

An Overview of the Petroleum Resources Management System (**PRMS**) *and its Relationship to UNFC*

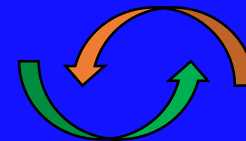
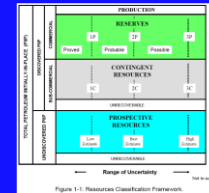
presented by Bernard Seiller

UNFC Workshop
Geneva, 25 April 2017

Topics for Discussion

- Why are definitions needed?
- Brief history of PRMS and its Goals
- Overview of PRMS
- PRMS adoption
- Relationship of PRMS to UNFC
- Questions

DEFINE

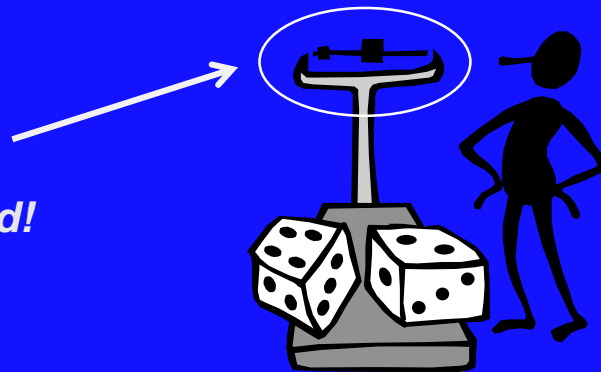


What's it all About?

Its all about predicting potentially recoverable volumes under defined conditions!

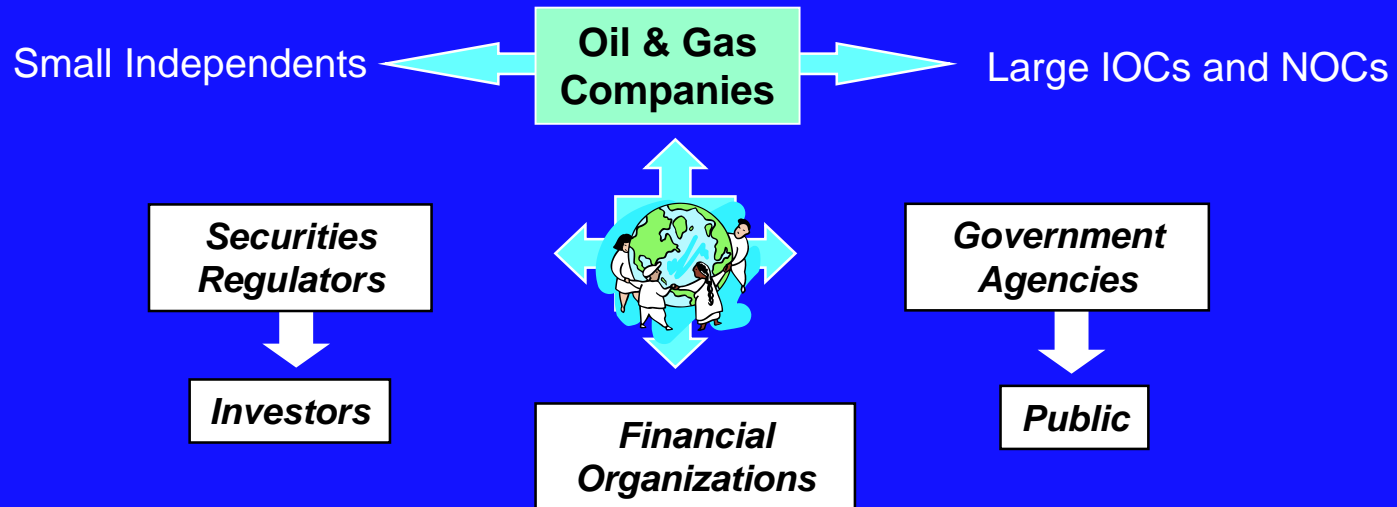
“The quantity of usable resources is not fixed but changes with progress in science, technology, and exploration and with shifts in economic conditions.” (V. McKelvey)

**We need an
international standard!**



We need consistency in communicating petroleum resource volumes with associated risk and uncertainty!

Understand all Stakeholders' Requirements



Create a Global Consensus Reference for the Industry – a “Standard”

All stakeholders require complete, consistent and reliable information on future production and associated cash flow estimates through full life recovery

Petroleum Resources Management System

Published in April 2007; maintained by SPE OGRC; co- sponsored by:



Society of Petroleum Engineers (SPE)



World Petroleum Council (WPC)



American Association of Petroleum Geologists (AAPG)



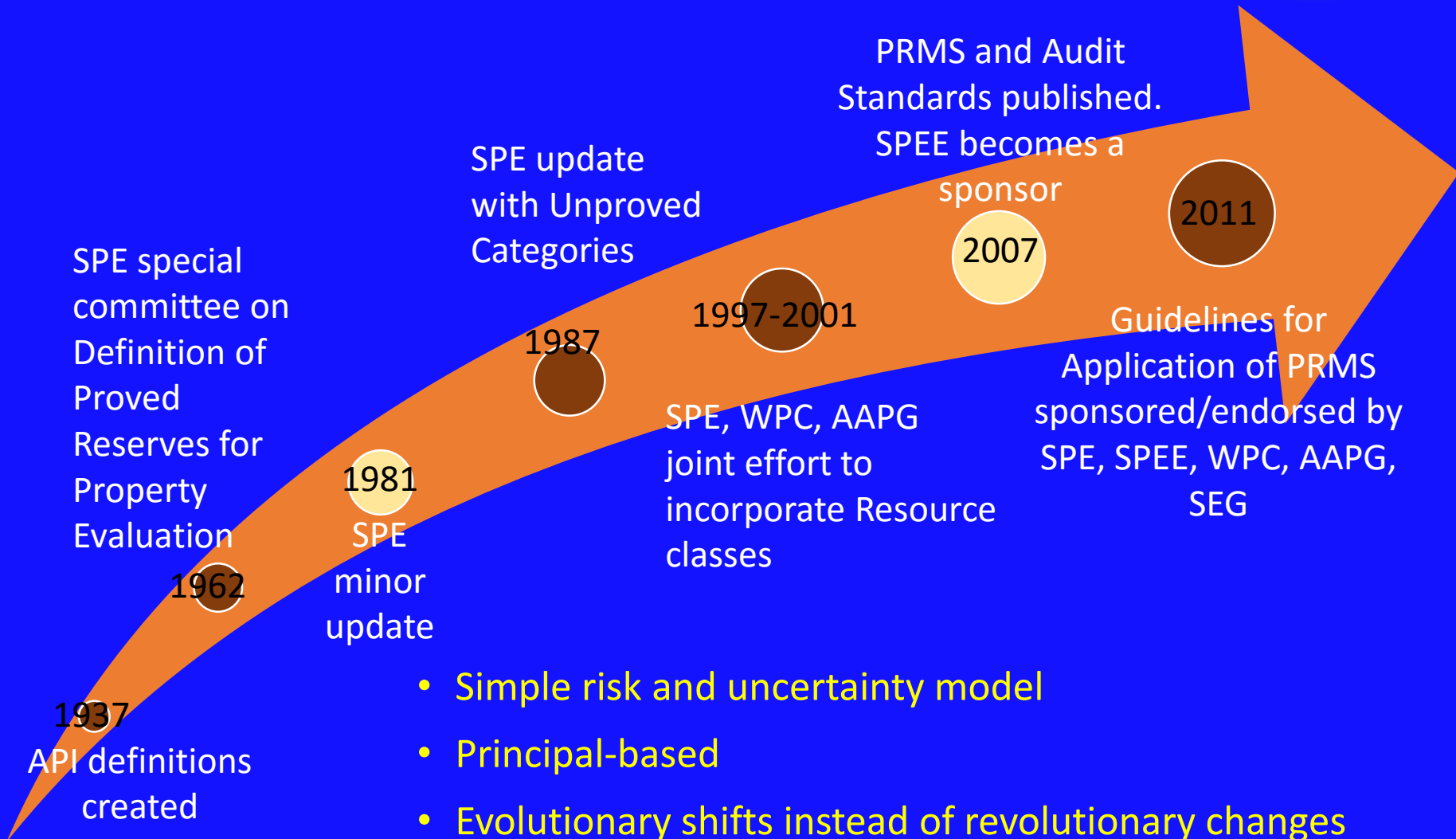
Society of Petroleum Evaluation Engineers (SPEE)

Endorsed by Society of Exploration Geophysicists (SEG)

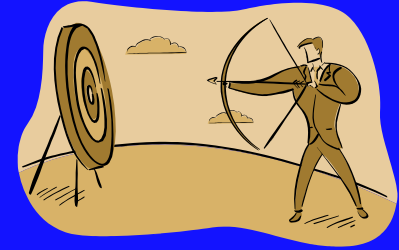


Free Download at www.spe.org

Historic Milestones

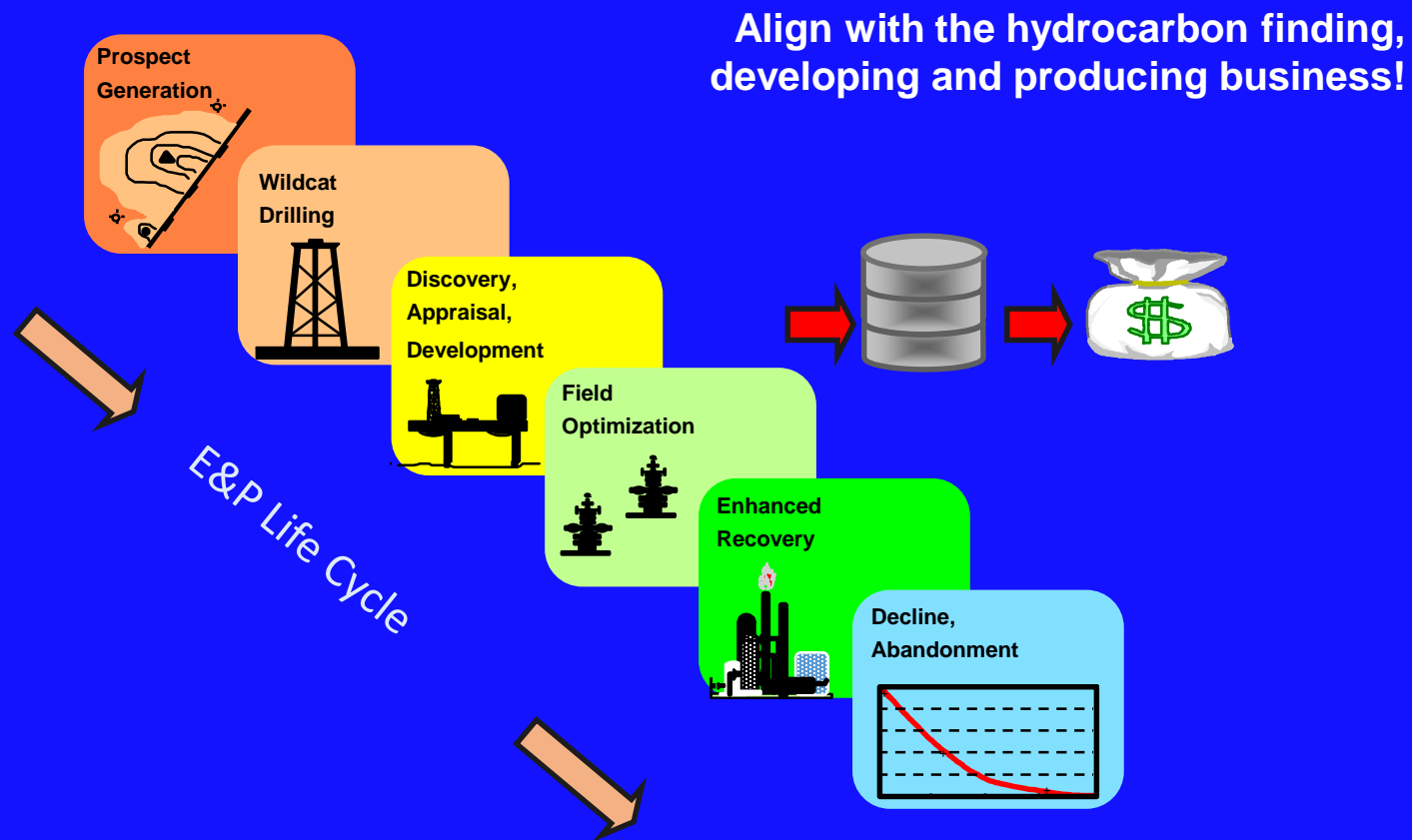


PRMS Goals



- Provide a **common reference** for the international petroleum industry, including national reporting and regulatory disclosure agencies, and to support petroleum project and portfolio management requirements
- **Improve clarity** in global communications regarding petroleum resources
- **Supplement** with industry **education** programs and **application guides**

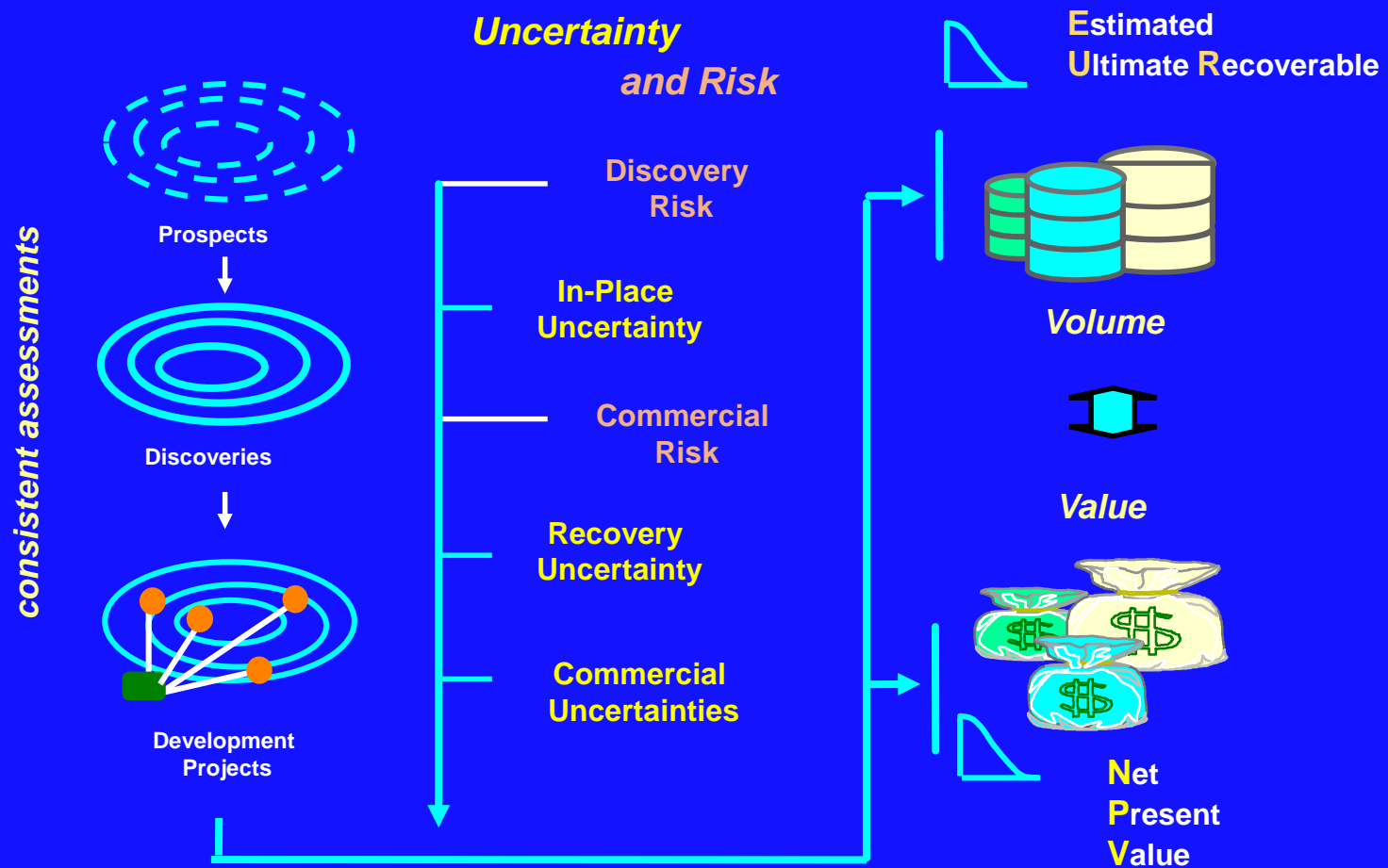
PRMS is Designed to Support Asset Management – “Cradle to Grave”



PRMS - Major Principles

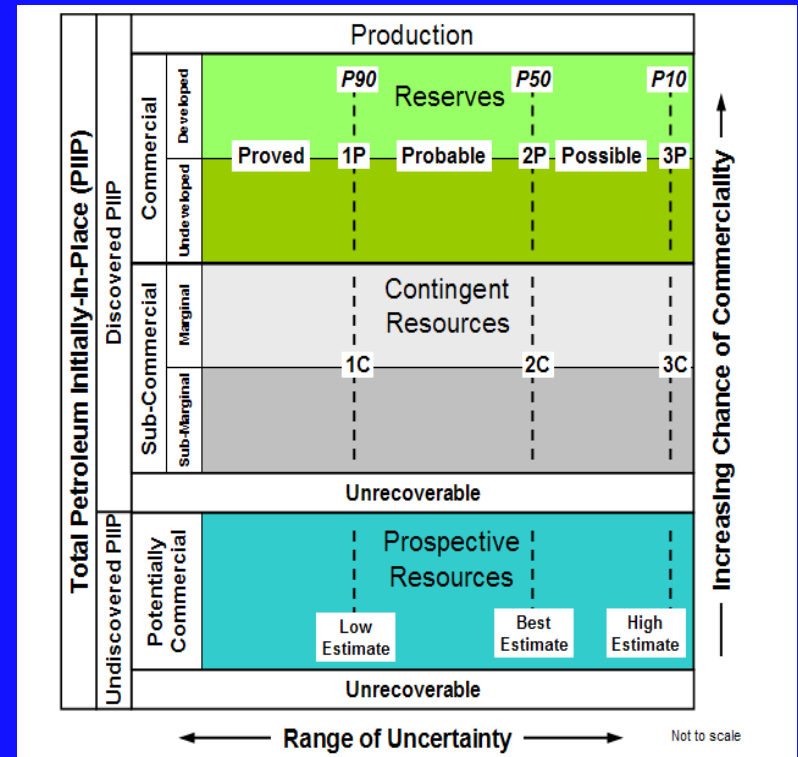
0. **Understand the reservoir and “in place” resources**
1. The System is “**Project–Based**”
2. ▲ Classification is based on project’s **chance of commerciality**
(technology, economic, legal, social environmental & regulatory)
▲ Categorization is based on **recoverable uncertainty**
3. Base case uses **forecast of future conditions**
4. Provides more **granularity for project management**
5. Estimates based on **deterministic and/or probabilistic** methods
6. Reserves /resources are estimated in terms of the **sales products**
7. Reserves allocation based on **contractual entitlement**
8. Applies to both conventional and **unconventional resources**

Its all about **Risk** and **Uncertainty**



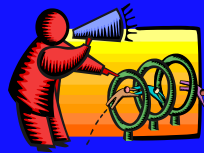
Resources Classification

- Classification (*risk*) ↑
- Reserves
 - Contingent Resources
 - Prospective Resources
 - Unrecoverable



←→ Categorization (*uncertainty*)

PRMS is the Global Standard for Petroleum Reserves and Resource Reporting



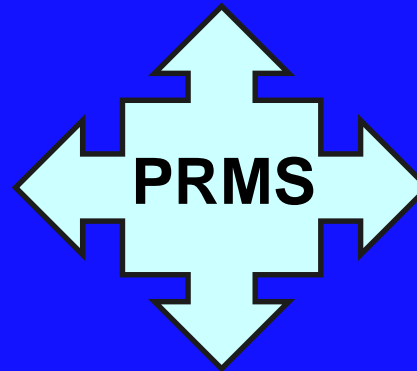
Oil & Gas
Companies



Securities Regulators

SEC (US)
AIM (UK)
CSA (Canada)
HKEX (Hong Kong)
ASX (Australia)

(ESMA & FSA)



Government
Reporting

BOEM
(ANP)

...UNFC



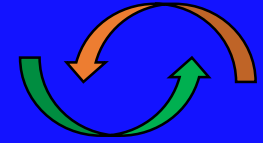
Financial

IASB

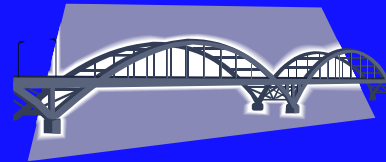


PRMS is explicitly or implicitly referenced

SPE Relationship with UNFC



- Long-standing agreement for the SPE to provide the commodity-specific specifications for petroleum
 - Petroleum Resources Management System of 2007 (“PRMS”)
- Link provided by a **Bridging Document** in 2013

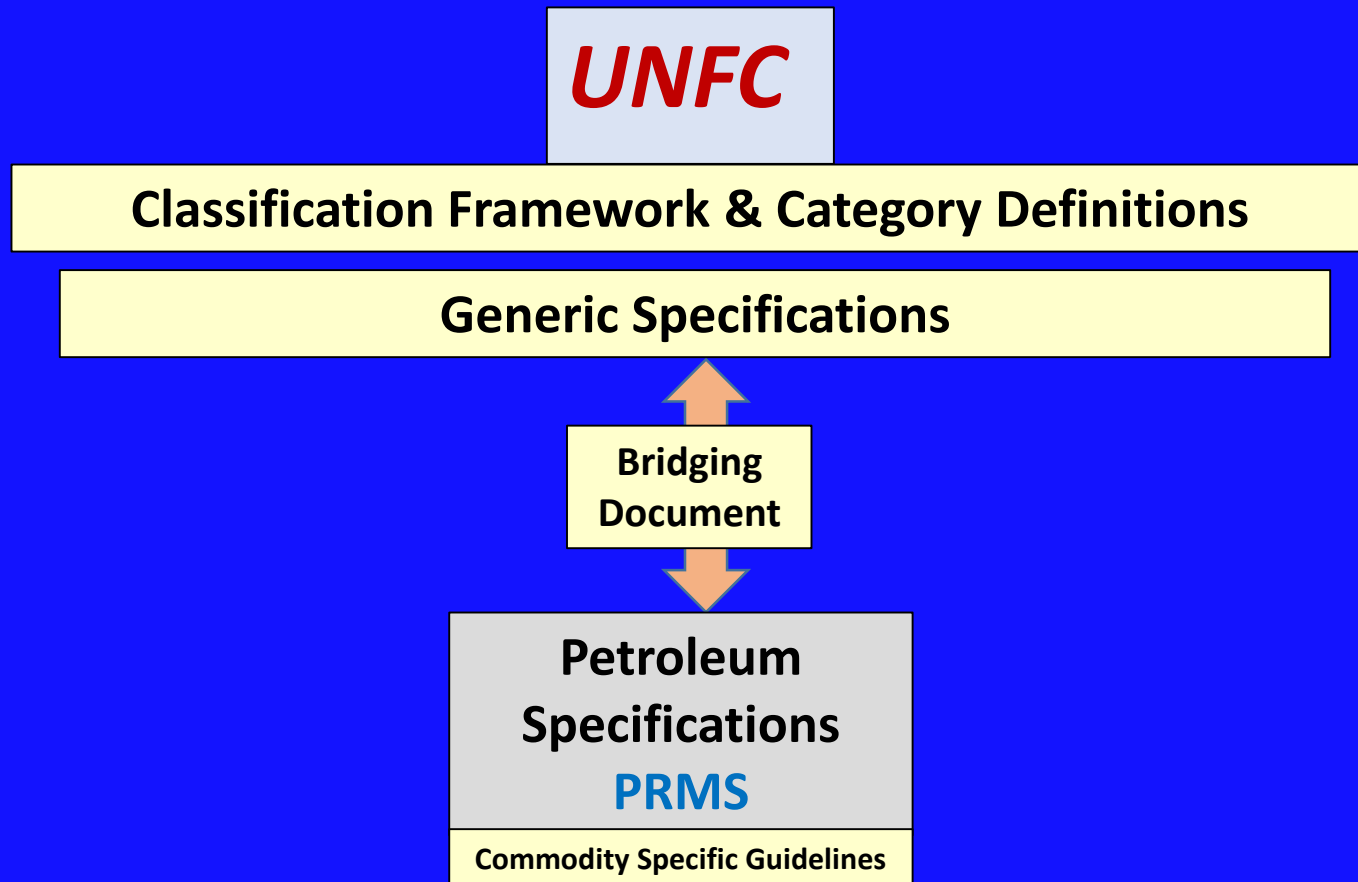


- PRMS Bridging Document, together with the UNFC Generic Specifications, provide operational application of UNFC-2009 for petroleum

(see details at: http://www.unece.org/energy/se/unfc_2009_spcfc.html)

- PRMS will be maintained “evergreen” by SPE OGRC

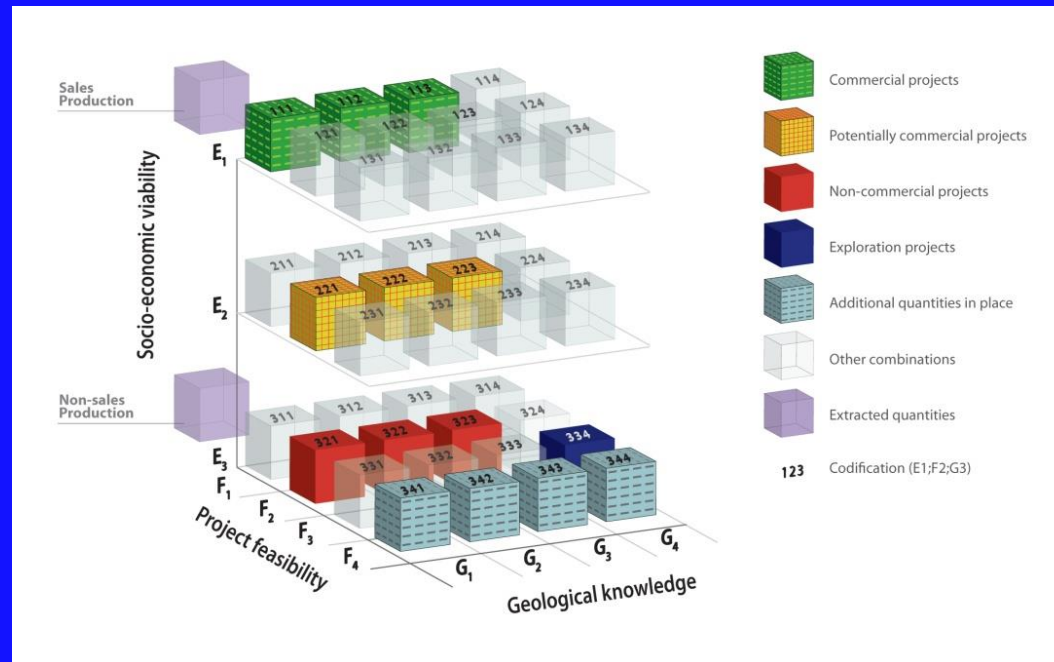
Bridging between PRMS to the UNFC...



PRMS The Reference Standard for Petroleum

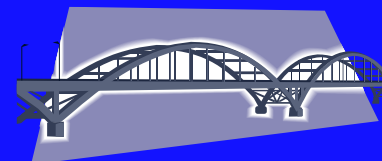


The United Nations Framework Classification (UNFC) system identifies the **PRMS as the reference standard for petroleum reserves and resources**



PRMS – UNFC Bridging Document

Using Categories only

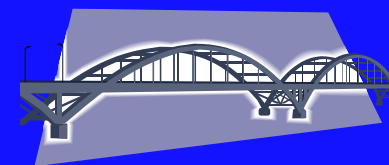


PRMS Class		UNFC-2009 “minimum” Categories			UNFC-2009 Class
Discovered	Reserves	E1	F1	G1,G2,G3	Commercial Projects
	Contingent Resources	E2	F2	G1,G2,G3	Potentially Commercial Projects
		E3	F2	G1,G2,G3	Non-Commercial Projects
	Unrecoverable	E3	F4	G1,G2,G3	Additional in Place*
Undiscovered	Prospective Resources	E3	F3	G4	Exploration Projects
	Unrecoverable	E3	F4	G4	Additional in Place*

Figure IV.2 UNFC-2009 published 2013

PRMS – UNFC Bridging Document

Using Sub-Categories

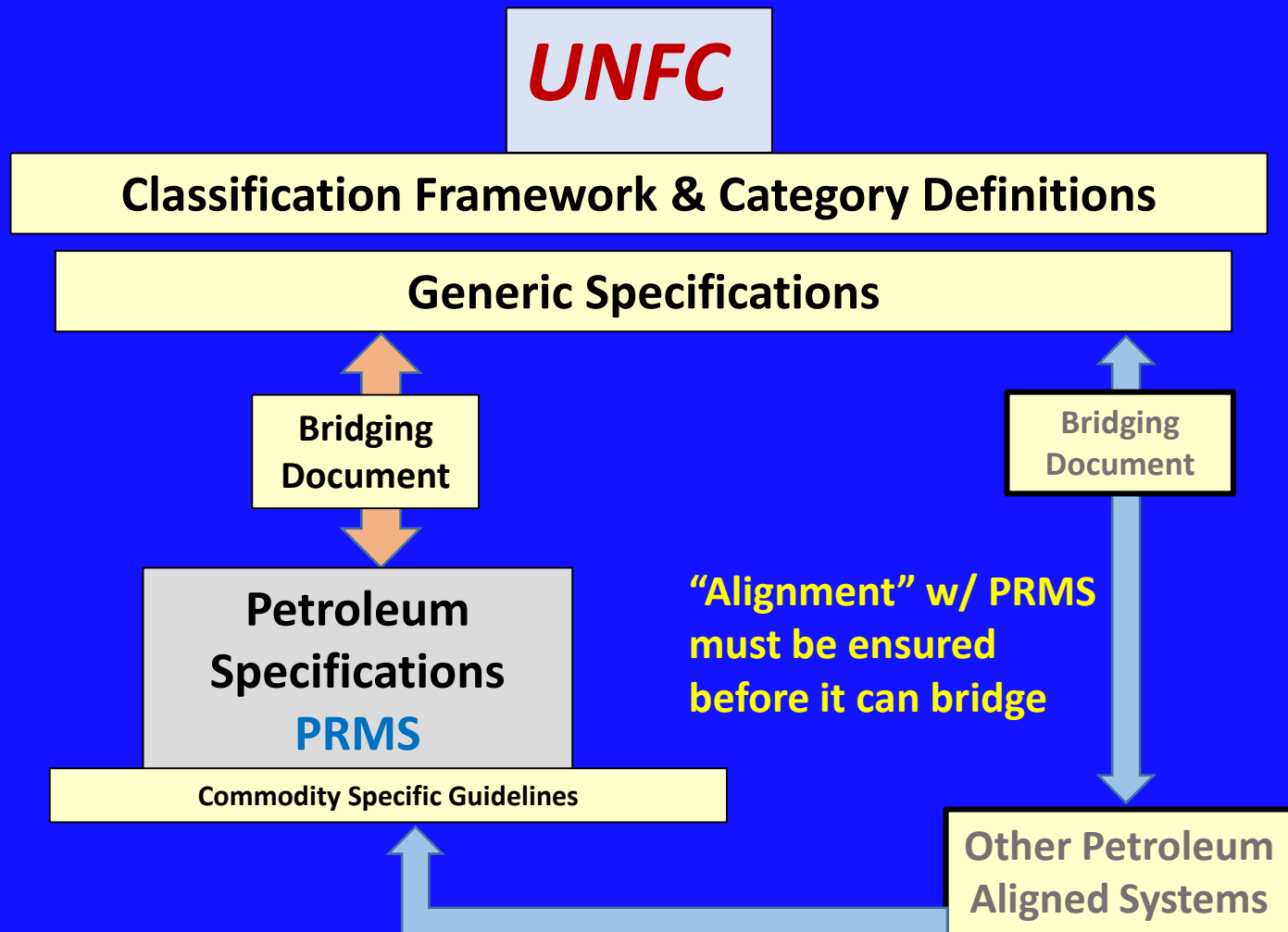


	F1.1	F1.2	F1.3	F2.1	F2.2	F2.3	F3.1	F3.2	F3.3	F4					
E1.1	1	2	3	4							Reserves	On Production		1	
E1.2	1	2	3									Approved for Development		2	
E2			4	4	5							Justified for Development		3	
E3.1	12	12	12	12	12	12					Contingent Resources	Development Pending		4	
E3.2			6	6	6		8	9	10			Development Unclarified or On Hold	On Hold	5	
E3.3			7	7	7	7							Unclarified	6	
												Development Not Viable		7	
											Unrecoverable		11		
Facilitates transfer of quantities to correct class or sub-class											Undiscovered	Prospective Resources	Prospect		8
													Lead		9
													Play		10
												Unrecoverable		11	
											Special Cases		Defined but not classified in PRMS		12
		Less Common Mappings													

Facilitates transfer of quantities to correct class or sub-class

Figure IV.3 UNFC-2009 published 2013

Other Systems: Must be Comparable



For other systems seeking alignment, a bridging document to UNFC-2009 is required which allows results considered to be comparable with **no significant difference** to those that would result from the application of the classification system for which the Bridging documents with the UNCF aligned Systems.

Concluding Remarks

- UNFC-2009 provides common language for classification and reporting of petroleum resources
- PRMS 2007 is the industry-standard classification for petroleum resources and reserves

Are We There Yet?

Have we achieved a global common code?

Not quite!... but ...the building blocks are in place which will allow greater harmonization and consistency in the area of natural resources assessment and reporting.... ...and valuation.



PRMS and UNFC will both be part of the solution!

Thank you!

Questions?