

An Overview of the UNFC 2009 System*

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Abstract

Different stakeholders have differing needs for project evaluation, portfolio management and regulatory reporting. The UNFC-2009 applies to fossil energy and mineral reserves and resources located on or below the Earth's surface and is intended to serve the needs for classification at a global level (for energy and mineral supply studies), for governments (resources management and policy formulation), for industry (business process management) and for financial reporting.

UNFC-2009 is a generic system in which quantities are classified on the basis of the three fundamental criteria of economic and social viability (E), field project status and feasibility (F), and geological knowledge (G), using a numerical coding system. Combinations of these criteria create a three-dimensional system. The aim of my session would be to explore how the UNFC-2009 can meet the needs of all internal and external stakeholders including SEC and IASB financial requirements, international energy and mineral studies, government resources management, investor requirements and business process management.



An overview of the UNFC 2009 system

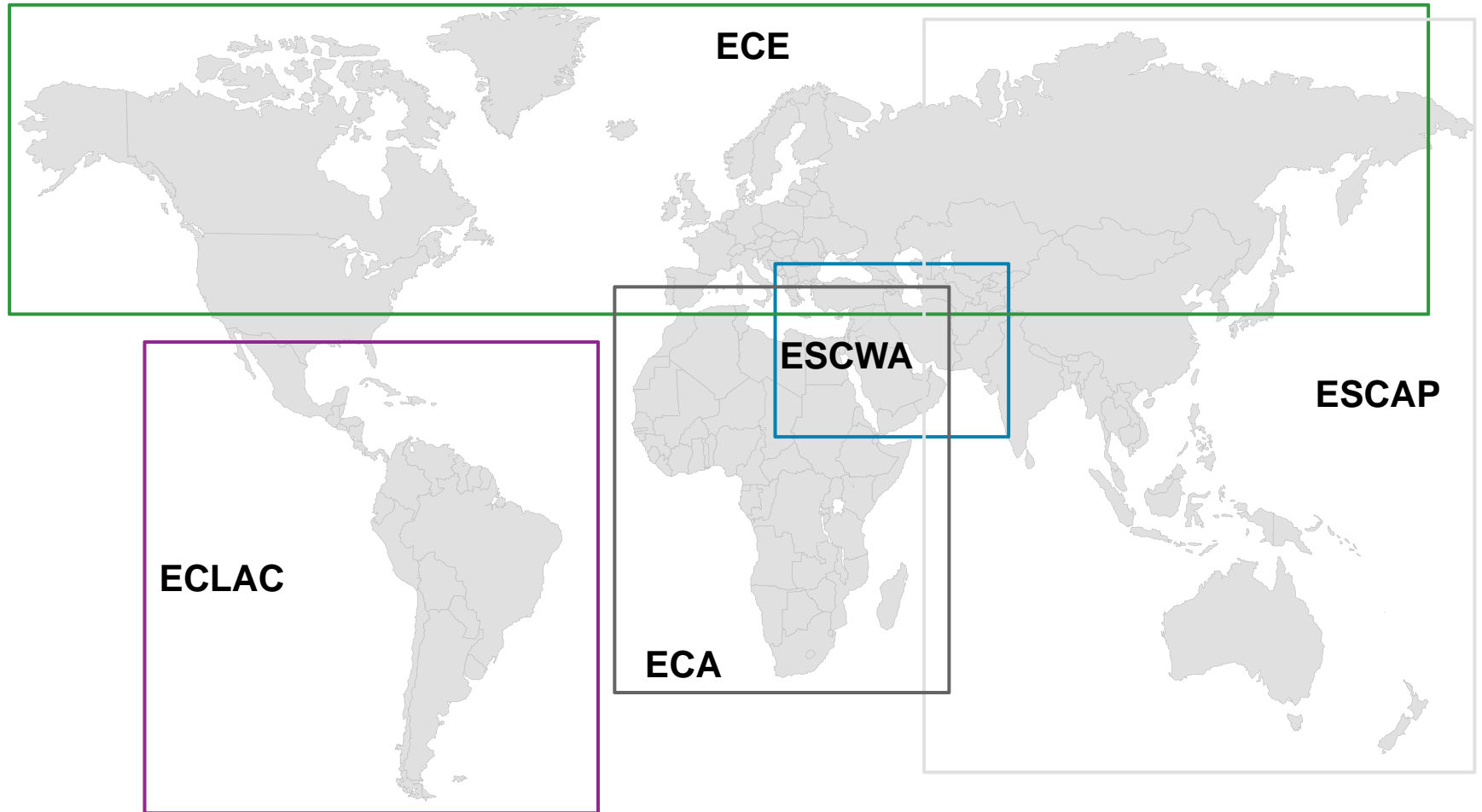
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AAPG European Region Annual Conference

19 October 2010

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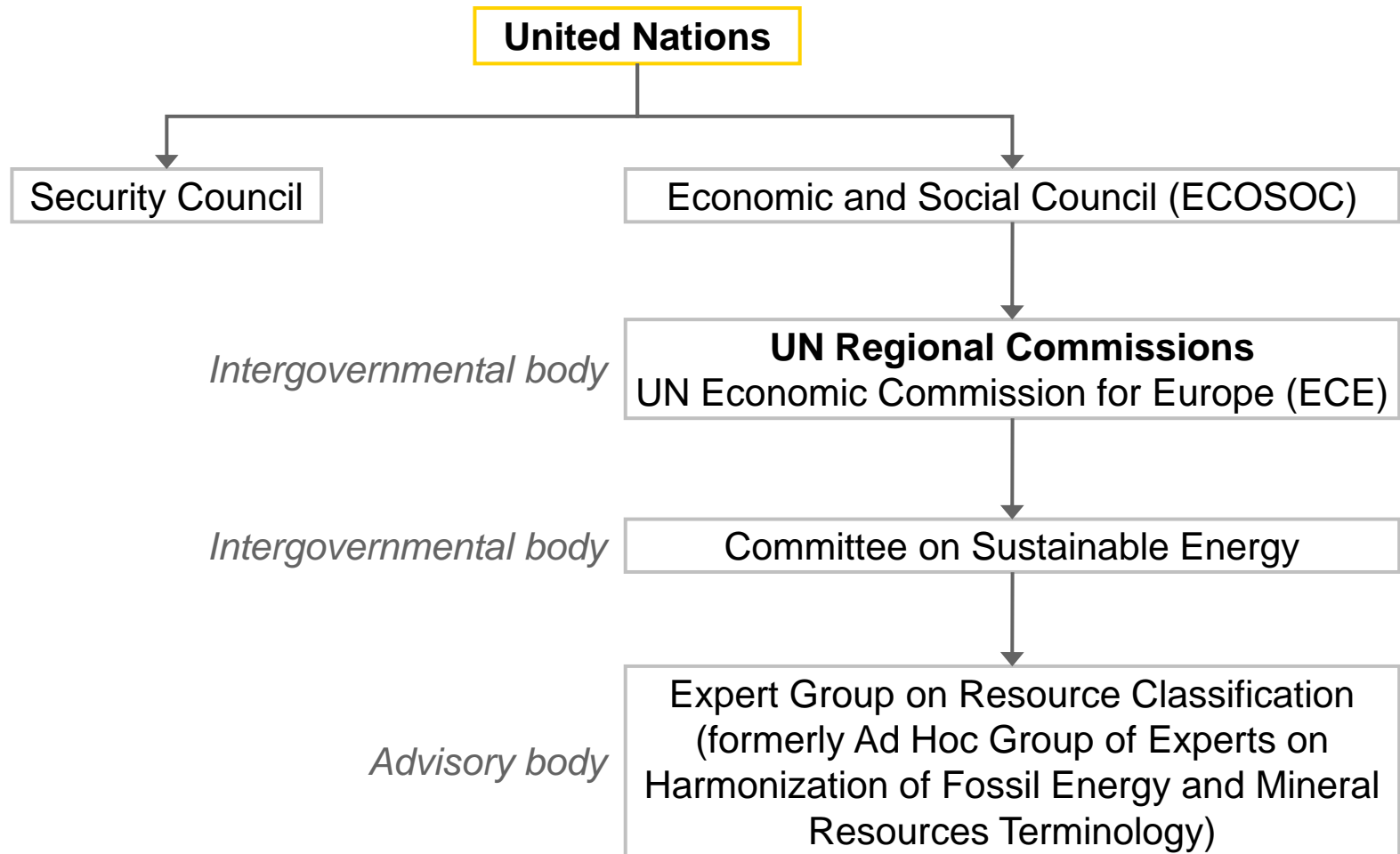
United Nations regions



UN economic commission for Europe

- ▶ Five UN Regional Commissions
- ▶ UNECE: Europe, CIS, North America, Turkey and Israel
- ▶ Based in Geneva, 56 Governments
- ▶ Mission to foster sustained economic growth and cooperation among member countries
- ▶ Assist countries with transition and developing economies
- ▶ Nine key programmes: economic cooperation and integration, environmental policy, housing and land management, statistics, sustainable energy, technical cooperation, timber, trade and transport

Where does expert group fit in the UN system?



Convergence

▶ SEC

▶ IASB

Stakeholders

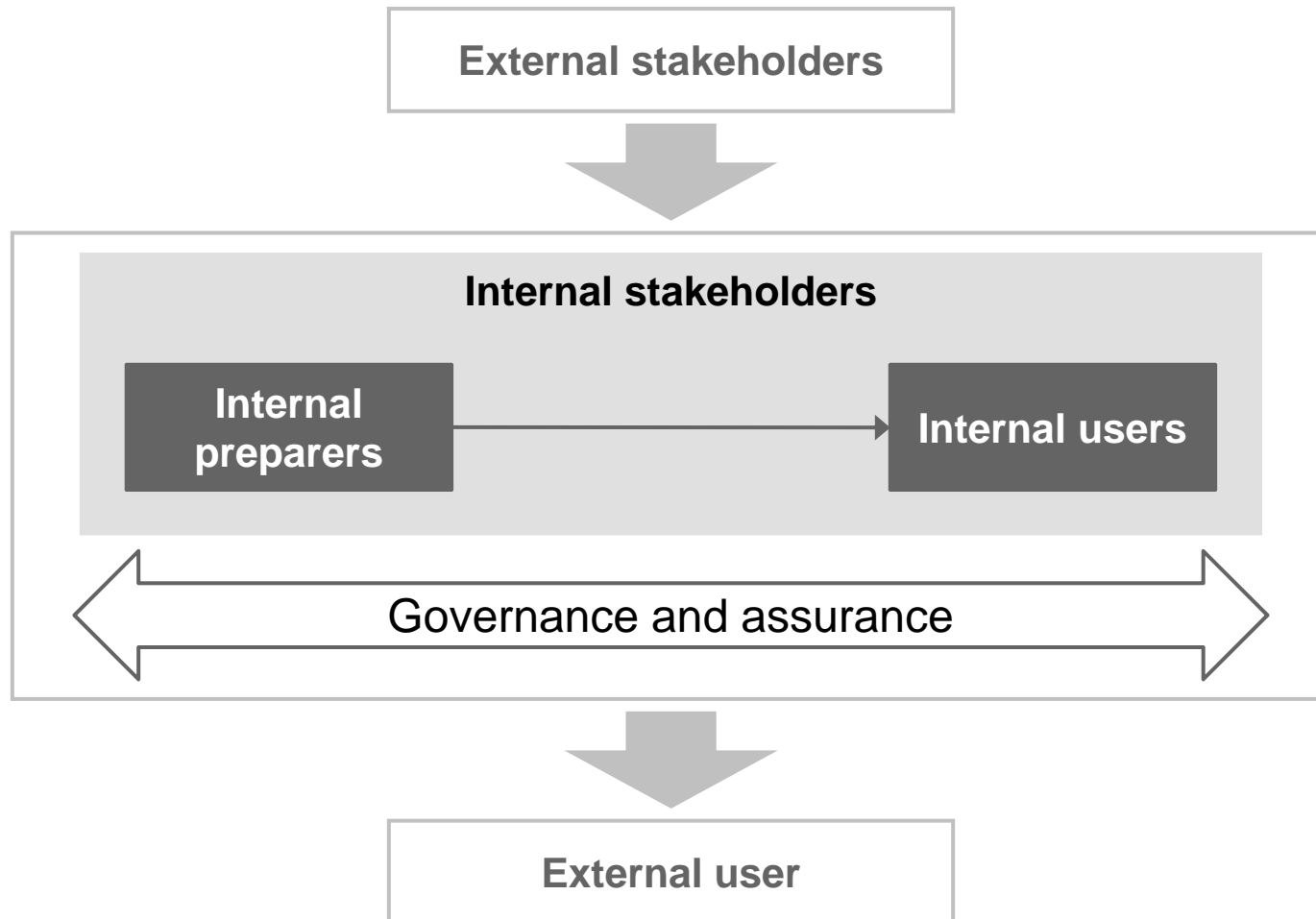
Diversity in stakeholders and their characteristics

- ▶ Demonstrated by parties responding to consultation papers (e.g., SEC and IASB)

Internal and external

- ▶ Characteristics and priorities
 - ▶ Users versus preparers
 - ▶ Level of sophistication
 - ▶ View of cost/benefit
- ▶ Conflicts between stakeholder interests
- ▶ Influence on future reserves measurement, reporting and use

Interaction of stakeholders



Internal stakeholders

Preparers

- ▶ Technical specialists
- ▶ Project managers
- ▶ Partners

Users

- ▶ Management
 - ▶ Strategic planning, forecasting and budgeting
 - ▶ Performance management and compensation awards
 - ▶ Investment decisions – internal and external
- ▶ Preparers of reporting
- ▶ Board, audit committee
- ▶ Partners

External stakeholders

Influencers

- ▶ Standard setting bodies (IASB, FASB, SEC etc.)

Users

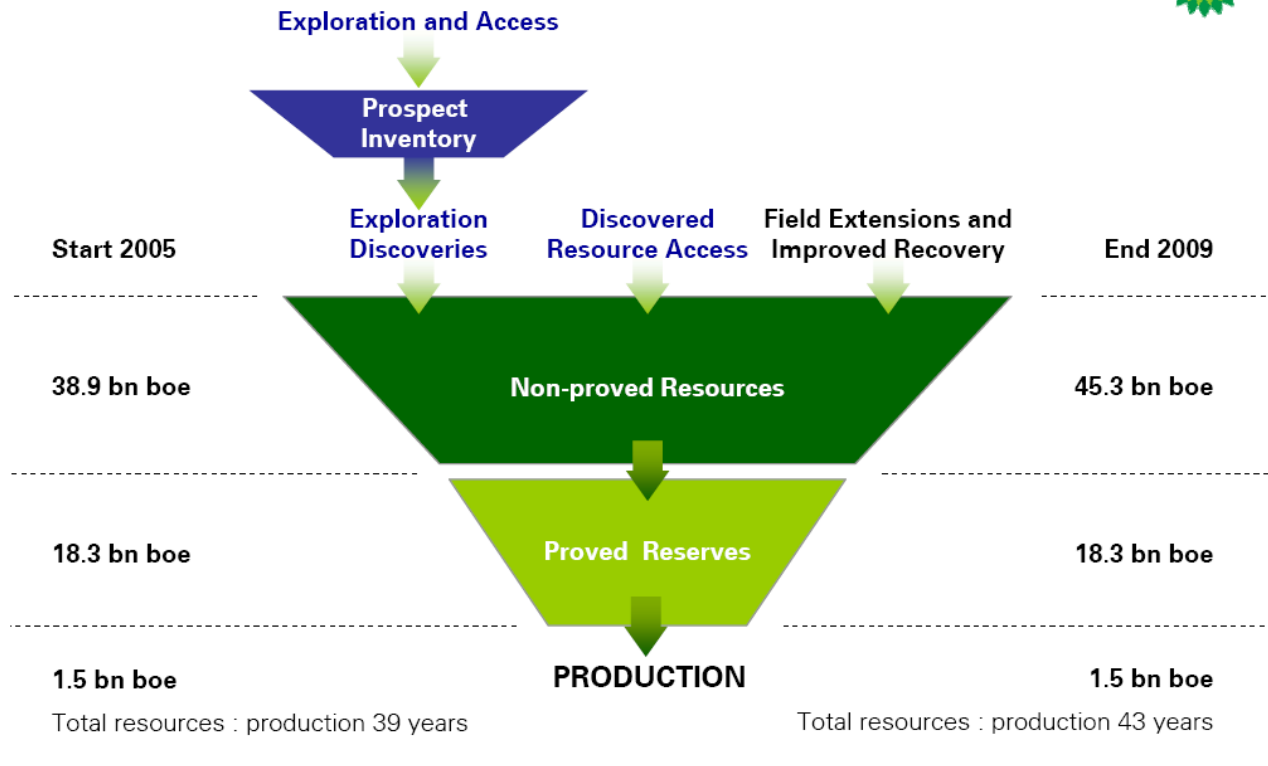
- ▶ Investor community
- ▶ Lenders
- ▶ Competitors
- ▶ M&A
- ▶ Government/public interest bodies
- ▶ Technical consultants
- ▶ Accounting profession
- ▶ Interested public

Useful information?

Do published reserves and resources information reflect management's decision making process?

- ▶ Published information likely to be different to management's view
 - ▶ Often not the full resource base/potential
 - ▶ Different assumptions (price/discount rate)
 - ▶ Optimistic view?
- ▶ May in turn be different to an investor's view
 - ▶ Different views on risk (e.g., country, technical)
 - ▶ Different views on sources of value (e.g., portfolio fit)

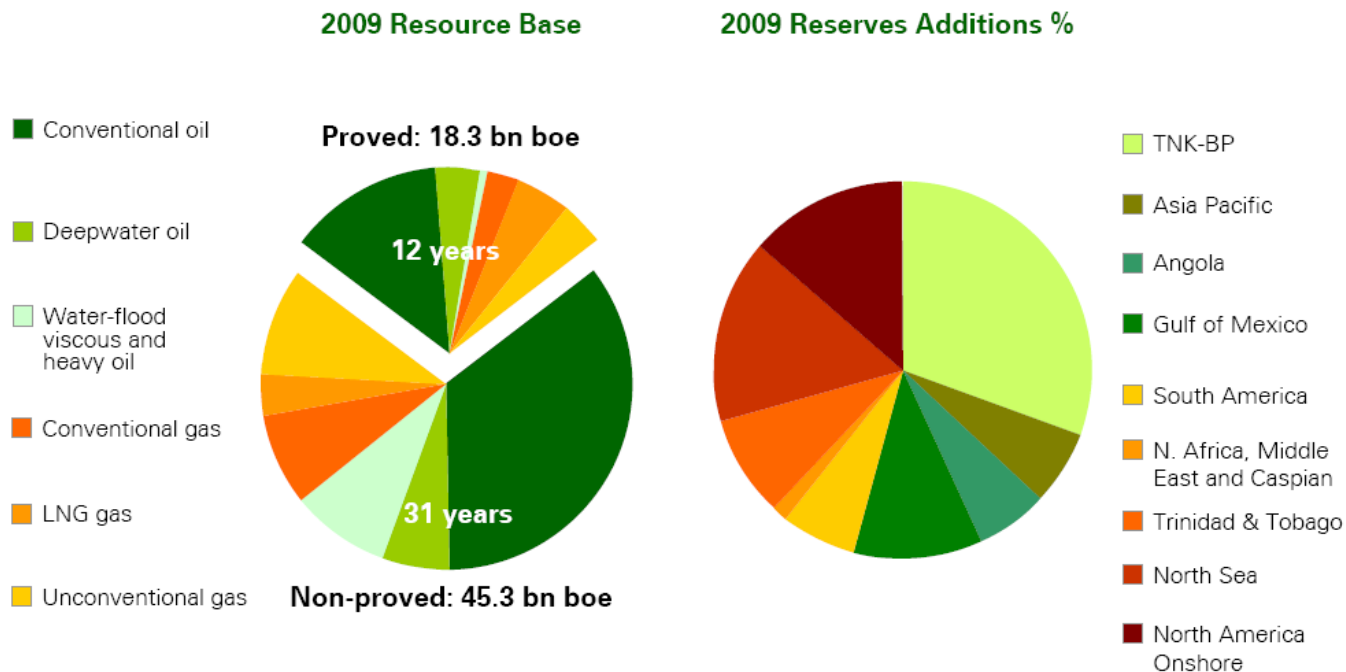
Resources to reserves to production



Resources and reserves on a combined basis of subsidiaries and equity-accounted entities

Source: Extract from BP Full Year 2010 Results and Strategy Update

Diverse resource base and reserves additions



Resources at end-2009 on a combined basis of subsidiaries and equity-accounted entities. 2009 reserves additions are price adjusted

Net assets and market capitalisation (O&G)

	Net Assets 30 June 2010 \$m	Market Capitalisation 14 October 2010 \$m
Total	72,595	128,686
BP	86,362	129,313
Shell	139,163	196,269
Exxon	145,367	332,495
Chevron	99,569	168,689

Sources: Market capitalisation – Thomson Datastream; Net Assets – preliminary results announcements.

United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009

The UNFC, what is it?

- ▶ Umbrella system:
 - ▶ Internationally applicable
 - ▶ Internationally acceptable
- ▶ Harmonization – terminology and definitions
- ▶ Uses numerical codification system
- ▶ Applies to fossil energy and mineral reserves and resources

The UNFC, who for?

- ▶ Energy and mineral studies
- ▶ Resources management functions
- ▶ Corporate business processes
- ▶ Financial reporting standards

UNFC, how did we get here?

- ▶ 1992 – initiated first version
- ▶ 1997 – first version published (solid fuels and mineral commodities)
- ▶ 2001 – AHGE formed
- ▶ 2004 – UNFC extended
 - ▶ Oil, natural gas and uranium
 - ▶ ECOSOC resolution 2004/233

UNFC, how did we get here?

- ▶ 2005 – collaboration with SPE/CRIRSCO
- ▶ 2007 – mapping task force/IASB
- ▶ 2008 – agreement to assess UNFC 2004 for revision
- ▶ 2008 – new version released for comment
- ▶ 2009 – AHGE March 2009
 - AHGE October 2009
 - Committee on sustainable energy, November 2009

What's been changing?

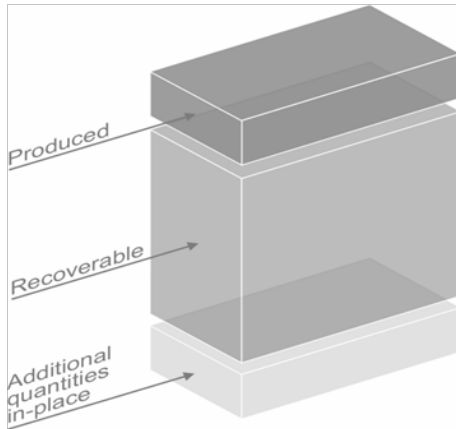
- ▶ 2005 – new Russian classification
- ▶ 2006 – revised CRIRSCO template
- ▶ 2007 – SPE/AAPG/WPC/SPEE PRMS (SPE-PRMS)
- ▶ 2007 – updated Canadian Oil & Gas handbook
 - ▶ Volume 1 including definitions of resources and reserves
- ▶ 2008 – revised SEC Oil & Gas definitions
- ▶ Etc.

UNFC-2009, Expert Group and Committee on Sustainable Energy

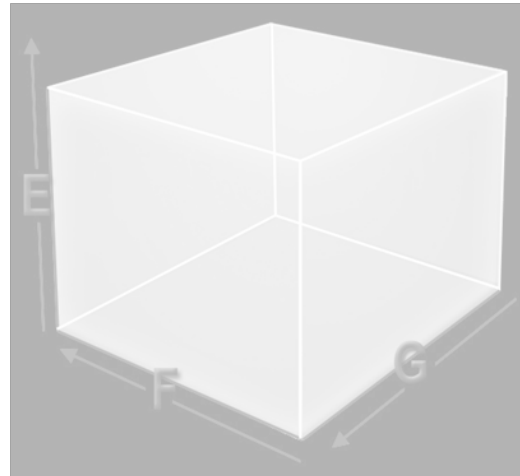
- ▶ ECOSOC resolution 2004/233 – consistent with
 - ▶ UNFC-2009 simplified, generic and user-friendly
- ▶ Agreed UNFC-2009 be adopted now
 - ▶ Testing and roll-out of UNFC-2009 needed, proposed feedback period every two years
- ▶ Agreed to drop 'ad hoc' and change name to expert group on resource classification
- ▶ Current two year mandate expires end 2009. Agreed five year mandate to 2014

UN framework classification for petroleum

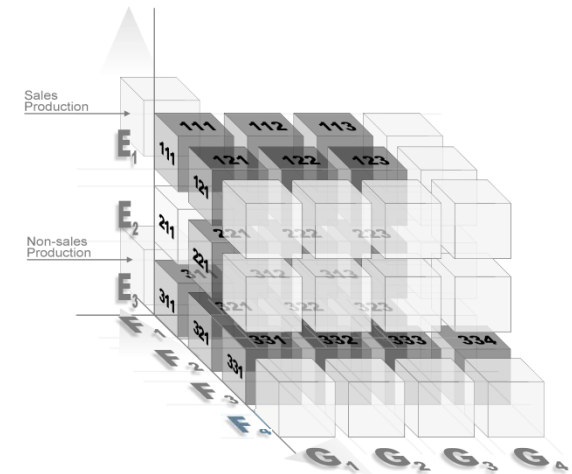
Total in-place



Principles



Classification



Economic and commercial viability

- ▶ E1 Confirmed to be economic
- ▶ E2 Expected to become economic
- ▶ E3 Not expected to become economic

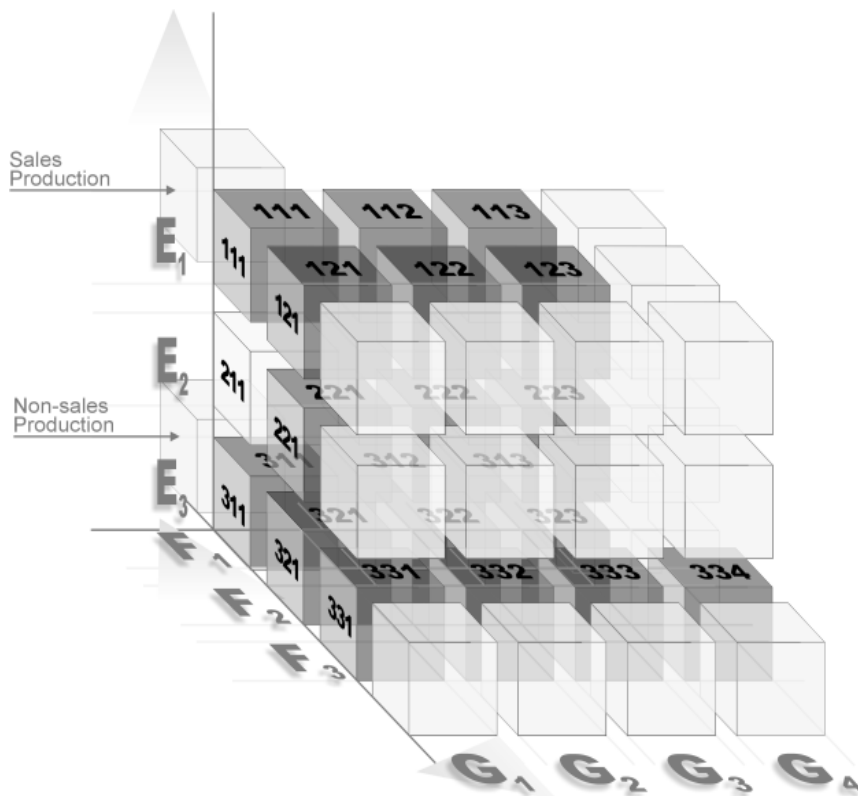
Field project status and feasibility

- ▶ F1 Feasibility confirmed
- ▶ F2 Feasibility under evaluation
- ▶ F3 Feasibility not known
- ▶ F4 No project identified

Geological knowledge

- ▶ G1 High confidence
- ▶ G2 Moderate confidence
- ▶ G3 Low confidence
- ▶ G4 Potential accumulation

UNFC-2009



Category	Definition
E1	Extraction and sale has been confirmed to be economically viable

Category	Definition
F1	Feasibility of extraction by a defined development project or mining operation has been confirmed

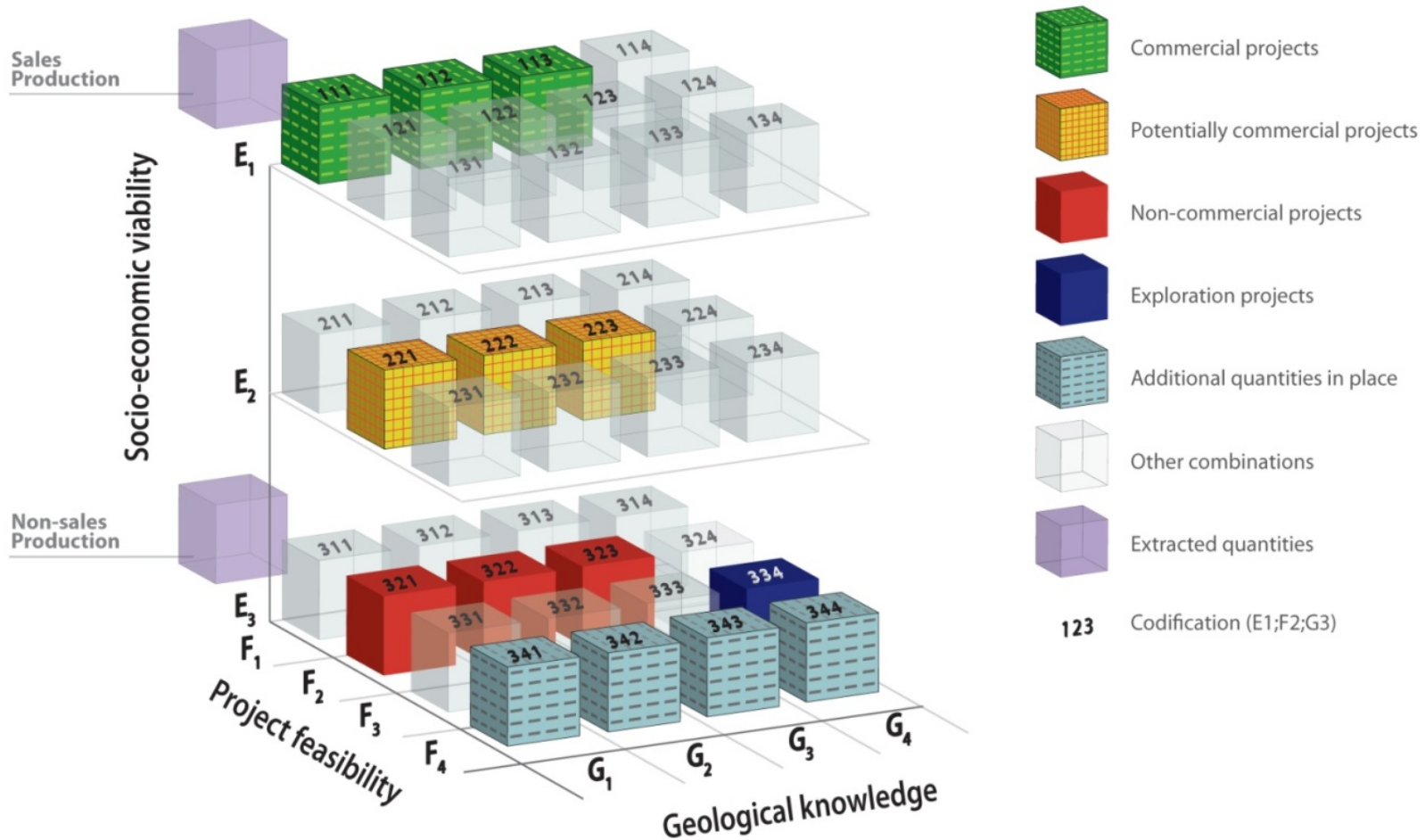
Category	Definition
G1	Quantities associated with a known deposit that can be estimated with a high level of confidence

UNFC Class: 111

UNFC-2009 – categories and subcategories

Axis	Criteria	Categories	Sub-categories
E-axis	Economic and social viability	E1	E1.1, E1.2
		E2	
		E3	E3.1, E3.2, E3.3
F-axis	Field project status and feasibility	F1	F1.1, F1.2, F1.3
		F2	F2.1, F2.2, F2.3
		F3	
		F4	
G-axis	Geological knowledge	G1	
		G2	
		G3	
		G4	

UNFC-2009 – examples of classes



UNFC-2009 – based on categories only

	Extracted	Sales Production			
		Non-sales Production			
		Class	Categories		
			E	F	G
	Future recovery by commercial development projects or mining operations	Commercial Projects	1	1	1, 2, 3
	Potential future recovery by contingent development projects or mining operations	Potentially Commercial Projects	2	2	1, 2, 3
		Non-Commercial Projects	3	2	1, 2, 3
	Additional quantities in place associated with known deposits		3	4	1, 2, 3
	Potential future recovery by successful exploration activities	Exploration Projects	3	3	4
	Additional quantities in place associated with potential deposits		3	4	4

UNFC-2009 – including all sub-categories

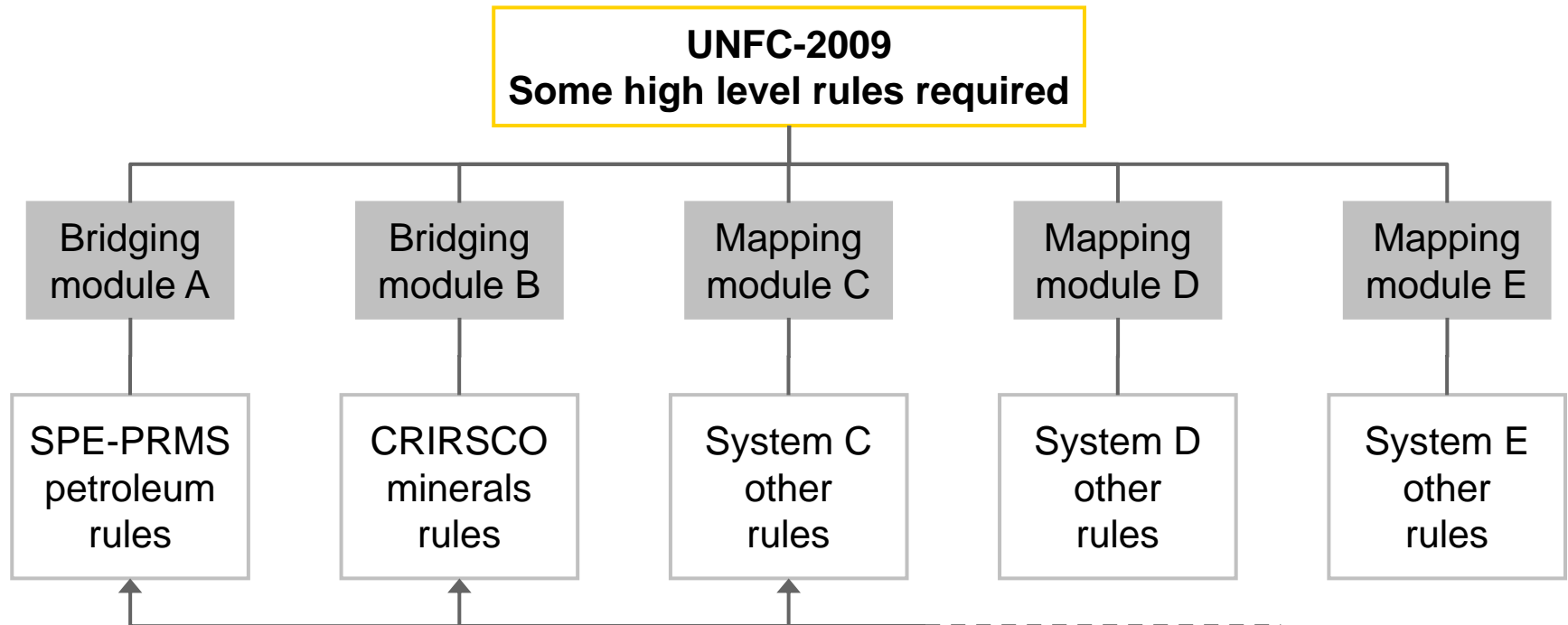
UNFC classes defined by categories and subcategories						
Total commodity initially in place	Extracted	Sales production				
		Non-sales production				
	Class		Subclass	Categories		
				E	F	G
	Known deposit	Commercial projects	On production	1	1.1	1, 2, 3
			Approved for development	1	1.2	1, 2, 3
			Justified for development	1	1.3	1, 2, 3
		Potentially commercial projects	Development pending	2	2.1	1, 2, 3
			Development on hold	2	2.2	1, 2, 3
		Non-commercial projects	Development unclarified	3.2	2.2	1, 2, 3
Development not viable			3.3	2.3	1, 2, 3	
Additional quantities in place		3.3	4	1, 2, 3		
Potential deposit	Exploration projects	[No subclasses defined]	3.2	3	4	
	Additional quantities in place		3.3	4	4	

UNFC-2009 – alignment with other systems

	UNFC-2009		CRIRSCO (minerals)	SPE-PRMS (petroleum)	
Known deposit	Commercial projects	On production	Mineral reserve	Reserves	On production
		Approved for development			Approved for development
		Justified for development			Justified for development
	Potentially commercial projects	Development pending	Mineral resources	Contingent resources	Development pending
		Development on hold			Development unclarified or on hold
	Non-commercial projects	Development unclarified	Not defined		Development not viable
		Development not viable			
	Additional quantities in place		Not defined	Unrecoverable	
Potential deposit	Exploration projects		Exploration results	Prospective resources	Prospect
					Lead
					Play
	Additional quantities in place		Not defined	Unrecoverable	

UNFC-2009 – a proposal for integration

Formal agreement that certain bridging modules would be maintained by the 'owners', but subject to EGRC approval



EGRC programme of work 2010-2011

- ▶ Continue work on specifications in collaboration with CRIRSCO/SPE
- ▶ Facilitate mapping of other classification systems to UNFC-2009 and testing – technical advisory group to be established
- ▶ Support IASB extractive activities research project
- ▶ Explore how UNFC could be used in classifying injection projects
- ▶ Education and outreach: communications subcommittee
- ▶ UNFC Workshops: Warsaw, June 2010 and Ankara, end-2010
- ▶ Respond to requests from Africa, Asia and Latin America to hold regional events

Conclusions

- ▶ UNFC is a long-term activity, with significant and varied global stakeholder support
- ▶ Umbrella system: - Internationally applicable
- Internationally acceptable
- ▶ Harmonization – terminology and definitions
- ▶ Uses numerical codification system
- ▶ Unique – applies to fossil energy and mineral reserves and resources
- ▶ Going forward specifications and guidelines and testing is key
- ▶ Next session of Expert Group – **Geneva, 6-8 April 2011**



Thank you

UN Expert Group on Resource Classification

www.unece.org/energy/se/reserves.html