



GSEU

GEOLOGICAL SERVICE | FOR EUROPE

GSEU WP2 TRAIN-THE-TRAINER COURSE

Module Introduction

Level 1

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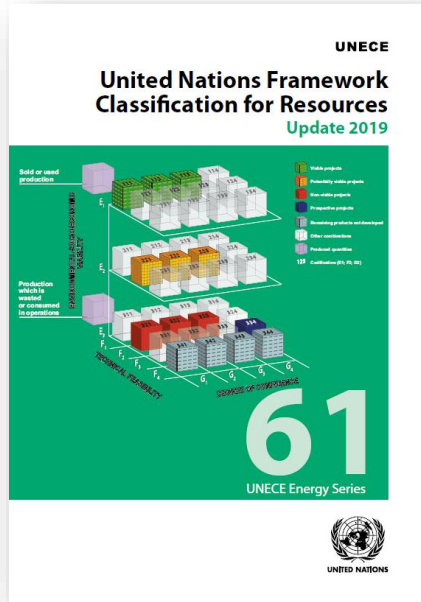


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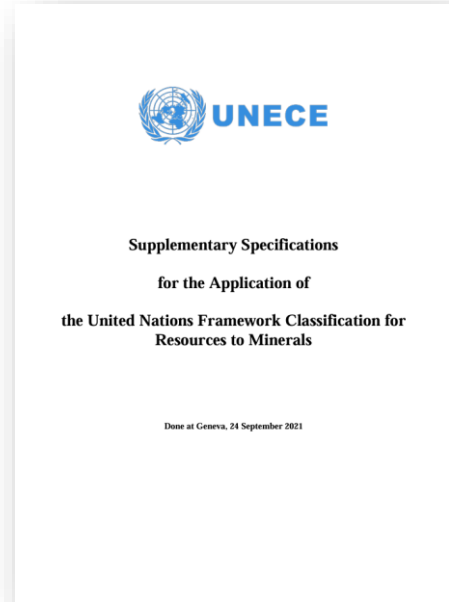
UNFC Guidance for Europe



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*



UNFC and INSPIRE
*Qualified Experts
GeoSurveys
Authorities (national and EU level)*



Whom is the UNFC Guidance Europe for?



Users, including regional and national authorities in Europe to facilitate decision-making and maintain databases for primary and secondary raw material projects

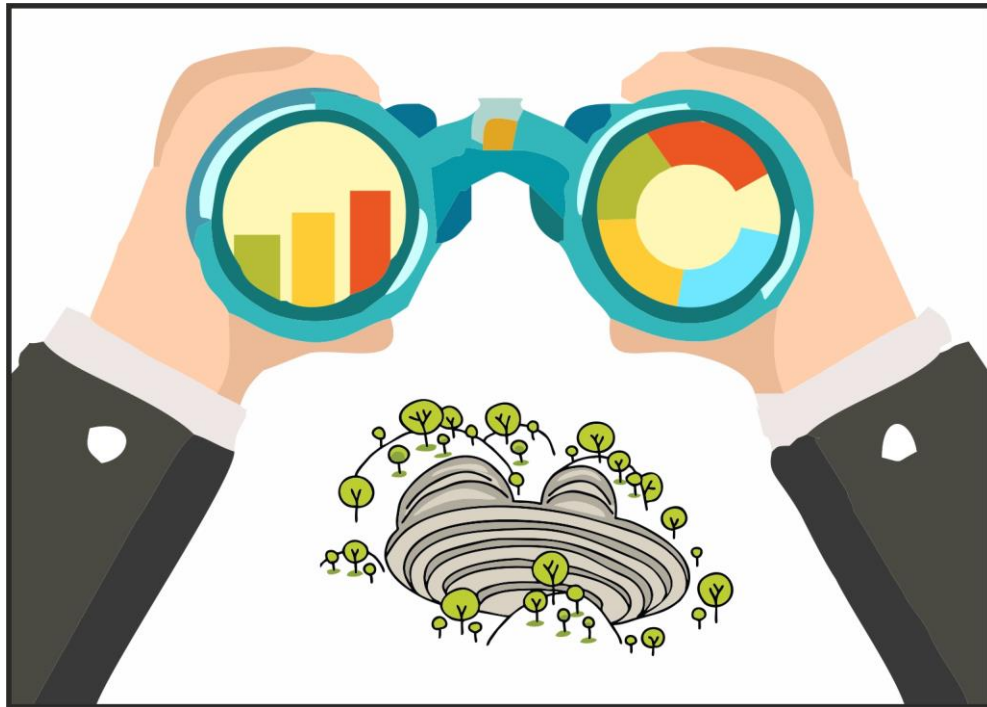


Qualified experts and resource estimate preparers in Europe to classify primary and secondary raw material projects



What is UNFC Guidance for Europe?

- UNFC allows raw materials projects to be **viewed** and **classified** in **national-level** in respect to changing **social, environmental, economic, technological and geological factors/conditions**.



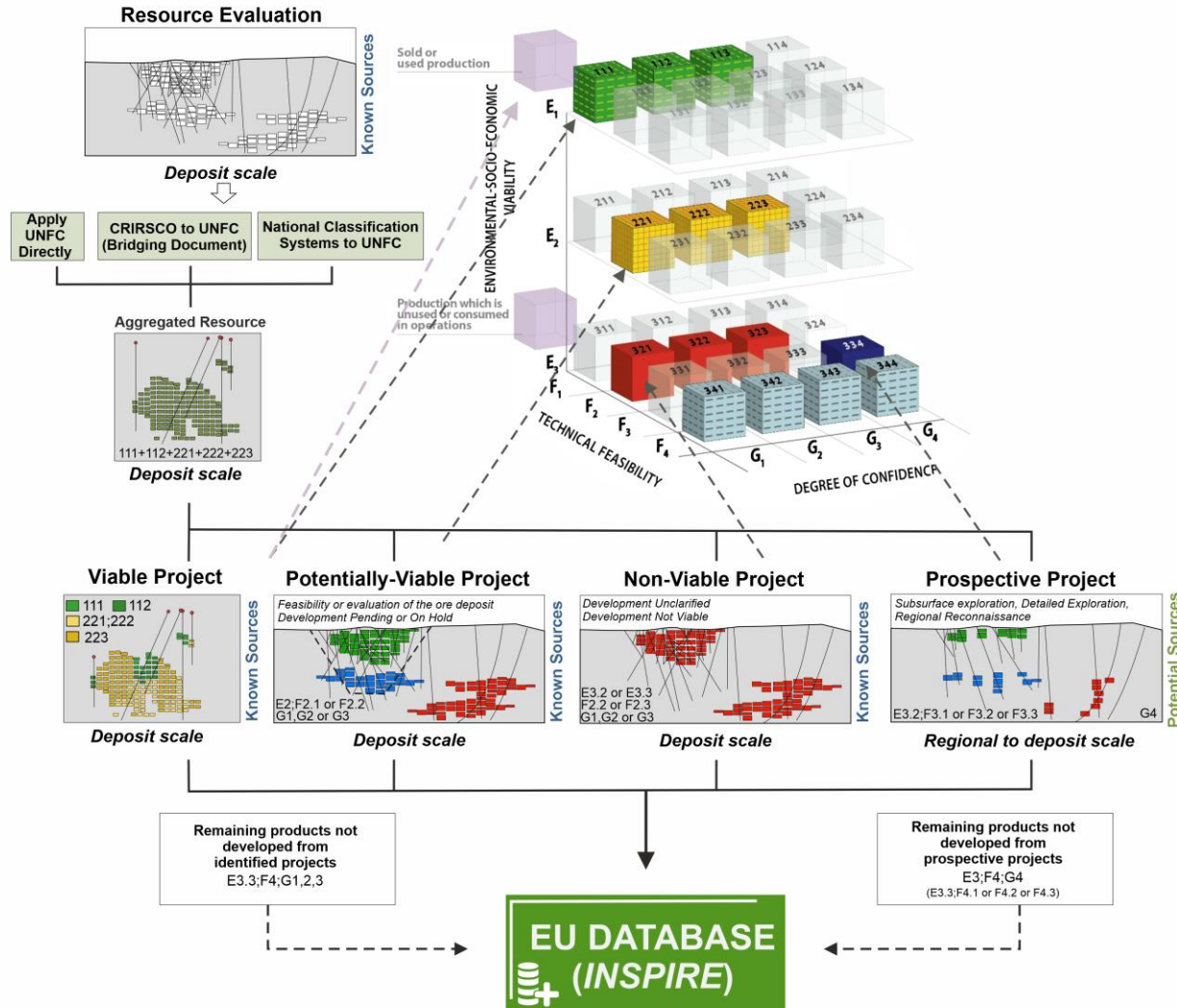
Current status and maturity level of **Viable** and **Potentially-Viable** Projects.

Identifying relevant **controlling factors** related to **Potentially-Viable** Projects turning into **Viable** Projects.

Identifying relevant **controlling factors** related to **Non-Viable** Projects turning into **Potentially-Viable** Projects.



UNFC Guidance Europe



UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

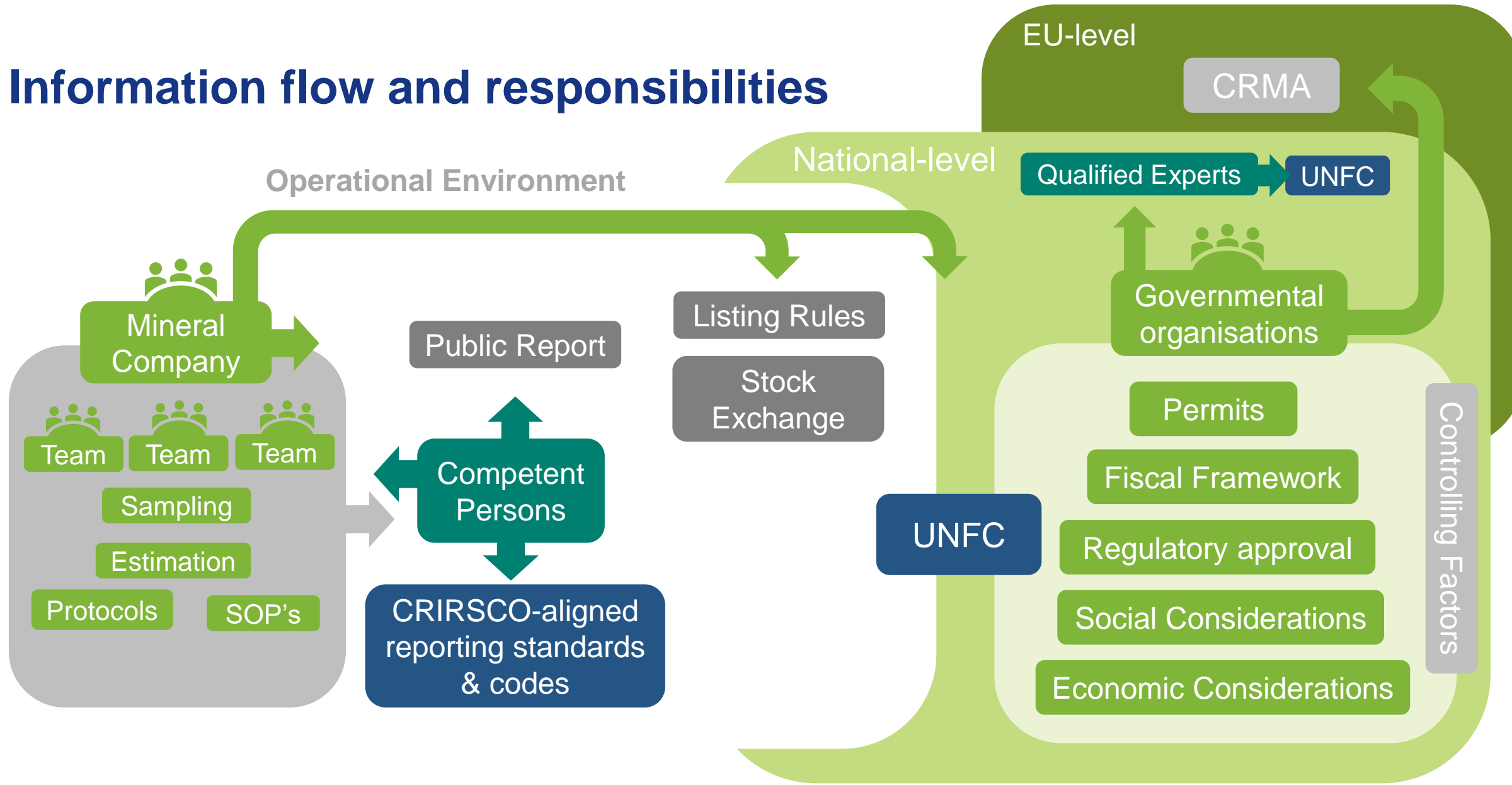
UNFC GUIDANCE EUROPE

Guidance for the Application of the United Nations Framework Classification for Resources (UNFC) for Mineral and Anthropogenic Resources in Europe





Information flow and responsibilities





UNFC Classes Defined by Categories and Sub-categories						INSPIRE Code List	
Produced	Sold or used production						
	Production which is unused or consumed in operations <i>Future production that is either unused or consumed in the Project operations is categorized as E3.1. These can exist for all Classes of recoverable quantities</i>						
Total Products	Class	Sub-class	Categories				
			E	F	G		
Known Sources	<u>Viable Projects</u> <i>Estimates associated with Viable Projects are defined in many classification systems as Reserves, but there are some material differences between the specific definitions that are applied within different industries and hence the term is not used here.</i>	On Production	1	1.1	1, 2, (3)	operating continuously operating intermittently	
		Approved for Development	1	1.2	1, 2, 3	under development	
		Justified for Development	1	1.3	1, 2, 3	pending approval	
	<u>Potentially Viable Projects</u> <i>Not all Potentially Viable Projects will be developed</i>	Development Pending	2	2.1	1, 2, 3	feasibility evaluation of the ore deposit	
		Development On Hold	2	2.2	1, 2, 3	care and maintenance retention	
	<u>Non-Viable Projects</u> <i>Non-Viable Projects include those that are at an early stage of evaluation in addition to those that are considered unlikely to become Viable developments within the Foreseeable Future.</i>	Development Unclassified	3.2	2.2	1, 2, 3	resource assessment (geological interpretation, approximate calculation of the resource)	
		Development Not Viable	3.3	2.3	1, 2, 3	closed abandoned historic	
	<u>Remaining Products not developed from identified Projects</u> <i>Remaining Products not developed from identified Projects or Prospective Projects may become developable in the future as technological or environmental- socio-economic conditions change. Some or all these estimates may never be developed due to physical and/or environmental- socio- economic constraints.</i>		3.3	4	1, 2, 3		
	Potential Sources	<u>Prospective Projects</u>		3.2	3.1	4	subsurface exploration
				3.2	3.2	4	detailed surface exploration
			3.2	3.3	4	regional reconnaissance	
<u>Remaining Products not developed from Prospective Projects</u>			3.3	4.1	4		
			3.3	4.2	4		
			3.3	4.3	4		

Table 10

- UNFC classes defined by categories and sub-categories with mapping of INSPIRE codes.
- The Table provides the UNFC minimum Categories and the linkage between INSPIRE codes.
- To facilitates the development of UNFC-based inventories across Europe and provide alignment with Infrastructure for Spatial Information in Europe (INSPIRE) for Mineral Resources.



Table 2

Standard mapping of CRIRSCO Template aligned estimates to UNFC categories.

CRIRSCO Template			Corresponding UNFC category ^(a)	UNFC Class	
Public Report and Study Types	Standard Definitions				
Feasibility Study or Life of Mine Plan (for an operating mine)	Mineral Reserves	Proved	E1 F1	G1	Viable Projects
		Probable		G2	
Pre-feasibility Study ^(b)	Mineral Reserves	Proved	E2 F2	G1	Potentially Viable Projects
		Probable		G2	
Feasibility Study, Life of Mine Plan (for an operating mine) or Pre-feasibility Study ^(c)	Mineral Resources (exclusive of Mineral Reserves)	Measured	E2 F2	G1	
		Indicated		G2	
		Inferred		G3	
Scoping Study report or other Public Report on a Mineral Resource estimate ^(d)	Mineral Resources	Measured	E2 F2	G1	
		Indicated		G2	
		Inferred		G3	
Public Report on exploration stage projects	Exploration Target	E3 F3	G4		Prospective Projects
	Exploration Results	Estimates not published			
Not applicable ^(e)	Estimates obtained from historical reports ^(f)				Non-viable Projects

Minimum UNFC Categories	INSPIRE Code Name (Mine Status)	INSPIRE Code (Mine Status)	INSPIRE Code List Description
E1 F1.1 G1,2,(3) ¹⁷	operating	operating	A mine is operating.
E1;F1.1;G1, 2, (3)			
Minimum UNFC Categories	INSPIRE Code Name (Mine Status)	INSPIRE Code (Mine Status)	INSPIRE Code List Description
E1 F1.2 G1,2,3	under development	underDevelopment	Under development.
	under construction	construction	Under construction.
E1;F1.2;G1, 2, (3)			
Minimum UNFC Categories	INSPIRE Code Name (Mine Status)	INSPIRE Code (Mine Status)	INSPIRE Code List Description
E1 F1.3 G1,2,3	pending approval	pendingApproval	A mine waiting for the exploitation authorization, generally given by a State Mining Engineering Department.
<i>All necessary conditions are met regards the Project viability with Reasonable Expectation (F1.3)</i>			
E1;F1.3;G1, 2, (3)			

E1.1

Development is environmentally-socially-economically viable on the basis of current conditions and realistic assumptions of future conditions.

E1.2

...made viable through government subsidies and/or other considerations.



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Feasibility Study or Life of Mine Plan (for an operating mine)	Mineral Reserves	Proved	E1	F1	G1	Viable Projects	
		Probable			G2		
Pre-feasibility Study ^(b)	Mineral Reserves	Proved	E2	F2	G1	Potentially Viable Projects	
		Probable			G2		
Feasibility Study, Life of Mine Plan (for an operating mine) or Pre-feasibility Study ^(c)	Mineral Resources (exclusive of Mineral Reserves)	Measured	E2	F2	G1		
		Indicated			G2		
		Inferred			G3		
Scoping Study report or other Public Report on a Mineral Resource estimate ^(d)	Mineral Resources	Measured	E2	F2	G1		
		Indicated			G2		
		Inferred			G3		
Public Report on exploration stage projects	Exploration Target		E3	F3	G4		Prospective Projects
	Exploration Results	Estimates not published					
Not applicable ^(e)	Estimates obtained from historical reports ^(f)				Non-viable Projects		

Minimum UNFC Categories	INSPIRE Code Name (Mine Status)	INSPIRE Code (Mine Status)	INSPIRE Code List Description
E2 F2.1 G1,2,3	feasibility	feasibility	Technical economic study aimed at assessing the possibility to launching a mine venture.
E1 F2	feasibility	feasibility	
E2 F1	feasibility	feasibility	

E2;F2.1;G1, 2, 3

Minimum UNFC Categories	INSPIRE Code Name (Exploration Activity)	INSPIRE Code (Exploration Activity)	INSPIRE Code List Description
E2 F2.1 G1,2,3	evaluation of the ore deposit	evaluationOfOreDeposit	This is the final phase of evaluation leading to the final yes/no mining decision.
	mining Pilot	miningPilot	Intermediate phase between laboratory tests and actual plant.
	core drilling systematic	coreDrillingSystematic	The evaluation of the ore deposit with the aim of getting detailed information on the whole deposit and best quality samples. This is the final phase of evaluation leading to the yes/no mining decision.
	mine workings reconnaissance	mineWorkingsReconnaissance	Reconnaissance workings aimed at getting a better understanding of the deposit and allowing one to get large ore samples for detailed beneficiation tests.
	geostatistical estimates	geostatisticalEstimates	Technique based on probability theory that is used to compute regionalized variables, the values of which depend on their position in space, such as the metal content or grade in a deposit.
	feasibility study and report	feasibilityStudyReport	Technical economic study aimed at assessing the possibility of launching a mine venture.

E2;F2.1;G1, 2, 3





Table 2

Standard mapping of CRIRSCO Template aligned estimates to UNFC categories.

CRIRSCO Template			Corresponding UNFC category ^(a)			UNFC Class
Public Report and Study Types	Standard Definitions					
Feasibility Study or Life of Mine Plan (for an operating mine)	Mineral Reserves	Proved	E1	F1	G1	Viable Projects
		Probable			G2	
Pre-feasibility Study ^(b)	Mineral Reserves	Proved	E2	F2	G1	Potentially Viable Projects
		Probable			G2	
Feasibility Study, Life of Mine Plan (for an operating mine) or Pre-feasibility Study ^(c)	Mineral Resources (exclusive of Mineral Reserves)	Measured	E2	F2	G1	
		Indicated			G2	
		Inferred			G3	
Scoping Study report or other Public Report on a Mineral Resource estimate ^(d)	Mineral Resources	Measured	E2	F2	G1	
		Indicated			G2	
		Inferred			G3	
Public Report on exploration stage projects	Exploration Target	E3	F3	G4	Prospective Projects	
	Exploration Results	Estimates not published				
Not applicable ^(e)	Estimates obtained from historical reports ^(f)				Non-viable Projects	

Minimum UNFC Categories	INSPIRE Code Name (Mine Status)	INSPIRE Code (Mine Status)	INSPIRE Code List Description
E2;F2.2;G1, 2, 3		notOperating	A mine is not operating.
E1;F2.2 or E2;F1		careAndMaintenance	A mine is under care and maintenance.
E2;F1 or E2;F2.2		retention	A mine can be kept unexploited until the price of contained commodity(ies) makes it economical.

- Technical studies (**Scoping, Pre-Feasibility and Feasibility**) should be mostly viewed as projects where project’s environmental-socio-economic viability and/or technical feasibility has yet to be confirmed (UNFC: **E2;F2**).

CRIRSCO-UNFC Bridging Document, No. 30-31



Table 2

Standard mapping of CRIRSCO Template aligned estimates to UNFC categories.

CRIRSCO Template			Corresponding UNFC category ^(a)			UNFC Class
Public Report and Study Types	Standard Definitions					
Feasibility Study or Life of Mine Plan (for an operating mine)	Mineral Reserves	Proved	E1	F1	G1	Viable Projects
		Probable			G2	
Pre-feasibility Study ^(b)	Mineral Reserves	Proved	E2	F2	G1	Potentially Viable Projects
		Probable			G2	
Feasibility Study, Life of Mine Plan (for an operating mine) or Pre-feasibility Study ^(c)	Mineral Resources (exclusive of Mineral Reserves)	Measured	E2	F2	G1	
		Indicated			G2	
		Inferred			G3	
Scoping Study report or other Public Report of Resource	Mineral	Measured			G1	
Public exploration projects	Exploration Results	Estimates not published				
Not applicable ^(e)	Estimates obtained from historical reports ^(f)					Non-viable Projects

Non-Viable quantities does not exist in CRIRSCO

Minimum UNFC Categories	INSPIRE Code Name (Exploration Activity)	INSPIRE Code (Exploration Activity)	INSPIRE Code List Description
E3.2 F2.2 G1,2,3	resource assessment	resourceAssessment	The aim of this phase is the delineation of the envelope of an orebody. Logging of cores, sampling of mineralized sections to better understand the distinctive features of the deposit, the physical properties of the ore, and finally to lead to a first (still approximate) calculation of the resource.
E3.2;F2.2;G1,2,3			
	percussion drilling assessment	percussionDrillingAssessment	The assessment of the resource using percussion drilling, sometimes on a grid with a wide mesh. The aim of this phase is the (still rough) delineation of the envelope of an orebody. Drill logging, sampling of mineralized sections to better understand the distinctive features of the deposit, the physical properties of the ore, and finally to lead to a first (still approximate) calculation of the resource.
	core drilling assessment	coreDrillingAssessment	Drilling of a cylindrical hole with an ad hoc tool to collect a rock sample, or to conduct a physical measurement or a geological observation. By extension, designates also the drill hole, whatever the latter's purpose. Boreholes are drilled by coring. This technique is used to collect undisturbed rock cylinders and allows to confirm/to precise results from percussion drilling.
	geological interpretation	geologicalInterpretation	Compilation and synthesis of all the available geological information to get as precise as possible model of the mineral resource.
	ore beneficiation tests	oreBeneficiationTest	Technique designed to treat run-of-mine material.
	approximate calculation of the resource	approximateResourceCalculation	Rough evaluation of the tonnage and grade essentially based on drill holes information, by correlation and interpolation of intersected mineralized sections.



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Standard mapping of CRIRSCO Template aligned estimates to UNFC categories.

CRIRSCO Template			Corresponding UNFC category ^(a)			UNFC Class
Public Report and Study Types	Standard Definitions					
Feasibility Study or Life of Mine Plan (for an operating mine)	Mineral Reserves	Proved	E1	F1	G1	Viable Projects
		Probable			G2	
Pre-feasibility Study ^(b)	Mineral Reserves	Proved	E2	F2	G1	Potentially Viable Projects
		Probable			G2	
Feasibility Study, Life of Mine Plan (for an operating mine) or Pre-feasibility Study ^(c)	Mineral Resources (exclusive of Mineral Reserves)	Measured	E2	F2	G1	
		Indicated			G2	
		Inferred			G3	
Scoping Study report or other Public Report on a Mineral Resource estimate ^(d)	Mineral Resources	Measured	E2	F2	G1	
		Indicated			G2	
		Inferred			G3	
Public Report on exploration stage projects	Exploration Target		E3	F3	G4	Prospective Projects
	Exploration Results	Estimates not published				
Not applicable ^(e)	Estimates obtained from historical reports ^(f)			Non-viable Projects		

Minimum UNFC Categories	INSPIRE Code Name (Mine Status)	INSPIRE Code (Mine Status)	INSPIRE Code List Description
E3.3;F2.3;G1,2,3		notOperating	A mine is not operating.
	closed	closed	A mine can be closed for technical, economical, or techno-economic reasons.
	abandoned	abandoned	A mine is abandoned.
	historic	historic	An 'old' mine which has been exploited before 1900.

Guidance Note on the use of the CRIRSCO Template-UNFC Bridging Document, G.9

Once the mine closes and enters a closure monitoring phase, such material would no longer satisfy the requirements for RPEEE and would represent non-viable quantities which should be classified as **E3.3; F2.3; G1, G2 or G3.**



Table 2

Standard mapping of CRIRSCO Template aligned estimates to UNFC categories.

CRIRSCO Template			Corresponding UNFC category ^(a)			UNFC Class
Public Report and Study Types	Standard Definitions					
Feasibility Study or Life of Mine Plan (for an operating mine)	Mineral Reserves	Proved	E1	F1	G1	Viable Projects
		Probable			G2	
Pre-feasibility Study ^(b)	Mineral Reserves	Proved	E2	F2	G1	Potentially Viable Projects
		Probable			G2	
Feasibility Study, Life of Mine Plan (for an operating mine) or Pre-feasibility Study ^(c)	Mineral Resources (exclusive of Mineral Reserves)	Measured	E2	F2	G1	Potentially Viable Projects
		Indicated			G2	
		Inferred			G3	
Scoping Study report or other Public Report on a Mineral Resource estimate ^(d)	Mineral Resources	Measured	E2	F2	G1	Potentially Viable Projects
		Indicated			G2	
		Inferred			G3	
Public Report on exploration stage projects	Exploration Target		E3	F3	G4	Prospective Projects
	Exploration Results	Estimates not published				
Not applicable ^(e)	Estimates obtained from historical reports ^(f)					Non-viable Projects

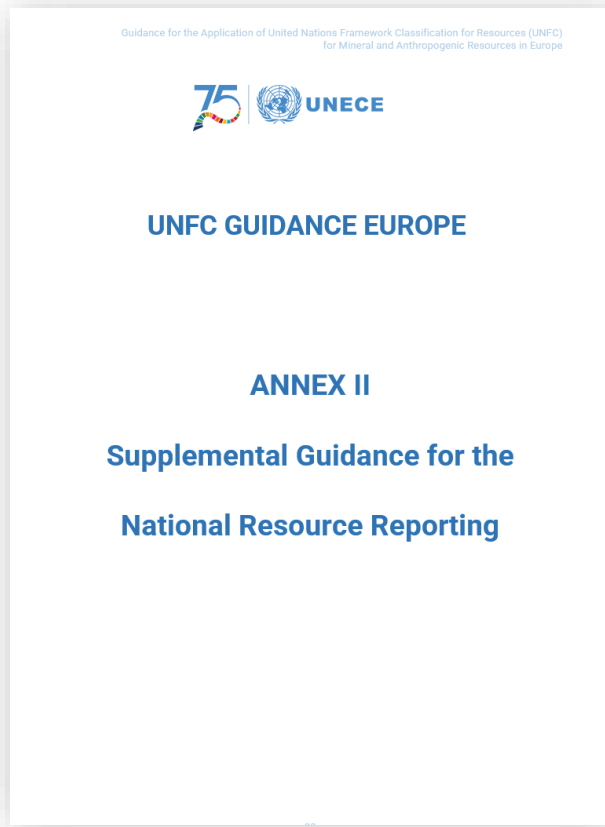
Minimum UNFC Categories	INSPIRE Code Name (Exploration Activity)	INSPIRE Code (Exploration Activity)	INSPIRE Code List Description
E3.2;F3;G4	notOperating		A mine is not operating.
F3.1	subsurface exploration	subsurfaceExploration	Subsurface exploration using the low costs techniques (trenching, destructive drilling, etc.), of resources appraisal.
	excavation	excavation	Detailed geological mapping of the area(s) of interest.
	auger drilling	augerDrilling	Detailed surveys (often on a grid) with the most appropriate method, to confirm delineate and characterize geochemical anomalies identified during the previous phase.
	percussion drilling	percussionDrilling	Detailed surveys (often on a grid) with the most appropriate method, to confirm and better delineate and characterize geophysical anomalies identified during the previous phase.
	core drilling	coreDrilling	Detail prospecting in a local scale with a hand-held washing tool, usually shaped like a plate or a flat cone, at the bottom of which the densest fractions of a soil, a stream sediment is collected.
F3.2	detailed surface exploration	detailedSurfaceExploration	Detailed surface exploration to delineate anomalies and describe occurrences in their refined geological context.
F3.3	regional reconnaissance	regionalReconnaissance	Regional investigation to identify anomalies (geochemical, geophysical, mineralogical) and discover occurrences.



Annex II: Supplemental Guidance for the National Resource Reporting



To ensure clarity and comparability in national resource reporting, especially, how resource quantities are classified in accordance with UNFC and linked to various EU instruments, such as INSPIRE.



Guidance for National Resource Reporting

- National Reporting
- The Use of Relevant Bridging Documents
- Reported Resource Quantities and Quality
- Product Type
- Viable Projects Turn Non-Viable
- Historic Estimates
- Terminology
- Documentation



Guidance for National Resource Reporting

National Reporting

UNFC Guidance Europe, ANNEX II, p. 24

- At a **government level**, national Product estimates may be based on an aggregation of reported or published corporate estimates for individual Projects. Further, where government organizations have a responsibility for developing estimates at a regional or national level, **the estimates may be different from corporate estimates on an individual Project basis, regardless of the classification**. In such cases, regional or national estimates using UNFC shall be derived using an appropriate methodology based on the nature and extent of available data.
 - *This means that when the resources additional to what entities report using current industrial standards (e.g., CRIRSCO requirements) and the additional resources are of lower confidence, they normally go into UNFC categories E3; F3–F4; G3–G4.*
- **Regional scenario-based estimates** may become applicable when no reported resource quantities are publicly available, e.g., privately-owned commercial operators, government organizations have a responsibility for developing estimates at a regional or national level.
- If territorial quantities are estimated or postulated primary on indirect evidence, G-axis Category should be classified as **G4**.



Guidance for National Resource Reporting

The Use of Relevant Bridging Documents

UNFC Guidance Europe, ANNEX II, p. 25

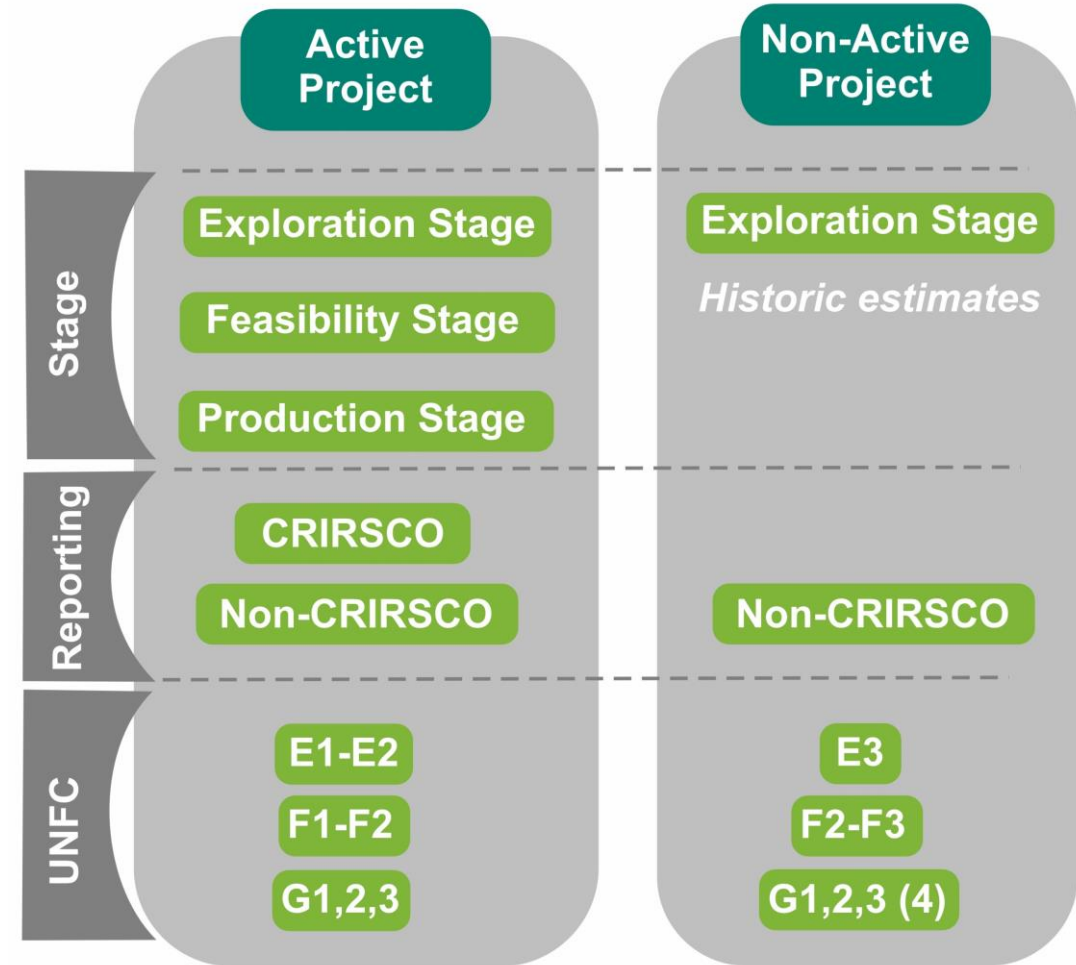
- **The relevant and the most current Bridging Documents** shall be used and disclosed in conjunction with the reported quantities.
- This applies mainly to Viable or Potentially Viable Projects that are considered as commercial or potentially commercial where “*Reasonable Prospects for environmentally, socially, and economically Viable production in the Foreseeable Future*”
- Reported quantities **must not be modified** from the original source.
- Note, that UNFC codifications from **111** to **223** are mainly for **sources and products with direct evidence of ownership, plans for technical feasibility of development and/or planned activities related to minerals Projects.**
- These exclude historic or abandoned Projects regardless of availability of technical and geological information.*



Guidance for National Resource Reporting

Active versus Non-Active Project

- Looking at the project status is a useful way to start the assessment.
- Active projects are either Prospective, Potentially-Viable or Viable Projects which means that E-category range from **E3** to **E1**.
- Non-active projects are always Non-Viable and, therefore, E-category is always **E3**.





Guidance for National Resource Reporting

Reported Resource Quantities and Quality

UNFC Guidance Europe, ANNEX II, p. 26-27

- The Product quantities are defined in quality and quantity by Products, for example, mined or produced ores, ore concentrates or by-products that will cross the Project reference points.
- Mineral Sources are potentially economically recoverable accumulation of a specific or group of minerals.
- A mineral Project produces mineral Products from a mineral source with defined frame conditions. The Project provides estimates on resource quantities with different levels of confidence.
- The Sources are resource quantities, regardless of Project maturity which may be **tonnage**, **volumes**, **grade**, or **quality**.
- When reporting quantities, tonnage and grade or quality information is preferred.

The iron resource is categorized as UNFC Category 222. If the same 100 Mt is known to also contain potential **by-product vanadium**, but the vanadium **grade is not estimated** for this volume of ore, this possible vanadium resource **cannot be classified beyond Category F4**, without necessary additional information about the source.

It is important to note that without both tonnage or volume and grade or quality a Product **cannot** be defined, and the Project **cannot** be classified in the same UNFC Class.



Guidance for National Resource Reporting

Reported Resource Quantities and Quality

UNFC Guidance Europe, ANNEX II, p. 26-27

- It is also possible that the same quantity may go into different UNFC categories for different commodities.
 - *For example, a deposit include elevated rare earth element (REE) concentration but the potential viability of extraction of the REE has not been investigated, then, most probably, the processing permitting does not include REE extraction and the economy of REE extraction is not known.*

This results in the REE resource going into the UNFC Category 332, 333 or 343 depending on what is the level of uncertainty for the REE concentration data for the resource.

E3.3F4.1, E3.3F4.2 or E3.3F4.3

Remaining Products not developed from identified Projects or Prospective Projects may become developable in the future as technological or environmental-socio-economic conditions change. Some or all these estimates may never be developed due to physical and/or environmental-socio-economic constraints

Guidance for National Resource Reporting

Historic Estimates

UNFC Guidance Europe, ANNEX II, p. 27-28

- Historic estimates have **high uncertainties** in respect to geological knowledge (G axis), technical feasibility (F axis) and the environmental-socio-economic axis categories (E axis).
- The historic estimates are classified as **Non-Viable Projects** and derived either from old exploration targets, past-producing mines or recent target without an active ownership.
- The distinction between recently closed or abandoned mines and historic mines in respect to quantities and qualities in G-axis should be taken into consideration (should be looked at case-specifically).
- Non-Viable Projects are neither Potentially-Viable nor Viable. Therefore, confidence higher than **E2**, **F2** should not be used.

What was done

Variable amount of data (e.g., diamond/RC drilling, assays, metallurgical and processing tests, economic and technical feasibility evaluation).

What is not there

No valid standard-based public reporting was carried out (no CP/QP sign-off, no QA/QC information). Also, no active permitting (nothing regarding E-axis issues)

What is outdated

Beneficiation, feasibility studies (especially economic ones), possibly also the chemical analysis, permitting, land-use plans etc.



Guidance for National Resource Reporting

Historic Estimates

UNFC Guidance Europe, ANNEX II, p. 27-28

If there is an active project holder (asset ownership) and information that the current holder is carrying out exploration (permitting status is active but no updated estimate produces).

=> UNFC: **E3.2** and **F2** (**F2.1** or **F2.2**)

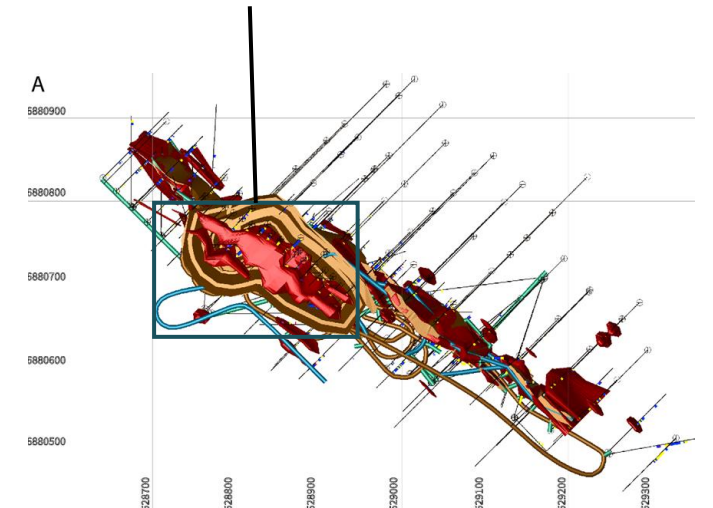
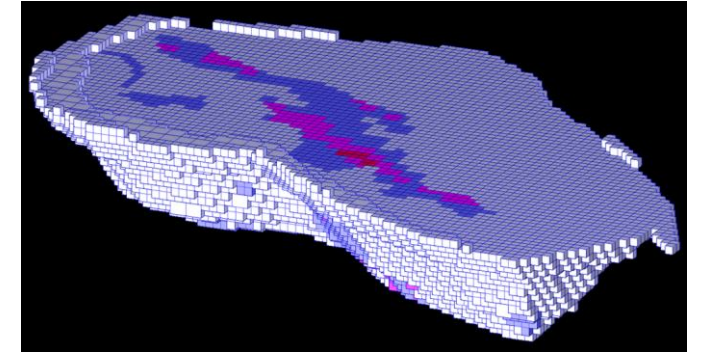
Technical feasibility of a development Project is subject to further evaluation.

Project activities are on hold and/or where justification as a development may be subject to significant delay.

There is no project holder (no ownership) and currently no exploration is done at the site.

=> UNFC: **E3.3** and **F2.3**

- G-axis information depends on the confidence in estimation or geological knowledge.
- General rule is that most of the historical resources are **G3** or **G4**. There must be clear evidence in place to classify the quantities into **G1** or **G2**.



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Guidance for National Resource Reporting

Historic Estimates

UNFC Guidance Europe, ANNEX II, p. 27-28

E3.3;F2.3;G1-4

E3.3;F4;G1-4

- Resource quantities associated with a closed or abandoned mining operation.
- Non-Viable Project with no development currently viable.
- For example remaining in-situ resources not mined during project lifetime.
- The distinction between **recently closed** or abandoned mines and **historic mines** in respect to quantities and qualities in F and G axis should be taken into consideration.



E3;F3;G1-4

- Historic estimates which have not been confirmed by the current owner.
- Can be either active or non-active
- Typically little background information available (has not been under operation (no mine infrastructure in place))
- The unverified historical estimates will generally be downrated to E3 and F3, with the original G categories being retained (CRIRSCO-UNFC Bridging Document, No. 52)





Guidance for National Resource Reporting

Viable Projects Turn Non-Viable



UNFC Guidance Europe, ANNEX II, p. 29-30

- When “Reasonable Prospects for environmentally, socially, and economically Viable production in the Foreseeable Future” get **suspended, terminated, or cannot be demonstrated** due to non-technical issues that directly impact the viability of the Project, the Project is reclassified from **E1** to **E2** or from **E1** to **E3**, respectively.
 - This means that a Project becomes **Non-Viable** and Classes **111, 112, 221, 222** and **223** may have to be **downgraded to reflect the current situation** regardless of classification system used.
 - Remember that the UNFC classes 221, 222 and 223 would be only used for active Projects that fulfil the “Reasonable Prospects for environmental-socio-economic Viable development in the Foreseeable Future” Criteria.
- E3.2;F2.2**
- E3.3;F2.3**
- There may be several reasons to close a mine, abandon a mine Project or an exploration Project, such as issues in permitting, remaining ore being difficult to extract, process or having lower commodity grades, changes in permitting regulation, changes in company strategy, the company been taken over by another company or just went bankrupt.



Annex III: Sectoral Guidelines for Europe



To assist evaluators to identify relevant **controlling factors** (CFs) and give the Qualified Expert assistance when making a balanced judgement in respect to categorization which may have a direct impact to the viability of a Project.



E Axis – Environmental-Socio-Economic Viability

Policy

Legal Framework

Exploration Rights

Regulatory Approval

Exploration Permits

Extraction Permit

Economic Considerations

Fiscal Framework/Contractual Conditions

Social Considerations

F-Axis – Technical Feasibility

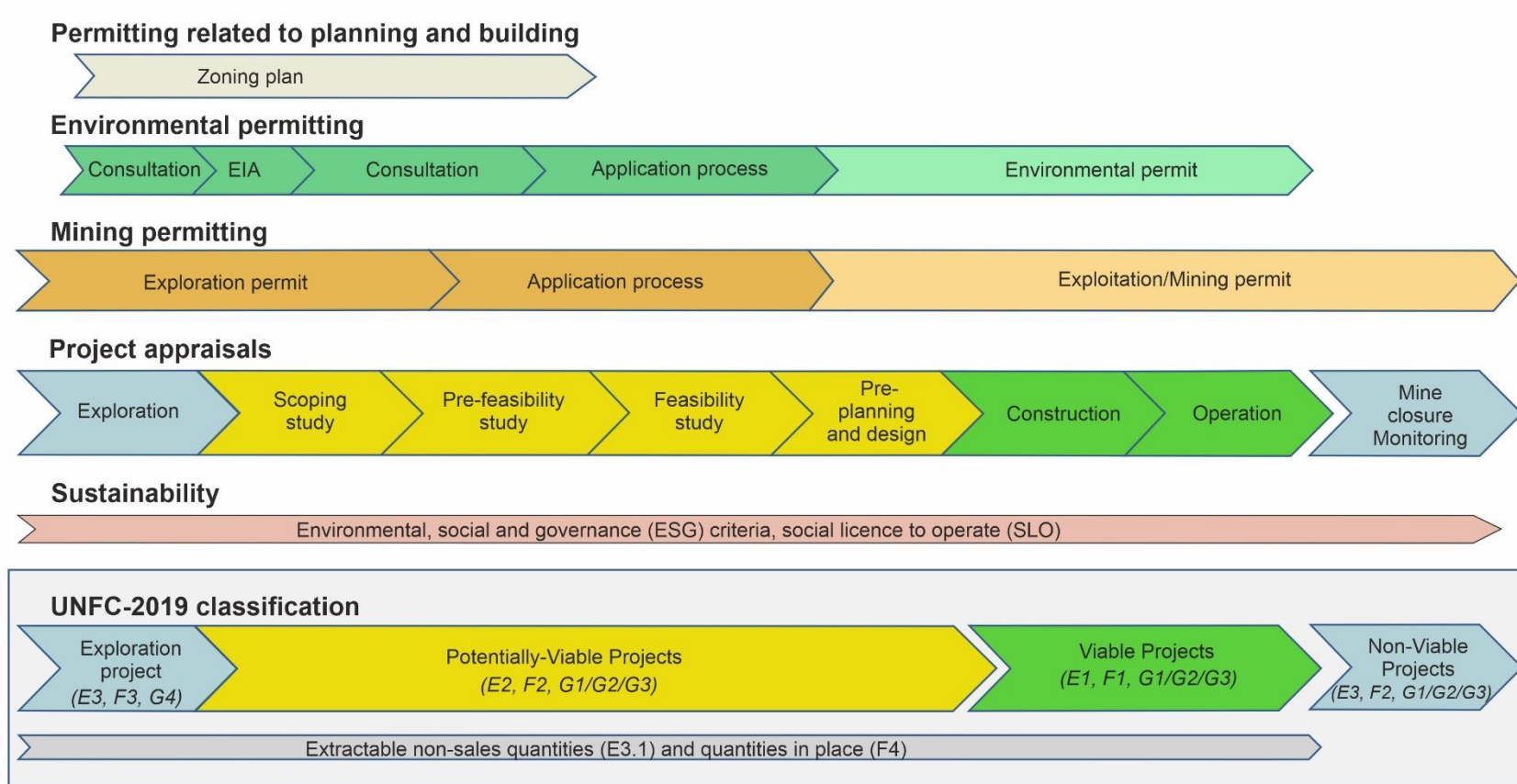
Technology Readiness Levels

Mining Methods

Mining Projects



Annex III: Sectoral Guidelines for Europe



Schematic mining-related project life cycles* in governmental and industry processes with some E-Axis controlling factors



Key points and takeaways



- UNFC is a resource management tool that can classify projects, their sources, and products in a **coherent and consistent** manner to **ensure the sustainable supply of critical and strategic raw materials within Europe**.
- UNFC Guidance Europe is to ensure **clarity and comparability in national resource reporting** and to **assist** Qualified Experts in **identifying relevant technical and non-technical contingencies and blocking factors**, and to determine how these can be **communicated under UNFC to facilitate reporting of Critical Raw Materials Projects within the European Union**.
- UNFC Guidance for Europe is mainly **used in national-level by the governmental organisations to support INSPIRE compliant reporting of raw materials project within EU**.

slido



After the discovery and subsequent exploration, a mineral company is producing the first resource estimation from the project as part of the Scoping Study. According to Table 10 in the UNFC Guidance for Europe, what is the UNFC class for the 12 Mt @ 2.5 g/t Au (Inferred Resources)?

① Start presenting to display the poll results on this slide.

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Can a Geological Survey classify its own investigations, for example to comply with the National Exploration Program or Recycling Program, in UNFC classes 223-111?

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A Geological Survey's new National Exploration Program included surface sampling, ground geophysics and a small drilling campaign. The results showed good lithium potential in the area. The assay results returned with several high-grade lithium intercepts from drill holes but due to sparse drilling spacing a resource estimate was not produced. Studies were not continued the following year due to SLO challenges. How should the Survey expert report this under UNFC?

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Thank you for your attention

Janne Hokka, GTK

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