

# **UNFC Specifications General Issues**

**Prepared for the Fifth Session of the  
Ad Hoc Group of Experts on  
Harmonization of Fossil Energy  
& Mineral Resources Terminology**

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**Presented by Jim Ross**

# UNFC Specifications General Issues

- Purpose of this session:

To introduce aspects that it *may* be useful to specify at a general level, i.e. which would apply to:

- All applications
- All commodities

# UNFC Specifications

## General Issues

- Separate discussions to follow for either application-specific aspects:
  - Energy Policy
  - Government Resource Management
  - Business Process Management
  - Financial Reporting
- Or for commodity-specific aspects:
  - e.g. different minerals (coal, diamonds, industrial minerals)

# UNFC Specifications

## General Issues

- Some general issues that could impact global communications:
  - Incremental vs. scenario reporting
  - Reporting reference point
  - Risking of resource quantities

# UNFC Specifications Incremental vs. Scenario Reporting

- Minerals
  - Incremental method is the industry standard for reporting mineral reserves and resources
    - measured, indicated, inferred mineral resources
    - proved, probable mineral reserves
  - Aggregation of different categories is permitted, provided quantities are also reported separately
    - e.g. proved and probable reserves
  - Can report mineral resources inclusive of, or additional to, reserves, but basis must be clearly documented

# UNFC Specifications Incremental vs. Scenario Reporting

- Petroleum
  - Scenario method is becoming the industry standard for reporting petroleum reserves and resources
    - low, best, high estimates; P90, P50, P10 estimates
    - proved (1P), proved plus probable (2P), proved plus probable plus possible (3P) reserves
  - Incremental approach is still used for reporting to some extent
  - Should always have at least three estimates to capture range of uncertainty (low, best, high)

# UNFC Specifications General Issues (1)

- Incremental vs. scenario reporting
  - Not a major problem, but reporting must always be completely unambiguous

# UNFC Specifications Reporting Reference Point

- Minerals
  - Mineral reserves are generally quoted as delivered to the processing plant (“as mined”), with sales recovery or yield factor quoted separately
  - Some mineral reserves are quoted as sales (marketable) quantities
    - CRIRSCO recommended practice is that “as mined” estimates should also be provided
  - Mineral resources are *in situ* estimates of what may be viewed as “potentially economically recoverable”

# UNFC Specifications Reporting Reference Point

- Petroleum
  - Petroleum reserves and resources are meant to be sales quantities under SPE-PRMS, but industry practice is inconsistent (e.g. fuel gas is sometimes included in reserves)
  - In integrated projects, sales point may be an internal transfer between upstream and downstream operations
  - Contingent and prospective resource estimates are often too preliminary to properly account for non-sales production

# UNFC Specifications General Issues (2)

- Reporting reference point
  - should always be clearly stated, but is a standardised basis possible?

# UNFC Specifications Risking of Resource Quantities

- ***Exploration projects*** have a risk of no discovery and a risk that, if discovered, the project will be too small to be commercially viable
- ***Contingent projects*** have a risk of not being commercially viable

# UNFC Specifications

## Risking of Resource Quantities

- Risk element must be captured in some way, especially when aggregating estimates for multiple projects
  - Misleading to aggregate un-risked estimates
  - Misleading to report only risked estimates for individual projects

# UNFC Specifications Risking of Resource Quantities

- Risk element can be captured either:
  - ***Qualitatively***, using F axis sub-categories
    - OK for individual projects, but not for aggregation
    - Could be linked to defined ranges of risk

# UNFC Specifications Risking of Resource Quantities

- Or:
  - ***Quantitatively***, by risking the forecast quantities
    - Misleading for individual projects, better to provide un-risked estimates and risk factor separately
    - Aggregation OK, provided handled probabilistically (or limited to the risked mean estimate)
    - Can be applied for all types of projects (e.g. at corporate level or at country level)

# UNFC Specifications

## General Issues (3)

- Risking of resource quantities
  - There is no industry standard approach for capturing risk quantitatively in either minerals or petroleum sectors

# **UNFC Specifications General Issues**

- Any other general issues?