Future Outlook PLN’s Coal Fired Power Plant
Helmi Najamuddin, Head of Coal Division – 27 Jan 2012, for JCOAL - Japan

CFPP Suralaya (1 x 625 MW)
CFPP Rembang (3 x 315 MW)
CFPP Indramayu (3 x 330 MW)
CFPP Lontar (3 x 315 MW)
CFPP Labuan (2 x 300 MW)
CFPP Pacitan (2 x 315 MW)
CFPP Kendari (2 x 10 MW)
CFPP Tj. Balai Karimun (2 x 7 MW)
CFPP Barito (2 x 50 MW)
1. Company Overview
2. Coal Overview
3. Update 10 000 MW – Fast Track Program Phase I
4. Coal Policy in PLN
5. Business Opportunities
1. Company Overview
Corporate Structure

Ministry of State Owned Enterprises (MSOE)
Ministry of Energy and Mineral Resources (MEMR)
Ministry of Finance (MoF)
Ministry of the Environment
National Development Planning Authority (BAPPENAS)

100% Owned by Government of Indonesia

PT PLN (Persero)

PT Indonesia Power
Electricity Generation

PT Pembangkitan Jawa Bali
Electricity Generation

PT PLN Batam
Regional Fully Integrated Electric Utility

PT PLN Tarakan
Regional Fully Integrated Electric Utility

Majapahit Holding B.V.
Financial Institution

PT Indonesia Comnets Plus
Telecommunications for the Electricity Sector

PT Prima Layanan Nasional Enjiniring Engineering and Construction Services

PT PLN Batubara
Coal Supplier for PLN

PT Pelayaran Bahtera Adhiguna
Coal Shipping Activities

PT PLN Geothermal
Geothermal Energy Generation

Note: Excludes Joint Ventures.
Introduction

PLN is the only state-owned power utility company and the only fully-integrated power utility company in Indonesia.

- PLN is Indonesia’s state-owned electric utility company, wholly-owned by the Republic of Indonesia and is represented by the Ministry of State-Owned Enterprises (SOEs)
- PLN is the major provider of all public electricity and electricity infrastructure in Indonesia, including power generation, transmission, distribution and retail sales of electricity
- Charges for electricity are based on electricity tariff rates that are set by the Government
  - Law No. 19/2003 on SOEs: the Government is obligated to provide a subsidy to PLN for the difference between the price charged for electricity and the cost to produce electricity

Key Business Segments

### Generation
- Controls approximately 28,308 MW of installed generating capacity, over 85% of Indonesia’s total
- Owns and operates 1,261 generation plants
- Main purchaser of electricity from Independent Power Producers (IPPs)

### Transmission
- Sole provider of power transmission in Indonesia
- Approximately 36,741 kmc of transmission lines
- 66,354 MVA of transmission transformer capacity

### Distribution
- Sole distributor of electricity to end customers in Indonesia
- Approximately 685,785 kmc of distribution lines and 36,430 MVA of transformer capacity
- Serving approximately 44 million customers

Electricity Sales

<table>
<thead>
<tr>
<th>Year</th>
<th>TWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>113</td>
</tr>
<tr>
<td>2007</td>
<td>121</td>
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<tr>
<td>2008</td>
<td>129</td>
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<td>2009</td>
<td>135</td>
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<tr>
<td>2010</td>
<td>147</td>
</tr>
<tr>
<td>1H 2011</td>
<td>77</td>
</tr>
</tbody>
</table>

Customer Base

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>36</td>
</tr>
<tr>
<td>2007</td>
<td>37</td>
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<tr>
<td>2008</td>
<td>39</td>
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<tr>
<td>2009</td>
<td>40</td>
</tr>
<tr>
<td>2010</td>
<td>42</td>
</tr>
<tr>
<td>1H 2011</td>
<td>44</td>
</tr>
</tbody>
</table>

(1) PLN is also the provider of electricity of last resort, in that if PLN is not supplying a particular area and there are no regional-owned companies, private enterprises or cooperatives that elect to supply electricity in that area, the Government is obligated to instruct SOEs (which includes PLN) to supply electricity to the area.
PLN is the only integrated electric utility company in Indonesia, controls the majority of generation capacity and is the sole transmission and distribution provider.

- 28,308 MW of installed capacity out of 33,251 MW in Indonesia (1)
- 36,741 kmc of transmission lines
- 66,354 MVA of transmission transformer capacity
- 685,785 kmc of distribution lines
- 36,430 MVA of transformer capacity

- PLN remains the country's largest electricity producer and the only business entity in charge of transmitting and distributing electric power in Indonesia
- Under the New Electricity Law (No. 30/2009), SOEs, which includes PLN, have the first priority to decide whether to be the electricity supplier for the public needs of a specified area before such right can be awarded to anyone else
  - If PLN declines to undertake a public electricity supply business for a certain area, the Government or regional governments may offer this right to regional-owned companies, private enterprises or cooperatives
    - If there are no regional-owned companies, private enterprises or cooperatives that elect to supply electricity in that area, the Government is obligated to instruct SOEs (which includes PLN) to supply electricity to the area

(1) As of June 30, 2011.
PLN distributes and sells electricity to several customer types. The electricity sold is either generated by PLN or purchased from IPPs.

Electricity Transmitted and Distributed by Customer Type

Transmission Network Detail
- 500 kV interconnected transmission system with 5,092 kilometers-circuits
- 150 kV transmission system with 26,733 kilometers-circuits
- 4,916 kilometers-circuits of transmissions systems up to 70 kV
- Transformer capacity of 66,354 MVA

Distribution Network Detail
- Medium-voltage line distribution network of 278,277 kilometers-circuits
- Low-voltage line distribution network of 407,508 kilometer-circuits
- 300,149 units of distribution transformers with total capacity of approximately 36,430 MVA
Demand Forecasting 2011-2020

Electricity demand grows at around 9% per year
PLN has an extensive generation portfolio with total installed capacity of approximately **33,251 MW** across Indonesia.

### Extensive Generation Network as per June 2011

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Capacity (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sumatera</td>
<td>5,328</td>
</tr>
<tr>
<td>Java-Bali</td>
<td>24,471</td>
</tr>
<tr>
<td>Kalimantan</td>
<td>1,459</td>
</tr>
<tr>
<td>Sulawesi</td>
<td>1,325</td>
</tr>
<tr>
<td>Maluku</td>
<td>198</td>
</tr>
<tr>
<td>Papua</td>
<td>270</td>
</tr>
<tr>
<td>NTB</td>
<td>142</td>
</tr>
<tr>
<td>NTT</td>
<td>58</td>
</tr>
</tbody>
</table>

#### Key Generators:

- **Hydro**
- **Geothermal**
- **Steam-turbine**
- **Combined Cycle**
- **Gas-turbine**
- **Diesel**
- **IPP**

### Other Regions:

- **Java-Bali**
  - Hydro: 2,399 MW
  - Geothermal: 375 MW
  - Steam-turbine: 8,680 MW
  - Combined Cycle: 6,786 MW
  - Gas turbine: 2,114 MW
  - Diesel: 120 MW
  - IPP: 3,997 MW
  - Total: 24,471 MW

- **Sumatera**
  - Hydro: 867 MW
  - Geothermal: 0 MW
  - Steam-turbine: 1,175 MW
  - Combined Cycle: 858 MW
  - Gas-turbine: 874 MW
  - Diesel: 953 MW
  - IPP: 601 MW
  - Total: 5,328 MW

- **Kalimantan**
  - Hydro: 32 MW
  - Steam-turbine: 201 MW
  - Combined Cycle: 60 MW
  - Gas-turbine: 113 MW
  - Diesel: 969 MW
  - Others: 39 MW
  - IPP: 45 MW
  - Total: 1,459 MW

- **Sulawesi**
  - Hydro: 220 MW
  - Geothermal: 60 MW
  - Steam-turbine: 55 MW
  - Gas-turbine: 123 MW
  - Diesel: 567 MW
  - IPP: 300 MW
  - Total: 1,325 MW

- **Maluku**
  - Diesel: 198 MW
  - Total: 198 MW

- **Papua**
  - Diesel: 266 MW
  - Hydro: 4 MW
  - Total: 270 MW

- **NTB**
  - Diesel: 141 MW
  - Hydro: 1 MW
  - Total: 142 MW

- **NTT**
  - Diesel: 53 MW
  - Geothermal: 4 MW
  - Hydro: 1 MW
  - Total: 58 MW
**Strong Government Support**

The Government of Indonesia’s active involvement emphasizes the importance of PLN’s role in ensuring stable electricity supply in Indonesia.

### Government Financial Assistance
- Extended government loan maturities, converted overdue & penalties into equity in 1998
- Channels loans in which GoI is the primary obligor to lenders (2-step loan)
- Law No. 19/2003: Obligation to provide subsidy to PLN
- GoI injected equity to fund development plans: Rp3.9 trillion in 2009 and Rp2.3 trillion in 2010
- Irrevocable and unconditional guarantee on loans for FTP I
- Presidential Regulation No.8/2011: GoI raised the electricity tariff effective July 2010
- In 2010, GoI approved a Rp7.5 trillion loan to finance a portion of PLN’s capex for certain projects

### Close Involvement of Indonesian Government
- GoI is involved in almost every critical stage of PLN’s operations: budget setting, capital expenditure plans, IPP developments and primary energy supply
- Direct and close involvement of various ministries, such as the Ministry of State Owned Enterprises, Ministry of Energy and Mineral Resources, Ministry of Finance and Ministry of the Environment
- Government agencies (i.e. the Board of Finance & Development Control - BPKP, Corruption Eradication Commission (KPK) and Attorney General Office) assist in implementing Good Corporate Governance

### Timely & Adequate Subsidies
- MoF Regulation No. 111/PMK.02/2007 and its amendments: Blanket Subsidy
- Continuous review ensuring adequate and timely subsidy payments
- 8% margin for 2010 and 2011 approved

### Subsidy Calculation

#### Costs covered by Subsidy
- Power purchases
- Fuel and lubricants
- Maintenance
- Personnel
- Administration
- Depreciation
- Financing costs

#### Plus...
- 8% PSO Margin based on Unit Cost in each voltage level

#### Minus...
- Electricity sales

#### Equals...
- Electricity subsidy

### Total Government Subsidy to PLN
(Rp. in trillion)

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>1H2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>33.9</td>
<td>37.5</td>
<td>78.6</td>
<td>53.7</td>
<td>58.1</td>
<td>40.9</td>
</tr>
</tbody>
</table>

Note: (1) Government’s electricity subsidy as a result of audit by state auditor, except for 1H2011 which is the subsidy accrued for the first half of 2011.
Backed by strong macroeconomic indicators, energy demand in Indonesia is expected to grow significantly in the next few years.

Growing Electricity Demand

- With higher income levels, increasing urbanization and improving standard of living, electricity demand has increased
- Ongoing transformation from an agricultural to a manufacturing-oriented economy has also played a particularly important role in the growth of demand for electricity

As the major provider of electricity in Indonesia, PLN expects to benefit from Indonesia’s growth in demand for electricity.

Source: PLN, EIU
PLN’s Highlights

2. Dominant Presence in the Indonesian Electricity Market
3. Benefit From a Fast-Growing Indonesian Electricity Market
4. Efficient Operations with Continuing Improvements
5. Stable Financial Profile
2. Coal Overview
INDONESIA COAL POTENCY
DISTRIBUTION OF INDONESIA COAL

TOTAL RESOURCES 105.187 Billion Ton

TOTAL RESERVES 21.131 Billion Ton

Very High ( > 7100 kal/kg )
High ( 6100 - 7100 kal/kg )
Medium ( 5100 - 6100 kal/kg )
Low ( < 5100 kal/kg )

Source: Geological Agency, 2010
INDONESIA COAL RESOURCES AND RESERVE

TOTAL COAL RESOURCE 105,187 BILLION TONS
TOTAL COAL RESERVE 21,131 BILLION TONS

GEOLOGICAL AGENCY, 2009
REALIZATION OF COAL PRODUCTION, DOMESTIC, AND EXPORT
(2005 – 2011)

Realization

 millennia tones

Domestic | Export | Production
CURRENT CONDITION
WORLD’S COAL RESERVE

North America: 246 bt
Latam: 15 bt
Europe: 50 bt
Asia: Russia 147 bt, China 115 bt, India 59 bt, Indonesia 20 bt, Australia 76 bt

Total World: 826 bt

Source: Indonesian Coal Mining Association, BP Statistics
Indonesia is the Biggest Coal Exporter in the World

Source: Wood Mackenzie Coal Supply Service, ANZ
## Coal Demand and Supply Forecasts

<table>
<thead>
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<td></td>
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</tr>
<tr>
<td>Japan</td>
<td>119.6</td>
<td>113.2</td>
<td>123.8</td>
<td>125.5</td>
<td>127.3</td>
<td>128.4</td>
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<td>86.0</td>
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<td>97.2</td>
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<td>48.6</td>
<td>95.6</td>
<td>118.4</td>
<td>127.7</td>
<td>130.3</td>
<td>126.2</td>
<td>117.1</td>
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<td>127.4</td>
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<td>131.8</td>
<td>134.6</td>
<td>133.3</td>
<td>135.1</td>
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<tr>
<td>Others</td>
<td>241.1</td>
<td>223.5</td>
<td>238.8</td>
<td>261.9</td>
<td>288.3</td>
<td>330.9</td>
<td>342.3</td>
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<td><strong>Total</strong></td>
<td>660.4</td>
<td>708.0</td>
<td>767.0</td>
<td>806.5</td>
<td>846.7</td>
<td>891.9</td>
<td>909.9</td>
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<td>SUPPLY (Mt)</td>
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<td></td>
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<tr>
<td>Australia</td>
<td>140.9</td>
<td>152.9</td>
<td>177.5</td>
<td>186.6</td>
<td>200.5</td>
<td>215.6</td>
<td>219.8</td>
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<tr>
<td>South Africa</td>
<td>70.0</td>
<td>73.0</td>
<td>74.0</td>
<td>77.0</td>
<td>80.0</td>
<td>82.3</td>
<td>82.0</td>
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<tr>
<td>Russia</td>
<td>80.4</td>
<td>88.1</td>
<td>96.4</td>
<td>102.6</td>
<td>102.6</td>
<td>117.2</td>
<td>118.4</td>
</tr>
<tr>
<td>Indonesia</td>
<td>215.5</td>
<td>242.0</td>
<td>265.0</td>
<td>300.0</td>
<td>320.0</td>
<td>323.6</td>
<td>341.9</td>
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<tr>
<td>Columbia</td>
<td>62.0</td>
<td>64.0</td>
<td>69.1</td>
<td>69.1</td>
<td>69.1</td>
<td>75.2</td>
<td>79.2</td>
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<td>23.0</td>
<td>20.7</td>
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<td>44.5</td>
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<tr>
<td><strong>Total</strong></td>
<td>649.7</td>
<td>707.8</td>
<td>762.6</td>
<td>801.8</td>
<td>844.1</td>
<td>882.5</td>
<td>911.8</td>
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<tr>
<td>IMPLIED MARKET BALANCE</td>
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<td>-0.2</td>
<td>-4.4</td>
<td>-4.7</td>
<td>-2.7</td>
<td>-9.3</td>
<td>1.9</td>
</tr>
</tbody>
</table>

*Source: Wood Mackenzie, Tex Report, Platts, Citi Investment Research and Analysis, 8 January 2012*
**Demand and Supply Forecast**

### Total Demand Forecast
- **Total, EC**: 902.9, 16%
- **Total, India**: 763.9, 14%
- **Total, South Korea**: 699.0, 12%
- **Total, Japan**: 870.6, 16%
- **Total, Taiwan**: 427.1, 8%
- **Total, Others**: 1926.7, 34%

### Total Supply Forecast
- **Total, Indonesia**: 2008.0, 36%
- **Total, Vietnam**: 154.9, 3%
- **Total, Columbia**: 487.8, 9%
- **Total, Russia**: 705.7, 13%
- **Total, Others**: 371.8, 7%
- **Total, Australia**: 538.3, 9%
- **Total, South Africa**: 538.3, 9%
- **Total, EC**: 902.9, 16%
INDONESIA COAL PRICE REFERENCE (HBA)
2009 - 2011

Note: calculated in 6322 kcal/kg GAR
3. Update 1000 MW - FTP Phase I
The Fast Track Program is designed to reduce PLN’s reliance on fuel oil, which currently is PLN’s most expensive fuel cost of electricity on a per-kWh basis.
Ample room for growth in electricity sector based on current Electrification Rate\(^{(1)}\) in Indonesia.

- Low electrification ratio of 66.5% (as of end 2010) underscores undersupply
- PLN is mandated to implement Fast Track Programs for capacity expansion to meet Indonesia’s growing demand
  - Aim to achieve >90% electrification rate by end-2019
  - The role of IPPs in providing domestic power will also become increasingly important as the domestic electricity consumption increases


\(^{(1)}\) Percentage of population with electricity access.
COD Update of Fast Track Program Phase I 10,000 MW Java

- Adipala, 660 MW
- Tj. Awar-awar, 700 MW
- Pacitan, 630 MW
- Paiton Baru, 660 MW
- Pelabuhan Ratu, 1,050 MW
- Rembang, 630 MW
- Teluk Naga, 945 MW
- Labuan, 630 MW
- Indramayu, 990 MW
- Suralaya Baru, 625 MW
COD Update of Fast Track Program Phase I 10,000 MW Outside Java

2011: 328
2012: 1,952
2013: 2,177
2014: 2,377
2015: 2,391

- Timika
- Tenayan
- Gorontalo
- Pulang Pisau
- Bengkayan
- Jayapura Baru
- Tidore
- Ambon
- Kaltim
- Kupang
- Lombok
- Bima
- Parit Baru
- Belitung
- Bangka Baru
- Teluk Sirih
- Tarahan Baru
- Bengkalis
- Nagan Raya
- Pangkalan Susu
- Barru
- Kendari
- Amurang
- Ende
- Asam asam baru
- Tj Balai Karimun
4. Coal Policy in PLN
COAL DIVISION IN PLN

Vision:
Guaranteeing the sustainable of coal supply to support operational power plant

Mission:
- To guarantee a security of coal supply
- To manage coal contract
- To plan demand and supply of coal, yearly and long term
- To coordinate coal suppliers and power plant need in monthly and yearly meeting
- To implement clean coal technologies.

Measures:
- Quantity fulfills security of the stockpile
- Quality match to boiler specification and environmental regulations.
- Timing, not delay and not too early
Estimated Coal Consumption for Electricity (PLN)

![Chart showing estimated and realized coal consumption for electricity from 2010 to 2014. The chart breaks down consumption by energy density (4200 kCal/kg, 5100 kCal/kg, 6100 kCal/kg) and total consumption.]

- **Realization**:
  - 2010: 15.2 million tons
  - 2011: 23.8 million tons
  - 2012: 31.9 million tons
- **Estimation**:
  - 2013: 39.6 million tons
  - 2014: 87.5 million tons

Total consumption (in million tons) for the years:
- 2010: 4.8
- 2011: 2.9
- 2012: 2.6
- 2013: 4.5
- 2014: 8.9

Energy density categories:
- 4200 kCal/kg
- 5100 kCal/kg
- 6100 kCal/kg

Legend:
- Green bar: 4200 kCal/kg
- Blue bar: 5100 kCal/kg
- Yellow bar: 6100 kCal/kg
- Red line: Total Consumption
Average Coal Price bought by PLN

Rp/kg

- Series 1, 2002, 219.75
- Series 1, 2003, 230.82
- Series 1, 2004, 230.75
- Series 1, 2005, 251.55
- Series 1, 2006, 335.81
- Series 1, 2007, 338.76
- Series 1, 2008, 489.23
- Series 1, 2009, 732.32
- Series 1, 2010, 659.71
- Series 1, 2011, 695
- Up to December 2011
### TARGET & REALIZATION DMO

(Domestic Market Obligation)

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Realization</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>54.2</td>
<td>23.8</td>
</tr>
<tr>
<td>2011</td>
<td>64.79</td>
<td>31.9*</td>
</tr>
</tbody>
</table>

*up to December 2011

Due to Completion Project Delay of PLN and IPP
# COAL SUPPLIERS to PLN 2011

Total Coal Contracted 69,56 Million Ton, **69.3%** from Suppliers in **DMO 2011** List and **30.7%** from suppliers not in **DMO 2011** List.

## Suppliers in DMO 2011 List

<table>
<thead>
<tr>
<th>No</th>
<th>Suppliers</th>
<th>DMO</th>
<th>Contract Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>kilo T/year</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Adaro</td>
<td>10,053</td>
<td>8,298</td>
</tr>
<tr>
<td>2</td>
<td>Arutmin</td>
<td>6,344</td>
<td>7,288</td>
</tr>
<tr>
<td>3</td>
<td>Berau Coal</td>
<td>3,996</td>
<td>4,065</td>
</tr>
<tr>
<td>4</td>
<td>PTBA</td>
<td>2,614</td>
<td>9,780</td>
</tr>
<tr>
<td>5</td>
<td>Indominco</td>
<td>2,771</td>
<td>1,908</td>
</tr>
<tr>
<td>6</td>
<td>Jorong</td>
<td>408</td>
<td>300</td>
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<tr>
<td>7</td>
<td>Kideco</td>
<td>6,434</td>
<td>8,355</td>
</tr>
<tr>
<td>8</td>
<td>KPC</td>
<td>11,178</td>
<td>7,640</td>
</tr>
<tr>
<td>9</td>
<td>Lanna Harita</td>
<td>342</td>
<td>215</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>44,139</strong></td>
<td><strong>47,849</strong></td>
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## Supplier not in DMO 2011 List

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<th>No</th>
<th>Coal Suppliers</th>
<th>Contract Volume</th>
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<tr>
<td></td>
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<td>Kilo T/year</td>
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<tr>
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<td>Anzawara</td>
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<tr>
<td>2</td>
<td>Batara Batari</td>
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<tr>
<td>3</td>
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<td>7</td>
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<tr>
<td>8</td>
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<td>9</td>
<td>PLN BB</td>
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<tr>
<td>12</td>
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<tr>
<td>13</td>
<td>Spot</td>
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<tr>
<td>14</td>
<td>TBI</td>
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</tr>
<tr>
<td>15</td>
<td>Titan</td>
<td>2,383</td>
</tr>
<tr>
<td>16</td>
<td>WK Intrade</td>
<td>416</td>
</tr>
<tr>
<td>17</td>
<td>Kontrak Unit</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>21,207</strong></td>
</tr>
</tbody>
</table>
PLN’s Coal Supply Policy

1. To strengthen security of coal supply by:
   - Long term supply contract
   - Implementing online monitoring coal supply

2. To replace oil fuel by coal in fuel mix

3. Improvement in contract related to payment clause:
   faster and transparent settlements

4. To increase coal quality using appropriate coal upgrading technologies to meet boiler’s specifications and environmental regulations.
## Security of coal Supply : Long term contract

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
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<tbody>
<tr>
<td><strong>HRC (5700 - 6000 kCal/kg GAR)</strong> :</td>
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<tr>
<td>Demand</td>
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<td>9.09</td>
<td>9.09</td>
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<tr>
<td>Demand</td>
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<td>29.67</td>
<td>31.87</td>
<td>32.03</td>
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<tr>
<td>Demand</td>
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<td>24.09</td>
<td>31.88</td>
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<td>28.26</td>
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<tr>
<td>Balance</td>
<td>10.37</td>
<td>4.17</td>
<td>1.23</td>
<td>-4.42</td>
<td>-12.58</td>
</tr>
</tbody>
</table>
Fuel Mix 2005-2019: Coal share to be increased

BBM, 2005, 31%
BBM, 2006, 28%
BBM, 2007, 27%
BBM, 2008, 28%
BBM, 2009, 23%
BBM, 2010, 16%
BBM, 2011, 1%
BBM, 2012, 7%
BBM, 2013, 3%
BBM, 2014, 3%
BBM, 2015, 3%
BBM, 2016, 3%
BBM, 2017, 3%
BBM, 2018, 2%
BBM, 2019, 2%

Batubara, 2005, 41%
Batubara, 2006, 45%
Batubara, 2007, 43%
Batubara, 2008, 45%
Batubara, 2009, 43%
Batubara, 2010, 47%
Batubara, 2011, 54%
Batubara, 2012, 51%
Batubara, 2013, 58%
Batubara, 2014, 52%
Batubara, 2015, 58%
Batubara, 2016, 58%
Batubara, 2017, 58%
Batubara, 2018, 58%
Batubara, 2019, 58%

Gas, 2005, 15%
Gas, 2006, 15%
Gas, 2007, 16%
Gas, 2008, 17%
Gas, 2009, 22%
Gas, 2010, 25%
Gas, 2011, 21%
Gas, 2012, 28%
Gas, 2013, 29%
Gas, 2014, 26%
Gas, 2015, 24%
Gas, 2016, 22%
Gas, 2017, 19%
Gas, 2018, 20%
Gas, 2019, 19%

Hydro, 2005, 8%
Hydro, 2006, 7%
Hydro, 2007, 8%
Hydro, 2008, 7%
Hydro, 2009, 7%
Hydro, 2010, 6%
Hydro, 2011, 6%
Hydro, 2012, 5%
Hydro, 2013, 5%
Hydro, 2014, 5%
Hydro, 2015, 4%
Hydro, 2016, 4%
Hydro, 2017, 4%
Hydro, 2018, 4%
Hydro, 2019, 4%

PLTP, 2005, 5%
PLTP, 2006, 5%
PLTP, 2007, 5%
PLTP, 2008, 5%
PLTP, 2009, 6%
PLTP, 2010, 6%
PLTP, 2011, 6%
PLTP, 2012, 6%
PLTP, 2013, 9%
PLTP, 2014, 11%
PLTP, 2015, 13%
PLTP, 2016, 13%
PLTP, 2017, 13%
PLTP, 2018, 13%
PLTP, 2019, 13%

LNG, 2005, 0
LNG, 2006, 0
LNG, 2007, 0
LNG, 2008, 0
LNG, 2009, 0
LNG, 2010, 0
LNG, 2011, 0
LNG, 2012, 3%
LNG, 2013, 2%
LNG, 2014, 2%
LNG, 2015, 2%
LNG, 2016, 2%
LNG, 2017, 3%
LNG, 2018, 4%
LNG, 2019, 4%
Coal Power Plant Capacity, Its Coal Demand and Coal Contracted Volume

<table>
<thead>
<tr>
<th>Year</th>
<th>Coal Demand (million ton)</th>
<th>Contract Volume (million ton)</th>
<th>Capacity (GW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>32</td>
<td>77</td>
<td>13</td>
</tr>
<tr>
<td>2012</td>
<td>40</td>
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<td>2013</td>
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<td>2014</td>
<td>95</td>
<td>88</td>
<td>28</td>
</tr>
<tr>
<td>2015</td>
<td>105</td>
<td>88</td>
<td>31</td>
</tr>
</tbody>
</table>
5. Business Opportunities
Clean Coal Technologies

1. Coal Dryer Technology:

   PLN Batubara is now constructing one coal dryer facility to be installed at PLTU Labuan site. The facility is expected to be able to increase coal quality up to 1000 kcal/Kg. PLN still needs more Coal Dryers.
   Also, in Rembang PP, STD (Steam Tuibe Dryer) is studied by TSK (Tsukishima Techno Machinery co. Ltd).

2. Coal blending Facilities:

   PLN is now under cooperation with a company to study the cost/benefit and prepare a plan of having the facility with production capacity of 10 million ton per year.

3. Gasification Coal Power Plant:

   It will be operated in east Kalimantan, hopefully next month.
3. Slurry (Liquid Coal):

It will be launched at Sinarmas Group Power Plant (Private Company), Karawang - Jakarta, 22 March 2012. PLN has nominated to use the slurry at 5 Power Plants i.e.: Belawan PP, Tanjung Priok PP, Tanjung Perak PP, Tambak Lorok PP, Tello PP. But, the slurry still need to be proven as for commercial technology.

4. SynGas:

SynGas products 2 commodities i.e.: Hot steam for oil lifting of PT PERTAMINA (State Oil co.) and Gas for PGN (State Gas co.) which directly passthrough to PLN.

Growth rate of demand for electricity is still high (9.5% p.a up to 2029).

Electrification ratio is still low (67.2% in 2010).

Lack of electricity supply in some areas/regions.

NEED A HUGE OF ADDITIONAL CAPACITY (estimated of 7,800 MW p.a during 20 years), investment required approx. USD 11.4 billion p.a)

PLN’s investment capability is limited (around 20%)

The Government budget for infrastructure is very limited.

THEREFORE

Privates sector participation are required:
  • Engineering, Procurement and Construction (EPC)
  • Independent Power Producer (IPP) Project
  • Public Private Partnership (PPP) Project

Note:  RUKN : National Electricity General Plan
 FTP-1 : Fast Track Program 10,000 MW Phase I
 FTP-2 : Fast Track Program 10,000 MW Phase II
Indonesia electricity demand is still high thus need a huge additional capacity of generation, transmission and distribution.

The government encourages participation of private sector to cooperate with PLN through EPC project, IPP project and PPP (Public Private Partnership) project.

The government is committed to maintain the PLN’s financial viability in order to meet its obligations to other parties, by providing subsidy.

For the next 10 years, the electricity supply in Indonesia is still relying on CFPP (Coal Power Plant), it is because the availability of coal abundant as primary energy and cost of production is relatively cheap compare others power generation, but still taking into account of environmental sounds.

PLN is the biggest coal buyer in Indonesia i.e.: 57 million Ton in 2012, and >100 million Ton/year after 2015.

PLN needs Clean Coal Technologies and Fund from offshore.
All Japanese companies and their Fund companies should play significant role in approach to Indonesian Government, especially in electricity sectors for EPC, IPP, or PPP projects.

Chinese’s Electricity Equipment product is more likely cheaper than Japanese’s products, but the quality has likely not yet proven. The fact, we suffer from project completion delay.

PLN needs best quality, best price and long lifetime Electricity Equipment.
Further contact:
helminajamuddin@pln.co.id
Phone: +628121220450