



GSEU

GEOLOGICAL SERVICE | FOR EUROPE

GSEU WP2 TRAIN-THE-TRAINER COURSE

Level 2 - RECAP

Ljubljana , 18-19 June 2024



**Funded by
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UNFC is an **obligation** in 4 of 5 domains

Risk mitigation

- Strategic stocks
- Joint purchasing platform

Risk monitoring

- Criticality assessment
- Stress tests
- Early warning system
- Foresight
- Supply bottlenecks analysis
- Projects monitoring **UNFC**

Critical Raw Materials Act

Strategic projects

- Extraction, processing, recycling, substitution; **UNFC**
- In the EU and outside;
- Faster permitting and judicial procedures, help with financing and off-takes

Circularity

- National programmes
- Recyclability of magnets
- Extractive waste **UNFC**

Exploration

- National programmes
- Database **UNFC**

PRIORITIES

CRITICAL RAW MATERIALS

- Whole EU economy

STRATEGIC RAW MATERIALS (SRM)

- Key for strategic technologies (green, digital, defence and space)

2030 BENCHMARKS

SRM supply security

- extraction capacity >10%
- processing capacity >40%
- recycling capacity >25%

Diversification of supply

- <65% from a single third country.





Disclaimer

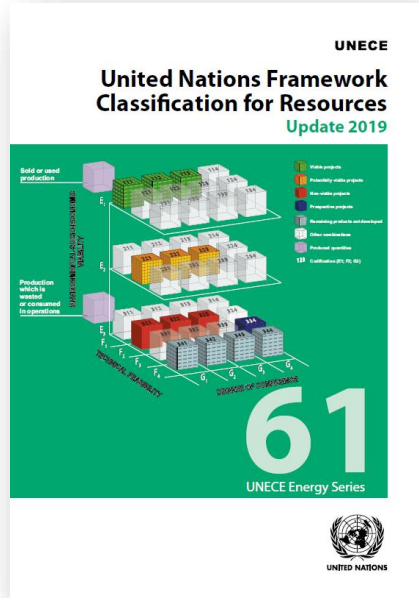
Participants are advised to **consult the official documents** on the use of United Nations Framework Classification for Resources (UNFC).

All **existing legal frameworks** in the European Union **remain binding** and are not affected.

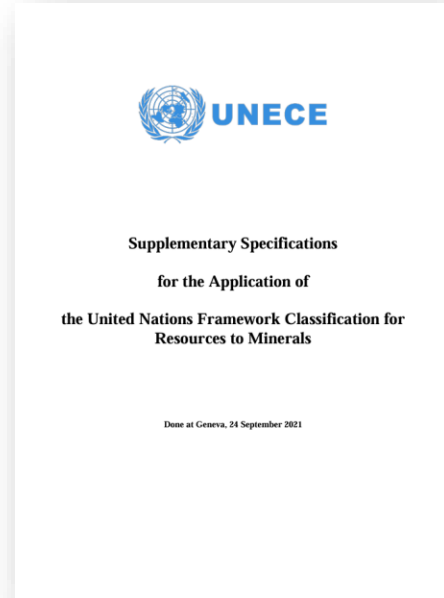
Any information provided as part of the training are **recommendations** and **suggestions**.



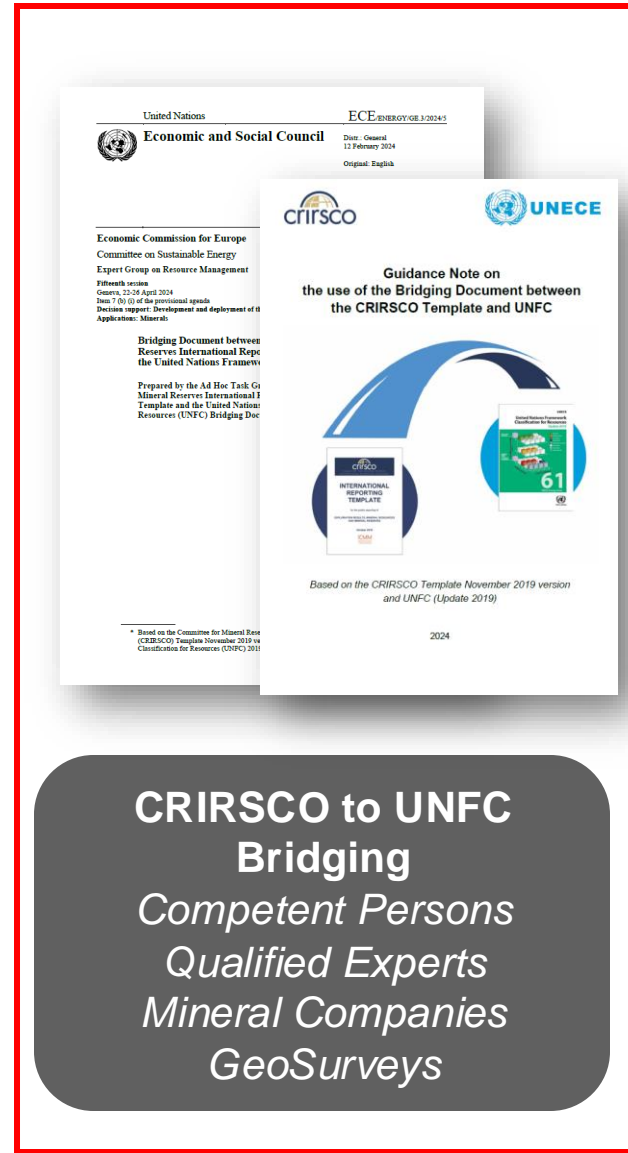
Main Documents



Generic, global standard, UNFC Principles
All



Specifications for mineral projects
*Competent Persons
Qualified Experts
Mineral Companies
GeoSurveys*



CRIRSCO to UNFC Bridging
*Competent Persons
Qualified Experts
Mineral Companies
GeoSurveys*



International Reporting Template
Company Disclosures



Monitoring of historic projects

- Projects should always be mapped according to the **latest estimate**; this requires **monitoring and updating** of UNFC mapping regarding the quantities associated with that project
- When projects that were previously viable or potentially viable undergo an **ownership change** or are **abandoned**, their UNFC mapping should be updated accordingly
 - e.g. a previously reported inferred mineral resource initially mapped as E2;F2;G3, but the project is abandoned and should now be mapped as E3.3;F2.3;G3
- Similarly, abandoned projects that have work **re-started** should be **re-mapped**
 - Continuing with the same project, if another company resumes work in the same project, the mapping should be upgraded from E3.3;F2.3;G3 to **E3.2;F2.2;G3**



Simplified checklist of the most common historic cases

Scenario	UNFC class
Project is active , but has not confirmed the previous, CRIRSCO-compliant (at the time) resource estimate	E3.2 ; F2.2 ; G1-3
Project is active , but has not confirmed the previous, non-CRIRSCO-compliant resource, but where extensive work has been performed	E3.2 ; F2.2 ; G1-4
Quantities associated with a closed or abandoned mining operation	E3.3 ; F2.3 ; G1-4 or E3.3; F4; G1-4
Project is active , but has not confirmed the previous, non-CRIRSCO compliant resource with little background information available	E3 ; F3 ; G4
Project is non-active and has no current holder	E3 ; F3 ; G1-4
Commodity has been dropped from company's most recent resource estimate	E3 ; F4 ; G1-4



Bridging between National Classification Systems and UNFC

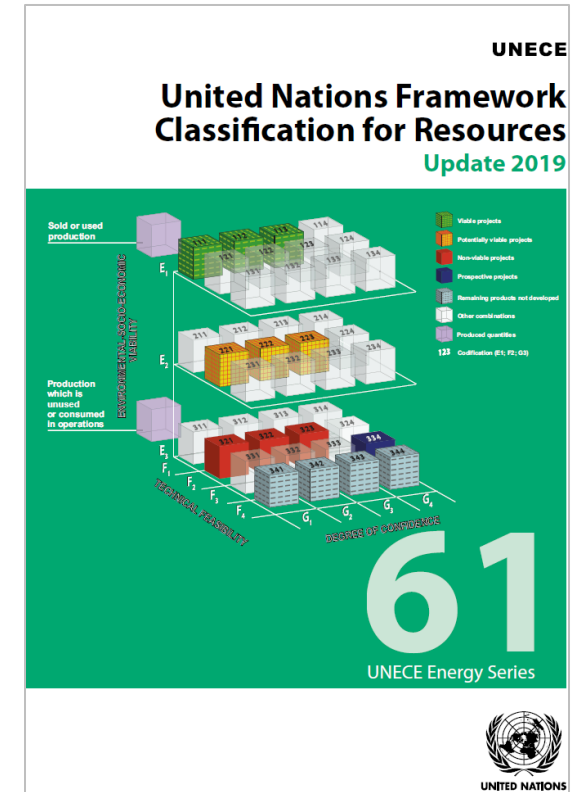
Mapping

To generate a **Mapping Document** by comparing the definitions and specifications of each Category/Class of one classification system to the definitions and specification of each of the Categories/Classes in another system in order to **identify the similarities and differences between them.**

Harmonization

... and then, if necessary, to **adjust definitions** and/or specifications of one system so that they lead to **comparable results.**

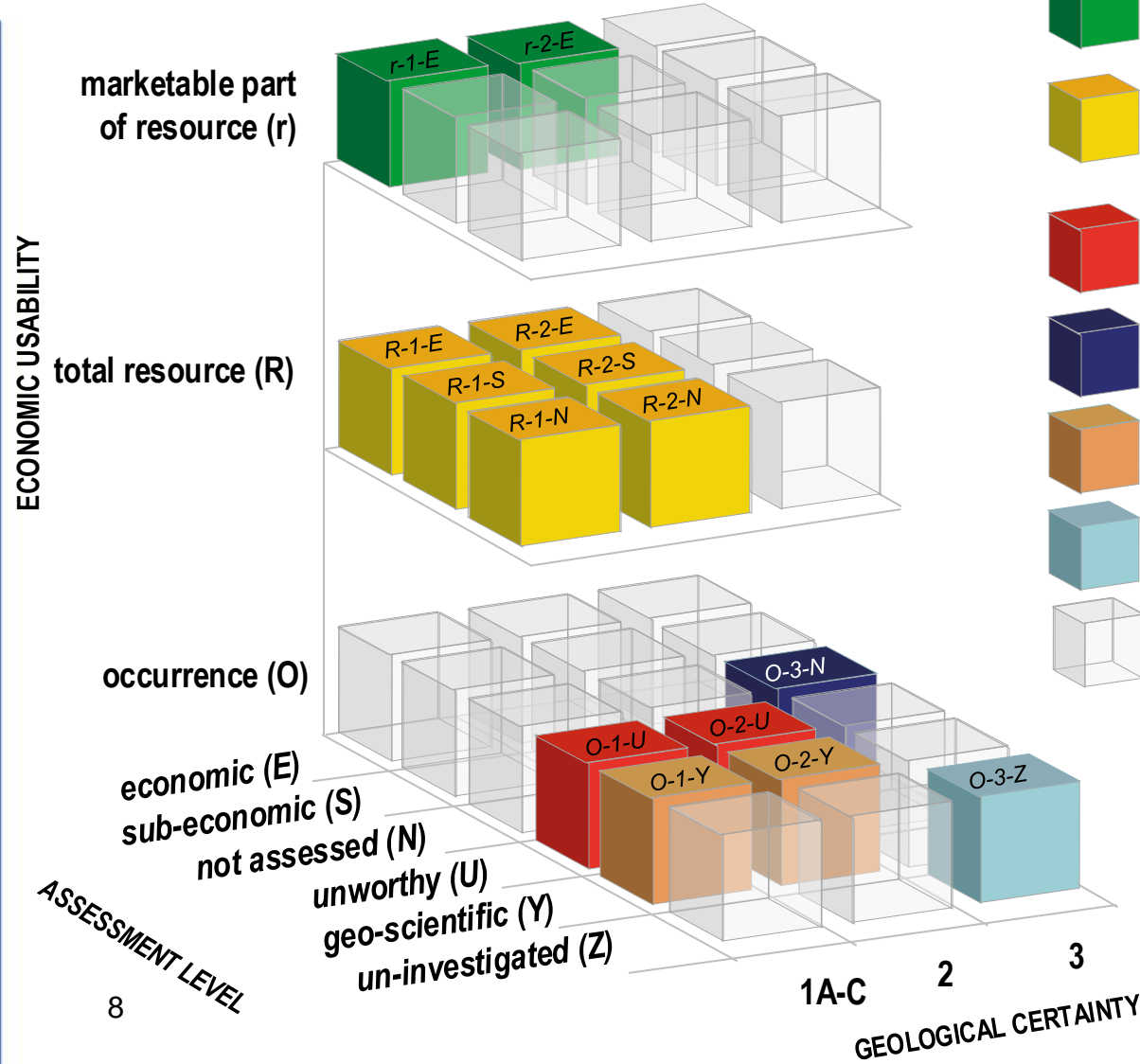
A system that is harmonized with UNFC can become an **Aligned System** through the development and **endorsement** (by the EGRM) of a **Bridging Document.**



UNFC Update 2019, Part II



BRIDGING THE AUSTRIAN NATIONAL SYSTEM TO UNFC



Austrian Standard G 1050 class	type of UNFC project	UNFC class
marketable part of resource	r- -E viable project	E1,F1,G1-3
resource including products unused or lost during processing	R- -E viable project R- -S potentially viable project R- -N non-viable project (development unclarified)	E1,F1,G1-3 E2,F2,G1-3 E3.2,F2.2,G1-3
deposit without potential of economic extraction	O- -U non-viable project (development not viable)	E3.3,F2.3,G1-3
deposit, potential of economic extraction not assessed	O- -N prospective project	E3,F3,G4
occurrence with geo-scientific but no economic significance	O- -Y remaining products not developed	E3,F4,G1-3
occurrence not sufficiently investigated to assess economic significance	O- -Z remaining products not developed	E3,F4,G4
Other combinations		



The ABC system

The ex-Soviet ABC₁C₂ System of mineral deposit classification is common to most Eastern European countries.

Mapping and Guidance documents have been done in Hungary, Slovenia, Ukraine, Romania and Poland. Some countries have included UNFC into **their legislation**.

The mapping methodology was slightly different in every country.





Lessons to learn

Strengths and opportunities

- **Legally binding data provision for companies** to Authority (SARA); the operation of inventories is legally binding; almost 100% of UNFC data need
 - **Modern database** with a developing e-system
 - **Department and experts** are on board with openness for further developments
 - **Data** in both inventories are **based on decisions**.
- National reporting, CRIRSCO-type **reporting and UNFC, preliminary bridging are in the legislation**
 - **UNFC „G”** category is in the **reporting form**
 - **UNFC Methodology**: for all types of mineral deposits there are results with UNFC, semi-automatic
 - **UNECE (2009) and (2019) in Hungarian**; translation of UNFC Guidance for Europe is in progress

Weaknesses and threats

- **Historical data need to be considered** (pl. UNFC E3, F4, G1-2-3)
 - UNFC related data need to be collected from **separated databases and in some cases, for category „E” contact is needed to co-authorities, or searching via internet.**
 - Recent UNFC guidance will be updated according to the UNFC Guidance for Europe (2022)
- No threats, just benefits (with proper application of the UNFC).



Translation of national system to UNFC within “mining/exploration” permitted areas)

national categories	national classes	economic efficiency (CRIRSCO)	UNFC E _{axis}	UNFC F _{axis}	UNFC G _{axis}	Explanation
economic reserves	A, B, C ₁	proved reserves	1	1	1, 2	Reserves A, B, C ₁ , COULD BE EXPLOITED (in economic, environmental and social accepted way)
potentially economic reserves	A, B, C ₁		2	2,3	1, 2	Reserves A, B, C ₁ , could be exploited IN NEAR FUTURE after some changes (in economic, environmental and social accepted way)
non-economic reserves	A, B, C ₁	measured resources	3	3	1, 2	Reserves that could NOT be exploited (due to economic, environmental, social or technical reason)
	C ₂	indicated resources	2	2	2	Prefeasibility Resources
	C ₂	indicated resources	3	2	2	Indicated Resources



Ukraine case

- + Easy understanding of UNFC classification due to long use of the code
- + Long period of using multiple classification systems
- + Introduction of UNFS terms in areas where there are no internal practices

Dynamics of changes in regulatory

Differences in tools and terms of the past and present

Difficult accounting of resources and inventories

SWOT

Using bridges between all classifications = understanding of all stakeholders

Implementation of terms and methodology in the fields of geothermal resources and hydrogen

Mixture of codes and terms

Multiplicity of geological information as input data

Partial data unavailability

Little experience of competent persons in assessing resources



Case studies

- Different results on common case studies
- Feedback from trainers before Level 3 – why the differences
- Identify lack of understanding from documents and need for more precision
- Involvement of experts in technical (F-axes) issues and E-axis related issues (upgrading geological knowledge) – person with necessary competence
- **FURTHER DISCUSSIONS AND ALIGNEMENTS NEEDED**