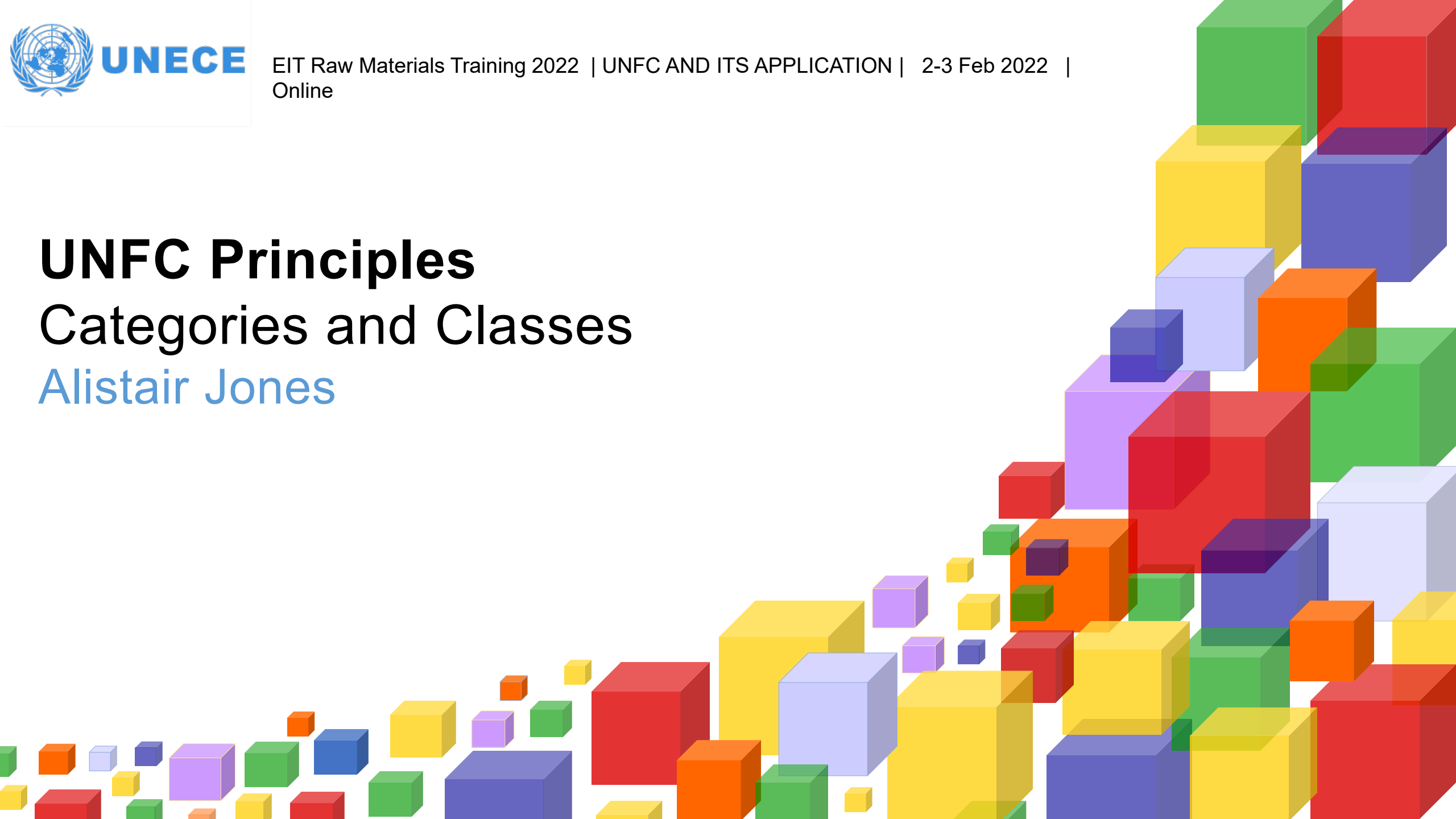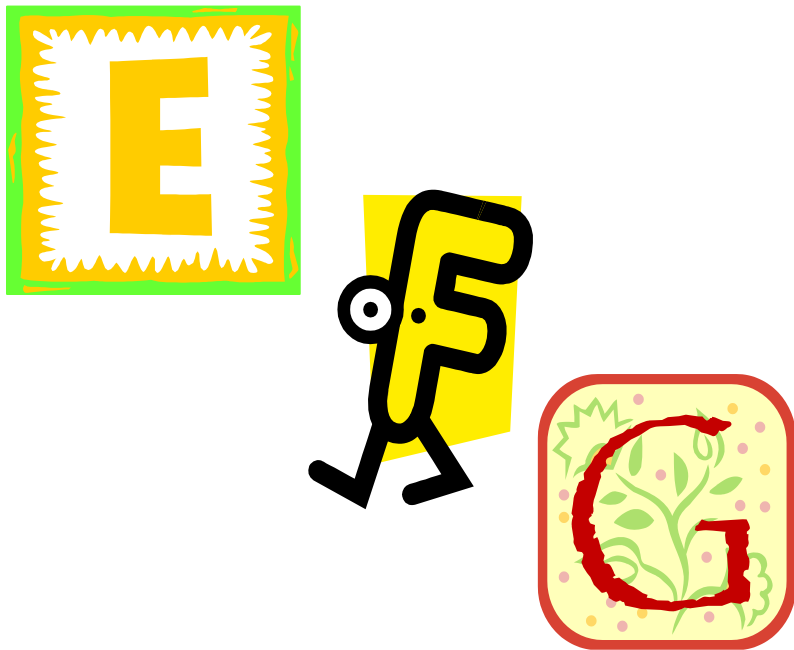# UNFC Principles
Categories and Classes
Alistair Jones

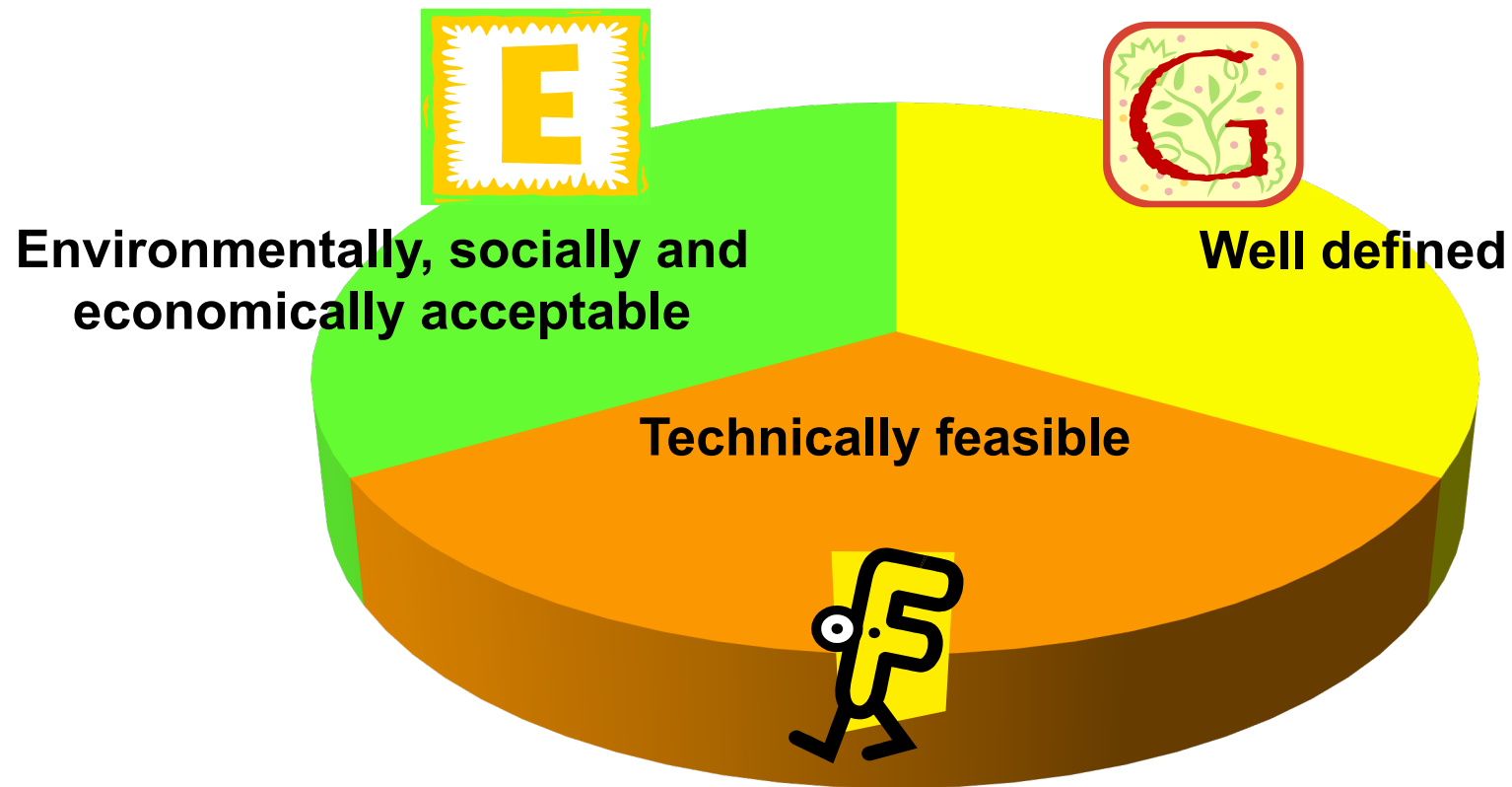# Classification Framework
3 criteria

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

Why 3 criteria?

E

G

Environmentally, socially and economically acceptable

Well defined

Technically feasible
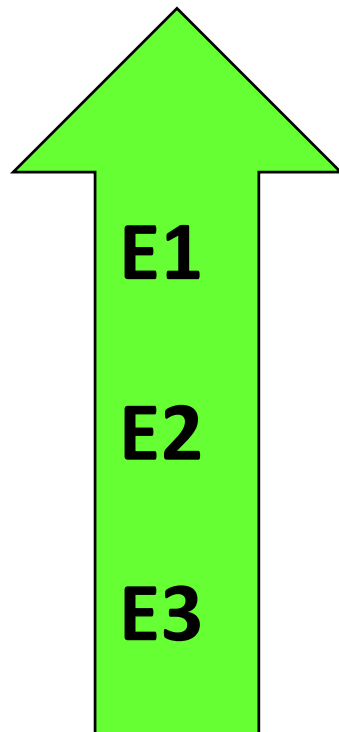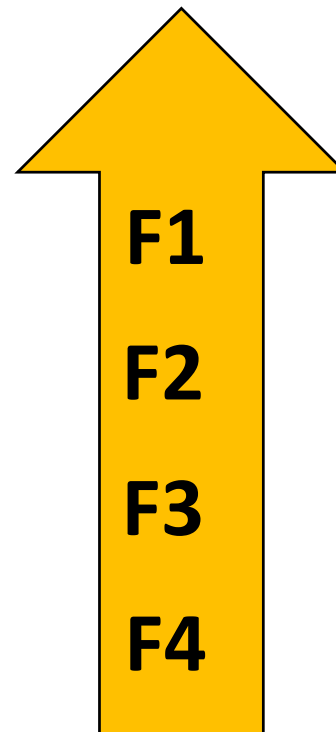
F

Project Maturity and Confidence in Estimates

Coding based on the 3 criteria

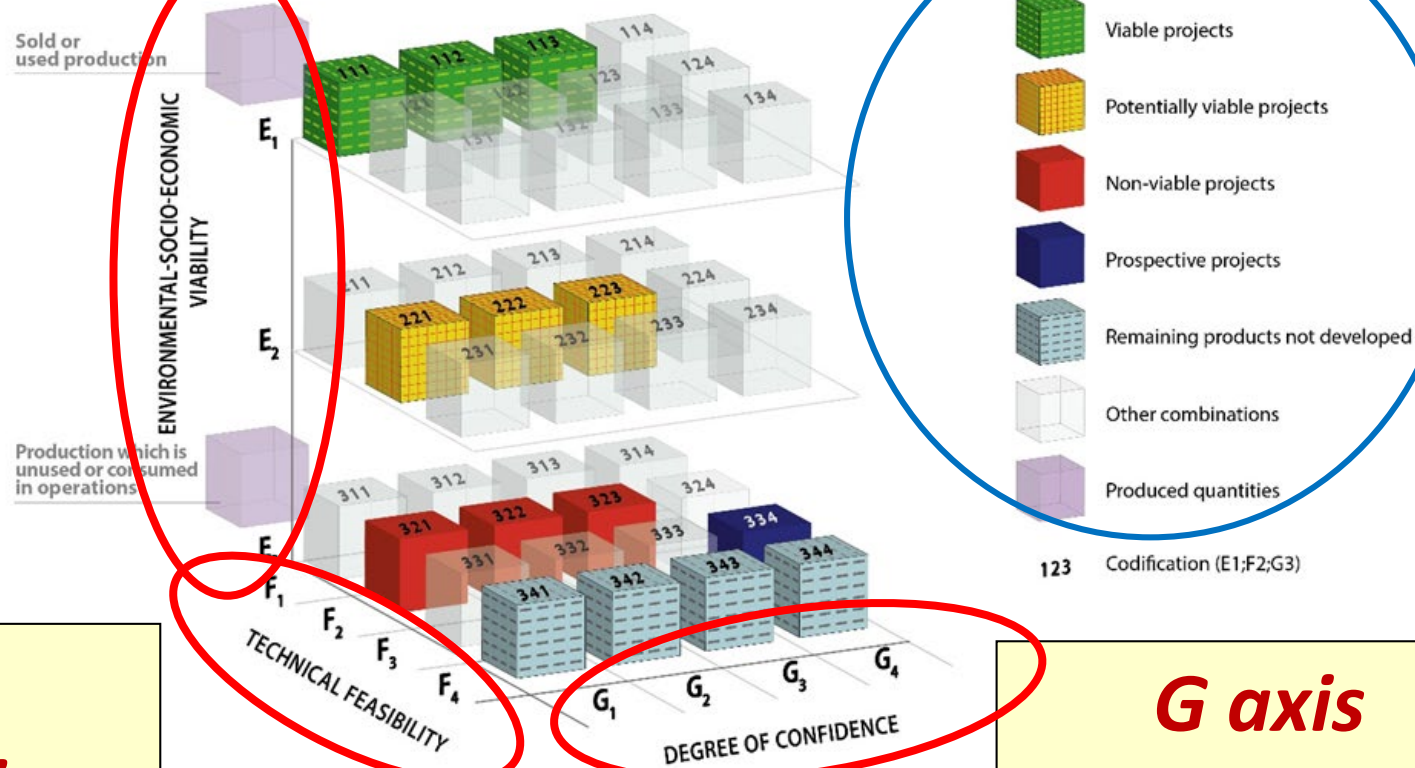Environmental-socio-economic feasibility

Technical feasibility

Degree of confidence

E1

E2

E3

F1

F2

F3

F4

G1

G2

G3

G4
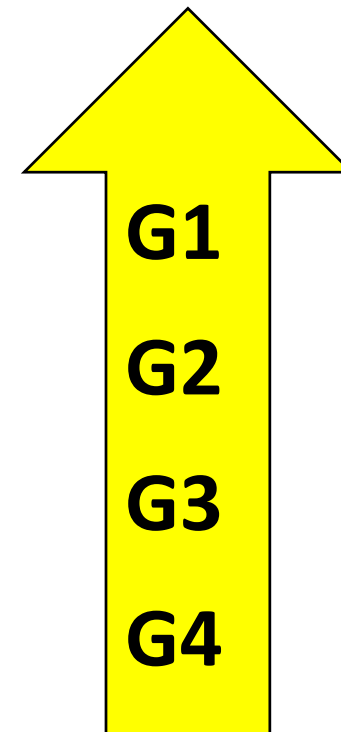
Categories and Classes
Codification

E axis categories

F axis categories

G axis categories

Classes
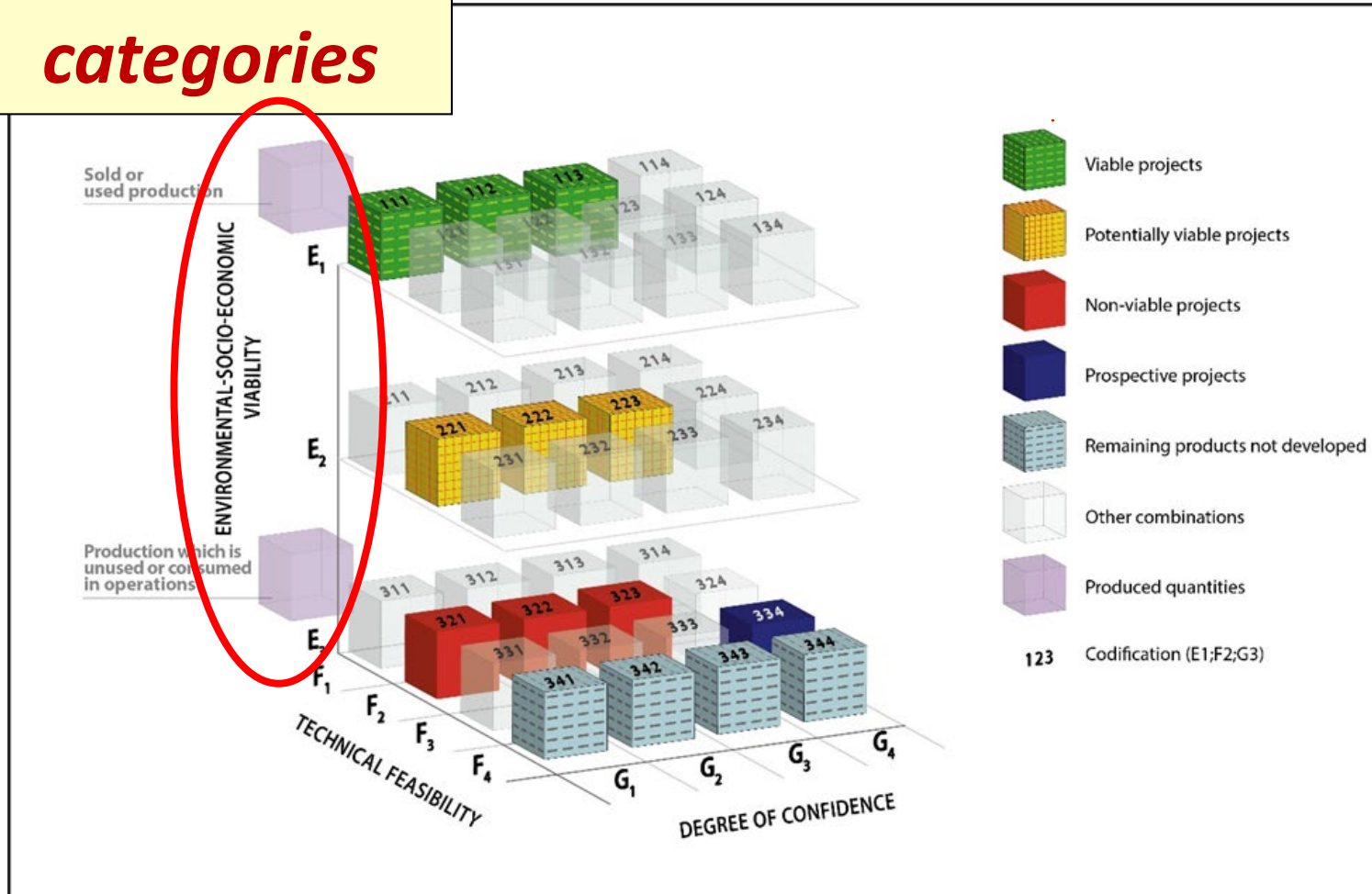
E axis category definitions

Degree of favourability of environmental, social and economic conditions in establishing viability

- **Includes consideration of market prices and relevant legal, regulatory, social, environmental and contractual conditions**
- **E1 is "best"**

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.

Definitions should always be read in conjunction with supporting explanation (see UNFC 2019)
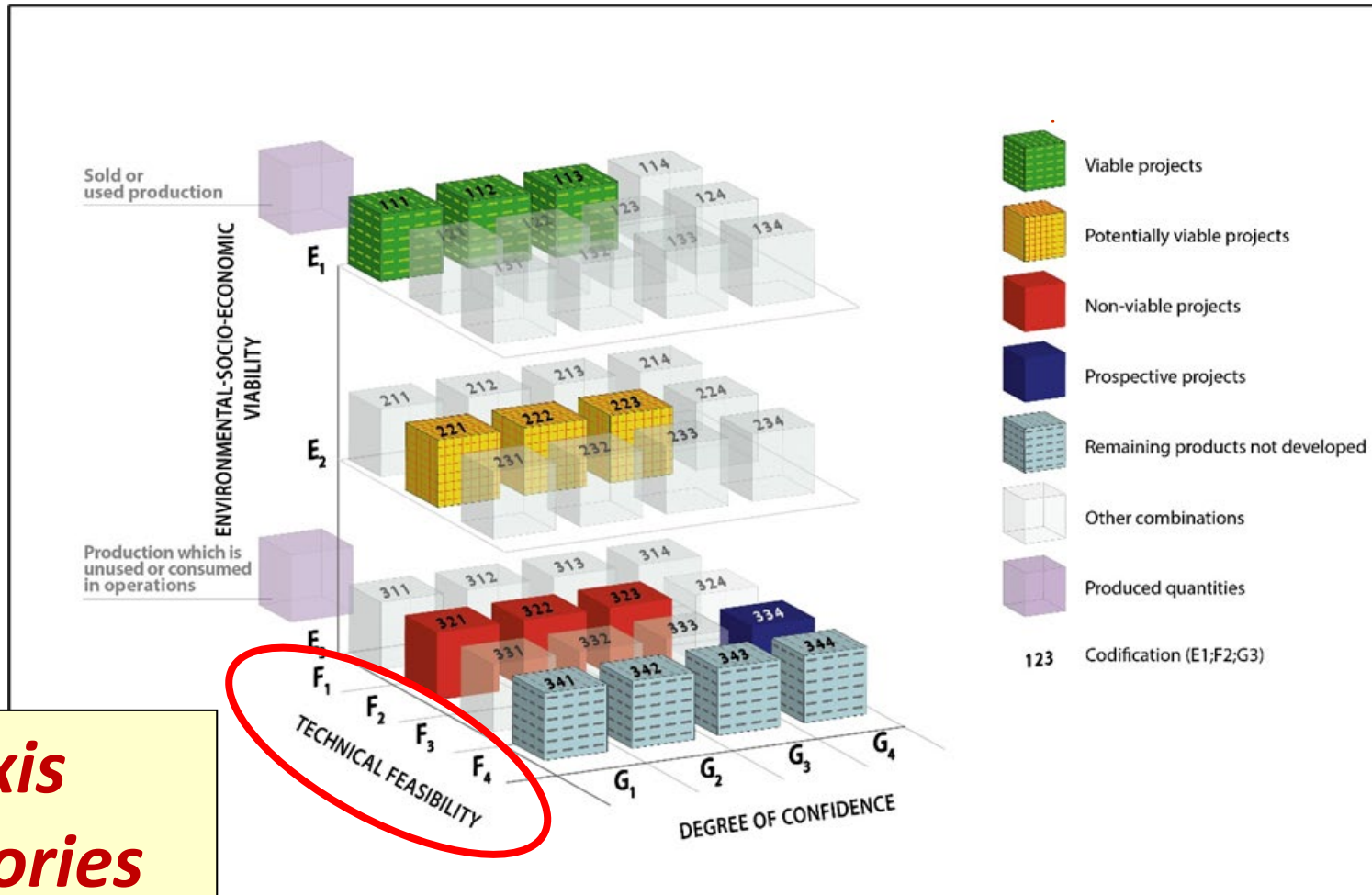
F axis categories

F axis category definitions
Maturity of technology, studies and commitments necessary to implement the project

- **Projects range from early conceptual studies through to a fully developed project that is producing**
- **F1 is "best"**

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.

Definitions should always be read in conjunction with supporting explanation (see UNFC 2019)

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G axis categories

G axis category definitions
Degree of confidence in the estimate of the quantities of products from the project

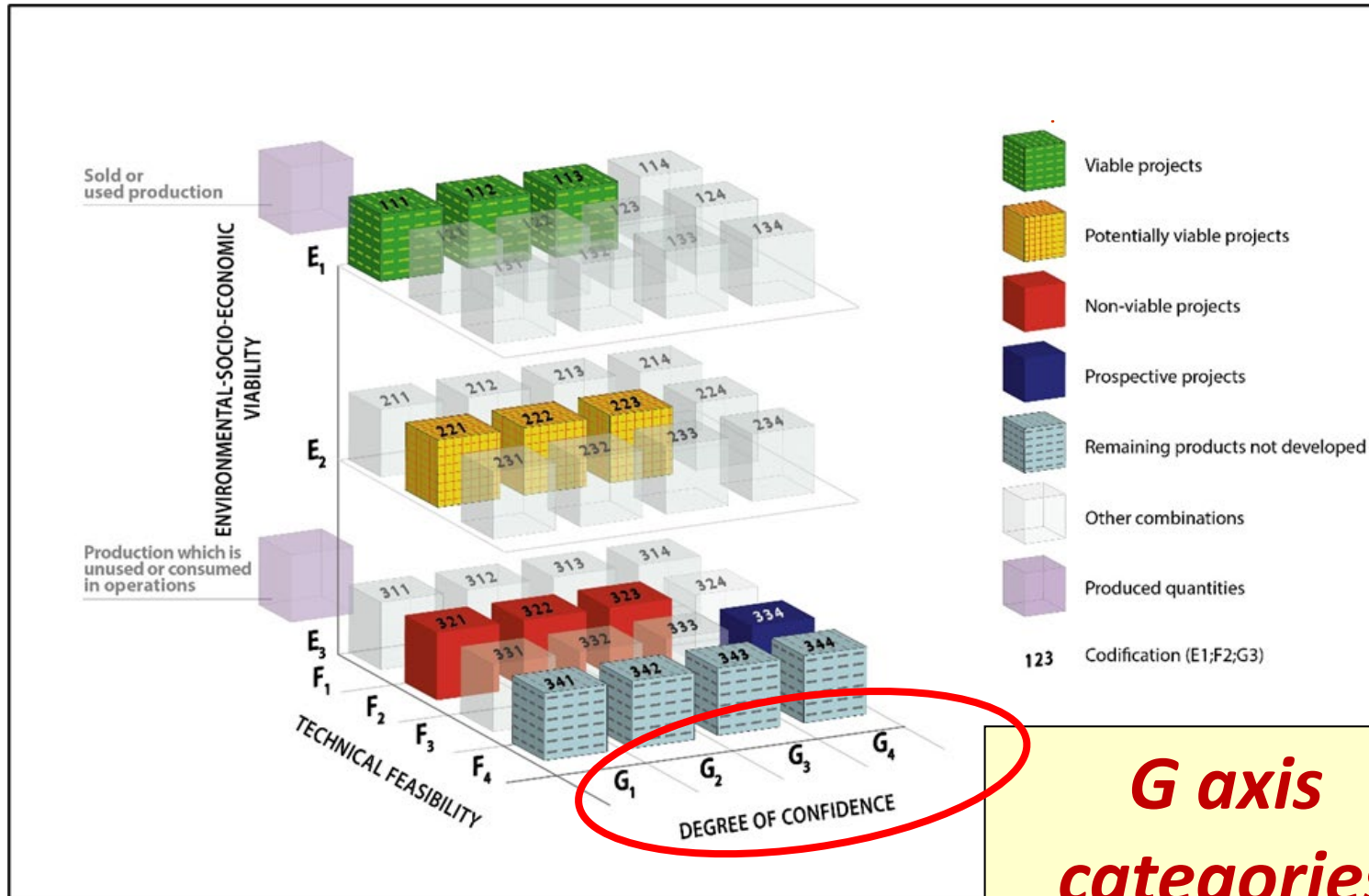- **Projects range from early conceptual studies through to a fully developed project that is producing**
- **G1 is "highest confidence"**

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.

Definitions should always be read in conjunction with supporting explanation (see UNFC 2019)

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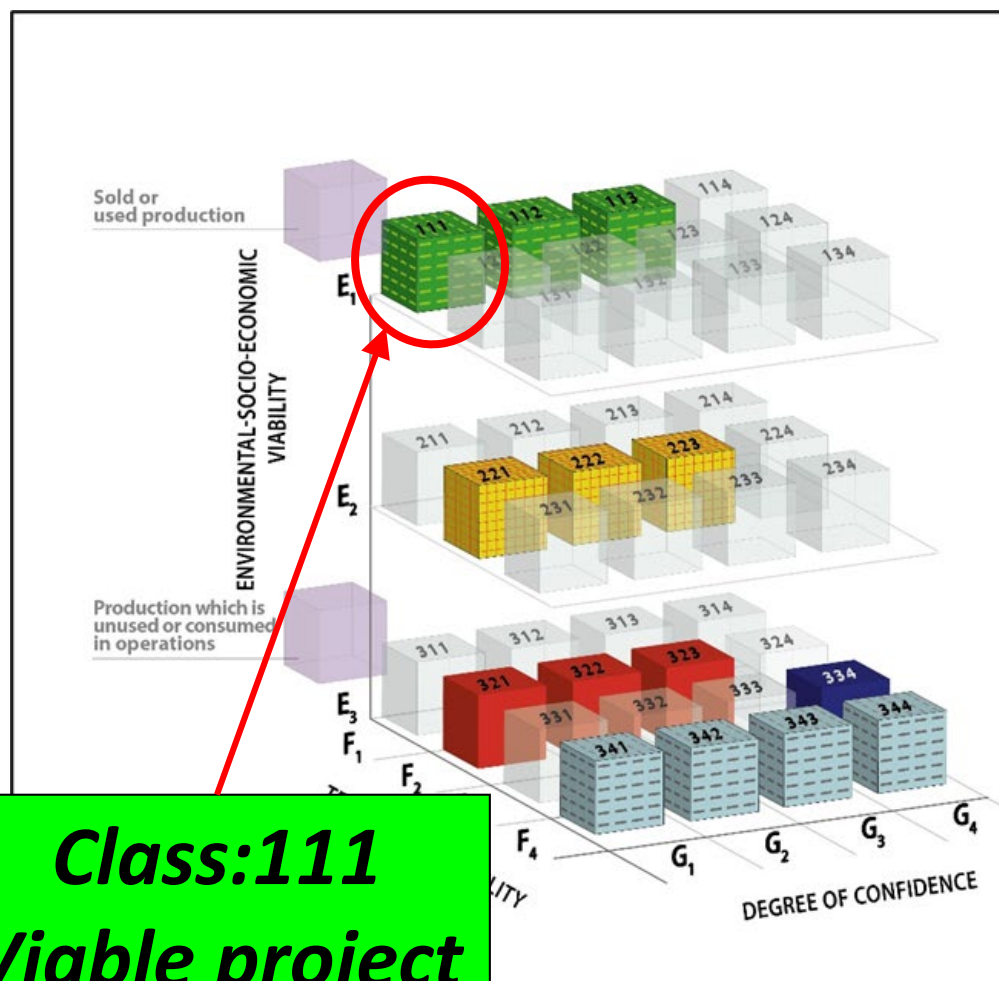
Class:111 Viable project

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

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

(Left side vertical label: **Total Products**)
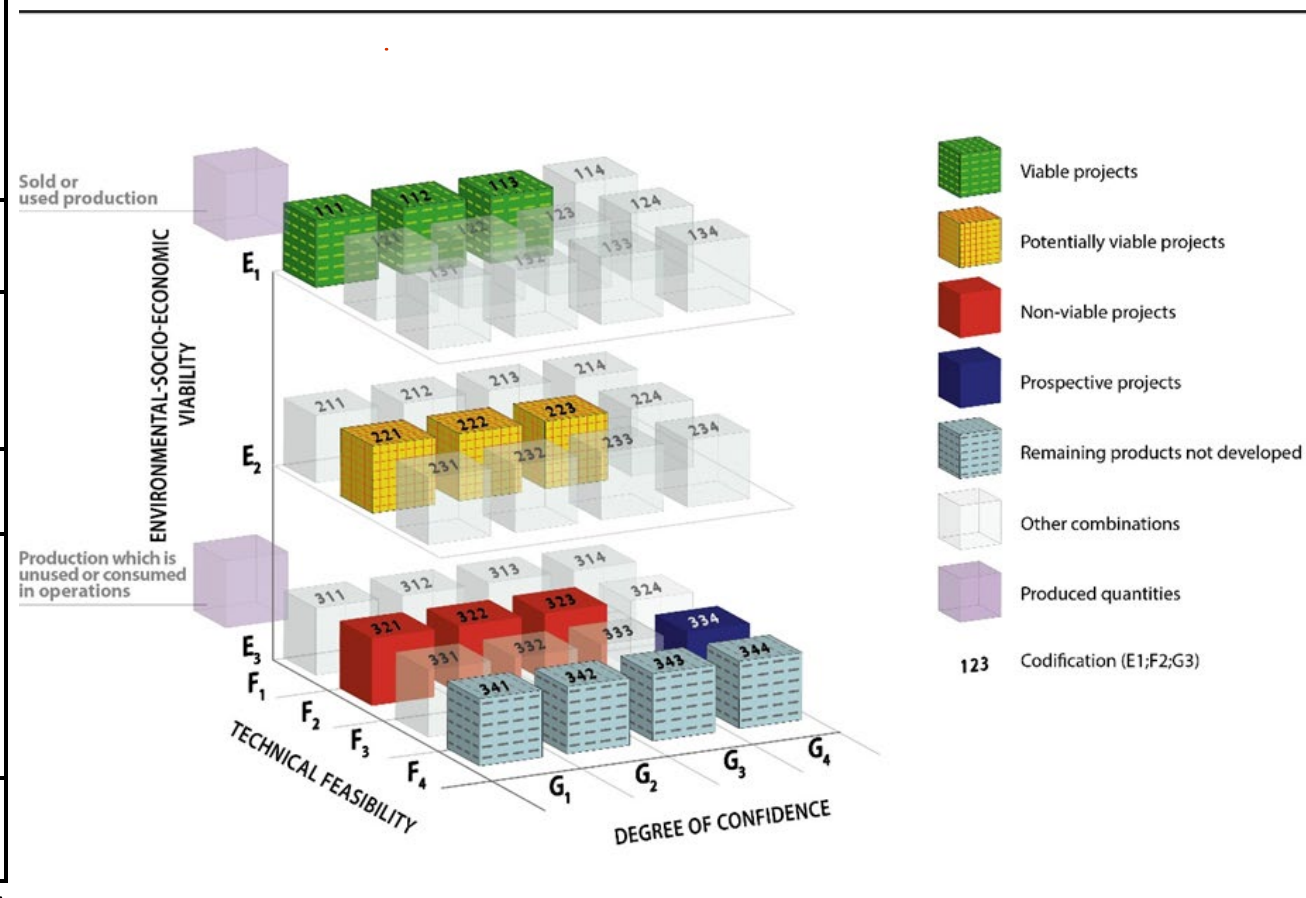
Refer to UNFC (2019) Fig 2, for important explanatory notes

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Sub-categories and classes provide more resolution

Refer to UNFC (2019) Fig 3, for important explanatory notes

Total Products		Class	Sub-class	Categories		
				E	F	G
	Produced	Sold or used production				
		Production which is unused or consumed in operations				
	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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- **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
  - Numerical category or sub-category for E, for F and for G
  - Axis letters can be dropped: e.g. Class 221
- **Consistent classification depends on careful application of category definitions**
  - Definitions should always be read in conjunction with supporting explanation

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Thank you!

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Date 02 I 02 I 2022, Geneva