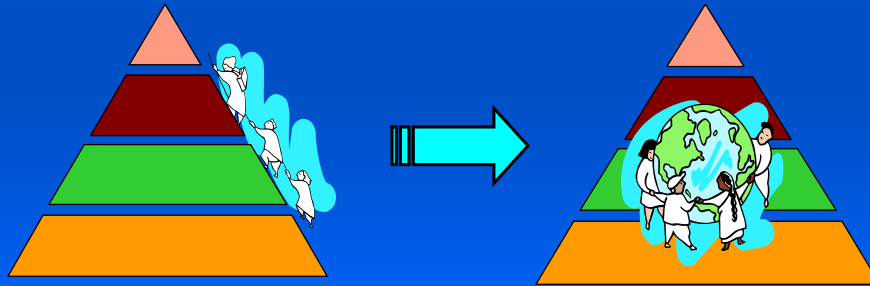


## UNFC Petroleum Task Force Project Status Report

### “SPE Definitions & Beyond”

October 2006

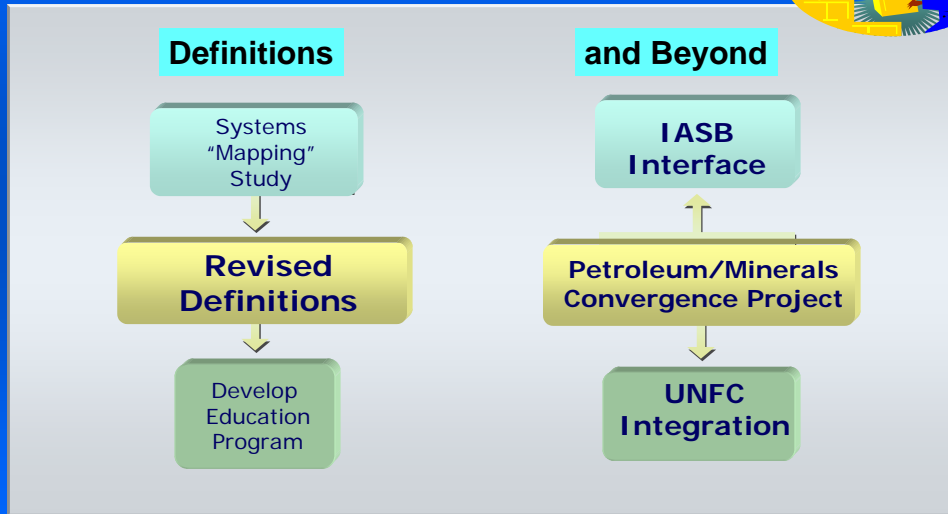


### SPE “Grand Vision” for Reserves/Resources

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- SPE/WPC/AAPG/SPEE definitions and classification system (and associated estimating guidelines) will continue to be maintained evergreen and enhanced to incorporate new best practices, and unconventional resources, and will be recognized as the premier classification standard.
- SPE will actively promote and facilitate in-depth understanding of the definitions and their universal adoption by the oil, gas, and related industries; international financial organizations; governments; regulatory agencies; and reporting bodies.

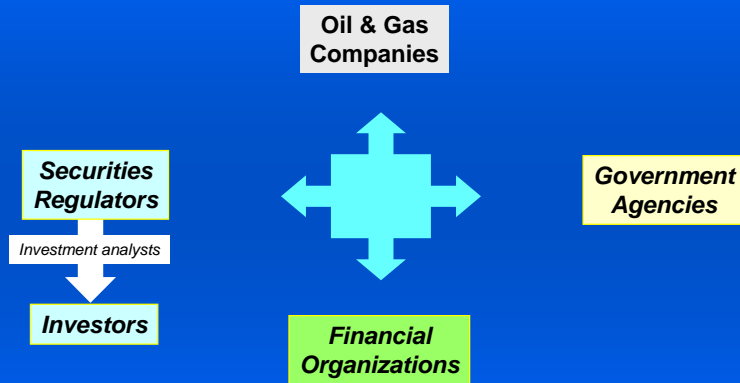
## In Pursuit of the "Grand Vision"



## SPE Definitions Project

Draft #1 ↓ Draft #8	Phase 1:	Subcommittee Work	April 2005 - Sept 2005
	Phase 2:	Draft Documents Committee Reviews	Sept 2005 - July 2006
	Phase 3:	WPC/AAPG/SPEE Reviews	July 2006 - Sept 2006
		SPE Board Approval	Sept 2006
	Phase 4:	Industry Comment Period	Oct 2006 - Feb 2007 ←
		Publish Final Document	Estimate March 2007

## SPE Vision: “Universal Standard” for Petroleum



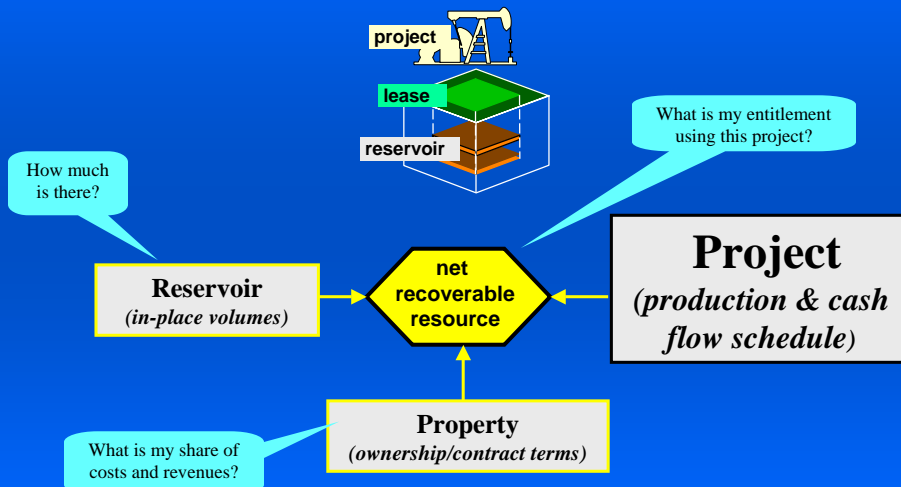
All clients require complete, consistent and reliable information on future production and associated cash flow estimates.

## Major Principles in Revised SPE/WPC/AAPG/SPEE System



- The System is “Project–Based”
- Classification is based on project chance of commerciality
- Categorization is based on certainty of quantities recovered by applying a defined project to a reservoir
- Base case uses evaluator’s forecast of future conditions

## Principle 1: "Project-Based" System



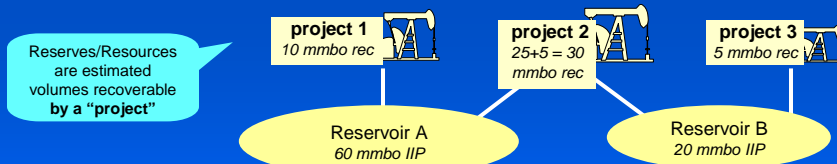
## More Project Logic

Projects can be stand-alone or aggregated



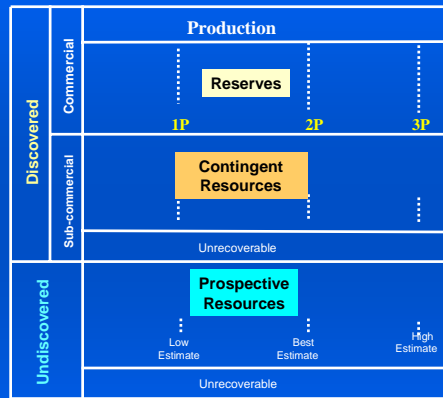
Some projects are uneconomic standalone... but are economic when aggregated

One project may target one or several accumulations



One reservoir may be targeted by many projects  
(at different stages of maturity)

## Principle 2: Separate Classification & Categorization



classify by commercial certainty of project applied

chance of development

chance of discovery

categorize estimates based on technical certainty of sales quantities associated with project

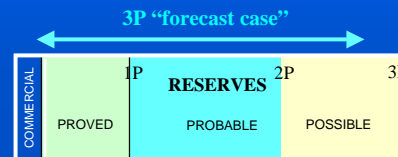
reservoir in-place uncertainty + project recovery efficiency uncertainty

## Principle 3: Base Case uses Forecast Conditions

“Forecast Conditions” = those assumed to exist during the project’s implementation

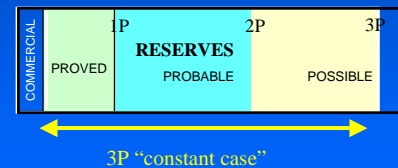
Conditions include:

- Prices and costs
- Technology available
- Environmental standard
- Fiscal terms
- Regulatory constraints



Evaluations include several sensitivity cases

Typically one sensitivity case assumes “current conditions” will remain constant throughout the life of the project.

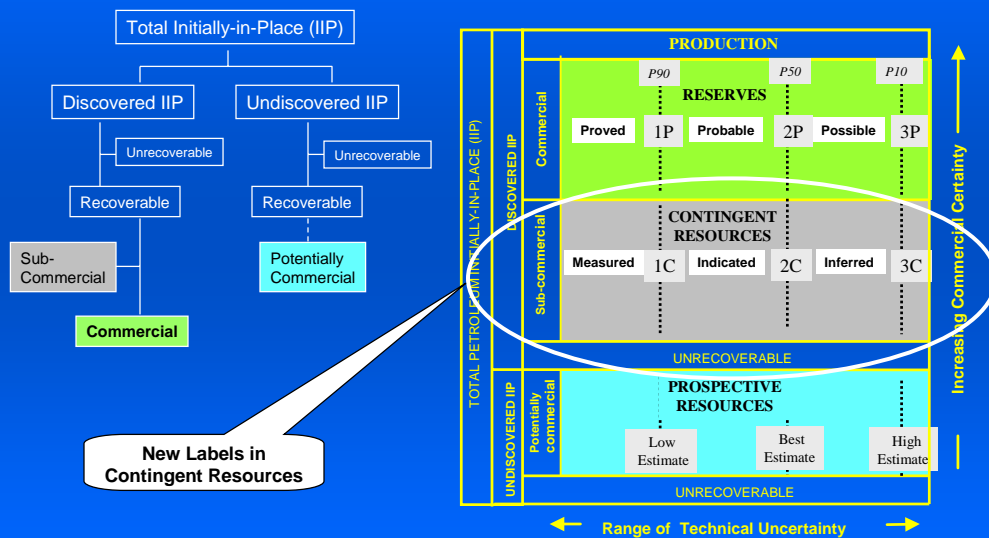




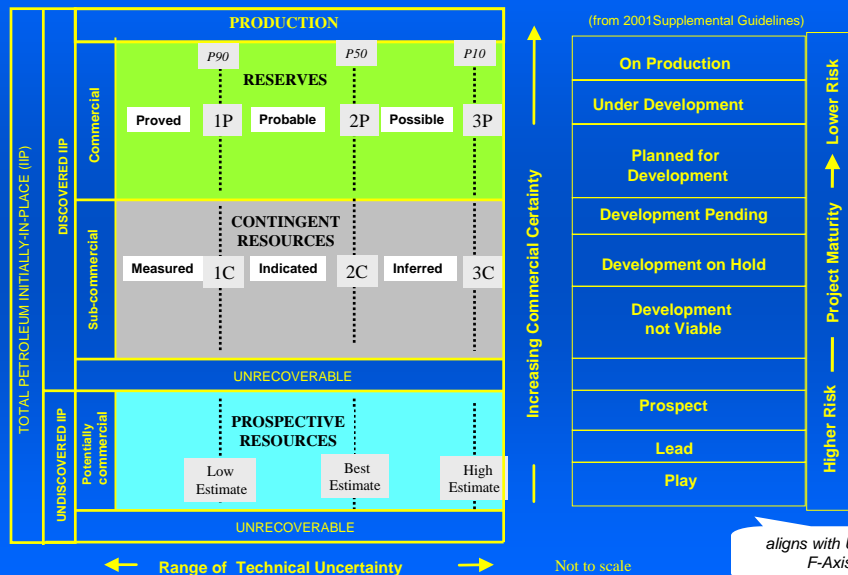
## An Overview of Guidelines & Issues

- ❑ Classification & Categorization
- ❑ Commercial/Economic Criteria
- ❑ Unconventional Resources
- ❑ Reference Point for Resources Measurement
- ❑ Incremental vs Cumulative Estimates
- ❑ Deterministic vs Probabilistic Methods

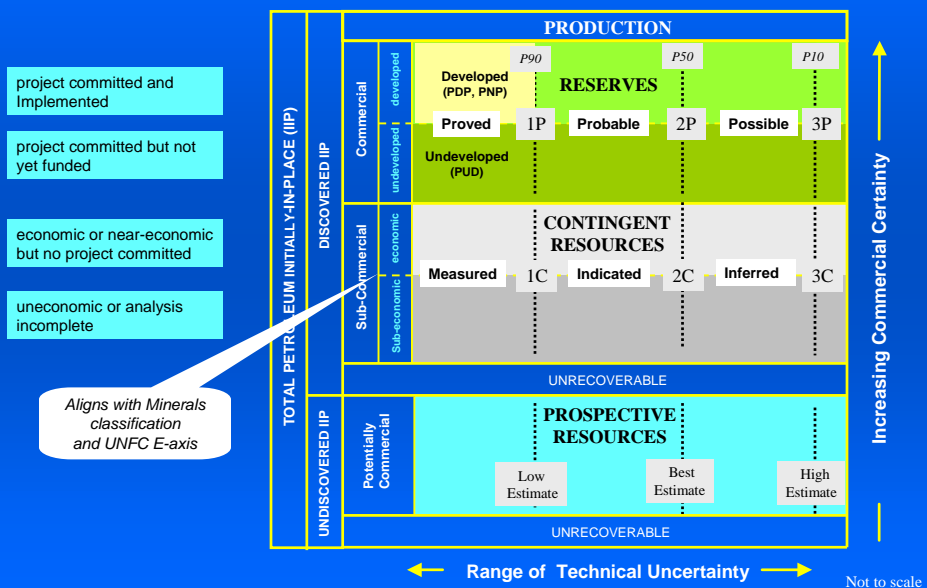
## SPE/WPC/AAPG/SPEE "Classification System"



## Option 1: Subclass by Project Decision Status



## Option 2: Subclass by Project Operational/Economic Status



## Commercial/Economic Criteria

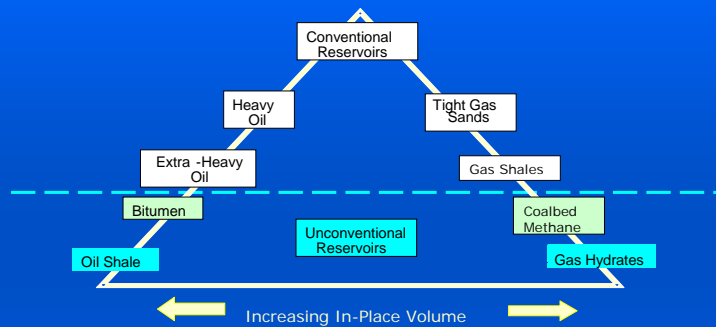


project (at some level) must yield a positive net present value using the evaluator's assumed conditions and discount rate

project development must be initiated within a reasonable time frame (~ 5 years)

All exceptions should be clearly documented

## Unconventional Resources



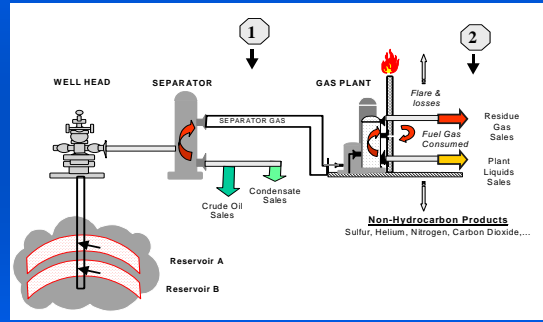
→ Pervasive over large areas and not significantly affected by current hydrodynamic influences, i.e. buoyancy of petroleum on water!

SPE classification still applies (but may require alternative assessment approaches).

## Reference Point for Resource Measurement

Identify first custody transfer point after production

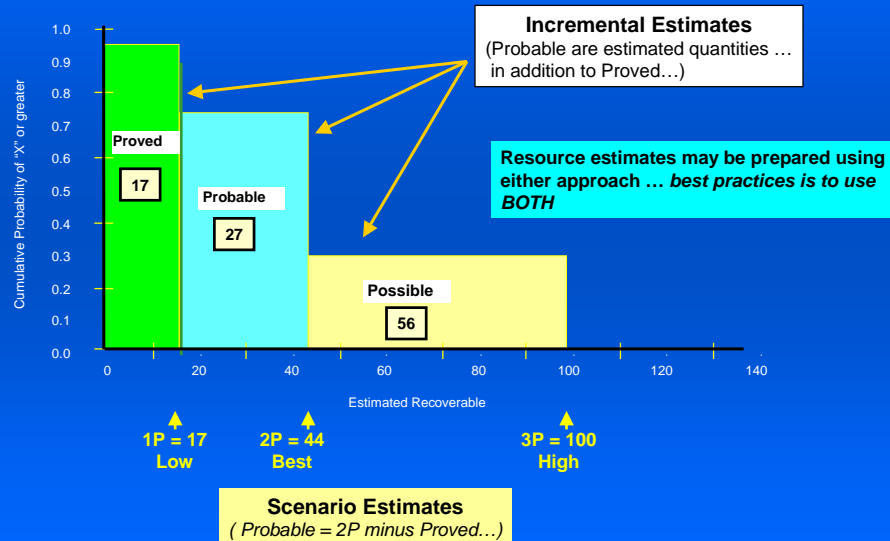
*This becomes unclear in integrated production & processing complexes!*



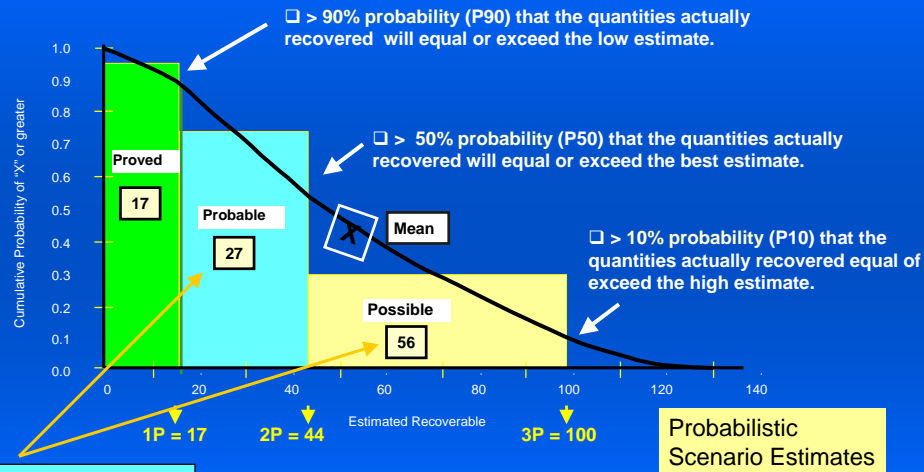
Measure at plant outlet if physical separation/purification!

Measure at plant inlet if extensive chemical processing required!

## Incremental vs Cumulative (Scenario) Approach



## Deterministic vs Probabilistic Approach



## SPE "Grand Vision" for Reserves/Resources

- Provide a technical standard that meets the requirements of oil and gas companies to manage their business.
- Integrate technical standards with accounting standards.
- Provide a technical standard that can be referenced by government and regulatory agencies in defining external disclosure requirements.