Update
UN Framework Classification for Fossil Energy & Mineral Resources

UNECE Working Party on Gas
22 January 2008

Clark Talkington & Charlotte Griffiths
UN Economic Commission for Europe
Geneva, Switzerland
What is the UNFC?

United Nations Framework Classification for Fossil Energy and Mineral Resources

- 3-D system to classify and report reserves/resources using 3 principal metrics:
  - economic viability (E)
  - technical feasibility/project maturity (F)
  - knowledge of the geological endowment (G).

- Simple, universally applicable scheme for classifying and evaluating energy and mineral reserves and resources

- Allows a common international understanding within and across commodity classes

- A flexible system for application at global, national, industrial, institutional or financial level

- Managed within the UN System by the UNECE

- Adopted, adapted or tested in over 60 countries, principally for application to mineral resources
History of UNFC

Early Focus on Solid Fuels & Minerals

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

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

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

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

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

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

2004
UNECE creates Group of Experts to extend
the UNFC to petroleum and other mineral
resources (e.g. uranium)

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

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

UNECE Committee on Sustainable Energy
adopts UNFC for petroleum & minerals

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

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

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

Petroleum & Other Minerals

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

2004
UNE ECOSOC recommends appropriate measure
taken for global application of UNFC for petroleum & minerals
“UNFC 2004” in Resolution 2004/233

Global System

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
UNECE Ad Hoc Group of Experts

• Created in 2004 in UNECE to deliver on ECOSOC resolution
  – Develop one global common code for energy and minerals, including definitions, specifications and guidelines for application
  – Establish institutional governing structure to keep UNFC relevant and updated

• Transparent and voluntary process

• Wide range of stakeholders
  – Governments, NGOs and business/private sector
  – International organizations, incl. IAEA, IEA, IEF, OPEC, WEC and WPC
  – Professional associations incl. AAPG, CRIRSCO, EFG, IASB, IOSCO, IVSC and SPE
  – Experts involved with development of the current SPE/WPC/ AAPG/SPEE classification were also involved in development of UNFC
  – Coordinate with IASB’s Extractive Industries Research Project
What Happened in 2007?

• Change of Vision
  — Former vision – One global code
  — New vision – 2 roles
  • UNFC as overarching “umbrella” system onto which other systems can be mapped providing a means of common understanding facilitating communication across systems and commodities
  • UNFC adopted or adapted directly

• Mapped UNFC against SPE, CRIRSCO and Russian systems

• Initiated investigation of UNFC for recipient reservoirs (carbon capture and storage, natural gas storage, etc) based on suggestion from SPE and Working Party on Gas (Jan 2007)

• International cooperation
  — London and Oslo City Groups on National Statistical Accounts
  — International Multi-disciplinary Reserves Conference – Washington, DC
  — International Accounting Standards Board
ALIGNING PRMS-UNFC CLASSIFICATION MATRICES

UNFC

PRMS

PRODUCTION

RESERVES

1P

2P

3P

COMMERICAL

PROVEN

PROBABLE

POSSIBLE

MARGINAL CONTINGENT RESOURCES

1C

2C

3C

SUBMARGINAL CONTINGENT RESOURCES

UNRECOVERABLE

PROSPECTIVE RESOURCES

LOW ESTIMATE

BEST ESTIMATE

HIGH ESTIMATE

TOTAL PETROLEUM INITIALLY-IN-PLACE (PIIP)

DISCOVERED PIIP

UNDISCOVERED PIIP

LOWEST ESTIMATE

BEST ESTIMATE

HIGHEST ESTIMATE

RANGE OF UNCERTAINTY

SALES PRODUCTION

NON-SALES PRODUCTION

INCREASING CHANCE OF COMMERCIALITY

G1 G2 G3 G4

F3 F2 F1 E3 E2 E1

Not to Scale
Next Steps for 2008

• Conclude initial mapping and begin mapping UNFC to other systems
• Revisions to UNFC 2004 to facilitate mapping
• Assess impact of proposed UNFC changes to any national classification systems that are based on UNFC 1997 or UNFC 2004
• Specifications/guidelines
• UNFC for recipient reservoirs
• 5th Session– 15-16 April 2008 in Geneva
• Governance
Thank You!

Clark Talkington, UNECE
clark.talkington@unece.org