



# Navigating the Changing World of Reserves and Resources in the Context of the PRMS

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20 - 21 AUGUST 2024 | BRISBANE, AUSTRALIA

## **From Data to Decisions: The Evolution of PETRONAS's Reserves and Resources Reporting**

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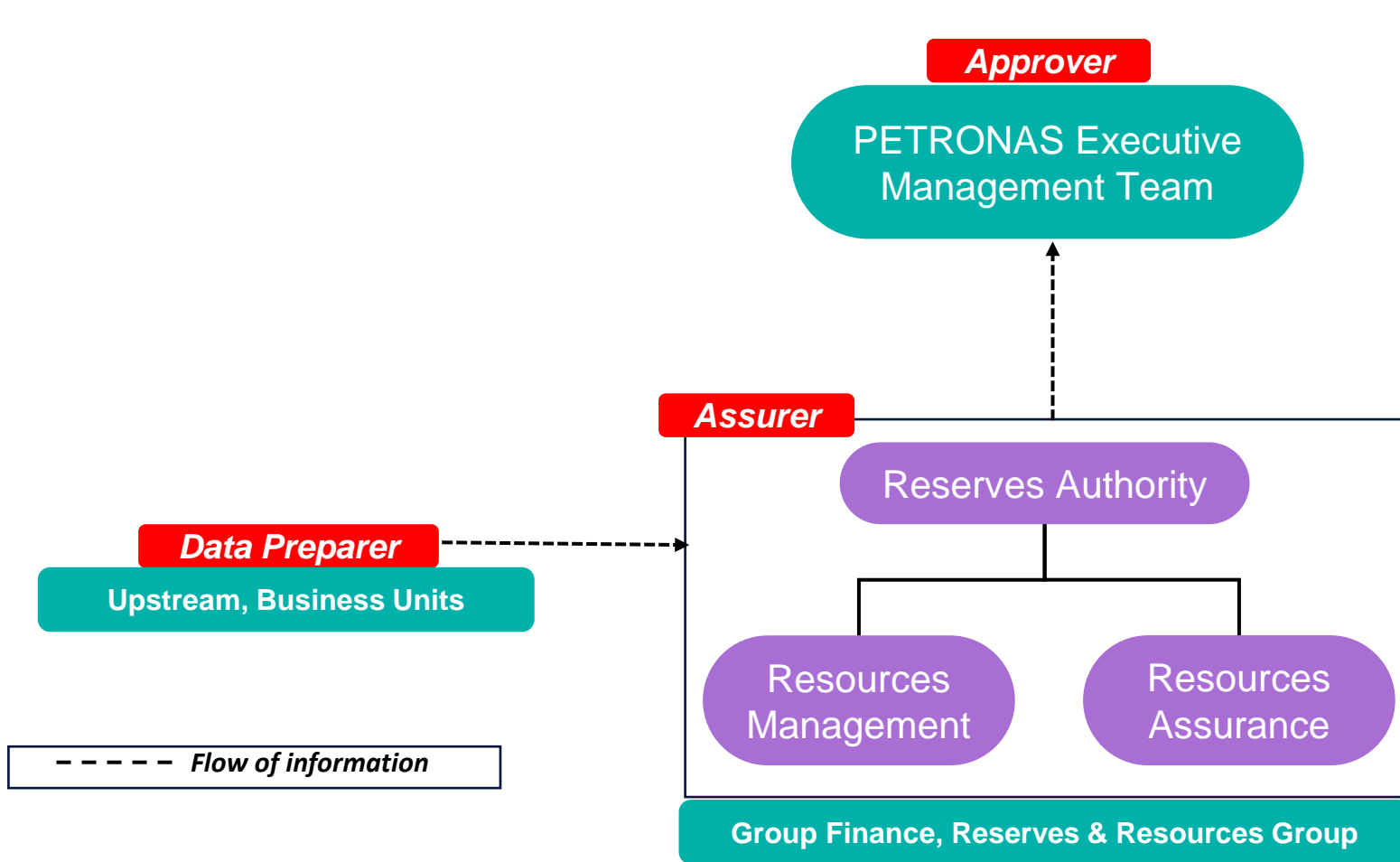


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# OUTLINE

- 1. Context Setting**
- 2. Digitalization and Transition Journey**
- 3. Strategy & Approach**
- 4. Aspiration & Way Forward**



## What We Do?



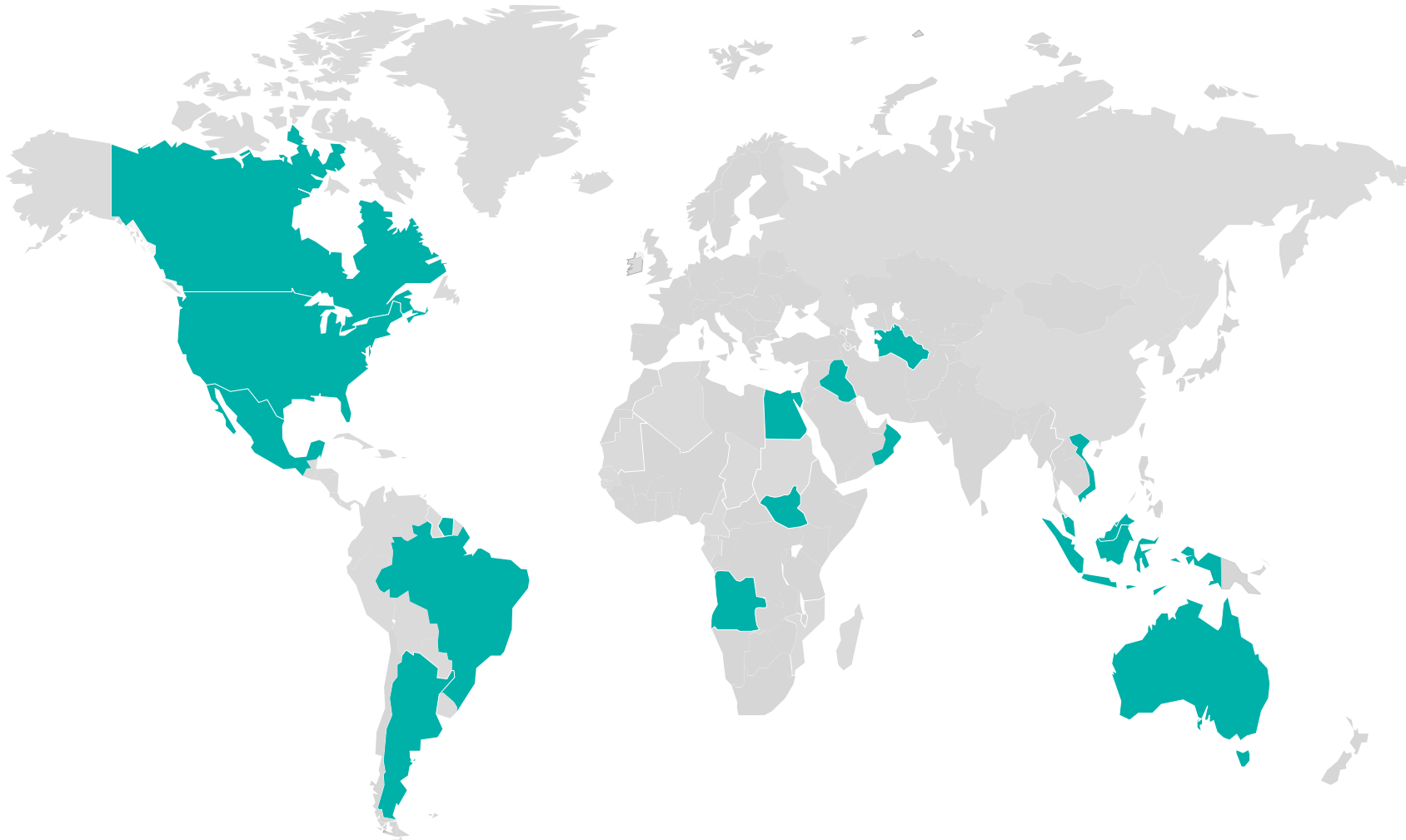
### Annual Review of Petroleum Resources (ARPR)

- ▶ A process run by Reserves & Resources
- ▶ Governed by the **PETRONAS Reserves and Resources Management System (PRrMS)**
- ▶ Year-End Assurance, Endorsement and Approval



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# PETRONAS' Upstream Discovered Resources Presence Across the Globe



## Statistics



**17**  
Countries



**100+**  
Petroleum Contracts



**1000+**  
Projects

# Annual Review Report: The Three Books

Approved ARPR



**Book 1:  
PETRONAS as  
Regulator**




**Book 2:  
PETRONAS as  
Contractor**



**Book 3:  
PETRONAS  
Group**

## Why accurate reporting matters?

 National energy security outlook

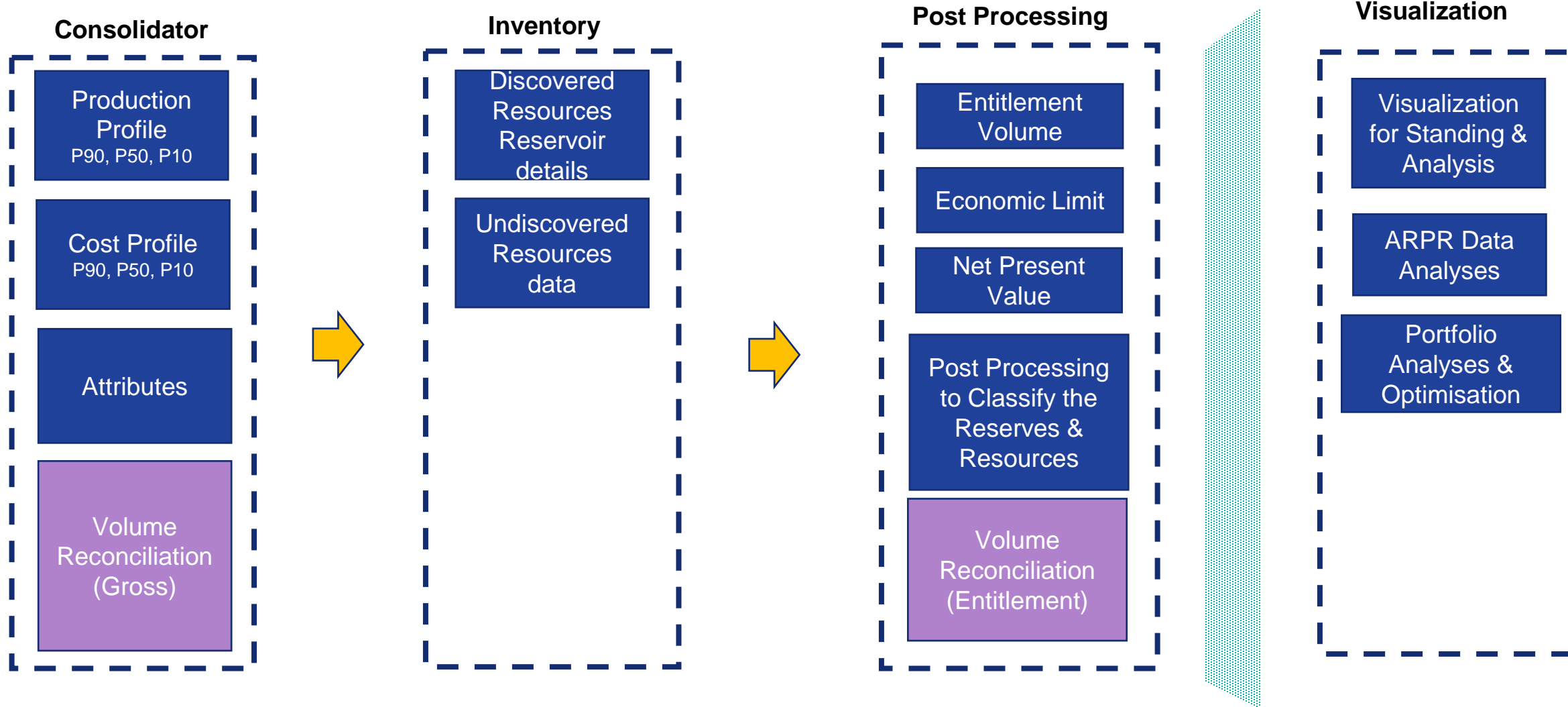
 Compliance to authority requirement

 Financial evaluation for funding

 Company strength & valuation

 Strategic planning & growth

# ARPR Key Processes & Requirements



# Transition Journey of Corporate Reporting

Pre-2020



Data preparation and assurance work for 1000+ of Projects



Excel templates submissions to Reserves & Resources for respective Projects through email



Manual data consolidation and processing using IF functions and Power Query in Excel

Analyses of Approved Annual Review Results



Malaysia



Contractor



PETRONAS

Three Books for Approved Annual Review Results



## Challenges

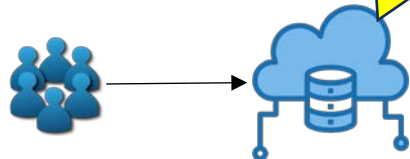
- ▶ Lack of manpower
- ▶ Time-consuming, laborious work
- ▶ Low data granularity



# Transition Journey of Corporate Reporting



Data preparation and assurance work for 1000+ of Projects



**2020 - Current**

Cloud-based, centralized data source – Global Data Consolidation (GDC)



Development Economics Department (DEC) – Input GDC data, set up economic model, run economic calculations, etc.

Synergy between Economist (DEC) and R&R



Reserves & Resources – Fit for purpose functions (Post-processing PRrMS cut-offs, Economic Limits, Entitlement volumes, etc.)

Analytics tools used for clean up and visualization using outputs from Post Processing Tool



Malaysia



Contractor



PETRONAS

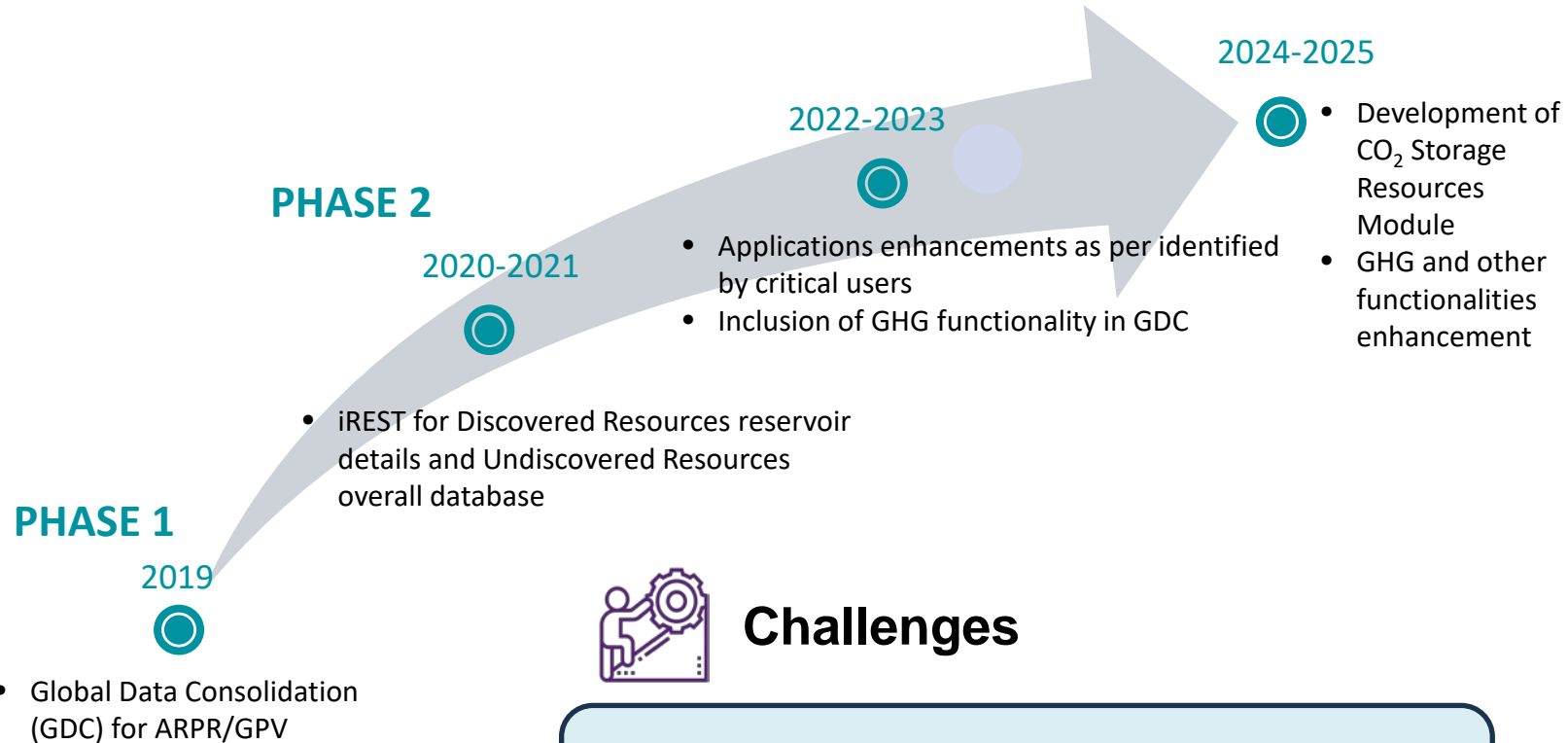
Three Books for Approved Annual Review Results



## Strategy

- 1 Introduction of in-house digital solutions and enhancement to the system
- 2 Utilization of Advanced Microsoft tools for visualization of post-processing analyses

# Strategy #1: In-house Digital Products



## Challenges

- ▶ Incoming implementation: Greenhouse gas (GHG) and Storage reporting



## Improvement

- ▶ Reduce inefficiencies in process
- ▶ Enhance data quality assurance and control
- ▶ GHG template granularity

# Strategy #2: Visualization for Post Processing Results

## Excel Dashboards



## Challenges

Lack of centralized database

Slow loading time

Manhours spent

Excel limitations

Eyeballing errors

Large file size



## Improvement

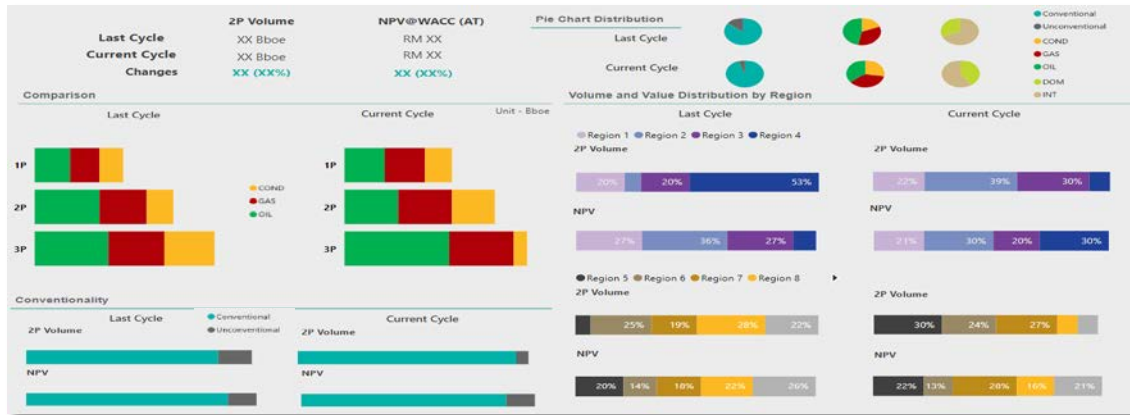
Build the dashboard in Power BI as it offers the following benefits:

- ▶ Centralized data source
- ▶ User-friendly interface
- ▶ Fast and easy to be competent
- ▶ Web-based platform that allows easy access
- ▶ Standalone modules to allow multiple developers working simultaneously

# From Data to Decisions

## Annual Reviews Standings

Comprehensive, consistent, structured yet flexible volume report that allows for data extraction at various hierarchy



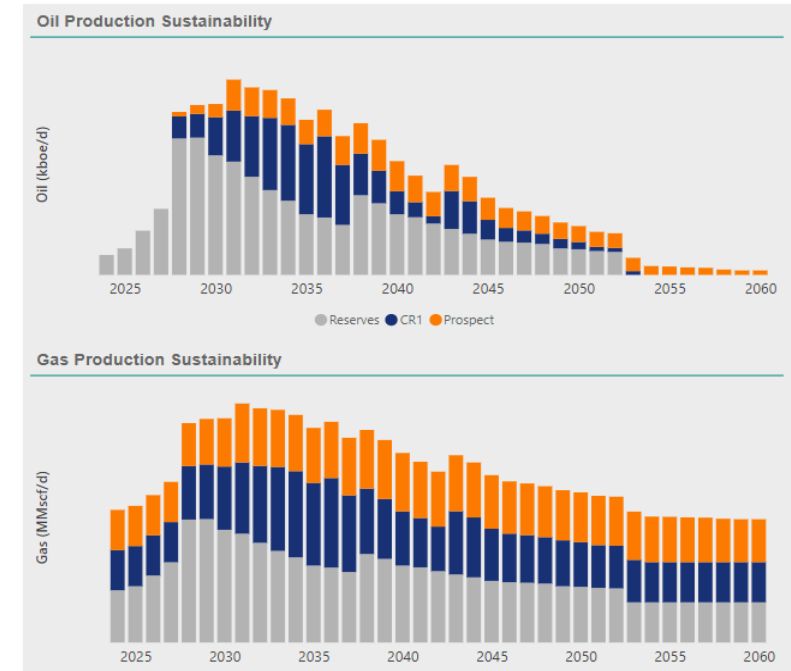
## Variance Analysis (Waterfall Chart)

Dynamic tracking of volume movement providing deeper insights on assets performance



## Production Profile Outlook

An outlook of sustainability profile in meeting various targets, demands and projection





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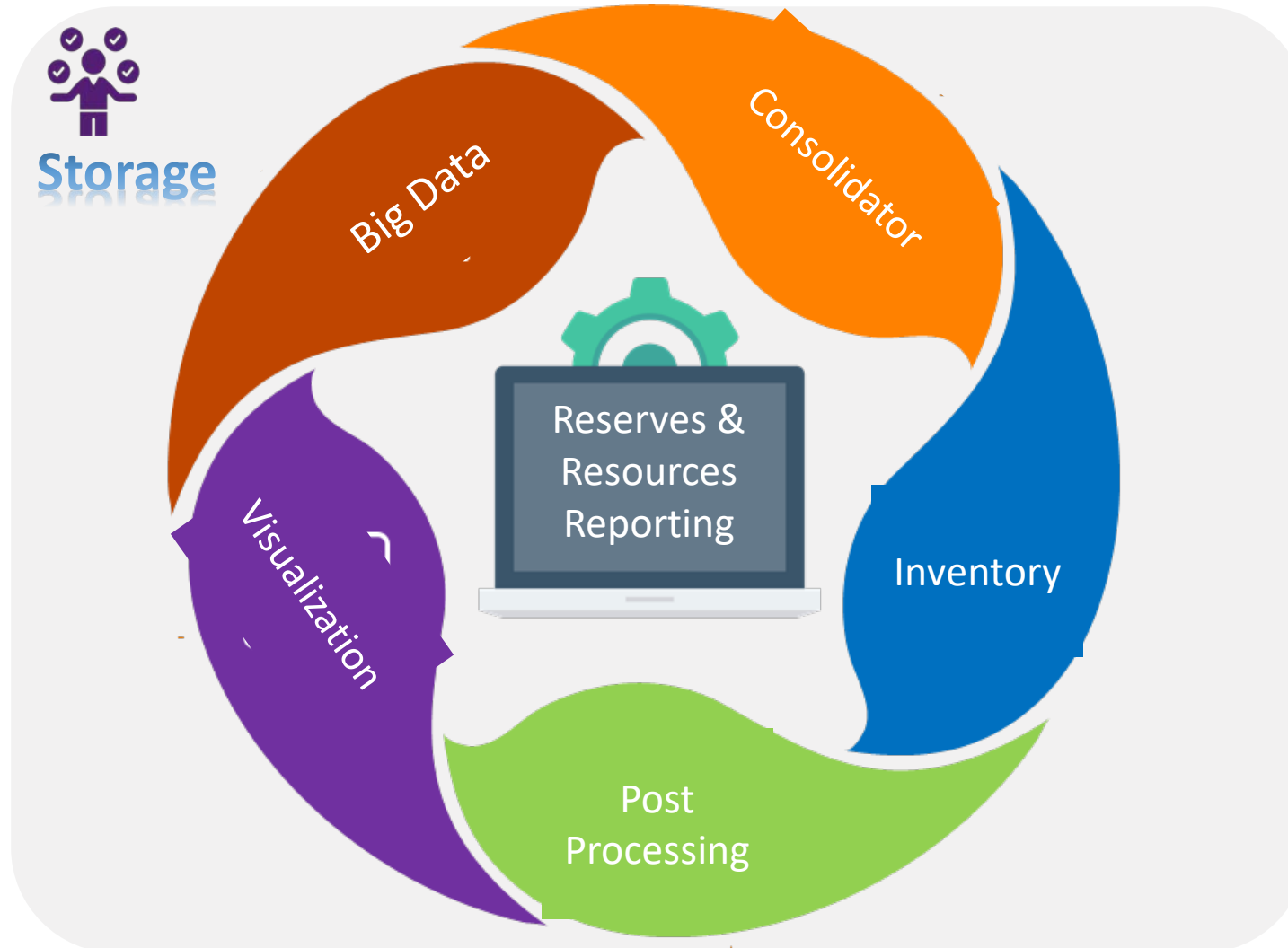
# Transition Journey of Corporate Reporting



Pre-2020

2020 – Current

Future



Enhancement?





**PETRONAS**

**50**  
**YEARS**