

# Oil & natural gas extraction data

**Richard Heede**  
 Climate Mitigation Services  
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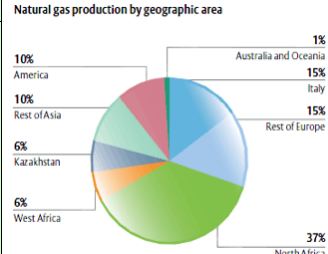
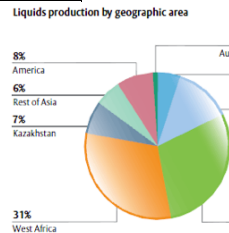
## ENI (Ente Nazionale Idrocarburi), Italy

www.eni.com, www.eni.it Roma

yellow column indicates original reported units **30 percent State-Owned**

### Production / Extraction data

Year	Crude Oil & NGL			Natural Gas			OGJ data	
	Net production Thousand bbl /d	Net production Million bbl /yr	Net production Million tonnes/yr	Net production Million cf/d	Net production Million SCM/yr	Net production Billion cf/yr	Gross production Million tons/yr	Gross production Million tonnes/yr
		AGIP; ENI	E.N.I.			AGIP; ENI		
1950		0.04	0.01		306	10.8		
1951	Conversion from tonnes to bbl shows inconsistency	0.12	0.02		724	25.6		
1952		0.63	0.09		1,171	41.4		
1953		0.96	0.13		2,006	70.8		
1954		0.91	0.12		2,700	95.3		
1955		0.84	0.12		3,343	118.1		
1956		0.99	0.14		4,159	146.9		
1957		1.58	0.22		4,685	165.4		
1958		2.51	0.34		4,821	170.3		
1959		2.65	0.36		5,759	203.4		
1960		4.90	0.67		6,168	217.8		
1961		4.07	0.56		6,668	235.5		
1962		34.1	0.51		6,932	244.8		
1963		46.4	0.71		7,071	249.7		
1964		64.7				265.3		
1965		60.6				269.7		
1966		60.1				304.8		
1967		50.1				321.0		
1968		51.1				342.9		
1969		59.5				388.3		
1970		68.0				427.5		
1971		86.0				437.8		
1972		105.7				486.1		
1973		136.7				517.7		
1974		108.3				515.2		
1975		105.1				496.8		
1976		114.6	15.7			511.0		
1977		112.1	15.4		14,470	462.6		
1978		129.2	17.7		13,100	485.6		
1979		126.3	17.3		13,730	484.9		
1980		121.2	16.6		14,220	502.2		
1981		86.9	11.9		14,550	513.8		
1982	interpolated	89.6	12.3		13,890	490.5	interpolated	
1983		92.4	12.7		13,230	467.2		
1984		104.2	14.3		13,730	484.9		
1985		104.4	14.3		13,750	485.6		
1986		102.9	14.1		14,770	521.6		
1987		126.1	Ente nazionale Idrocarburi			568.5	Ente nazionale Idrocarburi	
1988		139.3	Ente nazionale Idrocarburi			617.9	Ente nazionale Idrocarburi	
1989		157.6	Ente nazionale Idrocarburi			621.5	Ente nazionale Idrocarburi	
1990		175.9	AGIP			642.7	AGIP	
1991		178.1	AGIP			656.8	AGIP	
1992		189.1	AGIP			625.1	AGIP	
1993		195.0	AGIP			713.4	AGIP	
1994		210.3	AGIP			798.6	AGIP	
1995		612	AGIP		Sales in Bcf/yr	809.4	OGJ data (not used)	
1996		614			Sales in Gm3/yr	810.3	Gas in Bcf per yr	
1997		646			2,039	58.03	370.0	762.0
1998		653			2,036	57.94	375.0	772.2
1999		674			2,123	60.41	385.0	794.1
2000		748			2,281	64.92	390.0	825.7
2001		857			2,271	64.63	439.0	828.8
2002		921			2,309	65.72	512.0	842.8
2003		981			2,324	66.14	551.0	1,133.0
2004		1,034			2,508	71.39	581.0	1,224.0
2005					2,687	76.49	590.0	1,245.0
2006		1,079						
2007		1,020			3,964	98.10		
2008		1,026			4,114	98.96		
2009		1,007			4,424	104.23		
2010		997			4,374	1,596.5	367.6	1,596.5
					4,540	1,657.1	363.9	1,657.1
<b>Total</b>	<b>na</b>	<b>8,713</b>	<b>166</b>	<b>na</b>	<b>36,679</b>	<b>na</b>	<b>na</b>	<b>na</b>



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
81														
82														
83														
84	<b>Key performance/sustainability indicators</b>				<b>2008</b>	<b>2009</b>	<b>2010</b>							
85	Employee injury frequency rate		[no. of accidents per million hours worked]		0.84	0.49	0.72							
86	Net sales from operations <sup>(a)</sup>		(€ million)		33,042	23,801	29,497							
87	Operating profit				16,239	9,120	13,866							
88	Adjusted operating profit				17,222	9,494	13,984							
89	Adjusted net profit				7,900	3,878	5,600							
90	Capital expenditures				9,281	9,486	9,690							
91	of which: exploration expenditures <sup>(b)</sup>				1,918	1,228	1,012							
92	Adjusted capital employed, net at year end				30,362	32,455	37,646							
93	Adjusted ROACE		(%)		29.2	12.3	16.0							
94	Average hydrocarbons realizations		(\$/boe)		68.13	46.90	55.60							
95	- Liquids		(\$/bbl)		84.05	56.95	72.76							
96	- Natural gas		(\$/mcf)		8.01	5.62	6.02							
97	Production of hydrocarbons <sup>(c)(d)</sup>		(kboe/d)		1,797	1,769	1,815							
98	- Liquids		(kbb/d)		1,026	1,007	997							
99	- Natural gas		(mmcf/d)		4,424	4,374	4,540							
100	Estimated net proved reserves of hydrocarbons <sup>(c)(d)</sup>		(mmbbl)		6,600	6,571	6,843							
101	- Liquids		(mmbbl)		3,335	3,463	3,623							
102	- Natural gas		(bcf)		18,748	17,850	17,882							
103	Reserve life index <sup>(d)</sup>		(years)		10.0	10.2	10.3							
104	All sources reserve replacement ratio net of updating the natural gas conversion factor <sup>(c)(d)</sup>		(%)		135	96	125							
105	Employees at year end		(units)		10,236	10,271	10,276							
106	of which: outside Italy				6,182	6,388	6,370							
107	Oil spills		(bbl)		4,738	6,285	3,850							
108	Oil spills from sabotage and terrorism				2,286	15,289	18,721							
109	Direct GHG emissions		(mmt tonnes CO <sub>2</sub> e)		33.21	29.69	31.22							
110	of which: from flaring				16.54	13.73	13.83							
111	Community investments		(€ million)		65	67	72							

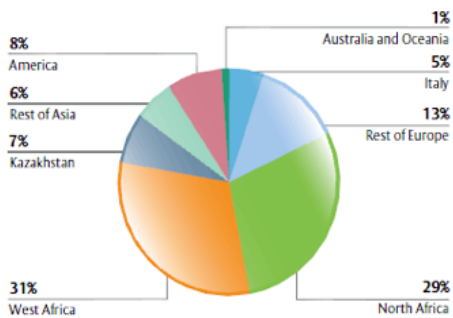
	2008			2009			2010		
	Liquids (kbb/d)	Natural gas (mmcf/d)	Hydrocarbons (kboe/d)	Liquids (kbb/d)	Natural gas (mmcf/d)	Hydrocarbons (kboe/d)	Liquids (kbb/d)	Natural gas (mmcf/d)	Hydrocarbons (kboe/d)
<b>Italy</b>	68	749.9	199	56	652.6	169	61	673.2	183
<b>Rest of Europe</b>	140	626.7	249	133	655.5	247	121	559.2	222
Croatia	68.7	12		95.5	17			45.3	8
Norway	83	264.8	129	78	273.7	126	74	271.6	123
United Kingdom	57	293.2	108	55	286.3	104	47	242.3	91
<b>North Africa</b>	338	1,761.6	645	292	1,614.2	573	301	1,673.2	602
Algeria	80	18.5	83	80	19.7	83	74	20.2	77
Egypt	98	818.4	240	91	793.7	230	96	755.1	232
Libya	147	907.6	306	108	780.4	244	116	871.1	273
Tunisia	13	17.1	16	13	20.4	16	15	26.8	20
<b>West Africa</b>	289	260.7	335	312	274.3	360	321	441.5	400
Angola	121	28.1	126	125	29.3	130	113	31.9	118
Congo	84	12.7	87	97	27.3	102	98	67.9	110
Nigeria	84	219.9	122	90	217.7	128	110	341.7	172
<b>Kazakhstan</b>	69	244.7	111	70	259.0	115	65	237.0	108
<b>Rest of Asia</b>	49	426.2	124	57	444.8	135	48	463.9	131
China	6	10.9	8	7	8.2	8	6	6.7	7
India				3.7	1	1	1	36.6	8
Indonesia	2	99.7	20	2	104.8	21	2	94.4	19
Iran	28		28	35		35	21		21
Iraq									5
Pakistan	1	315.6	56	1	328.1	58	1	326.2	59
Turkmenistan	12		12	12		12	12		12
<b>America</b>	63	311.5	117	79	424.7	153	71	396.0	143
Ecuador	16		16	14		14	11		11
Trinidad & Tobago		54.6	9		67.0	12		63.6	12
United States	42	256.9	87	57	357.7	119	50	332.4	110
Venezuela	5		5	8		8	10		10
<b>Australia and Oceania</b>	10	42.2	17	8	48.6	17	9	95.7	26
Australia	10	42.2	17	8	48.6	17	9	95.7	26
<b>Total</b>	<b>1,026</b>	<b>4,423.5</b>	<b>1,797</b>	<b>1,007</b>	<b>4,373.7</b>	<b>1,769</b>	<b>997</b>	<b>4,539.7</b>	<b>1,815</b>
<b>Oil and natural gas production net of updating the natural gas conversion factor</b>	<b>-</b>	<b>-</b>	<b>1,797</b>	<b>-</b>	<b>-</b>	<b>1,769</b>	<b>-</b>	<b>-</b>	<b>1,789</b>

(a) Before elimination of intragroup sales.  
 (b) Includes exploration bonuses.  
 (c) Includes Eni's share of equity-accounted entities.  
 (d) From April 1, 2010, Eni has updated the natural gas conversion factor from 5,742 to 5,550 standard cubic feet of gas per barrel of oil equivalent. The effect of this update on production expressed in boe was 26 kboe/d for the full-year 2010 and on the initial reserves balance as of January 1, 2010, amounted to 106 mmbbl. For further information see the paragraph "Summary of significant accounting policies" in the Notes to the Consolidated Financial Statements.

ENI Annual Report 2010, page 12.

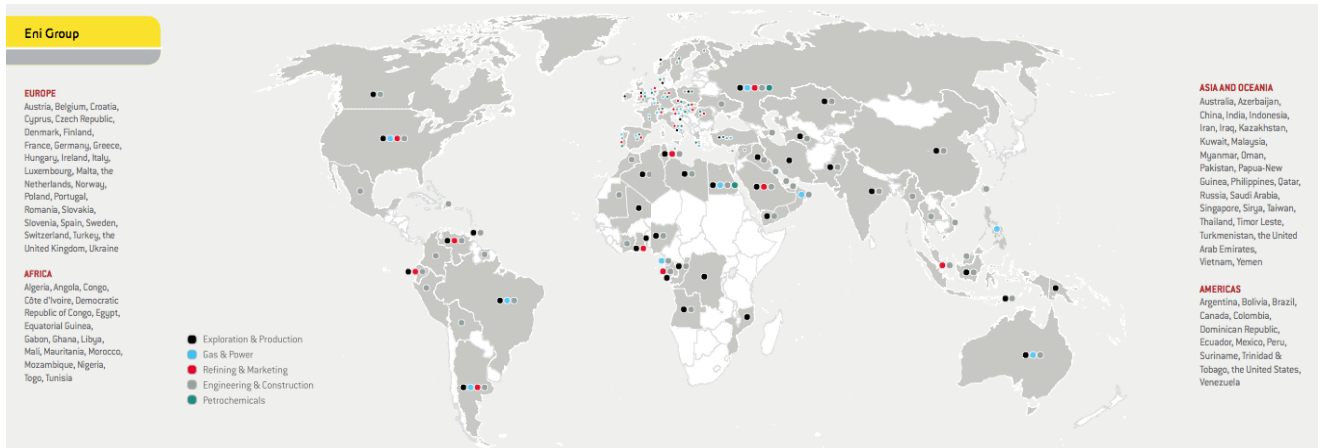
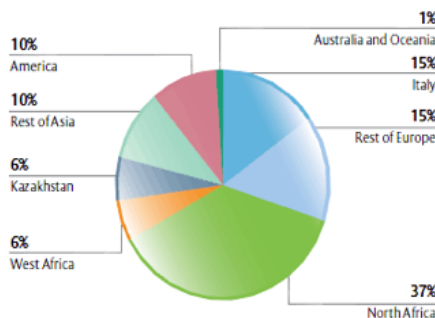
ENI Annual Report 2010, page 18.

Liquids production by geographic area



www.eni.com

Natural gas production by geographic area



ENI annual report, 2011

**Cell:** I9

ENI

**Comment:** Rick Heede:

Wikipedia (Dec11): Eni S.p.A. is an Italian multinational oil and gas company, present in 70 countries, and currently Italy's largest industrial company with a market capitalization of 87.7 billion euros as of July 24, 2008. The Italian government owns a 30% golden share in the company, 20% held through the state Treasury and 10% held through the Cassa depositi e prestiti.

History 1950s–1960s: Despite initial postwar plans to break up Agip, administrator Enrico Mattei converted it to a state monopoly, renamed Eni. The name derives from the initials of the company's original full title Ente Nazionale Idrocarburi, but is no longer used as an acronym. The Italian Government authorized its establishment on February 10, 1953 in order to implement a national energy strategy based on the concentration of all the activities in the energy sector into one group. Eni was to supply energy to Italy and contribute to the country's industrial development.

Exploration and production: Its crude oil production comes primarily from Libya, Egypt, Nigeria, the Congo, the North Sea, and Angola, with smaller amounts of crude oil production in Tunisia and in the United States. Eni's China production began in 1992, although it currently amounts to only 1 percent of Eni's total crude oil production. In 2007, oil and natural gas production for the full year averaged 1.74 millions boe per day, making Eni Europe's third largest refiner, after Royal Dutch Shell and Total S.A.. Eni carried out several hydrocarbon discoveries in recent years; the main discoveries were made in: Angola, Brazil, Congo, Egypt, Indonesia, Nigeria, Norway, Pakistan, Scotland, the Gulf of Mexico and Alaska. In 2007, a total of 81 new exploratory wells were drilled (43.5 of which represented Eni's share). Moreover, the company acquired oil and gas assets in the Gulf of Mexico from Dominion Resources and in onshore Congo from Maurel & Prom with total expenditures amounting to 4.52 billion euro. In January 2010 a consortium led by Eni was awarded a license to develop the Zubair field, one of the largest oil fields in Iraq.

Natural gas: Eni operates in the supply, transport, distribution and sale of natural gas. Gas sales reached 99 billion cubic meters in 2007. In June 2008 the company bought a 57% stake in Distrigas, a Belgian company that supplies natural gas to industries, resellers and electricity producers. In March 2009 it bought the remaining 43%. In December 2010, Eni entered into the shale gas exploration market by acquiring Minsk Energy Resources owning three licences in the Polish Baltic basin.

See also: [www.eni.com/ENI\\_en\\_IT/company/history/our-history.page](http://www.eni.com/ENI_en_IT/company/history/our-history.page): "The Start and the Early Post-War Years The 1920/30's - Italy Launches an Oil and Gas Policy Incorporation of AGIP.

Exploration begun in Italy and foreign ventures initiated (Romania, Albania, Iraq). Exploration proceeds inside Italy and the Agip distribution network is created. Enrico Mattei is appointed Special Administrator to close down Agip. After discovery of the Caviaga gas field in the Po Valley, the process to liquidate Agip is halted. 1926 Establishment of AGIP (Azienda Generale Italiana Petroli) - Italian General Oil Company 1929 Discovery of the Fontevivo reservoir (Parma) 1931 Agreement with the Soviet Union for direct supply of crude oil 1934 New drilling technique with rotating drills; Agip can now reach 2,000 meters 1936 Agip enters into the refining and petrochemicals business 1938 Natural gas discovery at Podenzano in the Po Valley 1939 First natural gas pipeline in Italy between Petramala and Florence 1941 The Ente Nazionale Metano, Agip, Salsomaggiore Regie Terme and Surgi merged to become the Società Nazionale Metanodotti (Snam) to construct and operate pipelines and to distribute and sell the gas 1942-43 Construction of Snam's first natural gas pipeline, which carried gas from the Salsomaggiore wells to Lodi and Milan 1944 Discovery of the Caviaga field near Milan 1945 Enrico Mattei is appointed Provisional Administrator of Agip 1948 Natural gas field discovered at Ripalta (Cremona) 1949-52 Natural gas is discovered in the Po Valley. Between 1946 - 1950 Italian natural gas production increases from 20 million cubic meters to 305 million and the Italian natural gas transmission network expands from 354 km to 1266 km between 1949 and 1951."

**Cell:** D12

**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:** H12

**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.

**Cell:** E17

**Comment:** Rick Heede:

This column is ENI production in tonnes per year converted to bbl per year. 1962 and 1963 adds AGIP data for those years plus ENI data for those same years.

**Cell:** F17

**Comment:** Rick Heede:

Oil and gas production for 1950-1963 from E.N.I. Companies (1964) Annual Report, p. 55. Also shows minor production in average by decade starting in 1926.

**Cell:** E29

**Comment:** Rick Heede:

Crude oil production 1962-1971 from E.N.I. Company (1972) Annual Report, p. 6-7.

**Cell:** E39

**Comment:** Rick Heede:

Oil production for 1972-1975 from ENI (1976) AnnRpt.

**Cell:** F43

**Comment:** Rick Heede:

Oil production for 1976-77 from ENI (1978) AnnRpt, p. 66. Units in million tonnes per year.

**Cell:** I43

**Comment:** Rick Heede:

Gas production for 1976-77 from ENI (1978) AnnRpt, p. 66. Units in Billion SCM per year.

**Cell:** F45

**Comment:** Rick Heede:

Oil 1978-81 from ENI (1982) AnnRpt, p. 2.

**Cell:** I45

**Comment:** Rick Heede:

Gas 1978-81 from ENI (1982) AnnRpt, p. 2.

**Cell:** F50

**Comment:** Rick Heede:

Oil 1983-84 from ENI (1985) AnnRpt, p. 38.

**Cell:** F52

**Comment:** Rick Heede:

Oil 1985-86 from ENI (1987) AnnRpt, p. 26.

**Cell:** E54

**Comment:** Rick Heede:

Oil and NGL data for 1987-1994 from OGI databooks (various).

**Comment:** Rick Heede: ENI  
ENI Factbook 2005, p. 12, shows oil and condensate production for 1996-2005 in thousand bbl per day.

**Cell:** E62

**Comment:** Rick Heede:  
Oil and NGL production 1995 from ENI (2003) Factbook 2003, p. 37.

**Cell:** I63

**Comment:** Rick Heede:  
"Sales of natural gas to third parties" plus "own consumption of natural gas" for 1996-2004 from ENI Factbook 2005, p. 7. (2004: 72.79 and 3.70 billion cubic meters, respectively).

**Cell:** J63

**Comment:** Rick Heede:  
ENI gas production 1996-2004 from Factbook 2005, p. 12, at a conversion of 6,000 cf gas per bbl of oil (unit of data in column L).

**Cell:** L63

**Comment:** Rick Heede:  
ENI gas production 1996-2004 from Factbook 2005, p. 12, in thousand bbl oil equivalent per day.

**Cell:** D67

**Comment:** Rick Heede:  
Oil production data from EI (2003) Top 100, p. 100.

**Cell:** E72

**Comment:** Rick Heede (Dec09):  
Oil & Gas Journal OGJ100, 17Sep07, page 39.

**Cell:** J72

**Comment:** Rick Heede:  
Oil & Gas Journal OGJ100, 17Sep07, page 39.

**Cell:** D73

**Comment:** Rick Heede (Dec09):  
ENI Annual Rpt 2008, thousand bbl produced per day.

**Cell:** H73

**Comment:** Rick Heede (Dec09):  
ENI Annual Rpt 2008, million cubic feet produced per day.

**Cell:** I73

**Comment:** Rick Heede:  
ENI rpt 2008, "worldwide gas sales," billion m<sup>3</sup> per year.

**Cell:** D76

**Comment:** Rick Heede:  
ENI Annual Report 2010, page 7, reports liquids and natural gas production 2008-2010.

**Cell:** H76

**Comment:** Rick Heede:  
ENI Annual report 2010, page 12.

**Cell:** L76

**Comment:** Rick Heede:  
Oil & Gas Journal OGJ100, 30Oct2011, page 46.