Oil and natural gas extraction data

Richard Heede
Climate Mitigation Services
File started: 11 January 2005
Last modified: April 2013

Pertamina, Indonesia

www.pertamina.com Jakarta

yellow column indicates original reported units

100% State-owned entity

Production / Extraction data

Year	Crude Oil & NGL			Natural Gas			Background data	
	Net production	Net production	Net production	Net production	Net production	Net production		
	Thousand bbl /d	Million bbl /yr	Million bbl /yr		Million SCM/d	Billion cf/yr		
1950								
1951	Permina created in 1958, Pertamina in 1968							
1952								
1953								
1954								
1955								
1956								
1957								
1958		119	61	51%	78	8	4	51%
1959		139	71	51%	83	8	4	51%
1960		153	78	51%	91	9	5	51%
1961		155	79	51%	96	10	5	51%
1962		168	86	51%	101	10	5	51%
1963		165	84	51%	104	10	5	51%
1964		171	87	51%		13	7	51%
1965		178	91	51%		15	8	51%
1966		169	86	51%		18	9	51%
1967		185	94	51%		22	11	51%
1968		220	112	51%		24	12	51%
1969		271	138	51%	101	42	21	51%
1970	854	312	159	51%	108	44	23	51%
1971	892	326	166	51%	121	44	23	51%
1972	1,081	395	201	51%	146	44	22	51%
1973	1,339	489	249	51%	186	28	14	51%
1974	1,375	502	256	51%	202	40	20	51%
1975	1,307	477	243	51%	222	82	42	51%
1976	1,504	549	280	51%	312	126	64	51%
1977	1,686	615	314	51%	interpolated	258	132	51%
1978	1,635	597	304	51%	interpolated	390	199	51%
1979	1,591	581	296	51%	interpolated	522	266	51%
1980	1,647	601	307	51%	Dry gas	654	333	51%
1981	1,700	621	316	51%	Dry gas	663	338	51%
1982	1,419	518	264	51%	Dry gas	674	344	51%
1983	1,437	525	267	51%	Dry gas	769	392	51%
1984	1,487	543	277	51%	Dry gas	1,036	529	51%
1985	1,369	500	255	51%	Dry gas	1,141	582	51%
1986	1,420	518	264	51%	Dry gas	1,187	605	51%
1987	1,373	501	222	OGJ10(	Dry gas	1,268	647	51%
1988	1,372	501	492	OGJ10(	Dry gas	1,385	706	51%
1989	1,481	541	514	OGJ10(	Dry gas	1,457	743	51%
1990	1,539	562	534	OGJ10(	Marketed gas	1,644	838	51%
1991	1,668	609	581	OGJ10(	Marketed gas	1,856	947	51%
1992	1,579	576	491	OGJ10(	Marketed gas	1,954	997	51%
1993	1,589	580	484	OGJ10(	Marketed gas	2,013	1,027	51%
1994	1,590	580	551	OGJ10(	Marketed gas	2,252	1,149	51%
1995	1,579	576	547	OGJ10(	Marketed gas	2,285	1,165	51%
1996	1,627	594	590	OGJ10(	Marketed gas	2,432	1,240	51%
1997	1,605	586	498	OGJ10(	Marketed gas	2,422	1,235	51%
1998	1,605	586	480	OGJ10(	Marketed gas	2,318	1,182	51%
1999	1,559	569	470	OGJ10(	Marketed gas	2,669	1,361	51%
2000	1,518	554	464	OGJ10(	Marketed gas	2,482	1,266	51%
2001	1,422	519	438	OGJ10(	Marketed gas	2,256	1,150	51%
2002	1,329	485	22	OGJ10(	Marketed gas	2,422	226	
2003	1,233	450	48	Pertamina AnnRpt		2,529	335	Pertamina AnnRpt
2004	1,169	427	49	Pertamina AnnRpt		2,443	395	Pertamina AnnRpt
2005	1,135	414	50	Pertamina AnnRpt		2,406	411	Pertamina AnnRpt
2006	1,088	397	49	Pertamina AnnRpt		2,510	405	Pertamina AnnRpt
2007	1,029	375	52	Pertamina AnnRpt		2,559	406	Pertamina AnnRpt
2008	1,050	383	55	Pertamina AnnRpt		2,618	427	Pertamina AnnRpt
2009	1,034	377	64	Pertamina AnnRpt		2,732	502	Pertamina AnnRpt
2010	1,018	372	70	Pertamina AnnRpt		3,047	533	Pertamina AnnRpt
Total	na	na	13,241		na	na	23,319	

	Indonesia	Pertamina
	million bbl /yr	million bbl /yr
	thousand bbl /d	

51% of Indonesia 1958-1986
Oil & Gas Journal 1987-2002
Pertamina AnnRpt 2003-2007

	Indonesia	Pertamina
	gross production	net production
	Bcf/yr	Bcf/yr

all Indonesia gas attributed to Pertamina from 1960 to 1987
Oil & Gas Journal 1988-2002
Pertamina AnnRpts 2003-2008

Billion m^3/yr	milllion m^3/d	
19.9	54.5	
1,847		OGJ100
1,805		OGJ100
2,159		OGJ100
2,466		OGJ100
1,706		OGJ100
1,881		OGJ100
2,863		OGJ100
3,006		OGJ100
3,049		OGJ100
2,336		OGJ100
2,399		OGJ100
2,493		OGJ100
2,619		OGJ100
2,619		OGJ100
226		Discontinuity not explained

OGJ: no data
OGJ: no data
OGJ: no data

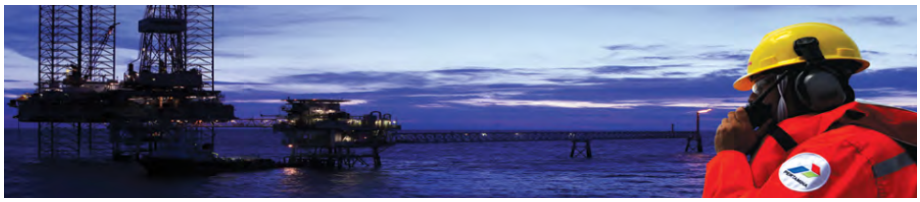
US Energy Information Administration, International Energy Statistics

www.eia.gov/emeu/international/energy.html

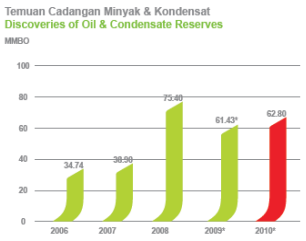
	Indonesia	Indonesia	Updated April 2013	Indonesia	Indonesia	Indonesia	Vented & Flared of gross	Indonesia	Indonesia
	Crude oil, condensate, & NGPL			Prod Marketed Gas	Dry natural gas	Vented & Flared		Reinjected	Gross Prod'n
	k bbl per day	million bbl per yr		Bcf per year	Bcf per year	Bcf per year	%	Bcf per year	Bcf per year
1980	1,647	601		NA	654	235		NA	NA
1981	1,700	621		NA	663	222		NA	NA
1982	1,419	518		NA	674	187		NA	NA
1983	1,437	525		NA	769	151		NA	NA
1984	1,487	543		NA	1,036	135		NA	NA
1985	1,369	500		NA	1,141	118		NA	NA
1986	1,420	518		NA	1,187	108		NA	NA
1987	1,373	501		NA	1,268	131		NA	NA
1988	1,372	501		NA	1,385	152		NA	NA
1989	1,481	541		NA	1,457	162		NA	NA
1990	1,539	562		1,644	1,602	166	8%	349	2,159
1991	1,668	609		1,856	1,814	203	8%	403	2,462
1992	1,579	576		1,954	1,914	217	8%	412	2,583
1993	1,589	580		2,013	1,973	231	9%	417	2,661
1994	1,590	580		2,252	2,206	177	6%	513	2,942
1995	1,579	576		2,285	2,238	177	6%	544	3,005
1996	1,627	594		2,432	2,383	177	6%	551	3,160
1997	1,605	586		2,422	2,371	173	6%	536	3,132
1998	1,605	586		2,318	2,269	177	6%	485	2,980
1999	1,559	569		2,669	2,506	170	6%	229	3,068
2000	1,518	554		2,482	2,237	162	6%	256	2,901
2001	1,422	519		2,256	1,888	170	6%	382	2,808
2002	1,329	485		2,422	2,063	148	5%	472	3,042
2003	1,233	450		2,529	2,190	166	5%	461	3,155
2004	1,169	427		2,443	2,028	155	5%	432	3,030
2005	1,135	414		2,406	2,001	155	5%	422	2,984
2006	1,088	397		2,510	2,199	113	4%	332	2,955
2007	1,029	375		2,559	2,422	98	3%	147	2,804
2008	1,050	383		2,618	2,472	113	4%	152	2,883
2009	1,034	377		2,732	2,557	172	6%	155	3,059
2010	1,018	372		3,047	2,841	185	5%	174	3,406
2011	983	359		2,892	2,693	178	5%	185	3,255
2012	920	336							
			1990-2011 totals	52,741	48,867	3,682	5.7%	8,010	64,433

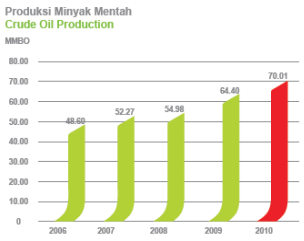
Pertamina
Energy Intelligence

	Oil, million bbl /yr	Gas, Bcf
2000	1,698	354
2001	1,672	325
2002		
2003	250	
2004	300	

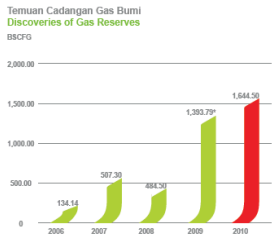


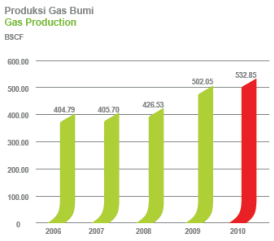
Reserves & production: Oil & Condensate



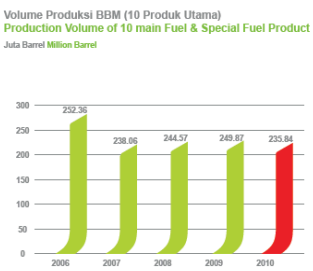


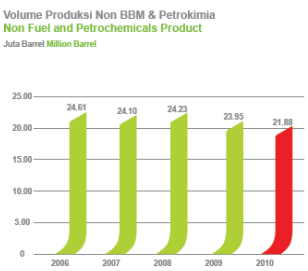
Reserves & production: Natural Gas





Products, non-fuel, and petrochemical production





Pertamina Annual Report 2010, page 6.

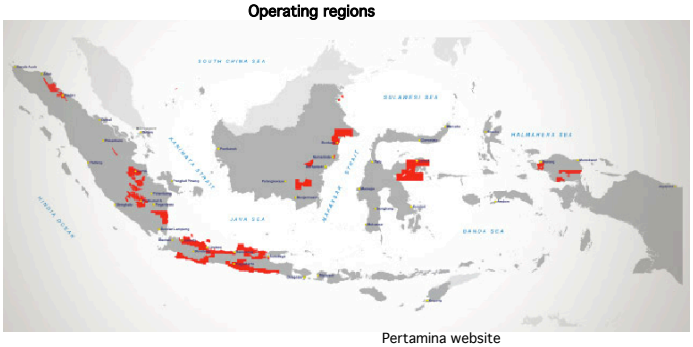
Pertamina Board of Directors, Pertamina Annual Report 2010, page 59.
Karen Agustiawan, Director & CEO

OPERATIONAL PERFORMANCE HIGHLIGHTS

IKHTISAR KINERJA OPERASI

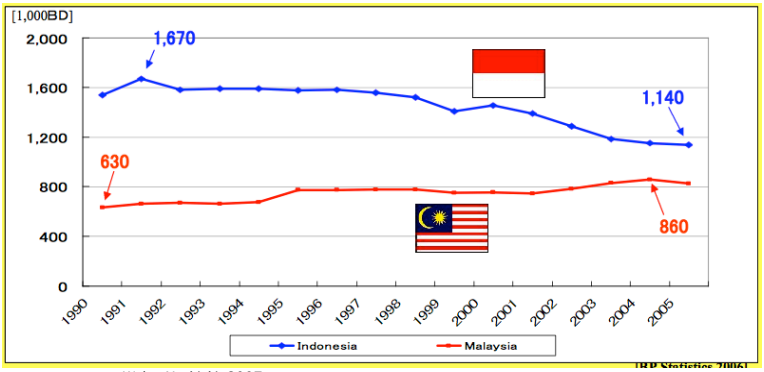
Deskripsi		Satuan	2006	2007	2008	2009	2010	Units	
Minyak Mentah	Temuan Cadangan Minyak dan Kondensat	MMBO	34.74	38.90	75.40	61.43*	62.80*	MMBO	Discoveries of Oil and Condensate Reserves Crude Oil Production
	Produksi Minyak Mentah	MMBO	48.60	52.27	54.98	64.40	70.01	MMBO	Crude Oil Production
Gas Bumi	Temuan Cadangan Gas Bumi	BSCFG	134.14	507.30	484.5	1,393.79*	1,644.5*	BSCFG	Discoveries of Gas Reserves
	Produksi Gas Bumi	BSCF	404.79	405.70	426.53	502.05	532.85	BSCF	Gas Production

Operating regions



Pertamina website

Hertzmark, page 6.



Wako, Yoshiaki, 2007

Existing (solid) and proposed (dashed) pipelines. Hertzmark, 2007, p. 54

Key Asset and Operational Statistics		
Item	Indonesia	Pertamina
Oil Reserves (bn bbl)	5.1	0.98 (19%)
Oil Output (bn bbl)	1025	48 (4.7%)
Gas Reserves (tcf)	94	8.8 (9.4%)
Gas Output (tcf/y)	3	0.31 (10.3%)
LNG Sales (Mmt/y)	24	
Refining Capacity (kbd)	1055	128.5 (12.2%)
Refinery Output (kbd)	999.8	114.1 (11.4%)

Hertzmark, 2007, "Pertamina's Evolution," Baker Institute NOC series.

Key Indonesia and Pertamina Asset and Operational Statistics			
Item	Indonesia		Pertamina
Proven oil reserves (bn. Bbl.)	5.1		0.98
Oil & Condensate Production (kbd)	1025, of which		48 (Pertamina alone)
	Chevron	507	133 (including JVs)
	Total	82	
	CNOOC	81	
	Others	355	
Proven gas reserves (tcf)	94		8.8
Gas Production (tcf)	3.0		0.32 (Pertamina alone) 0.40 (including JVs)
LNG Sales (m tonnes)	24 - 5.6 million from Arun, 18.4 million from Bontang		

Hertzmark, 2007b, page 22.

Hertzmark offers an excellent account of Pertamina's history, declining production, political and technical challenges.

Crude oil		
Indonesian prod'n	Pertamina prod'n	% Pertamina
thousand bbl /day	thousand bbl /day	Percent
1,025	133	13.0%

Calculated from Hertzmark, 2007b, page 22 (reproduced above).

Natural Gas		
Indonesian prod'n	Pertamina prod'n	% Pert.
Bcf/yr	Bcf/yr	Percent
3,000	400	13.3%

Cell: H9
Comment: Rick Heede:
PN Permina was established by the Govt of Indonesia in Dec1957. PN Permina and PN Pertamin merge and become PN Pertamina in 1968. Annual Rpt 2007, page 6.
"The history of Pertamina EP is interconnected with the lengthy history of oil and gas quest around the archipelago which was started in early 19th century. Between 1871 to 1885 was early quest era until oil discovery in Dutch-occupied Indonesia. Following first drilling in 1883 at Telaga Tiga, Pangkalan Berandan, South Sumatra, Royal Dutch Company was established in Pangkalan Berandan in 1885. Since then, the exploitation of oil in the archipelago began.
During the East Asia war, oil production experienced a distortion. During Japan occupation, efforts were limited to rehabilitation of damaged fields and wells as the impact of war.
Oil production was discontinued during the war for independence. When it was over and the nation started to run more organized governance, control over oil business became less clear. Numerous small companies spurted to take advantage of oil fortune thus causing disputes. To subdue the disputes, control over oil was given to the Army.
To anticipate it, the government established a national oil company on 10 December 1957 namely PT Perusahaan Minyak Nasional, PERMINA. In 1968, PERMINA merged with PERTAMIN and changed its name to PERTAMINA. To strengthen the new company, the government issued Law No. 8 in 1971, that positioned PERTAMINA as state-owned oil and gas company. The law obliged all oil companies interested in running their business in Indonesia to cooperate with PERTAMINA. This resulted in PERTAMINA to act as a regulator for partners who were under Cooperation Contract mechanism in PERTAMINA working areas. On the other hand, PERTAMINA also acted as operator who managed its own working areas.
Parallel to the dynamic shifts of the global and national oil and gas industry, the government issued Oil and Gas Law No. 22 /2001. Due to the law enactment, PERTAMINA status was changed into a State-Owned Enterprise and renamed as PT Pertamina (Persero). Consequently, the Company's role became an operator under Cooperation Contract with BPMIGAS as the government's representative. The law also urged PT Pertamina (Persero) to establish separate business subsidiaries so that the business of exploration, exploitation and production of oil and gas become more manageable.
It was on such ground that Pertamina EP was established on 13 September 2005. Then on 17 September 2005 PT Pertamina (Persero) signed a Production Sharing Contract (PSC) with BPMIGAS, governing all oil and gas mining areas accordingly. Eventually, majority of those areas became Pertamina EP's working areas. At the same time, Pertamina EP also signed a Production Sharing Contract with BPMIGAS valid since 17 September 2005. Therefore, Pertamina EP's working areas are those previously managed by PT Pertamina (Persero), including those previously managed by PT Pertamina (Persero) through Technical Assistance Contract (TAC) and Joint Operating Body Enhanced Oil Recovery (JOB EOR)." www.pertamina-ep.com/en/about-pep/our-history (May 2012).
Also see: Hertzmark, Donald (2007b) "Pertamina: Indonesia's State-Owned Oil Company, Baker Institute for Public Policy, March, 60 pp.
Mitchell, John V. (2008) Resource Depletion, Dependence and Development: Indonesia, Working paper, Chatham House, London, 41 pp.

Cell: M9
Comment: Rick Heede:
100 percent government-owned. The Ministry of State Owned Enterprises in the shareholder. World Bank (2008b) A Citizen's Guide to National Oil Companies, Part B: Data Directory, World Bank, Washington, & Center for Energy Economics, Bureau of Economic Geology Jackson School of Geosciences University of Texas, Austin, 764 pp. At page 74.
See also: Center for Energy Economics (2007) Commercial Frameworks for National Oil Companies: Working Paper, revised draft, University of Texas, Austin, 34 pp. Table 3.

Cell: E12
Comment: Rick Heede:
Total net worldwide crude oil plus natural gas liquids produced by each company or state-owned enterprise. Where data is available, we list net production.
Crude production includes natural gas liquids (NGL) unless noted.

Cell: I12
Comment: Rick Heede:
Natural gas is typically reported as dry gas; natural gas liquids are reported under crude oil.
Carbon dioxide is normally removed from the gas flow at the production site (see "Vented Carbon Dioxide").
"SCM/d" = standard cubic meters per day. "cf/d" = cubic feet per day.
Net production typically excludes a number of diverted gas streams. Quantities and fractions vary; ExxonMobil's exclusions are probably typical of the industry: "Net production available for sale quantities are the volumes withdrawn from ... natural gas reserves, excluding royalties and volumes due to others when produced, and excluding gas purchased from others, gas consumed in producing operations, field processing plant losses, volumes used for gas lift, gas injections and cycling operations, quantities flared, and volume shrinkage due to the removal of condensate or natural gas liquids production."
ExxonMobil Corporation (2004) 2003 Financial and Operating Review, www.exxonmobil.com, p. 55.

Cell: F20
Comment: Rick Heede:
We do not have sufficient information on Pertamina's (and its forerunner Permina, 1958-1968). While production areas were confiscated and production substantially nationalized, we do not have yearly equity production attributable to Pertamina and assume, for lack of specific equity production and/or joint venture and/or production-sharing agreements, that 51 percent of Indonesian oil production is attributable to Pertamina from 1958 to 1986. From 1987 we cite Oil & Gas Journal production estimates for Pertamina, followed by Pertamina production from annual reports 2003-2010.
Production operated by Royal Dutch Shell since oil was discovered and produced on Sumatra in 1884 (Royal Dutch was formed in 1890, and merged with British Shell Transport and Trading in 1907).
"In the 1950s, three government-owned upstream firms were established; the National Oil Mining Company (PT Permina) formed two entities to handle the confiscated Dutch north Borneo fields: the Indonesian Oil Mining Company (Pertamin) and the State Oil Compan (PN Permigan). In 1960, the Oil and Mining Law was ratified by parliament in 1961. The 1945 Indonesian Constitution had stated that "Land and water and the natural riches therein shall be controlled by the State and shall be exploited for the greatest welfare of the people." Under the new mining law, "oil and natural gas mining is only conducted by the State and the State company is authorized to engage in oil mining on behalf of the State." Hertzmark, 2007, page 7.
"Indonesia's contract terms were considered among the toughest in the world, with the government in most cases receiving 85 percent of oil produced once the foreign company recovered costs. The government's profit share for "old" production areas has increased to 90% in many cases while lower profit oil shares are now common in areas with speculative or higher cost reserves". Hertzmark, 2007, page 9.

Cell: I21
Comment: Rick Heede:
www.nationsencyclopedia.com/Asia-and-Oceania/Indonesia-ENERGY-AND-POWER.html
"Before 1965, nearly 90% of Indonesia's petroleum was extracted by foreign companies and slightly more than 10% by state-owned companies. In March 1965, the government took over all foreign-owned oil companies, but offered them the option of contining operations under Indonesian control and supervision. A public-sector enterprise, Pertamina, was set up to represent the government in all matters relating to the petroleum industry. By the mid-1970s, Pertamina had assumed a dominant role in oil exploration and production and in such related fields as petrochemicals, fertilizers, and natural gas. During the 1980s, Pertamina spent $3 billion per year on high-risk oil development projects, which helped to maintain a 20-year reserve level of oil and a 40-year reserve level of natural gas. In May 1993, reserves estimated at 225 million barrels were discovered (the largest find in Asia in a decade) at the Widuri field. Three major new projects expected to become operational before 2004 are the West Seno field offshore from East Kalimantan (60,000 barrels per day), the Belanek project in West Natuna (100,000 barrels per day), and the Banyu Urip field in Java.
Natural gas production increased rapidly in the 1970s and 1980s, with output totaling 63.4 billion cu m by 1998, as compared with 19.9 billion cu m in 1982. Part of production goes for industrial and domestic use, but large amounts are exported in the form of liquefied natural gas (LNG). Indonesia is the world's largest exporter of LNG; its major customers are Japan, South Korea, and Taiwan."

Cell: E24
Comment: Rick Heede:
For example:
• When the Financial Crisis hit in 1997-98 it was clear that Pertamina was part of the problem
– Oil product subsidies were very large relative to the Government's budget
– Corruption and loss of focus at Pertamina had led to high costs upstream and downstream, and a falling rate of output
– Good prospects (Natuna, Cepu) lay fallow, interrupting the future stream of output and cash

Cell: H24
Comment: Rick Heede:

Hertzmark, Donald (2007) "Pertamina's Evolution: From King of the Hill to One of the Guys," in: The Changing Role of National Oil Companies in International Energy Markets, James Baker III Institute for Public Policy, Rice University, 2 March 2007.

Cell: K24
Comment: Rick Heede:
Hertzmark, Donald (2007) "Pertamina: Indonesia's State-Owned Oil Company, Baker Institute for Public Policy, March, 60 pp.

Cell: E25
Comment: Rick Heede:
US Bureau of Mines (1971) International Petroleum Encyclopedia, p. 37, shows oil production for 1959-1969, in million bbl per year.

Cell: H26
Comment: Rick Heede:
The World Bank reported Pertamina's oil production as 133,000 bbl per day (48.5 million bbl per year). Page 74: "In 2004 Pertamina reported 1.5 million barrels of proven oil reserves and 133 MB/D of oil production, representing 35% and 12% of Indonesia's reserves and production respectively. The oil upstream sector is dominated by international oil companies (Chevron, BP, ConocoPhillips, ExxonMobil, Total, PetroChina and CNOOC) operating pursuant to production sharing contracts (PSAs). Indonesia's two largest oil fields, operated by Chevron, are in decline."
World Bank (2008b) A Citizen's Guide to National Oil Companies, Part B: Data Directory, World Bank, Washington, & Center for Energy Economics, Bureau of Economic Geology Jackson School of Geosciences University of Texas, Austin, 764 pp.

Cell: D34
Comment: Rick Heede:
Energy Information Administration International Energy Annual 2004, Table G.1 World Production of Crude Oil, NGPL, and Other Liquids, 1980-2004
EIA, Crude Oil production (excluding NGL, and other liquids), for 1970-1980.

Cell: H35
Comment: Rick Heede:
Minerals Yearbook for 1971, p. 798, shows Indonesia's marketed natural gas production as well as gross production (marketed plus vented, flared, and re-injected natural gas) for 1969-1971:
1969: gross = 101 Bcf, marketed production = 42 Bcf;
1970: gross = 108 Bcf, marketed production = 44 Bcf;
1971: gross = 121 Bcf, marketed production = 44 Bcf (0.367 of gross).

Cell: F39
Comment: Rick Heede:
Wikipedia on Pertamina, unreferenced: "By the end of 1973, it (Pertamina) directly produced 28.2% of Indonesia's oil, with agreements of Caltex and Stanvac to produce the rest (67.8% and 3.6%, respectively)." CMS comment: we attribute 51 percent of Indonesia's production to Pertamina. Assuming the wikipedia estimate is correct, Pertamina would also receive oil from joint ventures, production-sharing agreements, and so on.

Cell: H40
Comment: Rick Heede:
On this worksheet we report extractive data for each company or state-owned enterprise. Three columns under crude oil and natural gas allow for data reported in one of three formats (e.g., thousand barrels per day, or million barrels per year, or million tonnes per year).
Note: the carbon content of the extracted resources is adjusted by a number of factors before emissions estimates are made. Most important is the subtraction of the fraction typically sequestered in petrochemicals and other non-combusted uses such as road oils, waxes, lubricants, greases, etc. See the worksheets on non-energy uses and factors for oil and natural gas in SumOil.xls and SumGas.xls

Cell: B43
Comment: Rick Heede:
After Mobil discovered the Arun gas field in Aceh (NW Sumatra), Mobil and Pertamina decided to export the gas as LNG to Japan and completed the facility in 1977. The Bontang LNG plant in Borneo was completed two years later, with its LNG also exported to Japan. Indonesia was the largest LNG exporter in the world by 1988. Hertzmark, 2007b, page 13.

Cell: D46
Comment: Rick Heede (Jan10):
Energy Information Administration International Energy Statistics World Crude Oil including Lease Condensate Production and NGPLs, 1980-2010 (Thousand Barrels per Day) for Indonesia. See page 2 for details.

Cell: I46
Comment: Rick Heede:
Energy Information Administration International Energy Statistics, World Dry Natural Gas Production, 1980-1989 (Billion Cubic Feet) for Indonesia. See page 2 for details. Data for 1990 to 2010 is for "Production of Marketed Gas."

Cell: F53
Comment: Rick Heede:
Oil & Gas Journal's OGJ100, various years.

Cell: L54
Comment: Rick Heede:
Hertzmark, Donald (2007b) "Pertamina: Indonesia's State-Owned Oil Company, Baker Institute for Public Policy, March, 60 pp.

Cell: B67
Comment: Rick Heede:
The effect of the 2001 Oil and Gas law on equity reporting by Pertamina is not clear, except that, as Hertmark reports, prior to the law "all reserves and production of both oil and gas took place under the Pertamina banner." Hertzmark, 2007b, page 22. See also discussion on page 35.

Cell: F68
Comment: Rick Heede:
OGJ100 data "estimated." Large variance from EI or earlier OGJ100 reports is unexplained.

Cell: F69
Comment: Rick Heede (Jan10):
Pertamina (2008) Annual Rpt 2007, page 11, shows crude oil and natural gas production for 2003-2007; no mention of NGLs. This revises 2003 production (in the 2004 AnnRpt) from 18.2 to 48 million bbl.

Cell: F74
Comment: Rick Heede:
Pertamina AR 2010 pdf pg 4, shows production for 2006-2010, 2006 48.6 million bbl, 2007 52.27 million bbl.

Cell: J74
Comment: Rick Heede:
Pertamina AR 2010 pdf pg 4; also shows 2007 405.7 Bcf, 2006 404.79 Bcf.

Cell: E128
Comment: Rick Heede:
Oil and gas data from EI (2003) Top 100, p. 200.