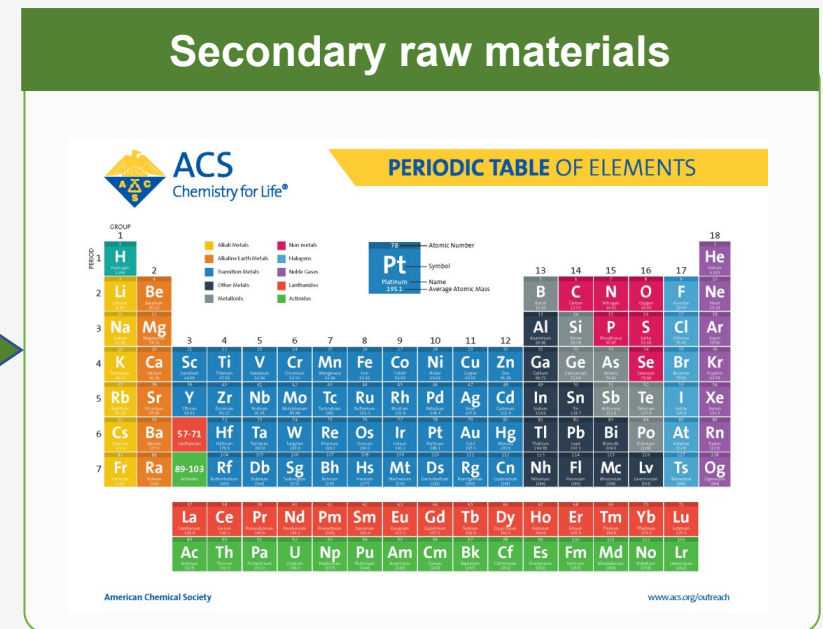
UNECE

Residues → Secondary raw materials

- Type your text here



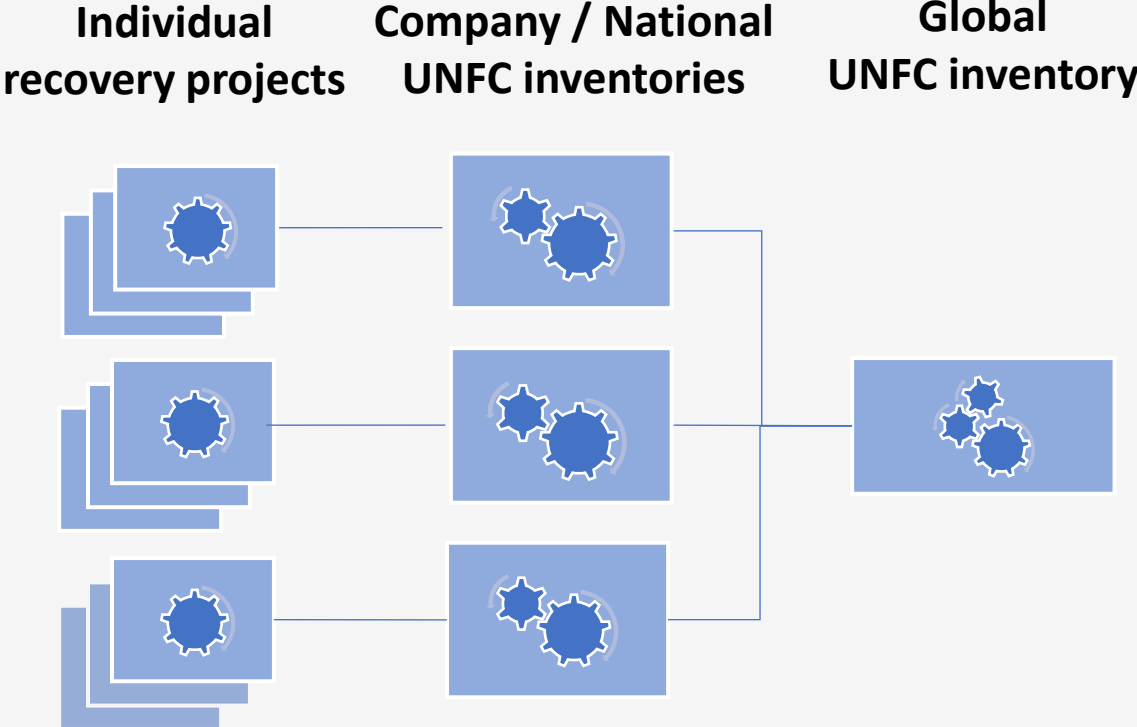
Recovery project



UNFC communicates the maturity level

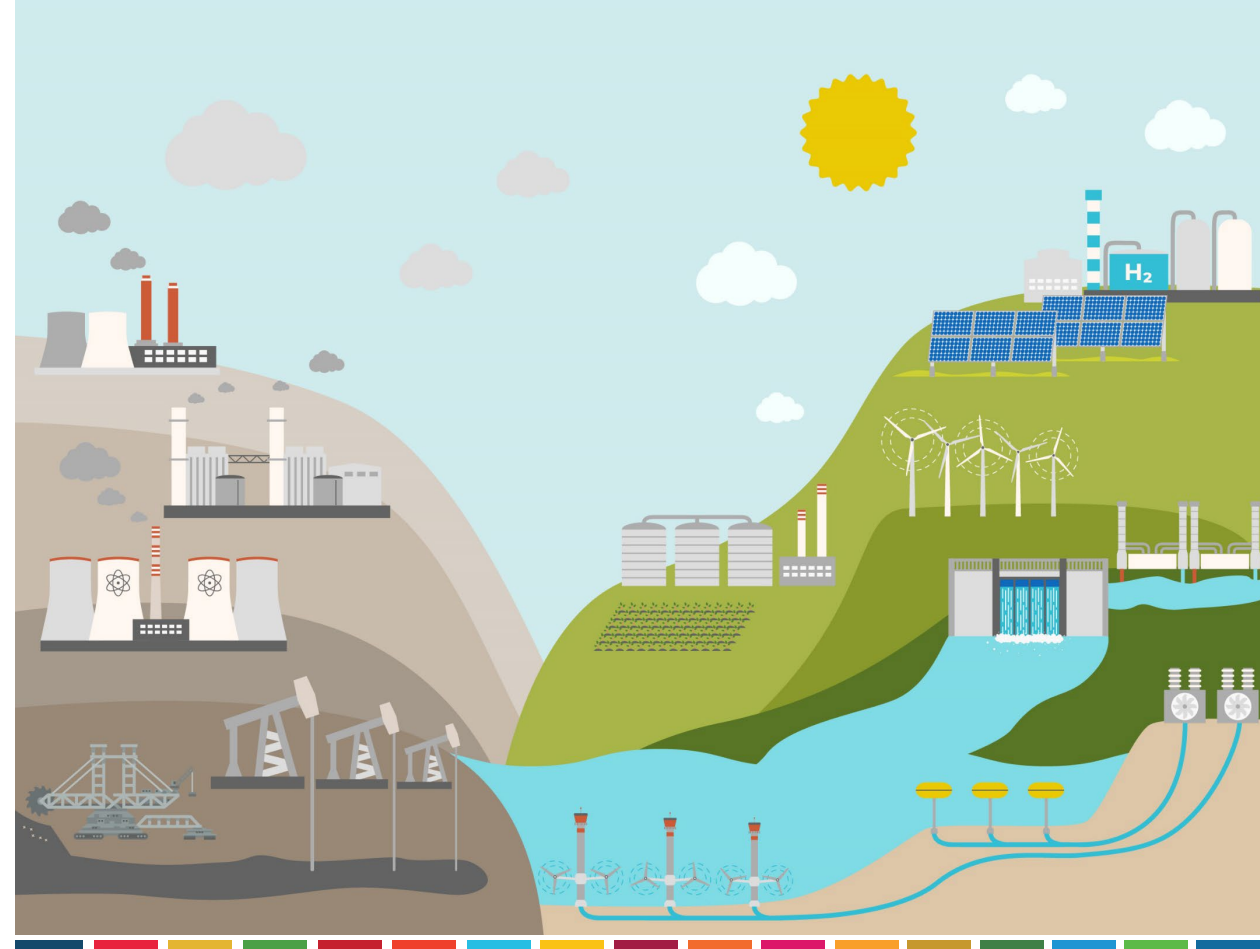


UNFC inventories



Challenges for establishing a UNFC inventory for material recovery from mining and metallurgical residues

Soraya Heuss-Aßbichler



RESOURCE MANAGEMENT WEEK

2024



UNECE

Challenges for establishing a UNFC inventory for material recovery from mining and metallurgical residues

Introduction

- **Residues:**

37.6 billion metric tons of waste rock, tailings and processing losses in 2018*

- **Challenge:**

Continuous change in the technology used to gain the valuable elements causes a change in composition of the residues.

- **Material recovery:**

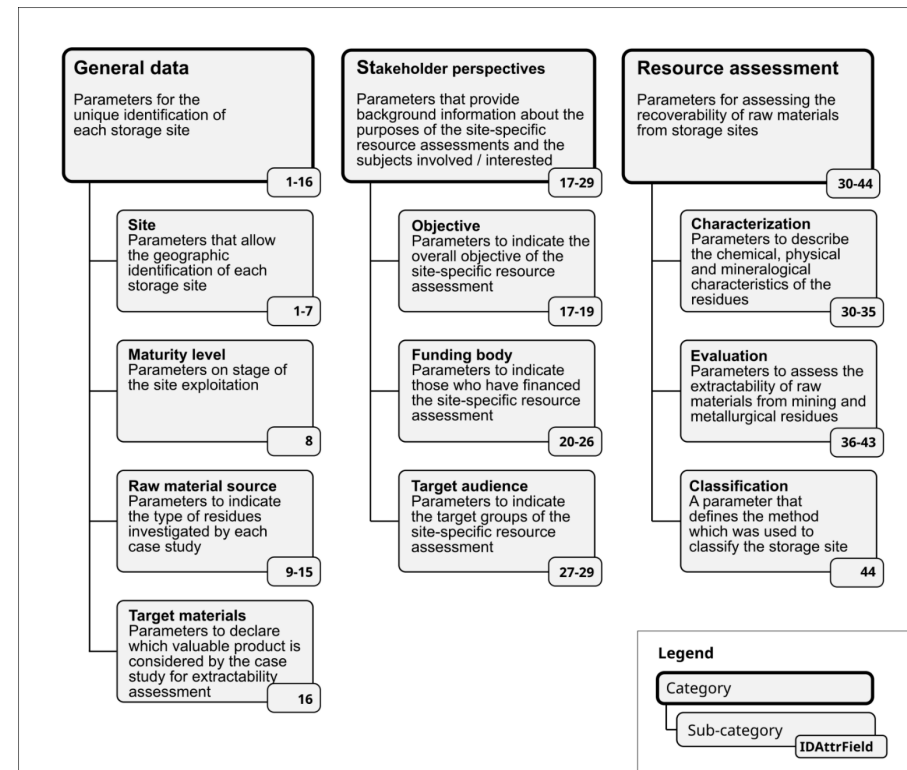
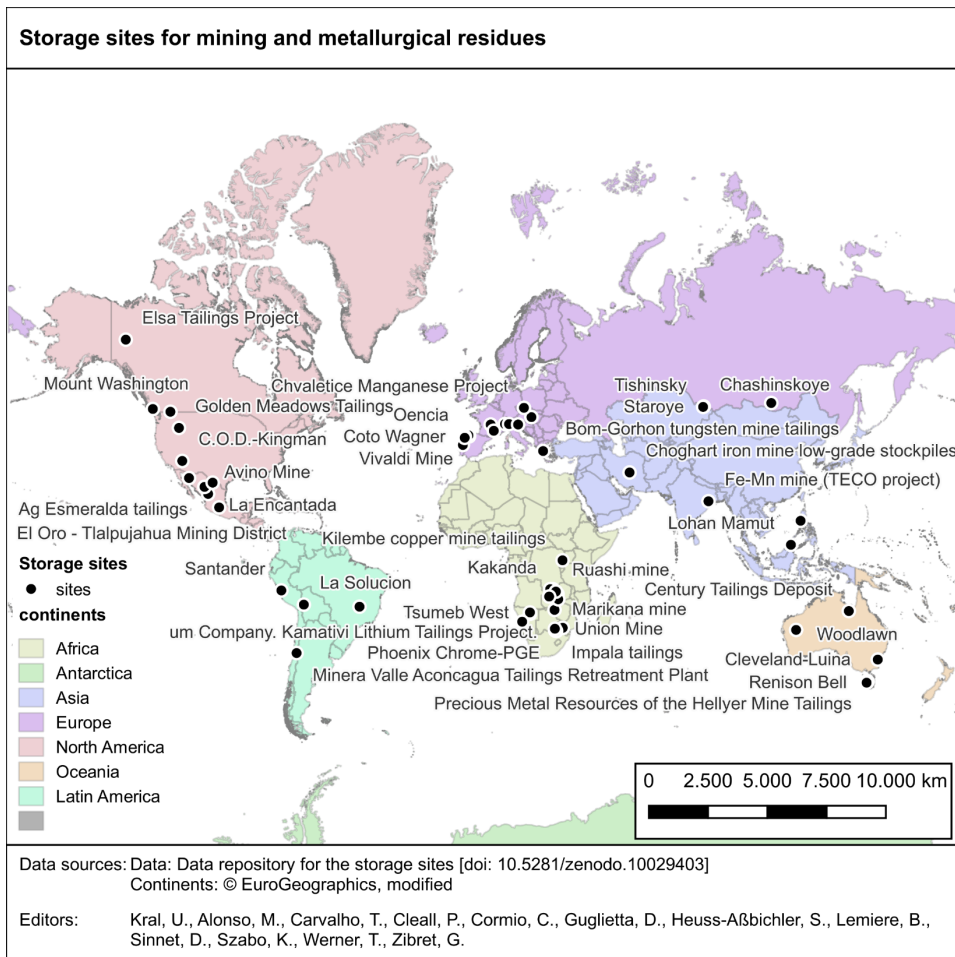
A database on the viability of material recovery from mining and metallurgical residues is under development, e.g. in the EU.

*Rock-to-Metal Ratio: <https://doi.org/10.1021/acs.est.1c07875>



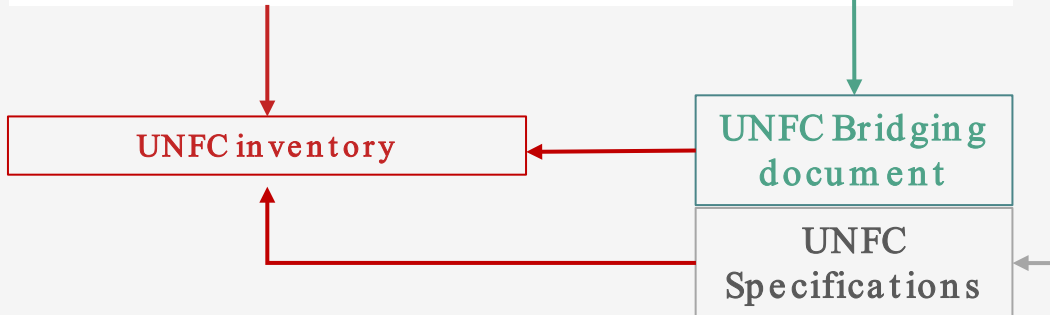
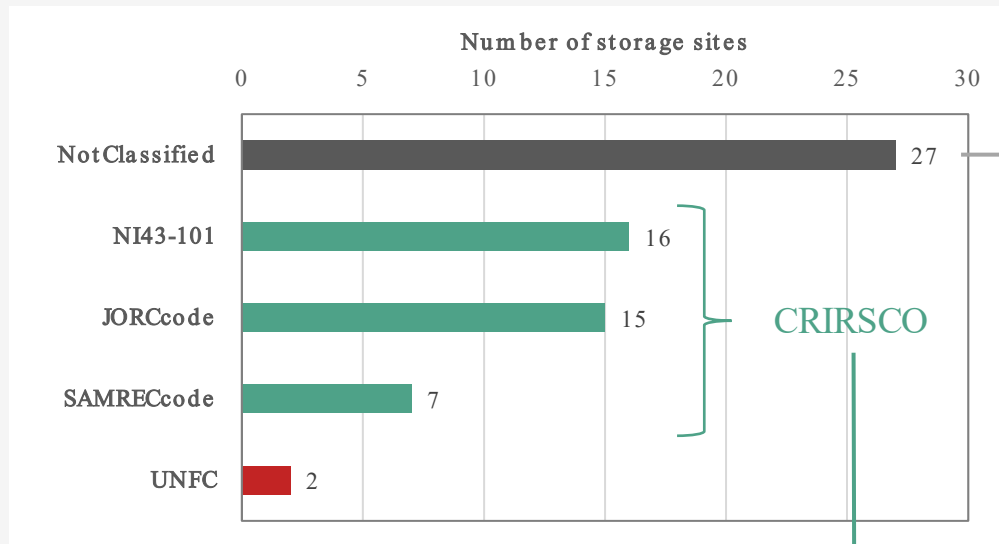
Challenges for establishing a UNFC inventory for material recovery from mining and metallurgical residues

Site-specific dataset of mining and metallurgical residues for resource management



Challenges for establishing a UNFC inventory for material recovery from mining and metallurgical residues

Outlook



- The comparison of projects is challenged by differences in resource assessments:
 - End-user needs
 - Date of evaluation
 - Type of data collection and sharing
 - Modifying factors

- A UNFC inventory is technically feasible



Challenges for establishing a National UNFC inventory for CRM recovery from post- consumer residues

Daniel Monford



RESOURCE MANAGEMENT WEEK
2024

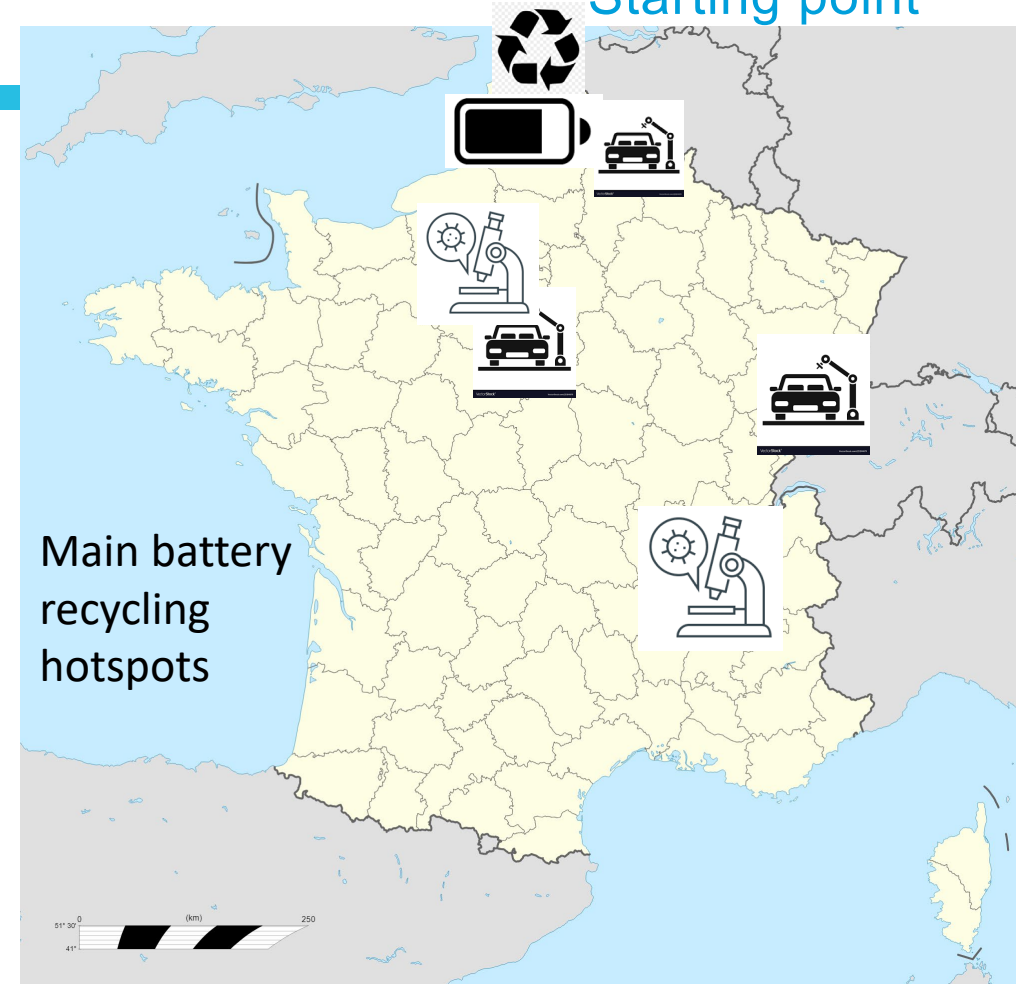


UNECE

National UNFC inventory for CRM recovery from post-consumer residues - France

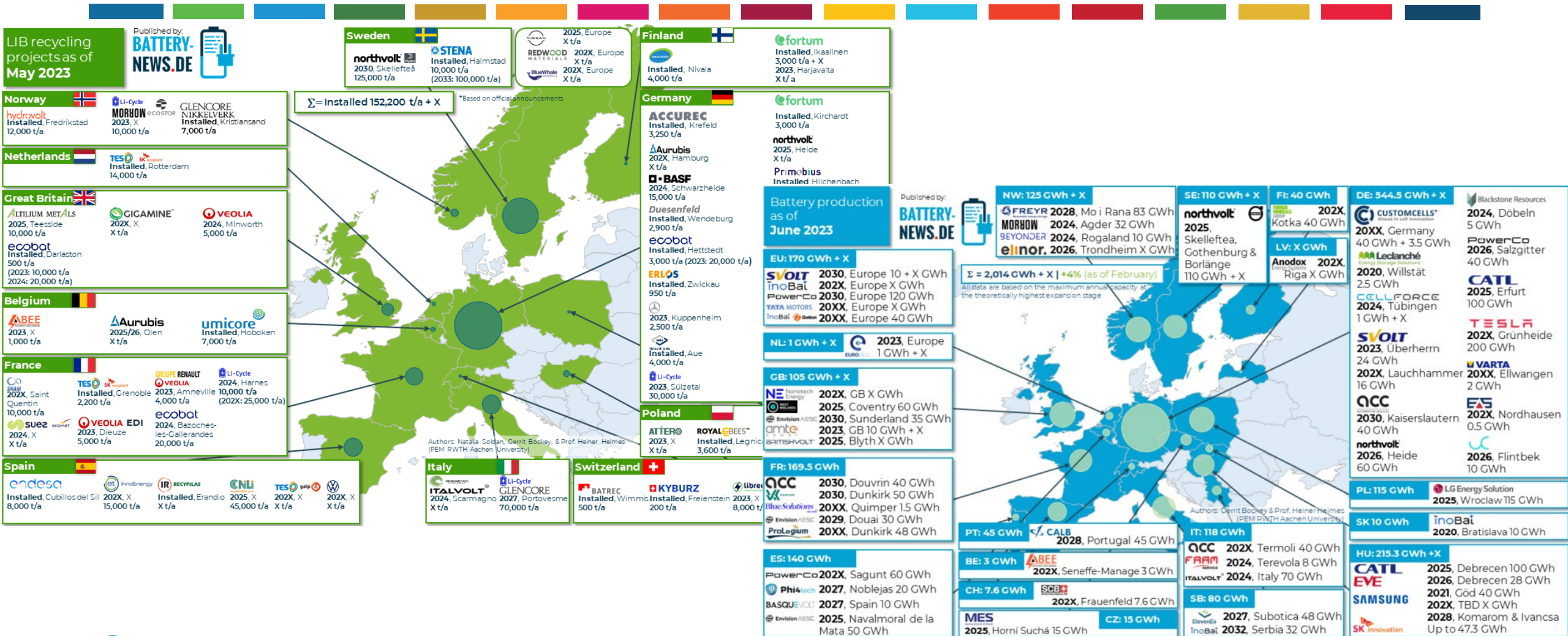
Starting point

- Who? → project definition
 - Ongoing magnets and battery recycling projects in France are multi-partner
 - Research institute/patents
 - Waste collector, sorting, mechanical treatment
 - (Hydro)Metallurgy
 - Manufacturers
- Where? → project location
 - Industrial plants are constrained by EIA and industrial regulations. But projects are more global
- When? → project maturation
 - Plants producing / future industrial projects / R&D with low TRL projects (out of scope)



National UNFC inventory for CRM recovery from post-consumer residues - France

Battery landscape



National UNFC inventory for CRM recovery from post-consumer residues - France

Barriers

- Who is the **Competent Person** for recycling, the equivalent to CRIRSCO CP in primary resources?
- Which are the sampling requirements to be G1 in waste flows?
- Which classification for G-axis based on material flow analysis, foresight composition, etc.?
- G axis has to map the degree of certainty of composition of the wastes and the available volumes
 - G3/G4. High uncertainty/risk: **products/wastes still not in the market**, with market shares of products that can change, composition can change also, circular economy strategies can reduce the volumes
 - G2. Moderate uncertainty/risk: For ex. Battery manufacture scrap coming from **giga-factories under construction**
 - G1. Low uncertainty: recycling projects based on **current** wastes/manufacture scraps.



UNFC role for Financing Secondary Raw Material Projects on industrial scale

Massimo Gasparon



RESOURCE MANAGEMENT WEEK
2024



UNECE

UNFC role for Financing Secondary Raw Material Projects on industrial scale

Key points

- What is 'secondary' – rock waste, tailings, e-waste, etc.? What is 'recycling'?
- What is the G axis? Supply is a critical issue
- Carbon footprint – recycling is not 'clean' and is not 'circular'
- Many projects combine recycling with primary production – projects need to be broken down into different components



UNFC role for Financing Secondary Raw Material Projects on industrial scale

Financing

- Financing secondary raw materials projects is easy compared with primary raw materials projects (permitting, social acceptance)
- Financing secondary raw materials projects is more challenging compared with primary raw materials projects (supply risk, opaque trade)
- Secondary raw materials projects are relatively cheap – easier and harder to finance; what is the asset value?
- Supply is a critical issue
- Complexity: UNFC should apply to individual components



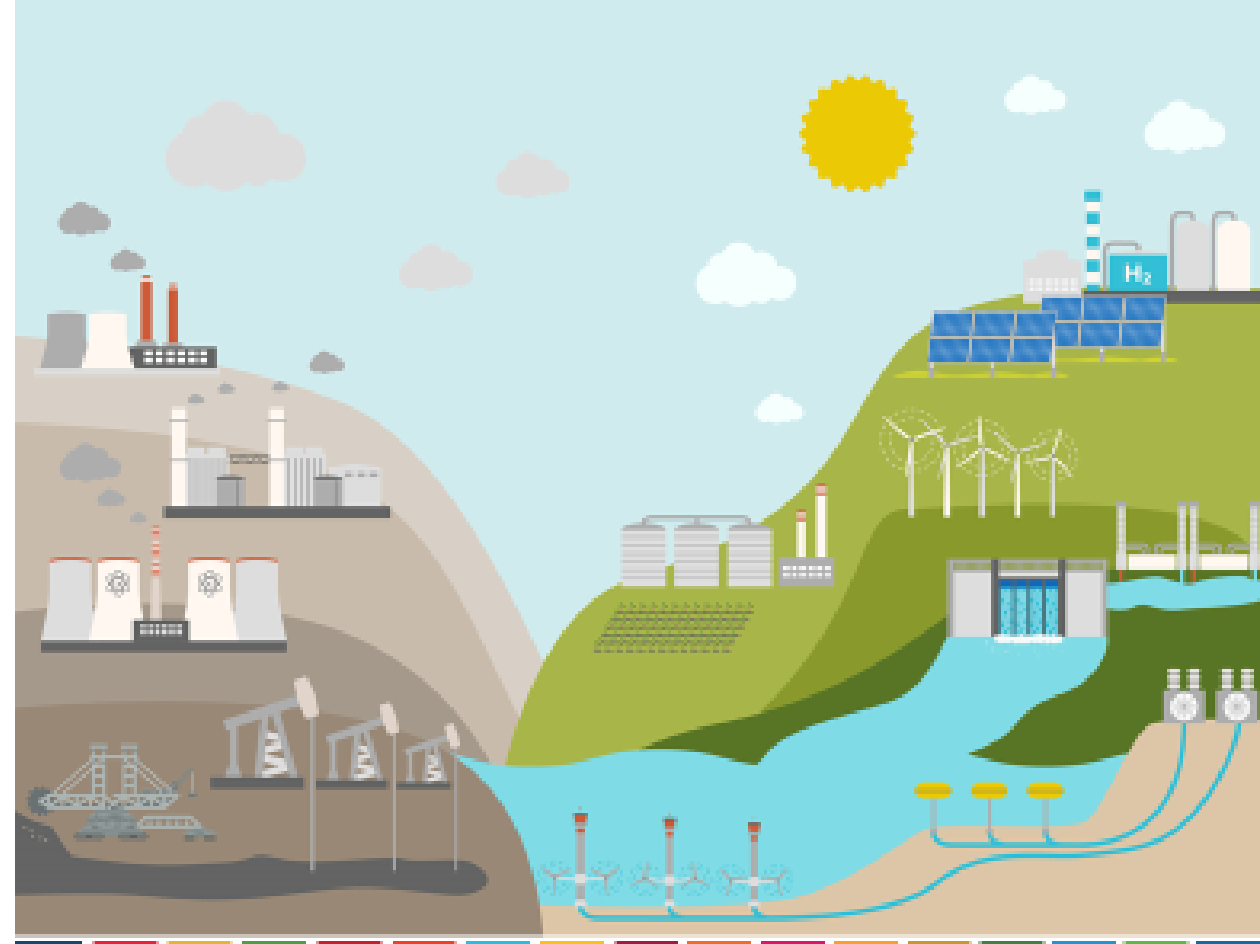
THE VIEWS EXPRESSED ARE THOSE OF ULRICH KRAL, DANIEL MONFORT, SORAYA HEUSS, MASSIMO GASPERON AND DO NOT NECESSARILY REFLECT THE VIEWS OF THE UNITED NATIONS.

Thank you!

Ulrich Kral
Chair, EGRM Anthropogenic WG

UNECE

Date _23_ | _04_ | 2024, Geneva



RESOURCE MANAGEMENT WEEK
2024



UNECE