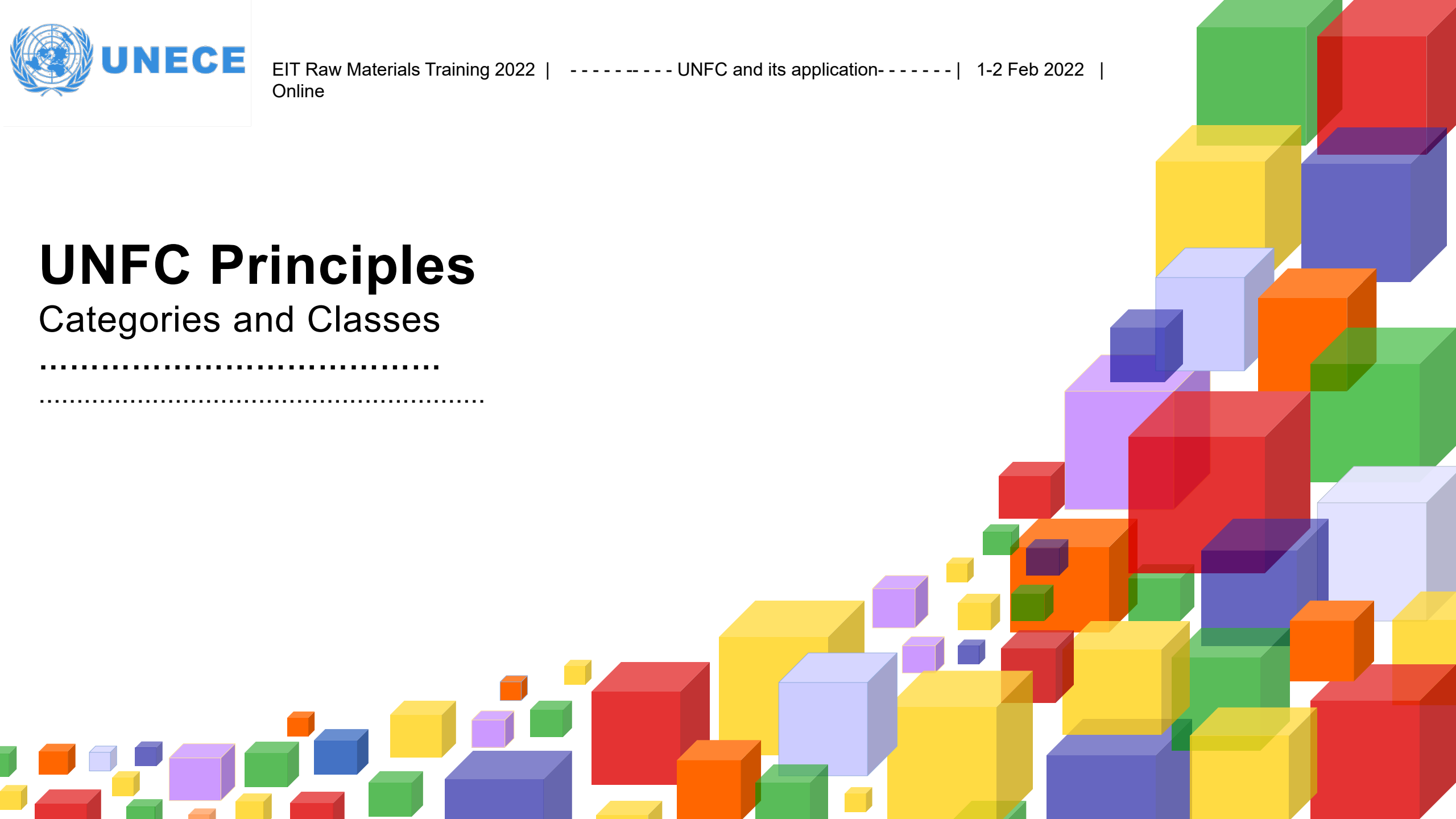
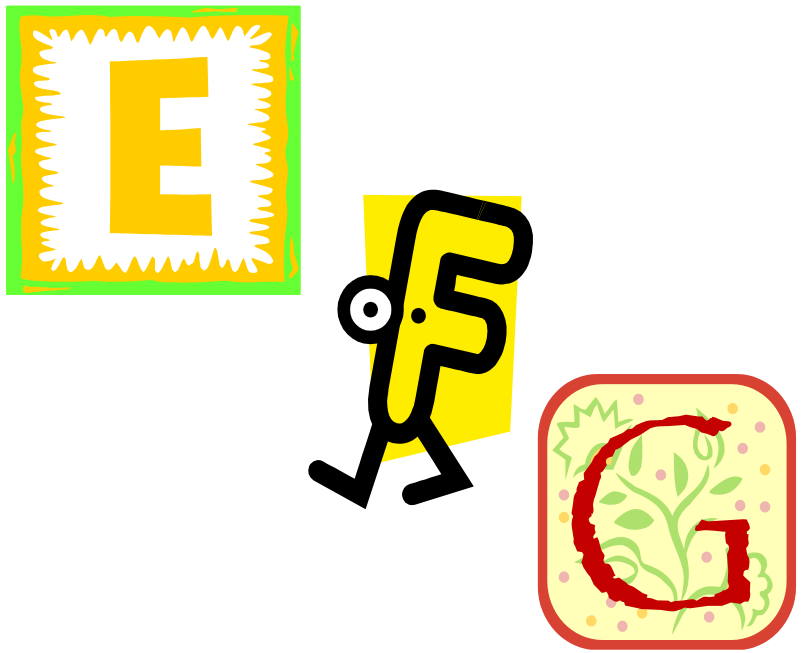
UNFC Principles

Categories and Classes



Classification Framework

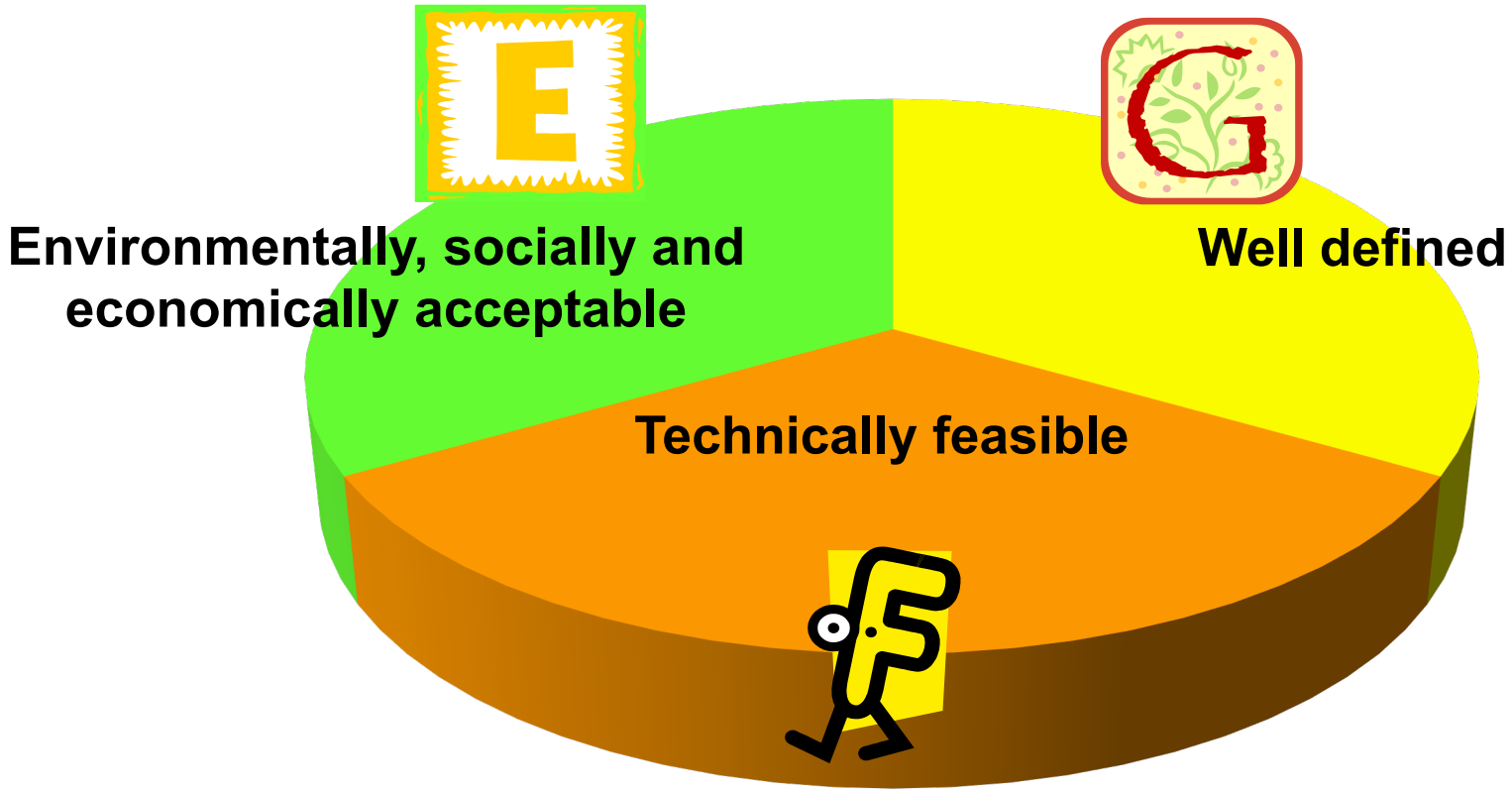
3 criteria



- Based on 3 fundamental criteria
  - Environmental-socio-economic viability
  - Technical feasibility
  - Degree of confidence

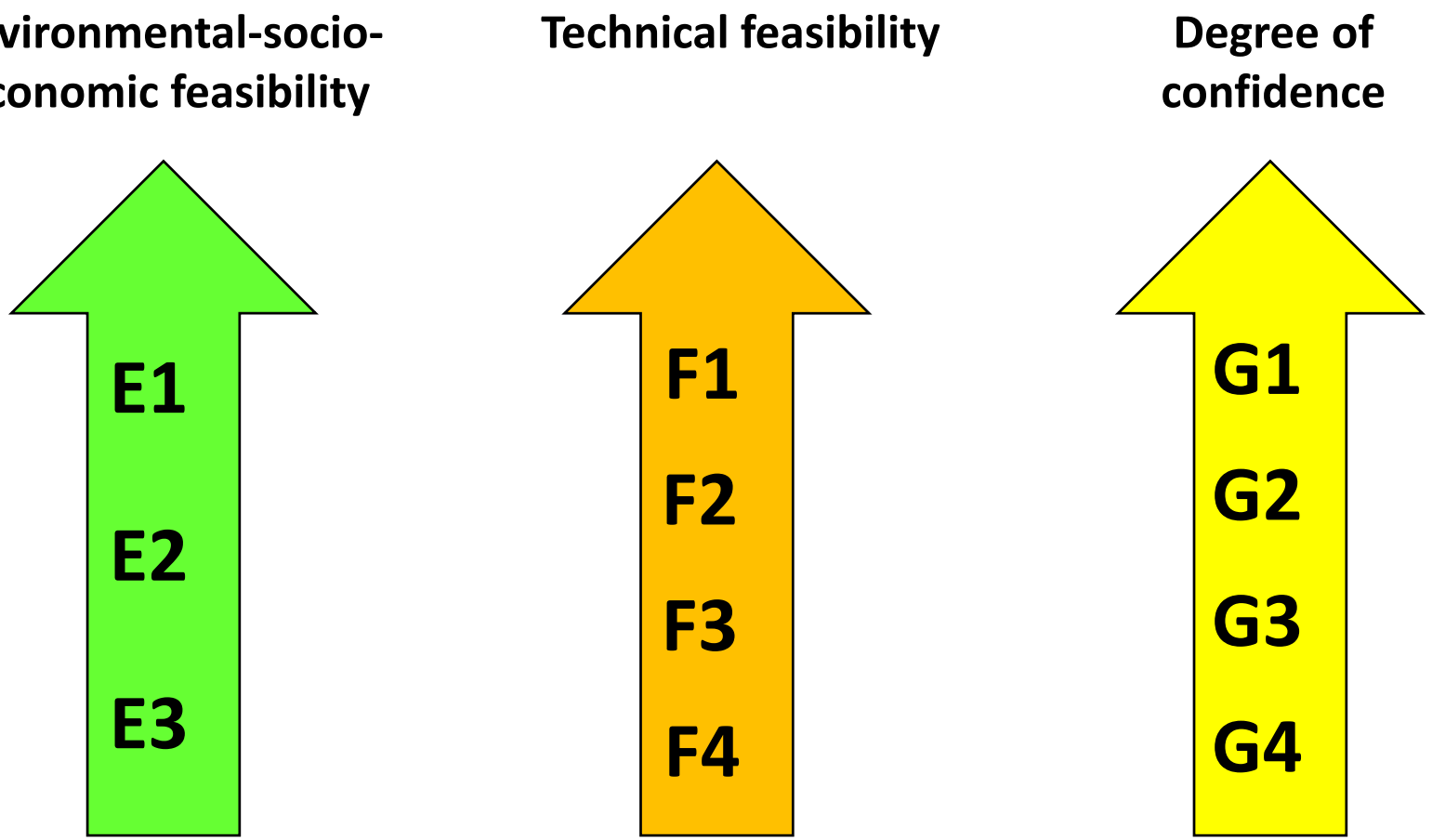
Why 3 criteria?

To be viable a project must be …



Criteria and Categories

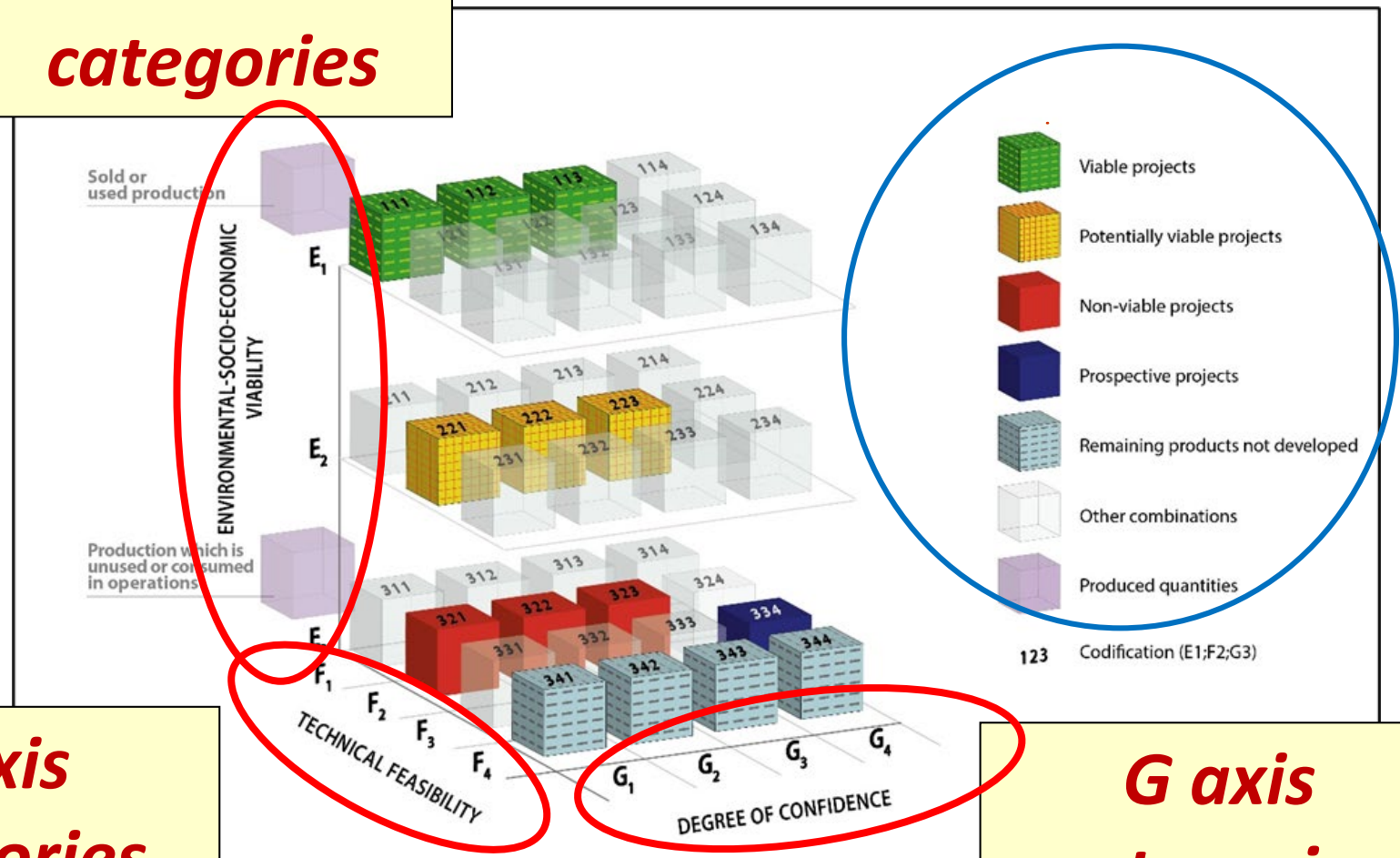
Numerical coding system based on the 3 criteria, sub-divided by categories



Categories and Classes

Codification

E axis categories



Classes

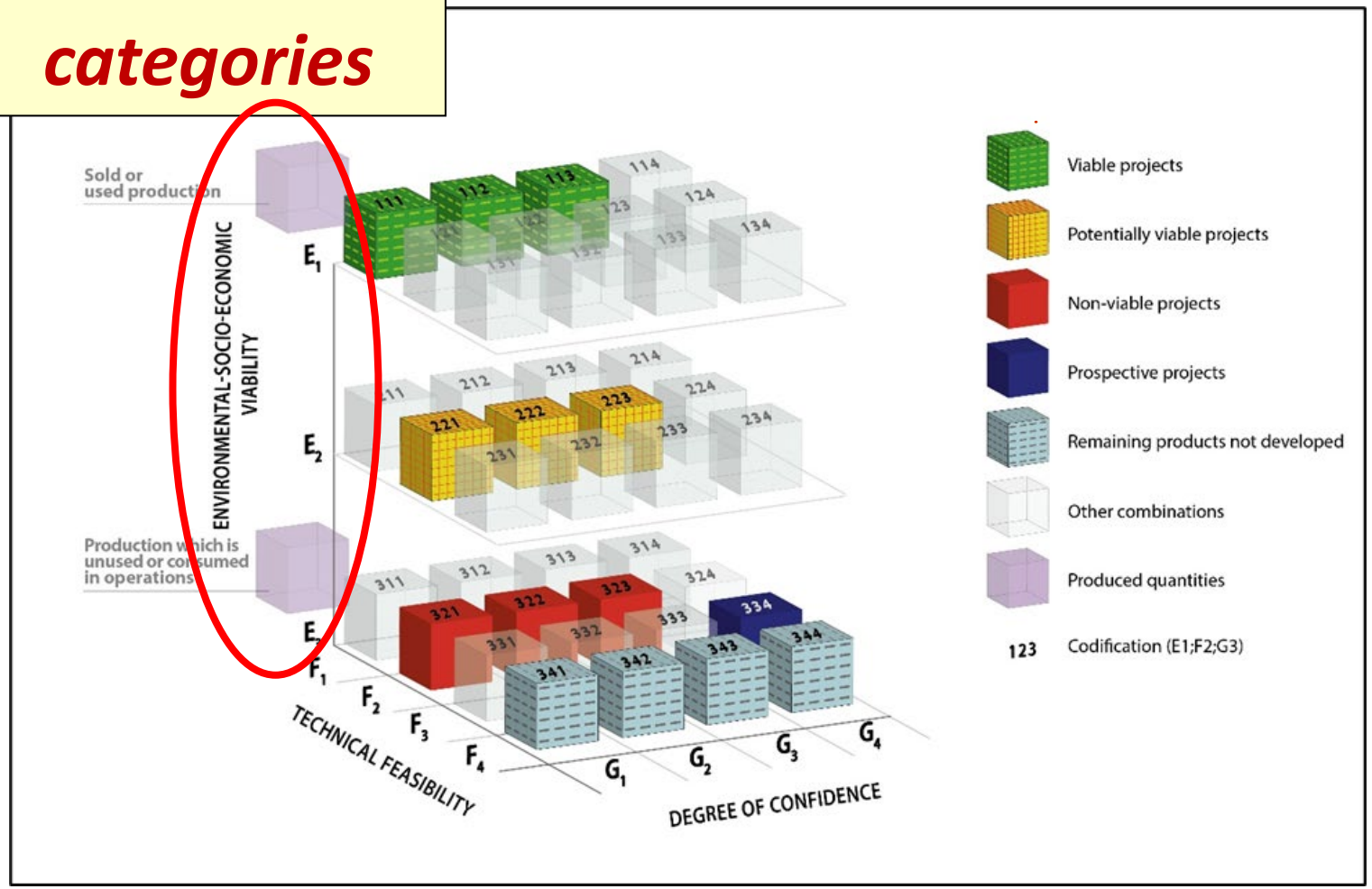
F axis categories

G axis categories

Category definitions

E axis

E axis categories



Category definitions

E axis

- Degree of favourability of environmental social and economic conditions in establishing the viability of the project
- Includes consideration of market prices and relevant legal, regulatory, social, environmental and contractual conditions
- E1, E2 and E3 categories
- E1 is “best”
- Definitions should always be read in conjunction with supporting explanation

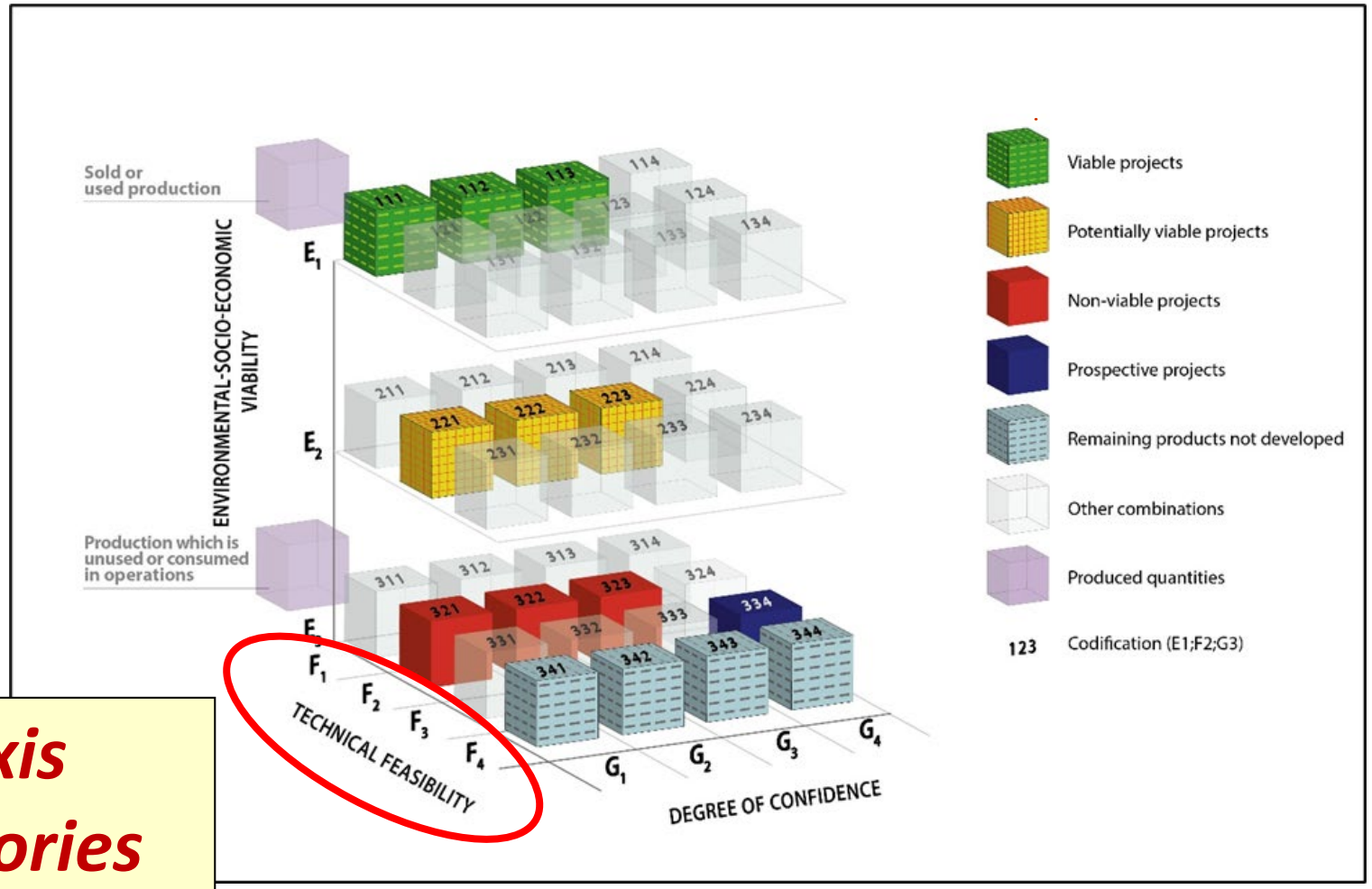
Category definitions

E axis

Category	Definition
E1	Development and operation are confirmed to be environmentally-socially-economically viable.
E2	Development and operation are expected to become environmentally-socially-economically viable in the foreseeable future.
E3	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.

Category definitions

F axis



F axis categories

Category definitions

F axis

- Maturity of technology, studies and commitments necessary to implement the project
- These projects range from early conceptual studies through to a fully developed project that is producing
- F1, F2 and F3 and F4 categories
- F1 is “best”
- Definitions should always be read in conjunction with supporting explanation

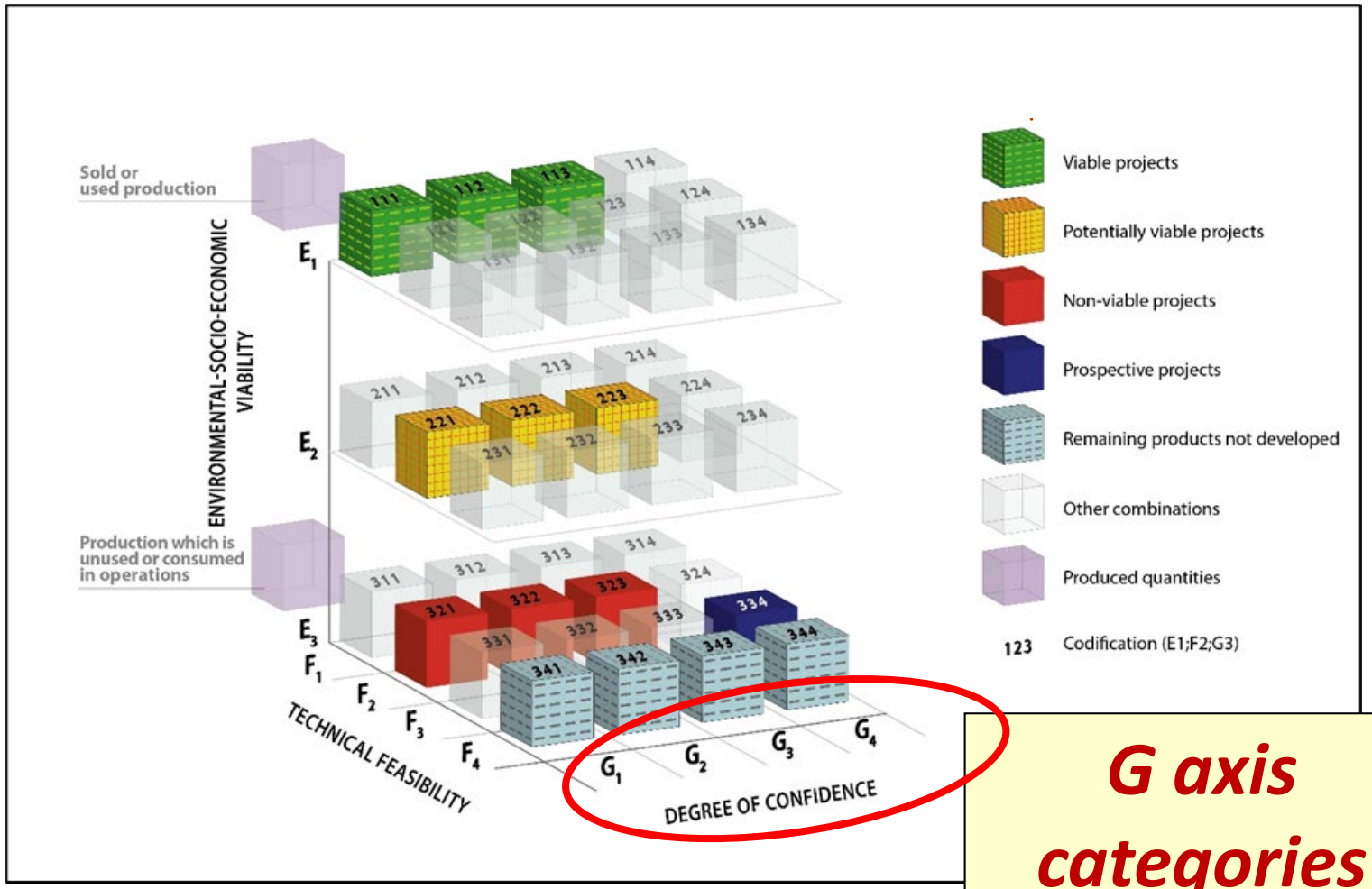
Category definitions

F axis

Category	Definition
F1	Technical feasibility of a development project has been confirmed.
F2	Technical feasibility of a development project is subject to further evaluation.
F3	Technical feasibility of a development project cannot be evaluated due to limited technical data.
F4	No development project has been identified.

Category definitions

G axis



G axis categories

Category definitions

G axis

- Degree of confidence in the estimate of the quantities of products from the project
- Generally defined as discrete increments for solids (G1, G2, G3), but often defined as scenarios for fluids (G1, G1+G2, G1+G2+G3)
- G1, G2, G3 and G4 categories
- G1 is “highest confidence”
- Definitions should always be read in conjunction with supporting explanation

Category definitions

G axis

Category	Definition
G1	Product quantity associated with a project that can be estimated with a high level of confidence.
G2	Product quantity associated with a project that can be estimated with a moderate level of confidence.
G3	Product quantity associated with a project that can be estimated with a low level of confidence.
G4	Product quantity associated with a Prospective Project, estimated primarily on indirect evidence.

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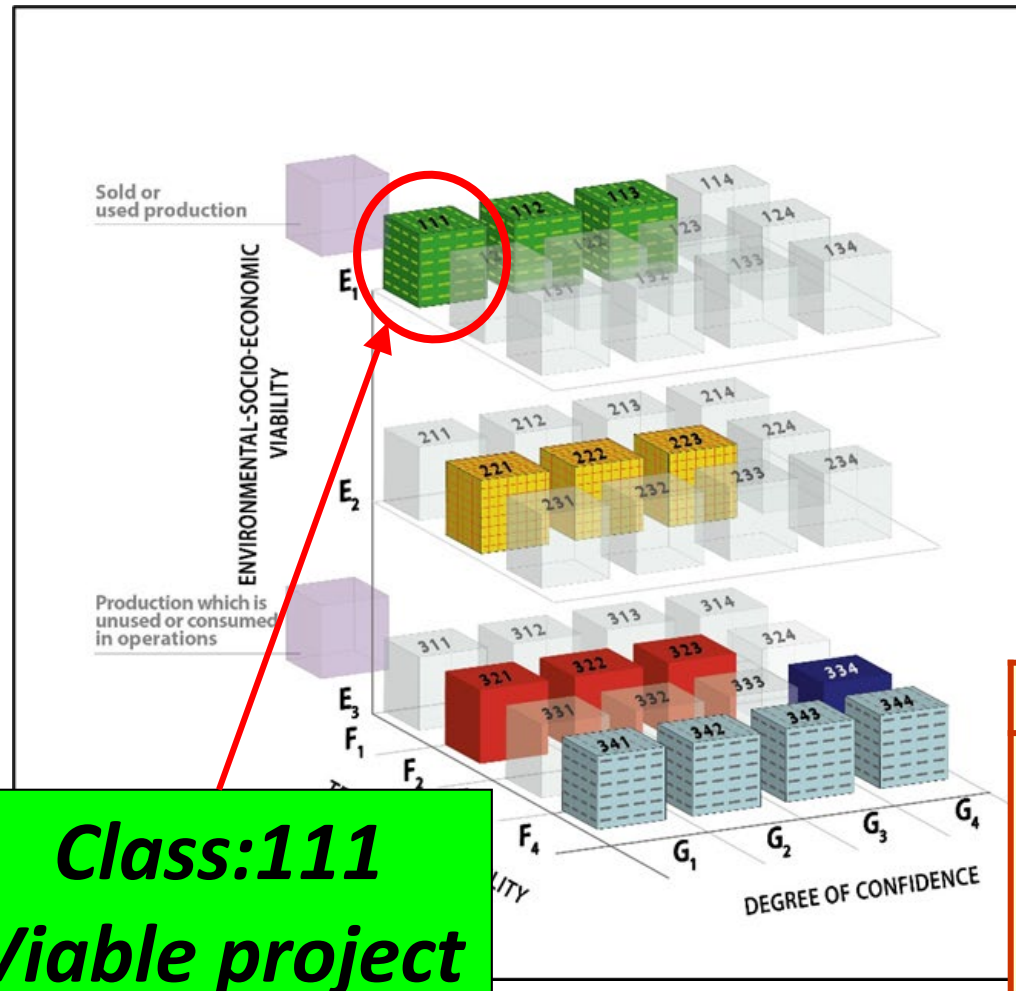
How it works



Class:111
Viable project

Category	Definition
E1	Development and operation are confirmed to be environmentally-socially-economically

Category	Definition
F1	Technical feasibility of a development project has been confirmed.

Category	Definition
G1	Product quantity associated with a project that can be estimated with a high level of confidence.

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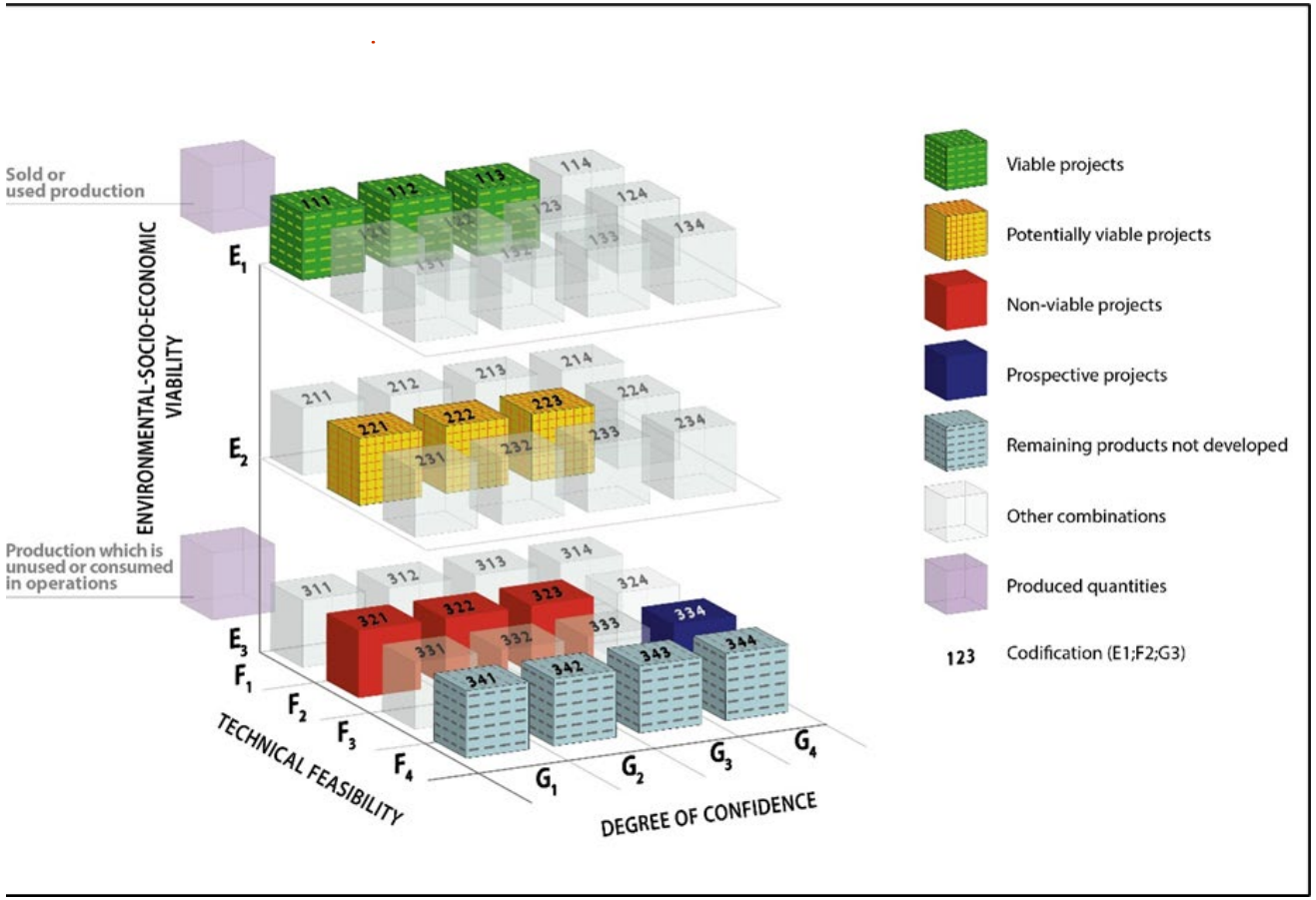
2D or 3D representation

Total Products	Produced	Sold or used production			
		Production which is unused or consumed in operations[a]			
		Class	Minimum Categories		
			E	F	G[b]
	The project's environmental-socio-economic viability and technical feasibility has been confirmed	Viable Projects[c]	1	1	1, 2, 3
	The project's environmental-socio-economic viability and/or technical feasibility has yet to be confirmed	Potentially Viable Projects[d]	2[e]	2	1, 2, 3
		Non-Viable Projects[f]	3	2	1, 2, 3
	Remaining products not developed from identified projects [g]		3	4	1, 2, 3
	There is insufficient information on the source to assess the project's environmental-socio-economic viability and technical feasibility	Prospective Projects	3	3	4
	Remaining products not developed from prospective projects [g]		3	4	4



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Sub-categories and classes provide more resolution

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[b]	2.1	1, 2, 3
			Development On Hold	2	2.2	1, 2, 3
		Non-Viable Projects	Development Unclarified	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

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Summary

- **UNFC-2019 is a generic, principles-based system**
  - Applicable to solid minerals, anthropogenic resources, and a wide range of renewable and non-renewable resources
- **Based on three fundamental criteria**
  - Environmental-socio-economic viability
  - Technical feasibility
  - Degree of confidence
- **Each criterion is sub-divided into 3 or 4 defined categories**
  - Optional use of sub-categories for more granularity
- **Classes are defined by a combination of a single category or sub-category for each of the three criteria**
  - Numerical category or sub-category for E, for F and for G
  - Always quoted in same sequence: E – F – G
  - Axis letters can be dropped: e.g. Class 221

Thank you!

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UNECE

Date 01 I 02 I 2022, Geneva