



**Workshop on
Implementing the United Nations Framework
Classification for Resources (UNFC) in Southeast
Europe**

Application of UNFC to Secondary Raw Materials

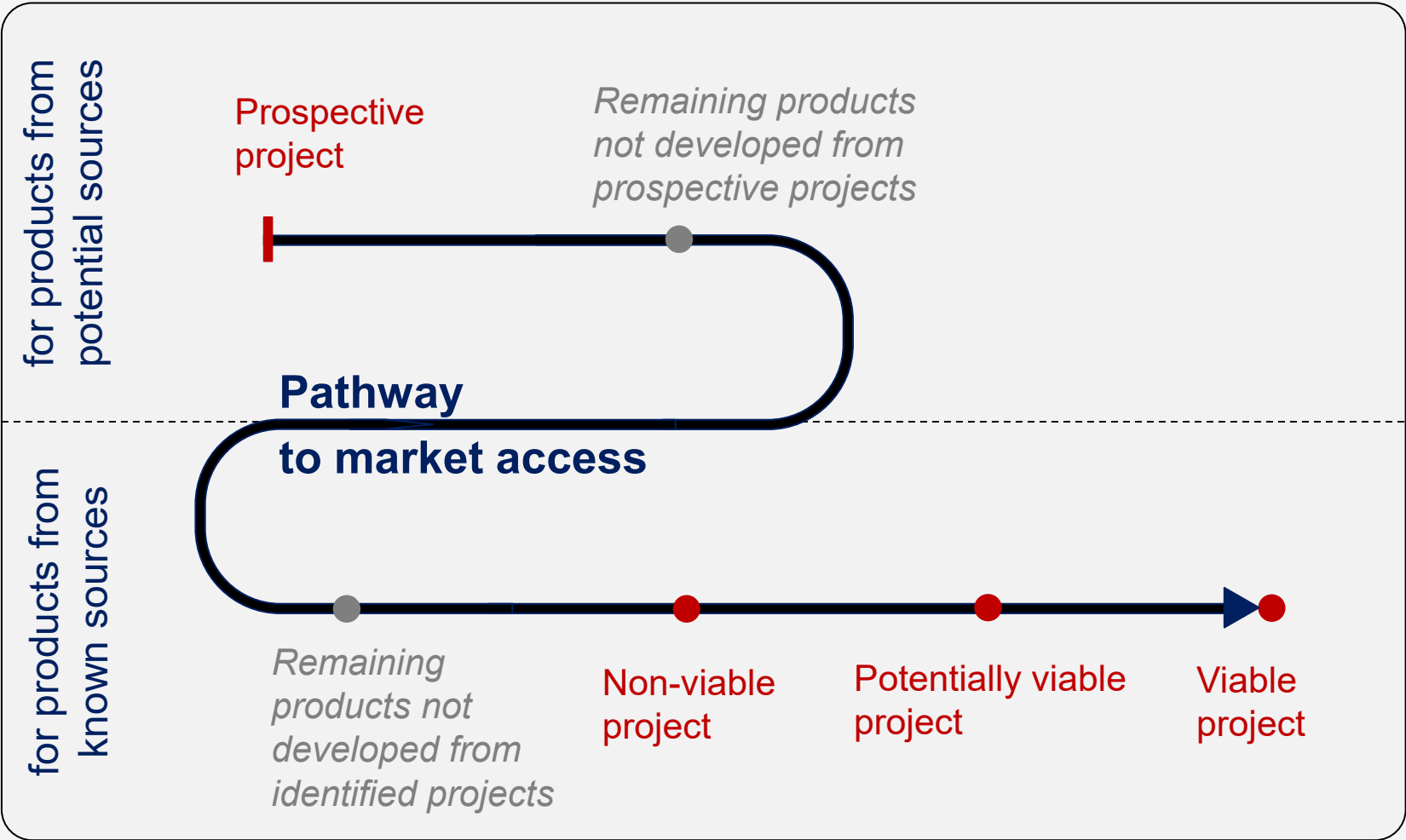
**Belgrade, Republic of Serbia
4 – 5 July 2024**

Ulrich Kral
EU4Green Circular Economy Coordinator,
UNECE EGRM Anthropogenic Resource WG Chair
Environment Agency Austria



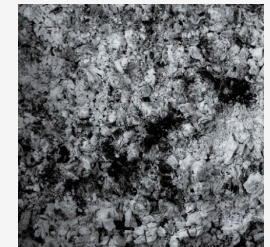
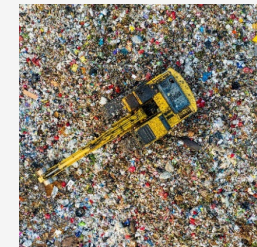
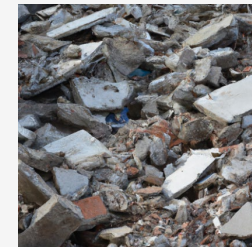
- Sustainable, secure and affordable **raw material supply**.
- Primary raw materials dominate the market, but **secondary raw materials become more important**.
- The production of secondary raw materials requires the **development of recycling projects**.
- In contrast to the mining sector, the recycling sector **lacks of comparable estimates** on the future production of secondary raw materials.
- This creates **investments risks** and hinders the integration of primary and secondary sources into **strategies for securing raw material supply**.
- **UNFC helps to overcome these gaps**.

Monitoring project development

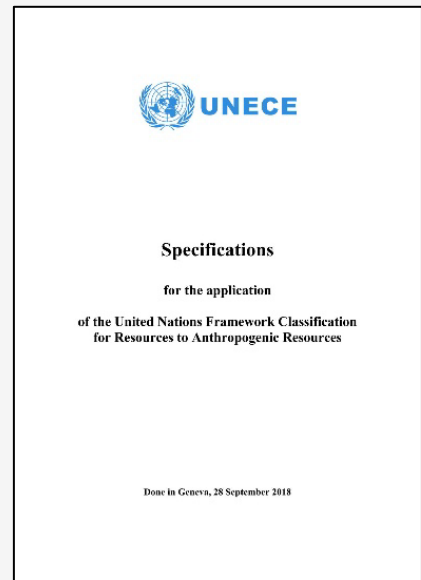
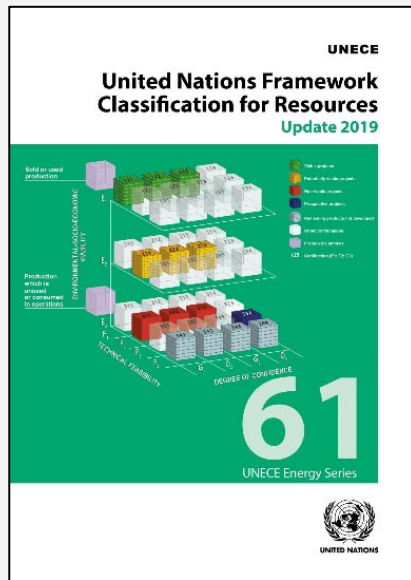


UNFC for recycling projects

- In **2012**, a team of experts started to test the application of UNFC to recycling projects.
- In **2018**, the UNECE Expert Group of Resource Management extended the scope of UNFC to secondary raw materials from mining, metallurgical and end-of-life flows.
- UNFC applies the **same principles to mining and recycling projects**. So, projects can be compared on a common playing field.

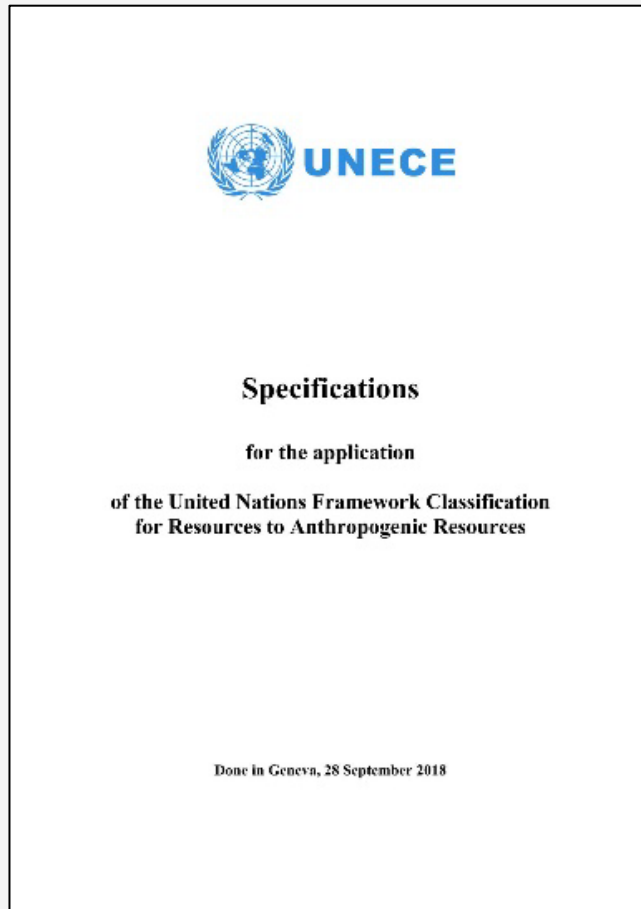


Specifications Anthropogenic Resources



<https://doi.org/10.5281/zenodo.3759026>

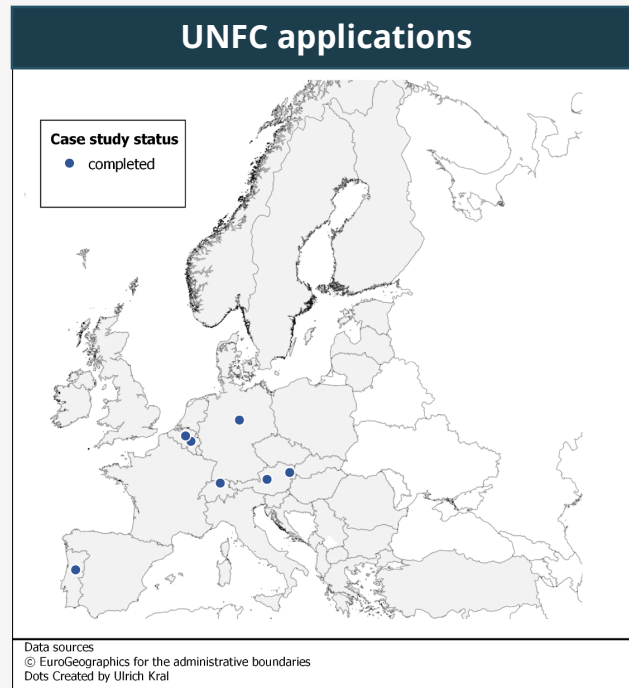
Specifications for Anthropogenic Resources



1. Introduction
2. Terms and Definitions
 1. Anthropogenic Resources and associated terms
 2. Criteria, Categories and supporting explanations
 3. Classes
 4. ...
3. Specifications for the Application of UNFC in the context of Anthropogenic Resources
 1. Use of numerical codes
 2. Effective date
 3. Projects with multiple Anthropogenic Material Products
 4.

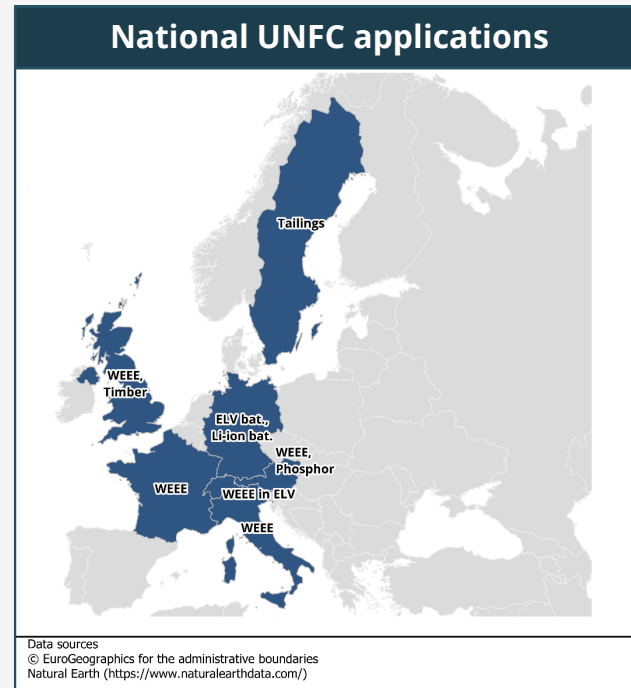
Case studies

2012-2022

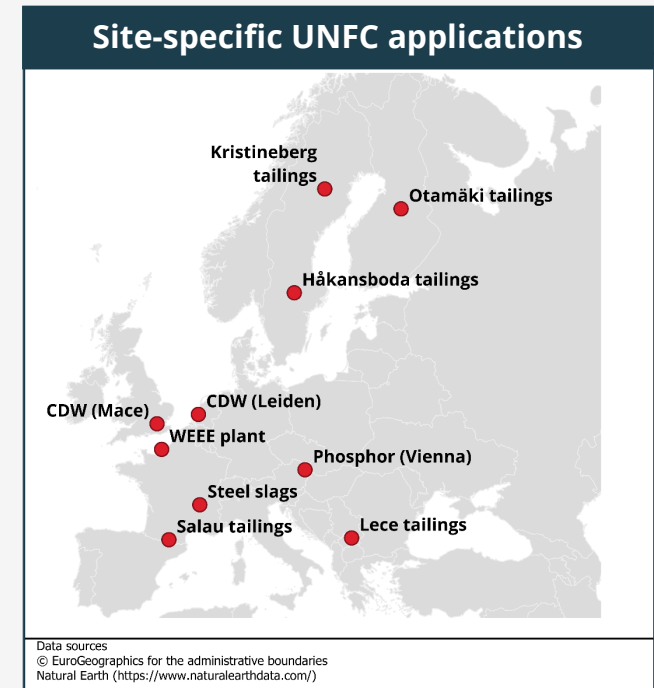


- Magnets
- Waste in landfills
- Slags and ashes
- Mining residues

FutuRaM, 2022-2026, www.futuram.eu



- Waste electronic and equipment, ELV batteries, Li-ion batteries, WEEE in ELV, permanent magnets, steel slags
- Secondary timber, CDW
- Mining residues



- P from sewage sludge
- Waste electronic and equipment
- Steel slags
- Construction & demolition waste
- Mining residues

Take-home-messages

- UNFC is applicable to recycling projects.
- It uses the same principles for classifying mining and recycling projects.
- Specifications and guidelines are available.
- The set of case studies is continuously growing.
- UNECE EGRM and UNECE Excellent Centers for Sustainable Resource Management support stakeholders in using UNFC.



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Thank you!

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