BROWN COAL UTILIZATION TECHNOLOGY IN INDONESIA AND ITS COMMERCIALIZATION


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APBI-ICMA

VISION

• TO SET A STANDARD OF EXCELLENCE IN EVERY UNDERTAKING OF COAL MINING, AND
• TO LEAD COAL INDUSTRY TO NEW LEVELS OF PRODUCTIVITY, SAFETY, PROMINENCE AND SOCIAL RESPONSIBILITY AND ENVIRONMENTAL CONSCIOUSNESS

MISSION

• TO PROMOTE COAL PRODUCTION AND UTILIZATION
• TO ADDRESS THE CHALLENGES AND OPPORTUNITIES AFFECTING COAL’S PRESENT AND FUTURE
• TO EFFECTIVELY SERVE AS COAL’S ADVOCATE
• TO ACCOMODATE AND TO SERVE THE NEEDS, DESIRES AND ASPIRATION OF MEMBERS; AND
• TO ENCOURAGE A FAVOURABLE ENVIRONMENT FOR INVESTMENT AND COMPETITION

MEMBER OF APBI-ICMA

• UP TO AUGUST 2011, THE TOTAL MEMBER IS 94 COMPANIES CONSISTING OF:
  COAL MINING COMPANY : 68 COMPANIES
  COAL MINING SERVICE COMPANY : 26 COMPANIES
PRESENTATION OUT LINE

• Brown Coal Technology Utilization and The Current Development of Coal Upgrading and Conversion Technology in Indonesia;

• Master Plan of Indonesian Economic Development 2011-2025;

• New Paradigm of Investing in Indonesia’s Coal Mining Industry.
Brown Coal Technology Utilization and The Current Development of Coal Upgrading and Conversion Technology in Indonesia
CURRENT AND FUTURE BROWN COAL UTILIZATION

Direct uses

Current

BROWN COAL

Indirect uses

future

Power Plant

House hold Uses

Raw Material for Chemical Industry

Transportation

Clean Coal Technology

Low Rank Coal Upgrading Technology

Cement Industry

Textile industry

Other Industries

Gasification

liquefaction

CWM/CWF

Upgraded Brown Coal (UBC)
Binderless Coal Briquetting, Coal Upgrading Briquette, Etc.

Heater for Tea and Poultry Farm

Iron and steel, Smelting and metalurgy Industry

Textile industry

Industrial Uses

Iron and steel, Smelting and metalurgy Industry

Power Plant

Power Plant

Power Plant

Power Plant
BROWN COAL UPGRADING AND CONVERSION TECHNOLOGY

- **Upgraded Brown Coal (UBC) Technology**
  - Demonstration plant, cap. 1000 ton/day, (Kobe Steel Ltd., Jcoal, PT. Arutmin, and Tekmira), location Satui, South Kalimantan (completed).
  - The commercial plant, start construction in 2012.

- **Other Upgrading Technologies**
  - Binderless Coal Briquetting Technology (White Energy, Australia)
    - Commercial plant, cap. 5 million tons/year, and 4 other plants will soon be built. (PT. Gunung Bayan, East Kalimantan);
  - Coal Upgrading Briquette Technology
    - Commercial plant, status Reviewing Design (PT. Bhakti Energi Persada);

- **UP COMING:**
  - Coal Upgrading Technology:
    - Upgraded Brown Coal/UBC Plants, by Pendopo Energi Batubara PT., South Sumatera), start up in 2014;
    - Coal Upgrading Plant, by Delma Mining Corporation, PT., East Kalimantan;
  - Coal Conversion Technology:
    - Coal Gasification Plant, by Delma Mining Corporation, PT., East Kalimantan.
CURRENT DEVELOPMENT OF CLEAN COAL TECHNOLOGY IN INDONESIA

CONVERSION TECHNOLOGY:

• **Gasification Technology**
  Pilot Plant, 2005 - now on (Mineral and Coal Research and Development Centre/tekMIRA, state electricity company/PLN, and other institutes), Location: Bandung and Palimanan West Java.

• **Liquefaction Technology (brown coal liquefaction technology)**
  • Lab scale, bench scale, 1990 – 1993 (tekMIRA), Location: Bandung;
  • Study and research leading to Pilot Plant Scale, 1994-2001 (tekMIRA, Agency of Sience and Technology Study and Application (BPPT), Oil and Gas Research and Development Centre/LEMIGAS, and NEDO Japan), Location: Bandung and Jakarta.
  • In 2005-2009, meeting and discussion on the possibility of SASOL technology application in Indonesia.

• **Coal Bed Methane Technology,**
  On going (Oil and Gas Research and Development Centre/LEMIGAS), Location: Jakarta;

• **Coal Water Fuel (CWF)/Coal Water Mixture (CWM)**
  Lab and bench scale, on going (tekMIRA), Location: Bandung West Java.
Master Plan of Indonesian Economic Development 2011-2025;
The Master Plan for Acceleration and Expansion Of Indonesian Economic Development 2011 –2025 (MP3EI)

6 Priority Economic Corridors: Commodity bases/ featured regional sectors

1 ECof Sumatera
2 ECof Jawa
3 ECof Kalimantan
4 ECof Sulawesi – Maluku Utara
5 ECof Bali – Nusa Tenggara
6 ECof Papua – Maluku

Note: KEK : Koridor Ekonomi Khusus/Special Economic Corridor, FTZ : Free Trade Zone, EC : Economic Corridor

Source: Kementerian Koordinator Bidang Perekonomian dan Kementerian PPN/BAPPENAS
continued

**Indonesian Economic Development Theme Summary**

- **Economic Corridor of Sumatera**
  - Centers of production and processing of crops and national energy granaries

- **Economic Corridor of Kalimantan**
  - Centers of production and processing of mining products and national energy granaries

- **Economic Corridor of Sulawesi - North Maluku**
  - Centers of production and processing of agricultural, horticultural and national fisheries
  - Processing of the abundant natural resources and a prosperous human resources

- **Economic Corridor of Java**
  - Driver of industrial and national services

- **Economic Corridor of Bali – Nusa Tenggara**
  - Tourism gateway and national food support

- **Economic Corridor of Papua-Maluku**
  - BIMP-EAGA
Sumatera and Kalimantan: Issues Identified, Opportunities Opens Up

**Sumatera:**
- Resources: 52.5 BT and Reserves: 11.23 BT, mostly located in inner island;
- Coal production is estimated around 10% of the national coal production;
- Only around 30 companies are in operation out of 1000 permits issued;
- Inadequate infrastructures;
- Coal mined mostly medium and high rank coal;
- Abandoned low rank coal resources;
- Severe damage of provincial road (South Sumatera and Jambi).

**Opportunities**
- Invest in coal mine;
- Infrastructures development (transmission network, rail ways, stockpile and seaport);
- Mine mouth Power Plant development;
- Coal technology (coal upgrading and conversation);
- Coal blending facility
Sumatera and Kalimantan: Issues Identified, Opportunities Opens Up

Kalimantan:
- Resources: 51.92 BT and Reserves: 9.9 BT, more than half located in the inner island;
- Coal production is estimated around 90% of the national coal production;
- IUP of coal mining totally more than 3000 but only around 200 IUPs are in operation;
- Inadequate infrastructures;
- Coal mined mostly medium and high rank coal, low rank coal resources are still unexploited;
- Environmental and social community around the mine issues.

Opportunities
- Joint investment in coal mine;
- Take over IUP or consolidating the IUPs that not operational yet
- Infrastructures development (transmission network, rail ways, stockpile and seaport);
- Mine mouth Power Plant development;
- Processing plant of coal (coal upgrading and conversion);
- Copper and nickel smelting plants;
- Allumina processing plant.
Incentives for Brown coal/LRC Mining and Utilization Industry

Legal Support

Presidential Decree. 75/1996, states that for the LRC mining will be given incentives in the form of a royalty reduction;

Government Regulation No. 1/2007 jo No. 62/2008 states that the government would give incentives in form of fiscal and non fiscal for LRC Mining and Utilization (coal gasification for domestic purposes, (coal upgrading, liquefaction, and CWF ?)), among of them are:

- 30% net income reduced from capital investment amount for 6 (six) years period or 5% per annum;
- Accelerated amortization and depreciation up to 10 years;
- 10% income tax charged for overseas tax payer on dividend bill or lower tariff according to the double taxation agreement;
- Loss compensation with period between 5 to 10 years with some specific stipulations.
WHERE IS THE POSITION OF COAL UPGRADING AND CONVERSION IN THE NEW MINING LAW (LAW NO. 4/2009) ?

1. The added value is one of the considerations taken in the Law No. 4/2009 concerning mineral and Coal Mining

2. Article 102 outlines that the holders of mining permit (IUP) and a special mining permit (IUPK), are required to increase the added value of mineral resources and / or coal in the implementation of mining, processing and refining, as well as utilization of mineral and coal;

3. Article 103 paragraph (1) and (2) explains that holders of mining permit (IUP) and a special mining permit (IUPK) required to process and refine the results of its mine in the country, and can perform processing and refining of other IUP and IUPK;

4. These decriptions tell us that how the important the increasing added value is in coal mining business today and the future. Meaning that there is no any coin to go away but stay where have to be and enjoyed here in the country
New Paradigm of Investing in Indonesia’s Coal Mining Industry (Special Case : Delma Mining)
Delma Mining Adopts the New Master Plan

FACTS:

• Delma Mining is a CCoW third Generation (a997);
• Typical product: brown coal (GAR 3000 kcal/kg) with TM >50%, but TS 0.2%;
• Currently no/very limited market demand;
• Located in a very remote area with low population (4000 people) within the regency of Bulungan (120 k people), East Kalimantan; and
• No coal fired power plant, only diesel powered generator.

However

1. Concession is only 11 Km from the open Sea;
2. Proximity to coal consumers as well as consumer of Indonesian mineral products;
3. MP3EI (Master Plan untuk Percepatan & Perluasan Pembangunan Ekonomi Indonesia) which will revisit all regulations and debottle neck the obstacles as well as support decentralization of economic development
Location Overview

- Concession lies between the main regional towns of Tanjung Selor and Tanjung Redeb;
- The area contains major producing mines of PT. Berau Coal to the south and PT. Mandiri Intiperkasa to the north. Both these concessions are also CCoW’s and produce 15 MT per annum and 4 MT per annum respectively;
- Another nearby coal concession is PT Pesona Khatulistiwa Nusantara, that also produces a similar rank coal, has also recently commenced production.
1. Power Plant Purposes, to fulfill the industrial demand for energy and/or electricity (Smelting Plants for copper, nickel, and bauxite/allumina);
2. Coal to Gas/Coal Gasification Plant, to supply Chemical and Fertilizer Industries, and city gas within the Region;
3. Coal Blending Facility provider
4. Upgrading and/or drying coal plants to supply mine mouth power plants.
Delma Mining Will become:

1. Coal producer with growing market share;
2. Coal upgrader with a simple drying technology;
3. Power producer by building mine mouth coal fired power plant;
4. Energy provider for a new industrial complex which contain:
   a. Nickel Smelter;
   b. Coal Gasification feeding fertilizer industry;
   c. Coal upgrading plant
   d. Power plant; and
   e. Many other industries that need continuous supply of cheap/efficient power

Total investment is more than US $ 1 Billion
THANK YOU

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