

# Oil and natural gas extraction data

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## Sonangol, Angola

www.sonangol.co.ao Luanda

yellow column indicates original reported units  
100% State-owned enterprise

## 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	Bcf/yr	Bcf/yr	Bcf/yr	



Sonangol Operators and Partners / upstream / oil companies



Establishment of Sonangol U.E.E. in 1976

Year	Angola		Est. Sonangol		%	Angola			%
	million bbl /yr	million bbl /yr	million bbl /yr	million bbl /yr		gross gas prod'n	net gas prod'n	Est. Sonangol	
1950									
1951									
1952									
1953									
1954									
1955									
1956									
1957									
1958									
1959		0.4		0	10%				
1960		0.5		0	10%				
1961		0.8		0	10%				
1962		3.4		0	10%				
1963		5.8		1	10%				
1964		6.5		1	10%				
1965		4.7		0	10%				
1966		4.5		0	10%				
1967		3.9		0	10%				
1968		3.4		0	10%				
1969	thousand bbl/day	17		2	10%				
1970		112		41	10%	14	1	0	10%
1971		93		34	10%	29	2	0	10%
1972		140		51	10%	33	2	0	10%
1973		162		59	10%	31	2	0	10%
1974		169		62	10%	36	2	0	10%
1975		165		60	10%	38	2	0	10%
1976		108		39	10%	35	2	0	10%
1977		194		71	26%	22	2	1	26%
1978		131		48	51%	interpolated	4	2	51%
1979		147		54	51%	interpolated	6	3	51%
1980		150		55	51%	interpolated	7	4	51%
1981		130		47	51%	Dry gas	9	5	51%
1982		122		45	51%	Dry gas	9	5	51%
1983		177		65	51%	Dry gas	10	5	51%
1984		208		76	51%	Dry gas	12	6	51%
1985		231		84	51%	Dry gas	12	6	51%
1986		282	103	52	51%	Dry gas	13	7	51%
1987		360	131	67	51%	Dry gas	14	7	51%
1988		452	165	84	51%	Dry gas	16	8	51%
1989		455	166	85	51%	Dry gas	18	9	51%
1990		475	173	88	51%	Dry gas	15	8	51%
1991		500	183	93	51%	Dry gas	19	10	51%
1992		526	192	98	51%	ross-flared -reinject	19	10	51%
1993		509	186	95	51%	ross-flared -reinject	20	10	51%
1994		536	196	100	51%	ross-flared -reinject	20	10	51%
1995		646	236	120	51%	ross-flared -reinject	25	13	51%
1996		709	259	132	51%	ross-flared -reinject	24	12	51%
1997		714	261	133	51%	ross-flared -reinject	25	13	51%
1998		735	268	137	51%	ross-flared -reinject	25	13	51%
1999		745	272	139	51%	ross-flared -reinject	25	13	51%
2000		746	272	139	51%	ross-flared -reinject	26	13	51%
2001		742	271	138	51%	ross-flared -reinject	25	13	51%
2002		896	327	167	51%	ross-flared -reinject	25	13	51%
2003		903	329	168	51%	ross-flared -reinject	28	14	51%
2004		1,055	385	196	51%	ross-flared -reinject	28	14	51%
2005		1,261	460	235	51%	ross-flared -reinject	25	13	51%
2006		1,435	524	267	51%	ross-flared -reinject	28	14	51%
2007		1,769	646	329	51%	ross-flared -reinject	28	14	51%
2008		2,015	735	375	51%	ross-flared -reinject	29	15	51%
2009		1,949	711	363	51%	ross-flared -reinject	36	18	51%
2010		1,988	726	370	51%	ross-flared -reinject	29	15	51%
						ross-flared -reinject	32	16	51%

EIA Angola crude 1970-1980	thousand bbl /day
112	112
93	93
140	140
162	162
169	169
165	165
108	108
194	194
131	131
147	147
150	150

Oil & Gas Journal	OGJ100 estimate	OGJ100	
Crude oil million bbl	% this project of OG	Natural gas Bcf	%
194	50%	20	51%
187	51%	20	51%
199	50%	20	65%
235	51%	20	61%
254	52%	20	64%
261	51%	20	63%
268	51%	20	64%
278	50%	20	66%
271	51%	20	63%
250	55%	20	64%
326	51%	22	56%
319	53%	26	55%
360	55%	26	49%
452	52%	29	50%
515	52%	28	52%
619	53%	41	37%
691	54%	59	31%
653	56%	64	23%
653	57%	76	21%

<b>Total</b>		<b>9,119</b>	<b>4,494</b>		<b>697</b>	<b>350</b>
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**Cell: H9****Comment:** Rick Heede:

[www.sonangol.co.ao](http://www.sonangol.co.ao)

1976: Establishment of Sonangol U.E.E.

1983: Institution of the first international subsidiary, Sonangol Limited in London, England.

1991: Attribution of the first oil concession in deep waters on block 16.

1992: Establishment of subsidiary Sonangol P&P as an oil company.

1999: Sonangol U.E.E. becomes Sonangol E.P.

2003: Sonangol begins operating as an oil company with the grant of offshore block 3.

On the threshold of Angola's Independence, a working group was set up in the oil industry both to support the industry and to mobilize Angolans working in the business. The main objective was the strategic preparation of the oil industry after the proclamation of independence.

From the nationalization of ANGOL in 1976, two companies were formed: Sonangol U.E.E. and Direcção Nacional de Petróleos. ANGOL Sociedade de Lubrificantes e Combustíveis Sarl, which was founded in 1953 as a subsidiary of the Portuguese company SACOR, marketed and distributed fuels, lubricants and liquefied gas in Angola.

Decree 52/76 instituted Sonangol as a state owned company whose mission was the management of hydrocarbon resource exploration in Angola. Despite having the government as the sole shareholder, Sonangol has always been governed as a private company and is under strict performance standards to ensure efficiency and productivity.

After the incorporation of Sonangol, a management committee was established to create the necessary infrastructures for the company to start developing its business activities. The management committee was later converted into a board of directors.

In the aftermath of the independence several oil companies abandoned Angola for one reason or another, leaving behind its infrastructures and former employees. To this end, Sonangol bought the premises of Texaco, Fina and Shell and through an agreement acquired those of Mobil. In this process Sonangol also absorbed former employees of oil companies that once operated in Angola.

Focusing on diversifying its business activities, Sonangol has developed joint-ventures and established companies that promote both the social development of Angola and the expansion of Sonangol. Prioritizing the management of hydrocarbons, environmental protection and industrial safety, Sonangol has created a diversified business that is centered around oil. More than 30 subsidiaries and joint venture companies are now part of Sonangol Group

through its acquired experience, hard work and sustained development, Sonangol has gained prestige and built a solid reputation in the oil industry both in Angola and abroad. This is a direct result of great relationships with the oil companies which operate, or which have interests and investments, in Angola

Over the past three decades Sonangol has expanded into a group of integrated companies and in the process became Angola's leading distributor of refined products and promoter of social and human resources development.

Also see: Heller, Patrick R. P. (2012) "Angola's Sonangol: dexterous right hand of the state," in Victor et al, eds, Oil and Governance, pp. 836-886.

Soares de Oliveira, Ricardo (2007) Business Success, Angola-Style: Postcolonial Politics and the Rise of Sonangol, Journal of Modern African Studies, vol. 45, Issue 04, December 2007, pp 595-619.

**Cell: M9****Comment:** Rick Heede:

World Bank, 2008b, page 607: "Despite having the government as the sole shareholder, Sonangol has always been governed as a private company. 100% of Shares Controlled by Government."

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.

Also see: Heller, Patrick R. P. (2012) "Angola's Sonangol: dexterous right hand of the state," in Victor et al, eds, Oil and Governance, pp. 836-886.

**Cell: F23****Comment:** Rick Heede:

Soares de Oliveira: "The Marxist period of the MPLA that would last until the end of the Cold War was not one of mere salvaging of the oil sector from the nadir of the 1975-76 conflict. In addition to creating the legal framework for oil investment in Angola – including the state's ownership of all hydro-carbon resources – Sonangol and its foreign partners managed to re- establish and, by 1983, surpass late colonial oil production levels. In order to eliminate 'possible agents and intermediaries in the marketing process', Sonangol created Sonangol Limited, a London office responsible for the direct trading of Angola's share of the oil (an estimated 40% of the total) and the first of several Sonangol subsidiaries to span the globe." At page 601.

In 1996 Elf made Angola's first ultra-deep water discovery, the Girassol field, and many followed soon afterwards. Angola quickly became the hotspot for companies from all over the world, including British Petroleum, Royal Dutch/Shell, ExxonMobil, Statoil, Norsk Hydro, Petrobras, Marathon, the Chinese companies CNOOC and Sinopec, and a myriad of other firms of all shapes and sizes purposely drawn into the Angolan 'chessboard' by Sonangol. At page 603.

Soares de Oliveira, Ricardo (2007) "Business Success, Angola-Style: Postcolonial Politics and the Rise of Sonangol," Journal of Modern African Studies, vol. 45:595-619.

Heller, 2012, page 846, mentions that ANGOL, the Portuguese oil company and predecessor to Sonangol, was nationalized by the newly independent Angola. Sonangol is a joint venture partner in the most important production projects, and in Block 0 "Sonangol owned 51 percent of the entity as of 1978, and its exploration and production subsidiary has controlled 41 percent stake (the largest of any of the equity partners) since the concession was renewed in the 2000s." Sonangol also has several production-sharing agreements (PSAs) in most deep offshore areas. Also, Heller, page 878, fn 8: "renegotiations with CABGOC and a broad reform of the country's petroleum regime gave Sonangol a 51 percent ownership stake in the operating fields, [and] vested it with the role of concessionaire in charge of the granting of rights over new acreage." Heller, Patrick R. P. (2012) "Angola's Sonangol: dexterous right hand of the state," in Victor et al, eds, Oil and Governance, pp. 836-886. At pages 857-858.

World Bank has no production data attributed to Sonagol. 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 719.

Insofar as we do not have the required details of Sonagol's overall equity production totals from royalty concessions, joint ventures, and PSAs, CMS assumes a 51 percent interest in Angola's total oil production since June 1976. This fraction of oil production may be revised if Sonangol (or other sources) makes more detailed equity production data available.

**Cell: E25****Comment:** Rick Heede:

US Bureau of Mines (1971) International Petroleum Annual 1969, p. 37, shows Angolan oil production for 1959-1969. Data for 1970-2004 converts EIA daily prod'n data to million bbl per year. Note: we use OGI data for 1992-2004.

**Cell: I32****Comment:** Rick Heede:

Data for 1969-1976 from US Bureau of Mines, Minerals Yearbook. No Angolan data prior to 1969. Energy Information Administration International Energy Statistics Dry Natural Gas Production, 1980-1989, and Marketed Natural Gas Production, 1990-2010.

**Cell: J33****Comment:** Rick Heede:

We attribute 51 percent of total dry or marketed Angolan natural gas production (as done for crude oil; see cell note at F23 for details) to Sonangol. Note that the Oil & Gas Journal OGI100 estimates for Sonangol 1992-2010 are significantly higher (see column N, and compare EIA data on page 2) -- indeed higher than total Angolan production of dry and/or marketed gas production -- and we consider the OGI estimates possibly in error. A very high proportion of Angolan gas is vented or flared (47 to 85 percent of gross gas production, according to EIA data) or re-injected. This 51 percent may underestimate Sonangol's equity, royalty, or equity production and may be revised if comprehensive data on Sonangol's share of Angolan production becomes available.

**Cell: D34****Comment:** Rick Heede:

Energy Information Administration International Energy Annual 2003, Table G.1 World Production of Crude Oil, NGPL, and Other Liquids, 1980-2003.

Sonangol website states production of 172,000 bpd, down to ~100,000 bpd in 1976.

**Cell: I38****Comment:** Rick Heede:

U.S. Bureau of Mines Minerals Yearbook 1974, page 887, reports both gross and marketed production for 1972-1973.

Sonangol

**Cell:** B40

**Comment:** Rick Heede:

By 1974 the production reached 172,000 bpd which was the maximum output for the colonial period. [www.sonangol.co.ao](http://www.sonangol.co.ao) / HISTORY OF THE OIL INDUSTRY IN ANGOLA

**Cell:** I40

**Comment:** Rick Heede:

U.S. Bureau of Mines Minerals Yearbook 1976, page 887, reports both gross and marketed production for 1974-1976.

**Cell:** B42

**Comment:** Rick Heede:

[www.sonangol.co.ao](http://www.sonangol.co.ao) / HISTORY OF THE OIL INDUSTRY IN ANGOLA.

In 1976, total production was around 100,000 bpd from three areas: Cabinda's Offshore, Kwanza's Onshore and Congo's Onshore.

The Gulf Oil Company had created the Cabinda Gulf Oil Company (CABGOC); Gulf Oil left Angola in November 1975 as the civil war raged but returned in March 1976, in part through the pressure from General Obasanjo of Nigeria (who hinted at retaliation against Gulf in Niger Delta). Texaco and Petrofina were also encouraged to return.

Sonangol was created in June 1976 "as the Angolan oil concessionaire, sector regulator, and tax gathering agent." Soares de Oliveira, Ricardo (2007) "Business Success, Angola-Style: Postcolonial Politics and the Rise of Sonangol," Journal of Modern African Studies, vol. 45:595-619. At page 600.

Note: Soares de Oliveira also reports that "CABGOC, the Chevron-led main oil producer in Angola since the 1960s until being recently overtaken by Exxon, is incorporated in Bermuda and does not publish an annual report." At page 615, fn #6.

**Cell:** G42

**Comment:** Rick Heede:

We assume a 51 percent equity share in Angola's oil production from June 1976 through 2010. See cell note at F23 for details.

**Cell:** K42

**Comment:** Rick Heede:

51 percent of Angolan dry or marketed natural gas is attributed to Sonangol. See cell notes at J33 and F23 for details.

**Cell:** D46

**Comment:** Rick Heede (Jan10):

Energy Information Administration, International Energy Annual 2006 Table 2.2 World Crude Oil including Lease Condensate Production, 1980-2010 (Thousand Barrels per Day), for Angolan liquids production.

**Cell:** I46

**Comment:** Rick Heede (Jan10):

Energy Information Administration, International Energy Statistics, Dry Natural Gas Production 1980-1989 and production of marketed natural gas 1990-2010 for Angola.

**Cell:** N58

**Comment:** Rick Heede:

Oil & Gas Journal, OGJ100, various years.

**Cell:** B65

**Comment:** Rick Heede:

The first FPSO (Floating Production, Storage & Offloading) rig in Angola's offshore came on stream on December 1999, and was used for project Kuito on Block 14. Since August 2003, the world's largest FPSO came on stream on project Kizomba A on Block 15. Projects in Blocks 17 and 18 also required the use of an FPSO.

[www.sonangol.co.ao](http://www.sonangol.co.ao) / HISTORY OF THE OIL INDUSTRY IN ANGOLA

**Cell:** B74

**Comment:** Rick Heede:

To bring an end to the wasteful flaring of gas and to also enable the local production of industrial chemicals, a gas condensate facility to produce liquefied petroleum gas (LPG) is scheduled to come online in 2008.

[www.sonangol.co.ao](http://www.sonangol.co.ao) / HISTORY OF THE OIL INDUSTRY IN ANGOLA

**Cell:** L74

**Comment:** Rick Heede:

OGJ100 6Sep10 pg 69; updated 2008 reported value; OGJ 30Oct2011 pg 49; "estimated."

**Cell:** N74

**Comment:** Rick Heede:

OGJ100 6Sep10 pg 69;

OGJ 3 Oct 2011 pg 49;

"estimated"

**Cell:** E83

**Comment:** Rick Heede:

Sonangol "working interest liquids production in 2008" at 270 thousand bbl per day.

Victor, Hults, & Thurber, 2012, Introduction, Table 1.1, page 24, in Victor et al, eds, 2012, Oil and Governance. Table 1.1 is based on information from Wood Mackenzie's Pathfinder Database; [www.woodmacresearch.com](http://www.woodmacresearch.com)

**Cell:** J83

**Comment:** Rick Heede:

Sonangol "working interest natural gas production in 2008" at 0 (zero) thousand cf per day. Victor, Hults, & Thurber, 2012.