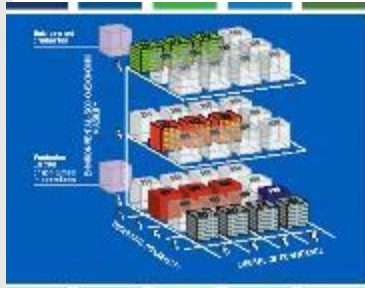




UNFC Mineral specifications and UNFC Europe

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VIRTUAL WORKSHOP

UNFC Europe: Ensuring sustainable raw material management to support the European Green Deal

19 NOVEMBER 2020 | 10:00 – 12:00 | 14:00-16:00



A example to start with ...



UNEP

- The nickel-sulphide mineralization hosted by serpentines.
- Nickel is contained both in nickel sulphides and in silicates such as antigorite, olivine and pyroxene.
- 329 000 tonnes of nickel resources estimated with 0.103% grade.
- But, additional 244,000 tonnes of nickel in oxide minerals.
- Total Ni resource will be thus **75% higher**, i.e., 573 000 t with 0.179% grade (**57% higher**).
- Resources of this nature are not reported by current industrial codes.

A new Geo Vision required to support



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Energy Transition
Mobility Transition
Digital Transition

A transformation on resource management is happening ...



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- **Existing standards are based on ideas dating a century or more, when**
 - Resources are thought to be very limited
 - Blind “extraction” was the norm
 - Benefits only stockholder interests
 - Response was essential to number of scams
- **Today, challenges are different**
 - Resources are plentiful, but face mounting social opposition
 - Aligned interest of stockholders and stakeholders
 - Investors are reluctant to invest conventional projects for minerals or petroleum
 - Change from projects to programmes

Are current policies and industry & regulatory standards fit for the purpose?

What are the Fundamental Principles?



UNEP

1. Responsibility to the planet
2. Integrated, indivisible management of resources
3. Systems view
4. Social licence to operate
5. Full life cycle view
6. Service orientation

7. Comprehensive resource recovery
8. Circularity
9. Zero waste
10. Zero harm
11. Hybridization
12. Continuous strengthening of core competencies and capabilities.

United Nations Framework Classification for Resources (UNFC) and United Nations Resource Management System (UNRMS)



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Sold or used production

Production which is unused or consumed in operations

ENVIRONMENTAL-SOCIO-ECONOMIC VIABILITY

TECHNICAL FEASIBILITY

LEVEL OF CONFIDENCE



A unified, comparable, interoperable and harmonized approach to resource assessment and management.

Recommended for global use by ECOSOC decision 2004/233

UNFC Mineral Resource Specifications and Guidelines (MRSG)



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Draft Mineral Resource Specifications and Guidelines (MRSG) Minerals Working Group

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Linkage to SDGs

Mineral Definitions

Mineral Specific rules

Draft Mineral Resource Specifications and Guidelines (MRSG) Minerals Working Group

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Competent Person Guidance



Mineral focused Common Vocabulary

UNFC Europe



Guidelines for minerals and anthropogenic resources within EU context

UNFC-Europe

Guidance for the application of the United Nations Framework Classification System (UNFC) for mineral resources in Europe

Summary

Introduction

The United Nations Framework Classification System for Europe (UNFC-Europe) provides guidance on the use of the United Nations Framework Classification for Resources (UNFC) (United Nations) for non-energy mineral resources of Europe.

The purpose of the document is to facilitate:

• **European resource management:** To enable and support the development and implementation of national European resource management policies and associated regulatory frameworks.

• **National resource management:** To assist the development and implementation of national resource management policies and regulations at a national level in Europe.

• **Company internal business process innovation:** To enable companies to develop and implement business processes that are sustainable, profitable, socially inclusive and innovative.

• **Financial reporting:** To enable companies in Europe to report resource production and financial institutions in a manner consistent with international standards and good practice.

This document should be read and applied in conjunction with the latest version of UNFC and its General Specifications, and Specifications for Minerals and Anthropogenic Resources.

The guidance does not change the various regulatory requirements set by Governments or accounting standard setters for reporting on extractive resource production-cycle activities. Guidance is however provided on how to

Mapping E axis to regulatory approvals

Mapping to INSPIRE Code List

Mapping F axis to Technology Readiness Levels (TRLs)

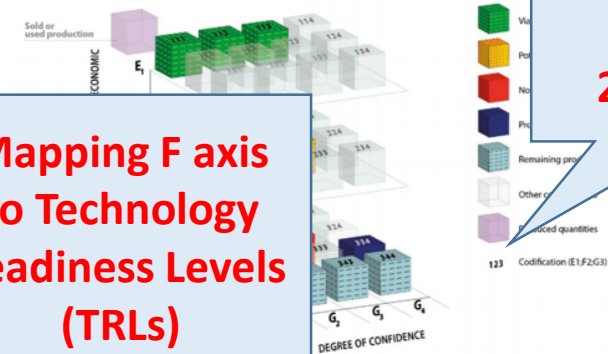
Mapping to EU Waste Hierarchy (Directive 2008/98/EC)

Mapping E axis to EIA

Mapping E axis to social issues

• general level of knowledge / confidence in the estimates (G).
The latest version on UNFC is available here: <https://www.unece.org/energy/se/reserves/>

Figure 1 – UNFC categories and examples of classes



UNFC Classes				INSPIRE code list			TRL (relevant to F axis)
Extracted	Class	Sub-class	Categories				
			E	F	G		
Production	Non-commercial Production						
	Commercial Projects	On Production	1	1.1	1, 2, 3	Operating Continuously Operating intermittently	9
		Approved for Development	1	1.2	1, 2, 3	Under development	8
		Justified for Development	1	1.3	1, 2, 3	Pending approval	5,6,7

... Specifications, which is applicable to all res...

Definitions for Minerals and Anthropogeni...

... [used]

... mineral life-cycle operation, which provides the basis for soc...

... ion-making. A project comprises a defined activity or set o...

... both costs and potential revenues associated with its impleme...

... the mineral life-cycle, exploration, production to final site reme...

... ce Development Project" instead?

... t or future recovery by commercially viable mining operat...

... be technically, social, environmental and economically viab...

... e project is producing, and supplying one or more prod...

... ion (E1, F1.1)

... a mine operating continuously (INSPIRE... operati...

... 1.1, F1.1, G1,2]§



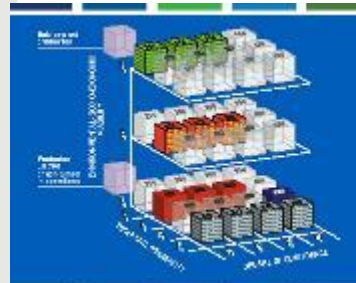
Thank you!

For more information on UNFC and UNRMS

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www.unece.org/energy/se/reserves.html



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