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# UNFC GUIDANCE for NEP-R

United Nations Framework Classification for  
Resources (UNFC) Guidance on the European  
Union's National Exploration Programme  
Results (NEP-R)

*EU International Centre of Excellence on  
Sustainable Resource Management*



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## UNFC GUIDANCE for NEP-R

### United Nations Framework Classification for Resources (UNFC) Guidance on the European Union's National Exploration Programme Results (NEP-R)

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## Executive Summary

Recognizing the importance of critical raw materials in new technologies for strategic sectors, the Critical Raw Materials Act (CRMA) [1] aims to ensure the EU has access to a secure and sustainable supply of critical raw materials.

According to Article 19 of the CRMA, each Member State must draw up a national programme for general exploration targeting critical raw materials and carrier minerals of critical raw materials. Member States will map mineral occurrences containing critical raw materials, gathered through the measures set out in the national exploration programmes (NEPs). These actions will significantly contribute to achieving the CRMA's goal of reducing administrative burdens and streamlining permitting procedures for critical raw materials projects in the EU.

The document “United Nations Framework Classification for Resources (UNFC) Guidance on the European Union’s National Exploration Programme Results (NEP-R)” is prepared to assist regional and national authorities in EU Member States in reporting to the European Commission on the results of the national exploration programmes, based on UNFC. The use of UNFC will standardise the classification of NEP findings across all EU Member States. As most of the classified projects will fall under Prospective Projects, an attempt to systematically contextualise and refocus the Sub-categories of G4 levels, based on user needs is provided, as well as the explanation of the relevant Sub-categories of the F and E axes.

The document was prepared by the following experts: Hendrik Falck (chair of the Mineral Working Group of the Expert Group on Resource Management (EGRM)), Ghadi Sabra (Politecnico di Torino), Snježana Miletić and Slavko Vekoslav Šolar (both EU International Centre of Excellence on Sustainable Resource Management (ICE-SRM EU) [2]) and was produced by ICE-SRM EU.

Use of the UNFC guidance for NEP-R document is non-mandatory. It is intended to assist in classifying Prospective Projects according to UNFC [3].

# 1 Introduction

## 1.1 Purpose of Guidance

The Guidance aims to assist regional and national authorities in EU Member States to report to the European Commission in accordance with the Critical Raw Materials Act (CRMA) [1] on the results of national exploration programmes, classified using the United Nations Framework Classification for Resources (UNFC).

## 1.2 Background

The Critical Raw Materials Act came into force on 23 May 2024. The CRMA highlights the use of UNFC in several articles: Article 7 (Strategic Projects), Article 19 (National Exploration Programmes), Article 21 (Monitoring), Article 27 (Recovery of critical raw materials from extractive waste), and Article 45 (Reporting of Member States).

According to Article 19, each Member State must prepare a national exploration programme. Information collected for the national exploration programme must explain the vision of the programme, objectives and scope, expected outcomes and impacts. There must also be baseline information for the targeted CRMs, and plans for data acquisition data processing, data management, and a plan to engage with industry, academia and civil society (optional). Finally, there is also a requirement for a plan to monitor, evaluate and update the NEP, and determine the resources for designing and implementing the NEP.

UNFC is suitable for classifying occurrences of critical raw materials identified by NEPs, primarily to standardise the classification of these findings for all EU Member States. This standardisation enables consistent and coherent classification, useful for EU policymakers and junior exploration companies to compare information for decision-making. Additionally, UNFC allows for dynamic reporting, demonstrating that occurrences can evolve and progress through different UNFC categories over time.

The main documents providing information about UNFC are:

- UNFC update 2019 [3],
- Supplementary Specifications for the Application of the UNFC for Minerals [4],
- UNFC Guidance for Europe [5].

Most occurrences discovered by NEPs will be of the type that are classified as Prospective Projects from Potential Sources [3]. It is anticipated that after the implementation of the measures outlined in NEP the geological and other knowledge of these mineral projects will be increased.

## 2 Description of UNFC for Prospective Projects

UNFC is a resource project-based and principles-based classification system for determining the environmental, socio-economic viability and technical feasibility of projects to develop resources. The classification provides a consistent framework to describe the level of confidence of the future quantities expected to be produced by the project [3].

Using this system, quantities are classified according to three fundamental Criteria, (Figure 2.1)): E, F and G.

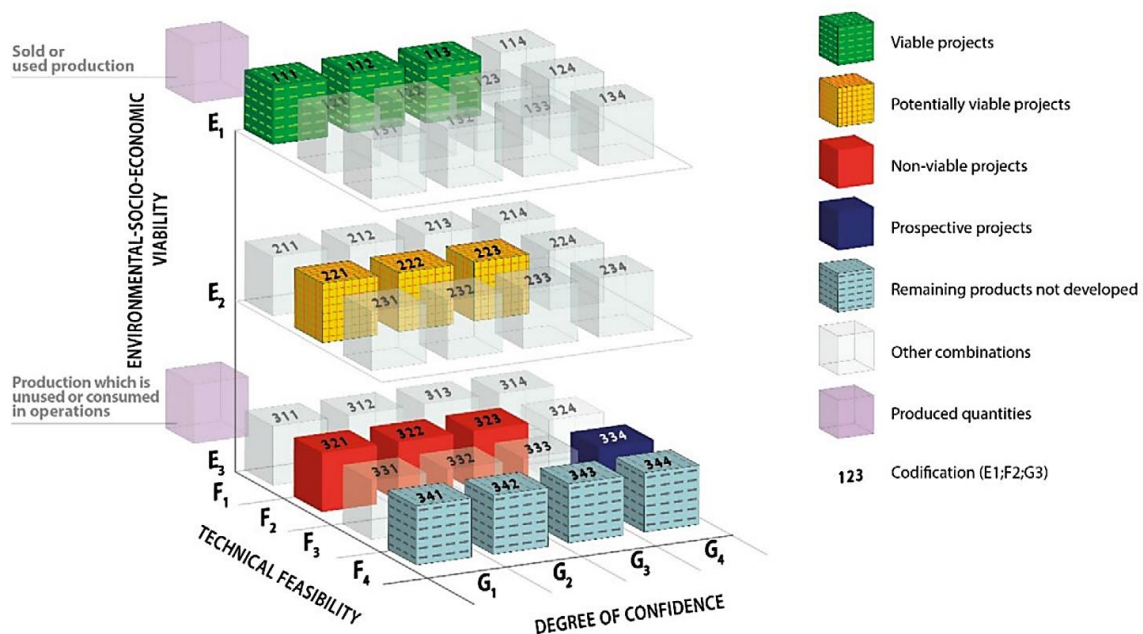


Figure 2.1 UNFC Categories and examples of Classes [3].

The Categories and Sub-categories are the building blocks of the system and are combined to form “Classes”. The first set of Categories is the E axis – it designates the degree of favourability of environmental-socio-economic conditions in establishing the viability of the project, including consideration of market prices and relevant legal, regulatory, social, environmental and contractual conditions. The second set is the F axis, which designates the maturity of technology, studies and commitments necessary to implement the project. These projects range from early conceptual studies through to fully developed projects that are producing and reflect standard value chain management principles. The third set of categories is the G axis, and it appoints the degree of confidence in the estimate of the quantities of products from the project [3].

The total product available for development or on production is classified as of a given date (Figure 2.1).

Classification (Figure 2.2) is based on the following [3]:

- (a) Produced quantities that have been sold or used.
- (b) Produced quantities that are unused or have been consumed in operations.
- (c) Quantities of a product that may be produced in the future. Technical and environmental-socioeconomic evaluation studies based on projects form the basis for this classification.
- (d) Remaining quantities of product not developed by any identified project.
- (e) Quantities of a product that may be produced in the future from prospective projects. Technical and environmental-socioeconomic evaluation studies based on prospective projects form the basis for this classification.
- (f) Remaining quantities of product not developed by any prospective project.

UNFC Classes Defined by Categories and Sub-categories						
Total Products	Produced	Sold or used production				
		Production which is unused or consumed in operations				
	Class	Sub-class	Categories			
			E	F	G	
Known Sources	Viable Projects	On Production	1	1.1	1, 2, 3	
		Approved for Development	1	1.2	1, 2, 3	
		Justified for Development	1	1.3	1, 2, 3	
	Potentially Viable Projects	Development Pending	2 <sup>b</sup>	2.1	1, 2, 3	
		Development On Hold	2	2.2	1, 2, 3	
	Non-Viable Projects	Development Unclassified	3.2	2.2	1, 2, 3	
		Development Not Viable	3.3	2.3	1, 2, 3	
	Remaining products not developed from identified projects		3.3	4	1, 2, 3	
	Potential Sources	Prospective Projects	[No sub-classes defined]	3.2	3	4
		Remaining products not developed from prospective projects		3.3	4	4

Figure 2.2 UNFC Classes and Sub-classes defined by Sub-categories [3].

Within Potential Sources (Figure 2.2), remaining products not developed from prospective projects may become developable in the future as technological or environmental and socio-economic conditions change. Some or all of these estimated quantities may never be developed due to physical or environmental and socio-economic constraints. This classification may represent less value to renewable

resource projects but can still indicate the amount of unrealised potential. While in these situations it is difficult to use the remaining products, they do represent quantities which, if produced, could be bought, or sold [3].

## 2.1 G -axis for Prospective projects

In minerals and mining relevant conditions, the G axis usually reflects the degree of geological knowledge regarding quantities and qualities. Prospective projects are defined by the G4 category (Figures 2.3 and 2.4).

Category	Definition	Supporting Explanation
<b>G4</b>	Product quantity associated with a Prospective Project, estimated primarily on indirect evidence.	<p>A Prospective Project is one where the existence of a developable product is based primarily on indirect evidence and has not yet been confirmed. Further data acquisition and evaluation would be required for confirmation.</p> <p>Where a single estimate is provided, it should be the expected outcome but, where possible, a full range of uncertainty should be calculated for the prospective project.</p> <p>In addition, it is recommended that the chance of success (probability) that the prospective project will progress to a Viable Project is assessed and documented.</p>

Figure 2.3 Definition of Category G4 and supporting explanation [3].

Category	Sub-Category	Sub-Category Definition
<b>G4</b>	G4.1	Low estimate of the quantities.
	G4.2	Incremental amount to G4.1 such that G4.1+G4.2 equates to a best estimate of the quantities.
	G4.3	Incremental amount to G4.1+G4.2 such that G4.1+G4.2+G4.3 equates to a high estimate of the quantities.

Figure 2.4 Definition of Sub-categories of G4 [3].

## 2.2 F-axis for Prospective projects

Prospective projects are typically attributed to F3 or F4 (Figures 2.5 and 2.6).

Category	Definition	Supporting Explanation
<b>F3</b>	Technical feasibility of a development project cannot be evaluated due to limited data.	Very preliminary studies of a project, indicate the need for further data acquisition or study in order to evaluate the potential feasibility of development.
<b>F4</b>	No development project has been identified.	Remaining quantities of product not developed by any project. These are quantities which, if produced, could be bought, sold or used (i.e. electricity, heat, etc., not wind, solar irradiation, etc.).

Figure 2.5 Definition of Categories F3 and F4 and supporting explanation [3].

Category	Sub-Category	Sub-Category Definition
<b>F3</b>	F3.1	Site-specific studies have identified a potential development with sufficient confidence to warrant further testing.
	F3.2	Local studies indicate the potential for development in a specific area but requires more data acquisition and/or evaluation in order to have sufficient confidence to warrant further testing.
	F3.3	At the earliest stage of studies, where favourable conditions for the potential development in an area may be inferred from regional studies.
<b>F4</b>	F4.1	The technology necessary is under active development, following successful pilot studies, but has yet to be demonstrated to be technically feasible for this project.
	F4.2	The technology necessary is being researched, but no successful pilot studies have yet been completed.
	F4.3	The technology is not currently under research or development.

Figure 2.6 Definition of Sub-categories of Categories F3 and F4 [3].

### 2.3 E-axis for Prospective projects

Prospective projects are commonly assigned according to the E3 category (Figures 2.7 and 2.8).

Category	Definition	Supporting Explanation
<b>E3</b>	Development and operation are not expected to become environmentally-socially-economically viable in the foreseeable future or evaluation is at too early a stage to determine environmental-socio-economic viability.	On the basis of realistic assumptions of future conditions, it is currently considered that there are not reasonable prospects for environmental-socio-economic viability in the foreseeable future; or, environmental-socio-economic viability cannot yet be determined due to insufficient information.  Also included are estimates associated with projects that are forecast to be developed, but which will be unused or consumed in operations.

Figure 2.7 Definition of Category E3 and supporting explanation [3].

Category	Sub-Category	Sub-Category Definition
<b>E3</b>	E3.1	Estimate of product that is forecast to be developed, but which will be unused or consumed in operations.
	E3.2	Environmental-socio-economic viability cannot yet be determined due to insufficient information.
	E3.3	On the basis of realistic assumptions of future conditions, it is currently considered that there are not reasonable prospects for environmental-socio-economic viability in the foreseeable future.

Figure 2.8. Definition of Sub-categories of Category E3 [3].

## 3 National Exploration Programmes (NEP)

### 3.1 Critical Raw Materials Act

Critical raw materials play a vital economic role for Europe, yet they are highly exposed to risks of supply disruption. Global demand for these materials is rising sharply, driven by the accelerating need to decarbonize economies. At present, Europe is heavily dependent on imports—often from a single third country—and recent crises have underscored these strategic vulnerabilities. Without coordinated and timely action, the integrity of the single market, Europe’s resilience and competitiveness, and the ability of European industries to meet the goals of the green and digital transitions could be significantly compromised [6].

The European Critical Raw Materials Act (CRMA) [1] offers a comprehensive answer to these challenges by building on the strengths of the single market. Through this framework, the EU aims to establish robust, resilient, and sustainable value chains for critical raw materials. To achieve this, the Act reinforces every stage of the raw materials value chain while also diversifying the EU’s imports to reduce strategic dependencies. At the same time, it enhances the Union’s ability to identify and manage risks of supply disruption and promotes greater circularity and sustainability across the sector.

In accordance with the Green Deal Industrial Plan [7] the CRMA was introduced alongside the Commission’s Net Zero Industry Act [8], which aims to scale up the manufacture of key carbon-neutral technologies for clean energy supply chains.

While providing an updated list of critical raw materials for the entire EU economy, it also identifies strategic raw materials, which are important for strategic technologies used in green, digital, defence and aerospace applications. The CRMA has defined benchmarks on the strategic raw materials value chain for the diversification of the EU supplies [6]:

- at least 10% of the EU’s annual consumption for domestic extraction
- at least 40% of the EU’s annual consumption for domestic processing
- at least 25% of the EU’s annual consumption for domestic recycling
- no more than 65% of the EU’s annual consumption from a single third country

The CRMA seeks to ease administrative burdens by simplifying permitting procedures for critical raw materials projects within the EU, while maintaining strong social and environmental safeguards. To support this, all critical raw materials projects, including strategic ones, can work through a designated single point of contact in each EU member state, responsible for coordinating the entire permitting process. Additionally, selected strategic projects will benefit from facilitated access to finance and reduced permitting timelines (27 months for extraction and 15 months for processing and recycling). As part of these measures, EU member states are also required to establish national programmes for the exploration of geological resources.[6].

### 3.2 NEP framework

In the Section 5 (Exploration) of the CRMA [1], the Article 19 (National exploration programmes) identifies the **preparation of National exploration programmes**:

1. *By 24 May 2025, each Member State shall draw up a national programme for general exploration targeted at critical raw materials and carrier minerals of critical raw materials. Those national programmes shall be reviewed at least every five years and updated if necessary.*
2. *The national programmes referred to in paragraph 1 shall include measures to increase available information on the Union's critical raw material occurrences. They shall include, as appropriate, the following measures:*
  - (a) *mineral mapping at a suitable scale;*
  - (b) *geochemical campaigns, including to establish the chemical compositions of soils, sediments or rocks;*
  - (c) *geoscientific surveys, such as geophysical surveys;*
  - (d) *processing of the data gathered through general exploration, including through the development of predictive maps;*
  - (e) *reprocessing of existing geoscientific survey data to check for unidentified mineral occurrences containing critical raw materials and carrier minerals of critical raw materials.*
3. *Where a Member State's geological conditions are so that, with a high degree of certainty, no deposits of critical raw materials or their carrier minerals will be identified through the measures listed in paragraph 2, the national programme referred to in paragraph 1 may consist of scientific evidence to that effect. Such evidence shall be updated, in the context of the regular review of the national programme, to reflect any changes in the list of critical raw materials.*

### 3.3 Reporting

Article 19 of the CRMA [1] also regulates **communication of the Member States with the European Commission** regarding the preparation and implementation of NEPs:

4. *Member States shall communicate to the Commission their national programmes referred to in paragraph 1.*
5. *Member States shall, in their reports submitted pursuant to Article 45, provide information on progress in the implementation of the measures included in their national programmes referred to in paragraph 1 of this Article.*
6. *Member States shall make maps that show basic information on mineral occurrences containing critical raw materials gathered through the measures set out in the national programmes referred to in paragraph 1 publicly available on a free-access website. That information shall, where applicable, include the classification of the identified occurrences using the United Nations Framework Classification for Resources. More detailed information, including processed geophysical and geochemical data at*

*appropriate resolution and large-scale geological mapping, shall be made available upon request.*

Additional **reporting on NEPs** is required by Article 45 (Reporting of Member States) [1]:

*1. By 24 May 2026 and annually thereafter, Member States shall submit a report to the Commission containing the information referred to in Article 19(5), Article 21(1) and (2), Article 22(1), Article 23(5) and Article 26(6).*

*Economic operators shall not be required to submit information in addition to the information provided in the context of the provisions listed in the first subparagraph.*

*2. The Commission may adopt implementing acts setting out a template for the reports referred to in paragraph 1 of this Article. The template may indicate how the information referred to in paragraph 1 of this Article is to be expressed. Those implementing acts shall be adopted in accordance with the advisory procedure referred to in Article 39(2).*

## 4 UNFC Classification of NEP Results

Implementing the measures in the national exploration programmes, new occurrences of critical raw materials will be identified and publicized for exploration efforts. For reporting on the NEPs findings, UNFC is suitable first and foremost to standardise the classification of these findings across all EU Member States allowing for a common and harmonized lexicon of the results reported by Member States at EU levels. It enables dynamic reporting and provides a mechanism to view the progress of CRM occurrences as they evolve through different UNFC categories.

UNFC can be aligned with other classification systems through the use of Bridging Documents (e.g. [9], [10], [11]). A Bridging Document explains the alignment between UNFC and another classification system. Where national classification systems are used, harmonization to UNFC should be completed before integrating national collections of primary raw materials data into EU-databases [5].

The most common classification of an occurrence from NEPs will be that of a Prospective Projects (mainly E3; F3; G4) as per UNFC [3], where environmental-socio-economic information limits the determination of viability, and technical immaturity is confirmed. The methodology to enhance the information on national critical raw materials availability is defined in CRMA [1], and it emphasizes the additional collection of geologic knowledge for those occurrences.

### 4.1 G-axis for NEP results

In addition, an attempt is provided to systematically contextualise and refocus the Sub-categories of G4 levels of prospective projects, based on user needs (Tables 4.1 to 4.4).

Proposed terminology for NEPs is presented (Table 4.1), along with proposed differentiation within G3 Category and G4 Sub-categories (Table 4.2), an illustration of this differentiation (Table 4.3) and mapping of relevant G3 Category and G4 Sub-categories to other classification systems (Table 4.4).

Table 4.1 A proposal of terminology for NEPs and definition of relevant Sub- categories of G axis.

Category / Sub-category	Proposed Terminology for NEPs	Definition according to UNFC (2019)
<b>G4.3</b>	Assumed Indication	Earliest stage of exploration where mineral occurrences are postulated based on regional-scale geological interpretations, geophysical anomalies, or geochemical patterns, essentially from indirect evidence with minimal supporting data from desktop research (existing data, studies). The assumption of mineralization is plausible, but it remains a speculative assumption. No physical verification (e.g., drilling, trenching) has been performed. This stage of exploration usually does not require any sort of permission or clearance.
<b>G4.2</b>	Confirmed Indication	Indication of mineral occurrence supported by more detailed data, such as reconnaissance-level fieldwork or preliminary sampling. Still, the indication remains insufficient to define continuity or commercial significance. Geologically plausible, and preliminary results support the presence of a mineral-bearing unit, but tonnage/grade remain speculative. At this stage, an exploration permit may also not be required, yet in some cases, a research permit may be needed (possibly environmental clearance).
<b>G4.1</b>	Explored Indication	Very early direct exploration evidence supports the presence of a mineral indication, though full resource delineation remains incomplete. Volumes and grades are partially understood. Legal permission to carry out such exploration is required, including permits on land and environmental clearance.
<b>G3</b>	Product quantity associated with a project that can be estimated with a low level of confidence	Existence of a developable product based on preliminary direct evidence. Further data acquisition and evaluation would be required for confirmation.

Table 4.2 Proposed differentiation within G3 Category and G4 Sub-categories

Category/ Sub-categories	Proposed Terminology for NEPs	Differentiation
<b>G4.3</b>	Assumed Indication / Occurrence	Area: wide Source of data: literature, conceptual, digital Permit: NO Tonnage and grade reporting: range
<b>G4.2</b>	Confirmed Indication / Occurrence	Area: wide Source of data: field work Permit: NO Tonnage and grade reporting: range
<b>G4.1</b>	Explored Indication / Occurrence	Area: small / focused, targeted Source of data: field work Permit: YES (drilling, trenching) Tonnage and grade reporting: range or “exact / one” number
<b>G3</b>	Low level of confidence	Area: small / extension of known site Source of data: field work Permit: YES Tonnage and grade reporting: “exact / one” number (inferred resources)

Table 4.3 Illustration to the proposed differentiation within G3 Category and G4 Sub-categories.

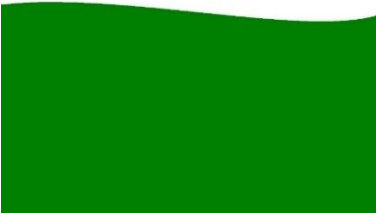
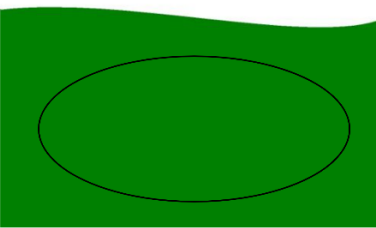
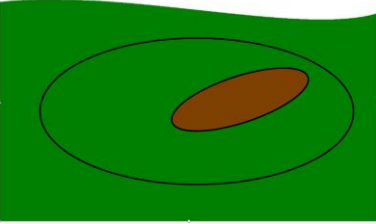
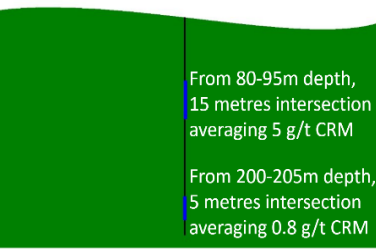
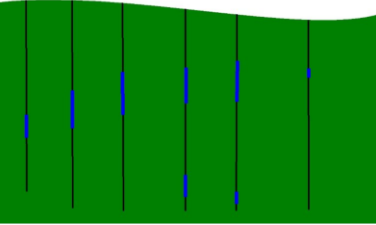
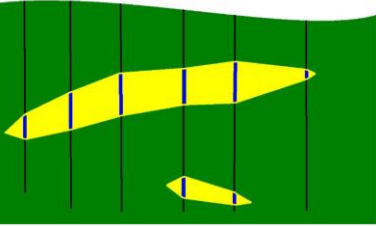
Category /Sub-category	Illustration	Proposed terminology and explanation
?		<p>A greenfield exploration project. (Adapted from Correia and Henley, International Lithological Conference, 2014)</p>
G4.3		<p><b>Assumed Indication / Occurrence</b> Areas of general interest for future targeted exploration. Example: A large area geophysical anomaly detected in an area with favorable geological conditions but lacking surface exposure or historical exploration data. Data source is literature: Regional surveys, remote sensing data, geological analogues, and conceptual models These areas do not require an exploration permit. We have no site-specific knowledge – but indications something may be there, deposit could be small or large</p>
G4.2		<p><b>Confirmed Indication / Occurrence</b> Data source from recently accomplished field work: Surface mapping, initial geochemical sampling ... These works usually do not require an exploration permit. Reported an Exploration Target G4.2 / GKZ: D1, as a range of possible tonnages and grades</p>
G4.1		<p><b>Explored Indication/ Occurrence</b> An exploration permit needed to carry out such activities (drilling, trenching, etc.) at this stage is required. An exploration permit needed to carry out such activities (drilling, trenching, etc.) at this stage is required. Example: Area with drilled intersections showing continuous mineralization, albeit with variable grades thicknesses, still requiring closer-spaced drilling to define a resource. Drillhole intercepts can be reported as on the ground. Exploration with G4.1 as a range of possible tonnages and grades or not in a range,</p>
G4.1		<p><b>Explored Indication / Occurrence (P &lt; 10) or G3 – Product quantity estimated with low confidence (P = 10) *</b> (* According to UNFC G probability) The difference between G4.1 and G3 depends on the degree of exploration works, namely on drilling density, estimates probability, (P below 10 is G4.1), calibration, data analysis, data integration, etc.</p>
G3		<p><b>Low confidence - Inferred Resources - C2 according GKZ</b> Requirements according to G3 (UNFC), inferred resources (CRIRSCO Template) and C2 (GKZ) should be met. Existence of a developable product based on preliminary direct evidence. Further data acquisition and evaluation is required.</p>

Table 4.4 Mapping of relevant Categories/Sub-categories of G3 and G4 to other classification systems.

Category / Sub-category	UNFC (2019)	NEP Context	CRIRSCO	GKZ-based
<b>G4</b>	Product quantity associated with a Prospective Project, estimated primarily on indirect evidence	A Prospective Project is one where the existence of a developable product is based primarily on indirect evidence and has not yet been confirmed. Further data acquisition and evaluation would be required for confirmation	Correspond with the CRIRSCO Exploration Target which is a statement or estimate of exploration potential for a mineral deposit where there has been insufficient exploration to estimate Mineral Resources. Exploration Targets must be expressed as a range of quantity and quality	Resources, which are divided according to the level of exploration C <sub>2</sub> (narrower area) D <sub>1</sub> , D <sub>2</sub> (wider area)
<b>G4.3</b>	Incremental amount to G4.1+G4.2 such that G4.1+G4.2+G4.3 equates to a high estimate of the quantities	Assumed Indication	Undiscovered unquantified: o These require exploration to determine whether any potential exists.	Assumed Resources – D <sub>2</sub>
<b>G4.2</b>	Incremental amount to G4.1 such that G4.1+G4.2 equates to a best estimate of the quantities	Confirmed Indication	Discovered unquantified Exploration Target, a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade or quality, relates to mineralisation for which there has been insufficient exploration to estimate Mineral Resources.	Expected Resources – D <sub>1</sub>
<b>G4.1</b>	Low confidence in estimate of the quantities	Explored Indication	Exploration Result, an update of data and information generated by mineral exploration programmes that might be of use to investors, but which do not form part of a declaration of Mineral Resources or <del>Mineral Reserves</del>	Prospective Resources (greenfield, P < 10) – C <sub>2</sub>
<b>G3</b>	Product quantity associated with a project that can be estimated with a low level of confidence	Existence of a developable product based on preliminary direct evidence. Further data acquisition and evaluation would be required for confirmation	Corresponds with an Inferred Resource category of certain Exploration Targets may be assigned to this category.	Prospective Resources (partially explored by research work or extension of known deposits, P > 10) – C <sub>2</sub>

## 4.2 F-axis for NEP results

Occurrences mapped by NEPs may have F2-4 axis options, although mostly F3 or F4. In addition are the definitions of the relevant Categories and Sub-categories, according to UNFC [3], and an indicator for each Sub-category (Table 4.5).

Table 4.5 Indicator of F Categories and Sub-categories, based on explanations in [3].

Category/ Sub- categories	Definition and supporting explanation (according to UNFC (2019))	Indicator
<b>F2</b>	<i>Technical feasibility of a development project is subject to further evaluation.</i> Preliminary studies of a defined project provide sufficient evidence of the potential for development and that further study is warranted. Further data acquisition and/or studies may be required to confirm the feasibility of development.	<b>Subject to further evaluation</b>
<b>F2.1</b>	Project activities are ongoing to justify development in the foreseeable future.	Justifiable development
<b>F2.2</b>	Project activities are on hold and/or where justification as a development may be subject to significant delay.	Development on hold / delay
<b>F2.3</b>	There are no plans to develop or to acquire additional data at the current time due to limited potential.	No plans / additional data / limited potential
<b>F3</b>	<i>Technical feasibility of a development project cannot be evaluated due to limited data.</i> Very preliminary studies of a project, indicate the need for further data acquisition or study in order to evaluate the potential feasibility of development.	<b>Limited data</b>
<b>F3.1</b>	Site-specific studies have identified a potential development with sufficient confidence to warrant further testing.	Early stage in favor - on site
<b>F3.2</b>	Local studies indicate the potential for development in a specific area but require more data acquisition and/or evaluation in order to have sufficient confidence to warrant further testing.	Early stage in favor - local level
<b>F3.3</b>	At the earliest stage of studies, where favorable conditions for the potential development in an area may be inferred from regional studies.	Early stage in favor - regional level
<b>F4</b>	<i>No development project has been identified.</i> Remaining quantities of product not developed by any project. These are quantities which, if produced, could be bought, sold or used (i.e. electricity, heat, etc., not wind, solar irradiation, etc.).	<b>Development not identified yet</b>
<b>F4.1</b>	The technology necessary is under active development, following successful pilot studies, but has yet to be demonstrated to be technically feasible for this project.	Technology under active development after pilot studies, yet proven to be feasible
<b>F4.2</b>	The technology necessary is being researched, but no successful pilot studies have yet been completed.	Research, no success study completed yet
<b>F4.3</b>	The technology is not currently under research or development.	Currently not research or development

### 4.3 E-axis for NEP results

For most CRM occurrences in NEPs, development and operation are not expected to become environmentally-socially-economically viable in the foreseeable future or evaluation is at too early a stage to determine environmental-socio-economic viability [3].

Occurrences mapped by NEPs may have E2-3 axis options, but mostly E3. Explanations of the relevant Categories and Sub-categories, according to UNFC [3], and an indicator for each Sub-category are provided in Table 4.6.

Table 4.6 Indicator of E Categories and Sub-categories, based on explanations in [3].

Category/ Sub- categories	Definition and supporting explanation (according to UNFC (2019))	Indicator
<b>E2</b>	<i>Development and operation are expected to become environmentally-socially-economically viable in the foreseeable future.</i> Development and operation are not yet confirmed to be environmentally-socially-economically viable but, on the basis of realistic assumptions of future conditions, there are reasonable prospects for environmental-socio-economic viability in the foreseeable future.	<b>To become environmentally-socially-economically viable in the foreseeable future</b>
<b>E3</b>	<i>Too early stage / insufficient information.</i> Development and operation are not expected to become environmentally-socially-economically viable in the foreseeable future or evaluation is at too early a stage to determine environmental-socio-economic viability. On the basis of realistic assumptions of future conditions, it is currently considered that there are not reasonable prospects for environmental-socio-economic viability in the foreseeable future; or environmental-socio-economic viability cannot yet be determined due to insufficient information. Also included are estimates associated with projects that are forecast to be developed, but which will be unused or consumed in operations.	<b>Not expected in foreseeable future</b>
<b>E3.1</b>	Estimate of product that is forecast to be developed, but which will be unused or consumed in operations.	Forecast to be developed
<b>E3.2</b>	Environmental-socio-economic viability cannot yet be determined due to insufficient information.	Insufficient information
<b>E3.3</b>	On the basis of realistic assumptions of future conditions, it is currently considered that there are not reasonable prospects for environmental-socio-economic viability in the foreseeable future.	Non reasonable prospects in foreseeable future

#### 4.4 Additional considerations and conclusion

The E and F axes are mainly based on comparability with existing projects within the same geological settings.

UNFC is applicable for classifying the results of NEP, as defined by CRMA, as it standardises the classification of these findings across EU Member States and, due to its sufficient granularity, allows monitoring the progress of these projects.

## Annex 1 – Glossary

**General exploration** = exploration at national or regional level, not including targeted exploration [2].

**Exploration** = all activities aimed at identifying and establishing the properties of mineral occurrences [2].

**Mineral Occurrences** = any single mineral or combination of minerals occurring in a mass or deposit of potential economic interest [2].

**Potential Minerals Source** = A Minerals Source that has not yet been demonstrated to exist by direct evidence but is assessed as potentially existing based primarily on indirect evidence or evidence with limited density of exploration data [3].

**Product** = Products of the project may be bought, sold or used. In some cases, the product and the source are similar and might be utilized directly (e.g., aggregates); in other cases, the product is indirectly utilized i.e. derived from the source by industrial processes like beneficiation (steel / iron from iron ore) [3].

**Project** = development or operation which provides the basis for environmental, social, economic and technical evaluation and decision-making [3].

**Prospective Project** = A Project that is associated with one or more Potential Minerals Source (See Potential Source). The results of a prospective project might potentially provide the necessary direct evidence for a Known Minerals Resource [3].

**Remaining products not developed from projects** = Quantities should only be classified as Remaining products not developed from projects where no technically feasible projects have been identified that could lead to the production of any of these quantities. Some of these quantities may subsequently be produced in the future due to the development of new technology [3].

**Reserves** = all mineral occurrences that are economically viable to extract in a particular market context [2].

**Targeted exploration** = detailed investigation of an individual mineral occurrence [2].

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