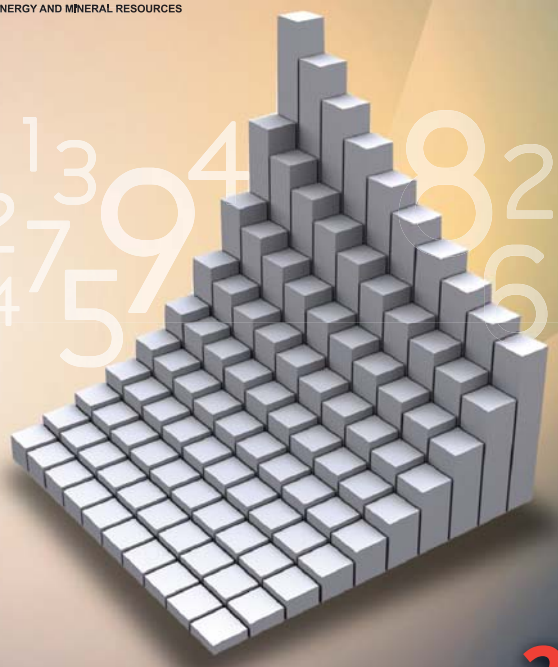
MINISTRY OF ENERGY AND MINERAL RESOURCES



2012

HANDBOOK OF ENERGY & ECONOMIC STATISTICS OF INDONESIA

PUSDATIN ESDM

2012
HANDBOOK of ENERGY & ECONOMIC STATISTICS of INDONESIA

Center for Data and Information on Energy and Mineral Resources
Ministry of Energy and Mineral Resources

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PREFACE

The updating of the Handbook of Indonesia's Energy Economy Statistics, is a part of the Center for Data and Information Energy and Mineral Resources (CDI-EMR) effort to provide accurate and reliable energy economic data and information consolidated in one book. Data and information related to energy economy are dispersed in various sources and locations, and are generally available in different formats unready for energy analysis. In addition, they are generally not provided with sufficient explanation or clarification. The standardisation of energy economic data is still quite a critical problem. Currently, some researchers in various institutions, do not have common terminology on energy economy, in some cases may have a number of meanings. This subsequently leads to inaccurate energy analysis.

Currently, the problem related to energy data in Indonesia is the unavailability of demand-side data. To date, energy data are actually derived from supply-side data. In other words, consumption data are assumed to be identical with the sales data. Such assumption maybe quite accurate provided there is no disparity between domestic energy price and its international price. Disparity in energy price would promote misuse of energy. Thus, sales data on an energy commodity cannot be regarded as the same as that of its consumption. For that reason, in this statistics handbook, energy consumption data concept is presented after a computation based on a number energy parameters.

We hope the process to standardise Energy and Economy data and information in the future will be continued as part of the updating of the Handbook of Indonesia's Energy Economy Statistics. Therefore, in updating the Handbook, (CDI-EMR) will continued to coordinate with all related parties within the Ministry of Energy and Mineral Resources (MEMR) as well as with statistics units outside MEMR.

We would like to appreciate all parties, for their dilligence and patience in preparing this book. May God Almighty always guides us in utilising our energy resources wisely for the maximum benefit of all the people of Indonesia.

Jakarta, December 2012

Head of Center for Energy and
Mineral Resources Data and Information

INTRODUCTION

This Handbook of Indonesia's Energy Economy Statistics, 9th edition, contains data on Indonesia's energy and economy from 2000 through 2010. This edition is an updated version of the 8th Edition, covering estimated energy demand for every sector. The structure of the table is arranged as follows:

A. Tables

Shown in 6 Main Categories, as follows:
- Table 1 General Information and Energy Economic Indicators
- Table 2 Indonesia's Energy Balanced Table
- Table 3 Situation of Energy Supply and Demand
- Table 4 Energy Price
- Table 5 Situation of Energy Demand by Sectors
- Table 6 Situation of Energy Supply by Energy Sources

B. Annexes

Annex 1. Methodology and Clarification of Tables which explains the methodology applied to prepare the data for the tables

Annex 2. Glossary, contains important terms which are used in the tables and their respective units.

Annex 3. Conversion Factors, presenting list of multiplication factors used to convert various original units of energy into BOE (Barrel Oil Equivalent).

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Concise Energy Profile Indonesia 2011

A. SOCIO ECONOMY

Teritorial Area	7,788,810.32	km²
Land Area	1,910,931.32	km²
Population :	241,133.70	Thousand People
Household :	60,283.43	Thousand Household
GDP Regional		
Total Value :	7,427.09	Trillion Rupiahs
Per Capita :	30,800.70	Thousand Rupiahs per Year

B. ENERGY PRODUCTION

Primary Energy Production		
Crude Oil :	329,265.00	Thousand Barel
Natural Gas :	2,890.92	BSCF
Coal :	353,270.94	Thousand Tonnes
Hydro Power :	42,658,902.81	GWh Output
Geothermal :	68,610.11	Thousand Tonnes Geothermal Steam

C. FINAL ENERGY CONSUMPTION	**1,016.35**	**Million BOE**
Energy Consumption by Type (excluded non energy use)		
Coal :	144.57	Million BOE
Fuel :	363.83	Million BOE
Gas :	92.80	Million BOE
Electricity :	98.00	Million BOE
Briquette :	0.07	Million BOE
LPG :	37.05	Million BOE
Biomass :	280.05	Million BOE
Energy Consumption by Sector		
Industry :	359.69	Million BOE
Household :	320.37	Million BOE
Commercial :	34.08	Million BOE
Transportation :	277.40	Million BOE
Other Sector :	24.82	Million BOE
Non Energy :	98.41	Million BOE
D. RATIO ELECTRIFICATION :	**72.95**	**%**

CHAPTER
1

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HANDBOOK OF ENERGY & ECONOMIC STATISTICS OF INDONESIA

1.1 GDP and Energy Indicator

	Unit	2000	2001	2002
GDP at Constant Price 2000	Trillion Rupiahs	1,390	1,443	1,506
GDP Nominal	Trillion Rupiahs	1,390	1,684	1,863
GDP Nominal per Capita	Thousand Rupiahs	6,752	8,072	8,789
Population	Thousand	205,843	208,647	212,003
Number of Households	Thousand	52,005	54,314	55,041
Primary Energy Supply *)	Thousand BOE	726,687	772,282	799,806
Primary Energy Supply per Capita *)	BOE / capita	3.53	3.70	3.77
Final Energy Consumption *)	Thousand BOE	468,490	484,848	481,185
Final Energy Consumption per Capita *)	BOE / capita	2.28	2.32	2.27

	2000-2001	2001-2002	2002-2003	2003-2004
GDP at Constant Price 2000	3.83	4.38	4.72	5.03
GDP Nominal	21.19	10.63	8.07	14.01
GDP Nominal per Capita	19.56	8.88	6.43	12.66
Population	1.36	1.61	1.54	1.20
Number of Households	4.44	1.34	2.87	2.88
Primary Energy Supply	6.27	3.56	7.41	1.59
Final Energy Consumption	3.49	-0.76	7.95	4.17
Final Energy Consumption per Capita	2.10	-2.33	6.31	2.94

Sources : BPS, Statistics Indonesia; Bank Indonesia
Note : *) Primary Energy Supply and Final Energy Consumtion which are calculated is commercial energy (excluded biomass)

2003	2004	2005	2006	2007	2008	2009	2010	2011
1,577	1,657	1,751	1,847	1,964	2,082	2,179	2,314	2,463
2,014	2,296	2,774	3,339	3,951	4,951	5,606	6,436	7,427
9,354	10,538	12,676	15,030	17,510	21,667	23,914	27,084	30,801
215,276	217,854	218,869	222,192	225,642	228,523	234,432	237,641	241,134
56,623	58,253	55,119	55,942	56,411	57,131	58,422	59,119	60,283
859,053	872,677	896,445	899,168	955,703	984,022	1,015,318	1,155,684	1,236,070
3.99	4.01	4.10	4.05	4.24	4.31	4.33	4.86	5.13
519,456	541,121	540,205	538,892	576,835	590,539	699.210	793,942	834,717
2.41	2.48	2.47	2.43	2.56	2.58	2.98	3.34	3.46

Growth (%)						
2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
5.69	5.50	6.35	6.01	4.58	6.20	6.46
20.84	20.37	18.31	25.32	13.18	14.81	15.39
20.28	18.57	16.50	23.74	11.79	13.26	13.72
0.47	1.52	1.55	1.28	1.25	1.37	1.47
-5.38	1.49	0.84	1.28	2.26	1.19	1.97
2.72	0.30	6.29	2.96	3.98	13.82	7.09
-0.17	-0.24	7.04	2.38	4.41	13.55	5.14
-0.63	-1.74	5.40	1.09	3.12	12.02	3.61

1.2 Macro Economic

Year	GDP Constant 2000 Prices			
	GDP	Private Consumption	Government Consumption	Fixed Capital Formation
	Billion Rupiah			
2000	1,389,770.3	856,798.3	90,779.7	275,881.2
2001	1,442,984.6	886,736.0	97,646.0	293,792.7
2002	1,506,124.4	920,749.6	110,333.6	307,584.6
2003	1,577,171.3	956,593.4	121,404.1	309,431.1
2004	1,656,516.8	1,004,109.0	126,248.6	354,865.8
2005	1,750,815.2	1,043,805.1	134,625.6	393,500.5
2006	1,847,126.7	1,076,928.1	147,563.7	403,161.9
2007	1,964,327.3	1,130,847.1	153,309.6	441,361.5
2008	2,082,315.9	1,191,190.8	169,297.2	493,716.5
2009	2,178,850.4	1,249,070.1	195,835.0	510,085.9
2010	2,313,838.0	1,308,272.0	196,399.0	553,347.7
2011	2,463,242.0	1,369,881.0	202,612.0	602,146.7

Source : BPS, Statistics Indonesia

GDP Constant 2000 Prices			GDP Nominal (Current Prices)	Index GDP Deflator
Stock Change	Export of Goods and Services	Import of Goods and Services		
Billion Rupiahs				(2000=100)
33,282.8	569,490.3	423,317.9	1,389,769.9	100.00
41,846.8	573,163.4	441,012.0	1,684,280.5	116.72
13,085.0	566,188.4	422,271.4	1,863,274.7	123.71
45,996.7	599,516.4	428,874.6	2,013,674.6	127.68
25,099.0	680,620.9	543,183.8	2,295,826.2	138.59
33,508.3	793,612.9	639,701.9	2,774,281.1	158.46
29,026.7	868,256.4	694,605.4	3,339,479.6	180.79
-243.1	942,431.4	757,566.2	3,950,893.2	201.13
2,170.4	1,032,277.8	833,342.2	4,951,356.7	237.78
-2,065.0	932,249.0	708,529.0	5,606,203.4	257.30
11,042.0	1,074,569.0	831,418.3	6,436,270.8	278.16
21,858.7	1,220,428.0	942,208.3	7,427,086.0	301.52

1.3 Finance and Banking

Year	Money Supply (M1)		
	Currency Outside	Demand Deposits	Total
	Billion Rupiah		
2000	72,371	89,815	162,186
2001	76,342	101,389	177,731
2002	80,686	111,253	191,939
2003	94,542	129,257	223,799
2004	109,265	144,553	253,818
2005	124,316	157,589	281,905
2006	151,009	210,064	361,073
2007	183,419	277,423	460,842
2008	209,378	257,001	466,379
2009	226,006	289,818	515,824
2010	260,227	345,184	605,411
2011	307,760	415,231	722,991

Source: Bank of Indonesia

1.4 Price Index

Year	Wholesale Price Index *)			Consumer Price Index of 66 Cities *)	Coal Price Index	Electricity Price Index
	Export	Import	General			
	2000=100			2007=100		
2000	100.00	100.00	100.00	53.47	100.00	100.00
2001	113.02	112.66	114.16	59.62	129.79	122.34
2002	108.00	112.00	118.00	66.66	142.89	189.44
2003	109.00	114.00	122.00	71.17	150.09	251.99
2004	121.00	127.00	131.00	75.49	150.04	269.01
2005	145.00	149.00	151.00	83.38	163.57	271.56
2006	154.00	162.00	172.00	94.31	218.36	273.78
2007	167.00	186.00	195.00	100.00	220.27	275.76
2008	209.00	235.00	246.00	109.78	318.12	283.60
2009	134.10	156.61	162.71	115.06	476.18	284.23
2010	137.80	160.90	170.59	125.17	427.02	297.06
2011	154.11	177.37	183.31	129.91	454.27	298.04

Notes: *) 2009-2012 based on 2005=100; Processed from BPS, Statistics Indonesia; Bank of Indonesia

1.5 Population and Employment

Year	Population	Labor Force	Household	Unemployment	Uneployment Percentage (toward labor force)	Average Wage		
						Industry	Hotel	Mining
	Thousand People	Thousand People	Thousand Household	Thousand People	%	Thousand Rupiahs Per Month		
2000	205,843	95,651	52,005	5,813	6.1	373	396	1,234
2001	208,647	98,812	54,314	8,005	8.1	541	575	1,227
2002	212,003	99,564	55,041	9,132	9.2	672	651	1,406
2003	215,276	100,316	56,623	9,531	9.5	713	581	2,117
2004	217,854	103,973	58,253	10,251	9.9	852	801	1,368
2005	218,869	105,802	55,119	10,854	10.3	870	788	2,114
2006	222,192	106,389	55,942	10,932	10.3	972	918	2,733
2007	225,642	109,941	56,411	10,011	9.1	1,050	1,042	3,890
2008	228,523	111,947	57,131	9,395	8.4	1,105	1,069	4,064
2009	234,432	113,830	58,422	8,963	7.9	1,137	1,225	2,678
2010	237,641	116,530	59,119	8,320	7.1	1,366	1,171	2,843
2011	241,134	117,371	62,630	7,700	6.6	1,378	1,257	4,157

Source: BPS, Statistics Indonesia
Note : PP (People)

1.6 International Trade

Year	Based on Major Portion		Trade Index 2000=100		Balance Payment			Ex-change Rate Rupiah to US$	US $ Defla-tor*)
	Export	Import	Export	Import	Current Trans-action	Capital Trans-action	Total		
	Million US$				Million US$				
2000	62,124	33,515	100	100	7,992	-7,896	96	9,595	1.0000
2001	56,321	30,962	91	92	6,901	-7,617	-716	10,400	1.0240
2002	57,159	31,289	92	93	7,824	-1,103	6,720	8,940	1.0419
2003	61,058	32,551	98	97	10,882	-949	9,933	8,465	1.0640
2004	71,585	46,525	115	139	1,564	1,852	3,415	9,290	1.0946
2005	85,660	57,701	138	172	278	345	623	9,830	1.1303
2006	100,799	61,066	162	182	10,860	3,025	13,884	9,020	1.1668
2007	114,101	74,473	184	222	10,493	3,591	14,083	9,419	1.1982
2008	137,020	129,197	221	385	-637	-5,915	-6,552	10,950	1.2242
2009	119,646	88,714	193	265	10,628	4,852	15,481	10,356	1.0962
2010	158,074	127,447	254	380	5,144	26,620	31,765	9,078	1.1066
2011	201,473	166,125	324	496	2,069	14,018	16,088	8,768	1.1187

Source : BPS, Statistics Indonesia
Note: *) Derived from World Economic Outlook Database, April 2011, IMF

1.7 Supply of Primary Energy

1.7.1 By Type

(%)

Type of Energy	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Oil	43.52	42.42	42.32	40.37	43.52	42.32	39.25	38.51	38.11	37.40	38.18	41.45
Coal	9.42	11.44	11.48	14.58	13.24	14.89	17.51	20.97	17.80	18.26	19.69	23.38
Gas	16.54	16.53	17.65	18.05	16.39	16.39	16.72	14.92	18.70	19.39	18.89	18.31
Hydropower	2.54	2.82	2.34	2.03	2.13	2.32	2.06	2.31	2.30	2.21	3.08	2.19
Geothermal	0.96	0.96	0.96	0.92	0.97	0.94	0.95	0.93	1.06	1.16	1.03	1.15
Biomass	27.02	25.83	25.25	24.05	23.75	23.15	23.51	22.36	22.03	21.57	19.14	13.52

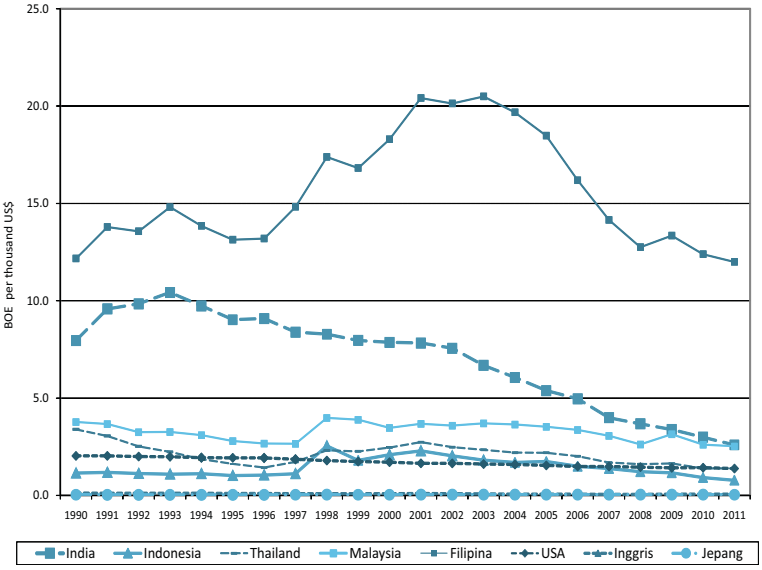
1.7.2 By Type (Excluded Biomass)

(%)

Type of Energy	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Oil	59.64	57.20	56.62	53.16	57.08	55.07	51.30	49.58	48.84	47.61	47.10	47.74
Coal	12.91	15.43	15.36	19.20	17.37	19.37	22.89	27.01	22.82	23.29	24.35	27.03
Gas	22.66	22.28	23.61	23.76	21.49	21.33	21.86	19.21	23.99	24.72	23.36	21.17
Hydropower	3.47	3.80	3.13	2.67	2.79	3.02	2.70	2.98	2.95	2.82	3.80	2.53
Geothermal	1.32	1.29	1.28	1.21	1.27	1.22	1.24	1.20	1.36	1.47	1.27	1.33
Biofuel	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.08	0.12	0.19

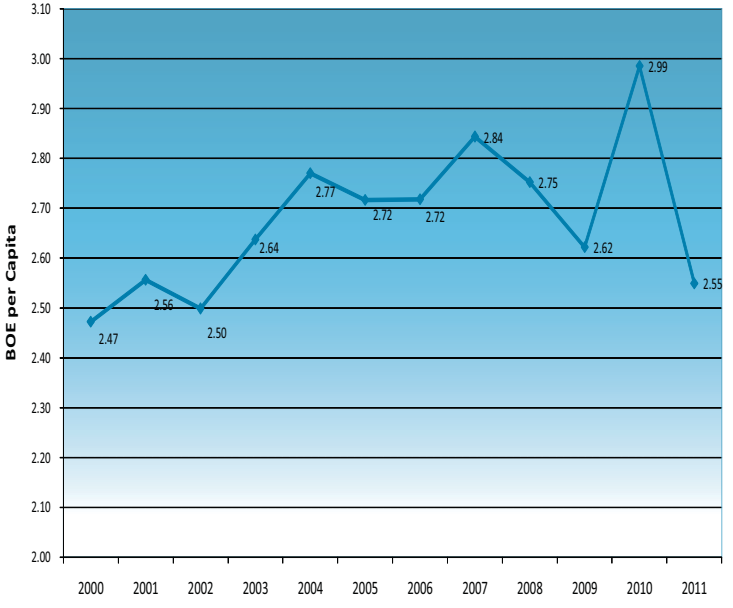
Note: Oil including crude oil, petroleum product and LPG
Coal including coal and briquette
Gas including natural gas and LNG
Biomass including firewood and charcoal
Biofuel: Pure bio energy (not blending product)

1.8 Comparison of Primary Energy Intensity in Some Country



Note: GDP Primary Energy Consumption using US$ fix rate in year 2000
Sources: BP Statistical Review of World Energy 2011 and World Economic Outlook Database April 2011, IMF

1.9 Intensity of Final Energy Consumption per Capita



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Indonesia Energy Balance Table 2011

		Hydro Power	Geothermal	Biomass	Coal	Briquette	
1	**Primary Energy Supply**	**31,269**	**16,494**	**280,171**	**334,143**	**0**	
	a. Production	31,269	16,494	280,171	1,483,738	0	
	b. Import	0	0	0	178	0	
	c. Export	0	0	0	-1,145,220	0	
	d. Stock Change	0	0	0	-4,554	0	
2	**Energy Transformation**	**-31,269**	**-16,494**	**-121**	**-189,576**	**66**	
	a. Refinery	0	0	0	0	0	
	b. Gas Processing	0	0	0	0	0	
	c. Coal Processing Plant	0	0	0	-78	66	
	d. Power Plant	-31,269	-16,494	-121	-189,498	0	
	- State Own Utility (PLN)	-25,973	-6,138	0	-115,223	0	
	- Independent Power Producer (Non-PLN)	-5,296	-10,356	-121	-74,274	0	
3	**Own Use and Losses**	**0**	**0**	**0**	**0**	**0**	
	a. During Transformastion	0	0	0	0	0	
	b. Energy Use/ Own Use	0	0	0	0	0	
	c. Transmission & Distribution	0	0	0	0	0	
4	**Final Energy Supply**	**0**	**0**	**280,050**	**144,567**	**66**	
5	**Statistic Discrepancy**	**0**	**0**	**0**	**0**	**0**	
6	**Final Energy Consumption**	**0**	**0**	**280,050**	**144,567**	**66**	
	a. Industry	0	0	43,733	144,567	66	
	b. Transportation	0	0	0	0	0	
	c. Household	0	0	234,943	0	0	
	d. Commercial	0	0	1,374	0	0	
	e. Other Sector	0	0	0	0	0	
7	**Non Energy Use**	**0**	**0**	**0**	**0**	**0**	

(thousand BOE)

Natural Gas	Crude Oil	Fuel	Biofuel	LPG	Other Petroleum Product	Electricity	LNG	Total
458,952	**327,422**	**200,795**	**46,676**	**17,564**	**-27,029**	**1,558**	**-197,244**	**1,490,771**
519,210	329,265	0	46,676	0	0	0	0	2,706,822
0	96,862	166,187	0	16,979	1,010	1,558	0	282,775
-60,258	-135,572	-2,750	0	0	-28,040	0	-197,244	-1,569,083
0	36,867	37,359	0	585	0	0	0	70,256
-297,779	**-321,002**	**117,041**	**0**	**19,482**	**97,008**	**111,243**	**207,689**	**-303,711**
-2,948	-321,002	192,792	0	6,008	97,008	0	0	-28,141
-234,816	0	0	0	13,474	0	0	207,689	-13,653
0	0	0	0	0	0	0	0	-12
-60,015	0	-75,751	0	0	0	111,243	0	-261,905
-51,316	0	-75,578	0	0	0	87,499	0	-186,729
-8,700	0	-173	0	0	0	23,744	0	-75,177
-38,592	**-6,420**	**-592**	**-93**	**0**	**0**	**-14,361**	**-10,445**	**-70,503**
-2,948	-6,420	0	0	0	0	-3,990	0	-13,358
-35,644	0	0	0	0	0	0	0	-35,644
0	0	-592	-93	0	0	-10,371	-10,445	-21,502
122,581	**0**	**317,244**	**46,583**	**37,046**	**69,978**	**98,440**	**0**	**1,116,556**
1,347	**0**	**0**	**0**	**0**	**0**	**442**	**0**	**1,789**
121,234	**0**	**317,244**	**46,583**	**37,046**	**69,978**	**97,998**	**0**	**1,114,767**
91,214	0	45,951	0	608	0	33,547	0	359,687
181	0	230,588	46,583	0	0	54	0	277,405
114	0	10,072	0	35,326	0	39,914	0	320,369
1,290	0	5,817	0	1,112	0	24,485	0	34,077
0	0	24,816	0	0	0	0	0	24,816
28,434	**0**	**0**	**0**	**0**	**69,978**	**0**	**0**	**98,413**

CHAPTER
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3.1 Primary Energy Supply by Sources

Year	Coal	Crude Oil & Product	Natural Gas & Product	
2000	93,831,548	433,360,999	164,649,922	
2001	119,125,379	441,731,352	172,083,907	
2002	122,879,411	452,817,870	188,822,314	
2003	164,950,173	456,647,707	204,142,054	
2004	151,543,284	498,117,696	187,553,776	
2005	173,673,093	493,636,985	191,189,376	
2006	205,779,290	461,349,420	196,599,386	
2007	258,174,000	474,032,509	183,623,636	
2008	224,587,657	480,900,640	236,049,566	
2009	236,439,000	484,207,777	251,035,250	
2010	281,400,000	545,708,063	269,942,185	
2011	334,142,760	592,456,411	261,708,332	

(BOE)

Hydro Power	Geothermal	Biomass	Total
BOE			
25,248,631	9,596,400	269,054,110	995,741,609
29,380,607	9,960,940	268,970,034	1,041,252,219
25,038,179	10,248,040	270,230,078	1,070,035,892
22,937,538	10,375,200	272,005,374	1,131,058,046
24,385,647	11,077,000	271,806,233	1,144,483,636
27,034,841	10,910,460	270,042,895	1,166,487,651
24,256,796	11,182,742	276,335,944	1,175,503,577
28,450,964	11,421,759	275,199,938	1,230,902,805
29,060,413	13,423,610	277,981,421	1,262,003,306
28,662,883	14,973,198	279,313,257	1,294,631,364
43,952,237	14,681,920	273,643,874	1,429,328,278
31,268,976	16,493,771	280,171,358	1,516,241,607

3.2 Final Energy Cosumption by Sector

3.2.1 Energy Consumption (included Biomass)

Sector	2000	2001	2002	2003	2004
Industrial	251,895,942	252,158,714	245,108,900	275,308,517	263,294,377
Households	296,573,110	301,347,223	303,032,794	309,046,165	314,114,684
Commercial	20,670,389	21,449,843	21,752,300	22,397,122	25,412,327
Transportation	139,178,658	148,259,584	151,498,823	156,232,909	178,374,391
Other	29,213,878	30,585,607	29,998,546	28,445,436	31,689,809
Non Energy Utilization	40,393,109	48,524,092	48,534,290	48,317,775	62,375,806
Final Energy Consumption	777,925,086	802,325,064	799,925,653	839,747,924	875,261,394

3.2.2 Commercial Energy Consumption (Excluded Biomass)

Sector	2000	2001	2002	2003	2004
Industrial	192,914,655	196,972,955	192,803,789	225,141,109	216,377,677
Households	87,963,563	89,023,979	86,568,222	88,669,268	90,689,214
Commercial	19,218,814	20,005,525	20,315,203	20,967,212	23,989,565
Transportation	139,178,658	148,259,584	151,498,823	156,232,909	178,374,391
Other	29,213,878	30,585,607	29,998,546	28,445,436	31,689,809
Non Energy Utilization	40,393,109	48,524,092	48,534,290	48,317,775	62,375,806
Final Energy Consumption	508,882,677	533,371,742	529,718,873	567,773,708	603,496,463

(BOE)

2005	2006	2007	2008	2009	2010	2011
262,686,505	280,187,757	300,675,120	299,539,752	297,271,113	355,426,352	359,686,797
313,772,025	312,715,871	319,333,000	316,802,419	314,093,670	310,521,222	320,369,268
26,234,764	26,194,683	27,896,499	29,273,897	30,848,294	33,122,376	34,077,140
178,452,407	170,127,492	179,144,177	196,941,689	224,883,086	255,568,629	277,404,656
29,102,166	25,936,873	24,912,051	25,855,949	27,186,782	28,743,347	24,861,386
54,352,999	64,990,106	64,759,190	38,432,103	84,096,759	84,146,777	98,412,712
864,600,867	880,152,782	916,720,038	906,845,811	978,379,703	1,067,528,702	1,114,766,960

(BOE)

2005	2006	2007	2008	2009	2010	2011
218,766,032	233,511,599	258,567,087	255,304,315	252,750,040	312,108,771	315,953,359
89,065,250	84,529,554	87,716,652	84,558,014	80,832,849	81,632,635	85,426,358
24,819,117	24,786,114	26,494,973	27,879,379	29,460,747	31,741,767	32,703,435
178,452,407	170,127,492	179,144,177	196,941,689	224,883,086	255,568,629	277,404,656
29,102,166	25,936,873	24,912,051	25,855,949	27,186,782	28,743,347	24,861,386
54,352,999	64,990,106	64,759,190	38,432,103	84,096,759	84,146,777	98,412,712
594,557,972	603,881,738	641,594,130	628,971,449	699,210,263	793,941,926	834,716,906

3.3 Final Energy Consumption by Type

Year	Biomass	Coal	Natural Gas	Fuel
2000	269,042	36,060	87,214	315,272
2001	268,953	37,021	82,235	328,203
2002	270,207	38,698	80,885	325,202
2003	271,974	68,264	90,277	321,384
2004	271,765	55,344	85,459	354,317
2005	270,043	65,744	86,634	338,375
2006	276,271	89,043	83,221	311,913
2007	275,126	121,904	80,178	314,248
2008	277,874	94,035	102,281	320,987
2009	279,169	82,587	118,587	335,271
2010	273,587	136,820	115,404	363,130
2011	280,050	144,567	121,234	363,827

(Thousand BOE)

Other Petroleum Product	Briquette	LPG	Electricity	Total
13,435	85	8,261	48,555	777,925
25,712	78	8,280	51,841	802,325
22,688	83	8,744	53,418	799,926
23,533	77	8,766	55,473	839,748
37,716	80	9,187	61,393	875,261
29,614	94	8,453	65,644	864,601
41,126	94	9,414	69,071	880,153
39,873	89	10,925	74,376	916,720
16,658	155	15,718	79,138	906,846
55,663	220	24,384	82,499	978,380
55,765	49	32,067	90,707	1,067,529
69,978	66	37,046	97,998	1,114,767

3.4 Share of Final Energy Consumption by Sector

(%)

Year	Industry	Household	Commercial	Transportation	Other
2000	41.18	18.78	4.10	29.71	6.24
2001	40.63	18.36	4.13	30.58	6.31
2002	40.07	17.99	4.22	31.48	6.23
2003	43.34	17.07	4.04	30.08	5.48
2004	39.99	16.76	4.43	32.96	5.86
2005	40.50	16.49	4.59	33.03	5.39
2006	43.33	15.69	4.60	31.57	4.81
2007	44.83	15.21	4.59	31.06	4.32
2008	43.23	14.32	4.72	33.35	4.38
2009	41.09	13.14	4.79	36.56	4.42
2010	43.97	11.50	4.47	36.01	4.05
2011	42.91	11.60	4.44	37.68	3.37

Note: Commercial Energy (excluded biomass)

3.5 Share of Final Energy Consumption by Type

(%)

Year	Coal	Natural Gas	Fuel	LPG	Electricity
2000	7.3	17.6	63.6	1.7	9.8
2001	7.3	16.2	64.7	1.6	10.2
2002	7.6	16.0	64.1	1.7	10.5
2003	12.6	16.6	59.1	1.6	10.2
2004	9.8	15.1	62.6	1.6	10.9
2005	11.7	15.3	59.9	1.5	11.6
2006	15.8	14.8	55.4	1.7	12.3
2007	20.3	13.3	52.2	1.8	12.4
2008	15.4	16.7	52.4	2.6	12.9
2009	12.9	18.4	52.1	3.8	12.8
2010	18.5	15.6	49.2	4.3	12.3
2011	18.9	15.9	47.6	4.8	12.8

CHAPTER
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4.1 Crude Oil Price

Crude Oil Type	2000	2001	2002	2003	2004	2005
SLC	28.53	23.99	25.11	29.04	36.30	53.92
Arjuna	28.65	24.29	24.35	28.81	36.90	55.07
Arun Condensate	28.92	24.40	24.65	29.16	37.40	54.62
Attaka	29.09	24.75	24.89	29.41	37.60	57.51
Cinta	27.83	23.15	24.08	28.09	35.00	51.81
Duri	27.09	22.02	23.30	27.11	30.40	46.62
Handil Mix	n/a	24.42	24.48	28.96	37.10	55.23
Lalang	n/a	24.04	25.16	29.09	36.40	53.13
Widuri	27.87	23.10	24.08	28.05	35.00	51.19
Belida	29.07	24.74	24.74	29.19	37.30	56.54
Senipah Condensate	29.05	24.40	24.65	29.17	39.95	54.62
Average	**28.39**	**21.94**	**22.46**	**26.34**	**36.39**	**53.66**

Source : Oil and Gas Statistics. Directorate General of Oil and Gas

(US$ per Barrel)

2006	2007	2008	2009
64.24	72.94	99.90	64.14
65.52	72.38	97.61	61.18
64.85	72.94	94.27	60.33
67.59	75.69	101.03	62.74
61.77	70.33	94.58	59.74
54.93	59.89	84.57	55.12
65.67	72.53	97.77	61.33
64.29	72.99	99.95	64.19
61.94	70.41	94.98	59.72
67.56	75.71	101.05	62.30
65.57	73.03	94.27	60.33
64.27	**72.31**	**96.13**	**61.58**

Crude Oil Type	2010	2011
SLC	81.44	113.63
Arjuna	78.91	112.47
Attaka	80.75	114.38
Cinta	77.02	110.50
Duri	75.07	107.57
Widuri	77.12	110.55
Belida	80.28	114.14
Senipah Condensate	78.76	109.02
Anoa	81.15	114.78
Arun Condensate	78.76	109.02
Badak	80.75	114.38
Average	**79.40**	**111.55**

4.2 International Gas Price

(US $ /MMBTU)

Year	LNG	Natural Gas			
	CIF on Japan	CIF on Uni Eropa	UK (Heren NBP Index)	USA (Henry Hub)	Canada (Alberta)
2000	4.72	2.89	2.71	4.23	3.75
2001	4.64	3.66	3.17	4.07	3.61
2002	4.27	3.23	2.37	3.33	2.57
2003	4.77	4.06	3.33	5.63	4.83
2004	5.18	4.32	4.46	5.85	5.03
2005	6.05	5.88	7.38	8.79	7.25
2006	7.14	7.85	7.87	6.76	5.83
2007	7.73	8.03	6.01	6.95	6.17
2008	12.55	11.56	10.79	8.85	7.99
2009	9.06	8.52	4.85	3.89	3.38
2010	10.91	8.01	6.56	4.39	3.69
2011	14.73	10.61	9.03	4.01	3.47

Source : BP Statistical Review of World Energy, 2011

4.3 Average Price of LPG, LNG and Coal FOB Export

Year	LPG	LNG	Coal
	US $/Thousand Ton	US $/MMBTU	US$/Ton
2000	252.97	4.31	29.60
2001	246.41	4.45	32.07
2002	278.42	4.84	29.98
2003	332.52	6.00	28.63
2004	443.02	7.19	43.00
2005	479.82	8.49	36.48
2006	624.40	9.04	40.99
2007	785.94	11.97	54.76
2008	785.94	11.97	54.76
2009	545.49	6.95	69.52
2010	-	7.81	87.31
2011	-	11.80	93.56

Source : Directorate General of Oil and Gas, Bank Indonesia and Ministry of Trade

4.4 Energy Price per Energy Unit

Year	Gasoline (Premium)		Avtur		Avgas		Kerosene		ADO	
	Rp/ BOE	US$/ BOE	Rp/BOE	US$/ BOE	Rp/BOE	US$/ BOE	Rp/BOE	US$/ BOE	Rp/BOE	US$/ BOE
2000	178,035	18.55	179,945	18.75	306,141	31.91	50,191	5.23	86,711	9.04
2001	225,368	21.67	332,728	31.99	884,207	85.02	63,640	6.12	117,669	11.31
2002	248,820	27.83	354,797	39.69	766,613	85.75	67,483	7.55	138,737	15.52
2003	313,707	37.06	601,287	71.03	1,150,909	135.96	309,087	36.51	260,228	30.74
2004	310,596	33.43	580,746	62.51	1,118,885	120.44	303,674	32.69	254,351	27.38
2005	492,028	50.05	806,228	82.02	2,067,906	210.37	398,713	40.56	406,962	41.40
2006	772,201	85.61	974,757	108.07	2,423,480	268.68	337,416	37.41	662,854	73.49
2007	772,201	81.98	1,048,206	111.29	2,849,871	302.57	337,416	35.82	662,854	70.37
2008	911,626	83.25	1,561,727	142.62	4,246,083	387.77	386,623	35.31	766,264	69.98
2009	858,001	82.85	949,203	92.00	3,277,120	316.00	421,770	40.73	739,930	71.45
2010	772,201	85.06	1,057,542	116.49	3,650,079	402.08	421,770	46.46	693,684	76.41
2011	772,201	88.07	1,352,810	154.00	3,553,214	405.00	421,770	48.11	693,684	79.12

IDO		Fuel Oil		LPG (3 Kg)		LPG (12 Kg)		LPG (50 Kg)		Average of Refinery Product	
Rp/BOE	US$/ BOE	Rp/ BOE	US$/ BOE	Rp/ BOE	US$/ BOE	Rp/ BOE	US$/ BOE	Rp/ BOE	US$/ BOE	Rp/BOE	US$/ BOE
77,560	8.08	52,074	5.43	0.0	0.00	246.3	0.03	246.3	0.03	116,363	12.13
139,292	13.39	98,702	9.49	0.0	0.00	246.3	0.02	246.3	0.02	232,732	22.38
194,215	21.72	150,357	16.82	0.0	0.00	281.5	0.03	281.5	0.03	240,163	26.86
289,935	34.25	222,902	26.33	0.0	0.00	334.3	0.04	334.3	0.04	393,549	46.49
310,239	33.39	227,810	24.52	0.0	0.00	351.9	0.04	351.9	0.04	388,332	41.80
585,398	59.55	394,879	40.17	0.0	0.00	498.6	0.05	498.6	0.05	644,077	65.52
829,863	92.00	513,974	56.98	0.0	0.00	498.6	0.06	498.6	0.06	814,380	90.29
887,504	94.22	577,206	61.28	498.6	0.05	498.6	0.05	845.1	0.09	891,970	94.70
1,311,550	119.78	853,622	77.96	498.6	0.05	662.9	0.06	859.7	0.08	1,254,770	114.59
n.a.	n.a.	n.a.	n.a.	498.6	0.05	686.2	0.07	859.7	0.08	780,815	75.40
n.a.	n.a.	n.a.	n.a.	498.6	0.05	686.2	0.08	859.7	0.09	824,472	90.82
n.a.	n.a.	n.a.	n.a.	498.6	0.06	686.2	0.08	862.8	0.10	849,272	96.87

4.4 Energy Price per Energy Unit (continued)

Year	Coal		Electricity (Average)					
			Household		Industry		Commercial	
	Rp/BOE	US$/ BOE	Rp/BOE	US$/ BOE	Rp/BOE	US$/ BOE	Rp/BOE	US$/ BOE
2000	35,961	3.75	338,238	35.25	493,507	51.43	620,734	64.69
2001	46,673	4.49	413,785	39.79	590,000	56.73	737,210	70.89
2002	51,384	5.75	640,767	71.67	722,577	80.83	966,998	108.17
2003	53,973	6.38	852,333	100.69	865,122	102.20	1,078,972	127.46
2004	53,956	5.81	909,886	97.94	912,153	98.19	1,113,083	119.82
2005	58,820	5.98	918,515	93.44	929,641	94.57	1,133,295	115.29
2006	78,523	8.71	926,020	102.66	1,013,442	112.35	1,092,023	121.07
2007	79,212	8.41	932,724	99.03	1,013,573	107.61	1,260,212	133.79
2008	79,212	8.41	932,724	99.03	1,013,573	107.61	1,260,212	133.79
2009	114,397	10.45	959,231	87.60	1,014,741	92.67	1,387,403	126.70
2010	171,239	16.53	961,387	92.83	1,051,126	101.50	1,453,344	140.34
2011	153,559	16.92	1,004,763	110.68	1,078,287	118.78	1,524,176	167.90

Note: *) Based on Current Price

4.5 Average Price of Coal Import

Year	Import Total (CIF)	Import Valume	Import Price (CIF)
	US$	Ton	US $/Ton
2000	5,837,447	140,116	41.66
2001	2,004,976	30,466	65.81
2002	1,627,954	20,026	81.29
2003	5,732,026	38,228	149.94
2004	15,204,824	97,183	156.46
2005	12,891,514	98,179	131.31
2006	13,455,025	110,683	121.56
2007	8,880,440	67,534	131.50
2008	23,549,197	106,931	220.23
2009	22,360,122	68,804	324.98
2010	12,555,941	55,230	227.34
2011	12,547,751	42,449	295.59

Source : Ministry of Trade

CHAPTER
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5.1.1 Energy Consumption in Industrial Sector
(in Original Unit)

Year	Biomass	Coal	Briquette	Gas		
	Thousand Ton			MMSCF	Kerosene	ADO
2000	25,667	8,586	24	483,438	711,774	5,729,941
2001	24,016	8,815	22	455,798	701,791	6,082,584
2002	22,762	9,214	23	448,261	667,247	5,985,416
2003	21,832	16,253	22	500,622	671,513	5,764,971
2004	20,417	13,177	23	473,695	676,827	6,626,385
2005	19,113	15,653	26	480,382	649,626	6,155,112
2006	20,313	21,201	27	461,277	572,676	5,399,470
2007	18,325	29,025	25	443,889	565,550	5,208,388
2008	19,250	22,389	43	623,616	451,457	5,735,356
2009	19,375	19,664	62	654,428	273,095	6,349,977
2010	18,851	32,576	14	635,361	162,577	6,663,702
2011	19,032	34,421	19	666,195	113,409	5,627,864

Fuel			Other Petroleum Product	LPG	Electricity
IDO	Fuel Oil	Total Fuel			
Kilo Liter				Thousand Ton	GWh
1,211,930	3,674,761	11,328,406	2,094,316	126	34,013
1,170,511	3,832,704	11,787,590	4,008,106	114	35,593
1,106,467	3,676,959	11,436,088	3,536,732	128	36,831
962,232	2,981,697	10,380,414	3,668,380	95	36,497
887,061	3,140,129	11,330,403	5,879,216	129	40,324
732,888	2,243,407	9,781,033	4,616,280	133	42,448
397,599	2,320,623	8,690,367	6,410,874	170	43,615
215,233	1,990,450	7,979,620	6,215,568	146	45,803
128,424	1,430,903	7,746,140	8,117,302	132	47,969
111,242	1,204,418	7,938,732	8,676,804	69	46,204
134,607	1,798,635	8,759,521	8,692,820	77	50,985
99,193	1,165,728	7,006,194	10,908,408	71	54,725

5.1.2 Energy Consumption in Industrial Sector
(in Energy Unit)

Year	Biomass	Coal	Briquette	Gas		
					Kerosene	ADO
2000	58,981	36,060	85	86,826	4,219	37,171
2001	55,186	37,021	78	81,861	4,160	39,458
2002	52,305	38,698	83	80,508	3,955	38,828
2003	50,167	68,264	77	89,912	3,980	37,398
2004	46,917	55,344	80	85,076	4,012	42,986
2005	43,920	65,744	94	86,277	3,851	39,929
2006	46,676	89,043	94	82,845	3,394	35,027
2007	42,108	121,904	89	79,723	3,352	33,787
2008	44,235	94,035	155	101,668	2,676	37,206
2009	44,521	82,587	220	117,535	1,619	41,193
2010	43,318	136,820	49	114,111	964	43,228
2011	43,733	144,567	66	119,649	672	36,509

(Thousand BOE)

Fuel			Other Petroleum Product	LPG	Electricity	Total
IDO	Fuel Oil	Total Fuel				
8,008	25,581	74,979	13,435	1,073	20,850	292,289
7,735	26,680	78,033	25,712	972	21,819	300,683
7,311	25,596	75,690	22,688	1,093	22,578	293,643
6,358	20,756	68,493	23,533	808	22,373	323,626
5,862	21,859	74,718	37,716	1,101	24,719	325,670
4,843	15,617	64,239	29,614	1,131	26,021	317,040
2,627	16,154	57,203	41,126	1,453	26,736	345,178
1,422	13,856	52,418	39,873	1,242	28,077	365,434
849	9,961	50,691	16,658	1,124	29,405	337,972
735	8,384	51,931	55,663	588	28,323	381,368
889	12,521	57,602	55,765	655	31,254	439,573
655	8,115	45,951	69,978	608	33,547	458,100

5.1.3 Share of Energy Consumption in Industrial Sector

Year	Coal	Briquette	Gas	Kerosene
2000	15.46	0.04	37.22	1.81
2001	15.08	0.03	33.35	1.69
2002	16.03	0.03	33.36	1.64
2003	24.96	0.03	32.88	1.46
2004	19.85	0.03	30.52	1.44
2005	24.07	0.03	31.59	1.41
2006	29.83	0.03	27.75	1.14
2007	37.70	0.03	24.66	1.04
2008	32.01	0.05	34.61	0.91
2009	24.52	0.07	34.89	0.48
2010	34.53	0.01	28.80	0.24
2011	34.89	0.02	28.88	0.16

(%)

Fuel			Other Petroleum Product	LPG	Electricity
ADO	IDO	Fuel Oil			
15.93	3.43	10.96	5.76	0.46	8.94
16.07	3.15	10.87	10.47	0.40	8.89
16.09	3.03	10.61	9.40	0.45	9.36
13.68	2.33	7.59	8.61	0.30	8.18
15.42	2.10	7.84	13.53	0.39	8.87
14.62	1.77	5.72	10.84	0.41	9.53
11.73	0.88	5.41	13.78	0.49	8.96
10.45	0.44	4.29	12.33	0.38	8.68
12.67	0.29	3.39	5.67	0.38	10.01
12.23	0.22	2.49	16.52	0.17	8.41
10.91	0.22	3.16	14.07	0.17	7.89
8.81	0.16	1.96	16.89	0.15	8.10

5.2.1 Energy Consumption in Household Sector
(in Original Unit)

Year	Biomass	Gas	Kerosene	LPG	Electricity
	Thousand Ton	MMSCF	Kilo Liter	Thousand Ton	GWh
2000	90,783	449	10,665,049	696	30,563
2001	92,399	487	10,515,453	724	33,340
2002	94,201	535	9,997,862	748	33,994
2003	95,904	553	10,061,787	823	35,753
2004	97,230	691	10,141,412	798	38,588
2005	97,788	693	9,733,831	704	41,184
2006	99,302	711	8,580,829	788	43,753
2007	100,795	737	8,474,054	979	47,325
2008	101,068	729	6,764,523	1,592	50,184
2009	101,510	722	4,091,982	2,671	54,945
2010	99,608	751	2,436,009	3,564	59,825
2011	102,242	635	1,699,298	4,144	65,112

5.2.2 Energy Consumption in Household Sector
(in Energy Unit)

(Thousand BOE)

Year	Biomass	Gas	Kerosene	LPG	Electricity	Total
2000	208,610	81	63,216	5,932	18,735	296,573
2001	212,323	87	62,329	6,170	20,437	301,347
2002	216,465	96	59,261	6,373	20,838	303,033
2003	220,377	99	59,640	7,013	21,917	309,046
2004	223,425	124	60,112	6,798	23,655	314,115
2005	224,707	124	57,696	5,998	25,246	313,772
2006	228,186	128	50,862	6,719	26,821	312,716
2007	231,616	132	50,229	8,345	29,010	319,333
2008	232,244	131	40,096	13,568	30,763	316,802
2009	233,261	130	24,255	22,767	33,682	314,094
2010	228,889	135	14,439	30,386	36,673	310,521
2011	234,943	114	10,072	35,326	39,914	320,369

5.2.3 Share of Energy Consumption in Household Sector

(%)

Year	Gas	Kerosene	LPG	Electricity
2000	0.09	71.87	6.74	21.30
2001	0.10	70.01	6.93	22.96
2002	0.11	68.46	7.36	24.07
2003	0.11	67.26	7.91	24.72
2004	0.14	66.28	7.50	26.08
2005	0.14	64.78	6.73	28.35
2006	0.15	60.17	7.95	31.73
2007	0.15	57.26	9.51	33.07
2008	0.15	47.42	16.05	36.38
2009	0.16	30.01	28.17	41.67
2010	0.17	17.69	37.22	44.92
2011	0.13	11.79	41.35	46.72

5.3.1 Energy Consumption in Commercial Sector
(in Original Unit)

Year	Biomass	Gas	Fuel				LPG	Electricity
			Kerosene	ADO	IDO	Total		
	Thousand Ton	MMSCF	Kilo Liter				Thousand Ton	GWh
2000	632	745	588,919	825,064	6,503	1,420,486	147	14,588
2001	629	821	580,658	875,842	6,281	1,462,781	134	15,587
2002	625	913	552,077	861,851	5,937	1,419,865	150	16,264
2003	622	882	555,607	830,108	5,163	1,390,878	111	18,191
2004	619	972	560,004	954,145	4,760	1,518,909	151	21,185
2005	616	1,057	537,497	886,286	3,933	1,427,715	155	23,400
2006	613	1,145	473,829	777,479	2,134	1,253,442	146	25,241
2007	610	1,526	467,933	749,965	1,155	1,219,053	157	28,119
2008	607	1,989	373,533	825,844	689	1,200,067	120	30,866
2009	604	4,067	225,957	914,345	597	1,140,899	121	33,322
2010	601	5,364	134,515	959,518	722	1,094,756	120	36,399
2011	598	7,185	93,834	810,366	532	904,733	130	38,068

5.3.2 Energy Consumption in Commercial Sector
(in Energy Unit)

(Thousand BOE)

Year	Biomass	Gas	Fuel				LPG	Electricity	Total
			Kero-sene	ADO	IDO	Total Fuel			
2000	1,452	134	3,491	5,352	43	8,886	1,257	8,943	20,670
2001	1,444	147	3,442	5,682	42	9,165	1,138	9,555	21,450
2002	1,437	164	3,272	5,591	39	8,903	1,279	9,970	21,752
2003	1,430	158	3,293	5,385	34	8,712	946	11,151	22,397
2004	1,423	174	3,319	6,190	31	9,540	1,288	12,986	25,412
2005	1,416	190	3,186	5,749	26	8,961	1,324	14,344	26,235
2006	1,409	206	2,809	5,044	14	7,866	1,241	15,473	26,195
2007	1,402	274	2,774	4,865	8	7,646	1,337	17,237	27,896
2008	1,395	357	2,214	5,357	5	7,576	1,025	18,921	29,274
2009	1,388	730	1,339	5,931	4	7,275	1,029	20,426	30,848
2010	1,381	963	797	6,224	5	7,027	1,026	22,312	32,709
2011	1,374	1,290	556	5,257	4	5,817	1,112	23,336	32,928

5.3.3 Share of Energy Consumption in Commercial Sector

(%)

Year	Gas	Fuel			LPG	Electricity
		Kerosene	ADO	IDO		
2000	0.70	18.16	27.85	0.22	6.54	46.53
2001	0.74	17.20	28.40	0.21	5.69	47.76
2002	0.81	16.11	27.52	0.19	6.30	49.08
2003	0.76	15.71	25.68	0.16	4.51	53.18
2004	0.73	13.84	25.80	0.13	5.37	54.13
2005	0.77	12.84	23.17	0.10	5.33	57.79
2006	0.83	11.33	20.35	0.06	5.01	62.43
2007	1.03	10.47	18.36	0.03	5.05	65.06
2008	1.28	7.94	19.22	0.02	3.68	67.87
2009	2.48	4.55	20.13	0.01	3.49	69.33
2010	3.08	2.55	19.87	0.02	3.28	71.22
2011	4.09	1.76	16.66	0.01	3.52	73.95

5.4.1 Energy Consumption in Transportation Sector
(in Original Unit)

Year	Gas						
		Avgas	Avtur	Premium	Bio Premium	Pertamax	Bio Pertamax
	MMSCF	Kilo Liter					
2000	968	3,550	1,202,717	12,059,026	0	0	0
2001	773	3,430	1,473,503	12,705,861	0	0	0
2002	654	3,488	1,597,291	13,323,304	0	0	0
2003	599	3,556	1,929,351	13,746,726	0	371,238	0
2004	471	3,416	2,437,923	15,337,655	0	487,562	0
2005	238	3,070	2,322,634	16,621,765	0	248,875	0
2006	233	3,390	2,428,078	15,941,837	1,624	505,730	16
2007	273	2,163	2,520,040	16,962,198	55,970	472,284	9,956
2008	691	2,003	2,635,670	19,112,241	44,016	297,982	16,234
2009	1,066	1,687	2,760,678	20,802,405	105,816	460,148	20,232
2010	1,088	2,231	3,527,382	22,391,362	0	670,364	0
2011	1,006	2,316	3,562,126	24,766,975	0	625,162	0

Fuel							Elec-tricity
Pertamax Plus	Bio Solar	Kerosene	ADO	IDO	Fuel Oil	Total Fuel	
Kilo Liter							GWh
0	0	4,708	9,365,388	48,356	71,474	22,755,220	44
0	0	4,642	9,941,771	46,704	74,546	24,250,457	49
0	0	4,414	9,782,952	44,148	71,517	24,827,114	53
107,441	0	4,442	9,422,642	38,393	57,994	25,681,783	53
121,866	0	4,477	10,830,594	35,394	61,075	29,319,962	55
99,326	0	4,297	10,060,316	29,242	43,634	29,433,160	55
128,289	217,048	3,788	8,826,588	15,864	45,136	28,117,389	67
158,070	877,457	3,741	8,514,215	8,588	38,714	29,623,396	85
114,789	931,179	2,986	9,374,239	5,124	27,831	32,564,294	81
104,388	2,398,234	1,807	10,378,815	4,439	23,426	37,064,029	111
113,812	4,393,861	1,075	10,891,587	5,371	34,983	42,036,462	89
294,639	7,180,806	750	9,198,546	3,958	22,673	45,664,345	88

5.4.2 Energy Consumption in Transportation Sector
(in Energy Unit)

Year	Gas	Fuel						
		Avgas	Avtur	Premium	Bio Premieum	Pertamax	Bio Pertamax	Pertamax Plus
2000	174	20	7,085	70,274	0	0	0	0
2001	139	19	8,680	74,043	0	0	0	0
2002	118	19	9,409	77,642	0	0	0	0
2003	108	20	11,365	80,109	0	2,163	0	626
2004	85	19	14,361	89,380	0	2,841	0	710
2005	43	17	13,682	96,863	0	1,450	0	579
2006	42	19	14,303	92,901	9	2,947	0	748
2007	49	12	14,845	98,847	326	2,752	58	921
2008	124	11	15,526	111,377	257	1,736	95	669
2009	191	9	16,262	121,226	617	2,682	118	608
2010	195	12	20,779	130,486	0	3,907	0	663
2011	181	13	20,983	144.330	0	3,643	0	1,717

(Thousand BOE)

Bio Solar	Kerosene	ADO	IDO	Fuel Oil	Total Fuel	Electricity	Total
0	28	60,754	320	498	138,978	27	139,179
0	28	64,493	309	519	148,091	30	148,260
0	26	63,463	292	498	151,349	33	151,499
0	26	61,126	254	404	156,093	33	156,233
0	27	70,259	234	425	178,256	34	178,374
0	25	65,262	193	304	178,376	34	178,452
1,408	22	57,268	105	314	170,044	41	170,127
5,692	22	55,241	57	269	179,043	52	179,144
6,041	18	60,812	34	194	196,768	50	196,942
15,558	11	67,328	29	163	224,624	68	224,883
28,503	6	70,655	35	244	255,319	54	255,569
46,583	4	59,672	26	158	277,170	54	277,405

5.4.3 Share of Energy Consumption in Transportation Sector

Year	Gas	Fuel					
		Avgas	Avtur	Premium	Bio Premium	Pertamax	Bio Pertamax
2000	0.125	0.014	5.09	50.49	0.000	0.000	0.000
2001	0.094	0.013	5.85	49.94	0.000	0.000	0.000
2002	0.078	0.013	6.21	51.25	0.000	0.000	0.000
2003	0.069	0.013	7.27	51.28	0.000	1.385	0.000
2004	0.047	0.011	8.05	50.11	0.000	1.593	0.000
2005	0.024	0.010	7.67	54.28	0.000	0.813	0.000
2006	0.025	0.011	8.41	54.61	0.006	1.732	0.000
2007	0.027	0.007	8.29	55.18	0.182	1.536	0.032
2008	0.063	0.006	7.88	56.55	0.130	0.882	0.048
2009	0.085	0.004	7.23	53.91	0.274	1.192	0.052
2010	0.076	0.005	8.13	51.06	0.000	1.529	0.000
2011	0.065	0.005	7.56	52.03	0.000	1.313	0.000

(%)

Fuel							Electricity
Pertamax Plus	Bio Solar	Kerosene	ADO	IDO	Fuel Oil	Total Fuel	
0.000	0.000	0.020	43.65	0.23	0.36	99.86	0.02
0.000	0.000	0.019	43.50	0.21	0.35	99.89	0.02
0.000	0.000	0.017	41.89	0.19	0.33	99.90	0.02
0.401	0.000	0.017	39.12	0.16	0.26	99.91	0.02
0.398	0.000	0.015	39.39	0.13	0.24	99.93	0.02
0.324	0.000	0.014	36.57	0.11	0.17	99.96	0.02
0.439	0.828	0.013	33.66	0.06	0.18	99.95	0.02
0.514	3.177	0.012	30.84	0.03	0.15	99.94	0.03
0.340	3.067	0.009	30.88	0.02	0.10	99.91	0.03
0.271	6.918	0.005	29.94	0.01	0.07	99.88	0.03
0.260	11.153	0.002	27.65	0.01	0.10	99.90	0.02
0.619	16.792	0.002	21.51	0.01	0.06	99.92	0.02

5.5.1 Energy Consumption in Others Sector
(in Original Unit)

Year	Mogas	Kerosene	ADO	IDO	Fuel Oil	Total Fuel
	Kilo Liter					
2000	370,265	487,325	2,906,942	181,019	590,966	4,536,516
2001	390,125	480,490	3,085,847	174,832	616,365	4,747,660
2002	409,084	456,839	3,036,551	165,266	591,319	4,659,059
2003	422,084	459,760	2,924,714	143,723	479,509	4,429,790
2004	470,933	463,398	3,361,731	132,495	504,987	4,933,544
2005	510,361	444,774	3,122,642	109,467	360,779	4,548,023
2006	489,484	392,089	2,739,286	59,387	373,197	4,053,443
2007	520,813	387,211	2,642,345	32,148	320,099	3,902,616
2008	586,829	309,096	2,909,690	19,182	230,114	4,054,911
2009	638,725	186,978	3,221,502	16,616	193,691	4,257,511
2010	687,512	111,310	3,380,662	20,105	289,252	4,488,842
2011	760,454	77,647	2,855,156	14,816	187,469	3,895,542

5.5.2 Energy Consumption in Others Sector
(in Energy Unit)

(Thousand BOE)

Year	Mogas	Kerosene	ADO	IDO	Fuel Oil	Total Fuel
2000	2,158	2,889	18,858	1,196	4,114	29,214
2001	2,273	2,848	20,018	1,155	4,291	30,586
2002	2,384	2,708	19,698	1,092	4,116	29,999
2003	2,460	2,725	18,973	950	3,338	28,445
2004	2,744	2,747	21,808	875	3,515	31,690
2005	2,974	2,636	20,257	723	2,511	29,102
2006	2,852	2,324	17,770	392	2,598	25,937
2007	3,035	2,295	17,141	212	2,228	24,912
2008	3,420	1,832	18,875	127	1,602	25,856
2009	3,722	1,108	20,898	110	1,348	27,187
2010	4,006	660	21,931	133	2,014	28,743
2011	4,432	460	18,522	98	1,305	24,816

5.5.3 Share of Energy Consumption in Others Sector

(%)

Year	Mogas	Kerosene	ADO	IDO	Fuel Oil
2000	7.39	9.89	64.55	4.09	14.08
2001	7.43	9.31	65.45	3.78	14.03
2002	7.95	9.03	65.66	3.64	13.72
2003	8.65	9.58	66.70	3.34	11.73
2004	8.66	8.67	68.82	2.76	11.09
2005	10.22	9.06	69.61	2.49	8.63
2006	11.00	8.96	68.51	1.51	10.02
2007	12.18	9.21	68.81	0.85	8.94
2008	13.23	7.09	73.00	0.49	6.20
2009	13.69	4.08	76.87	0.40	4.96
2010	13.94	2.30	76.30	0.46	7.01
2011	17.86	1.85	74.63	0.39	5.26

CHAPTER
6

2012
HANDBOOK OF ENERGY & ECONOMIC STATISTICS OF INDONESIA

6.1.1 Coal Reserves (status per 1 January 2011)

(Million Ton)

Province	Resources					Reserves
	Hypothetic	Inferred	Indicated	Measured	Total	
Banten	5.47	5.75	4.86	2.72	18.80	0.00
West Java	0.00	0.00	0.00	0.00	0.00	0.00
Central Java	0.00	0.82	0.00	0.00	0.82	0.00
East Java	0.00	0.08	0.00	0.00	0.08	0.00
Nanggroe Aceh Darussalam	0.00	346.35	13.40	90.40	450.15	0.00
North Sumatra	0.00	7.00	0.00	19.97	26.97	0.00
Riau	12.79	168.05	626.38	948.05	1,755.27	645.67
West Sumatra	24.95	294.50	231.16	249.45	800.06	158.43
Bengkulu	15.15	17.86	104.08	71.21	208.30	19.02
Jambi	190.84	656.90	699.08	443.50	1,990.32	351.65
South Sumatra	19,909.99	14,508.95	14,808.82	10,026.59	59,254.35	13,625.22
Lampung	0.00	106.95	0.00	0.00	106.95	0.00
West Kalimantan	0.00	477.69	6.85	4.70	489.24	0.00
Central Kalimantan	197.58	1,838.50	808.28	704.89	3,549.25	577.42
South Kalimantan	0.00	3,833.53	3,344.05	3,481.66	10,659.24	3,778.04
East Kalimantan	13,101.53	13,276.66	6,282.62	8,004.19	40,665.00	8,861.90
South Sulawesi	0.00	48.81	129.22	53.09	231.12	0.12
Central Sulawesi	0.00	1.98	0.00	0.00	1.98	0.00
North Maluku	2.13	0.00	0.00	0.00	2.13	0.00
West Irian Jaya	93.59	32.82	0.00	0.00	126.41	0.00
Papua	0.00	2.16	0.00	0.00	2.16	0.00
TOTAL	**33,554.03**	**35,625.36**	**27,058.79**	**24,100.42**	**120,338.60**	**28,017.46**

Source : Geological Agency

6.1.2 Coal Supply

(Ton)

Year	Production [1]			Export [1]	Import [2]
	Steam Coal	Antracite	Total		
2000	77,014,956	25,229	77,040,185	58,460,492	140,116.33
2001	92,499,653	40,807	92,540,460	65,281,086	30,465.88
2002	103,286,403	42,690	103,329,093	74,177,926	20,025.90
2003	114,274,048	3,952	114,278,000	85,680,621	38,228.31
2004	132,352,025	0	132,352,025	93,758,806	97,182.68
2005	152,722,438	0	152,722,438	110,789,700	98,178.91
2006	193,761,311	0	193,761,311	143,632,865	110,682.84
2007	216,946,699	0	216,946,699	163,000,000	67,533.92
2008	240,249,968	0	240,249,968	191,430,218	106,930.88
2009	256,181,000	0	256,181,000	198,366,000	68,804.45
2010	275,164,196	0	275,164,196	208,000,000	55,229.53
2011	353,270,937	0	353,270,937	272,671,351	42,449.21

Sources :
1) Directorate General of Mineral and Coal
2) Ministry of Trade

6.1.3 Indonesia Coal Export by Destination

Year	Japan	Taiwan	Other Asia
2000	13,177.44	13,519.59	19,819.47
2001	15,216.26	11,506.81	20,440.57
2002	16,529.76	13,099.99	30,605.89
2003	17,992.18	14,144.14	34,021.52
2004	19,013.41	16,677.88	34,686.66
2005	24,237.43	14,524.21	41,393.85
2006	23,128.07	17,070.46	49,589.54
2007	24,323.13	18,112.19	63,358.47
2008	26,947.65	14,887.12	70,605.72
2009	25,261.61	17,237.74	97,538.71
2010	25,776.34	14,590.12	119,339.68
2011	26,073.35	16,517.09	138,223.89

Source : Directorate General of Mineral and Coal

(Thousand Ton)

Europe	Pacific	Others	Total
8,861.56	1,876.11	1,206.32	58,460.49
10,226.65	2,160.83	5,729.97	65,281.09
9,294.60	2,555.17	2,092.52	74,177.93
12,786.77	3,118.10	3,617.91	85,680.62
11,987.43	3,583.98	7,809.44	93,758.81
14,824.32	3,927.70	11,882.19	110,789.70
21,004.55	5,263.14	27,577.11	143,632.86
15,838.97	4,597.91	36,769.34	163,000.00
18,670.93	3,861.78	56,457.03	191,430.22
13,262.62	3,309.61	41,755.71	198,366.00
10,478.39	2,670.64	35,144.84	208,000.00
10,566.33	883.68	80,407.01	272,671.35

6.1.4 Coal Sales

Year	Total	Iron & Steel	Power Plant
2000	22,340,845	30,893	13,718,285
2001	27,387,916	220,666	19,517,366
2002	29,257,003	236,802	20,018,456
2003	39,273,851	201,907	22,995,614
2004	36,081,734	119,181	22,882,190
2005	41,350,736	221,309	25,669,226
2006	48,995,069	299,990	27,758,317
2007	61,470,000	282,730	32,420,000
2008	53,473,252	245,949	31,041,000
2009	56,295,000	256,605	36,570,000
2010	67,000,000	335,000	34,410,000
2011	79,557,800	166,034	45,118,519

Source : Directorate General of Mineral and Coal

(Ton)

Ceramic & Cement	Pulp & Paper	Briquette	Others
2,228,583	780,676	36,799	5,545,609
5,142,737	822,818	31,265	2,628,333
4,684,970	499,585	24,708	3,792,481
4,773,621	1,704,498	24,976	9,573,234
5,549,309	1,160,909	22,436	6,347,709
5,152,162	1,188,323	28,216	9,091,501
5,300,552	1,216,384	36,018	14,383,808
6,443,864	1,526,095	25,120	20,772,192
6,842,403	1,251,000	43,000	14,049,899
6,900,000	1,170,000	61,463	11,336,932
6,308,000	1,742,000	13,843	24,191,157
5,873,144	n.a.	18,506	28,381,597

6.2.1 Oil Reserves (status per 1 January 2011)

(Billion Barrel)

Year	Proven	Potential	Total
2000	5.12	4.49	9.61
2001	5.10	4.65	9.75
2002	4.72	5.03	9.75
2003	4.73	4.40	9.13
2004	4.30	4.31	8.61
2005	4.19	4.44	8.63
2006	4.37	4.56	8.93
2007	3.99	4.41	8.40
2008	3.75	4.47	8.22
2009	4.30	3.70	8.00
2010	4.23	3.53	7.76
2011	4.04	3.69	7.73

Source : Directorate General of Oil and Gas

6.2.2 Refinery Capacity (status 2011)

(MBSD)

Refinery	Refinery Capacity
Tri Wahana Universal (TWU)	6.00
Dumai	127.00
Sungai Pakning	50.00
Musi	127.30
Cilacap	348.00
Balikpapan	260.00
Balongan	125.00
Cepu	3.80
Kasim	10.00
Tuban (TPPI)	100.00
Total	**1,157.10**

Source : Directorate General of Oil and Gas

6.2.3 Domestic Oil Fuels Sales

	2000	2001	2002	2003	2004
Avgas	3,550	3,430	3,488	3,556	3,416
Avtur	1,202,717	1,473,503	1,597,291	1,929,351	2,437,923
RON 88	11,877,659	12,538,350	13,263,285	14,150,246	15,808,588
Kerosene	12,457,776	12,283,033	11,678,439	11,753,109	11,846,119
ADO	22,072,256	23,359,617	24,212,847	24,064,458	26,487,751
IDO	1,472,168	1,426,877	1,360,379	1,183,478	1,093,414
Fuel Oil	6,076,212	6,162,485	6,260,273	6,215,566	5,754,507
Premix (94)	389,334	396,631	364,006	14,972	0
Super TT	55,418	86,217	102,882	3,592	0
BB2L	106,880	74,788	2,215	0	0
RON 95	0	0	0	107,441	121,866
RON 92	0	0	0	371,238	487,562
Solar 51	0	0	0	0	0
Bio Premium	0	0	0	0	0
Bio Pertamax	0	0	0	0	0
Bio Solar	0	0	0	0	0
Total Fuel	**55,713,970**	**57,804,931**	**58,845,105**	**59,797,007**	**64,041,146**

Sources : Directorate General of Oil and Gas

(Kilo Liter)

2005	2006	2007	2008	2009	2010	2011
3,070	3,390	2,163	2,003	1,687	2,231	2,316
2,322,634	2,428,078	2,520,040	2,635,670	2,760,678	3,527,382	3,562,126
17,132,126	16,431,321	17,483,011	19,699,070	21,441,130	23,078,874	25,527,429
11,370,026	10,023,211	9,898,488	7,901,596	4,779,818	2,845,486	1,984,939
27,056,409	25,164,947	24,780,885	26,999,434	26,691,227	27,653,973	26,391,275
891,785	497,819	269,466	180,997	145,192	167,733	133,589
4,802,535	4,820,184	5,136,408	4,969,526	4,480,563	4,316,705	3,904,580
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
99,326	128,289	158,070	114,789	104,388	113,812	294,639
248,875	505,730	472,284	297,982	460,148	670,364	625,162
0	1,344	1,288	0	1,955	4,434	6,392
0	1,624	55,970	44,016	105,816	0	0
0	16	9,956	16,234	20,232	0	0
0	217,048	877,457	931,179	2,398,234	4,393,861	7,180,806
63,926,786	**60,221,657**	**61,664,198**	**63,792,494**	**63,391,066**	**66,774,855**	**69,613,254**

6.2.4 Crude Oil Supply and Demand

Year	Production	Export	Import	Oil Refinery Input	
	Thousand Barrel				Thousand bpd
2000	517,489	223,500	78,615	360,232	986.9
2001	489,306	241,612	117,168	361,396	990.1
2002	456,026	218,115	124,148	357,971	980.7
2003	419,255	189,095	137,127	358,519	982.2
2004	400,554	178,869	148,490	366,033	1,002.8
2005	386,483	159,703	164,007	357,656	979.9
2006	367,049	134,960	116,232	333,136	912.7
2007	348,348	135,267	115,812	330,027	904.2
2008	357,501	134,872	95,100	331,949	909.5
2009	346,313	132,223	120,119	328,589	900.2
2010	344,888	134,473	101,093	340,475	853.4
2011	329,265	135,572	96,862	365,819	879.5

Source : Directorate General of Oil and Gas
Note : Oil Refinery Input Consist of Crude Oil, Condensate and Others

6.2.5 Crude Oil Refinery Production

(Thousand Barrel)

Year	RON 88	Avtur + JP5	Avgas	Kero-sene	ADO	IDO	Fuel Oil	RON 95	RON 91	Total Fuel
2000	73,852	8,442	0.00	57,899	95,907	8,141	32,483	0	0	276,723
2001	76,601	8,620	51.82	57,992	95,929	9,109	35,087	0	0	283,389
2002	73,287	9,319	32.81	56,301	93,985	8,431	37,302	0	0	278,658
2003	72,695	10,701	32.08	58,553	94,560	7,792	33,874	0	0	278,208
2004	71,937	11,215	32.25	56,820	98,645	10,202	30,962	303	3,037	283,153
2005	71,013	10,686	33.81	53,721	94,633	8,559	27,752	432	1,700	268,529
2006	70,200	10,653	21.00	55,679	90,813	3,473	24,157	663	2,162	257,821
2007	71,337	8,190	29.58	51,934	82,120	2,267	24,795	951	2,754	244,396
2008	72,404	11,229	23.95	48,031	92,812	2,036	23,084	387	1,523	251,533
2009	74,751	16,672	0.21	29,476	110,698	1,213	18,843	774	2,832	255,289
2010	66,820	15,710	6.67	18,985	107,351	1,377	21,515	668	3,301	235,748
2011	64,460	17,061	6.56	14,378	116,391	1,352	20,276	736	2,446	237,135

(Thousand Barrel)

Year	Secondary Fuel				Non Fuel	Lubri-cant	LPG	HOMC	Total Production
	Naph-tha	LOMC	LSWR	Total					
2000	16,647	1,666	38,618	56,931	8,172	2,676	8,378	0	352,880
2001	20,180	0	34,211	54,392	4,227	2,712	8,160	0	352,880
2002	16,230	0	28,363	44,593	23,015	2,252	8,199	0	356,717
2003	18,306	0	32,050	50,357	11,402	2,867	8,702	0	351,536
2004	18,737	0	29,189	47,926	13,199	2,823	9,380	0	356,481
2005	21,216	0	28,965	50,181	9,634	2,404	8,457	0	339,205
2006	25,405	0	31,070	56,475	11,460	2,734	8,971	0	337,461
2007	25,155	0	29,472	54,627	12,202	2,814	8,905	10,597	333,540
2008	28,270	0	30,033	58,303	14,130	3,067	8,054	10,871	345,959
2009	23,820	63	31,691	55,510	15,642	2,772	8,119	7,498	344,831
2010	22,321	187	29,522	52,030	19,189	2,027	7,602	4,982	321,578
2011	28,613	0	24,021	52,634	27,499	3,065	9,143	11,908	341,384

Source : Directorate General of Oil and Gas
Note : 2000 - 2003 Included Premix (94), Super TT and BB2L (unleaded gasoline)

6.2.6 Import of Refined Products

(Thousand KL)

Year	Avtur	RON 88	RON 95	RON 92	DPK	HOMC	ADO	Fuel Oil	IDO	Total Fuel
2000	0	0	0	0	2,966	1,984	7,194	2,326	0	14,470
2001	0	0	0	0	2,718	2,410	7,879	1,166	0	14,174
2002	0	0	0	0	2,916	3,154	9,637	1,232	0	16,940
2003	0	0	0	0	2,516	3,076	9,955	1,512	0	17,058
2004	679	772	0	0	2,907	5,804	12,339	1,896	0	24,398
2005	654	6,202	0	3	2,604	1,076	14,470	1,493	0	26,502
2006	796	5,841	0	69	861	1,088	10,846	1,682	0	21,184
2007	1,176	7,069	27	35	1,080	108	12,367	2,163	8	24,032
2008	769	8,572	17	40	333	0	12,284	2,573	28	24,615
2009	172	10,263	32	120	0	1,301	8,505	1,909	8	22,311
2010	577	12,283	48	381	0	1,535	10,637	549	7	26,017
2011	816	15,248	36	319	0	157	9,790	998	0	27,366

Source : Directorate General of Oil and Gas

6.2.7 Export of Refined Products

(Thousand Barrel)

Year	RON 88	Avtur	Kero-sene	ADO	Fuel Oil	Total Fuel	Nap-tha	Lu-bri-cant	Other Product	Total
2000	0.0	0.0	0.0	0.0	0.0	0.0	11,390.1	0.0	55,694.4	67,085
2001	0.0	0.0	0.0	0.0	0.0	0.0	13,448.4	147.5	41,522.3	55,118
2002	0.0	0.0	0.0	0.0	3,253.2	3,253.2	10,993.3	417.3	40,825.9	55,490
2003	0.0	0.0	0.0	0.0	2,813.2	2,813.2	18,715.0	674.0	41,509.8	63,712
2004	0.0	0.0	0.0	0.0	4,940.0	4,940.0	11,763.0	513.0	47,285.0	64,501
2005	51.2	0.0	0.5	114.9	3,233.5	3,400.1	6,531.1	64.2	33,357.8	43,353
2006	37.0	0.0	0.8	78.4	203.6	319.8	946.6	87.3	36,159.2	37,513
2007	47.4	0.0	0.7	988.1	851.3	1,887.6	6,163.3	8.0	35,657.9	43,717
2008	38.4	3.4	0.0	1,860.7	64.1	1,966.6	5,371.7	0.0	30,308.3	37,647
2009	130.3	423.7	427.0	759.5	303.5	2,044.0	3,182.5	0.0	31,848.9	37,075
2010	23.9	2.6	1,436.0	1,518.7	600.2	3,581.8	3,955.0	0.0	29,257.4	36,794
2011	79.6	9.2	2,700.9	112.7	0.0	2,909.2	1,316.4	65.4	26,108.0	30,399

Source : Directorate General of Oil and Gas

6.2.8 Indonesia Crude Oil Export by Destination

(Thousand Barrel)

Year	Japan	USA	Korea	Taiwan	Singapore	Others	Total
2000	74,807	14,153	37,408	9,157	15,656	72,320	223,500
2001	77,866	15,349	51,965	8,167	20,517	67,748	241,612
2002	61,752	15,864	43,977	7,023	14,648	74,852	218,115
2003	61,285	12,051	40,822	5,528	11,410	57,999	189,095
2004	52,040	11,930	42,111	6,029	8,761	57,998	178,869
2005	43,628	6,256	40,108	2,639	7,612	59,459	159,703
2006	42,203	8,950	23,723	7,249	5,480	47,355	134,960
2007	45,892	4,464	18,051	3,779	7,796	55,286	135,267
2008	37,724	4,740	12,289	1,981	15,083	63,053	134,872
2009	25,783	5,264	19,394	2,160	11,649	67,974	132,223
2010	23,407	4,779	17,607	1,961	10,576	76,143	134,473
2011	36,823	5,553	11,366	1,489	10,012	70,328	135,572

Source : Directorate General of Oil and Gas

6.2.9 LPG Supply

(Ton)

Year	Production			Export	Import	Total Supply
	Gas Refinery	Oil Refinery	Total			
2000	1,321,037	766,632	2,087,669	1,253,197	0	834,472
2001	1,415,534	772,143	2,187,677	1,423,928	0	763,749
2002	1,296,505	814,177	2,110,682	1,217,410	0	893,272
2003	1,148,379	778,939	1,927,318	1,033,672	111,178	1,004,824
2004	1,130,540	896,395	2,026,935	981,780	32,994	1,078,150
2005	995,097	832,717	1,827,814	1,015,366	22,166	834,614
2006	573,093	855,397	1,428,490	289,698	68,997	1,207,790
2007	546,734	862,696	1,409,430	268,511	137,760	1,278,679
2008	910,663	780,103	1,690,766	100,500	418,139	2,008,406
2009	1,430,671	694,547	2,125,218	88,463	917,171	2,953,926
2010	1,828,743	649,628	2,478,371	0	1,621,959	4,100,330
2011	1,580,598	704,842	2,285,439	0	1,991,774	4,277,213

Source : Directorate General of Oil and Gas

6.3.1 Natural Gas Reserves (Per 1 January 2011)

(TSCF)

Year	Proven	Potential	Total
2000	94.75	75.56	170.31
2001	92.10	76.05	168.15
2002	90.30	86.29	176.59
2003	91.17	86.96	178.13
2004	97.81	90.53	188.34
2005	97.26	88.54	185.80
2006	94.00	93.10	187.10
2007	106.00	59.00	165.00
2008	112.50	57.60	170.10
2009	107.34	52.29	159.63
2010	108.40	48.74	157.14
2011	104.71	48.18	152.89

Source : Directorate General of Oil and Gas

6.3.2 Natural Gas Production

(MMSCF)

Year	Assosiated	Non Assosiated	Total
2000	705,979	2,195,323	2,901,302
2001	716,930	2,089,154	2,806,084
2002	720,125	2,316,230	3,036,355
2003	789,202	2,366,041	3,155,243
2004	772,812	2,231,133	3,003,945
2005	795,224	2,190,117	2,985,341
2006	708,715	2,245,281	2,953,997
2007	433,630	2,371,910	2,805,540
2008	472,897	2,412,431	2,885,328
2009	467,570	2,593,326	3,060,897
2010	471,507	2,936,086	3,407,592
2011	472,552	2,783,827	3,256,379

Source : Directorate General of Oil and Gas

6.3.3 Natural Gas and LNG Supply and Demand

Year	Natural Gas Production	Gas Lift & Reinjection	Own Use	Flare		
					LNG Plant	LPG Plant
	(MMSCF)					
2000	2,901,302	237,280	157,238	172,883	1,584,365	31,832
2001	2,806,084	219,191	152,677	186,380	1,489,935	12,807
2002	3,036,355	202,875	170,089	176,585	1,656,472	26,901
2003	3,155,243	228,019	168,120	148,709	1,719,127	24,429
2004	3,003,945	206,659	151,041	134,997	1,607,970	28,661
2005	2,985,341	199,890	139,245	107,236	1,511,335	24,578
2006	2,953,997	185,307	142,384	112,537	1,436,093	32,879
2007	2,805,540	147,303	136,952	97,912	1,300,348	35,096
2008	2,885,328	154,890	143,252	113,701	1,270,854	13,196
2009	3,060,897	154,800	175,024	172,922	1,221,502	17,806
2010	3,407,592	174,844	205,378	184,893	1,427,917	20,866
2011	3,256,379	185,997	198,463	179,460	1,293,151	14,289

Source : Directorate General of Oil and Gas

Utilization					Export LNG
Refinery	City Gas	Industry	Electricity	Export Gas Pipa	
(MMSCF)					(Ton)
32,277	68,642	483,438	223,564	0	27,321,020
29,437	76,173	455,798	254,238	31,967	24,343,678
30,879	87,016	448,261	196,300	82,619	26,184,740
22,776	95,546	500,622	187,187	126,450	26,077,500
20,795	104,807	473,695	169,457	163,045	25,237,867
16,155	112,304	480,382	175,222	251,303	23,676,765
15,159	117,798	461,277	169,269	257,224	22,400,121
24,972	154,219	443,889	183,329	319,397	20,851,609
29,727	176,707	566,082	221,236	234,964	20,579,632
35,566	175,988	654,428	231,521	294,109	19,932,902
34,038	172,283	635,361	269,003	333,993	24,184,380
32,825	177,055	666,195	248,871	335,510	21,971,547

6.3.4 City Gas Sales and Utilization

Year	Sales (Million M^3)				
	Household	Industry & Commercial	Transportation	Total	Household
2000	12.74	1,907.88	27.44	1,948	42,991
2001	13.79	2,117.35	21.91	2,153	48,401
2002	15.13	2,418.03	19.72	2,453	51,943
2003	15.94	2,668.29	17.14	2,701	64,889
2004	19.37	2,917.09	13.26	2,950	75,244
2005	19.32	3,108.91	6.68	3,135	77,833
2006	19.82	3,277.98	6.55	3,304	79,736
2007	20.39	4,267.06	7.36	4,295	81,294
2008	19.61	5,693.28	12.49	5,725	82,123
2009	19.43	8,034.44	11.08	8,065	83,519
2010	20.39	8,430.72	13.67	8,465	85,326
2011	18.01	4,997.35	35.48	5,051	86,167

Number of Customer			Specific Consumption (Thousand M³)		
Industry	Commercial	Total	Household	Industry & Commercial	Average Uses
594	1,053	44,638	0.2964	1,158	43.03
626	1,160	50,187	0.2849	1,186	42.46
646	1,330	53,919	0.2912	1,224	45.13
675	1,305	66,869	0.2456	1,348	40.14
677	1,158	77,079	0.2574	1,590	38.10
723	1,412	79,968	0.2482	1,456	39.12
769	1,463	81,968	0.2485	1,469	40.23
873	1,468	83,635	0.2508	1,823	51.26
1,099	1,498	84,720	0.2387	2,192	67.43
1,180	1,593	86,292	0.2326	2,897	93.33
1,216	1,592	88,134	0.2389	3,002	95.89
1,246	1,641	89,054	0.2090	1,731	56.32

6.4.1 Power Plant Installed Capacity

Year	Hydro PP	Steam PP	Gas PP	Combined Cycle PP	Geothermal PP	Diesel PP
2000	4,199.28	10,671.56	3,804.80	6,863.22	525.00	11,223.33
2001	3,112.61	7,798.73	1,966.77	6,998.22	785.00	3,016.05
2002	3,155.17	6,900.00	1,224.72	6,863.22	785.00	2,589.12
2003	3,167.92	9,750.00	1,687.72	6,998.22	805.00	2,730.60
2004	3,199.71	9,750.00	2,802.57	6,846.27	820.00	2,993.60
2005	3,224.32	9,750.00	3,186.63	6,565.97	820.00	3,042.12
2006	3,532.47	11,670.00	3,396.22	7,305.97	820.00	3,001.49
2007	3,512.90	12,014.00	3,452.63	7,306.27	932.50	3,069.77
2008	3,691.28	12,203.00	2,681.69	8,129.97	1,052.00	3,382.58
2009	3,694.95	12,594.00	3,135.88	8,009.97	1,189.00	3,256.36
2010	3,719.69	12,981.50	3,821.57	7,590.32	1,192.75	4,569.89
2011	3,880.83	16,318.00	4,236.02	8,480.97	1,209.00	5,471.93

Source : PLN Statistics and Electricity Statistic, Directorate General of Electricity

(MW)

Gas Engine PP	Wind PP	Mycro Hydro PP	Mini Hydro PP	Solar PP	Coal Gasifica-tion PP	Waste PP	Total
0.00	0.00	0.00	0.00	0.00	0.00	0.00	37,287
0.00	0.00	0.00	0.00	0.00	0.00	0.00	23,677
0.00	0.00	0.00	0.00	0.00	0.00	0.00	21,517
0.00	0.00	0.00	0.00	0.00	0.00	0.00	25,139
12.00	0.00	0.00	0.00	0.00	0.00	0.00	26,424
12.42	0.00	0.00	0.00	0.00	0.00	0.00	26,601
12.42	0.00	0.00	0.00	0.00	0.00	0.00	29,739
12.00	0.10	0.00	0.00	0.00	0.00	0.00	30,300
21.84	0.26	6.65	0.00	0.00	0.00	0.00	31,169
71.00	1.06	0.69	6.03	0.00	0.00	0.00	31,959
92.84	0.34	0.69	13.53	0.19	0.00	0.00	33,983
169.54	0.93	5.93	57.66	1.16	41.00	26.00	39,899

6.4.2 Power Plant Production

Year	Hydro PP	Geothermal PP	Steam PP			
			Coal	Oil	Gas	Total
2000	9,110	2,649	28,776	6,055	3,598	38,429
2001	10,651	2,982	29,330	6,557	3,489	39,376
2002	8,834	3,187	29,313	8,884	835	39,032
2003	8,472	2,959	31,737	9,108	1,334	42,178
2004	8,943	3,147	30,806	9,636	1,204	41,646
2005	9,831	3,006	33,253	8,180	835	42,268
2006	8,759	3,141	38,362	8,575	828	47,764
2007	10,627	3,188	41,880	9,179	1,151	52,209
2008	10,740	3,391	41,311	10,186	856	52,353
2009	10,307	3,504	43,138	9,031	795	52,964
2010	15,827	3,398	46,685	6,712	1,009	54,407
2011	10,316	3,487	54,950	6,383	1,003	62,335

(GWh)

PLN						
Gas PP	Combined Gas-Steam PP	Diesel PP	Solar PP	Wind PP	Gas Engine PP	Sub-Total
1,252	26,397	6,355	0	0	0	84,190
1,459	27,366	6,520	0	0	0	88,355
2,229	28,803	7,209	0	0	0	89,293
2,486	28,409	7,977	0	0	0	92,481
3,179	30,700	8,577	0	0	0	96,192
6,039	31,272	8,866	0	0	0	101,282
5,031	30,918	8,855	0	0	0	104,469
5,148	31,374	8,694	0	0.02	121	111,363
5,621	35,731	10,212	0.10	0	0	118,047
8,674	34,747	10,432	0.1	0	0	120,628
9,266	36,812	11,926	0.50	0.026	74	131,710
10,018	40,410	16,125	0.72	0	48	142,739

6.4.2 Power Plant Production (continued)

Year	PLN Electricity						
	Hydro PP	Geothermal PP	Steam PP				Gas PP
			Coal	Gas	Biomass	Total	
2000	906	2,220	5,226	0	6	5,232	0
2001	1,004	3,049	8,383	0	8	8,391	0
2002	1,099	3,051	13,616	0	11	13,627	0
2003	627	3,335	14,722	1,492	15	20,192	0
2004	731	3,509	17,405	12	20	17,437	0
2005	894	3,598	18,540	3	22	18,564	373
2006	864	3,517	20,268	2	32	20,302	732
2007	659	3,833	21,937	2	36	21,975	1,240
2008	788	4,918	20,081	90	47	20,217	986
2009	1,077	5,791	22,752	2	63	22,817	1,159
2010	1,629	5,959	21,760	99	93	21,952	1,127
2011	2,103	5,884	26,050	154	198	26,402	1,028

Source : PLN Statistics and Electricity Statistics, Directorate General of Electricity

(GWh)

Purchase from Captive Power & IPP					
Combined Gas-Steam PP	Diesel PP	Solar PP	Wind PP	Sub-Total	Grand-Total
682	94	0.00	0.00	9,135	93,325
773	88	0.00	0.00	13,304	101,659
925	221	0.00	0.00	18,923	108,217
1,511	283	0.00	0.00	25,948	118,429
1,947	347	0.00	0.00	23,970	120,162
2,566	93	0.00	0.00	26,088	127,370
3,603	354	0.00	0.00	28,640	133,108
4,260	472	0.00	0.00	31,200	142,563
4,932	534	0.00	0.27	31,390	149,437
4,904	417	0.00	3.67	36,169	156,797
7,003	402	0.02	3.61	38,076	169,786
4,798	459	0.05	4.69	40,679	183,419

6.4.3 Import of Electricity

(GWh)

Year	Country by Origin	Microhydro PP.
2000	-	-
2001	-	-
2002	-	-
2003	-	-
2004	-	-
2005	-	-
2006	-	-
2007	-	-
2008	-	-
2009	Malaysia	1,261.82
2010	Malaysia	2,224.24
2011	Malaysia	2,541.95

Source : PLN Statistics

6.4.4 Electricity Sales

(GWh)

Year	Electricity Sales Per Tariff Segment						
	House-hold	Commercial	Industry	Street Lighting	Social	Govern-ment	Total
2000	30,563	10,576	34,013	1,071	1,644	1,298	79,165
2001	33,340	11,395	35,593	1,129	1,782	1,282	84,520
2002	33,994	11,845	36,831	1,294	1,843	1,281	87,089
2003	35,753	13,224	36,497	1,512	2,022	1,433	90,441
2004	38,588	15,258	40,324	2,045	2,238	1,645	100,097
2005	41,184	17,023	42,448	2,221	2,430	1,726	107,032
2006	43,753	18,416	43,615	2,414	2,604	1,808	112,610
2007	47,325	20,608	45,803	2,586	2,909	2,016	121,247
2008	50,184	22,926	47,969	2,761	3,082	2,096	129,019
2009	54,945	24,825	46,204	2,888	3,384	2,335	134,582
2010	59,825	27,157	50,985	3,000	3,700	2,630	147,297
2011	65,112	28,307	54,725	3,068	3,994	2,787	157,993

6.4.5 Fuel Consumption of PLN Power Plant

Year	Coal	HSD	IDO	FO	Natural Gas
	(Ton)	(Kilo Liter)			(MMSCF)
2000	13,135,584	3,141,917	23,146	1,858,568	228,838
2001	14,027,713	3,575,348	30,457	1,793,283	222,421
2002	14,054,377	4,625,521	40,682	2,300,603	192,927
2003	15,260,305	5,024,362	31,573	2,557,546	184,304
2004	15,412,738	6,299,706	36,935	2,502,598	176,436
2005	16,900,972	7,626,201	27,581	2,258,776	143,050
2006	19,084,438	7,586,916	23,977	2,387,622	157,894
2007	21,466,348	7,874,290	13,558	2,801,128	171,209
2008	20,999,521	8,127,546	28,989	3,163,954	181,661
2009	21,604,464	6,365,116	11,132	3,032,657	266,539
2010	23,958,699	6,887,455	6,895	2,430,584	283,274
2011	27,434,163	8,943,880	13,923	2,509,047	285,722

Source : PLN Statistic

6.4.6 Share of Fuel Consumption of PLN Power Plant

(%)

Year	Type of Fuel				
	Coal	HSD	IDO	FO	Natural Gas
2000	44.09	13.62	0.12	10.10	32.08
2001	45.42	14.95	0.15	9.40	30.08
2002	44.10	18.74	0.20	11.69	25.28
2003	45.37	19.29	0.14	12.31	22.89
2004	44.00	23.23	0.16	11.57	21.04
2005	46.40	27.04	0.12	10.04	16.40
2006	48.46	24.88	0.09	9.82	16.75
2007	49.53	23.46	0.05	10.46	16.50
2008	47.46	23.72	0.10	11.58	17.15
2009	47.09	17.91	0.04	10.70	24.26
2010	49.27	18.29	0.02	8.09	24.33
2011	49.88	21.00	0.04	7.39	21.70

Source : PLN Statistic

6.4.7 PLN Electricity System Performance

Year	Average Thermal Efficiency	Capacity Factor	Load Factor	Peak Load	Transmission & Distribussion Losses
	(%)	(%)		(MW)	(%)
2000	34.66	46.29	69.54	15,320	11.65
2001	34.49	47.90	71.13	16,314	13.52
2002	34.56	48.28	72.10	17,160	16.45
2003	34.35	49.78	71.88	17,949	16.88
2004	34.23	51.14	72.64	18,896	11.29
2005	34.62	52.15	75.48	19,263	11.54
2006	33.51	48.00	64.15	20,354	11.45
2007	32.04	64.47	59.60	21,306	11.08
2008	31.96	52.62	80.77	21,120	10.46
2009	29.95	53.71	76.37	23,438	9.93
2010	29.46	55.90	77.78	24,917	9.70
2011	39.70	55.67	78.53	26,665	9.41

Source : PLN Statistic

6.5.1 Geothermal Resources and Reserves

(Status Year 2011)

(MW)

No	Location	Resources		Reserves			Total
		Speculative	Hipotethic	Probable	Possible	Proven	
1	Sumatra	4,059	2,543	6,524	15	380	13,521
2	Java	1,710	1,826	3,708	658	1,815	9,717
3	Bali-Nusa Tenggara	410	359	983	0	15	1,767
4	Sulawesi	145	0	0	0	0	145
5	Maluku	1,287	139	1,285	150	78	2,939
6	Kalimantan	545	97	409	0	0	1,051
7	Papua	75	0	0	0	0	75
Total		**8,231**	**4,964**	**12,909**	**823**	**2,288**	**29,215**

Source : Geological Agency

6.5.2 Geothermal Power Plant Capacity

(Status Year 2011)

(MW)

No	Working Area	Location	Turbine Capacity	Operator	Total Capacity
1	PLTP Kamojang (Pertamina)	West Java	1 x 30 MWe 2 x 55 MWe 1 x 60 MWe	PLN	200
2	PLTP Lahendong (Pertamina)	North Sulawesi	2 x 20 MWe 1 x 20 MWe	PLN	60
3	PLTP Sibayak (Pertamina)	North Sumatra	1 x 12 MWe	Pertamina	12
4	PLTP Salak (Chevron GS)	West Java	3 x 60 MWe 3 x 65 MWe	PLN CGS	375
5	PLTP Darajat (Chevron GI)	West Java	1 x 55 MWe 1 x 90 MWe 1 x 110 MWe	PLN CGI CGI	255
6	PLTP Wayang Windu (Star Energi)	West Java	1 x 110 MWe 1 x 117 MWe	SE	227
7	PLTP Dieng (Geo Dipa Energi)	Central Java	1 x 60 MWe	GDE	60
				Total	**1,189**

Source : Directorate General of New and Renewable Energy and Energy Conservation

6.5.3 Geothermal Steam Production

(Thousand Tonnes Geothermal Steam)

Year	Pertamina Field				KOB Field					Total
	Kamojang	Sibayak	Lahendong	Sub Total	Salak	Darajat	Wayang Windu	Geodipa (60 MW)	Sub Total	
2000	8,238	66	-	8,304	19,494	4,876	3,717	-	28,087	36,391
2001	8,623	242	457	9,322	22,044	7,242	6,669	-	35,955	45,277
2002	9,292	212	954	10,458	21,742	7,453	6,929	-	36,124	46,582
2003	9,274	42	1,132	10,448	21,325	7,435	6,431	1,521	36,712	47,160
2004	9,277	126	1,173	10,576	22,595	8,011	6,863	2,305	39,774	50,350
2005	7,462	74	1,012	8,548	24,167	7,551	6,809	2,518	41,045	49,593
2006	8,096	165	1,240	9,501	24,527	7,633	6,625	2,544	41,330	50,831
2007	8,121	84	1,311	9,517	24,346	10,322	6,524	1,209	42,400	51,917
2008	12,100	289	2,349	14,738	24,482	13,487	6,665	1,644	46,279	61,016
2009	12,612	498	2,665	15,775	24,538	13,977	12,989	780	52,285	68,060
2010	12,337	525	3,020	15,882	23,331	14,137	13,386	0	50,854	66,736
2011	12,472	312	2,441	15,226	24,673	14,131	13,349	1,231	53,384	68,610

Source : Directorate General of New and Renewable Energy and Energy Conservation

ANNEX
1

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METHODOLOGY AND TABLE EXPLANATION

GENERAL METHODS

Data shown in the tables of Indonesia's energy economic statistics are a consolidated from various statistics of regular publication with harmonization of format and definition also covering an estimate of energy demand using macro-economic approach. Data sources used are the statistic of published by: Statistic Indonesia, technical unit within Ministry of Energy and Mineral Resources, energy companies, energy associations and some International Agencies.

Statistics book used as the source of energy economic data consolidation, are as follows:

a. Crude Oil and Oil Products (BBM)
   - Indonesia Oil and Gas Statistics, Directorate General Oil and Gas 2000-2006

b. Natural Gas (Production, utilization and flarino)
   - Indonesia Oil and Gas Statistics, Directorat General Oil and Gas 2000-2006
   - PT PGN Annual Report, 2000-2011

c. Coal
   - Indonesia Coal Statistics, Directorate General of Geology and Mineral Resources 2000 and 2001
   - Indonesia Mineral and Coal Statistics Directorate of Mineral Coal and Geothermal 2000-2011

d. Biomass
   - National Survey on Social & Economic (SUSENAS) Statistic Indonesia (BPS), 1999, 2002,2005

e. LPG
   - Indonesia Oil and Gas Statistics, Directorate General Oil and Gas 2000-2006

f. Electricity
   - PLN Statistics, 2000-2011
   - Statistics of Electricity, Directorate General of Electricity and Energy Utilization, 2000-2011

g General
   - Indonesia Statistics, Statistic c Agency (BPS) 2000-2011

- Finance and Economic Statistic , Central Bank of Indonesia (www.bi.go.id)
- Trade Statistics, Ministry of Trade, 2000-2011

TABLE 2.1 up to 2.13

Energy balance is an energy input-output system table, where the rows indicate activities of an energy commodity which consist of four main elements, namely: primary energy activity, transformation, own use & losses, and energy consumption. The columns, on the other hand, indicate the types of energy. Energy balance is presented to fully depict energy activities in a region.

ENERGY BALANCE DEFINITIONS

BY COLUMN

Each column of energy balance represents one type of energy. It begins from the left with renewable energy, then followed by, solid energy, gaseous, liquid, and electricity.

RENEWABLE ENERGY

Hydropower is the potential energy of flowing water. The energy is computed as input power to generate electricity and consists of dam, river stream, mini hydro and micro hydro. The amount of hydro energy required is equivalent to fossil energy required to generate electricity.

Geothermal is a kind energy that produced from the magma inside earth in the volcanic areas. The hot and high pressure steam emitted from the production well head can be utilized to pressed the steam turbine in the Geothermal Power Generation or utilized directly for drying agriculture products.

Biomass is a kind of renewable organic material based fuel. Among the kinds of biomass are firewood (wood and wood waste), agriculture waste (rice hulks, rice straws, palm fronds, coconut shells, etc.), urban solid waste, and industrial waste.

SOLID ENERGY

Coal consists of hard coal and lignite. Data information on the volume of coal is only available in aggregate number. In the energy balanced table the conversion factor using average of Indonesia coal calorific factor (4.276 BOE per Ton Coal).

Detail category and specification of coal available in Indonesia are as follows:

- Hard coal is a type of coal that has a calorific value of more than 5700 kcal/kg (23.26 MJ/kg). Hard coal consists of steam coal, coking coal, bituminous coal, and anthracite.

- Steam coal is a type of coal that is used in boiler, steam generator and furnace. Included in this category are anthracite and bituminous coal. It has a gross calorific value of more than 23,865.0 kJ/kg (5,700 kcal/kg), lower than coking coal.

- Coking coal is a type of coal that is used to produce coke for use as reducing material in blast furnace. Its gross calorific value is higher than 23,865 kJ/kg (5,700 kcal/kg), ash free.Sub-bituminous coal is a type of coal that has a gross calorific value between 17,435.0 kJ/kg (4,165 kcal/kg) and 23,865.0 kJ/kg (5,700 kcal/kg).Anthracite is a type of coal that has similar characteristics as steam coal.

- Lignite is a type of coal that has a gross calorific value of less than 4,165 kcal/kg (17.44 MJ/kg) and volatile matter of more than 31%, dry basis. Lignite is often called low rank coal; also called brown coal.

- Coke is the product of high temperature carbonization of steam coal. The product is used as reducing agent in steel plant.

- Briquettes is the fuel produced by briquetting sub-bituminous coal, lignite, or peat through the process of carbonization or powdering. Briquette is more convenient to use and has better quality that its raw material.

GASEOUS

Energy in Gaseous form is includes of natural gas and town gas. Natural gas generally consists of methane which is mined from underground accumulation, and associated gas from oil production, as well as coal bed methane. Town gas covers all kinds of gas, including gas produced from carbonization process, gasification of petroleum oils, and gas produced from chemical conversion of hydrocarbon fossil fuels.

LIQUID

Crude oil is the mineral oil which consists of a mixture of hydrocarbons, blackish green color, and has a range of density and viscosity. It is the raw material for producing oil fuels (BBM) and petrochemical products.

Condensate is a kind of liquid hydrocarbons among which is natural gas liquid (NGL). NGL consists of ethane, propane, butane, pentane, and natural gasoline.

OIL FUELS/Petroleum Products, (BBM), Category BBM in the energy balance table is petroleum products used for energy. It is comprise of Avgas, Avtur, Mogas (Motor gasoline), Automotive Diesel Oil (HSD/ADO), Marine Diesel Fuel (MDF/IDO), Fuel Oil and Kerosene. Detail description of each fuels are as follows:

Avgas (aviation gasoline) is aircraft fuel that consists of light hydrocarbons distilling between 100°C and 250°C. The distillation product has at least 20% volume at 143°C.

Avtur is the fuel for jet aircraft which consists of hydrocarbon middle distillate having similar distillation and flash point characteristics as kerosene, with maximum aromatic content of 20% volume. It has a freezing point less than –47°C and octane number of 80–145 RON.

Mogas (motor gasoline) is light hydrocarbons used in motor vehicle internal combustion engine (not including aircraft). Mogas is distilled between 35°C and 215°C and is processed in Reformer, Catalytic Cracking, or Blending with aromatic fraction to achieve high octane number. In Indonesian market, three types of gasoline are available, namely Premium, Premix/Pertamax, and Super TT/Pertamax Plus.

- Premium has an octane number of about 89 RON
- Premix has octane number of about 94 RON
- Super TT has octane number of about 98 RON, and is lead free.

Diesel Oil is a refinery product that contains heavy gasoil. This type of BBM is obtained from the lowest fraction of crude oil atmospheric distillation, while the heavy gas oil is obtained from vacuum distillation of atmospheric distillation residue. In the market, diesel oil is distinguished into Automotive Diesel Oil (ADO/Minyak Solar) and Industrial Diesel Oil (IDO/Minyak Diesel).Fuel Oil (FO) is oil made of distillation residue. This type of BBM includes all kinds of residues including residue from blending. It has a viscosity of about 10 cSt at SOT. Its flash point is higher than SOT and density more than 0.9.

Kerosene is the BBM produced from crude oil distillation which has volatility between that of gasoline and gasoil. It has distillation range between 150°C and 300°C, where a minimum of 65% volume is distilled at 250°C. It has a specific gravity of 0.8 and flash point of over 38°C.

LPG is light hydrocarbon fraction of crude oil, produced in oil refinery, and consists of either propane (C_3H_8) and butane (C_4H_{10}) or mixture of both. In addition to oil refinery, LPG is also produced from natural gas purification.

Non BBM is Other Oil Products (OOP), include naphtha, lubricating oil, bitumen, paraffin, etc. (sulphur, grease).

Electricity, electric power produced from various kinds of power plant such as Hydro Power Plant (PLTA), Geothermal Power Plant (PLTP), Gas Power Plant (PLTG), Gas Steam Power Plant (PLTGU), Coal Steam Power Plant (Coal PLTU), and Diesel Power Plant (PLTD), etc.

LNG (liquefied natural gas) is the liquid produced by liquefying natural gas at a temperature of –160T to facilitate its transportation over very long distances.

Total is the total of all columns at certain row. At transformation row the total of all columns indicates efficiency of transformation process.

BY ROW of Energy Balance Table

Total Primary Energy Supply is domestic production plus import minus export minus bunker and minus or plus stock change. The bunker and stock change data, is not available.

Production, total gross primary energy produced (extracted) from underground.

Import is energy obtained from other countries, not including energy in transit.

Export is energy sold to other country.

ENERGY TRANSFORMATION

Transformation, is the transformation process from primary energy type into final energy type. This includes processes in LPG plant, and carbonizing plant. Input bears a negative sign while production bears positive sign.

Oil Refining is the processing of crude oil and condensate to produce oil fuels such as: naphtha, avgas, avtur, ADO, IDO, mogas, kerosene, fuel oil, LPG, etc. Energy consumption such as natural gas, naphta, are also included.

Gas Processing (LNG plant and LPG plant) the process of liquefaction or purification of natural gas to produce LNG or LPG.

Power Generation is transformation of energy into electric power. This row records the quantity of fuel consumed: (coal, BBM, natural gas, hydropower, geothermal, biomass, wind, photovoltaic (solar energy) etc and the electricity generated.

OWN USE AND LOSSES

Own Use and Losses include losses and own uses in primary energy production fields and in transformation processes.

- Losses and Own Use in Production Field are losses that occur due to transportation, distribution, and transfer by pipe. Own use includes all energy consumed in the field (off-road transportation, genset, boiler, etc., all energy consumed in transportation is computed in Transportation Sector).
- Losses and Own Use in Oil Refining are losses that occur due to transportation, distribution, and transfer by pipe. Own use is all energy consumed in oil refining processes.
- Losses and Own Use in Gas Processing are losses that occur due to transportation, distribution, and transfer by pipe. Own use is all energy consumed in gas processing.
- Losses in Electricity System, is losses incurred in transformer, transmission and distribution network.
- Own use in Electricity Generation is all energy consumed in power plant area.

Statistical Difference the different between net supply (production + import – export – transformation input + transformation production – own use and losses) and total final consumption (household, commercial, industry, and transportation).

FINAL ENERGY CONSUMPTION

Total Final Energy Consumption is the quantity of energy consumed in household, commercial, industry and transportation sectors and non-energy consumption.

Household, all energy consumption for household, not including consumption for private car.

Commercial, energy consumption of commercial sector such as: commerce, hotels, restaurants, financial institutions, government agencies, schools, hospitals, etc.

Industry, energy consumption of industry in the following sub-sectors (not including transportation): iron and steel, chemical, non-iron metal, non-metal production, machine and equipment, non-energy mining and quarrying, food, paper, wood, petrochemical, textile, etc.

Transportation, energy consumption for transportation covers all transportation activities in all sectors of economy. Transportation sub-sectors are: air transportation, land transportation (motor cycles, cars, buses, and trucks), ferries and railway transportation. A side for these sector energy is also consumed by one other sector which consist of the fishery, construction and mining subsectors.

Non-energy, energy consumption for non-energy uses, covering lubricating oils, petrochemical industry, raw materials (naphtha, natural gas, and cokes), and gas used as raw material for petrochemical products (methanol and ammonia/urea).

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GLOSSARY

Automotive Diesel Oil (ADO)
A type of diesel oil used as fuel for high speed diesel engine.

Avgas
Aviation gasoline; special high octane gasoline for aircraft reciprocating engine, has high stability, low freezing point, and rather flat distillation curve.

Avtur
Aviation turbine fuel; special fuel for turbine/jet aircraft, a special kerosene with distillation range of 150°C - 250°C.

Biomass
Collective name for firewood, agriculture waste (rice husks, rice stems, palm fronds, coconut shells), black liquor, wood chips, wood barks.

BOE (Barrel Oil Equivalent)
Calorific equivalent of a barrel of crude oil.

Captive Power Plant
Power plant owned by industry to produce electricity for their own use.

Coal
Sedimentary rock originated from piles of wood since millions of years ago.

Coal Transformation
Processing of coal (coking coal, steam coal, sub-bituminous coal, and lignite) to produce coke, blast furnace gas, and briquet.

Commercial
Group of energy consumers which use energy for lighting, air conditioning, mechanical equipment, cooking appliance, and water heating but not including consumption for vehicles/ transportation. Energy consumers included in this group are commercial and general business such as: commerce, hotel, restaurant, financial institution, government agency, school, hospital, etc.

Condensate
Liquid extracted from natural gas; can be in the form liquid petroleum gas or natural gasoline.

Conversion Factor
Factor used to convert physical unit such as: liter, barrel, ton, and cubic meter to energy unit such as: Joule, BTU, ton coal equivalent (TCE), or barrel or ton oil equivalent (BOE or TCE).

Crude Oil
Mixture of hydrocarbons occurring in liquid phase in subsurface reservoir and remains liquid under atmospheric pressure.

Diesel Oil
A refinery product which contains heavy gasoil, and available as automotive diesel oil (ADO) or industrial diesel oil (IDO).

DPPU
Depo Pengisian Bahan Bakar Pesawat Udara (Aircraft Refueling Depot), serving AVGAS and AVTUR for aircraft consumption.

Electricity
Electric power produced in electric power plant such as Hydro Power Plant (PLTA), Geothermal Power Plant (PLTP), Gas Power Plant (PLTG), Gas Steam Power Plant (PLTGU), Coal Steam Power Plant (Coal PLTU), Diesel Power Plant (PLTD), etc.

Energy Balance Table
Energy system input-output table, the rows indicate activities of an energy commodity which consists of four main elements, namely primary energy, transformation, own use & losses, and energy consumption. The columns indicate the type of energy commodity.

Final Energy
Energy which can be directly consumed by user.

Final Energy Consumption
Energy consumption of four sectors of energy consumers, namely: household sector, commercial sector, industry sector, and transportation sector as well as consumption of energy as raw material and reduction agent. In compiling REP Riau, household sector is combined with commercial sector due to the limited data obtained.

Final Stock
Total stock at the end of the year.

Fuel Oil
Lowest order refinery product; heavy distillate, residue and their mixture which is used as fuel in industrial furnace and electric power plant.

Gasoline
(see mogas)

Gas Process
LNG plant or LPG plant, liquefaction or purification process to produce LNG and LPG.

GDP at Constant Price
Added value of goods and services computed on the basis of prices in a certain year.

GDP, Nominal (based on current price)
Added value of goods and services computed on the basis of the price occurring in each year.

Goods and Services Export
All transfer and sale of goods and services from resident of a country to resident of another country, including those conducted in the same country or in another country. Value of good export is based on FOB.

Government Consumption
Expenditures for employees expenses, depreciation and purchase of goods and services (including travel expenses, maintenance and other routine expenditures), expended by central government or regional governments but not including receipt from result of production of goods and services.

Household
Group of energy consumers which use energy for cooking, lighting, and household appliances but not including energy consumption for private car.

Hydropower
Potential energy of flowing water, computed as input energy to generate electric power, consists of dam, river stream, microhydro.

Import
Purchase from other country, not including the one in transit.

Industrial Diesel Oil (IDO)
A type of diesel oil used as fuel in low or medium speed industrial diesel engine (and marine engine).

Industry
Group of energy consumers which use energy for industrial process such as steam boiler, direct heating, lighting, and mechanical equipment, but does not include energy used for electricity generation for such industries: iron and steel, chemical, non-iron metal, non-metal production, food, paper, wood, construction, textile etc.

Initial Stock
Total stock at the beginning of the year.

International Bunker
Energy consumption for international shipping, supplied to international ships for all ships bearing any flag.

Kerosene
A type of oil fuel produced from distillation process which volatility lies between that of mogas and diesel oil, used as fuel for lighting, kitchen stove, and outboard engine.

Losses in Electricity Generation
Losses that occur in transformer, transmission and distribution network.

LPG
Liquefied Petroleum Gas, light hydrocarbons of crude oil, produced from oil refinery process or purification process of natural gas, consisting of propane (C_3H_8) and butane (C_4H_{10}) or their mixture.

LSWR
Low Sulphur Waxy Residue, a by product of oil refining.

Mogas
Motor gasoline, light hydrocarbon oil used in internal combustion engine, except aircraft engine, available in the market as Premium, Premix, Super TT, and BB2L.

Money Supply (M2)
Money supply consisting of currency (*kartal*) and demand deposits (*giral*).

Natural Gas
All kinds of hydrocarbon gas produced from wells; mixture of hydrocarbon gas and vapour occurring naturally, which main components are methane, ethane, propane, butane, pentane, and hexane; mined from underground accumulation either directly or as associated gas in oil mining.

Natural Gas Liquid
(see Condensate)

Non-energy Consumption
Consumption of energy for non-energy consumption which includes lubricating oil, petrochemical industry raw material (naphtha, natural gas, and coke), and gas consumed chemical raw material (methanol and ammonia/urea).

Non-renewable Energy
Energy which reserve cannot be brought back into original condition, generally consists of fossil energy.

Oil Refinery
Crude oil or condensate processing unit to produce oil fuels such as naphtha, avgas, avtur, ADO, IDO, mogas, kerosene, fuel oil, LPG, etc.

Other Oil Products (OOP)
Other refinery products such as naphtha, lubricating oil, bitumen, paraffin, etc. (sulphur, grease).

Own Use and Losses
Category that include energy losses and energy used in primary energy production field and in each transformation.

Own Use in Electricity Generation
Own use is all energy consumed in power plant and the transmission and distribution sub-station.

Own Use and Losses in Gas Processing
Losses that occur due to transport, distribution, and transfer by pipe. Own use is all energy consumed in gas processing.

Own Use and Losses in Oil Refinery
Losses that occur due to transportation, distribution, and transfer by pipe. Own use is all energy consumes in oil refinery processes.

Own Use and Losses in Production Field
Losses that occur due to transport, distribution, and transfer by pipe. Own use is all energy consumed in production field.

PLN Power Plant
Electric power plant owned by PT PLN (Persero) to produce electricity for sale to the public.

Primary Energy
Energy in its original form which is extracted by means of mining, dam, or renewable energy utilization.

Private Sector Power Plant
Power plant owned by private sector to produce electricity for sale to the public. Known as Independent Power Producer (IPP).

Production
Total gross primary energy extracted/produced.

Quasy Money
Time deposit and saving, in Rupiah and foreign exchange, including foreign exchange deposit by residents.

Renewable Energy
Energy which reserve can be brought back into original condition.

SBM
(see BOE)

Secondary Energy
Energy which has undergone transformation process into other form of energy.

SPBU
Stasiun Pengisian BBM Umum, public oil fuel refueling station, which sells gasoline (Premium, Premix, and Super TT) and diesel oil (ADO).

Statistical Difference
Difference between net supply (production + import – export – international bunker – stock change – consumption for transformation + production from transformation – own use – losses) and total final consumption.

Stock Change
Difference between the stock in the beginning and the end of the year. Stock decrease in energy balance is shown by positive sign which means there is increase in supply, while stock increase is shown by negative sign which means there is decrease in supply.

Sub-bituminous coal
A type of coal which has calorific value of 5000–6000 kcal/kg.

Total Energy Balance
Total of all columns in a certain row. In transformation row, the total of columns indicates efficiency of the transformation process.

Total Final Energy Consumption
Sum of energy consumption in the following sectors: household, commercial, industry, transportation, and non-energy consumption.

Total Primary Energy Supply
Local production plus import less export less bunker and less or plus stock change.

Transportation
Group of energy consumers which use energy for transport vehicles.

ANNEX
3

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CONVERSION FACTOR

Energy	Original Unit	Multiplier Factor to BOE (Barrel Oil Equivalent)
Coal		
Anthracite	Ton	4.9893
Imported Coal	Ton	4.2766
Kalimantan Coal	Ton	4.2766
Ombilin Coal	Ton	4.8452
Tanjung Enim Coal	Ton	3.7778
Lignite	Ton	3.0649
Riau Peat	Ton	2.5452
Briquette	Ton	3.5638
Biomass		
Charcoal	Ton	4.9713
Firewood	Ton	2.2979
Natural Gas	MSCF	0.1796
Gas Products		
City Gas	Thousand KKal	0.0007
CNG	Thousand KKal	0.0007
LNG	Ton	8.0532
LNG	MMBTU	0.1796
LPG	Ton	8.5246
Oil		
Condensate	Barrel	0.9545
Crude Oil	Barrel	1.0000

CONVERSION FACTOR (continued)

Energy	Original Unit	Multiplier Factor to BOE (Barrel Oil Equivalent)
Oil Fuel		
Aviation Gasoil (Avgas)	Kilo Liter	5.5530
Aviation Turbin Gas (Avtur)	Kilo Liter	5.8907
Super TT	Kilo Liter	5.8275
Premix	Kilo Liter	5.8275
Premium	Kilo Liter	5.8275
Kerosene	Kilo Liter	5.9274
ADO	Kilo Liter	6.4871
IDO	Kilo Liter	6.6078
FO	Kilo Liter	6.9612
Oil Products		
Other Oil Products	Barrel	1.0200
Refinery Fuel		
Refinery Fuel Gas (RFG)	Barrel	1.6728
Refinery Fuel Oil (RFO)	Barrel	1.1236
Feed Stock	Barrel	1.0423
Geothermal	MWh	1.5937
Hydro	MWh	2.5208
Electric Power	MWh	0.6130

Source: Neraca Energi 1990-1994, Departemen Pertambangan dan Energi


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