

# **COAL POLICY IN INDONESIA**

**Nenny Sri Utami**

**Head, Center for Energy Information  
Ministry of Energy and Mineral Resources  
Indonesia**

## **Abstract**

Indonesia is fortunate in having various mineral and energy resources most importantly oil, gas, coal, geothermal and hydro. In the last three decades mineral and energy resources contributed significantly to state's revenue. Mineral and energy sectors including coal are also used for domestic energy need and as raw materials for various types of industries from small industries to large industries. As most minerals deposits located at remote part of the country, this sector also contributes in accelerating regional development and in providing necessary infrastructures that can be used for other activities. Indonesian coal has competitive advantage due to its low sulfur and ash content and geographically close to major coal market in Asia and Pacific. Coal will also play a more important role on Indonesian energy mix given the fact that oil reserve is depleting. Despite some internal and temporary shortcomings, the Government is committed to maintain and enhance coal contribution to national development by continuously provide good environment for coal development.

## **Introduction**

Indonesia is fortunate in having various mineral and energy resources most importantly oil, coal and gas. Mineral and energy resources contributed significantly to national export earnings at around 70% during the early development plan and around 30% of total national earnings in 2001. Contribution of mineral and coal to national income in 2001 was nearly Rp. 50 trillion or 3.2% of total GDP. Apart from this, coal and mineral also absorb significant amount of employment or around 35 thousand people. Indonesia has around 6 billion tons of proven coal resources. As most of Indonesian coal is of low rank, coal

contribution as export earnings can not be expected in the long term and must be better utilized for domestic use unless upgrading related coal technology is well developed. One of the issues facing coal development in Indonesia is the drop of investment in the last five years. This drop is mostly attributable to the internal problems exist in Indonesia such as regional autonomy, land use, and fiscal issues.

In the context of energy, Indonesia experiences high energy growth in the last two decades accounts for 9% per annum. This growth is attributed to population growth and rapid industrialization process. Oil share on energy mix is still substantial at more than 50% although this figure is much lower than it was in 1980-s at around 70%. The Government develops program to diversify oil with coal, gas and other sources of energy.

This paper outlines coal policy development in Indonesia with particular attention to its share on energy mix. It will also discuss prospect and challenges faced by coal industry and how the Government deals with this issues. This paper will also present latest energy outlook in Indonesia with particular attention to coal and in the context of energy policy development in Indonesia.

## **Coal Supply and Demand**

### **Coal Supply**

Coal in Indonesia is found in many part of the country but mostly in Kalimantan and Sumatera. In Sumatera, coal is found in South and West Sumatera whereas in Kalimantan, coal is found in South and East Kalimantan. Other areas that produce coal include Riau, Jambi Bengkulu and Central Kalimantan. Most of Indonesian coal (58.6%) are of low quality (lignite) followed by sub bituminous coal (26.6%), bituminous (14,4%) and anthracite (0.5%). Coal resources in Indonesia is amounted at around 51 billion tons, of which 4.9 billion tons is proven reserves (Table 1). Coal production has been increasing and reached about 103 million tons in 2002. With this rate of production, coal will last in almost 50 years. Most of coal is produced by coal

contractors with the rate of production grows at nearly 7 million per annum (Table 2). Coal production is projected to increase to 171 million tons in 2010 and 214 million tons in 2020.

### **Coal Demand**

Coal in Indonesia is consumed primarily for electricity generation and cement industry. In 1993, domestic coal consumption was only 8.4 million tons and increased considerably to 29.3 million tons in 2002 (Table 3). Coal consumption for electricity has grown almost 4 times in less than 10 years period indicating the increasing number and capacity of coal fired power plant in Indonesia. Apart from electricity, coal also used in cement industry, textile and metal industries. At current stage, the last two consumer are using small portion of coal but this amount is predicted to grow to meet the increasing demand of this industry. The prospect of briquettes for household and small industry is also bright. This prospect will even brighter if the Government is phasing out all subsidy for kerosene.

On export side, coal export increases significantly in the last ten years from 4.3 million tons in 1990 to 52.1 million tons in 2000 and 74.1 million tons in 2002 (Table 4). Indonesian coal is exported mostly to Asian market including Japan, Taiwan and South Korea. The average growth rate of export in the last five years was 5.8 million tons/annum.

Coal demand in Indonesia is projected to increase from 29 million tons in 2002 to 58.5 million tons in 2010 and 95.6 million tons in 2020. (Table 5). Electricity demand for coal will increase from 20.1 million tons in 2002 to 72 million tons in 2020. The highest growth will be expected on industries as price of coal products is likely to compete with oil product especially kerosene.

## **Coal Policy Development**

Coal will play a more important role on energy development as well as remains a major source of income for government. This role must be maintained and enhanced for the maximum benefit of the whole people in the country. In the past, coal policy is seen only as part of mining policy or treated more on upstream basis rather than a holistic upstream (mining) and downstream (energy) link. This approach is no longer considered valid as the role of coal on energy mix increases and become strategic to meet the increasing demand of electricity in the country. The role of coal on energy mix increased from 8% in 1995 to 13.1% in 2002. The share of coal on electricity is even greater from 20% in 1985 to 34.8% in 2002. This share will continuously increase inline with the construction of new coal fired power plant and the increase on the capacity of existing coal fired power plant. Coal share on electricity is projected to increase from 34.8% in 2002 to 60% in 2020. On energy mix, coal share is projected to increase from 13.1% in 2002 to 19% in 2020. (Table 6).

The reorientation of coal policy is directed by some issues including the depleting nature of oil reserve, its increasing share on electricity, availability of coal resource and technology development that allow conversion of coal to environmentally friendly fuel substitution or as raw materials for industry.

In the context of energy sector, the Government has been restructuring its energy policy especially on oil and gas (by enacting Law No 22/2001) and electricity (Law No 20/2002). The restructuring policy aims to create transparency by applying competition and fair playing field. One of the key feature is the separation of competitive and non-competitive region. In the competitive region, all players have the same level of playing field including the state owned electricity company (PT PLN) whose status is changed to a limited liability company. Another policy taken by the Government is restructuring energy pricing. For a long time, energy price (oil fuel) and electricity tariff in Indonesia are subsidized. This policy not only burdening Indonesia's state budget but also unfair for poor people. It also makes

other source of energy difficult to compete with oil fuel. These two laws have direct affect to coal development in Indonesia. The oil and gas law will provide good opportunity for coal products such as briquette to compete with kerosene as the Law promotes the rationalization of fuel price into its economic price including that of kerosene. The Oil and gas and electricity law also directed to promote energy diversification. It is expected that the Laws will provide much better climate for investors to invest including that on coal fired power plant as coal is still the least cost option.

The National Coal Policy (NCP) would match the existing laws on oil and gas and electricity sectors. The NCP is now on its final stage and is expected to be launched by the Minister in a matter of time. The NCP would also be a good input in the drafting of general mining and energy laws.

### **Challenges of Coal Development**

Coal development in Indonesia is facing some shortcomings. This shortcomings are internal and external in nature. Internally, there has been some regional autonomy issues that considered as contra-productive by many coal industries as it create high economy and inconsistency with Government's policy and regulation. This issue seems to be temporary in nature due to euphoria of reform. The Government is working closely with local government to find a better way to address the interest of local government and the industry. Another issue is the limited coal infrastructure (roads, rails and ports) available. Under Indonesian system, coal company is responsible in providing their own infrastructures. With the increasing production and export of coal, better infrastructure facilities and capacity is needed. In this regard, the Government sees the prospect of establishing multi client system of coal transportation by coal consortium. This system will not only cheaper than if each company build its infrastructure but also make the management system of coal transportation easier and more effective and efficient. With regard to the issue of illegal mining, the Government is committed to increase law enforcement, but on the other side develop a partnership program

between local traditional mining and coal mining. On the issue of environment, the Government is continuously promoting best practice on coal mining and utilization. With consistent and committed effort to better manage the industry, the Government believes that foreign investors would be more interested in invest in Indonesia.

Table 1  
Coal Resources and Reserves by Province (2003)

Million tons

Province	Resources	Reserves
Banten	10.0	-
Bengkulu	50.0	51.4
Jambi	48.8	-
Nangroe Aceh Darussalam	28.1	-
North Sumatera	1.5	-
West Sumatera	909.9	107.0
South Sumatera	11,324.9	1,511
Riau	2,340.4	-
East Java	0.14	-
East Kalimantan	5,772.5	1,885
Central Kalimantan	19,772.9	-
South Kalimantan	5,649.5	1,412
West Kalimantan	186.6	-
Papua	121.6	-
Total	46,3	4,9

Source: Directorate General of GMR (DGGMR), 2003

Table 2.  
Coal Production by Companies, 1990, 2000-2002

Million tons

Company	1990	2000	2001	2002
State Owned Company (PTBA)	4.8	10.7	10.2	9.5
Coal Contractors (PKP2B)	3.8	61.7	76.5	87.1
Mining Authorization/Cooperatives	1.1	4.3	5.7	6.8

Source: Directorate General of GMR (DGGMR), 2003

Table 3  
Domestic Coal Consumption, 1993, 2001-2002

Million Tons			
Consumer	1993	2001	2002
Power Plant	5.4	19,5	20.1
Cement Industry	2.6	5.1	4.7
Metallurgy	0.5	0.22	0.24
Pulp Industry		0.82	0.5
Briquette	0.008	0.031	0.024
Others		1.5	3.7
Total	8.4	24.98	29.3

Source: Directorate General of GMR (DGGMR), 2003

Table 4  
Coal Export by Producers, 1990, 2000-2002

Million Tons				
Producers	1990	2000	2001	2002
State-owned company (PTBA)	1.5	2.14	1.89	1.85
Coal Contractors	2.3	52.1	59.36	66.5
Mining Authorization	0.5	4.1	4.02	5.8
Total	4.3	58.46	65.27	74.17

Source: Directorate General of GMR (DGGMR), 2003

Table 5  
Domestic Coal Production and Consumption Projection,  
2002 – 2020

Millions Tons

Year	Production Projection	Average Domestic Consumption Projection			
		Electricity	Cement	Other Industry	Total
2002 (R)	103.4	20.1	4.2	1.1	25.2
2005	130.5	24.7	4.5	3.4	32.6
2010	171	36.1	6.1	4.5	46.7
2015	199	54	8.5	7.6	70.1
2020	214	72	11.1	12.5	95.6

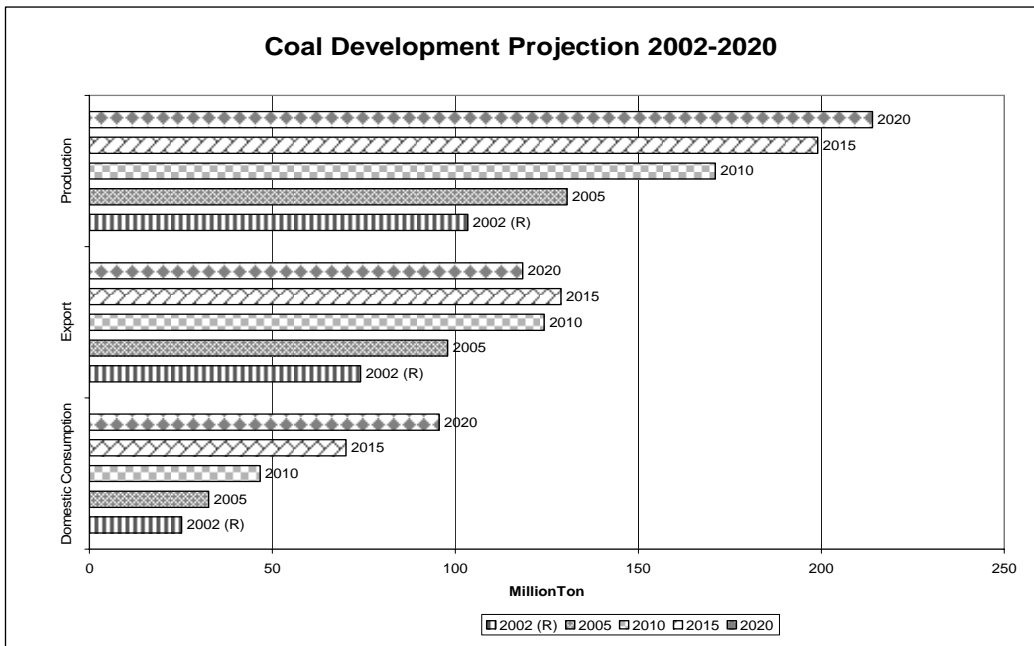
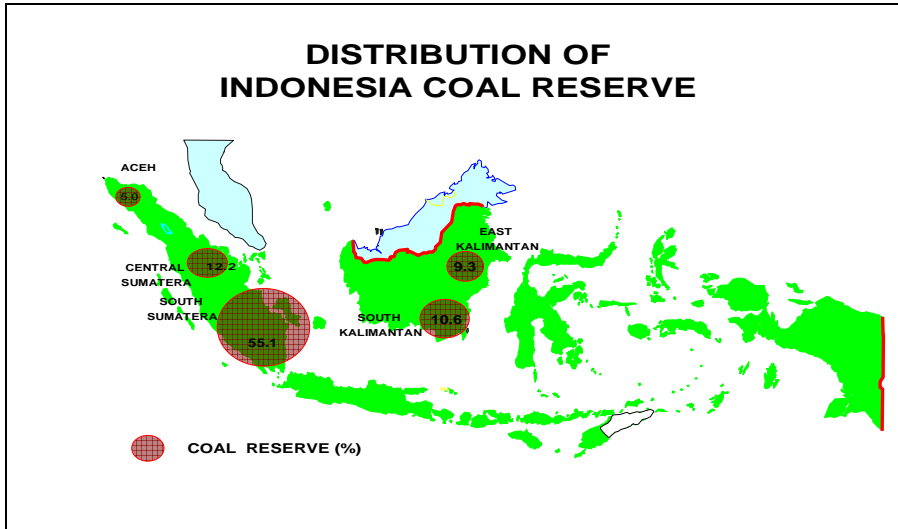
Source: Directorate General of GMR (DGGMR), 2003

Table 6  
Projection of Coal Contribution on Energy  
and Electricity Mix, 2002-2020

Million Tons

Year	Coal for Electricity Mix		Coal for Energy Mix	
	%	Total (Million Ton)	%	Total (Million Ton)
2002 (R)	34.8	20.1	13.1	25
2005	40	24.7	15	33
2010	50	36.1	16	47
2015	55	54	18	70
2020	60	72	19	96

Source: Directorate General of GMR (DGGMR), 2003



Source: Directorate General of GMR (DGGMR), 2003