

Oil and natural gas extraction data

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Climate Accountability Institute
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Bahrain Petroleum Company

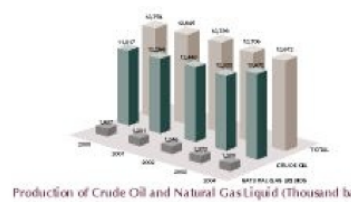
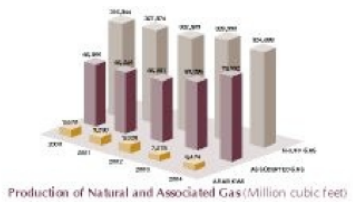
www.bapco.com Awali, Bahrain

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

Production / Extraction data

Year

Crude Oil & NGL			Natural Gas			OGJ estimates	
Net production	Net production	Net production	Net production	Net production	Net production		
thousand bbl /day	Million bbl /yr	Million bbl /yr	Billion cf/yr	Billion cf/yr	Billion cf/yr	Million tons/yr	Million tonnes/yr



BAPCO Annual Report 2004, page 12.

1 SCM 35.3147 cf

Year	Bahrain			Bahrain Petroleum			Bahrain		Bahrain Petroleum	
	thousand bbl /day	million bbl /yr	million bbl /yr	gross production Bcf/yr	net production Bcf/yr	Bcf/yr	gross production Bcf/yr	net production Bcf/yr	Bcf/yr	
1967			2.8	10%		2.2			0	10%
1968		27.6	2.8	10%	33	11			1	10%
1969		27.8	2.8	10%	25	12			1	10%
1970		28.0	2.8	10%	25	18			2	10%
1971		27.3	2.7	10%	25	18			2	10%
1972		25.5	2.6	10%	25	18			2	10%
1973		24.9	2.5	10%	83	57			6	10%
1974		24.6	2.5	10%	100	68			7	10%
1975		20.8	12.5	60%	102	73			44	60%
1976		21.3	12.8	60%	107	77			46	60%
1977	77	28.1	16.9	60%	interpolated	83			50	60%
1978	interpolated	25.6	15.3	60%	interpolated	88			53	60%
1979	interpolated	23.0	13.8	60%	interpolated	94			57	60%
1980	56	20.4	20.4	100%	100	100			100	100%
1981	54	19.7	19.7	100%	120	120			120	100%
1982	52	19.0	19.0	100%	130	130			130	100%
1983	51	18.6	18.6	100%	140	140			140	100%
1984	50	18.3	18.3	100%	133	133			133	100%
1985	48	17.5	17.5	100%	164	164			164	100%
1986	52	19.0	19.0	100%	180	180			180	100%
1987				OGJ10	217	217			217	OGJ10
1988					182	182			196	
1989					186	186			205	
1990					205	205			215	
1991					233	233			205	
1992					188	188			238	
1993					234	234			256	
1994					229	229			262	
1995					229	229			266	
1996					232	232			274	
1997					281	281			295	
1998					293	293			310	
1999					297	297			321	
2000					303	estimated from chart			390	Bapco
2001					314	estimated from chart			390	Bapco
2002					334	estimated from chart			400	Bapco
2003					340				416	Bapco
2004	BAPCO AnnRpt04	37.45	13.7	Bapco	344				410	Bapco
2005	BAPCO AnnRpt05	36.54	13.3	Bapco	378				470	Bapco
2006		35.90	13.1	Bapco	400	million cf/day			382	Bapco
2007	BAPCO AnnRpt07	34.39	12.6	Bapco	416	1,046			403	Bapco
2008	BAPCO AnnRpt08	32.86	12.0	Bapco	438	1,105			435	Bapco
2009	BAPCO AnnRpt09	32.19	11.8	Bapco	441	1,192			441	Bapco
2010	BAPCO AnnRpt10	31.88	11.6	Bapco	451	1,207			452	Bapco
2011					446	1,237			446	BP
2012					484				460	BP
2013									493	BP
2014	Refinery kb/d	Petroleum sales Mb		OGJ100					519	BP
2015	265.63	85.24	18.4	OGJ Sep16					521	BP
2016	257.77	80.50	18.4	OGJ Sep16					521	BP
2017			18.4	assur		1,400			507	BP
2018			18.4	assumed equal to 2016					511	BP
			18.4	assumed equal to 2017					524	BP
			18.4	update with Bapco or OGJ						



ented prior to 1979 gas captured, processed, and marketed

Oil & Gas Journal data				BP Statistical Review			
Bahrain Petroleum	Bahrain Petroleum	Bahrain	Bahrain	Bahrain Petroleum	Bahrain	Bahrain	Bahrain
million bbl /yr	Bcf/yr	million bbl /yr	Bcf/yr	OGJ100	OGJ100	OGJ100	OGJ100
14.3	176	-	-	14.3	176	-	185
15.7	185	-	-	15.7	185	-	196
15.7	194	-	-	15.7	194	-	205
14.2	210	-	-	14.2	210	-	215
13.9	157	-	-	13.9	157	-	205
39.1	166	-	-	39.1	166	-	238
38.7	180	-	-	38.7	180	-	256
38.3	183	-	-	38.3	183	-	262
14.5	286	-	-	14.5	286	-	266
14.1	294	-	-	14.1	294	-	274
38.0	203	-	-	38.0	203	-	295
37.4	215	-	-	37.4	215	-	310
37.3	221	-	-	37.3	221	-	321
37.6	317	-	-	37.6	317	-	323
63.4	328	-	-	63.4	328	-	337
63.5	247	-	-	63.5	247	-	350
63.5	268	-	-	63.5	268	-	356
63.5	237	-	-	63.5	237	-	326
63.6	289	-	-	63.6	289	-	359
62.8	314	-	-	62.8	314	-	380
62.8	318	-	-	62.8	318	-	395
62.1	330	-	-	62.1	330	-	423
10.8	325	-	-	10.8	325	-	428
11.3	298	-	-	11.3	298	-	439
13.5	359	-	-	13.5	359	-	446
15.0	359	-	-	15.0	359	-	460
15.4	363	-	-	15.4	363	-	493
17.8	521	-	-	17.8	521	-	519
18.4	521	-	-	18.4	521	-	521
na	na	-	-	na	na	-	507
na	na	-	-	na	na	-	511
							524

Total	na	na	1,005	na	na	13,032	976	8,096
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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
89																	
90																	
91																	
92		US Energy Information Administration, International Energy Statistics															
93		www.eia.gov/emeu/international/energy.html															
94		Vented & Flared of															
95		Bahrain		Bahrain		Bahrain		Bahrain		Bahrain		Bahrain		Bahrain			
96		Crude oil, condensate, & NGPL		Updated April 2013		Gross NatGas Prod		Prod Market Gas		Reinjected NatGas		Vented & Flared		Dry NatGas Prod			
97		1980	56.0	20		NA	296	NA	-	NA	-	-	-	100			
98		1981	54.0	20		NA		NA	-	NA	-	-	-	120			
99		1982	52.0	19		NA		NA	-	NA	-	-	-	130			
100		1983	51.0	19		NA		NA	-	NA	-	16	-	140			
101		1984	50.0	18		NA		NA	-	NA	-	-	-	133			
102		1985	48.0	18		NA		NA	-	NA	-	-	-	164			
103		1986	52.0	19		NA		NA	-	NA	-	-	-	180			
104		1987	51.0	19		NA		NA	-	NA	-	-	-	217			
105		1988	52.0	19		NA		NA	-	NA	-	-	-	182			
106		1989	51.0	19		NA		NA	-	NA	-	-	-	186			
107		1990	47.0	17		NA	291	208	75	0.0%	-	-	-	205			
108		1991	43.0	16		NA	328	240	88	0.0%	-	-	-	233			
109		1992	44.0	16		NA	296	202	94	0.0%	-	-	-	188			
110		1993	53.0	19		NA	346	242	104	0.0%	-	-	-	234			
111		1994	54.0	20		NA	339	238	102	0.0%	-	-	-	229			
112		1995	51.0	19		NA	339	238	102	0.0%	-	-	-	229			
113		1996	45.0	16		NA	347	241	106	0.0%	-	-	-	232			
114		1997	51.0	19		NA	375	290	85	0.0%	-	-	-	281			
115		1998	48.0	18		NA	390	302	88	0.0%	-	-	-	293			
116		1999	48.0	18		NA	406	306	100	0.0%	-	-	-	297			
117		2000	48.4	18		NA	412	311	101	0.0%	-	-	-	303			
118		2001	47.3	17		NA	426	324	102	0.0%	-	-	-	314			
119		2002	47.3	17		NA	436	341	95	0.0%	-	-	-	334			
120		2003	47.6	17		NA	434	340	95	0.0%	-	-	-	340			
121		2004	48.0	18		NA	438	344	94	0.0%	-	-	-	344			
122		2005	45.0	16		NA	470	378	92	0.0%	-	-	-	378			
123		2006	46.0	17		NA	488	400	88	0.0%	-	-	-	400			
124		2007	46.0	17		NA	507	416	91	0.0%	-	-	-	416			
125		2008	46.0	17		NA	541	438	102	0.0%	-	-	-	438			
126		2009	46.0	17		NA	547	441	106	0.0%	-	-	-	441			
127		2010	44.0	16		NA	551	451	100	0.0%	-	-	-	451			
128		2011	45.0	16		NA	547	446	101	0.0%	-	-	-	446			
129		2012	52.0	19		NA	590		106	0.0%	-	-	-	484			
130		2013	58.0	21		NA	680		161	0.0%	-	-	-	519			
131		2014	60.5	22		NA	710		162	0.0%	-	-	-	547			
132		2015	62.0	23		NA	727		180	0.0%	-	-	-	547			
133		2016	60.0	22		NA					-	-	-	541			
134		2017	56.0	20		NA					-	-	-	561			
135		2018	51.0	19		NA					-	-	-	561			
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Updated June 2019
Crude oil, condensate, & NGPL

Updated June 2019

Updated June 2019

Updated June 2019
(dry gas, EIA stat to 2017)

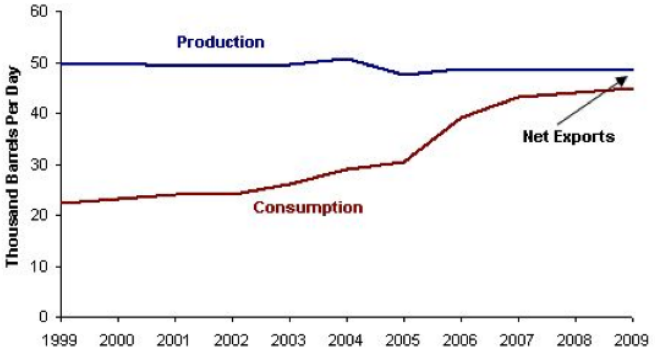
If gas combusted:	0.0534	MtCO2/Bcf
If methane vented:	1.1221	MtCO2e/Bcf

	Banagas	
	million SCM/day	Bcf/yr
1990	20.0	257.8

vented natural gas (Banaco prior to 1979)		If methane flared	If methane vented
million SCM/day	Bcf/yr	million tonnes CO2/yr	million tonnes CO2e/yr
3.0	38.7	2.07	43.39

Conflicting data. Take 2004: BAPCO reports production of 13.67 million bbl, refined 93.1 million bbl, and sold 55 million bbl abroad (Asia and Africa).
Resolved: BAPCO imported 79.4 million bbl of Arab light crude via the A-B pipeline from Saudi Arabia.
Saudi Arabia / Bahrain oil production sharing agreement from Abu Safah offshore field

Bahrain's Total Oil Production and Consumption, 1999-2009



Bahrain

Cell: I9

Comment: Rick Heede:

The BAPCO was established in 1929 in Canada by Standard Oil Company of California for oil exploration activities in Bahrain. It took over Bahrain's assets of Gulf Oil. In 1930 it obtained the only oil concession in Bahrain. On 31 May 1932, the company discovered the Awali oil field. In 1936 the Standard Oil Company of California signed an agreement with Texaco, which acquired a half of BAPCO's shares. In 1975 more than 60% BAPCO's shares was acquired by the Government of Bahrain. In 1980, all BAPCO's shares were taken over by the Government of Bahrain. In 1999 the current Bahrain Petroleum Company was created when the Bahrain National Oil Company, established in 1976, merged with BAPCO. Wikipedia, accessed February 2013.
1975: Govt of Bahrain acquires 60 percent interest in Bahrain National Oil Company, BANOCO (CalTex 40%)

Cell: M9

Comment: Rick Heede:

In 1975 more than 60% BAPCO's shares was acquired by the Government of Bahrain. In 1980, all BAPCO's shares were taken over by the Government of Bahrain. In 1999 the current Bahrain Petroleum Company was created when the Bahrain National Oil Company, established in 1976, merged with BAPCO.

Cell: M11

Comment: Rick Heede:

Bahrain: "In 1990 Banagas estimated total natural gas reserves at 209 trillion cubic meters; daily production averaged about 20 million cubic meters."
countrystudies.us/persian-gulf-states/37.htm

Cell: F12

Comment: Rick Heede:

Gas production estimated from low-resolution chart (reproduced above) from Bapco's 2004 Annual Report.

Cell: J12

Comment: Rick Heede (Jan10):

Oil & Gas Journal OGJ100 estimated production of crude oil and natural gas for Bahrain National Oil Company, various years.

Cell: E35

Comment: Rick Heede:

U.S. Bureau of Mines Minerals Yearbook 1970, in million bbl per year.

Cell: E38

Comment: Rick Heede:

U.S. Bureau of Mines Minerals Yearbook 1972, in million bbl per year.

Cell: I39

Comment: Rick Heede:

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

Cell: E40

Comment: Rick Heede:

U.S. Bureau of Mines Minerals Yearbook 1974, in million bbl per year.

Cell: I41

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:

In 1975 more than 60% BAPCO's shares was acquired by the Government of Bahrain.

Cell: E42

Comment: Rick Heede:

U.S. Bureau of Mines Minerals Yearbook 1976, in million bbl per year.

Cell: G42

Comment: Rick Heede:

1975: Govt of Bahrain acquires 60 percent interest in BANOCO (CalTex 40%).

Cell: K42

Comment: Rick Heede:

1975: Govt of Bahrain acquires 60 percent interest in BANOCO (CalTex 40%).

Cell: B43

Comment: Rick Heede:

1976: Incorporation of the Bahrain National Oil Company (BANOCO). Source: bapco.com

Cell: D44

Comment: Rick Heede:

Bahrain: "Oil production peaked in 1977 at 77,000 barrels per day and steadily declined thereafter."
countrystudies.us/persian-gulf-states/37.htm

Cell: L45

Comment: Rick Heede:

Banagas annual emissions of CO₂-equivalent if the reported 3 million SCM per of natural gas vented to the atmosphere is estimated by CMS to total 56.3 million tonnes of CO₂e per year (MtCO₂e/yr). If the natural gas (assumed to be all methane, since CMS does not have data on entrained CO₂ and other entrained gases) is assumed to be flared rather than vented, then emissions would total 2.25 MtCO₂/yr.

Cell: J46

Comment: Rick Heede:

CMS assumes that the natural gas simply vented prior to 1979 and captured and processed thereafter, coupled with production from the Khuff field, gradually grows between 1979 and 1987 to the production estimated by Oil & Gas Journal for 1987. CMS interpolates between these dates.
Bahrain: "Substantial deposits of natural gas are associated with Bahrain's oil fields. Before 1979, when the government established the Bahrain National Gas Company (Banagas), an estimated 3 million cubic meters per day of this gas were being vented to the atmosphere. Banagas opened a gas liquefaction plant that collected this gas and processed it into propane, butane, and naphtha. There are also large deposits of natural gas in the Khuff field, which is separate from the oil fields. Banagas has drilled more than fifteen wells to tap this gas, which is used for fuel to power the oil refinery, electric generators, and the water desalination plant. Some of the gas is reinjected into the oil fields to maintain reservoir pressure and stimulate production. In 1990 Banagas estimated total natural gas reserves at 209 trillion cubic meters; daily production averaged about 20 million cubic meters. countrystudies.us/persian-gulf-states/37.htm

Cell: B47

Comment: Rick Heede:

1980: Govt of Bahrain acquires 100 percent interest in BANOCO.
Source: bapco.com

Cell: G47

Comment: Rick Heede:

1980: Govt of Bahrain acquires 100 percent interest in BANOCO.

Cell: K47

Comment: Rick Heede:

1980: Govt of Bahrain acquires 100 percent interest in BANOCO.

Bahrain

Cell: O50

Comment: Rick Heede:

BP Statistical Review of World Energy 2018, June 2019. CAI lists BP estimates for dry gas production from 1970 to 2018. No oil production reported, presumably in "other Middle East."

Cell: D52

Comment: Rick Heede:

Bahrain: "At the end of 1985 ... Bapco could not increase production from its declining oil fields beyond 42,000 bpd"
countrystudies.us/persian-gulf-states/37.htm

Cell: F54

Comment: Rick Heede:

Oil & Gas Journal OGJ100, various years; data for Bahrain National Oil Co or Bahrain Petroleum Co.

Cell: J54

Comment: Rick Heede:

Oil & Gas Journal OGJ100, various years; data for Bahrain National Oil Co or Bahrain Petroleum Co.

Cell: H57

Comment: Rick Heede:

EIA International energy Statistics, from page 2 below, Bahrain gross production of natural gas.

Cell: F71

Comment: Rick Heede:

BAPCO Annual Rpt 2004, 12.36 million bbl of crude production, plus 1.31 million bbl on NGLs.

Cell: J72

Comment: Rick Heede:

BAPCO 2005 Annual Rpt shows 470.4 Bcf (and "9.8 percent higher than 2004"). CMS therefore revises reported 2004 production from 409.7 Bcf to 428.4 Bcf. This is revised back to 409.7 Bcf (based on the chart in their 2005 Annual Rpt, page 17): their percentage increase calculation is in error.

Cell: F75

Comment: Rick Heede:

Oil & Gas Journal estimates 62.1 million bbl produced in 2008 for Bahrain National Oil Company. CMS cites company data for Bahrain Petroleum Company. Bahrain National Oil Company is the holding company for Bahrain National Oil Company.

Cell: F78

Comment: Rick Heede:

Oil & Gas Journal OGJ100, Sep13 and Sep14.

Cell: J78

Comment: Rick Heede:

Oil & Gas Journal OGJ100, Sep13 and Sep14.

Cell: F81

Comment: Rick Heede:

Oil & Gas Journal OGJ100, September 2016, page 44, oil production of 17.8 Mb in 2014 and 18.4 Mb in 2015.

Cell: J81

Comment: Rick Heede:

Oil & Gas Journal OGJ100, September 2016, page 44, gas production of 521 Bcf in 2014 and 519 Bcf in 2015.

Cell: L81

Comment: Rick Heede:

Oil & Gas Journal OGJ100, September 2016, page 44, oil production of 17.8 Mb in 2014 and 18.4 Mb in 2015.

Cell: M81

Comment: Rick Heede:

Oil & Gas Journal OGJ100, September 2016, page 44, gas production of 521 Bcf in 2014 and 519 Bcf in 2015.

Cell: D83

Comment: Rick Heede:

BAPCO (2017) Annual Review 2016: 80 Years of Refining, page 14 reports "refinery crude throughput for 2016; single-year datum, and no information on net equity production, oil trade, etc. Equal to 94.08 Mb

Cell: E83

Comment: Rick Heede:

BAPCO (2017) Annual Review 2016: 80 Years of Refining, page 10 "Export Markets" reports "80.5 mMb of product was exported, with kerosene and diesel for about 56% of sales, naphtha 18%, and black products (fuel oil and asphalt) at 23%." Also, in "Local Sales and Marketing" the total volume of refined product sales amounted to 10.7 Mb.) Thus a total of 90.2 Mb of global petroleum product sales, but no clear data on BAPCO net equity production. Except that "Bapco markets the government of Bahrain's equity share of 150 kbpd from Abu Safah (shared production with Saudi Arabia). 150 kbpd = 54.75 Mb, which far exceeds the Oil & Gas Journal estimates.

Cell: H83

Comment: Rick Heede:

BAPCO (2017) Annual Review 2016: 80 Years of Refining, page 14 reports "a total of 3.689 Bcf of refinery Offgas (ROG) was sent to Bahrain National Gas Company (Banagas)" recovering 1.1024 Mb of propane, butane, and naphtha. No reporting of total gas production and reinjected gas.

Cell: E144

Comment: Rick Heede:

Banagas data for 1990.

Cell: I147

Comment: Rick Heede:

Bahrain: "Substantial deposits of natural gas are associated with Bahrain's oil fields. Before 1979, when the government established the Bahrain National Gas Company (Banagas), an estimated 3 million cubic meters per day of this gas were being vented to the atmosphere. Banagas opened a gas liquefaction plant that collected this gas and processed it into propane, butane, and naphtha. There are also large deposits of natural gas in the Khuff field, which is separate from the oil fields. Banagas has drilled more than fifteen wells to tap this gas, which is used for fuel to power the oil refinery, electric generators, and the water desalination plant. Some of the gas is reinjected into the oil fields to maintain reservoir pressure and stimulate production. In 1990 Banagas estimated total natural gas reserves at 209 trillion cubic meters; daily production averaged about 20 million cubic meters. countrystudies.us/persian-gulf-states/37.htm

Cell: E152

Comment: Rick Heede:

"First was Bahrain's share of profits from the offshore Abu Safah oil field in the Persian Gulf between Bahrain and Saudi Arabia. When the two countries demarcated their marine boundaries in 1958, Bahrain ceded its claims to an area of the gulf north of the island in return for a Saudi agreement to share the profits from any oil that might be discovered there. Subsequently, oil in commercial quantities was found in the seabed, and from 1968 to 1986, revenues from the Abu Safah field contributed significantly to Bahrain's overall oil income. Since production from the Abu Safah field ceased in early 1987, Saudi Arabia has provided Bahrain with 75,000 bpd of crude oil as compensation for this loss."
countrystudies.us/persian-gulf-states/37.htm