

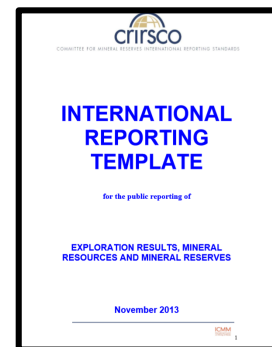
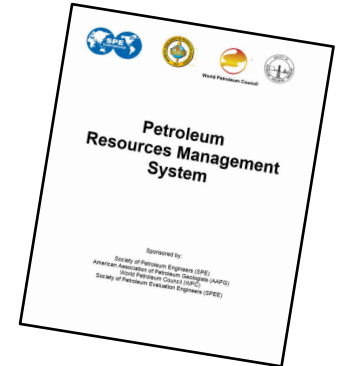
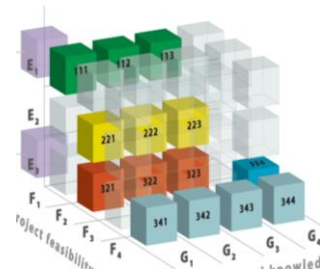
Relationship between UNFC and classifications bridged to it

Mapping, bridging and alignment


Bridging UNFC and another system

UNFC is aligned to major international and national classification systems.

- Mapping another systems to UNFC
- Develop Bridging Document (BD) to explain the relationship between UNFC and another classification system.
- Alignment of systems when BD is endorsed by EGRC

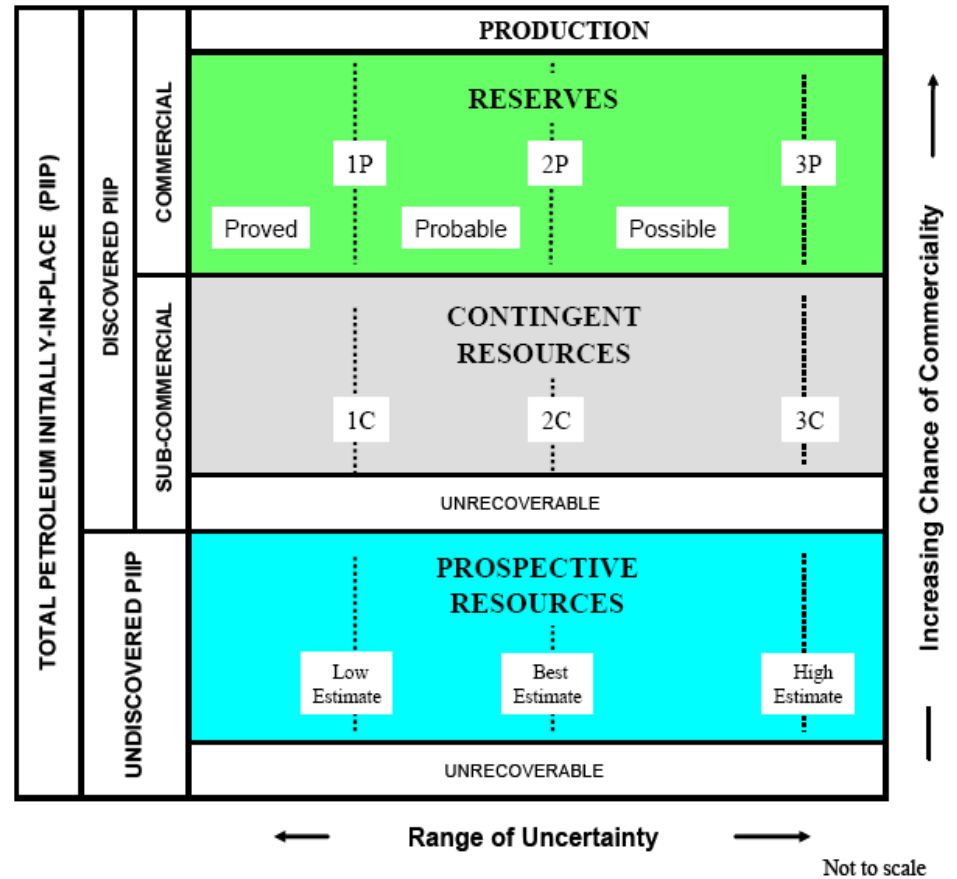


PRMS

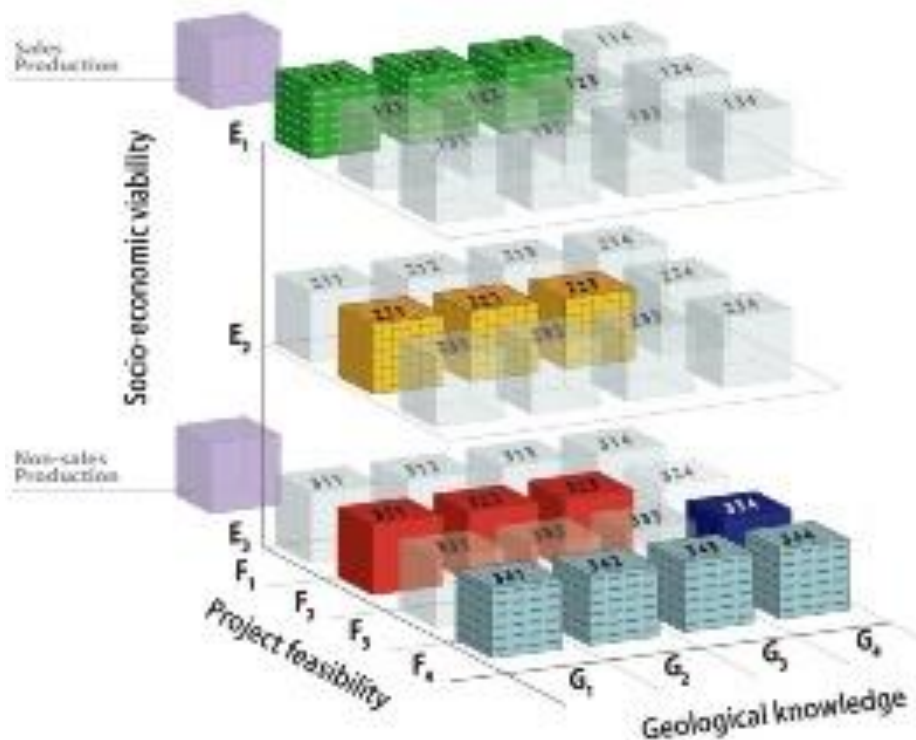


Petroleum Resources Management System
2007

Sponsored by:
 Society of Petroleum Engineers (SPE)
 American Association of Petroleum Geologists (AAPG)
 World Petroleum Council (WPC)
 Society of Petroleum Evaluation Engineers (SPEE)



Mapping PRMS to UNFC



Project Maturity Sub-classes	
PRODUCTION	
RESERVES	On Production
	Approved for Development
	Justified for Development
CONTINGENT RESOURCES	Development Pending
	Development Unclassified or On Hold
	Development not Viable
UNRECOVERABLE	
PROSPECTIVE RESOURCES	Prospect
	Lead
	Play
UNRECOVERABLE	
Range of Uncertainty	
↔	

Not to scale

Direct mapping of UNFC G-axis and PRMS range of Uncertainty

PRMS Categories		UNFC-2009 Categories
Reserves (Incremental)	Proved	G1
	Probable	G2
	Possible	G3
Reserves (Scenario)	Proved (1P)	G1
	Proved plus Probable (2P)	G1+G2
	Proved plus Probable (2P) plus Possible (3P)	G1+G2+G3
Contingent Resources	Low Estimate (1C)	G1
	Best Estimate (2C)	G1+G2
	High Estimate (3C)	G1+G2+G3
Prospective Resources	Low Estimate	G4.1
	Best Estimate	G4.1+G4.2 (=G4)
	High Estimate	G4.1+G4.2+G4.3

Mapping PRMS sub-classes to UNFC E-F matrix of sub-categories

	F1.1	F1.2	F1.3	F2.1	F2.2	F2.3	F3.1	F3.2	F3.3	F4
E1.1										
E1.2										
E2										
E3.1										
E3.2										
E3.3										

UNFC E - F matrix

Discover.	Reserves	On Production		1	
		Approved for Development		2	
		Justified for Development		3	
	Contingent Resources	Development Pending		4	
		Development Unclarified or On Hold	On Hold	5	
			Unclarified	6	
		Development Not Viable		7	
	Unrecoverable			11	
	Undiscovered	Prospective Resources	Prospect		8
			Lead		9
			Play		10
Unrecoverable			11		
Special Cases	Defined but not classified in PRMS		12		
	Less Common Mappings				

PRMS mapped to UNFC

	F1.1	F1.2	F1.3	F2.1	F2.2	F2.3	F3.1	F3.2	F3.3	F4
E1.1	1	2	3	4						
E1.2	1	2	3							
E2			4	4	5					
E3.1	12	12	12	12	12	12				
E3.2			6	6	6		8	9	10	
E3.3			7	7	7	7				11

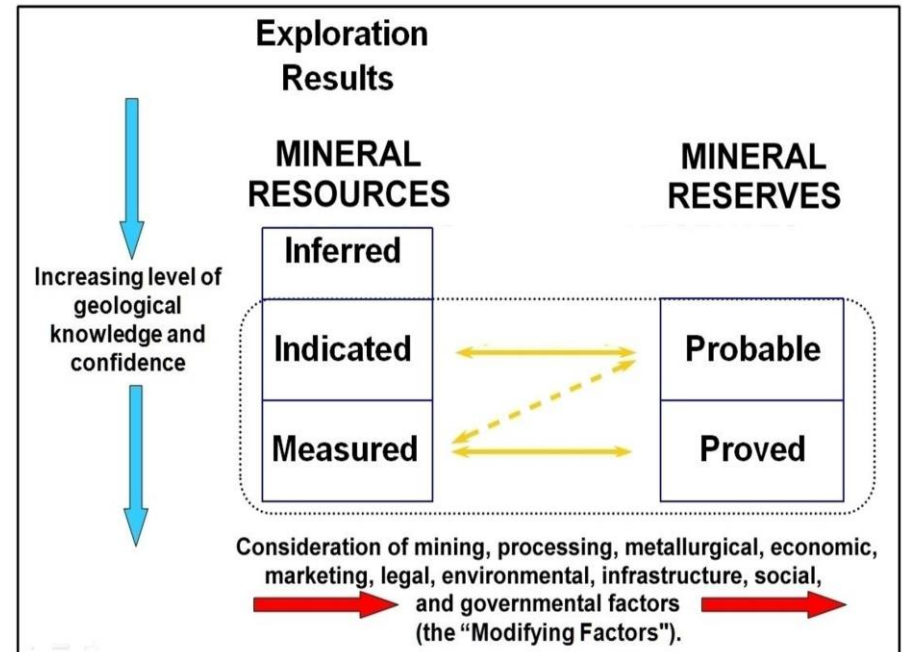
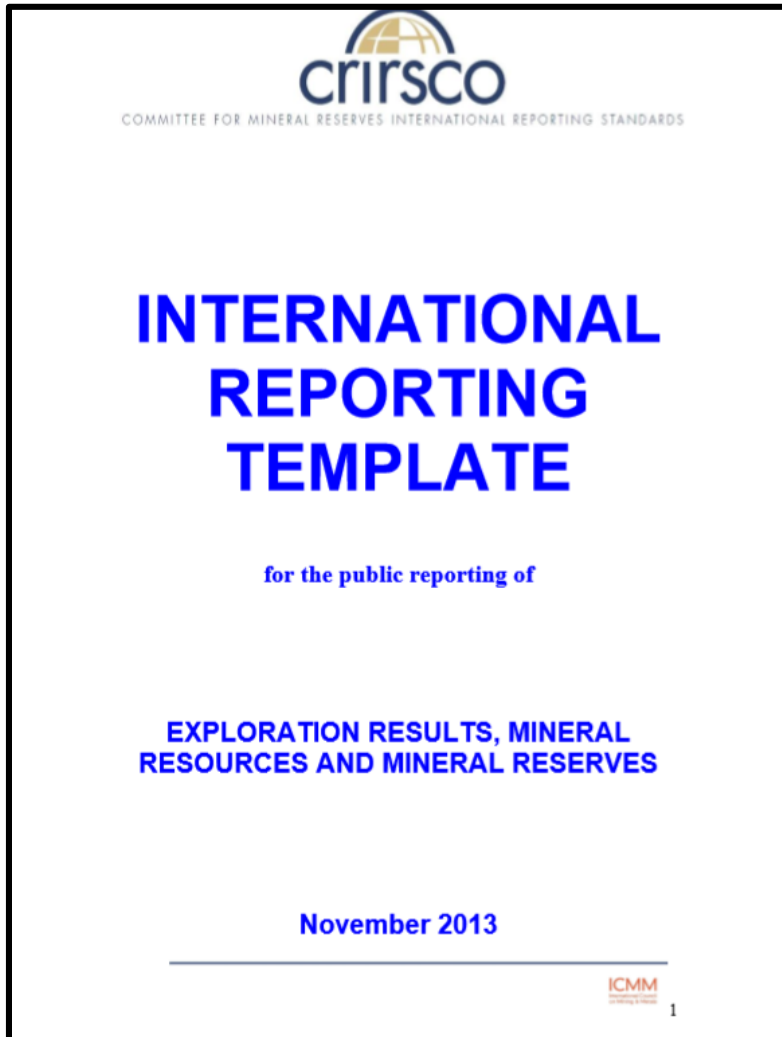
From PRMS to UNFC:
One-to-many relationship,

From UNFC to PRMS:
many-to-one relationship

Non-sales production
not in PRMS

Discovered	Reserves	On Production		1
		Approved for Development		2
		Justified for Development		3
	Contingent Resources	Development Pending		4
		Development Unclarified or On Hold	On Hold	5
			Unclarified	6
		Development Not Viable		7
Unrecoverable			11	
Undiscovered	Prospective Resources	Prospect		8
		Lead		9
		Play		10
	Unrecoverable			11
Special Cases		Defined but not classified in PRMS		12
		Less Common Mappings		

The CRIRSCO Template (2013)



Direct mapping of UNFC G-axis and CRIRSCO degree of confidence

CRIRSCO Template		UNFC-2009 "minimum" Categories			UNFC-2009 Class
Mineral Reserve	Proved	E1	F1	G1	Commercial Projects
	Probable			G2	
Mineral Resource	Measured	E2	F2	G1	Potentially Commercial Projects
	Indicated			G2	
	Inferred			G3	
Exploration Results		E3	F3	G4	Exploration Projects

Detailed mapping of the E and F axes

	F1.1	F1.2	F1.3	F2.1	F2.2	F2.3	F3	F4
E1.1	1	2	3	4				
E1.2	1	2	3					
E2			4	4	5			
E3.1	12	12	12	12	12	12		
E3.2			6	6	6		8	
E3.3			7	7	7	7		11

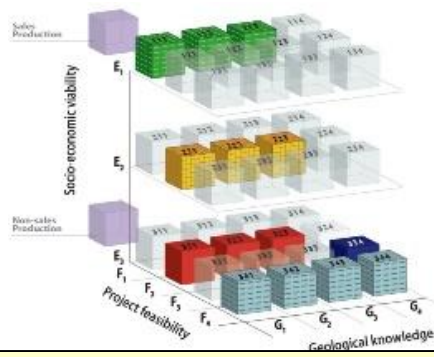
		UNFC-2009 Sub-Classes	
		1	On Production
		2	Approved for Development
		3	Justified for Development
Mineral Reserve		4	Development Pending
		5	Development On Hold
Mineral Resource		6	Development Unclassified
Inventory (not defined in Template)		7	Development Not Viable
		11	Additional Quantities in Place
Exploration Results		8	
Special Cases	Classification not in Template	12	
	Less Common Mappings		

From CRIRSCO to UNFC:
One-to-many relationship,

From UNFC to CRIRSCO:
many-to-one relationship

Non-sales
production not
in CRIRSCO

Quantities
remaining in-
place not in
CRIRSCO



Classification Framework and Category Definitions

Generic Specifications

Bridging Document

Bridging Document

Bridging Document

**Petroleum Specifications
PRMS**

**Solid Mineral Specifications
CRIRSCO**

Other Aligned Systems

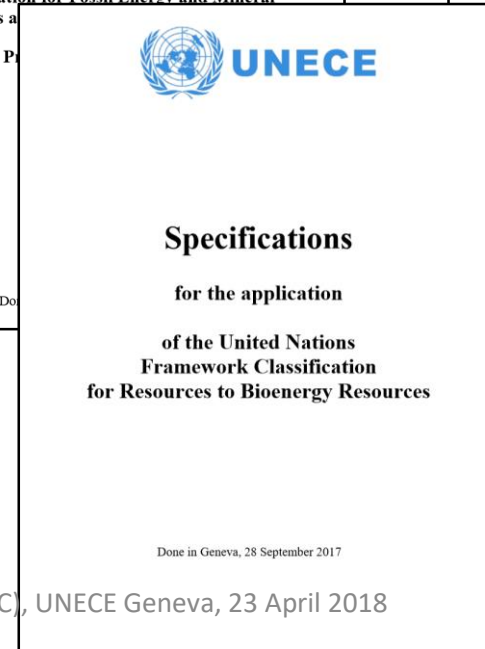
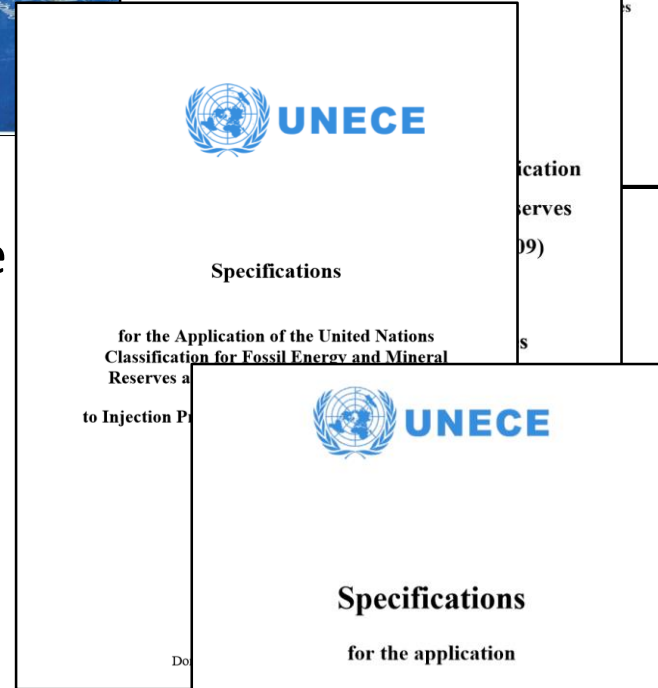
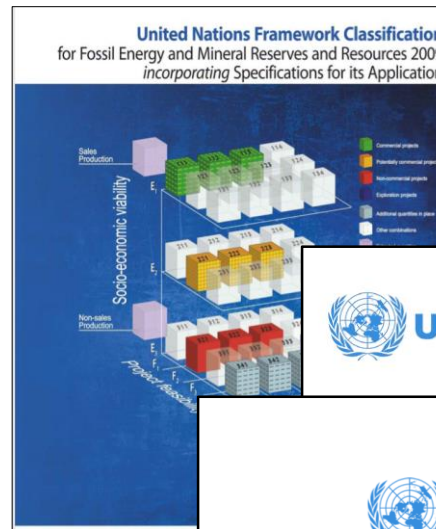
Other Classifications bridged to UNFC

- Russian Federation Oil and Gas Classification (2013)
- NEA/IAEA 'Red Book'
- Chinese Solid Minerals
- Chinese Petroleum

Specifications

- UNFC Generic Specifications
- Renewable Energy (generic)
- Geothermal Energy Resources
- Injection Projects for Geological Storage
- Bioenergy Resources
- Anthropogenic Resources (in coming)

- Commodity specific Specifications
 - SPE PRMS (Petroleum)
 - CRIRSCO Template (Minerals)



Guidelines and Guidance notes

- [Guidance Note on Project](#)
- [Guidelines for Application of UNFC to Uranium and Thorium Resources](#)
- [Guidance Note for Evaluator Qualification](#)
- [Guidance Note on Competent Person Requirements](#)
- [Guidance for the Application of UNFC for Mineral Resources in Finland, Norway and Sweden.](#)
- [Social & environmental considerations \(draft\)](#)



Thank you

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