



# Peninsular Malaysia Gas Supply and its Challenges

19 December 2013

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# PETRONAS was formed as the custodian and manager of Malaysia's petroleum resources



*Creation of PETRONAS*

*Capability & Capacity Building*

*A Global Player*

## 1970s

- Incorporation of PETRONAS on 17th August 1974
- The Malaysian Petroleum Development Act 1974 vested upon PETRONAS the exclusive rights to explore, develop and produce petroleum resources within Malaysia
- First PSCs signed in 1976

## 1980s-2000s

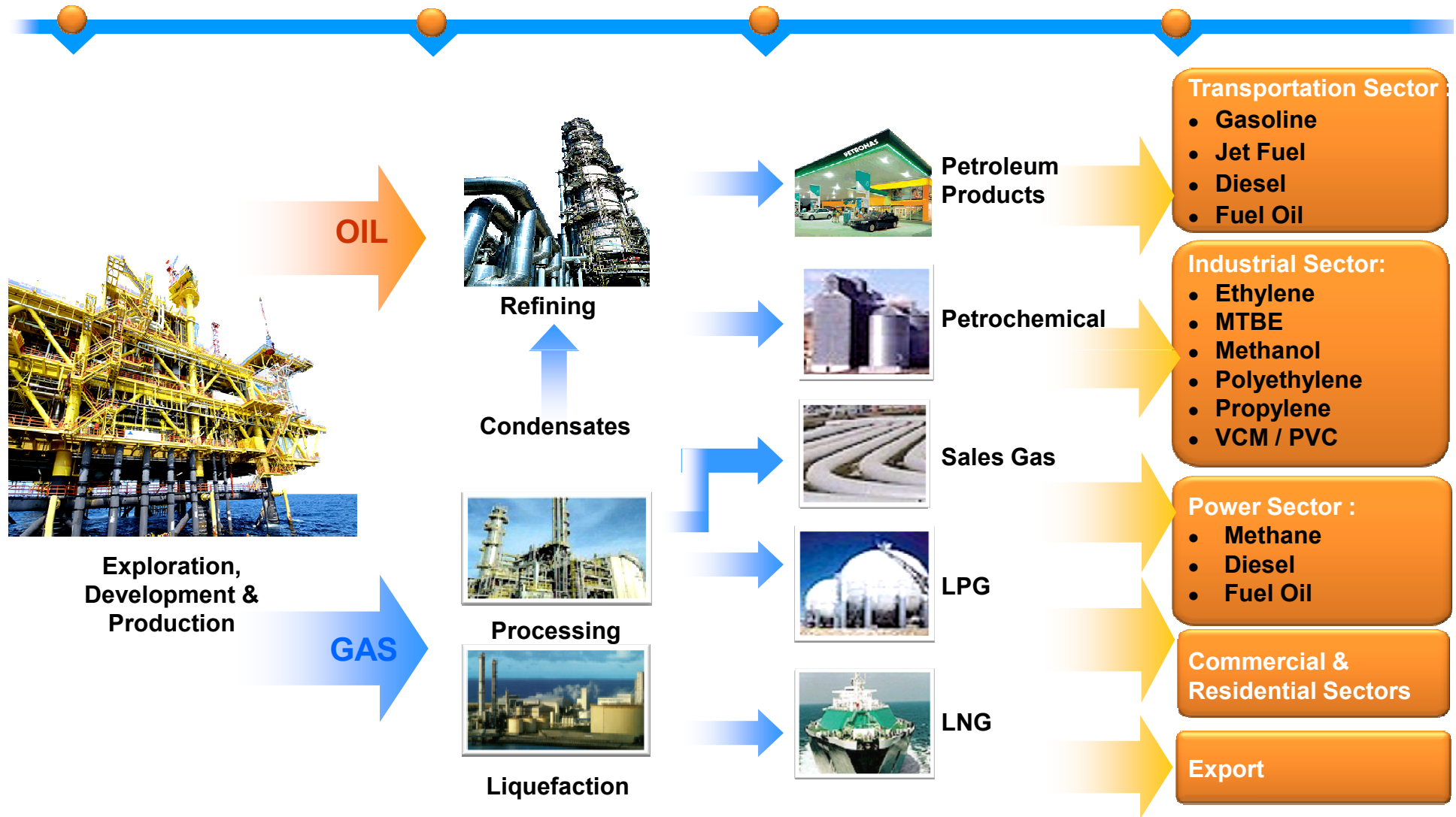
- Gas exploration & development activities
- Downstream gas projects
- Expansion of other domestic downstream projects such as Refining, Petrochemicals & Logistics & Maritime
- International Ventures

## After 35 Years - Today

- Fully integrated multinational oil and gas company
- Worldwide expansion in more than 30 countries
- Revenues from overseas operations
- Production of oil and gas from international ventures

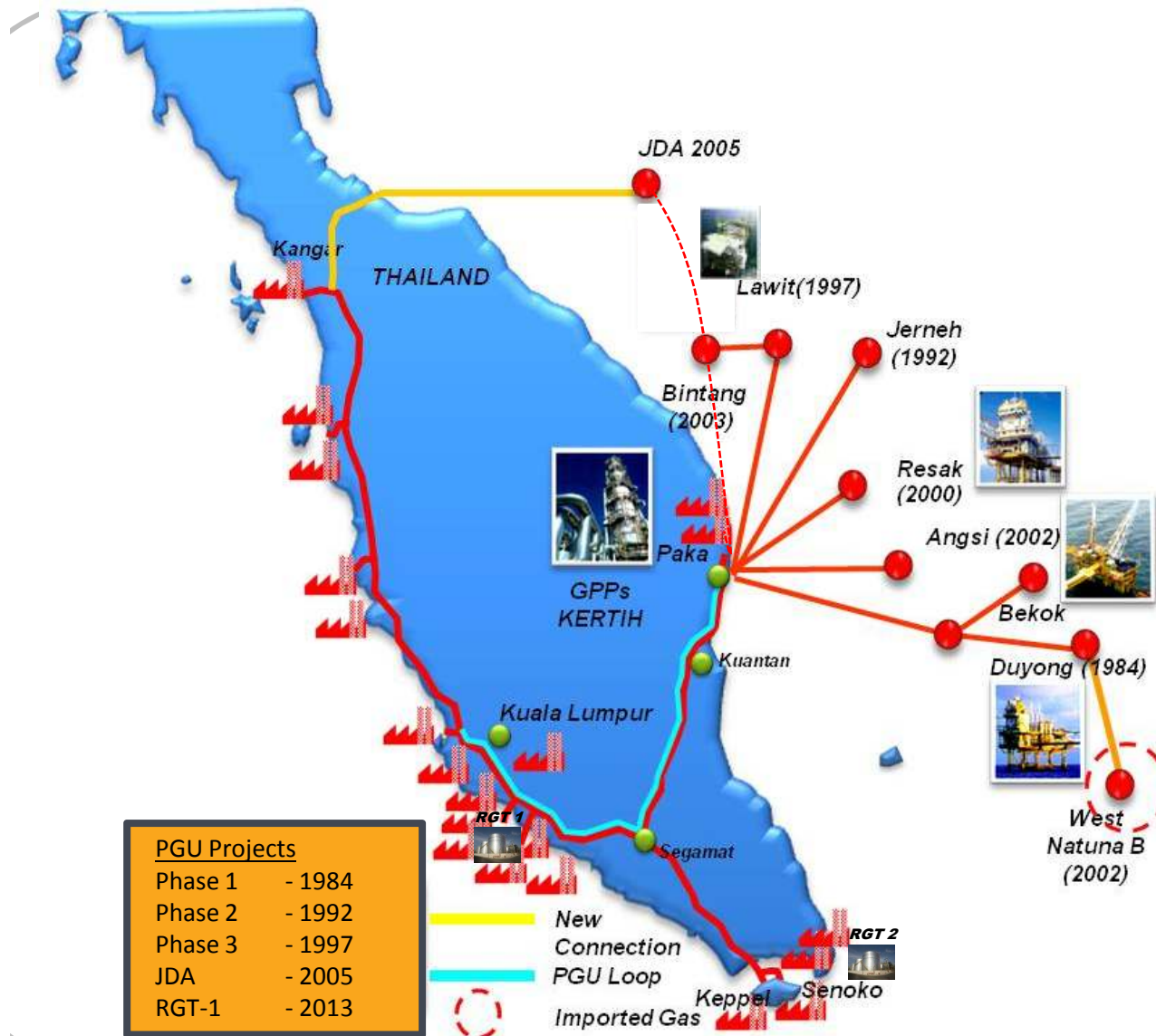


Since 1980s, PETRONAS began developing its own capabilities and has evolved into a fully integrated multinational oil and gas company





# Extensive infrastructure in place to support Peninsular Malaysia gas market development



Major Facilities

Offshore Platform	106
Active gas well	203
Major pipelines	923 km
Capacity	2,520 mmscfd feed gas

Major Facilities

Pipelines	2,505 km
City Gates	27
Slugcatchers	3
Kertih GPPs	6 (2,060 mmscfd)
TTM GSP	1 (350 mmscfd)
Compressor stations	3
RGT-1 Melaka	3.8 MTPA

**Total Investment**

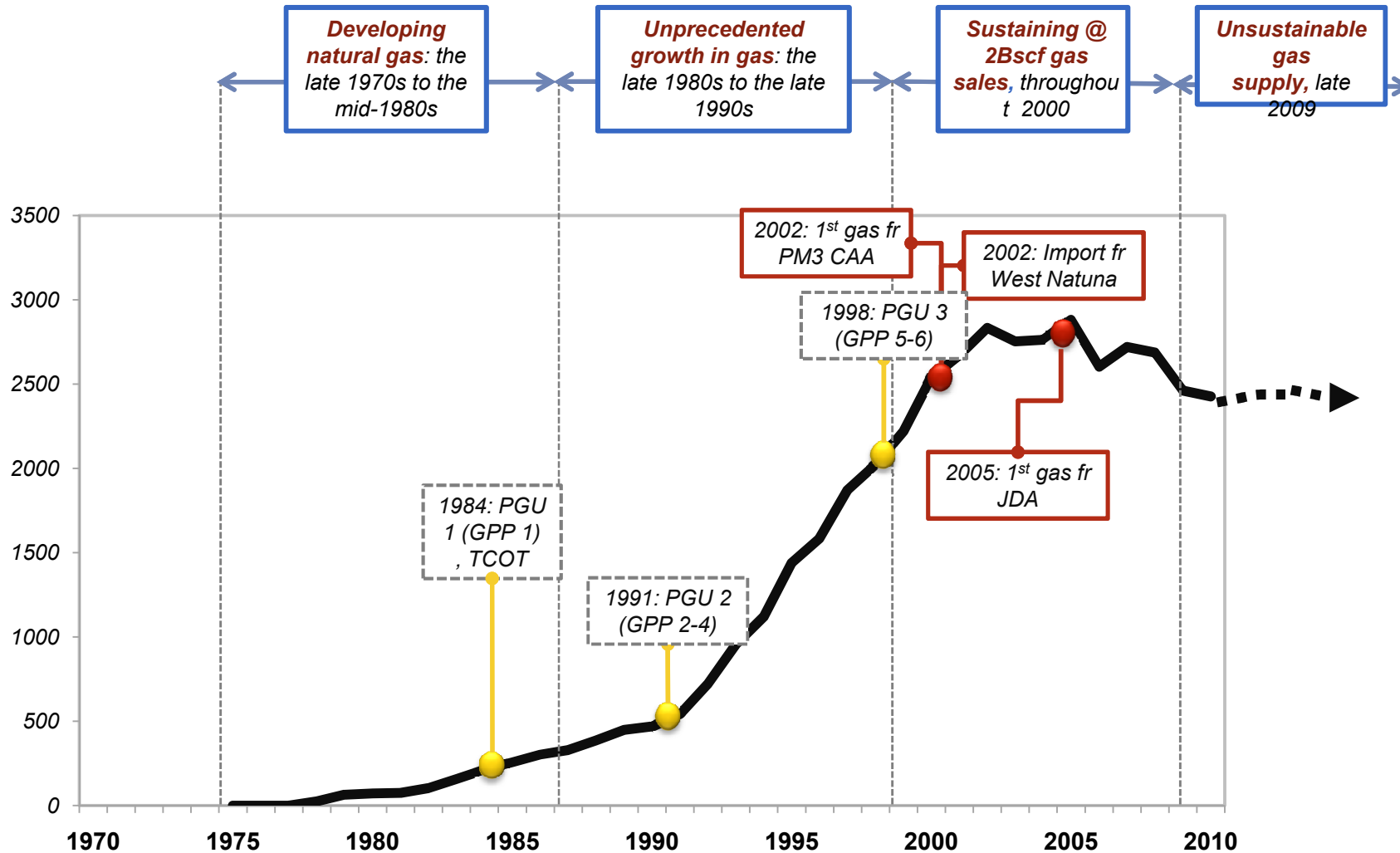
- ~RM 26 billion to develop PGU system
- ~RM 2 billion to develop Trans Thai-Malaysia facilities
- ~RM 3 billion to develop RGT-1



# Unprecedented growth since late 1990 in Peninsular Malaysia can no longer be sustained from indigenous gas production

## Historical Evolution of Peninsular Malaysia Gas Production (Gross)

Unit: mmscf/d





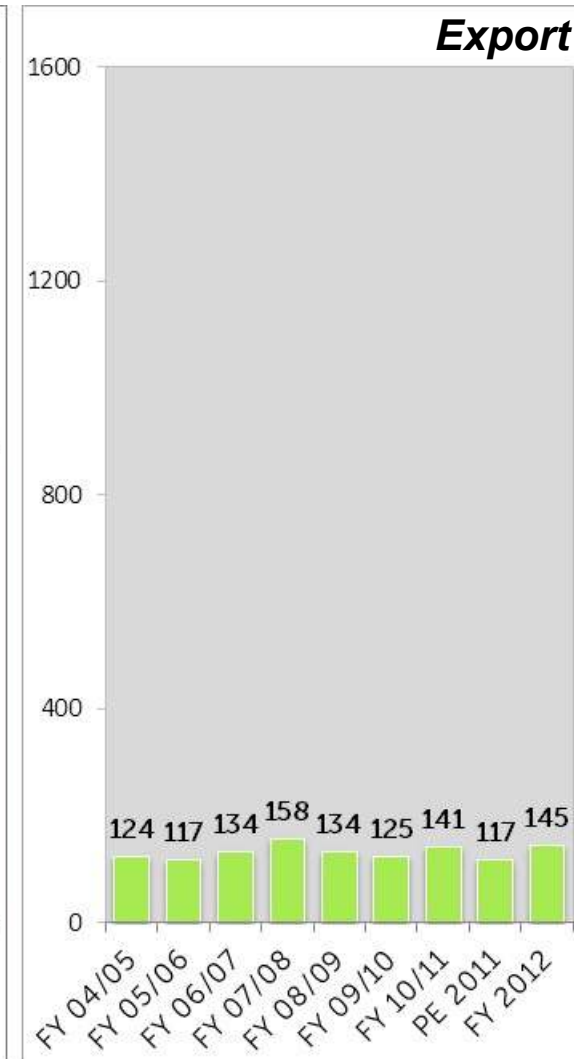
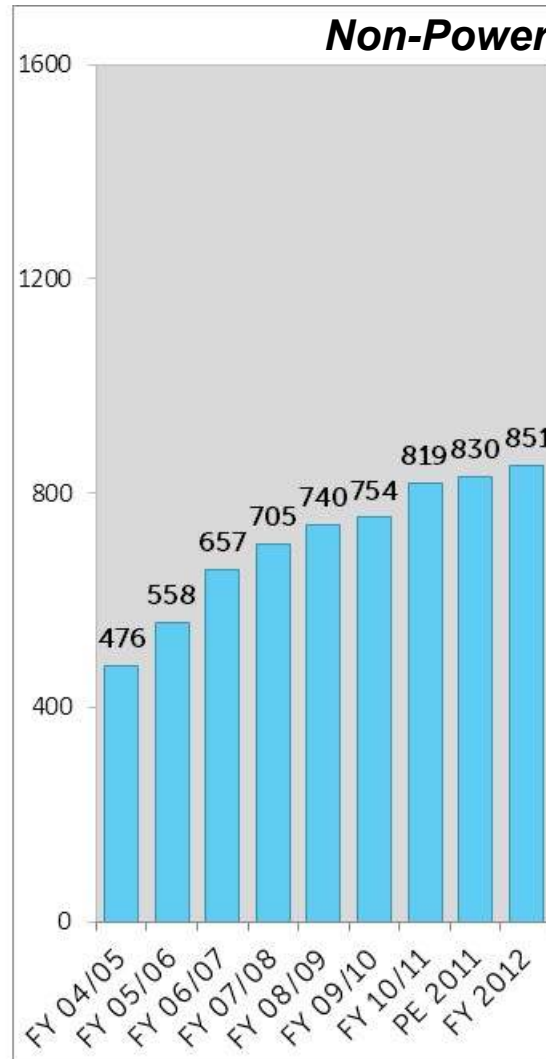
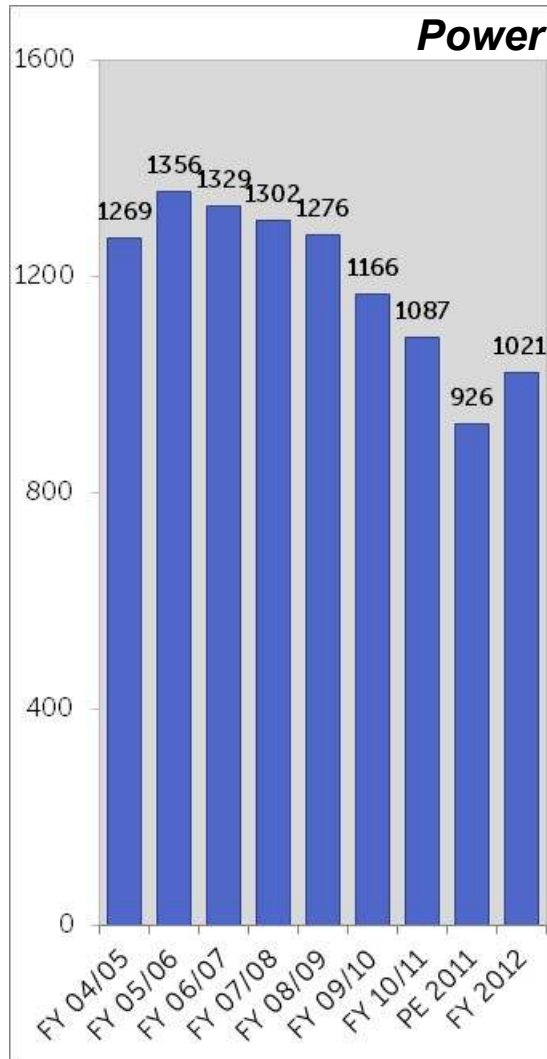


# Gas demand breakdown by customer type

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## Historical Gas Demand of Peninsular Malaysia

Unit: mmscf/d





Prior to RGT, gas supply in Peninsular Malaysia has not been able to meet its demand due to a combination of issues

## Supply

- Indigenous Peninsular Malaysia production is not able to meet demand
  - domestic producing fields are on rapid decline due to accelerated extraction rate
- Over-stretching of the supply system has led to frequent supply interruptions
- Remaining reserves are technically & commercially challenging to be developed
  - Small in size
  - Scattered locations
  - High CO<sub>2</sub> content

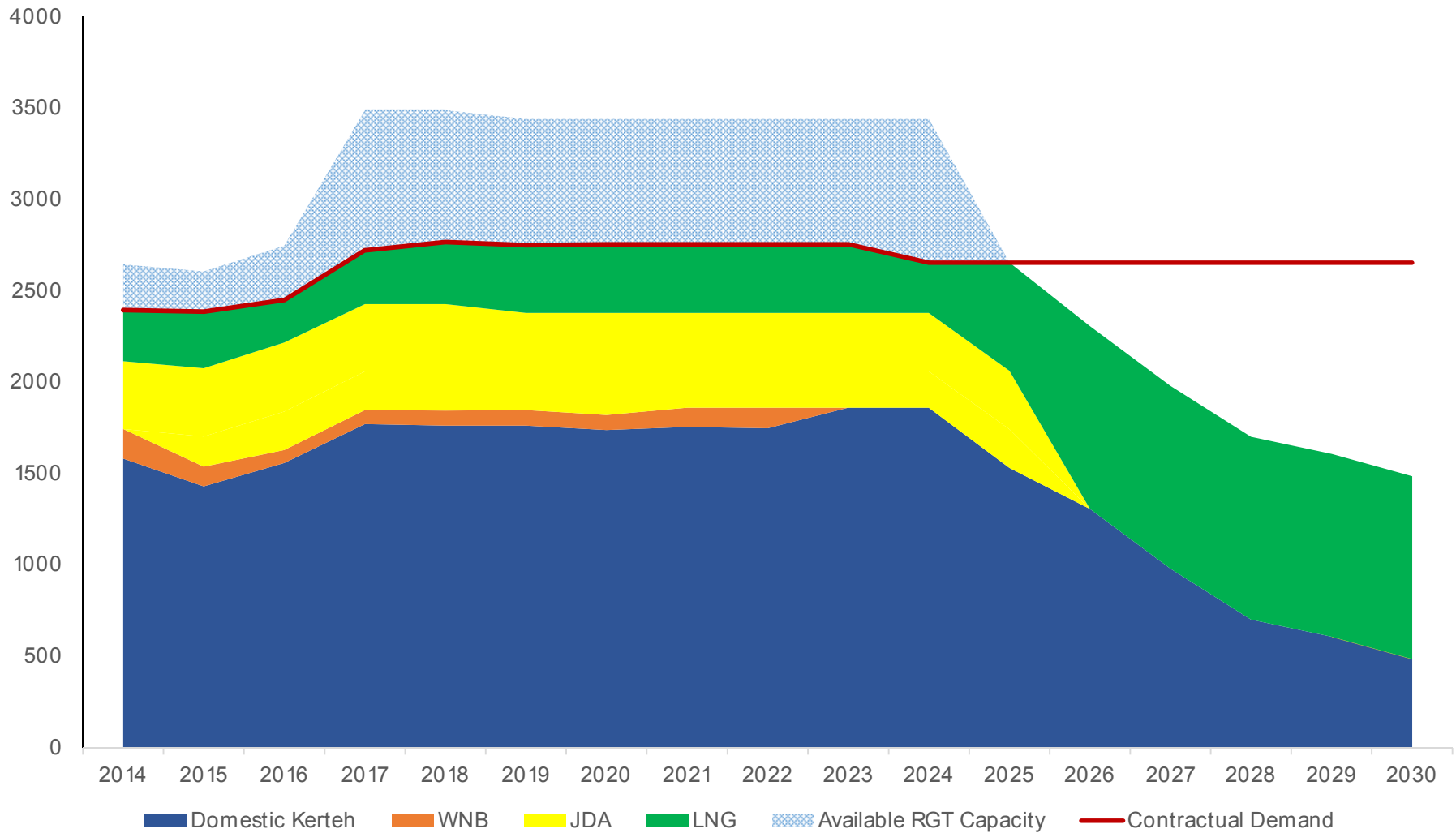
## Demand

- Inappropriately priced gas has created unsustainably high demand
  - end users preference to gas have increased compared to other higher cost of fuels such as coal, fuel oil, diesel or LPG



# With RGT in Melaka, Peninsular Malaysia gas demand can be met

Unit: mmscfd



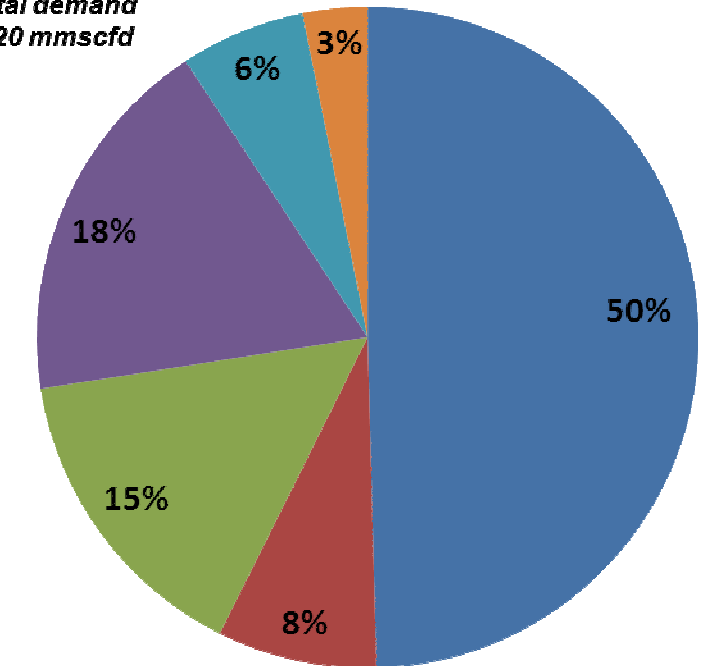




# Indigenous supply can only meet 57% of total demand

## Gas Demand (2014)

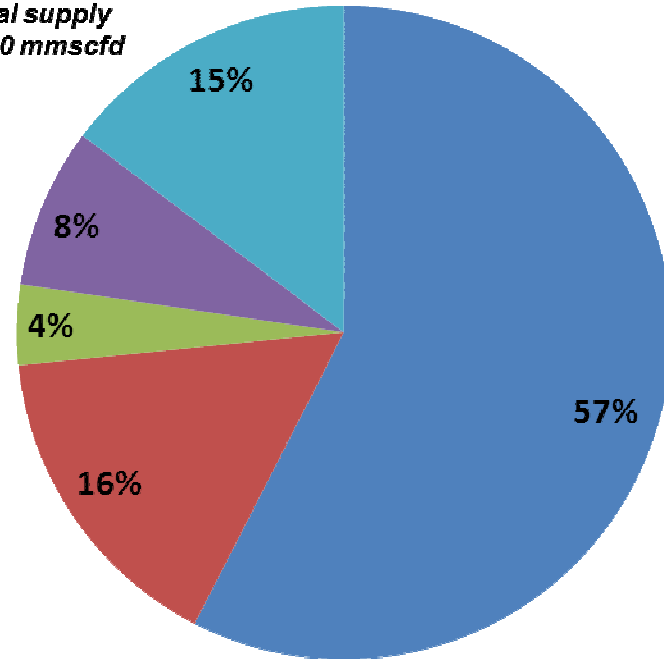
Total demand  
2520 mmscfd



- Power
- GMB (reticulation)
- Steel Industries
- Export
- PETRONAS subsidiaries
- Other industries

## Gas Supply (2014)

Total supply  
2520 mmscfd



- Domestic
- JDA (Msia-Thai)
- W. Natuna B (Indonesia)
- LNG
- CAA (Msia-Vietnam)



## Periodic gas price increase not fully implemented

- ❑ Government imposed regulated pricing in 1997 during the Asian Financial Crisis
- ❑ In May 2011, Cabinet approved gas price increase effective from June 2011
- ❑ No subsequent gas price increase was implemented

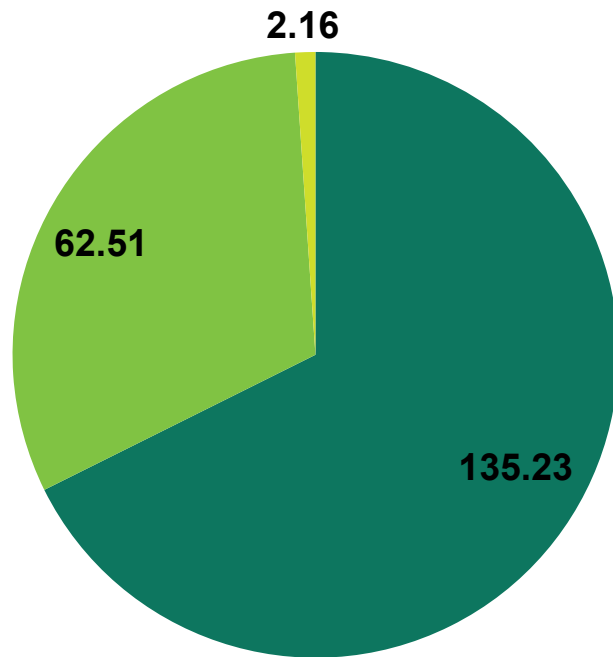
Unit : RM/MMBtu

Sector	w.e.f 1 May 1997	w.e.f Oct 2002	w.e.f 1 July 2008	w.e.f 1 August 2008	w.e.f 1 March 2009	w.e.f 1 June 2011
<b>Power</b>	6.40	6.40	14.31	14.31	10.70	13.70
<b>Non-Power</b>	Contractual	11.32	32.56	22.58	15.35	18.35
<b>Gas Malaysia</b>	Contractual	9.40	24.54	17.99	11.05	14.05



# Revenue foregone due to regulated gas pricing is now at RM 199.9 billion

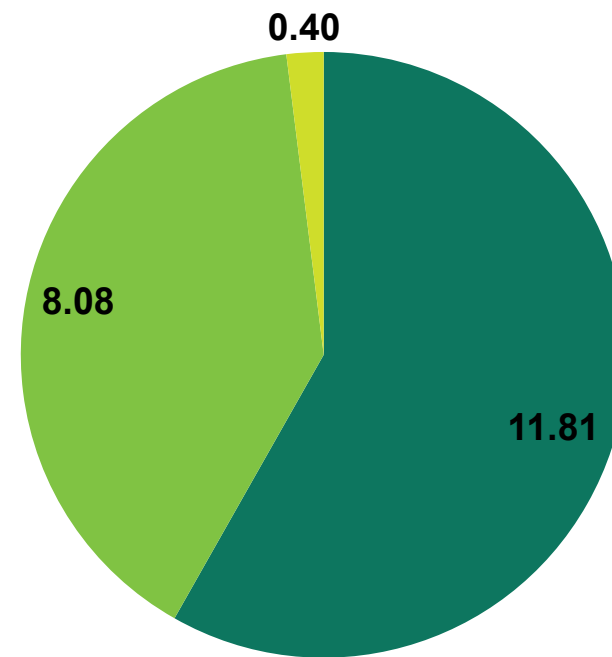
## Cumulative since 1997



Total = 199.90 billion

■ Power ■ Non Power ■ NGV

## 2013 (YTD Q3)



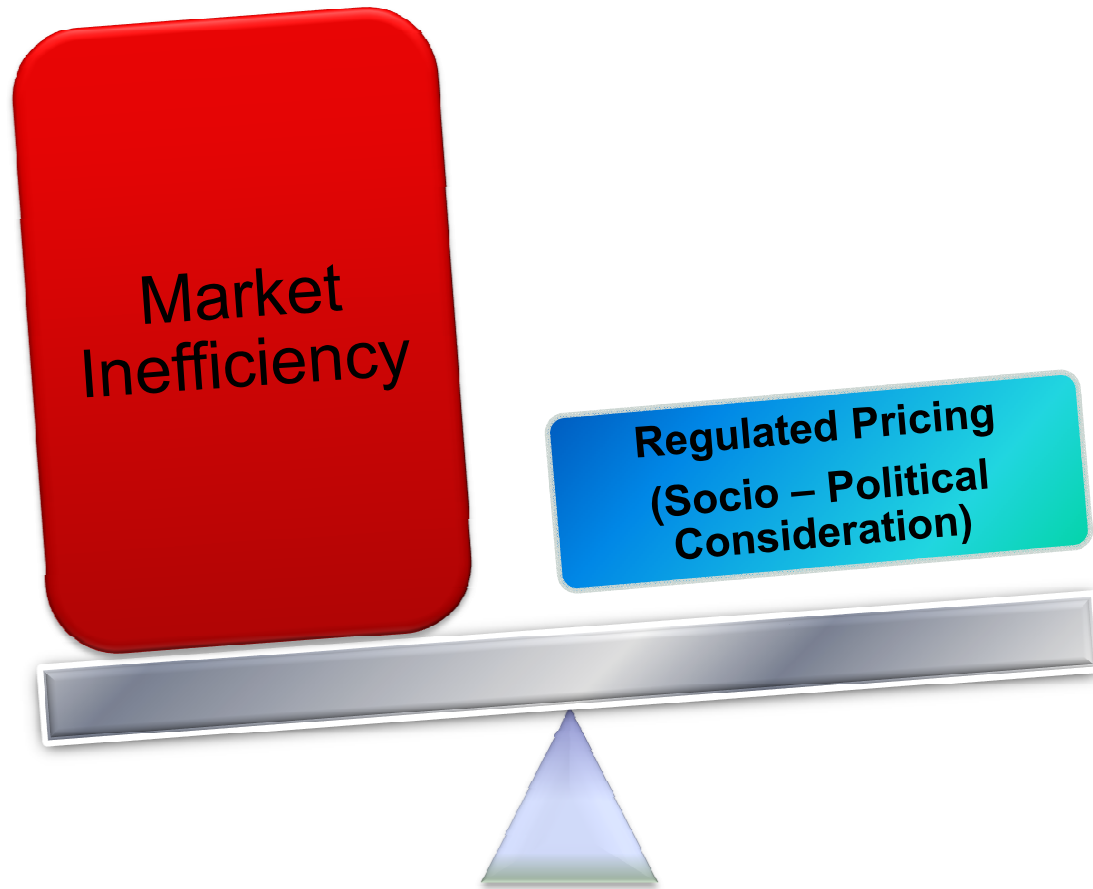
Total = 20.29 billion

■ Power ■ Non-Power ■ NGV



## Prolonged regulated pricing causes market imbalance & inefficiencies

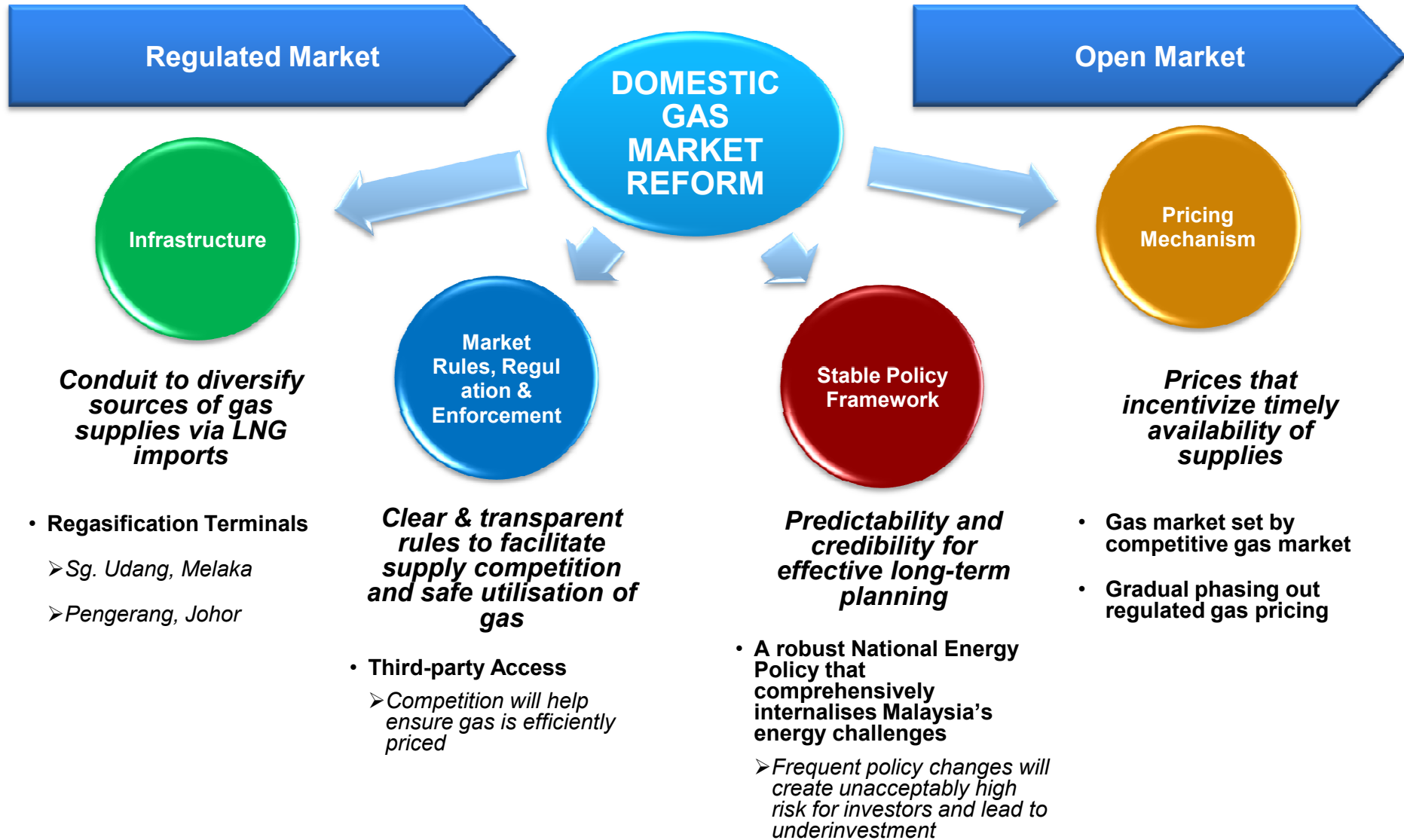
- Gas shortage
- Cost of new supplies
- Inefficient usage





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# Domestic gas market reform to ensure sustainable energy security





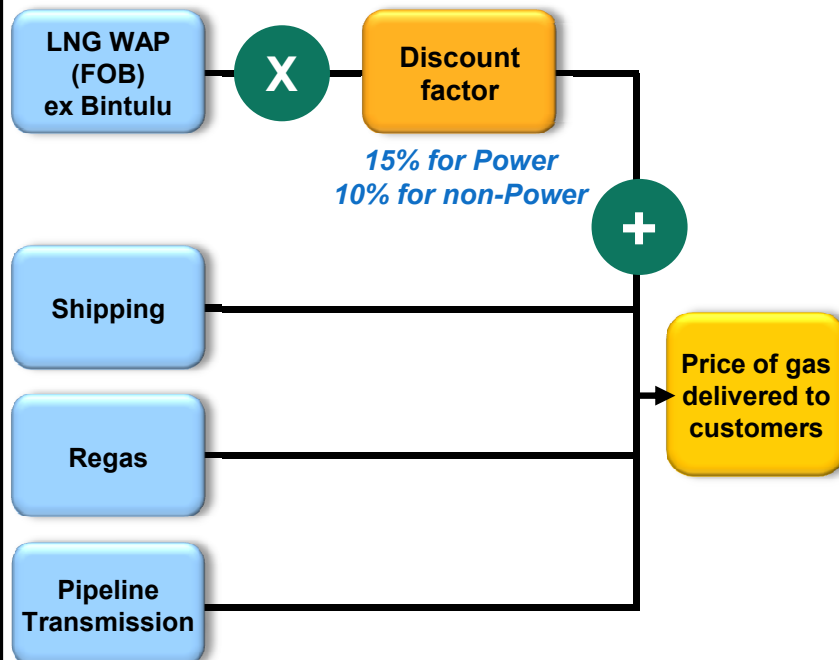
**THANK YOU**





## The new gas price mechanism and its application

### New gas price mechanism



Price mechanism shall be reviewed in 2020

### Application

#### Power Sector

- Supply of up to 1,000 mmscfd threshold will be at regulated price. Threshold will be reviewed by PETRONAS every 3 years starting 2016
- Supply above threshold will be at the new gas pricing mechanism

#### Non-Power Sector

- Current contractual volume at regulated price
- All new contracts will be at the new gas price