INDONESIA’S LNG SUPPLY AND FUTURE DEVELOPMENT

LNG Producer-Consumer Conference 2015

Japan, September 16th 2015
I. INDONESIA GAS RESERVE & PRODUCTION

II. FUTURE GAS & LNG PROJECT

III. Domestic Demand (Virtual Pipeline, Investment)

IV. CLOSING REMARKS
I. Indonesia Gas Reserve & Production
INDONESIA’S UPSTREAM OIL & GAS

- Lack of Gas Infrastructure
- Aging Production Facility
- Declining Reserves
- Declining Production
- Main Sources of Domestic Energy
- Reserves Replacement Ratio ~50%
- Decreasing Exploration Success Ratio
- Lengthy Exploration Process

Source: SKK Migas, DJMG

*Source: WoodMackenzie*
Indonesia’s Gas Reserve

GAS RESERVE

PROVEN = 100,26 TSCF
POTENTIAL = 49,04 TSCF
TOTAL = 149,30 TSCF

As of January 1st 2014

CBM RESOURCES = 453.30 TCF

Total CBM Basin = 11

Contracts Signed up to Aug 2015:
54 CBM PSCs

SHALE GAS POTENTIAL = 574 TCF

Total Shale Gas Basin = 14
(Geology Agency, 2010)

1st Unconventional PSC was signed on May 2013,
Currently 5 PSC

Ministry of Energy and Mineral Resources Republic of Indonesia
II. Future GAS & LNG Project
**JANGKRIK**
Production (2017): 450 MMscfd, 4100 bopd

**KEPODANG**
Production (2015): 116 MMscfd

**BUKIT TUA**
Production (2016): 20,000 bopd, 50 MMscfd

**SOUTH MAHAKAM 3**
Production (2015): 120 MMscfd,

**MADURA BD**
Production (2016): 110 MMscfd,

**DONGGI SENORO**
Production: Senoro: 310 MMscfd (2015), 60,000 bopd
Donggi: 60 MMscfd (2016), Matindok: 65 MMscfd (2017), 500 bopd

**IDD**
Production: Bangka: 120 MMscfd (2016)
Gehem Hub: 420 MMscfd (2020)
Gendalo Hub: 700 MMscfd (2020)

**TANGGUH TRAIN-3**
Production (2019): 3.8 MTPA LNG, 3,200 bopd

**CLUSION:**
Production (YTD): Reserved 4.6 TCF

Production (2015): 120 MMscfd,

Production (2019): 330 MMscfd

Production (2025): 990 MMscfd

Ministry of Energy and Mineral Resources Republic of Indonesia
Indonesia contributes 19% of total Asia Pacific gas reserves (source: BP Statistical Review of World Energy 2014)

Sebaran Cadangan Gas di Indonesia, (source: Indonesian Annual Reserve Report as of 1-1-2014)
Sebaran Permintaan Gas (Contracted) di Indonesia, (source: Indonesian Gas Balance Report as of Q1 2015)

Pengembangan Lapangan Gas Secara Lebih Optimal Akan Membutuhkan Dukungan Infrastruktur Yang Memadai
III. Domestic Demand
GAS INFRASTRUCTURE INVESTMENT OPPORTUNITIES
2015 – 2025

<table>
<thead>
<tr>
<th>INVESTMENT</th>
<th>Pipeline</th>
<th>Liquefaction &amp; Regasification</th>
<th>LPG</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD 8.5 billion</td>
<td>USD 8 billion</td>
<td>USD 0.42 billion</td>
<td></td>
</tr>
<tr>
<td>USD 13 billion</td>
<td>USD 2.5 billion</td>
<td>TOTAL USD 32.42 billion</td>
<td></td>
</tr>
</tbody>
</table>
35,000 MW ELECTRICITY PROJECT

→ Opportunity as an Anchor Buyer

TOTAL GAS NEEDED: 1.009 MMSCFD

TOTAL POWER: 13.432 MW (38%)
VIRTUAL PIPELINE FOR GAS POWER PLANT IN PAPUA & MALUKU

- Gas Salawati: 1.524 NM, 144.4 MMSCFD
- Gas Bintuni: 862 NM, 78.6 MMSCFD
- HUB: 1.494 NM, 15 MMSCFD

Sites:
- PLTMG Saumlaki 10 MW
- PLTMG Merauke 20 MW
- PLTMG Dobo 10 MW
- PLTMG Langgur 20 MW
- MPP Papua (Jayapura) 50 MW
- PLTMG Jayapura Peaker 40 MW
- PLTMG Biak 15 MW
- PLTMG Serui 10 MW
- PLTMG Nabire 20 MW
- PLTMG Timika Peaker 10 MW
- PLTMG Ambon Peaker 30 MW
- PLTMG Seram Peaker 20 MW
- MPP Maluku (Ambon) 70 MW
- PLTMG Namlea 10 MW
- PLTMG Fak-Fak 10 MW
- PLTMG Bintuni 10 MW
- PLTMG Biak 15 MW
- PLTMG Merauke 20 MW

Ministry of Energy and Mineral Resources Republic of Indonesia
V. Closing Remarks
Closing Remarks

1. Prospective of Indonesia Gas Supply Development from Conventional and Unconventional encourage with some Attractive Incentive → Challenging

2. Gas Demand for the next 5 years:
   8,679 MMSCFD
   (1.2x from current demand)

   Virtual Pipeline for Eastern Part of Indonesia
   To initiate this, the anchor buyer will be for electricity sector and develop the area surrounds it.

3. ASEAN LNG Hub
   (Hub for LNG price reference in ASEAN territory)

4. ASEAN Member Countries
Thank You

www.esdm.go.id