“Strategies to boost gas production and utilization”

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Jakarta, 27-29 January 2015
Agenda

1. Pertamina’s Strategic View on Gas Development
2. Indonesia Gas Potential
3. Pertamina’s Strategies to Boost Gas Production
4. Pertamina Strategic Gas Utilization
5. Conclusion
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Pertamina’s Corporate Vision, Mission and Values

Challenges to synchronize national energy security and energy commercialization

Vision

To be a world class national energy company

Mission

To carry out integrated core business in oil, gas, & renewables based on strong commercial principles

Values

Clean, Competitive, Confident, Customer Focus, Commercial, Capable
Pertamina’s Business Process

Pertamina delivers business value through optimizing and integrating its processes

**UPSTREAM**

- Crude Oil & Refined Product Imports
- Drilling Services
- Gas Trading / Transmission
- LNG Plant
- Geothermal

**MIDSTREAM**

- Refined Products
- Petrochemical Plants
- LPG
- LNG Trading
- LNG Shipping

**DOWNSTREAM**

- Distribution Through Fuel Depots and Stations: Kerosene, Gasoline, Diesel, HSD, LPG
- Marketing & Trading
- Export to Other Countries
- Electricity Distribution

**Key Operating Companies**

- PT Pertamina EP
- PT Pertamina EP Cepu
- PT Pertamina Drilling Services Indonesia
- PT Pertamina Hulu Energi
- PT Pertamina Geothermal Energy
- PT Pertamina International E&P
- ConocoPhillips Algeria Ltd.
- PT Pertamina Gas
- PT Arun NGL *)
- PT Badak NGL *)

*) Pertamina’s share in PT Arun NGL & PT Badak NGL were 55% respectively. But since Pertamina is not the controlling shareholder of both companies, they cannot be classified as Pertamina’s subsidiary.

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Indonesian Future Energy Mix has shifting role of more gas portion in line with Government interest in optimizing energy business, Pertamina enlarges the scope of activity by including gas development not to mention new and renewable initiatives...

Environment Friendly Business to align with the Government Policy

**Indonesia’s Energy Mix 2011**

100% = 1,176 Mboe

- Coal
- Oil
- Gas

**Indonesia’s Energy Mix 2025 **)**

100% = 2,785 Mboe

- Coal
- Oil
- Gas

Pertamina’s Renewable Energy Projects

- Geothermal
- Green Diesel
- Bioethanol
- Bioavtur
- Coal to Ethanol
- Wind
- Waste to Energy
- Hydro

*) New & Renewable Energy

**) Based on Energy Mix ESDM “Primary Energy Mix 2025”

**Source: MEMR Indonesia.**
Pertamina’s Aspiration is to secure energy security especially also in gas supply

Indonesia Gas Balance

With GDP growth projected to be going strong, this driving the increasing demand for domestic gas while gas production are decreasing.

Indonesia will be a net gas importer without producing more gas and develop Unconventional Oil & Gas potential → Pertamina signed new long term contract for US LNG from Corpus Christi LNG beginning in 2019 for 20 years (1.52 mmtpa).

SOURCE: APERC, 2012; IEA; Woodmac, 2015
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Gas Reserves and Resources in Indonesia
Challenges to unlock gas potential

GAS RESOURCES = 334.5 TSCF
(As of December 31st 2010)
GAS RESERVES
PROVEN = 108.4 TSCF
POTENTIAL = 48.74 TSCF
TOTAL = 157.14 TSCF
(As of January 1st 2010)

CBM RESOURCES = 453 TCF

SHALE GAS RESOURCES = 574 TCF
Currently, the Government has been doing initial study shale gas potential in Indonesia

CBM RESOURCES
Version SKKMigas
138.362 TCF
From 54 blocks CBM
22 block in Sumatera = 43.601Tcf
32 block in Kalimantan = 94.761Tcf
CBM still have potential in Indonesia

SOURCE: Badan Geologi Indonesia, 2013; SKK Migas; Advance Resources International, 2003
Gas Dominates Recent Discoveries in Indonesia

Key gas discoveries in recent years and key wells to look out for...

- There are diverse players in the Indonesian Upstream gas sector such as ENI, Chevron, Genting Oil, etc. recently found considerably material gas discoveries as much as minimum 40 mmboe gas.
- Exploration and Production activities moving east into eastern Kalimantan, Sulawesi, West Papua and the Timor Sea
- Undeveloped discovered resources estimated amount to 17.8 Bn boe.

Source: Woodmac, 2014
Indonesia Gas Development Key Issues
Uncertainty surrounds future gas projects

- Future developments expected to be predominantly gas and gas production in Indonesia peaked in 2010 at 7.5 bcf/d
- Jangkrik, IDD, Tangguh expansion and Abadi FLNG will maintain gas production above 6 bcf/d until 2024
- Over 75% of remaining resources are in offshore and average of over 15 years to develop a discovery
- FID on IDD has been postponed, whilst start-up of the Abadi FLNG and Tangguh expansion projects is uncertain
- Although domestic gas prices have been robust, a lower LNG price environment can put future upstream LNG projects at risk.

Source: Woodmac, 2014
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Current Condition of gas production in Pertamina
Challenges due to project delays might reduce available LNG for the domestic market

Indonesia Gas Reserves – Top 20 reserve holders:

- There are diverse players in the Indonesian Upstream gas sector: BP, Pertamina, Inpex Corporation, Jogmec and Chevron are the top 5 holders of the commercial reserves.
  - Natuna D Alpha that has 46 Tcf reserve of the East Natuna PSC is not included

- Pertamina gas production has been increasing due to fulfill domestic demand:
  - The completion of the Arun regas terminal will allow more LNG to be used in Java & Sumatra

Source: Pertamina Energy Outlook, 2015; Woodmac, 2015
Pertamina committed to accelerate the gas production  
Target of gas production up to 2019 will have growth at least as much as 4% and more....

Gas Production (mmcf/d)

Pertamina sources of increasing gas production comes from main contributors as follow:

- **PEP**
  - Pertamina PEPC

- **PHE**
  - Donggi Senoro field expected to start producing full year
  - Simenggaris block also expected to start producing full capacity
  - Nunukan expected to be onstream in 2018
  - NOT Including in the chart, Tomori Project will also contribute up to 300 mmcf/d starting June 2015

- **PEPC**
  - JTB will be On Stream in Q4 2018 (PEPC Net Share),
  - Associated Gas production from Banyu Urip will not be commercialized (included for own used, injection and flare)
  - Inorganic Growth also expected to add up the gas production (Acquisitions in overseas and domestic)

*Full production of Banyu Urip PEPC will be exceeding the prognosis as of RJPP 2012-2016 due to acceleration gas production in gas JTB, Cendana, and Kedung Keris (Updated Estimation has not been available, however it might round up to 80 mmcf/d in 2016 and forth)

Source: Pertamina Energy Outlook, 2015 (RJPP 2012-2016)
Pertamina is increasing awareness of gas potential in turbulence condition of global oil & gas industry

Acceleration and Improvement in technology and capabilities to unlock gas potential

**Exploration and Production**
- Increasing gas production from existing fields
- Accelerating upstream projects with gas production in order to monetize the gas production soonest as crude price being deeply falling
- Expanding business activities and operations, including using inorganic methods (acquisitions)
- Developing the potential of Unconventional Oil & Gas (Shale Gas, Tight Sand Gas and CBM) in Pertamina areas
- Forming strategic alliances to support the expansion and building specific skills.

**Non Exploration and Production**
- Increasing the domestic gas trading business while taking the opportunity to expand the gas
- Transport and process business through synergy with other Pertamina subsidiaries
- Being pro-active in formulating pricing policy, in accordance with national policies
- Building capacity and specific skills in drilling services to support oil and gas expansion plans, especially in unconventional oil & gas potential.
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CNG Roadmap
Another energy conversion program by developing CNG infrastructure for transport sector

CNG Infrastructure Development Plan

Conversion program will be implemented gradually in several big cities in Indonesia.

Pertamina has been assigned the Government to develop and operate CNG stations to support the conversion program.

Note: number of existing CNG station until 2014: 37 units
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Thank You
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