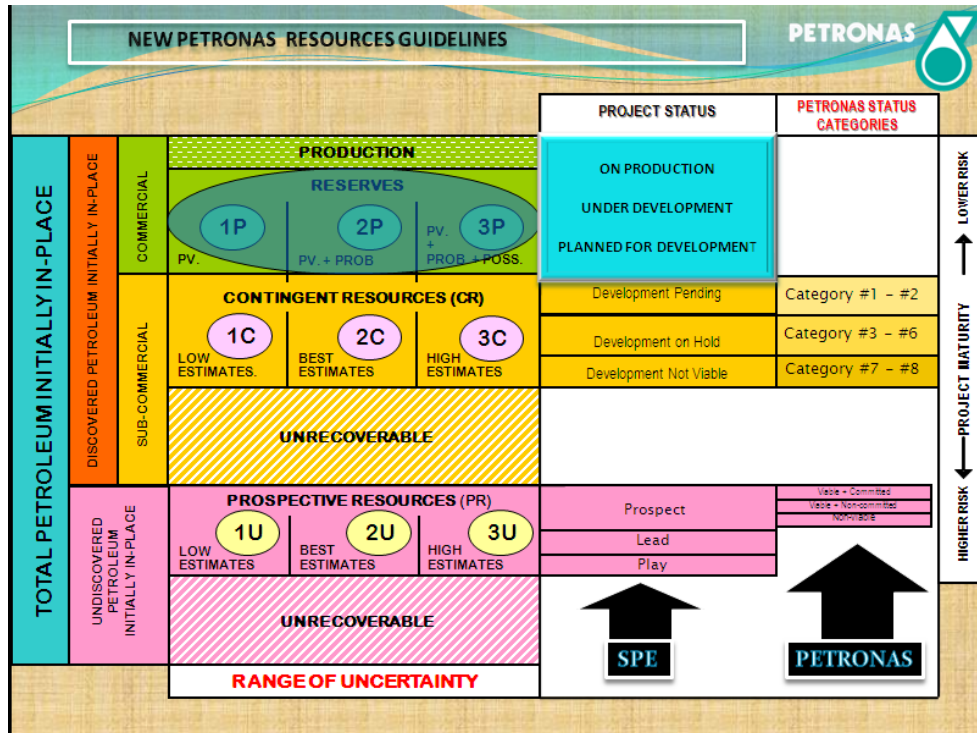


PETRONAS Definitions and Guidelines for Classification of Petroleum Resources

1. Introduction

The terminology recommended for the classification of estimated quantities of petroleum resources i.e. crude oil, condensate, natural gas and related substances at a specific date serve as a basis for PETRONAS' resources portfolio management. The resource definitions and classification in this guideline are derived from the definitions and classification adopted by internationally recognized organizations such as the SPE, WPC, AAPG; in particular the petroleum reserves definitions promulgated by the SPE in March 1997 and the petroleum resources classification and definitions promulgated by the SPE/WPC/AAPG in February 2000.



2. Classification of Petroleum Resources

Resources are defined as the total estimated quantities of petroleum at a specific date to be contained in, or that have been produced from known accumulations, plus those estimated quantities in accumulation yet to be discovered.

Resources can be classified into two categories; **Discovered Resources** and **Undiscovered Resources**. In these definitions, the quantities estimated to be initially-in-place are defined as Total Petroleum-initial-in-place, comprising of Discovered petroleum-in-place and Undiscovered Petroleum-initial-in-place. The recoverable portion is defined separately as Reserves, Contingent Resources and Prospective Resources.

Discovered Resources can be subdivided into two categories; Estimated Ultimate Recovery (EUR) and Contingent Resources (CR).

PETRONAS Definitions and Guidelines for Classification of Petroleum Resources

Estimated Ultimate Recovery is defined as those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from an accumulation, plus those quantities already produced there from.

- **Reserves** defined as those quantities of petroleum which are anticipated to be commercially recoverable from known accumulations from a given date forward.
- **Cumulative Production** is defined as the total quantities of petroleum that have been produced at a specific date.
- **Ultimate Recovery** is the sum of Cumulative Production and Reserves. Reserves will be reported as Proved (1P), Proved + Probable (2P) and Proved + Proved + Probable (3P).

Contingent Resources (CR) are defined as those quantities of petroleum which are estimated on a given date, to be potentially recoverable from known accumulation but which are not currently considered to be commercially recoverable. The reasons for con-commerciality could be economic, political, environmental or technological.

Undiscovered Resources are defined as the total estimated in-place quantities of petroleum at a specific date to be contained in accumulations yet to be discovered.

- **Prospective Resources (PR)** are defined as those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from Undiscovered accumulations.
- PR should imply an Un-risked estimate. The assigned risk factor should be given alongside each estimate.

The detail of each definition will be shared during presentation.

3. Project Status

In order to be classified as RESERVES, projects should, ideally have an approved FDP and be likely to be implemented in the near future. This approval may be obtained from Management Committee or the Board (whichever appropriate).

There may be cases whereby there are certain situations or conditions that would preclude the project's immediate implementation, in which case the resource will be remain as contingent Resources (CR).

Under Reserves Category : On production, Under Development and Planned for Development

Contingent Resources : Development Pending, Development on Hold and Development not viable

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Prospective Resources : Prospect, Lead and Play.

4. Resources Applications

The guidelines of resources were used in technical and business.

- **Technical Applications** - for Prospect Evaluation, Block Assessment, WPB, Project Identification and Selection, FDP, Facility Plan, Appraisal Plan, Risk Service Contractor (RSC), R&D promotion and IOR/EOR.
- **Business Applications** - for Corporate Worth, Fund Raising, Stock Exchange, Earning Basis, FDP, Corporate Financial Outlook, Equity determination and Petroleum Arrangement (economic evaluation, PSC terms etc.)

5. User of the System

The system or Guidelines were used for PETRONAS Domestic and International Operations. (Refer Item 4)

6. Conclusion

PETRONAS Definitions and Guidelines for Classification of Petroleum Resources cover the full range of petroleum resources inventory in meeting various business and technical applications.

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