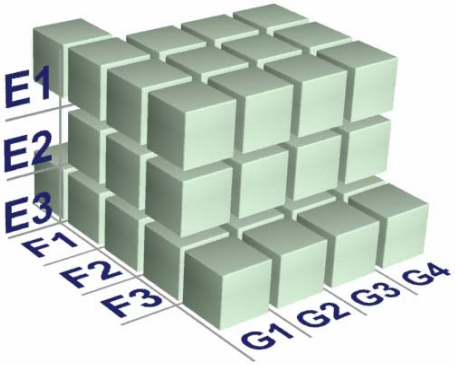






UNECE

The Road to a Common Global Terminology for Energy Reserves and Resources:

Recent Developments of the United Nations Framework Classification for Fossil Energy and Mineral Resources

Sigurd Heiberg and Charlotte Griffiths

UNECE Ad Hoc Group of Experts on
Harmonization of Fossil Energy and Mineral Resources Terminology

UN Economic Commission for Europe (UNECE)

- Economic and Social Council
- Five Regional Commissions
- UNECE: Europe, CIS, North America, Turkey & Israel
- Based in Geneva, 56 Governments
- Mission to foster sustained economic growth and cooperation among its member countries
- Assist countries with transition and developing economies

Why one common global code for energy and mineral resources?

- Global markets need global standards
- Efficient markets need strong standards
- The capital market became global after 1980
- Global commodity markets are consolidating
  - The oil market is global. The gas market will follow soon

History of UNFC

Early Focus on Solid Fuels & Minerals | Petroleum & Other Minerals | Global System

1992
German Government proposes 3-D classification to UNECE Working Party on Coal to meet the need for an internationally acceptable reserve/resource classification system capable of integrating transitioning economies from Eastern Europe and Former Soviet Union

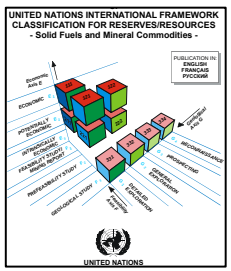
1997
UN Economic & Social Council (ECOSOC) invites global application of the UNFC for Solid Fuels & Mineral Commodities through ECOSOC Resolution 1997/226

2001
UNECE creates Group of Experts to extend the UNFC to petroleum and other mineral resources (e.g. uranium)

2004
UN ECOSOC recommends appropriate measure taken for global application of UNFC for petroleum & minerals "UNFC 2004" in Resolution 2004/233



1996
UNECE Working Party on Coal adopts UNFC for Solid Fuels & Mineral Commodities



1999
UNECE Task Force & Council for Mining & Metallurgy Institutions (now Committee for Mineral Reserves International Reporting Standards) integrate existing definitions for minerals into a single, universally applicable set of definitions

2003
UNECE Committee on Sustainable Energy adopts UNFC for petroleum & minerals

2004 - Present
UNECE Ad Hoc Group of Experts developing UNFC as global common code

Potential for success of UNFC?

- Wide range of stakeholders have offered UN strong and constructive support to date and this is growing:
- Governments, NGOs and business community/private sector
- International organizations, incl. IAEA, IEA, IEF, OPEC, WEC, and WPC
- Professional associations, incl AAPG, CRIRSCO, EFG, IASB, IOSCO, IVSC and SPE.

The AHGE Bureau is representative of the group

- Government (1), NGO (1) and private sector (3)
- IEA (1)
- OPEC (1)
- Russian Federation (1)
- CRIRSCO (1) and SPE (1)

Close links are maintained with the financial community through IASB, IOSCO and ASC

Collaboration with Financial Community

- Common code is needed by the financial community
- IASB researching development of an International Financial Reporting Standard (IFRS) for extractive activities.
- Agreement between IASB and FASB (US SEC) to harmonize their rules.
- UN (via UNECE AHGE) now collaborating closely with IASB and IOSCO (of which SEC a member).

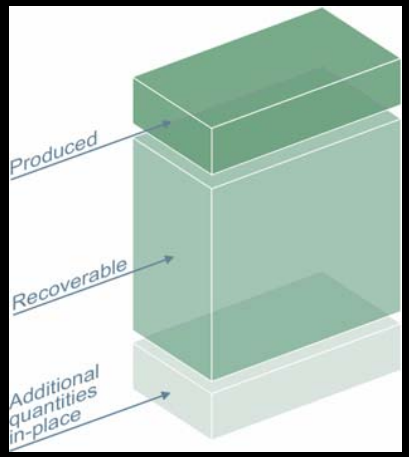
IASB Project Timing

- **A discussion paper inviting comments on accounting and disclosure approaches by the IASB research project team.**
  - ***Expected release mid to late 2008***
- **Comments will inform IASB before it decides to develop an IFRS for extractive activity.**
  - ***Expected release date for IFRS is uncertain***
  - ***Earliest case: Mid-2012***

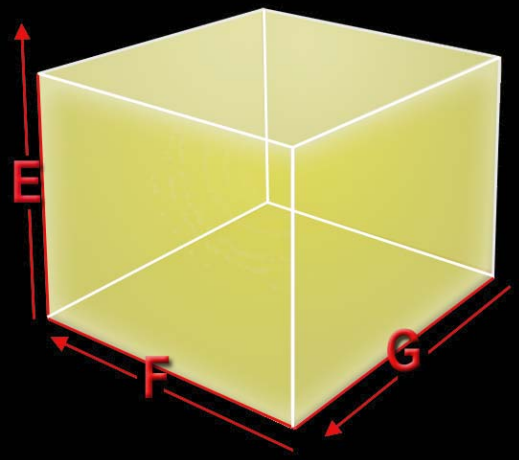
The UNFC Classification

UN Framework Classification (UNFC) for Petroleum

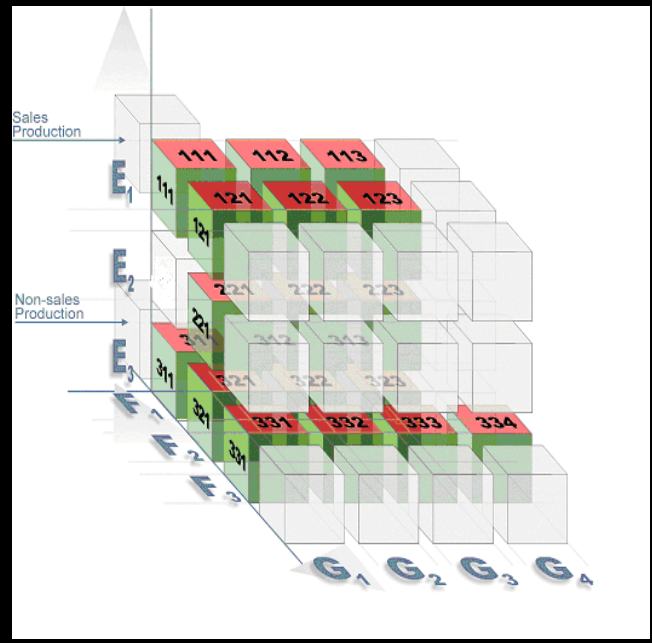
Total in-place



Principles



Classification



Economic and commercial viability

- E1 Economic
- E2 Potentially economic
- E3 Intrinsically economic

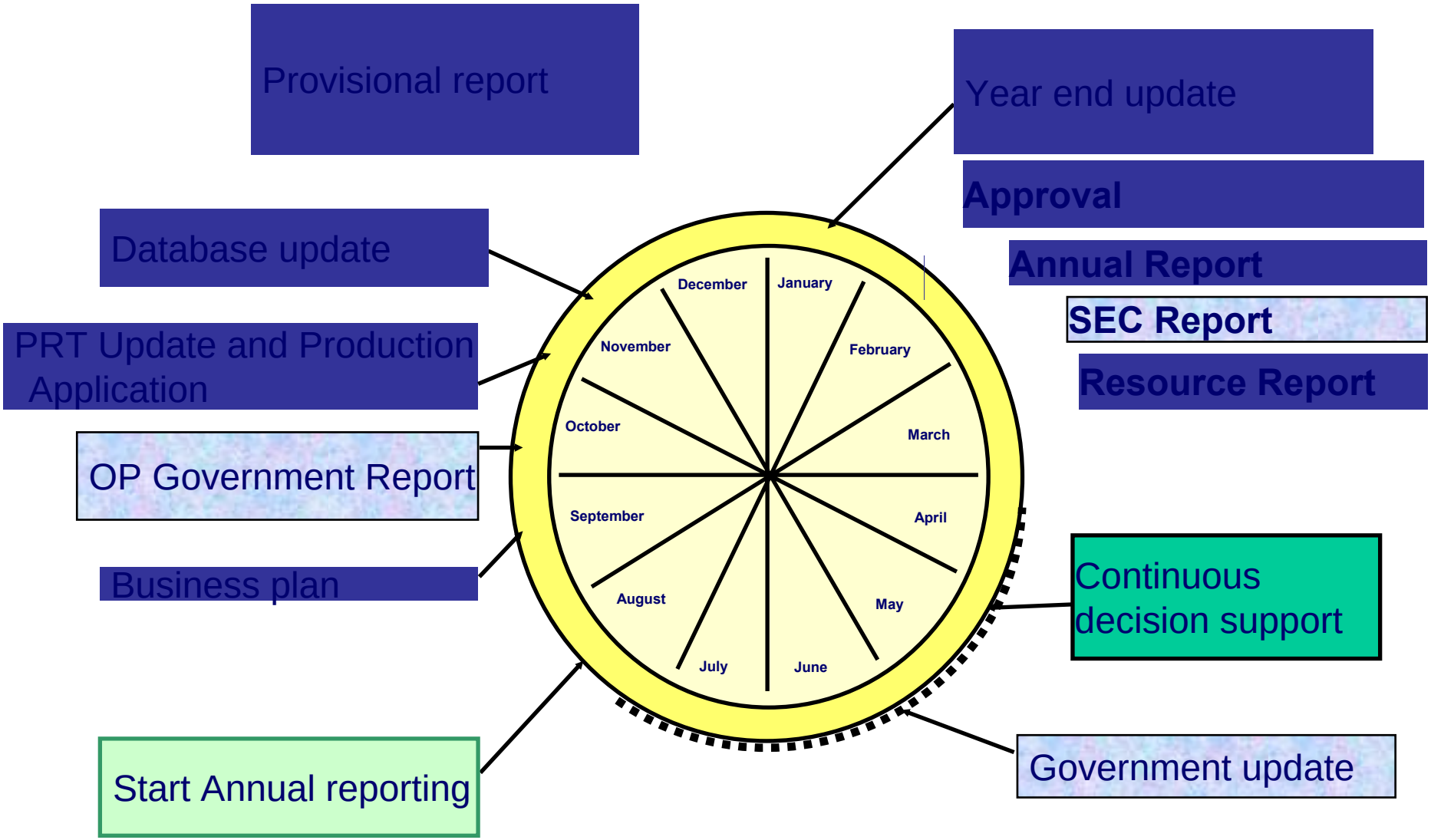
Field project status and feasibility

- F1 Justified
- F2 Contingent
- F3 Undefined

Geological knowledge

- G1 Reasonably assured
- G2 Estimated
- G3 Inferred
- G4 Potential

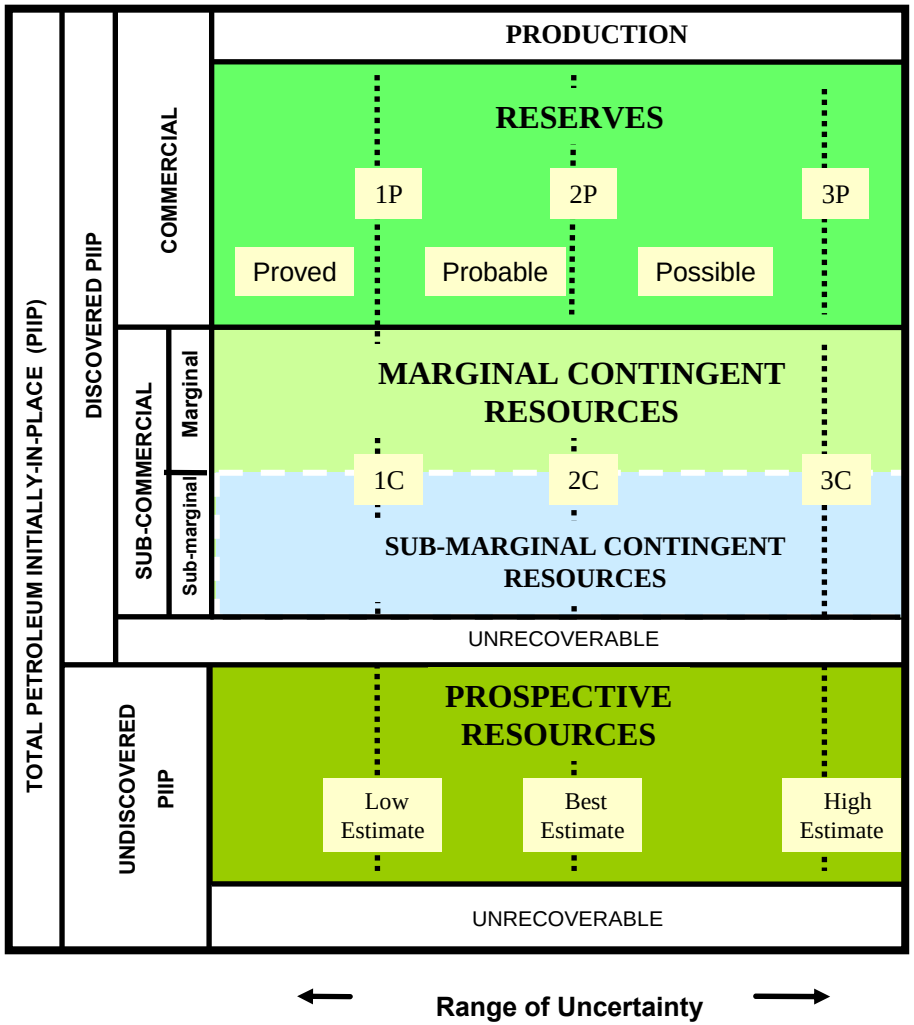
The Annual Cycle of Reserves and Resource Reporting in Norway



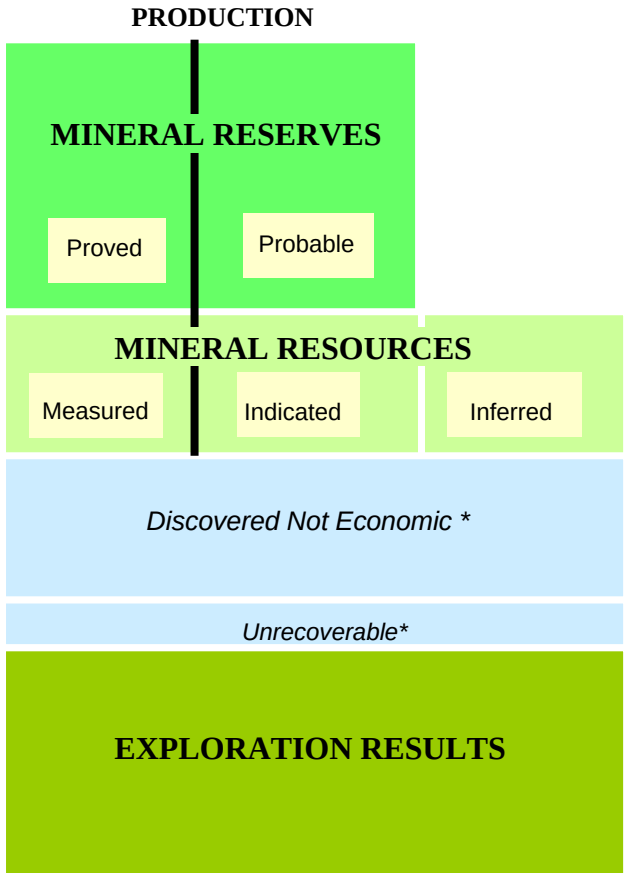
Current developments

- Meeting with representatives of the London Group, Copenhagen, May 2007
- Annual meeting of the Group of Experts, October 2007

PRMS-CRIRSCO MAPPING

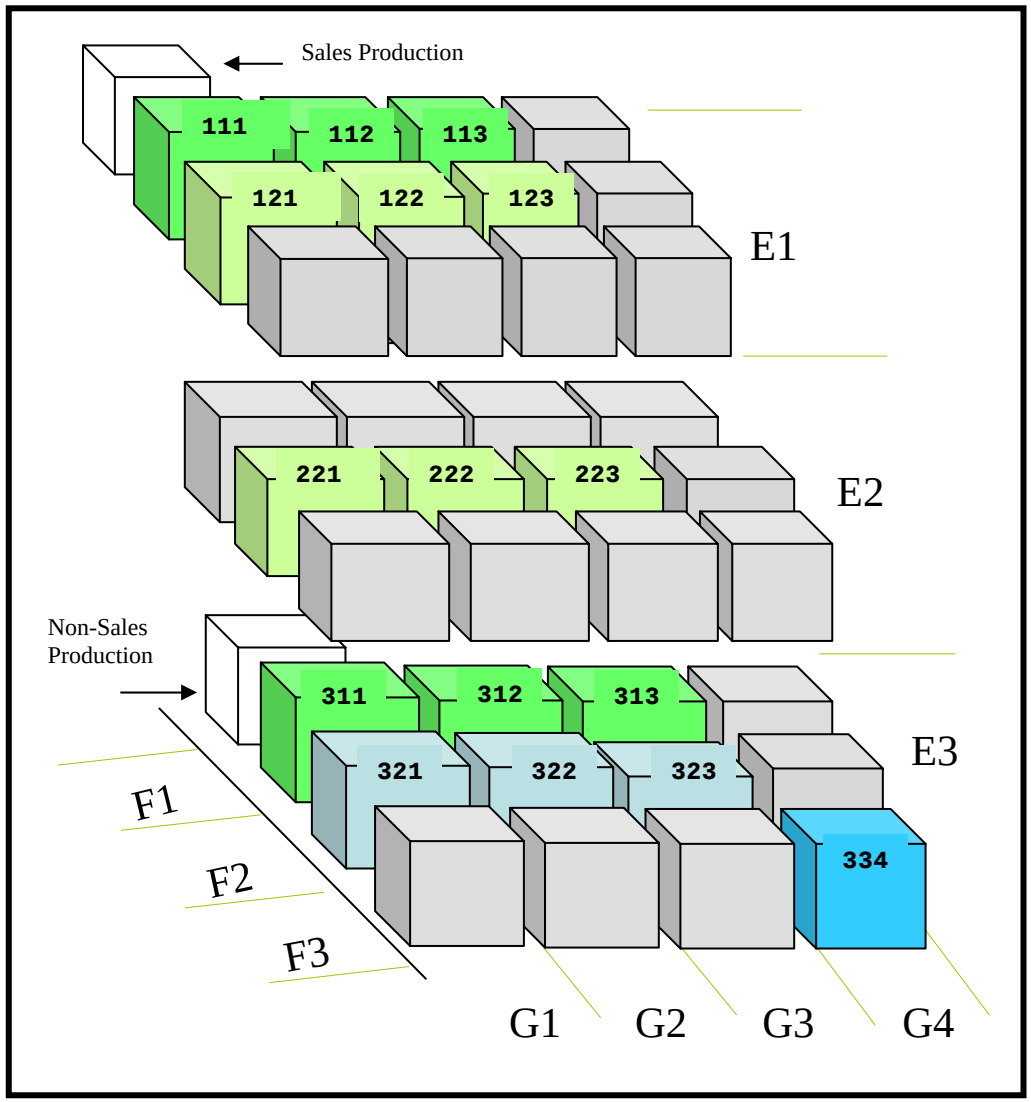


Increasing Chance of Commerciality



*Not part of the Template but may be used for internal project management

The 12 UNFC Categories



Classes defined by UNFC categories

Fundamental Characterization	PRMS Resources Classes		E axis	F axis	G axis		
					Proved	Probable	Possible
DISCOVERED AND COMMERCIALLY RECOVERABLE	**RESERVES**		1	1	1	2	3
							3
DISCOVERED AND NOT COMMERCIALLY RECOVERABLE	**CONTINGENT RESOURCES**	**Marginal**	2.1	2	1	2	3
		Sub-Marginal	2.2				
	Unrecoverable		3				
					Estimate of Potential		
UNDISCOVERED	**PROSPECTIVE RESOURCES**		3	3	4.1	4.2	4.3
	Unrecoverable						

Definition of categories and sub-categories – No labels and reduced texts

Cat.	Proposal for revised UNFC definitions
E1	Extraction and sale is economically viable. Refer to definitions of E1.1 and E1.2.
E1.1	Extraction and sale is economically viable on the basis of realistic assumptions of future market conditions.
E1.2	Extraction and sale is economic in spite of current adverse market conditions that are expected to be of a short-term nature as long-term forecasts are economic. Extraction that is deemed to be economic as a consequence of subsidies also falls into this sub-category.
E2	Economic extraction has not been fully demonstrated to be economically viable. Refer to definitions of E2.1 and E2.2.
E2.1	Extraction has not yet been fully demonstrated to be economic. but on the basis of realistic assumptions of future market conditions, it is more likely than not that economic extraction will take place in the foreseeable future.
E2.2	Extraction and sale is not economically viable on the basis of realistic assumptions of future market conditions, and eventual economic extraction would require a substantially higher commodity price or a major reduction in costs to render it economic.
E3	Extraction is not available for sales, or is not commercial or economic to extract, or economic viability has not yet been determined. Refer to definitions of E3.1, E3.2 and E3.3.
E3.1	Extraction without sale.
E3.2	Economic viability of extraction has not yet been determined.
E3.3	Estimated quantities that are in-situ, but where there is currently considered to be no potential for eventual economic extraction.
F1	A development project that has been demonstrated to be technically and commercially feasible. Refer to definitions of F1.1, F1.2 and F1.3.
F1.1	The project is currently extracting products.
F1.2	All necessary approvals have been obtained, capital funds have been committed, and implementation of the development project is under way.
F1.3	Implementation of the development project is justified on the basis of reasonable forecast commercial conditions at the time of reporting, and there are reasonable expectations that all necessary approvals/contracts will be obtained.
F2	A development project that has not yet been demonstrated to be technically and commercially feasible.
F2.1	Project activities are ongoing to justify development in the foreseeable future.
F2.2	Project activities are on hold and/or where justification as a commercial development may be subject to significant delay.
F2.3	There are no current plans to develop or to acquire additional data at the time due to limited potential.
F3	Project evaluation is incomplete or lacks sufficient definition to establish technical and commercial feasibility.
G1	Quantities associated with a known deposit that can be estimated with a high level of confidence.
G2	Quantities associated with a known deposit that can be estimated with a reasonable level of confidence.
G3	Quantities associated with a known deposit that can be estimated with a low level of confidence.
G4	Estimated quantities associated with a potential, but not yet confirmed deposit.

Current Work Programme of AHGE

- Special Task Force created in 2007 to map UNFC to SPE PRMS (petroleum), CRIRSCO System (minerals) and the minerals and petroleum classification systems of the Russian Federation
- Direct adoption/adaptation as a classification system
- Develop specifications and guidelines for UNFC application and implementation
- Evaluate potential governance models for management of UNFC
  - to allow for technical assistance including education and training, ensure that UNFC remains relevant and to propose changes when appropriate

Next Steps for 2008

- Receive comments on draft mapping report & finalize report by end-Feb
- Continue mapping UNFC to other systems
- Assess impact of proposed UNFC changes to any national classification systems that are based on UNFC 1997 or UNFC 2004
- Continue cooperation with IASB and other organizations in pursuit of a common framework
- Consider revisions to UNFC 2004 to facilitate mapping
- Further secure relevance, reliability and comparability through specifications/guidelines as required
- Follow up on recommendations to consider UNFC for recipient reservoirs for carbon sequestration and natural gas storage
- 5th Session Ad Hoc Group of Experts – 15-17 April 2007, Geneva

http://www.unece.org/ie/se/reserves.html

UNECE United Nations Economic Commission for Europe

SEARCH SITEMAP

HOME PROGRAMMES MEETINGS INFORMATION RESOURCES ABOUT UNECE CONTACT UNECE

Menu

Sustainable Energy

- Introduction
- Committee on Sustainable Energy
- Coal
- Electricity
- Energy Efficiency
- Energy Pricing & Subsidies
- Energy Reserves & UNFC
- Energy Security
- Gas Centre
- Working Party on Gas

Back to Main Index

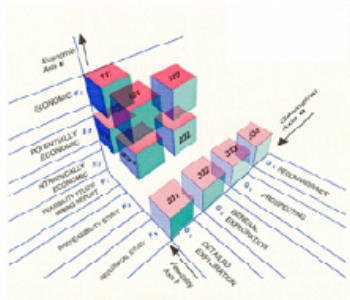
Industrial Restructuring, Energy and Enterprise Development Division

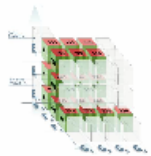
Energy Reserves and Resources

including

(i) United Nations Framework Classification for Reserves/Resources (UNFC); and

(ii) Ad Hoc Group of Experts on the Supply of Fossil Fuels





United Nations Framework Classification for Energy and Mineral Resources

The United Nations Framework Classification (UNFC) for Energy and Mineral Resources is a universally applicable scheme for classifying/evaluating energy and mineral reserves resources. [Download Final Version]

Activities & Information

- Ad Hoc Group of Experts on Classification of Energy Reserves and Resources (formerly Ad Hoc Group of Experts on the Harmonization of Energy Reserves/Resources Terminology)
- Practical Application of the UNFC in Selected Countries: Case Studies

Links

- Contact List
- Organigram
- Site Map
- ECE Energy Links

Information

- Current Documents
- Archive Documents

Meetings & Events

- Future Meetings & Events
- Past Meetings & Events
- Presentations/Conferences

Thank you



Source: City lights, NASA