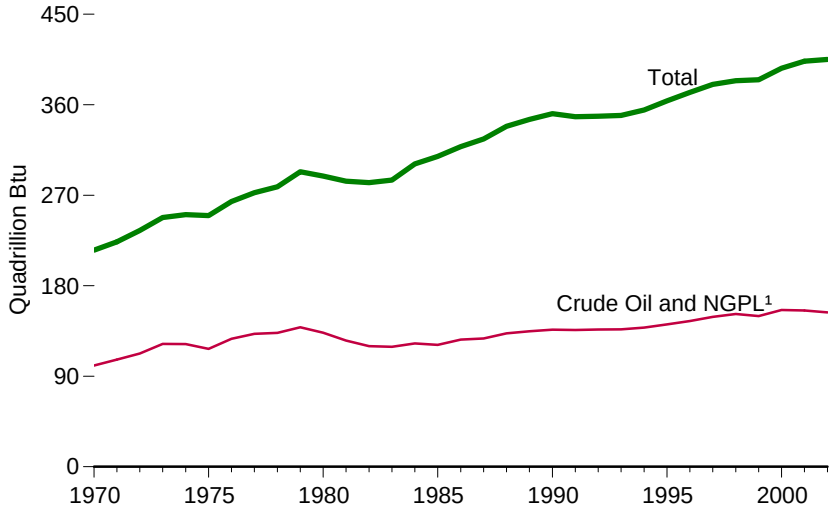
11 International Energy

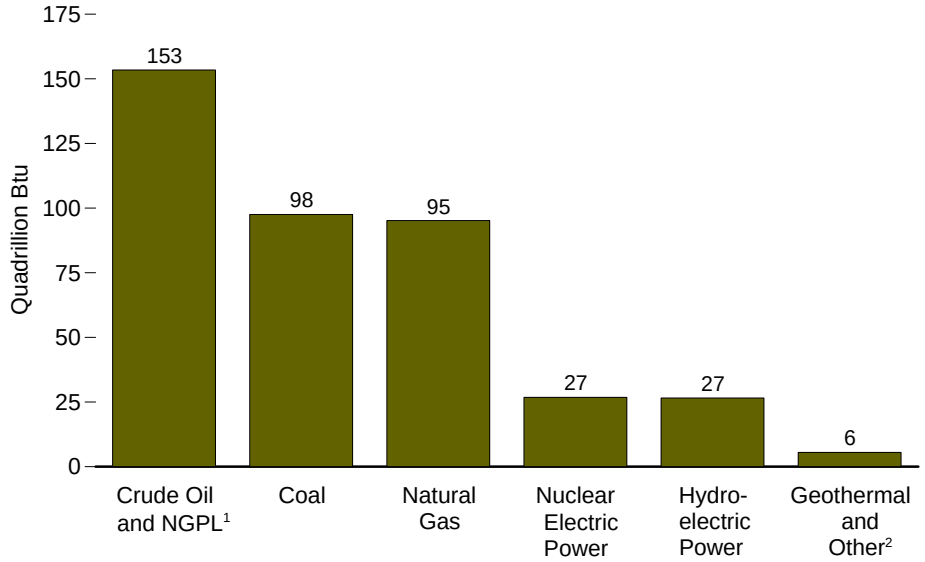
Drilling rig, Gansu Province, People's Republic of China. Source: U.S. Department of Energy.

Figure 11.1 World Primary Energy Production by Source

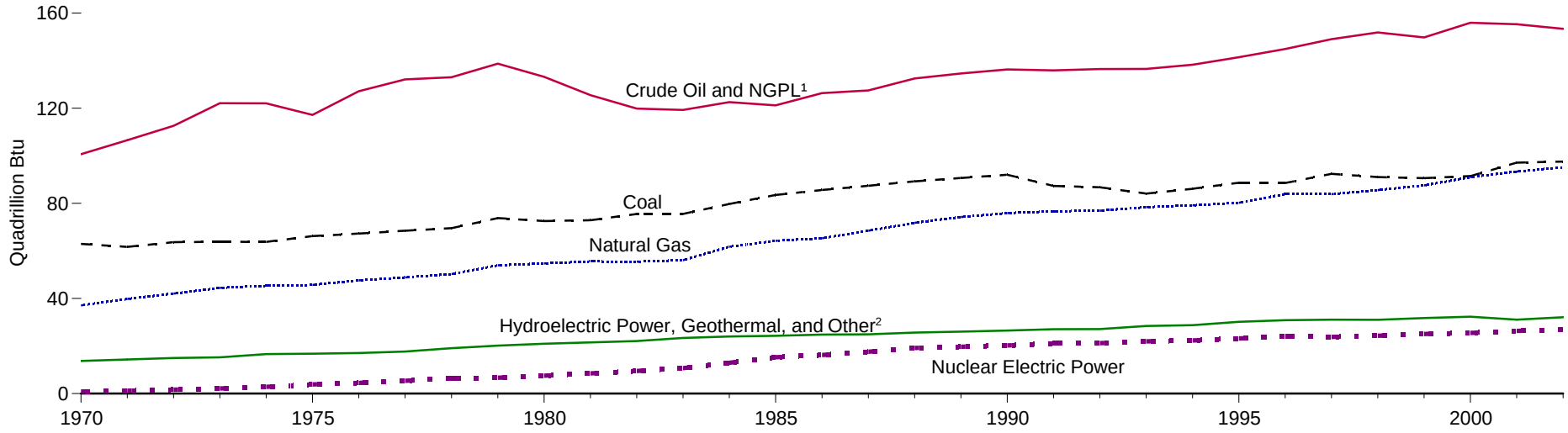
Total and Crude Oil and NGPL[1], 1970-2002



By Source, 2002



By Source, 1970-2002



[1]Natural gas plant liquids.
[2]Net electricity generation from wood, waste, solar, and wind. Data for the United States also include other renewable energy.

Notes: • Crude oil includes lease condensate. • Because vertical scales differ, graphs should not be compared.
Source: Table 11.1.

Table 11.1 World Primary Energy Production by Source, 1970-2002

(Quadrillion Btu)

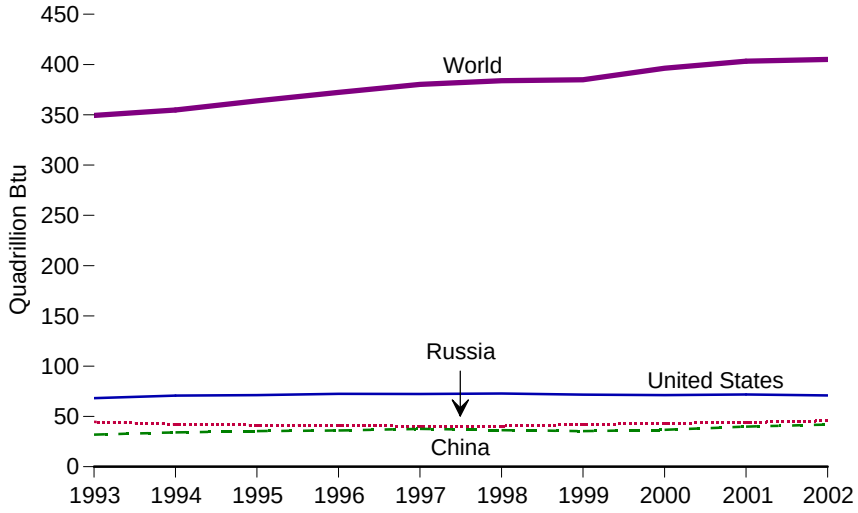
Year	Coal	Natural Gas [1]	Crude Oil [2]	Natural Gas Plant Liquids	Nuclear Electric Power [3]	Hydroelectric Power [3]	Geothermal [3] and Other [4]	Total
1970	62.96	37.09	97.09	3.61	0.90	12.15	1.59	215.39
1971	61.72	39.80	102.70	3.85	1.23	12.74	1.61	223.64
1972	63.65	42.08	108.52	4.09	1.66	13.31	1.68	234.99
1973	63.87	44.44	117.88	4.23	2.15	13.52	1.73	247.83
1974	63.79	45.35	117.82	4.22	2.86	14.84	1.76	250.64
1975	66.20	45.67	113.08	4.12	3.85	15.03	1.74	249.69
1976	67.32	47.62	122.92	4.24	4.52	15.08	1.97	263.67
1977	68.46	48.85	127.75	4.40	5.41	15.56	2.11	272.54
1978	69.56	50.26	128.51	4.55	6.42	16.80	2.32	278.41
1979	73.83	53.93	133.87	4.87	6.69	17.69	2.48	293.36
1980	R72.54	54.73	128.12	5.10	7.58	R18.04	2.95	R289.05
1981	R72.91	55.56	120.16	5.36	8.53	R18.41	R3.10	R284.02
1982	R75.55	55.49	114.51	5.34	9.51	R18.88	3.24	R282.53
1983	R75.58	56.12	113.97	5.34	10.72	R19.88	3.51	R285.13
1984	R79.73	61.78	116.86	5.71	R12.99	R20.38	3.64	R301.10
1985	R83.54	64.22	115.40	5.82	15.30	R20.62	3.67	R308.56
1986	R85.62	65.32	120.24	6.12	16.25	R21.08	R3.74	R318.37
1987	R87.41	68.48	121.16	6.32	17.64	R21.11	3.79	R325.92
1988	R89.25	71.80	125.93	6.63	19.23	R21.72	R3.93	R338.50
1989	R90.67	74.24	127.98	6.67	19.74	R21.77	4.29	R345.37
1990	R92.04	75.87	129.50	6.85	20.31	R22.54	R3.96	R351.08
1991	R87.32	76.69	128.77	7.13	21.13	R23.04	4.04	R348.13
1992	R86.74	76.90	129.13	7.38	21.23	R22.80	R4.32	R348.50
1993	R84.08	78.41	128.86	7.68	21.96	R24.10	R4.35	R349.43
1994	R86.14	79.18	130.46	7.85	22.36	R24.21	R4.55	R354.75
1995	R88.71	80.24	133.32	8.16	23.21	R25.43	R4.76	R363.84
1996	R88.55	83.94	136.64	8.31	24.05	R25.96	R4.88	R372.33
1997	R92.41	83.89	140.52	8.51	23.82	R26.18	R4.92	R380.26
1998	R91.08	85.58	143.15	8.75	24.34	R26.22	R4.83	R383.94
1999	R90.61	R87.53	140.79	R9.01	25.08	R26.68	R5.07	R384.77
2000	R91.44	R91.03	146.50	R9.43	R25.52	R27.12	R5.24	R396.28
2001	R97.13	R93.38	R145.25	R10.07	R26.40	R26.02	R5.09	R403.33
2002P	97.56	95.20	142.86	10.55	26.85	26.59	5.52	405.12

[1] Dry production.
[2] Includes lease condensate.
[3] Net generation, i.e., gross generation less plant use.
[4] Includes net electricity generation from wood, waste, solar, and wind. Data for the United States also include other renewable energy.
R=Revised. P=Preliminary.

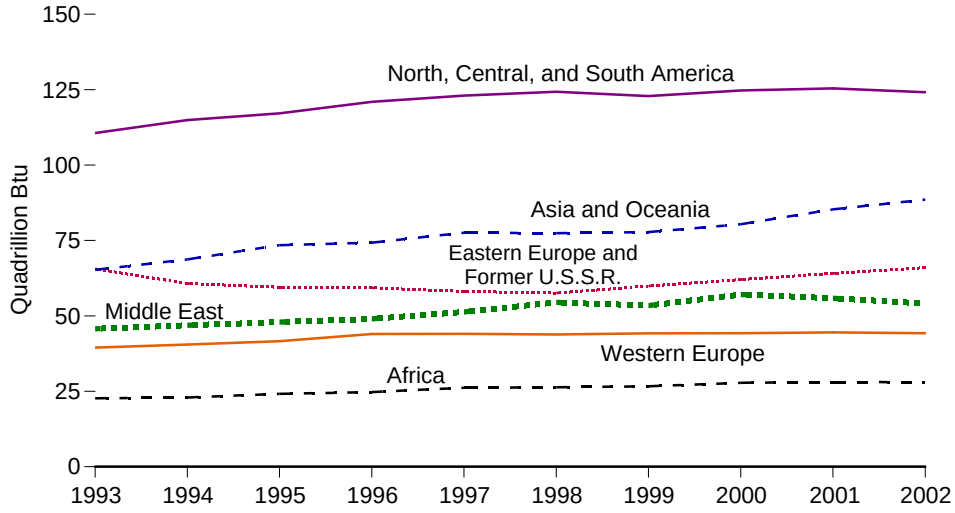
Notes: • See Note 1, "World Primary Energy Production," at end of section. • Totals may not equal sum of components due to independent rounding.
Web Page: For related information, see http://www.eia.doe.gov/international.
Sources: • 1970-1979—Energy Information Administration (EIA), International Energy Database. • 1980 forward—EIA, "International Energy Annual 2002" (May 2004), Tables F1-F8.

Figure 11.2 World Primary Energy Production by Region and Country

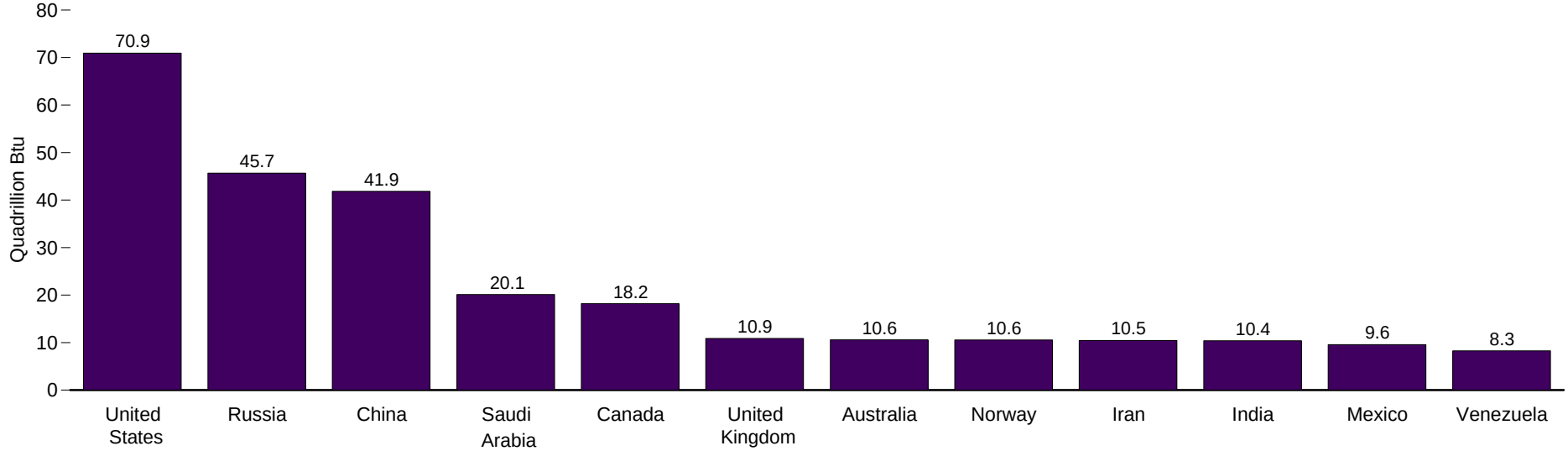
World and Leading Producers, 1993-2002



World Areas, 1993-2002



Top Producing Countries, 2002



Note: Because vertical scales differ, graphs should not be compared.

Source: Table 11.2.

Table 11.2 World Primary Energy Production by Region, 1993-2002

(Quadrillion Btu)

Region and Country	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002[P]
North, Central, and South America	[R]**110.62**	[R]**114.91**	[R]**117.16**	[R]**120.96**	[R]**123.05**	[R]**124.30**	[R]**122.88**	[R]**124.70**	[R]**125.43**	**124.15**
Brazil	[R]4.13	[R]4.29	[R]4.49	[R]4.85	[R]5.08	[R]5.50	[R]5.90	[R]6.39	[R]6.14	6.72
Canada	[R]15.37	[R]16.34	[R]16.82	[R]17.23	[R]17.47	[R]17.43	[R]17.67	[R]18.11	[R]18.17	18.20
Mexico	8.11	8.10	[R]8.03	8.74	9.07	[R]9.30	9.06	9.35	[R]9.58	9.58
United States	68.26	70.68	71.16	72.47	72.39	72.79	71.65	71.22	[R]71.79	70.93
Venezuela	[R]7.26	7.70	8.08	8.62	[R]9.48	[R]9.45	[R]8.54	[R]9.37	[R]9.22	8.27
Other	[R]7.48	[R]7.80	[R]8.58	[R]9.05	[R]9.56	[R]9.83	[R]10.05	[R]10.26	[R]10.54	10.45
Western Europe	[R]**39.47**	[R]**40.48**	[R]**41.63**	[R]**43.99**	[R]**44.04**	[R]**43.84**	[R]**44.19**	[R]**44.25**	[R]**44.55**	**44.28**
France	4.84	[R]4.86	[R]4.96	5.04	[R]4.90	[R]4.79	4.94	[R]5.04	[R]5.13	5.13
Germany	5.84	5.71	5.58	5.49	5.56	[R]5.25	[R]5.30	[R]5.30	[R]5.23	5.27
Netherlands	2.98	2.91	2.91	3.25	2.89	2.78	[R]2.57	2.48	[R]2.63	2.59
Norway	[R]7.27	[R]7.64	[R]8.35	[R]9.28	[R]9.59	[R]9.35	[R]9.53	[R]10.21	10.22	10.57
United Kingdom	9.40	[R]10.18	10.76	11.51	11.28	11.54	[R]11.90	[R]11.10	[R]11.06	10.87
Other	[R]9.15	[R]9.18	[R]9.07	[R]9.42	[R]9.82	[R]10.14	[R]9.95	[R]10.11	[R]10.29	9.85
Eastern Europe and Former U.S.S.R.	[R]**65.58**	[R]**60.75**	[R]**59.51**	[R]**59.34**	[R]**58.08**	[R]**57.55**	[R]**59.89**	[R]**62.05**	[R]**64.09**	**65.99**
Kazakhstan	[R]3.38	2.57	2.28	2.36	2.44	2.38	[R]2.55	[R]3.21	[R]3.52	3.86
Poland	3.70	3.75	3.60	3.25	3.86	3.35	[R]3.48	[R]3.04	[R]3.06	3.04
Russia	[R]44.69	[R]42.31	[R]41.42	[R]41.35	[R]40.04	[R]40.40	[R]42.06	[R]43.02	[R]44.14	45.68
Ukraine	4.00	3.50	[R]3.62	3.45	3.40	3.41	[R]3.45	[R]3.47	[R]3.55	3.56
Other	[R]9.81	[R]8.63	[R]8.59	[R]8.93	[R]8.35	[R]8.01	[R]8.34	[R]9.32	[R]9.82	9.86
Middle East	**45.76**	[R]**46.93**	**47.97**	**49.03**	**51.33**	**54.50**	[R]**53.42**	[R]**57.10**	[R]**55.86**	**54.14**
Iran	8.83	9.16	9.35	9.65	9.84	[R]9.89	10.00	10.40	[R]10.67	10.45
Iraq	1.21	1.33	1.35	1.39	2.60	4.71	[R]5.47	5.62	[R]5.22	4.42
Kuwait	4.28	4.73	4.81	4.94	4.85	5.02	4.60	5.04	[R]4.81	4.59
Saudi Arabia	20.11	20.00	20.25	20.39	20.82	21.00	[R]19.77	[R]21.19	[R]20.55	20.12
United Arab Emirates	5.78	5.84	6.14	6.34	6.50	6.61	6.25	6.77	[R]6.59	6.50
Other	5.54	5.88	6.06	6.32	6.72	7.27	7.33	8.09	[R]8.01	8.06
Africa	**22.70**	[R]**22.94**	[R]**24.14**	[R]**24.72**	**26.16**	[R]**26.36**	[R]**26.63**	[R]**27.83**	[R]**28.06**	**28.03**
Algeria	4.87	4.79	5.13	5.28	5.63	5.75	6.03	6.29	[R]6.26	6.30
Libya	3.17	3.21	3.23	3.28	3.39	3.26	3.07	3.30	3.21	3.11
Nigeria	4.45	4.37	4.53	4.57	4.85	4.90	4.89	5.18	[R]5.46	5.14
South Africa	4.30	4.60	4.84	[R]4.85	5.44	5.52	5.43	5.56	[R]5.60	5.51
Other	5.90	[R]5.98	[R]6.41	[R]6.74	6.86	[R]6.93	[R]7.21	[R]7.50	[R]7.52	7.96
Asia and Oceania	[R]**65.29**	[R]**68.73**	[R]**73.44**	[R]**74.29**	[R]**77.59**	[R]**77.40**	[R]**77.77**	[R]**80.36**	[R]**85.33**	**88.54**
Australia	6.61	6.91	[R]7.42	7.57	[R]8.31	[R]8.66	[R]8.87	9.69	[R]10.25	10.60
China	[R]31.84	[R]34.06	[R]35.46	[R]36.01	[R]37.60	[R]36.33	[R]35.38	[R]36.67	[R]39.91	41.85
India	[R]7.48	[R]8.00	[R]9.48	8.75	[R]9.17	[R]9.37	[R]9.58	[R]9.81	[R]10.21	10.41
Indonesia	[R]6.33	[R]6.66	[R]6.96	[R]7.41	[R]7.41	[R]7.52	[R]7.98	7.80	[R]8.02	8.25
Japan	[R]3.89	[R]3.79	[R]4.18	[R]4.28	[R]4.53	[R]4.58	[R]4.37	[R]4.27	[R]4.33	4.29
Malaysia	[R]2.34	2.41	2.59	2.84	3.01	3.14	3.16	3.20	[R]3.32	3.47
Other	[R]6.80	[R]6.90	[R]7.34	[R]7.43	[R]7.58	[R]7.79	[R]8.42	[R]8.92	[R]9.29	9.68
World	[R]**349.43**	[R]**354.75**	[R]**363.84**	[R]**372.33**	[R]**380.26**	[R]**383.94**	[R]**384.77**	[R]**396.28**	[R]**403.33**	**405.12**

R=Revised. P=Preliminary.

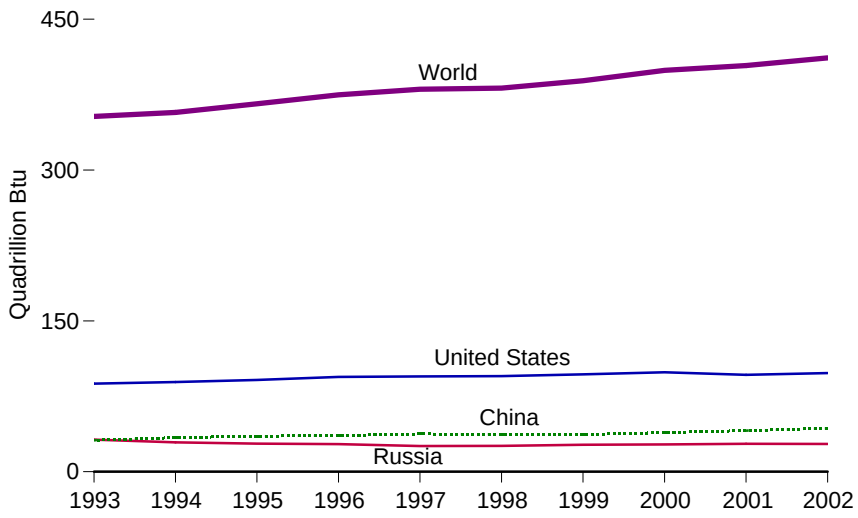
Notes: • See Note 1, "World Primary Energy Production," at end of section. • World primary energy production includes production of crude oil (including lease condensate), natural gas plant liquids, dry natural gas, and coal; and net electricity generation from nuclear electric power, hydroelectric power, wood, waste, geothermal, solar, and wind. Data for the United States also include other renewable energy. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/international.

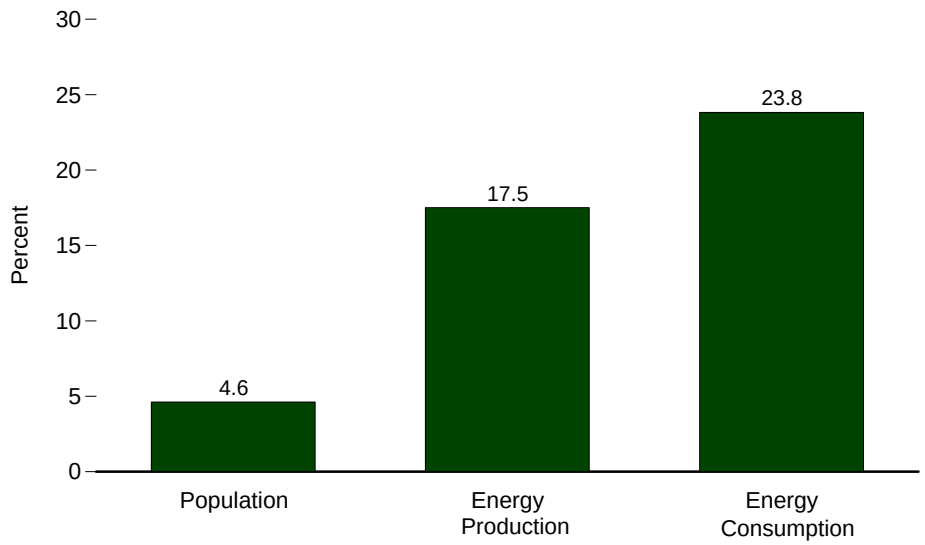
Sources: **United States:** Table 1.2. **All Other Data:** Energy Information Administration, "International Energy Annual 2002" (May 2004), Table F1.

Figure 11.3 World Primary Energy Consumption

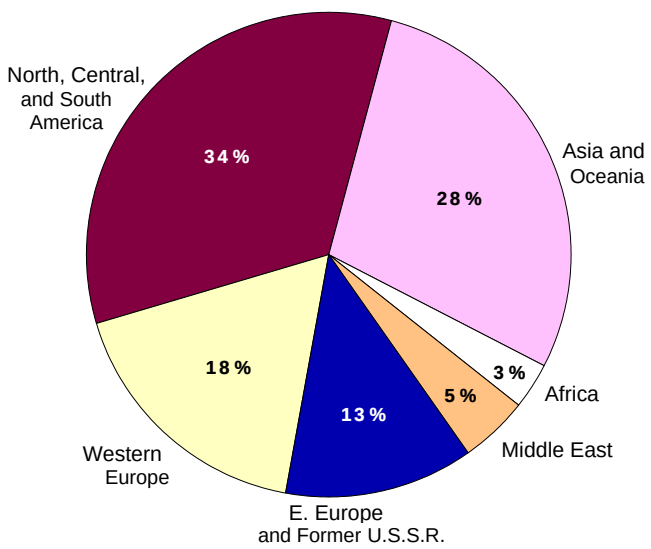
World and Leading Consumers, 1993-2002



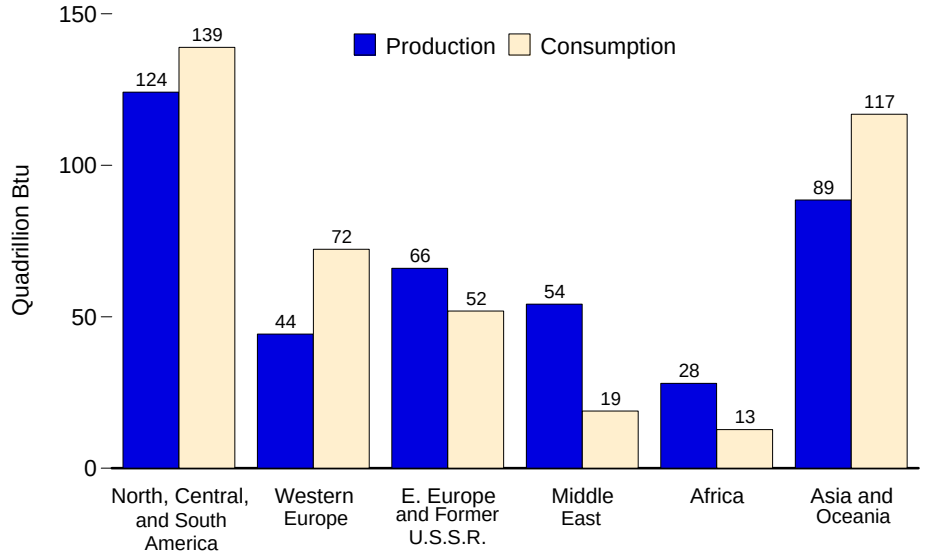
U.S. Share of World, 2002



Regional Consumption Shares, 2002



Production and Consumption by Region, 2002



Note: Because vertical scales differ, graphs should not be compared.

Sources: Tables 11.2, 11.3, and D1.

Table 11.3 World Primary Energy Consumption by Region, 1993-2002

(Quadrillion Btu)

Region and Country	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002[P]
North, Central, and South America	[R]**120.87**	[R]**123.77**	[R]**126.44**	[R]**130.89**	[R]**132.41**	[R]**133.51**	[R]**135.77**	[R]**139.01**	[R]**136.40**	**138.92**
Argentina	[R]2.27	[R]2.24	[R]2.31	[R]2.39	[R]2.46	[R]2.57	[R]2.60	[R]2.65	[R]2.60	2.46
Brazil	[R]6.36	[R]6.64	[R]7.03	[R]7.46	[R]7.86	[R]8.12	[R]8.27	[R]8.55	[R]8.42	8.59
Canada	[R]11.75	[R]12.11	[R]12.11	[R]12.53	[R]12.60	[R]12.29	[R]12.71	[R]12.92	[R]12.77	13.07
Mexico	[R]5.39	[R]5.58	[R]5.50	[R]5.60	[R]5.63	[R]5.92	[R]5.97	[R]6.28	[R]6.09	6.62
United States	87.58	89.25	91.22	94.22	94.73	95.15	96.77	[R]98.90	[R]96.38	98.03
Venezuela	2.29	2.42	2.47	2.58	[R]2.65	[R]2.85	[R]2.73	[R]2.77	[R]3.06	2.90
Other	[R]5.23	[R]5.53	[R]5.80	[R]6.12	[R]6.47	[R]6.62	[R]6.72	[R]6.92	[R]7.09	7.24
Western Europe	**64.65**	[R]**64.69**	[R]**66.20**	[R]**68.20**	[R]**68.81**	[R]**70.18**	[R]**70.32**	[R]**71.52**	[R]**72.57**	**72.27**
Belgium	[R]2.24	[R]2.29	[R]2.33	[R]2.52	[R]2.60	2.66	[R]2.60	[R]2.69	[R]2.67	2.73
France	[R]9.80	[R]9.78	[R]10.07	[R]10.43	[R]10.34	[R]10.59	[R]10.74	[R]10.91	[R]11.08	10.99
Germany	14.06	[R]14.00	[R]14.30	[R]14.35	[R]14.32	14.33	14.12	[R]14.24	[R]14.51	14.27
Italy	[R]6.85	[R]6.76	[R]7.08	[R]7.09	[R]7.22	[R]7.43	[R]7.57	[R]7.62	[R]7.68	7.64
Netherlands	[R]3.54	[R]3.50	[R]3.58	[R]3.73	[R]3.71	[R]3.70	[R]3.69	[R]3.80	[R]3.93	3.92
Spain	[R]4.02	[R]4.19	[R]4.30	[R]4.41	[R]4.70	[R]4.94	[R]5.17	[R]5.51	[R]5.78	5.87
Sweden	[R]2.17	2.19	[R]2.25	[R]2.20	[R]2.25	[R]2.32	[R]2.25	[R]2.22	[R]2.28	2.22
Turkey	2.33	2.23	[R]2.49	2.74	[R]2.93	[R]2.99	[R]2.90	[R]3.16	[R]2.92	3.10
United Kingdom	[R]9.57	[R]9.52	[R]9.43	[R]9.98	[R]9.69	[R]9.75	9.74	[R]9.66	9.81	9.58
Other	[R]10.07	[R]10.24	[R]10.39	[R]10.74	[R]11.06	[R]11.48	[R]11.53	[R]11.71	[R]11.92	11.96
Eastern Europe and Former U.S.S.R.	[R]**60.01**	[R]**54.14**	[R]**52.65**	[R]**51.81**	[R]**49.77**	[R]**48.84**	[R]**50.05**	[R]**50.53**	[R]**51.75**	**51.90**
Poland	[R]3.99	[R]3.85	[R]3.72	[R]3.57	[R]4.11	[R]3.84	[R]3.97	[R]3.61	[R]3.46	3.35
Russia	[R]31.96	[R]29.21	[R]27.93	[R]27.37	[R]25.54	[R]25.72	[R]26.77	[R]27.21	[R]27.72	27.54
Ukraine	[R]8.60	7.31	[R]7.23	[R]6.75	6.44	6.26	[R]6.30	6.14	[R]6.34	6.55
Uzbekistan	[R]2.07	[R]1.75	[R]1.87	[R]1.89	[R]1.88	[R]1.85	1.87	[R]1.95	[R]2.05	2.12
Other	[R]13.38	[R]12.02	[R]11.91	[R]12.23	[R]11.79	[R]11.16	[R]11.14	[R]11.62	[R]12.19	12.35
Middle East	**12.73**	[R]**13.38**	**13.93**	**14.61**	**15.44**	**16.19**	[R]**16.60**	**17.28**	[R]**17.99**	**18.87**
Iran	3.47	[R]3.67	[R]3.82	3.96	4.44	4.64	[R]4.93	[R]5.04	[R]5.47	5.86
Saudi Arabia	3.52	3.64	3.85	4.05	4.08	4.27	4.35	[R]4.70	[R]4.89	5.14
Other	5.74	6.07	6.26	6.60	6.92	7.28	7.32	[R]7.54	[R]7.63	7.86
Africa	[R]**9.95**	[R]**10.41**	[R]**10.62**	[R]**10.92**	**11.40**	[R]**11.31**	[R]**11.60**	[R]**12.03**	[R]**12.46**	**12.75**
Egypt	1.51	1.55	1.58	1.73	1.79	1.85	1.89	[R]2.01	[R]2.25	2.35
South Africa	[R]3.74	[R]4.08	[R]4.11	[R]4.16	[R]4.55	[R]4.34	[R]4.49	[R]4.60	[R]4.53	4.54
Other	[R]4.70	[R]4.78	[R]4.94	[R]5.03	[R]5.06	5.12	[R]5.22	[R]5.42	[R]5.68	5.86
Asia and Oceania	[R]**85.06**	[R]**90.86**	[R]**96.04**	[R]**98.39**	[R]**102.51**	[R]**101.42**	[R]**104.42**	[R]**108.74**	[R]**112.73**	**116.87**
Australia	[R]3.92	[R]3.92	[R]4.05	[R]4.22	[R]4.56	[R]4.59	[R]4.82	[R]4.86	[R]5.24	5.59
China	[R]31.32	34.04	[R]35.23	[R]36.08	[R]37.63	[R]37.08	[R]37.00	[R]38.85	[R]40.89	43.18
India	[R]9.24	[R]9.97	[R]11.49	[R]11.15	[R]11.76	[R]12.17	[R]12.74	[R]13.48	[R]13.84	13.98
Indonesia	[R]2.91	[R]3.11	3.25	3.51	3.64	[R]3.53	[R]3.88	[R]4.04	[R]4.36	4.45
Japan	[R]19.40	[R]20.30	[R]20.89	[R]21.25	[R]21.82	[R]21.34	[R]21.66	[R]21.93	[R]21.94	21.97
Malaysia	1.28	1.43	1.47	1.64	1.67	1.68	1.74	1.87	2.15	2.33
South Korea	[R]5.54	[R]5.98	6.63	[R]6.84	[R]7.39	[R]6.80	[R]7.39	[R]7.85	[R]8.03	8.39
Taiwan	2.43	[R]2.61	[R]2.86	[R]3.06	[R]3.20	[R]3.39	[R]3.54	[R]3.77	[R]3.85	4.10
Thailand	1.68	1.87	[R]2.24	[R]2.44	[R]2.58	[R]2.43	2.64	[R]2.80	2.90	3.08
Other	[R]7.35	[R]7.64	[R]7.93	[R]8.19	[R]8.26	[R]8.43	[R]9.02	[R]9.29	[R]9.54	9.80
World	[R]**353.28**	[R]**357.25**	[R]**365.87**	[R]**374.82**	[R]**380.33**	[R]**381.45**	[R]**388.76**	[R]**399.10**	[R]**403.91**	**411.57**

R=Revised. P=Preliminary.

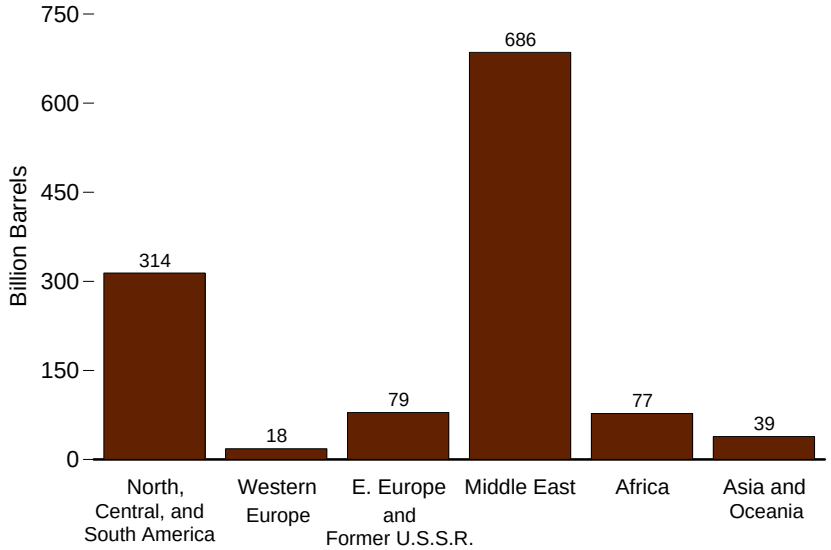
Notes: • World primary energy consumption includes consumption of petroleum products (including natural gas plant liquids, and crude oil burned as fuel), dry natural gas, and coal (including net imports of coal coke); and the consumption of net electricity generated from nuclear electric power, hydroelectric power, wood, waste, geothermal, solar, and wind. It also includes, for the United States, the consumption of renewable energy by the end-use sectors. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/international.

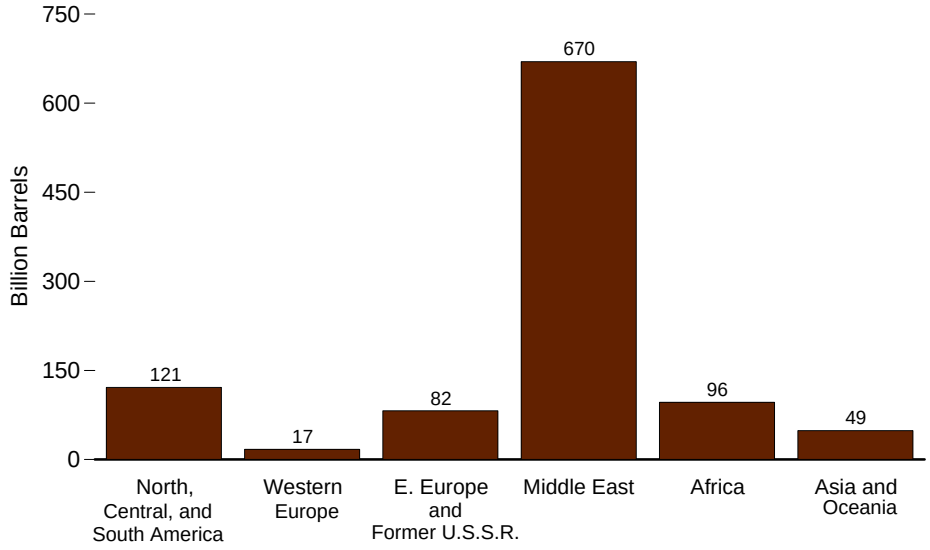
Sources: **United States:** Table 1.3. **All Other Data:** Energy Information Administration, "International Energy Annual 2002" (May 2004), Table 1.8.

Figure 11.4 World Crude Oil and Natural Gas Reserves, January 1, 2003

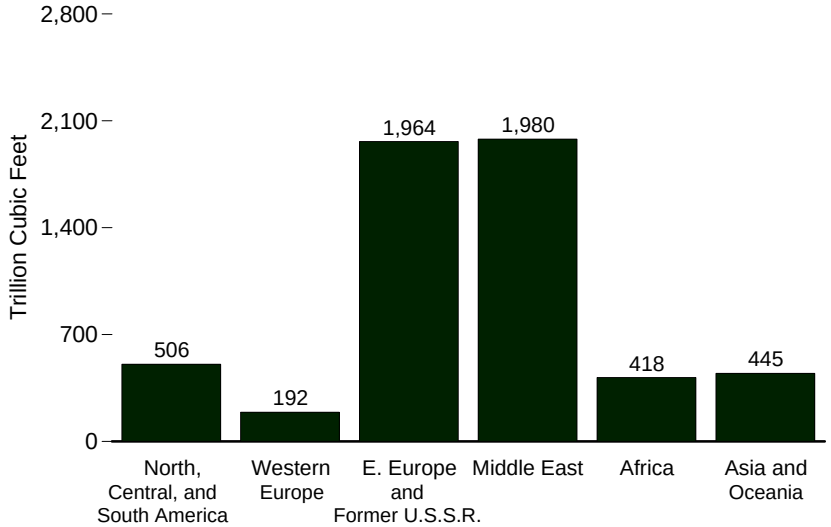
Crude Oil Reserves: *Oil and Gas Journal*



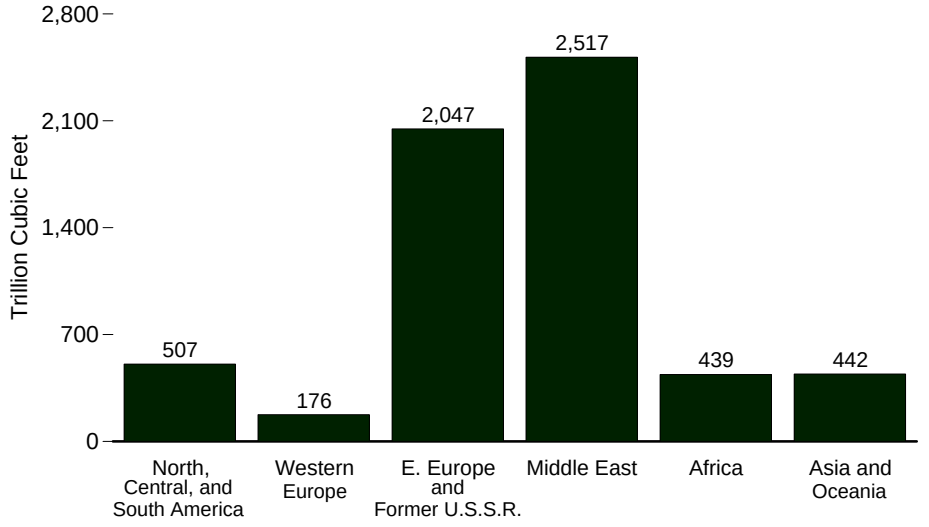
Crude Oil Reserves: *World Oil*



Natural Gas Reserves: *Oil and Gas Journal*



Natural Gas Reserves: *World Oil*



Source: Table 11.4.

Table 11.4 World Crude Oil and Natural Gas Reserves, January 1, 2003

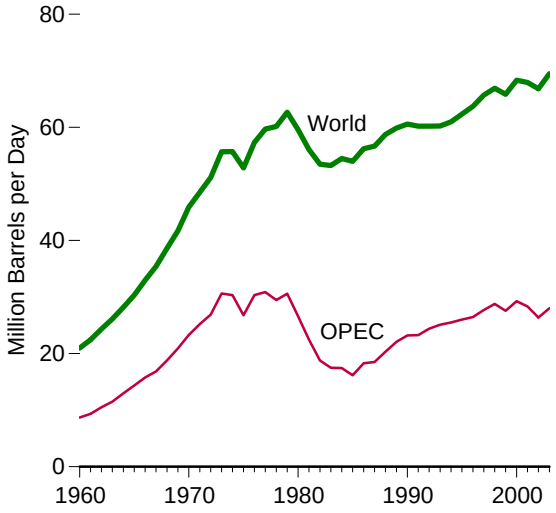
Region and Country	Crude Oil (billion barrels)		Natural Gas (trillion cubic feet)	
	Oil & Gas Journal	*World Oil*	*Oil & Gas Journal*	*World Oil*
North America	**215.3**	**45.4**	**255.8**	**262.1**
Canada	[1] 180.0	5.5	60.1	60.1
Mexico	12.6	17.2	8.8	15.0
United States	22.7	22.7	186.9	186.9
Central and South America	**98.6**	**75.9**	**250.1**	**244.4**
Argentina	2.9	2.8	27.0	23.4
Bolivia	0.4	0.9	24.0	28.1
Brazil	8.3	9.8	8.1	8.4
Colombia	1.8	1.6	4.5	4.2
Ecuador	4.6	4.6	0.3	0.3
Peru	0.3	1.0	8.7	8.6
Trinidad and Tobago	0.7	1.0	23.5	20.3
Venezuela	77.8	53.1	148.0	149.2
Other	1.6	1.0	6.1	1.8
Western Europe	**18.3**	**17.0**	**191.6**	**175.7**
Denmark	1.3	1.8	3.0	4.2
Germany	0.3	0.3	11.3	8.5
Italy	0.6	0.7	8.0	7.9
Netherlands	0.1	0.1	62.0	55.3
Norway	10.3	9.0	77.3	74.7
United Kingdom	4.7	4.5	24.6	22.2
Other	0.9	0.6	5.4	2.9
Eastern Europe and Former U.S.S.R.	**79.2**	**81.9**	**1,964.2**	**2,047.0**
Hungary	0.1	0.1	1.2	2.2
Kazakhstan	9.0	NA	65.0	NA
Romania	1.0	1.1	3.6	4.2
Russia	60.0	58.8	1,680.0	1,700.0
Other [3]	9.1	21.9	214.4	340.6
Middle East	**685.6**	**669.8**	**1,979.7**	**2.517.0**
Bahrain	0.1	NA	3.3	NA
Iran	89.7	100.1	812.3	913.6
Iraq	112.5	115.0	109.8	112.6
Kuwait [2]	96.5	98.9	52.7	56.6
Oman	5.5	5.7	29.3	31.0
Qatar	15.2	19.6	508.5	916.0
Saudi Arabia [2]	261.8	261.8	224.7	234.6
Syria	2.5	2.3	8.5	18.0
United Arab Emirates	97.8	63.0	212.1	204.1
Yemen	4.0	2.9	16.9	17.0
Other	(s)	0.7	1.6	13.5
Africa	**77.4**	**96.3**	**418.2**	**438.9**
Algeria	9.2	13.0	159.7	170.0
Angola	5.4	8.9	1.6	4.0
Cameroon	0.4	NA	3.9	NA
Congo	1.5	1.5	3.2	4.2
Egypt	3.7	3.5	58.5	5.9
Libya	29.5	30.0	46.4	46.0
Nigeria	24.0	32.0	124.0	178.5
Tunisia	0.3	0.5	2.8	2.7
Other	3.4	6.8	18.1	27.7
Asia and Oceania	**38.7**	**48.5**	**445.4**	**441.7**
Australia	3.5	3.7	90.0	85.0
Brunei	1.4	1.1	13.8	8.3
China	18.3	23.7	53.3	46.7
India	5.4	4.6	26.9	23.6
Indonesia	5.0	5.9	92.5	73.5
Japan	0.1	NA	1.4	NA
Malaysia	3.0	4.3	75.0	88.0
New Zealand	0.2	0.1	3.1	2.6
Pakistan	0.3	0.3	26.4	26.4
Papua New Guinea	0.2	0.4	12.2	13.5
Thailand	0.6	0.5	13.3	12.9
Other	0.9	3.8	37.4	61.4
World	**1,213.1**	**1,034.7**	**5,504.9**	**6,126.6**

[1] Includes 5.2 billion barrels of conventional crude oil and condensate reserves and 174.8 billion barrels of bitumen that is contained in Alberta's oil sands.
[2] Data for Kuwait and Saudi Arabia include one-half of the reserves in the Neutral Zone between Kuwait and Saudi Arabia.
[3] Albania, Azerbaijan, Belarus, Bulgaria, Czech Republic, Georgia, Kyrgyzstan, Lithuania, Poland, Slovakia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.
NA=Not available. (s)=Less than 0.05 billion barrels.

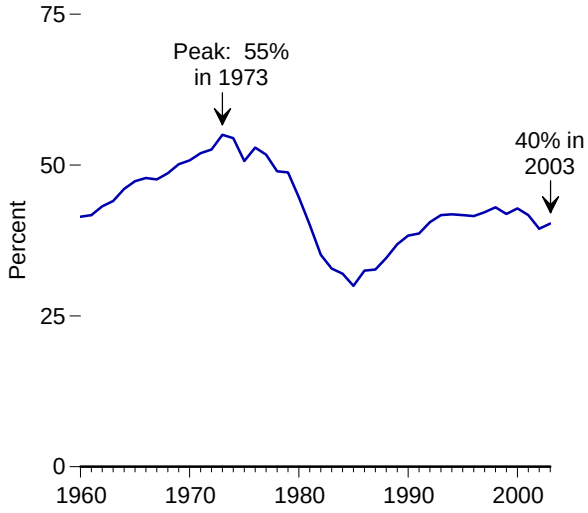
Notes: • All reserve figures except those for the former U.S.S.R. and natural gas reserves in Canada are proved reserves recoverable with present technology and prices at the time of estimation. Former U.S.S.R. and Canadian natural gas figures include proved, and some probable reserves. • Totals may not equal sum of components due to independent rounding.
Web Page: For related information, see http://www.eia.doe.gov/international.
Source: Energy Information Administration, "International Energy Annual 2002" (May 2004), Table 8.1.

Figure 11.5 World Crude Oil Production

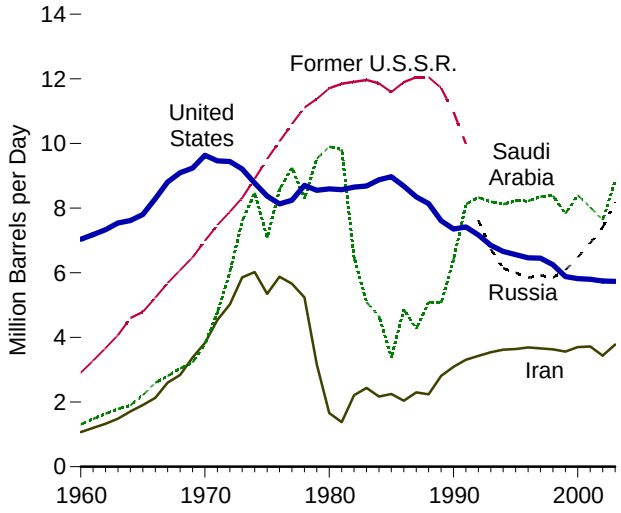
World and OPEC, 1960-2003



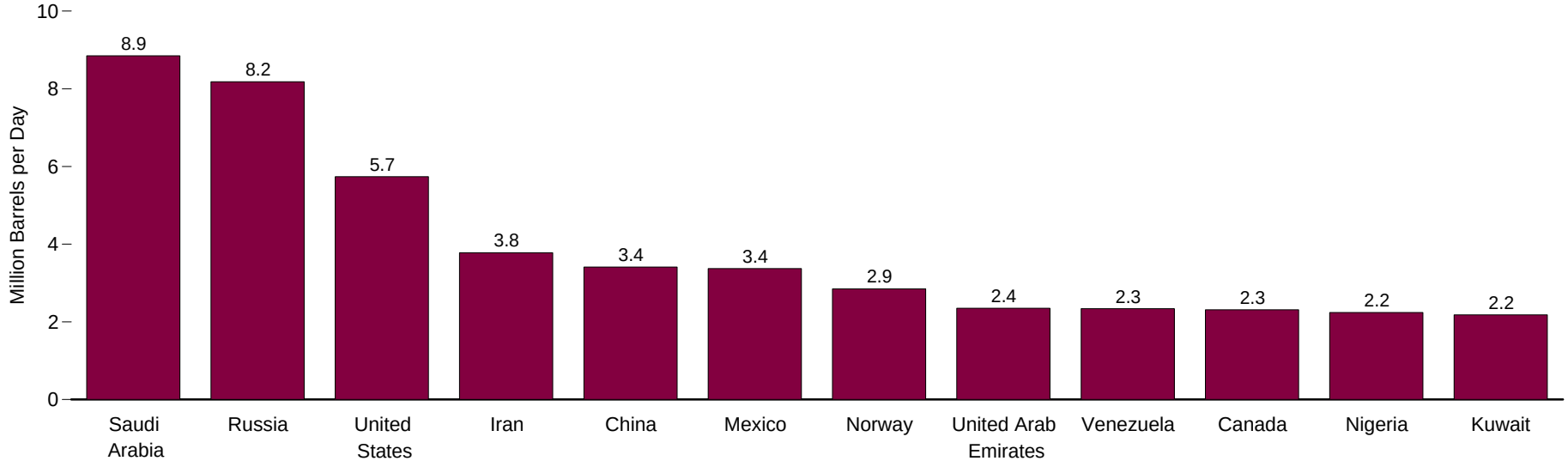
OPEC's Share of World, 1960-2003



Leading Producers, 1960-2003



Selected Producing Countries, 2003



Note: Because vertical scales differ, graphs should not be compared.

Source: Table 11.5.

Table 11.5 World Crude Oil Production, 1960-2003

(Million Barrels per Day)

Year	Persian Gulf Nations [2]	Selected OPEC [1] Producers								Selected Non-OPEC Producers									World
		Iran	Iraq	Kuwait [3]	Nigeria	Saudi Arabia [3]	United Arab Emirates	Venezuela	Total OPEC	Canada	China	Mexico	Norway	Former U.S.S.R.	Russia	United Kingdom	United States	Total Non-OPEC [4]	
1960	5.27	1.07	0.97	1.69	0.02	1.31	0.00	2.85	8.70	0.52	0.10	0.27	0.00	2.91	—	(s)	7.04	12.29	20.99
1961	5.65	1.20	1.01	1.74	0.05	1.48	0.00	2.92	9.36	0.61	0.11	0.29	0.00	3.28	—	(s)	7.18	13.09	22.45
1962	6.19	1.33	1.01	1.96	0.07	1.64	0.01	3.20	10.51	0.67	0.12	0.31	0.00	3.67	—	(s)	7.33	13.84	24.35
1963	6.82	1.49	1.16	2.10	0.08	1.79	0.05	3.25	11.51	0.71	0.13	0.31	0.00	4.07	—	(s)	7.54	14.62	26.13
1964	7.61	1.71	1.26	2.30	0.12	1.90	0.19	3.39	12.98	0.75	0.18	0.32	0.00	4.60	—	(s)	7.61	15.20	28.18
1965	8.37	1.91	1.32	2.36	0.27	2.21	0.28	3.47	14.35	0.81	0.23	0.32	0.00	4.79	—	(s)	7.80	15.98	30.33
1966	9.32	2.13	1.39	2.48	0.42	2.60	0.36	3.37	15.77	0.88	0.29	0.33	0.00	5.23	—	(s)	8.30	17.19	32.96
1967	9.91	2.60	1.23	2.50	0.32	2.81	0.38	3.54	16.85	0.96	0.28	0.36	0.00	5.68	—	(s)	8.81	18.54	35.39
1968	10.91	2.84	1.50	2.61	0.14	3.04	0.50	3.60	18.79	1.19	0.30	0.39	0.00	6.08	—	(s)	9.10	19.84	38.63
1969	11.95	3.38	1.52	2.77	0.54	3.22	0.63	3.59	20.91	1.13	0.48	0.46	0.00	6.48	—	(s)	9.24	20.79	41.70
1970	13.39	3.83	1.55	2.99	1.08	3.80	0.78	3.71	23.30	1.26	0.60	0.49	0.00	6.99	—	(s)	9.64	22.59	45.89
1971	15.77	4.54	1.69	3.20	1.53	4.77	1.06	3.55	25.21	1.35	0.78	0.49	0.01	7.48	—	(s)	9.46	23.31	48.52
1972	17.54	5.02	1.47	3.28	1.82	6.02	1.20	3.22	26.89	1.53	0.90	0.51	0.03	7.89	—	(s)	9.44	24.25	51.14
1973	20.67	5.86	2.02	3.02	2.05	7.60	1.53	3.37	30.63	1.80	1.09	0.47	0.03	8.32	—	(s)	9.21	25.05	55.68
1974	21.28	6.02	1.97	2.55	2.26	8.48	1.68	2.98	30.35	1.55	1.32	0.57	0.04	8.91	—	(s)	8.77	25.37	55.72
1975	18.93	5.35	2.26	2.08	1.78	7.08	1.66	2.35	26.77	1.43	1.49	0.71	0.19	9.52	—	0.01	8.37	26.06	52.83
1976	21.51	5.88	2.42	2.15	2.07	8.58	1.94	2.29	30.33	1.31	1.67	0.83	0.28	10.06	—	0.25	8.13	27.01	57.34
1977	21.73	5.66	2.35	1.97	2.09	9.25	2.00	2.24	30.89	1.32	1.87	0.98	0.28	10.60	—	0.77	8.24	28.82	59.71
1978	20.61	5.24	2.56	2.13	1.90	8.30	1.83	2.17	29.46	1.32	2.08	1.21	0.36	11.11	—	1.08	8.71	30.70	60.16
1979	21.07	3.17	3.48	2.50	2.30	9.53	1.83	2.36	30.58	1.50	2.12	1.46	0.40	11.38	—	1.57	8.55	32.09	62.67
1980	17.96	1.66	2.51	1.66	2.06	9.90	1.71	2.17	26.61	1.44	2.11	1.94	0.53	11.71	—	1.62	8.60	32.99	59.60
1981	15.25	1.38	1.00	1.13	1.43	9.82	1.47	2.10	22.48	1.29	2.01	2.31	0.50	11.85	—	1.81	8.57	33.60	56.08
1982	12.16	2.21	1.01	0.82	1.30	6.48	1.25	1.90	18.78	1.27	2.05	2.75	0.52	11.91	—	2.07	8.65	34.70	53.48
1983	11.08	2.44	1.01	1.06	1.24	5.09	1.15	1.80	17.50	1.36	2.12	2.69	0.61	11.97	—	2.29	8.69	35.76	53.26
1984	10.78	2.17	1.21	1.16	1.39	4.66	1.15	1.80	17.44	1.44	2.30	2.78	0.70	11.86	—	2.48	8.88	37.05	54.49
1985	9.63	2.25	1.43	1.02	1.50	3.39	1.19	1.68	16.18	1.47	2.51	2.75	0.79	11.59	—	2.53	8.97	37.80	53.98
1986	11.70	2.04	1.69	1.42	1.47	4.87	1.33	1.79	18.28	1.47	2.62	2.44	0.87	11.90	—	2.54	8.68	37.95	56.23
1987	12.10	2.30	2.08	1.59	1.34	4.27	1.54	1.75	18.52	1.54	2.69	2.55	1.02	12.05	—	2.41	8.35	38.15	56.67
1988	13.46	2.24	2.69	1.49	1.45	5.09	1.57	1.90	20.32	1.62	2.73	2.51	1.16	12.05	—	2.23	8.14	38.42	58.74
1989	14.84	2.81	2.90	1.78	1.72	5.06	1.86	1.91	22.07	1.56	2.76	2.52	1.55	11.72	—	1.80	7.61	37.79	59.86
1990	15.28	3.09	2.04	1.18	1.81	6.41	2.12	2.14	23.20	1.55	2.77	2.55	1.70	10.98	—	1.82	7.36	37.37	60.57
1991	14.74	3.31	0.31	0.19	1.89	8.12	2.39	2.38	23.27	1.55	2.84	2.68	1.89	9.99	—	1.80	7.42	36.94	60.21
1992	15.97	3.43	0.43	1.06	1.94	8.33	2.27	2.37	24.40	1.61	2.85	2.67	2.23	—	7.63	1.83	7.17	35.81	60.21
1993	16.71	3.54	0.51	1.85	1.96	8.20	2.16	2.45	25.12	1.68	2.89	2.67	2.35	—	6.73	1.92	6.85	35.12	60.24
1994	16.96	3.62	0.55	2.03	1.93	8.12	2.19	2.59	25.51	1.75	2.94	2.69	2.52	—	6.14	2.37	6.66	35.48	60.99
1995	17.21	3.64	0.56	2.06	1.99	8.23	2.23	2.75	26.00	1.81	2.99	2.62	2.77	—	6.00	2.49	6.56	36.33	62.33
1996	17.37	3.69	0.58	2.06	2.00	8.22	2.28	2.94	26.46	1.84	3.13	2.86	3.10	—	5.85	2.57	6.46	37.25	63.71
1997	18.10	3.66	1.16	2.01	2.13	8.36	2.32	3.28	27.71	1.92	3.20	3.02	3.14	—	5.92	2.52	6.45	37.98	65.69
1998	19.34	3.63	2.15	2.09	2.15	8.39	2.35	3.17	28.77	1.98	3.20	3.07	3.02	—	5.85	2.62	6.25	38.15	66.92
1999	18.67	3.56	2.51	1.90	2.13	7.83	2.17	2.83	27.58	1.91	3.20	2.91	3.02	—	6.08	2.68	5.88	38.27	65.85
2000	19.89	3.70	2.57	2.08	2.17	8.40	2.37	3.16	29.26	1.98	3.25	3.01	3.20	—	6.48	2.28	5.82	39.08	68.34
2001	R19.10	3.72	R2.39	2.00	2.26	8.03	R2.21	R3.01	R28.34	2.03	3.30	3.16	3.12	—	R6.92	2.28	5.80	R39.60	R67.94
2002	17.79	3.44	2.02	1.89	2.12	7.63	2.08	R2.60	26.37	2.17	3.39	3.18	2.99	—	7.41	2.29	R5.75	R40.47	R66.84
2003P	19.26	3.78	1.31	2.18	2.24	8.85	2.35	2.34	28.01	2.31	3.41	3.37	2.85	—	8.18	2.09	5.74	41.49	69.50

[1] Organization of Petroleum Exporting Countries. See Glossary for membership.
[2] Persian Gulf Nations are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and United Arab Emirates.
[3] Includes about one-half of the production in the Neutral Zone between Kuwait and Saudi Arabia.
[4] Ecuador, which withdrew from OPEC on December 31, 1992, and Gabon, which withdrew on December 31,1994, are included in "Non-OPEC" for all years.

R=Revised. P=Preliminary. — = Not applicable. (s)=Less than 0.005 million barrels per day.

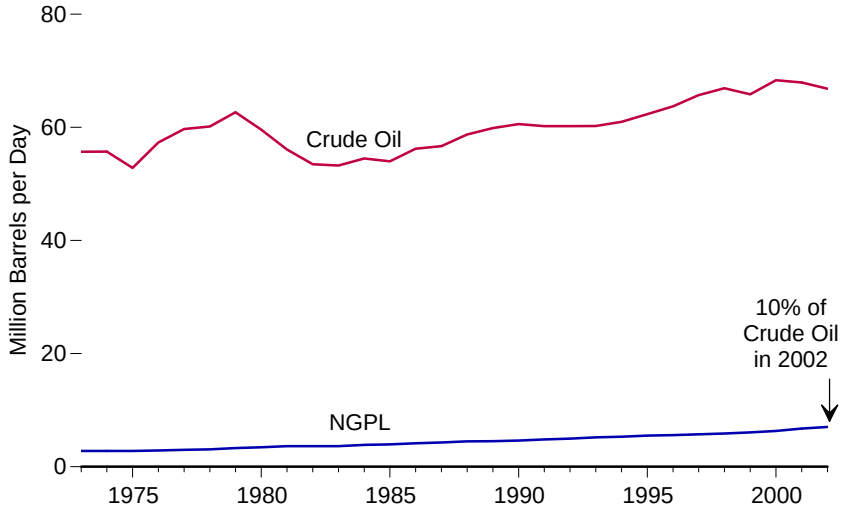
Notes: • Includes lease condensate, excludes natural gas plant liquids. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/international.

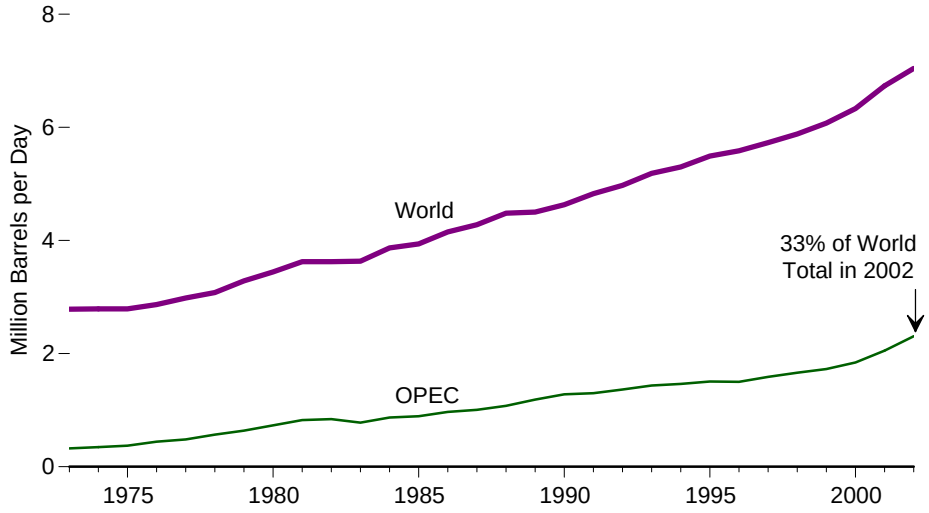
Sources: **China:** • 1960-1972—Central Intelligence Agency, unpublished data. • 1973-1979—Energy Information Administration (EIA), *International Energy Annual,* annual reports, and the International Energy Database. • 1980-2002—EIA, "International Energy Annual 2002" (May 2004), Table 2.2. • 2003—EIA, *Monthly Energy Review* (March 2004), Table 11.1b. **United States:** • 1960-1975—Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual.* • 1976-1979—EIA, Energy Data Reports, *Petroleum Statement, Annual.* • 1980-2002—EIA, "International Energy Annual 2002" (May 2004), Table 2.2. • 2003—EIA, *Petroleum Supply Monthly* (February 2004). **Former U.S.S.R.:** • 1960-1969—U.S.S.R. Central Statistical Office, *Narodnoye Khozyaystvo SSSR* (National Economy USSR). • 1970-1979—EIA, *International Petroleum Monthly,* February 2001, Table 4.1c. • 1980-1991—EIA, "International Energy Annual 2002" (May 2004), Table 2.2. **Russia:** • 1992-2002—EIA, "International Energy Annual 2002" (May 2004), Table 2.2. • 2003—EIA, *Monthly Energy Review* (March 2004), Table 11.1b. **OPEC Nations:** • 1960-1972—Organization of Petroleum Exporting Countries, *Annual Statistical Bulletin 1979.* • 1973-1979—EIA, *International Energy Annual,* annual reports, and the International Energy Database. • 1980-2002—EIA, "International Energy Annual 2002" (May 2004), Table 2.2. • 2003—EIA, *Monthly Energy Review* (March 2004), Table 11.1a. **All Other Countries:** • 1960-1969—Bureau of Mines, *International Petroleum Annual, 1969.* • 1970-1972—EIA, *International Petroleum Annual, 1978.* • 1973-1979—EIA, *International Energy Annual,* annual reports, and the International Energy Database. • 1980-2002—EIA, "International Energy Annual 2002" (May 2004), Table 2.2. • 2003—EIA, *Monthly Energy Review* (March 2004), Tables 11.1a and 11.1b.

Figure 11.6 World Natural Gas Plant Liquids Production

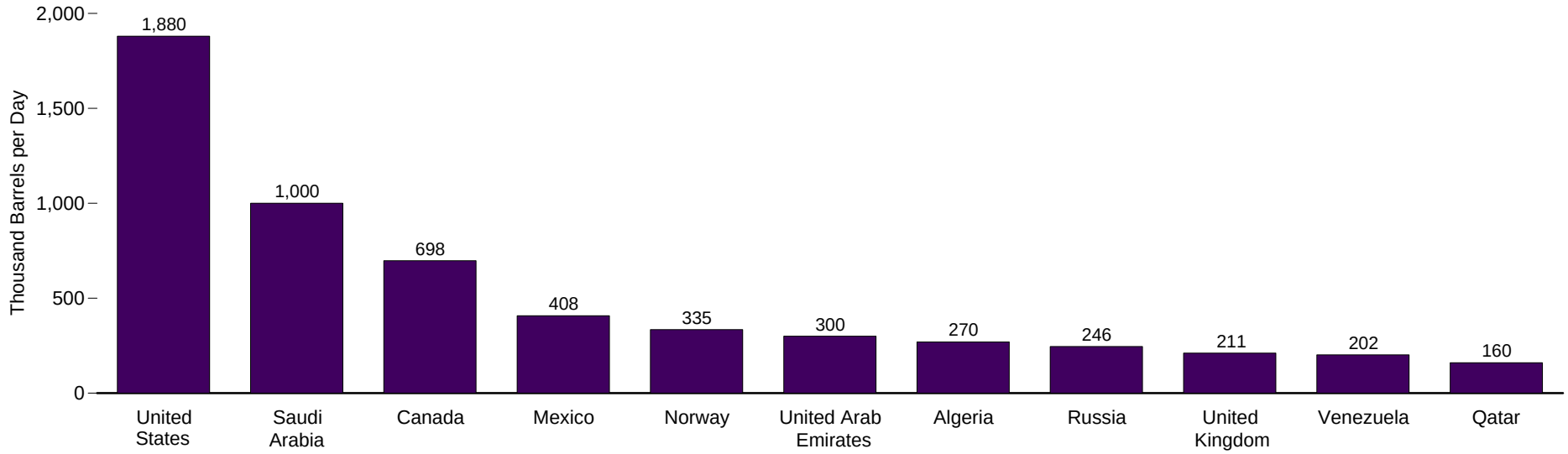
Crude Oil and NGPL Production, 1973-2002



World and OPEC NGPL Production, 1973-2002



Top NGPL Producing Countries, 2002



Notes: • Crude oil includes lease condensate. • NGPL is natural gas plant liquids.
• Because vertical scales differ, graphs should not be compared.

Sources: Tables 11.5 and 11.6.

Table 11.6 World Natural Gas Plant Liquids Production, 1973-2002

(Thousand Barrels per Day)

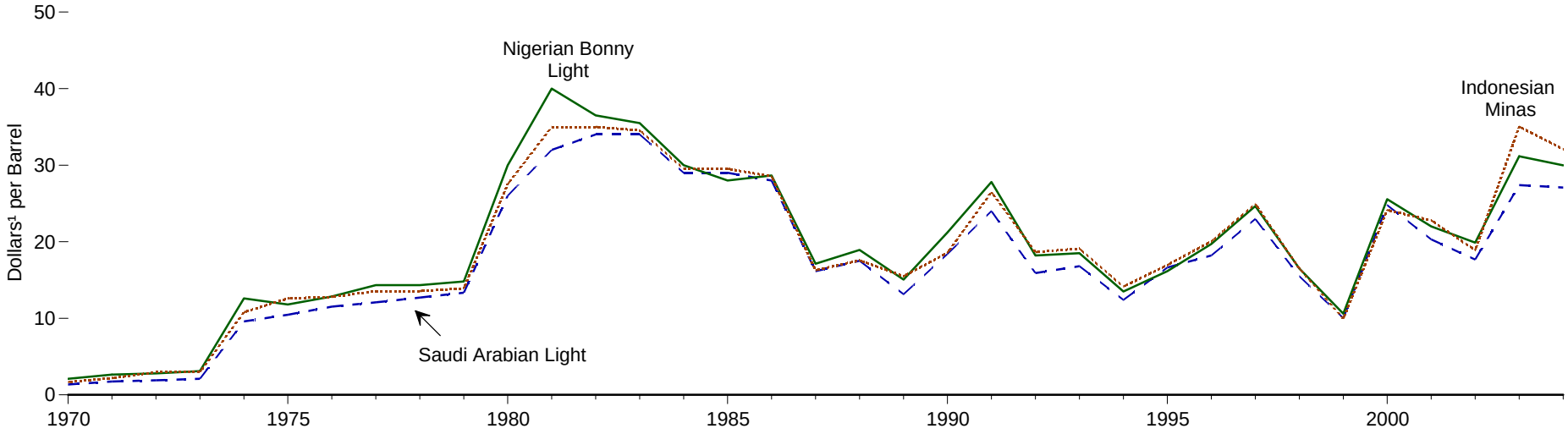
	Selected OPEC [1] Producers								Selected Non-OPEC Producers										
Year	Algeria	Indonesia	Kuwait [2]	Qatar	Saudi Arabia [2]	United Arab Emirates	Venezuela	Total OPEC	Australia	Canada	Malaysia	Mexico	Norway	Former U.S.S.R.	Russia	United Kingdom	United States	Total Non-OPEC [3]	World
1973	9	(s)	60	(s)	90	(s)	89	324	50	314	0	75	(s)	170	—	5	1,738	2,462	2,786
1974	12	(s)	50	5	130	(s)	84	347	50	314	0	80	(s)	190	—	5	1,688	2,443	2,790
1975	20	(s)	50	10	140	(s)	76	372	50	309	0	80	5	205	—	15	1,633	2,419	2,791
1976	24	10	50	10	185	(s)	77	442	50	289	0	95	20	220	—	15	1,604	2,425	2,867
1977	19	10	55	5	215	15	78	482	55	290	0	105	20	235	—	30	1,618	2,502	2,984
1978	25	30	75	5	250	30	61	566	60	281	0	115	35	255	—	40	1,567	2,514	3,080
1979	30	40	95	10	303	30	69	637	60	331	0	150	40	270	—	45	1,584	2,650	3,287
1980	36	70	95	10	369	35	60	732	60	331	0	193	40	285	—	45	1,573	2,712	3,444
1981	49	95	60	24	433	60	55	825	60	330	0	241	31	300	—	50	1,609	2,800	3,625
1982	58	80	40	30	430	90	60	842	52	318	0	255	33	315	—	78	1,550	2,784	3,626
1983	56	94	55	25	330	120	57	780	52	309	0	265	38	330	—	111	1,559	2,855	3,635
1984	105	75	67	28	355	130	57	869	54	336	10	257	36	340	—	136	1,630	3,000	3,869
1985	120	44	54	30	375	160	63	892	65	337	10	271	41	350	—	145	1,609	3,046	3,938
1986	120	30	75	22	385	185	97	969	60	328	9	352	53	440	—	152	1,551	3,181	4,150
1987	140	30	95	24	418	145	94	1,006	65	367	11	338	55	430	—	162	1,595	3,273	4,279
1988	120	30	100	30	499	130	98	1,077	67	381	11	370	75	450	—	159	1,625	3,404	4,481
1989	130	72	105	24	503	130	108	1,188	65	410	11	384	74	425	—	140	1,546	3,314	4,502
1990	130	77	65	40	620	135	114	1,281	63	426	12	428	78	425	—	108	1,559	3,351	4,632
1991	140	76	0	50	680	146	117	1,299	61	431	12	457	94	420	—	141	1,659	3,528	4,827
1992	140	75	34	55	713	144	113	1,364	56	460	13	454	95	—	230	160	1,697	3,610	4,974
1993	145	78	53	55	704	146	143	1,435	55	506	17	459	100	—	220	169	1,736	3,751	5,186
1994	140	80	85	50	698	150	146	1,465	56	529	17	461	103	—	200	218	1,727	R3,834	R5,299
1995	145	76	95	55	701	160	149	1,506	52	581	20	447	137	—	180	267	1,762	3,986	5,492
1996	150	80	85	50	697	160	150	1,501	62	596	20	423	138	—	185	259	1,830	4,084	5,585
1997	160	85	109	70	712	160	143	1,589	71	636	50	388	139	—	195	233	1,817	4,140	5,729
1998	155	87	115	85	755	170	145	1,662	70	651	90	424	131	—	220	241	1,759	4,221	5,883
1999	190	87	115	111	R745	160	170	R1,728	72	653	85	439	121	—	231	238	1,850	4,347	R6,075
2000	230	90	115	133	R750	200	175	R1,843	70	699	65	438	120	—	232	233	1,911	R4,490	R6,333
2001	250	82	120	150	R800	290	200	R2,053	74	709	70	433	291	—	237	258	1,868	R4,681	R6,734
2002P	270	80	125	160	1,000	300	202	2,308	80	698	75	408	335	—	246	211	1,880	4,734	7,042

[1] Organization of Petroleum Exporting Countries. See Glossary for membership.
[2] Includes about one-half of the production in the Neutral Zone between Kuwait and Saudi Arabia.
[3] Ecuador, which withdrew from OPEC on December 31, 1992, and Gabon, which withdrew on December 31, 1994, are included in "Non-OPEC" for all years.
R=Revised. P=Preliminary. — = Not applicable. (s)=Less than 500 barrels per day.

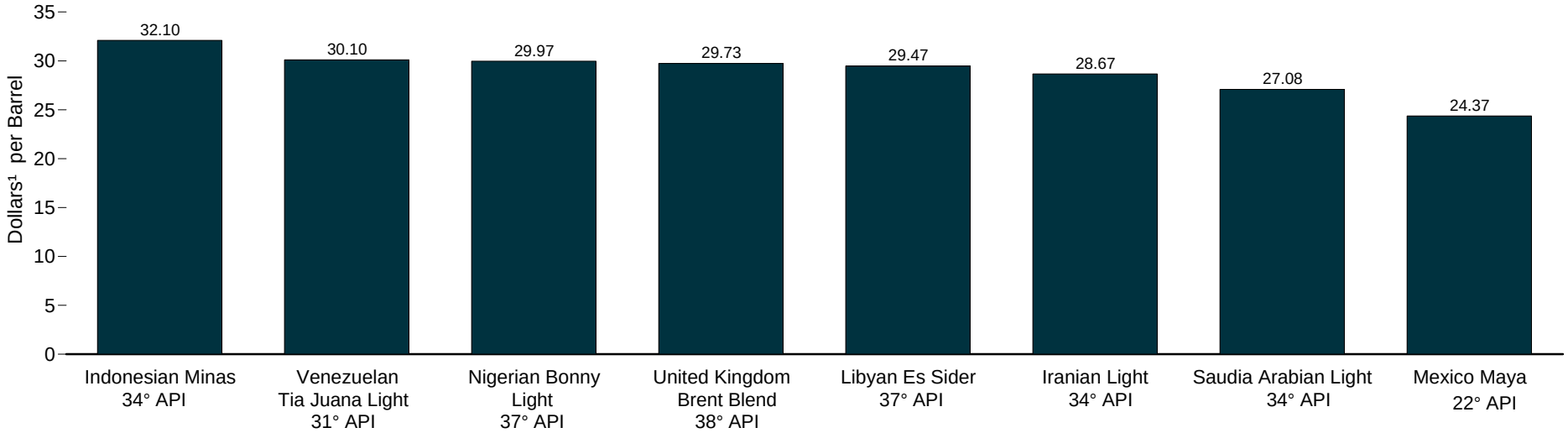
Note: Totals may not equal sum of components due to independent rounding.
Web Page: For related information, see http://www.eia.doe.gov/international.
Sources: • 1973-1979—Energy Information Administration (EIA), *International Energy Annual,* annual reports, and the International Energy Database. • 1980 forward—EIA, "International Energy Annual 2002" (May 2004), Table 2.3.

Figure 11.7 Crude Oil Prices by Selected Type

Selected Types, 1970-2004



Selected Types, 2004



[1]Nominal dollars.
API=API gravity.

Notes: • Prices are as of the Friday that is closest to January 1, except in 1987, when prices are as of the first Friday in February. • Because vertical scales differ, graphs should not be compared.
Source: Table 11.7.

Table 11.7 Crude Oil Prices by Selected Type, 1970-2004

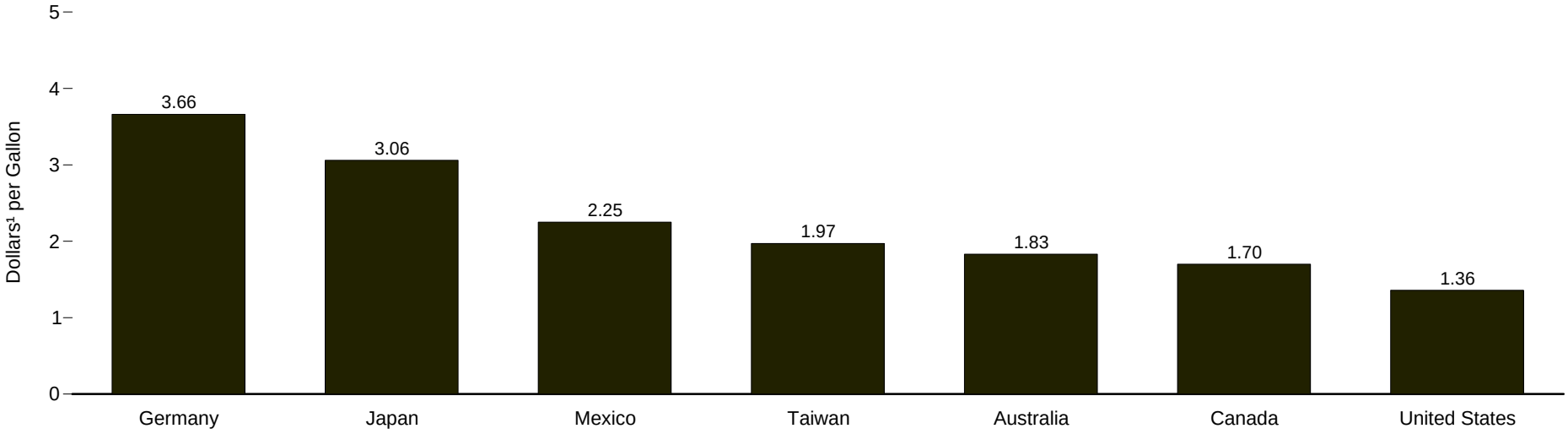
(Dollars[1] per Barrel)

Year	Saudi Arabian Light-34° API	Iranian Light-34° API	Libyan [2] Es Sider-37° API	Nigerian [3] Bonny Light-37° API	Indonesian Minas-34° API	Venezuelan Tia Juana Light [4]	Mexico Maya-22° API	United Kingdom Brent Blend-38° API
1970	1.35	1.36	2.09	2.10	1.67	2.05	NA	NA
1971	1.75	1.76	2.80	2.65	2.18	2.45	NA	NA
1972	1.90	1.91	2.80	2.80	2.96	2.45	NA	NA
1973	2.10	2.11	3.10	3.10	2.96	2.60	NA	NA
1974	9.60	10.63	14.30	12.60	10.80	9.30	NA	NA
1975	10.46	10.67	11.98	11.80	12.60	11.00	NA	NA
1976	11.51	11.62	12.21	12.84	12.80	11.12	NA	NA
1977	12.09	12.81	13.74	14.33	13.55	12.72	NA	NA
1978	12.70	12.81	13.80	14.33	13.55	12.82	NA	NA
1979	13.34	13.45	14.52	14.80	13.90	13.36	15.45	15.70
1980	26.00	[5]30.37	34.50	29.97	27.50	25.20	28.00	26.02
1981	32.00	37.00	40.78	40.00	35.00	32.88	34.50	39.25
1982	34.00	34.20	36.50	36.50	35.00	32.88	26.50	36.60
1983	34.00	31.20	35.10	35.50	34.53	32.88	25.50	33.50
1984	29.00	28.00	30.15	30.00	29.53	27.88	25.00	30.00
1985	29.00	28.00	30.15	28.00	29.53	27.88	25.50	28.65
1986	28.00	28.05	30.15	28.65	28.53	28.05	21.93	26.00
1987	16.15	16.14	16.95	17.13	16.28	15.10	14.00	18.25
1988	17.52	15.55	18.52	18.92	17.56	17.62	11.10	18.00
1989	13.15	12.75	15.40	15.05	15.50	12.27	10.63	15.80
1990	18.40	18.20	20.40	21.20	18.55	24.69	17.05	21.00
1991	24.00	23.65	26.90	27.80	26.50	28.62	20.00	27.20
1992	15.90	15.50	17.20	18.20	18.65	19.67	10.75	17.75
1993	16.80	16.70	17.55	18.50	19.10	17.97	12.50	17.90
1994	12.40	12.40	12.55	13.50	14.15	12.97	9.01	13.15
1995	16.63	16.18	16.05	16.15	16.95	16.57	13.77	16.15
1996	18.20	17.73	19.20	19.70	20.05	18.52	15.79	19.37
1997	22.98	22.63	24.10	24.65	24.95	26.62	19.33	24.05
1998	15.50	14.93	16.72	16.50	16.50	15.93	10.81	15.89
1999	10.03	9.83	10.65	10.60	9.95	9.45	6.38	10.44
2000	24.78	24.63	25.85	25.55	24.15	24.85	20.20	25.10
2001	20.30	20.20	22.40	22.00	22.80	22.13	15.82	22.50
2002	17.68	18.90	19.63	19.88	18.89	17.78	14.30	21.20
2003	27.39	27.85	30.40	31.16	35.03	30.25	26.29	31.36
2004	27.08	28.67	29.47	29.97	32.10	30.10	24.37	29.73

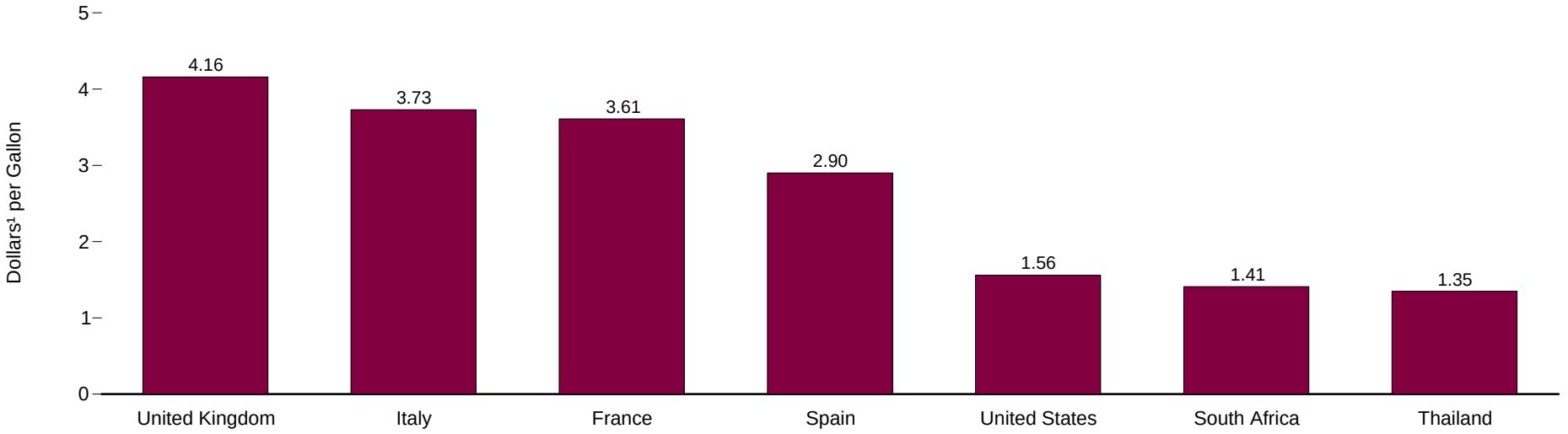
[1] Nominal dollars.
[2] Prices for 1974 and 1975 are for crude oil with 40° API gravity. Prices for 1980 include $4.72 in retroactive charges and market premiums.
[3] Prices from 1977 forward include 2 cents per barrel harbor dues.
[4] 1970-1985—26° API; 1986 forward—31° API.
[5] Price for 1980 includes $1.87 market premiums and credit charges.
API=API gravity. NA=Not available.
Notes: • Prices are at beginning of year. • Based on official government-selling prices, netback values, or spot market quotations.• Prices are usually f.o.b. at the foreign port of lading. • Prices are as of the Friday that is closest to January 1, except in 1987, when prices are as of the first Friday in February. • See Tables 5.18, 5.19, and 5.21 for other types of crude oil prices for the United States, such as Domestic First Purchase Prices, Landed Costs of Crude Oil Imports, and Refiner Acquisition Costs.
Web Page: For related information, see http://www.eia.doe.gov/international.
Sources: • 1970-1978—Petroleum and Energy Intelligence Weekly, Inc., *Petroleum Intelligence Weekly.* • 1979 forward—Energy Information Administration, *Weekly Petroleum Status Report.*

Figure 11.8 Retail Motor Gasoline Prices in Selected Countries, 2002

Regular Unleaded



Premium Unleaded[2]



[1] Nominal dollars.
[2] Research Octane Number (RON) of 95.

Source: Table 11.8.

Table 11.8 Retail Motor Gasoline Prices in Selected Countries, 1990-2002

(Dollars[1] per Gallon)

	Regular Unleaded									Premium Unleaded [2]							
Year	Australia	Brazil	Canada	China	Germany	Japan	Mexico	Taiwan	United States	France	Italy	South Africa	South Korea	Spain	Thailand	United Kingdom	United States
1990	NA	3.82	1.87	NA	2.65	3.17	1.00	2.49	1.16	3.63	4.60	NA	NA	NA	NA	2.82	1.35
1991	1.96	2.91	1.92	NA	2.90	3.46	1.29	2.39	1.14	3.45	4.50	NA	NA	NA	1.40	3.01	1.32
1992	1.89	2.92	1.73	NA	3.27	3.59	1.50	2.42	1.13	3.57	4.53	NA	NA	3.49	1.35	3.06	1.32
1993	1.73	2.40	1.57	NA	3.07	4.02	1.56	2.27	1.11	3.41	3.68	NA	NA	3.02	1.26	2.84	1.30
1994	1.84	2.80	1.45	0.96	3.52	4.39	1.48	2.14	1.11	3.59	3.71	NA	NA	2.99	1.21	2.99	1.31
1995	1.95	2.16	1.53	1.03	3.96	4.43	1.12	2.23	1.15	4.26	4.00	NA	NA	3.24	1.26	3.21	1.34
1996	2.12	2.31	1.61	1.03	3.94	3.65	1.26	2.15	1.23	4.41	4.39	1.74	NA	3.32	1.49	3.34	1.41
1997	2.05	2.61	1.62	1.07	3.54	3.27	1.47	2.23	1.23	4.01	4.06	1.72	NA	3.01	1.26	3.83	1.42
1998	1.63	2.80	1.38	1.08	3.34	2.82	1.50	1.86	1.06	3.87	3.84	1.51	NA	2.81	1.09	4.06	1.25
1999	1.72	NA	1.51	[R]0.95	3.42	3.27	1.80	1.86	1.17	3.85	3.87	1.56	NA	2.82	1.22	4.29	1.36
2000	1.94	NA	1.86	[R]1.06	3.45	[R]3.65	2.02	2.15	1.51	3.80	3.77	1.78	NA	2.86	1.38	4.58	1.69
2001	1.71	NA	1.72	NA	3.40	[R]3.27	2.21	2.01	1.46	3.51	[R]3.57	1.59	NA	2.73	[R]1.33	4.13	1.66
2002	1.83	NA	1.70	NA	3.66	3.06	2.25	1.97	1.36	3.61	3.73	1.41	NA	2.90	1.35	4.16	1.56

[1] Nominal dollars.
[2] Research Octane Number (RON) of 95.
R=Revised. NA=Not available.

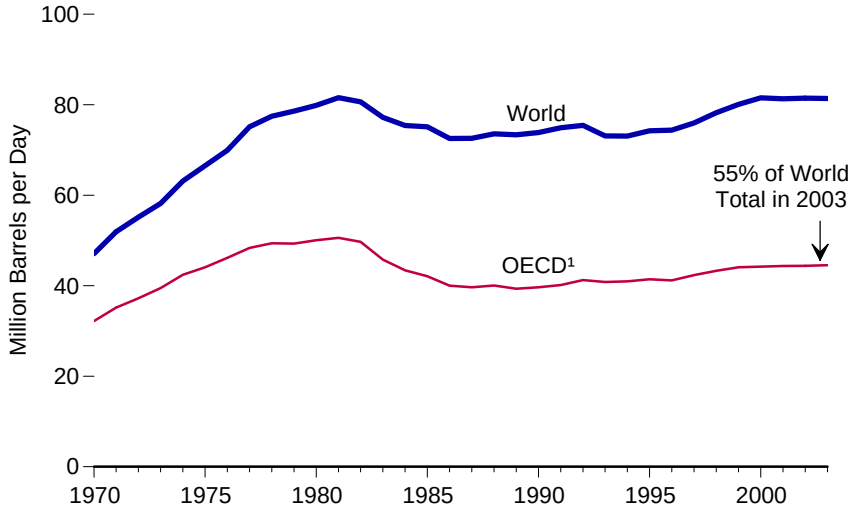
Notes: • Prices are those actually paid, i.e., net of rebates, and include transport costs and taxes which are not refundable. Prices in national currencies are converted to U.S. dollars using exchange rates published by the International Monetary Fund. • Prices for all countries, except the United States, have been converted from dollars per liter to dollars per gallon at 3.786 liters per gallon. Comparisons between prices and price trends in different countries require care. They are of limited validity because of fluctuations in exchange rates, differences in product quality, marketing practices, market structures, and the extent to which the standard categories of sales are representative of total national sales for a given period.

Web Page: For related information, see http://www.eia.doe.gov/international.

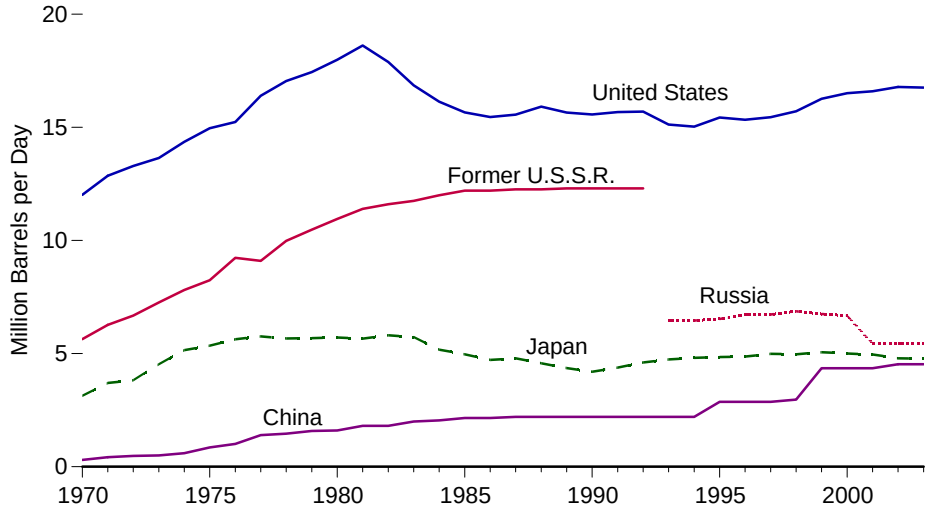
Sources: • **United States:** Table 5.24. • **All Other Data:** International Energy Agency, Organization for Economic Cooperation and Development, *Energy Prices and Taxes, Part II, Section D, and Part III, Section B,* quarterly reports.

Figure 11.9 World Crude Oil Refining Capacity

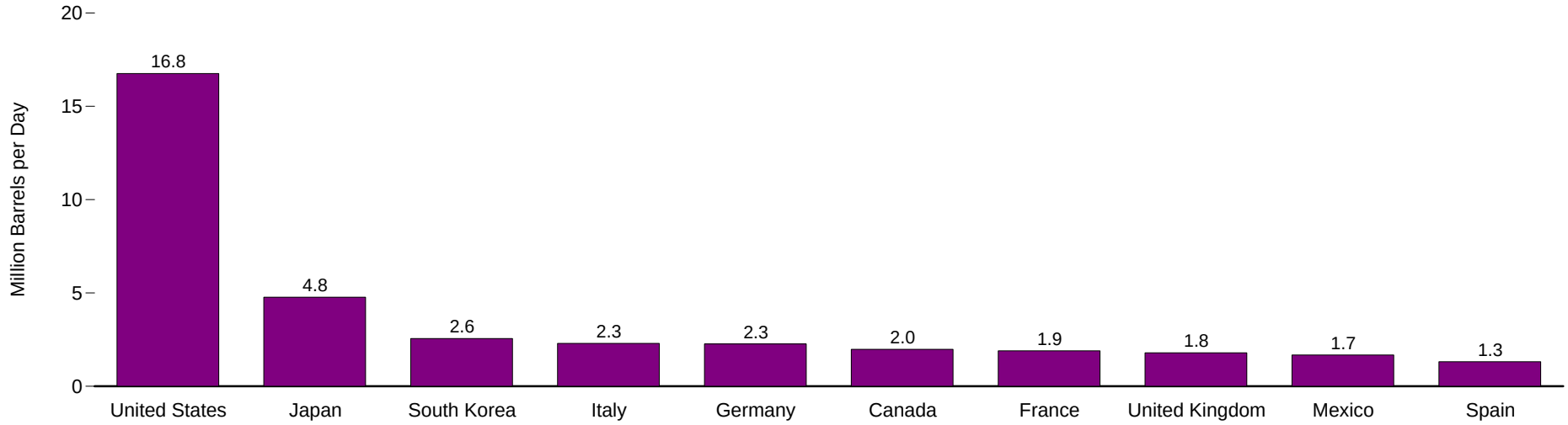
World and OECD,[1] 1970-2003



Leading Countries, 1970-2003



Selected OECD[1] Countries, 2003



[1] Organization for Economic Cooperation and Development. See Glossary for membership.
Notes: • Capacity as of January 1. • Because vertical scales differ, graphs should not be compared.

Source: Table 11.9.

Table 11.9 World Crude Oil Refining Capacity, 1970-2003

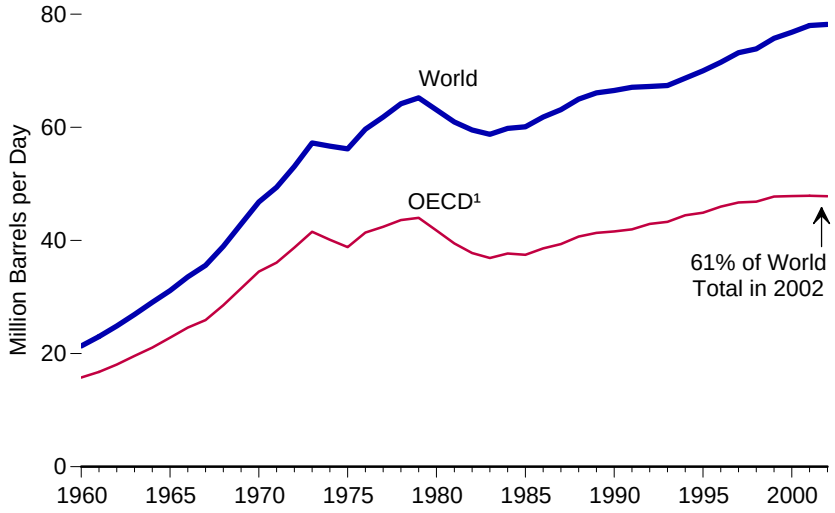
(Million Barrels per Day)

	Selected OECD [1] Countries											Selected Non-OECD Countries							
Year	Canada	France	Germany [2]	Italy	Japan	Mexico [3]	South Korea [3]	Spain	United Kingdom	United States	Total OECD [4]	Brazil	China	Former U.S.S.R.	Russia	Saudi Arabia	Ukraine	Total Non-OECD	World
1970	1.40	2.32	2.36	2.96	3.14	0.50	0.18	0.69	2.30	12.02	32.18	0.50	0.30	5.64	—	0.38	—	14.92	47.10
1971	1.45	2.53	2.54	3.24	3.70	0.57	0.25	0.85	2.39	12.86	35.18	0.51	0.42	6.27	—	0.91	—	16.73	51.91
1972	1.45	2.69	2.56	3.68	3.82	0.59	0.22	0.87	2.59	13.29	37.22	0.56	0.48	6.68	—	0.51	—	17.92	55.14
1973	1.73	2.95	2.70	3.59	4.53	0.63	0.43	1.03	2.47	13.64	39.48	0.72	0.50	7.26	—	0.43	—	18.72	58.20
1974	1.79	3.14	2.83	3.88	5.15	0.63	0.42	1.16	2.76	14.36	42.41	0.79	0.60	7.81	—	0.43	—	20.74	63.15
1975	1.88	3.34	2.99	3.95	5.35	0.76	0.43	1.17	2.78	14.96	44.07	0.96	0.85	8.24	—	0.61	—	22.45	66.52
1976	2.02	3.31	3.10	4.08	5.63	0.76	0.44	1.32	2.89	15.24	46.16	0.99	1.01	9.23	—	0.54	—	23.77	69.93
1977	2.10	3.52	3.08	4.26	5.76	0.94	0.42	1.28	3.01	16.40	48.34	1.12	1.40	9.10	—	0.60	—	26.77	75.11
1978	2.17	3.46	3.08	4.23	5.67	1.38	0.48	1.27	2.91	17.05	49.37	1.16	1.46	9.98	—	0.59	—	28.09	77.46
1979	2.23	3.47	3.10	4.20	5.68	1.24	0.54	1.43	2.53	17.44	49.31	1.21	1.58	10.48	—	0.49	—	29.27	78.58
1980	2.22	3.40	2.99	4.13	5.71	1.39	0.60	1.46	2.53	17.99	50.07	1.21	1.60	10.95	—	0.49	—	29.78	79.85
1981	2.17	3.34	3.02	4.09	5.66	1.39	0.61	1.46	2.63	18.62	50.57	1.40	1.81	11.40	—	0.49	—	30.99	81.56
1982	2.20	3.29	2.94	4.00	5.81	1.47	0.76	1.52	2.48	17.89	49.70	1.41	1.81	11.60	—	0.49	—	30.93	80.63
1983	2.02	2.87	2.47	3.28	5.73	1.29	0.76	1.52	2.26	16.86	45.79	1.22	2.00	11.75	—	0.71	—	31.42	77.21
1984	1.81	2.67	2.39	3.05	5.17	1.27	0.78	1.49	2.09	16.14	43.41	1.30	2.05	12.00	—	0.86	—	32.01	75.42
1985	1.87	2.39	2.17	3.10	4.97	1.27	0.78	1.49	2.01	15.66	42.10	1.31	2.15	12.20	—	0.84	—	33.02	75.12
1986	1.86	1.95	1.93	2.74	4.72	1.27	0.78	1.37	1.79	15.46	40.00	1.31	2.15	12.20	—	1.12	—	32.55	72.55
1987	1.76	1.83	1.72	2.68	4.79	1.35	0.86	1.31	1.78	15.57	39.64	1.32	2.20	12.26	—	1.13	—	32.93	72.57
1988	1.87	1.94	1.65	2.56	4.57	1.35	0.82	1.31	1.80	15.92	40.03	1.41	2.20	12.26	—	1.38	—	33.54	73.57
1989	1.86	1.88	1.52	2.45	4.36	1.35	0.88	1.29	1.80	15.65	39.35	1.41	2.20	12.30	—	1.38	—	33.99	73.34
1990	1.85	1.82	1.51	2.80	4.20	1.51	0.87	1.29	1.83	15.57	39.66	1.40	2.20	12.30	—	1.48	—	34.20	73.86
1991	1.88	1.82	2.07	2.39	4.38	1.68	0.87	1.32	1.87	15.68	40.16	1.41	2.20	12.30	—	1.86	—	34.75	74.91
1992	1.91	1.82	2.06	2.39	4.61	1.57	1.16	1.32	1.86	15.70	41.26	1.41	2.20	12.30	—	1.86	—	34.17	75.43
1993	1.87	1.85	2.23	2.42	4.74	1.52	1.15	1.30	1.84	15.12	40.82	1.40	2.20	—	6.46	1.86	1.24	32.29	73.11
1994	1.88	1.86	2.27	2.26	4.81	1.52	1.15	1.28	1.87	15.03	40.98	1.25	2.20	—	6.46	1.61	1.24	32.09	73.07
1995	1.91	1.77	2.32	2.26	4.85	1.52	1.17	1.28	1.87	15.43	41.42	1.25	2.87	—	6.53	1.66	1.26	32.83	74.25
1996	1.85	1.78	2.13	2.28	4.87	1.52	1.24	1.33	1.89	15.33	41.19	1.26	2.87	—	6.72	1.66	1.26	33.20	74.39
1997	1.85	1.79	2.11	2.26	4.99	1.52	2.21	1.30	1.94	15.45	42.36	1.26	2.87	—	6.73	1.66	1.25	33.63	75.99
1998	1.85	1.87	2.18	2.45	4.97	1.52	2.54	1.29	1.83	15.71	43.31	1.66	2.97	—	6.87	1.65	1.25	34.91	78.22
1999	1.87	1.95	2.25	2.45	5.06	1.53	2.54	1.32	1.85	16.26	44.08	1.77	4.35	—	6.75	1.69	1.09	36.00	80.08
2000	1.91	1.90	2.28	2.34	5.00	1.53	2.54	1.32	1.79	16.51	44.21	1.78	4.35	—	6.67	1.71	1.15	37.32	81.53
2001	1.91	1.90	2.26	2.36	4.96	1.53	2.56	1.29	1.77	16.60	44.37	1.92	4.35	—	5.44	1.75	1.03	36.95	81.32
2002	1.94	1.90	2.26	2.28	4.79	1.53	2.56	1.29	1.78	16.79	44.38	1.79	4.53	—	5.44	1.75	1.03	37.06	81.44
2003	1.98	1.90	2.27	2.30	4.77	1.68	2.56	1.32	1.79	16.76	44.55	1.87	4.53	—	5.44	1.75	1.02	36.85	81.40

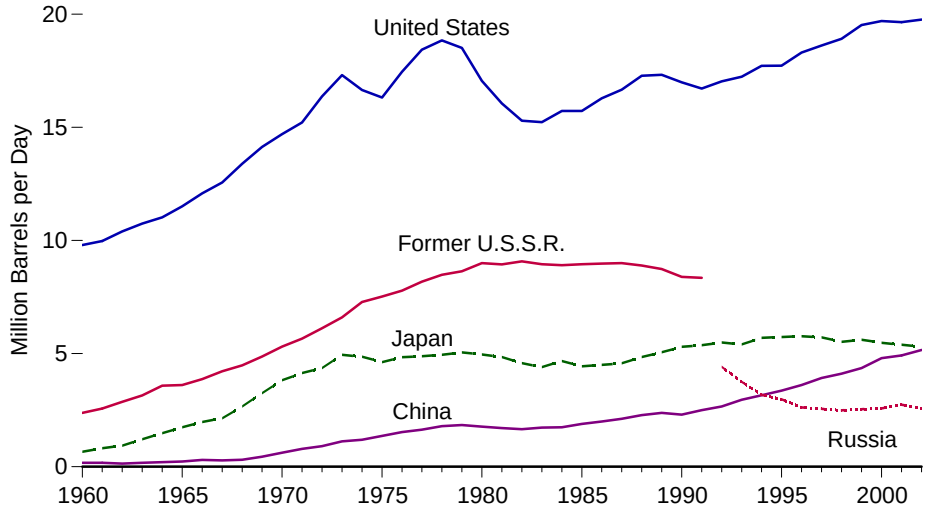
[1] Organization for Economic Cooperation and Development. See Glossary for membership.
[2] Through 1990, this is East and West Germany. Beginning in 1991, this is unified Germany.
[3] Mexico, which joined the OECD on May 18, 1994, and South Korea, which joined the OECD on December 12, 1996, are included in the OECD for all years shown in this table.
[4] Hungary and Poland, which joined the OECD on May 7, 1996, and November 22, 1996, respectively, are included in Total OECD beginning in 1992, the first year that data for these countries were available. The Czech Republic, which joined the OECD on December 21, 1995, is included in Total OECD beginning in 1994, the first year that data for the country were available.
— = Not applicable.
Notes: • Capacity data represent distillation capacity. • Capacity for all years is as of January 1. • Totals may not equal sum of components due to independent rounding.
Web Page: For related information, see http://www.eia.doe.gov/international.
Sources: **United States:** • 1970-1977—Bureau of Mines, Mineral Industry Surveys, *Petroleum Refineries, Annual,* annual reports. • 1978-1981—Energy Information Administration (EIA), Energy Data Reports, *Petroleum Refineries in the United States and U.S. Territories.* • 1982 forward—EIA, *Petroleum Supply Annual,* annual reports. **China and Former U.S.S.R.:** • 1970-1976—Ballinger Publishing Company, *The Energy Decade, 1970-1980, A Statistical and Graphic Chronicle.* • 1977 forward—PennWell Publishing Company, *Oil & Gas Journal.* **All Other Countries:** PennWell Publishing Company, *Oil & Gas Journal.*

Figure 11.10 World Petroleum Consumption

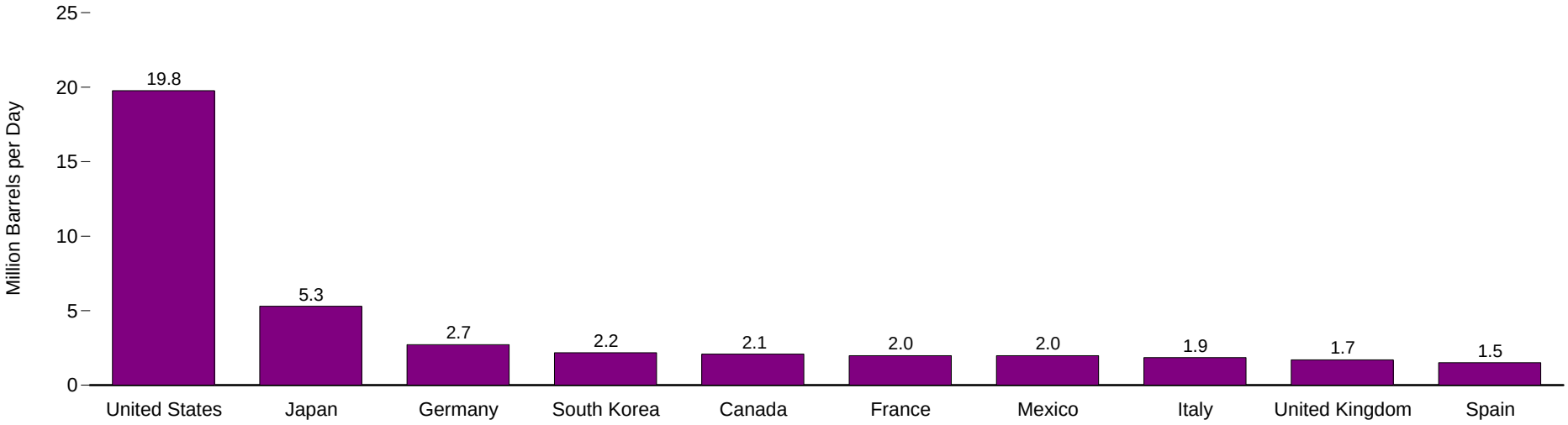
World and OECD,[1] 1960-2002



Leading Consumers, 1960-2002



Selected OECD[1] Consumers, 2002



[1] Organization for Economic Cooperation and Development. See Glossary for membership.
Note: Because vertical scales differ, graphs should not be compared.

Source: Table 11.10.

Table 11.10 World Petroleum Consumption, 1960-2002

(Million Barrels per Day)

Year	Selected OECD [1] Consumers											Selected Non-OECD Consumers						World
	Canada	France	Germany [2]	Italy	Japan	Mexico [3]	South Korea [3]	Spain	United Kingdom	United States	Total OECD [4]	Brazil	China	India	Former U.S.S.R.	Russia	Total Non-OECD	
1960	0.84	0.56	0.63	0.44	0.66	0.30	0.01	0.10	0.94	9.80	15.78	0.27	0.17	0.16	2.38	—	5.56	21.34
1961	0.87	0.63	0.79	0.54	0.82	0.29	0.02	0.12	1.04	9.98	16.77	0.28	0.17	0.17	2.57	—	6.23	23.00
1962	0.92	0.73	1.00	0.67	0.93	0.30	0.02	0.12	1.12	10.40	18.06	0.31	0.14	0.18	2.87	—	6.83	24.89
1963	0.99	0.86	1.17	0.77	1.21	0.31	0.03	0.12	1.27	10.74	19.60	0.34	0.17	0.21	3.15	—	7.32	26.92
1964	1.05	0.98	1.36	0.90	1.48	0.33	0.02	0.20	1.36	11.02	21.05	0.35	0.20	0.22	3.58	—	8.03	29.08
1965	1.14	1.09	1.61	0.98	1.74	0.34	0.03	0.23	1.49	11.51	22.81	0.33	0.23	0.25	3.61	—	8.33	31.14
1966	1.21	1.19	1.80	1.08	1.98	0.36	0.04	0.31	1.58	12.08	24.60	0.38	0.30	0.28	3.87	—	8.96	33.56
1967	1.25	1.34	1.86	1.19	2.14	0.39	0.07	0.36	1.64	12.56	25.94	0.38	0.28	0.26	4.22	—	9.65	35.59
1968	1.34	1.46	1.99	1.40	2.66	0.41	0.10	0.46	1.82	13.39	28.56	0.46	0.31	0.31	4.48	—	10.40	38.96
1969	1.42	1.66	2.33	1.69	3.25	0.45	0.15	0.49	1.98	14.14	31.54	0.48	0.44	0.34	4.87	—	11.35	42.89
1970	1.52	1.94	2.83	1.71	3.82	0.50	0.20	0.58	2.10	14.70	34.49	0.53	0.62	0.40	5.31	—	12.32	46.81
1971	1.56	2.12	2.94	1.84	4.14	0.52	0.23	0.64	2.14	15.21	36.07	0.58	0.79	0.42	5.66	—	13.35	49.42
1972	1.66	2.32	3.13	1.95	4.36	0.59	0.23	0.68	2.28	16.37	38.74	0.66	0.91	0.46	6.12	—	14.35	53.09
1973	1.73	2.60	3.34	2.07	4.95	0.67	0.28	0.78	2.34	17.31	41.53	0.78	1.12	0.49	6.60	—	15.71	57.24
1974	1.78	2.45	3.06	2.00	4.86	0.71	0.29	0.86	2.21	16.65	40.12	0.86	1.19	0.47	7.28	—	16.56	56.68
1975	1.78	2.25	2.96	1.86	4.62	0.75	0.31	0.87	1.91	16.32	38.82	0.92	1.36	0.50	7.52	—	17.38	56.20
1976	1.82	2.42	3.21	1.97	4.84	0.83	0.36	0.97	1.89	17.46	41.39	1.00	1.53	0.51	7.78	—	18.28	59.67
1977	1.85	2.29	3.21	1.90	4.88	0.88	0.42	0.94	1.91	18.43	42.43	1.02	1.64	0.55	8.18	—	19.40	61.83
1978	1.90	2.41	3.29	1.95	4.95	0.99	0.48	0.98	1.94	18.85	43.62	1.11	1.79	0.62	8.48	—	20.54	64.16
1979	1.97	2.46	3.37	2.04	5.05	1.10	0.53	1.02	1.97	18.51	44.01	1.18	1.84	0.66	8.64	—	21.21	65.22
1980	1.87	2.26	3.08	1.93	4.96	1.27	0.54	0.99	1.73	17.06	R41.76	1.15	1.77	0.64	9.00	—	R21.35	R63.11
1981	1.77	2.02	2.80	1.87	4.85	1.40	0.54	0.94	1.59	16.06	R39.49	1.09	1.71	0.73	8.94	—	R21.45	R60.94
1982	1.58	1.88	2.74	1.78	4.58	1.48	0.53	1.00	1.59	15.30	R37.77	1.06	1.66	0.74	9.08	—	R21.77	R59.54
1983	1.45	1.84	2.66	1.75	4.40	1.35	0.56	1.01	1.53	15.23	R36.91	0.98	1.73	0.77	8.95	—	R21.87	R58.78
1984	R1.52	R1.77	R2.56	R1.72	R4.67	R1.40	R0.55	R0.85	R1.83	15.73	R37.70	1.03	1.74	0.82	8.91	—	R22.13	59.83
1985	R1.53	R1.75	R2.65	R1.71	R4.44	R1.48	R0.55	R0.86	R1.62	15.73	R37.48	1.08	1.89	R0.89	8.95	—	R22.61	60.09
1986	R1.53	R1.76	R2.79	R1.73	R4.50	R1.52	R0.59	R0.87	R1.64	16.28	R38.61	1.24	2.00	0.95	8.98	—	R23.22	R61.83
1987	R1.61	1.79	R2.72	R1.82	R4.57	R1.58	R0.63	0.90	R1.61	16.67	R39.37	1.26	2.12	0.99	9.00	—	R23.76	R63.13
1988	R1.68	1.80	R2.72	R1.83	R4.85	R1.60	R0.75	0.98	R1.69	17.28	R40.68	1.30	2.28	1.08	8.89	—	R24.32	R65.00
1989	R1.75	R1.84	2.58	R1.90	R5.06	R1.72	R0.86	R0.98	R1.73	17.33	R41.34	1.32	2.38	1.15	8.74	—	R24.76	R66.10
1990	R1.75	R1.83	R2.68	1.87	R5.30	R1.75	R1.05	1.01	R1.78	16.99	R41.60	1.47	2.30	1.17	8.39	—	R24.93	R66.53
1991	R1.67	1.94	2.83	1.86	R5.37	R1.83	R1.26	1.07	1.80	16.71	R41.97	1.48	2.50	1.19	8.35	—	R25.13	R67.10
1992	R1.73	1.93	2.84	R1.89	R5.49	R1.86	R1.53	R1.10	R1.82	17.03	R42.92	1.52	2.66	1.27	—	4.42	R24.32	R67.24
1993	R1.76	1.88	R2.91	R1.89	R5.41	R1.84	R1.68	1.06	R1.83	17.24	R43.29	1.58	2.96	1.31	—	3.75	R24.11	R67.40
1994	R1.77	R1.87	2.88	R1.87	R5.70	R1.93	R1.84	R1.12	R1.83	17.72	R44.46	1.67	3.16	1.41	—	3.18	24.25	R68.71
1995	R1.81	R1.92	2.88	R1.94	R5.73	R1.82	2.01	R1.19	R1.81	17.72	R44.91	1.79	3.36	1.57	—	2.98	R25.09	R70.00
1996	R1.87	R1.95	R2.92	R1.92	R5.77	R1.79	R2.10	R1.20	1.85	18.31	R45.98	1.90	3.61	1.68	—	2.62	R25.52	R71.50
1997	R1.95	R1.97	R2.92	R1.93	R5.72	1.85	R2.25	R1.27	1.80	18.62	R46.71	2.03	3.92	1.77	—	2.56	26.49	R73.20
1998	1.95	R2.04	2.92	R1.94	R5.52	1.95	R1.92	R1.36	1.79	18.92	R46.87	2.10	4.11	1.84	—	2.49	R27.01	R73.88
1999	2.03	2.03	2.84	R1.89	R5.61	R1.96	R2.08	R1.40	R1.79	19.52	R47.76	2.13	4.36	2.03	—	2.54	R27.97	R75.73
2000	R2.02	R2.00	R2.77	R1.85	R5.48	R2.04	R2.14	R1.43	R1.76	19.70	R47.85	2.17	4.80	2.13	—	2.58	R28.98	R76.83
2001	R2.04	R2.05	2.81	R1.84	R5.39	R1.99	R2.13	R1.49	1.72	19.65	R47.90	R2.21	R4.92	R2.18	—	R2.74	R30.10	R78.00
2002P	2.09	1.98	2.72	1.85	5.30	1.98	2.18	1.51	1.70	19.76	47.82	2.16	5.16	2.19	—	2.58	30.39	78.21

[1] Organization for Economic Cooperation and Development. See Glossary for membership.

[2] Through 1969, the data for Germany are for the former West Germany only. For 1970 through 1990, this is East and West Germany. Beginning in 1991, this is unified Germany.

[3] Mexico, which joined the OECD on May 18, 1994, and South Korea, which joined the OECD on December 12, 1996, are included in the OECD for all years shown in this table.

[4] Hungary and Poland, which joined the OECD on May 7, 1996, and November 22, 1996, respectively, are included in Total OECD beginning in 1970, the first year that data for these countries were available. OECD totals include Czechoslovakia from 1980-1992, Czech Republic and Slovakia from 1992-2002.

R=Revised. P=Preliminary. — = Not applicable.

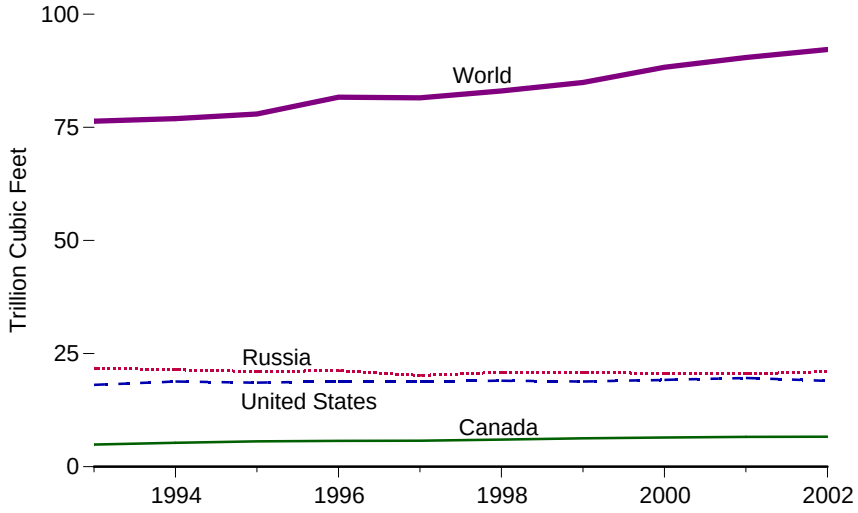
Note: Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/international.

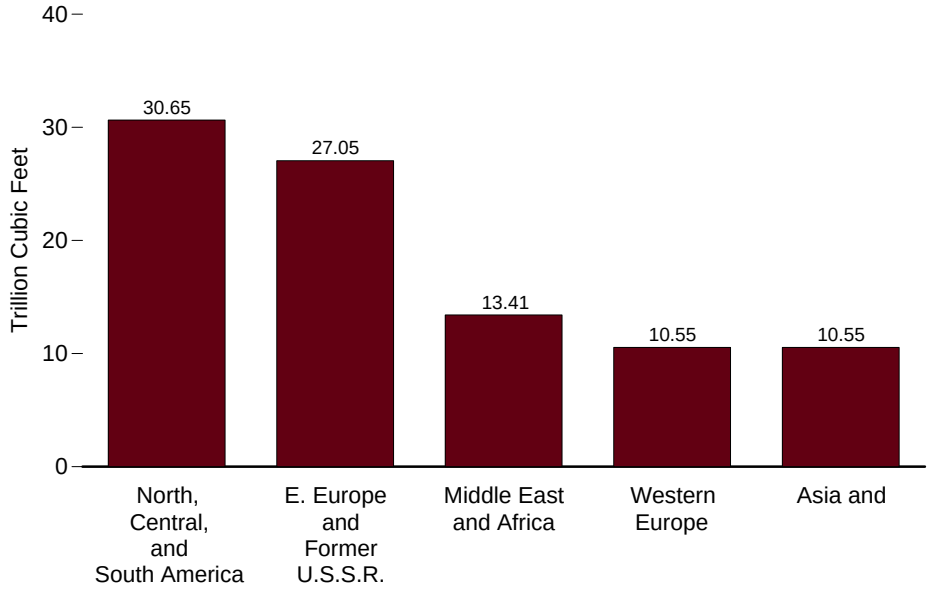
Sources: • 1960-1979—Energy Information Administration (EIA), International Energy Database. • 1980 forward—EIA, "International Energy Annual 2002" (May 2004), Table 1.2.

Figure 11.11 World Dry Natural Gas Production

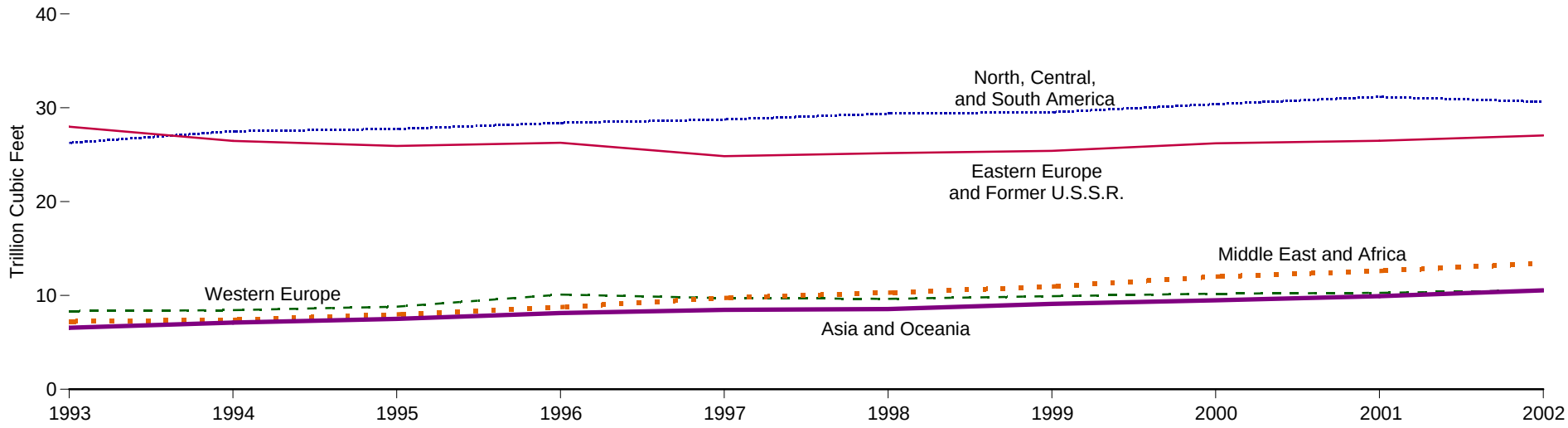
World and Leading Producers, 1993-2002



World Areas, 2002



World Areas, 1993-2002



Note: Because vertical scales differ, graphs should not be compared.

Source: Table 11.11.

Table 11.11 World Dry Natural Gas Production, 1993-2002

(Trillion Cubic Feet)

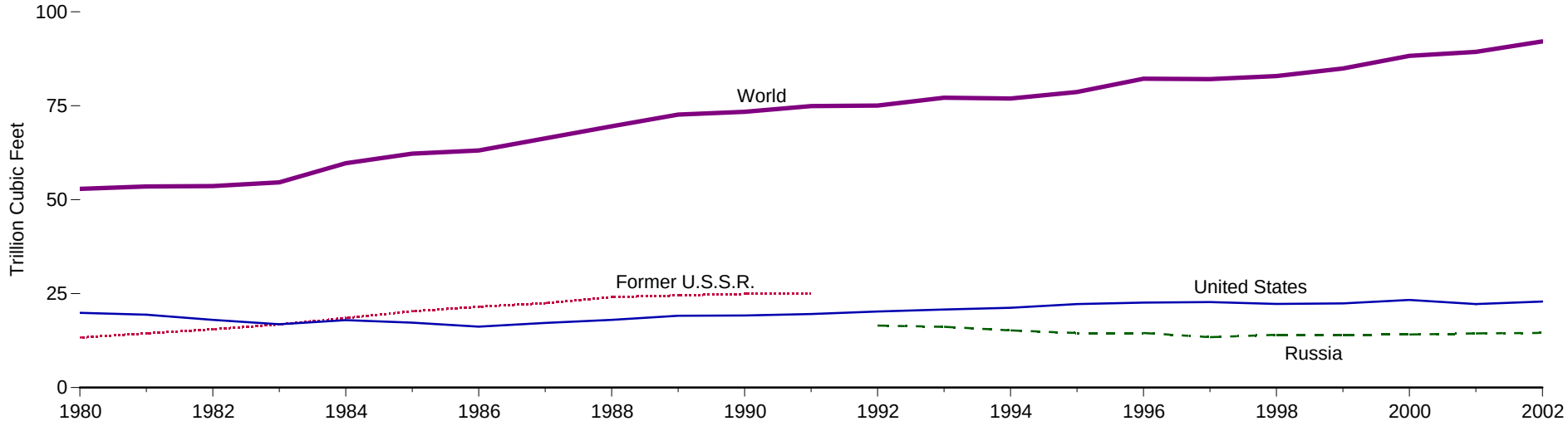
Region and Country	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002 P
North, Central, and South America	**26.26**	**27.50**	**27.74**	**28.39**	**28.75**	**29.39**	**29.53**	**30.39**	**R31.17**	**30.65**
Argentina	0.76	0.79	0.88	0.94	0.97	1.04	1.22	1.32	1.31	1.28
Canada	4.91	5.27	5.60	5.71	5.76	5.98	6.26	6.47	6.60	6.63
Mexico	0.95	0.97	0.96	1.06	1.17	1.27	1.29	1.31	1.30	1.33
United States	18.10	18.82	18.60	18.85	18.90	19.02	18.83	19.18	R19.62	18.96
Venezuela	0.82	0.88	0.89	0.96	0.99	1.11	0.95	0.96	1.12	1.05
Other	0.73	0.78	0.81	0.86	0.96	0.96	0.98	1.15	R1.22	1.39
Western Europe	**8.33**	**8.44**	**8.80**	**10.09**	**9.71**	**9.64**	**9.92**	**10.19**	**R10.27**	**10.55**
Germany	0.68	0.70	0.74	0.80	0.79	0.77	0.82	0.78	R0.79	0.79
Italy	0.69	0.73	0.72	0.71	0.68	0.67	0.62	0.59	R0.54	0.51
Netherlands	3.11	2.95	2.98	3.37	2.99	2.84	2.67	2.56	2.75	2.66
Norway	0.97	1.04	1.08	1.45	1.62	1.63	1.76	1.87	R1.95	2.41
United Kingdom	2.31	2.47	2.67	3.18	3.03	3.14	3.49	3.83	R3.69	3.61
Other	0.57	0.55	0.61	0.59	0.60	0.58	0.57	0.57	0.57	0.57
Eastern Europe and Former U.S.S.R.	**27.99**	**26.47**	**25.93**	**26.28**	**24.85**	**25.17**	**25.41**	**26.22**	**26.48**	**27.05**
Romania	0.75	0.69	0.68	0.63	0.61	0.52	0.50	0.48	0.51	0.47
Russia	21.81	21.45	21.01	21.23	20.17	20.87	20.83	20.63	20.51	21.03
Turkmenistan	2.29	1.26	1.14	1.31	0.90	0.47	0.79	1.64	1.70	1.89
Ukraine	0.68	0.64	0.62	0.64	0.64	0.64	0.63	0.64	0.64	0.65
Uzbekistan	1.59	1.67	1.70	1.70	1.74	1.94	1.96	1.99	2.23	2.04
Other	0.87	0.76	0.79	0.76	0.79	0.74	0.70	0.84	0.89	0.97
Middle East and Africa	**7.24**	**7.41**	**7.99**	**8.76**	**9.74**	**10.30**	**10.95**	**12.01**	**R12.61**	**13.41**
Algeria	1.90	1.81	2.05	2.19	2.43	2.60	2.88	2.94	R2.79	2.80
Egypt	0.40	0.42	0.44	0.47	0.48	0.49	0.52	0.65	R0.87	0.94
Iran	0.96	1.12	1.25	1.42	1.66	1.77	2.04	2.13	R2.33	2.65
Qatar	0.48	0.48	0.48	0.48	0.61	0.69	0.78	1.03	R0.95	1.04
Saudi Arabia	1.27	1.33	1.34	1.46	1.60	1.65	1.63	1.76	1.90	2.00
United Arab Emirates	0.94	0.91	1.11	1.19	1.28	1.31	1.34	1.36	R1.39	1.53
Other	1.30	1.34	1.33	1.53	1.67	1.79	1.76	2.15	R2.39	2.45
Asia and Oceania	**6.55**	**7.11**	**7.50**	**8.13**	**8.47**	**8.55**	**9.10**	**9.48**	**R9.92**	**10.55**
Australia	0.86	0.93	1.03	1.06	1.06	1.10	1.10	1.16	R1.19	1.26
China	0.56	0.59	0.60	0.67	0.75	0.78	0.85	0.96	1.07	1.15
India	0.53	0.59	0.63	0.70	0.72	0.76	0.75	0.79	R0.85	0.88
Indonesia	1.97	2.21	2.24	2.35	2.37	2.27	2.51	2.36	R2.34	2.48
Malaysia	0.88	0.92	1.02	1.23	1.36	1.37	1.42	1.50	R1.66	1.71
Pakistan	0.58	0.63	0.65	0.70	0.70	0.71	0.78	0.86	R0.77	0.81
Other	1.16	1.23	1.33	1.42	1.52	1.56	1.69	1.86	2.04	2.25
World	**76.36**	**76.93**	**77.96**	**81.65**	**81.52**	**83.03**	**84.91**	**88.28**	**R90.45**	**92.20**

R=Revised. P=Preliminary.
Note: Totals may not equal sum of components due to independent rounding.
Web Page: For related information, see http://www.eia.doe.gov/international.

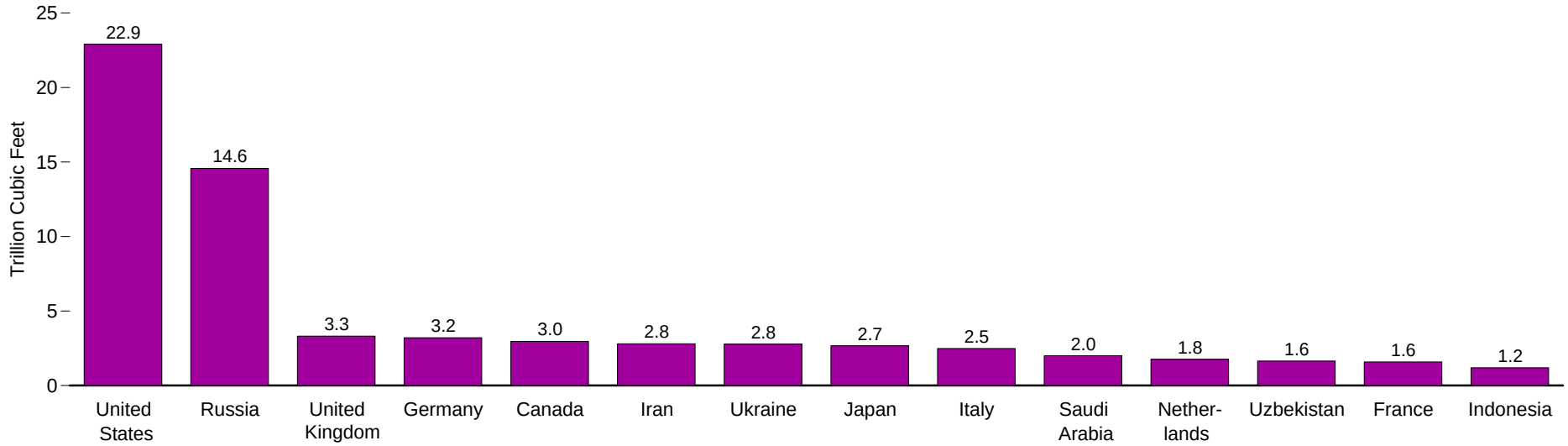
Sources: **United States:** Table 6.1. **All Other Data:** Energy Information Administration, "International Energy Annual 2002" (May 2004), Table 2.4.

Figure 11.12 World Dry Natural Gas Consumption

World and Leading Consumers, 1980-2002



Selected Consuming Countries, 2002



Note: Because vertical scales differ, graphs should not be compared.

Source: Table 11.12.

Table 11.12 World Dry Natural Gas Consumption, 1980-2002

(Billion Cubic Feet)

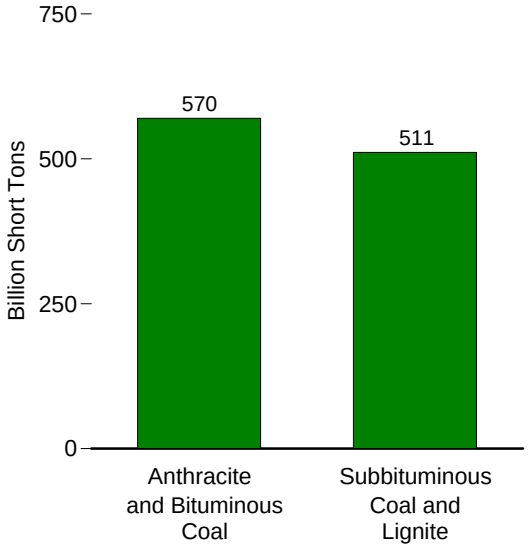
Year	Canada	France	Germany [1]	Indonesia	Iran	Italy	Japan	Nether-lands	Former U.S.S.R.	Russia	Saudi Arabia	Ukraine	United Kingdom	United States	Uzbek-istan	Other	World
1980	1,883	981	2,621	195	232	972	903	1,493	13,328	—	334	—	1,702	19,877	—	8,369	52,890
1981	1,842	1,003	2,513	232	155	942	925	1,421	14,440	—	564	—	1,740	19,404	—	8,333	53,513
1982	1,859	979	2,334	218	200	944	956	1,511	15,522	—	430	—	1,743	18,001	—	8,931	53,628
1983	1,863	999	2,397	302	310	967	1,020	1,451	16,822	—	418	—	1,815	16,835	—	9,427	54,626
1984	2,017	1,079	2,584	365	476	1,135	1,372	1,540	18,512	—	620	—	1,851	17,951	—	10,189	59,692
1985	2,165	1,110	2,546	513	600	1,151	1,468	1,624	20,302	—	716	—	1,991	17,281	—	10,777	62,244
1986	2,130	1,129	2,595	441	536	1,217	1,494	1,620	21,522	—	890	—	2,020	16,221	—	11,303	63,118
1987	2,112	1,038	2,733	542	565	1,346	1,543	1,672	22,462	—	946	—	2,079	17,211	—	12,062	66,312
1988	2,331	963	2,716	492	706	1,460	1,618	1,513	24,092	—	1,028	—	1,972	18,030	—	12,628	69,548
1989	2,427	984	2,835	546	784	1,581	1,731	1,550	24,529	—	1,052	—	1,951	19,119	—	13,549	72,638
1990	2,378	997	2,669	547	837	1,674	1,851	1,535	24,961	—	1,077	—	2,059	19,174	—	13,625	R73,383
1991	2,400	1,131	2,776	557	811	1,775	1,976	1,715	25,014	—	1,130	—	2,218	19,562	—	13,856	74,922
1992	2,596	1,146	2,739	673	883	1,760	2,023	1,669	—	16,482	1,201	3,503	2,170	20,228	1,095	16,884	75,053
1993	2,736	1,158	2,830	850	938	1,801	2,034	1,714	—	16,185	1,268	3,871	2,412	20,790	1,541	17,022	R77,148
1994	2,824	1,157	2,965	965	1,123	1,748	2,180	1,654	—	15,214	1,331	3,327	2,542	21,247	1,229	17,419	76,926
1995	2,791	1,183	3,172	1,061	1,243	1,921	2,207	1,701	—	14,507	1,343	2,970	2,690	22,207	1,349	18,317	R78,661
1996	2,917	1,314	3,163	1,108	1,416	1,984	2,390	1,874	—	14,504	1,460	2,935	3,182	22,609	1,434	19,911	R82,202
1997	2,887	1,300	3,012	1,125	1,663	2,048	2,439	1,763	—	13,434	1,601	2,832	3,013	22,737	1,455	20,794	R82,105
1998	2,794	1,313	3,130	983	1,828	2,205	2,535	1,752	—	14,045	1,653	2,606	3,072	22,246	1,409	21,341	R82,910
1999	R2,934	R1,383	3,151	1,124	2,112	2,396	2,646	1,705	—	14,013	1,632	2,755	3,259	22,405	1,423	R21,987	R84,924
2000	R2,952	R1,505	R3,098	1,081	2,221	2,498	R2,785	1,725	—	14,130	1,759	2,779	3,373	R23,333	1,511	R23,524	R88,275
2001	R2,912	R1,576	R3,239	R1,182	R2,478	R2,505	R2,709	R1,769	—	14,412	1,896	2,617	R3,338	R22,239	1,596	R24,854	R89,323
2002P	2,959	1,586	3,204	1,197	2,798	2,485	2,666	1,765	—	14,567	2,002	2,779	3,313	22,899	1,642	26,257	92,121

[1] Through 1990, this is East and West Germany. Beginning in 1991, this is unified Germany.
R=Revised. P=Preliminary. — = Not applicable.
Note: Totals may not equal sum of components due to independent rounding.

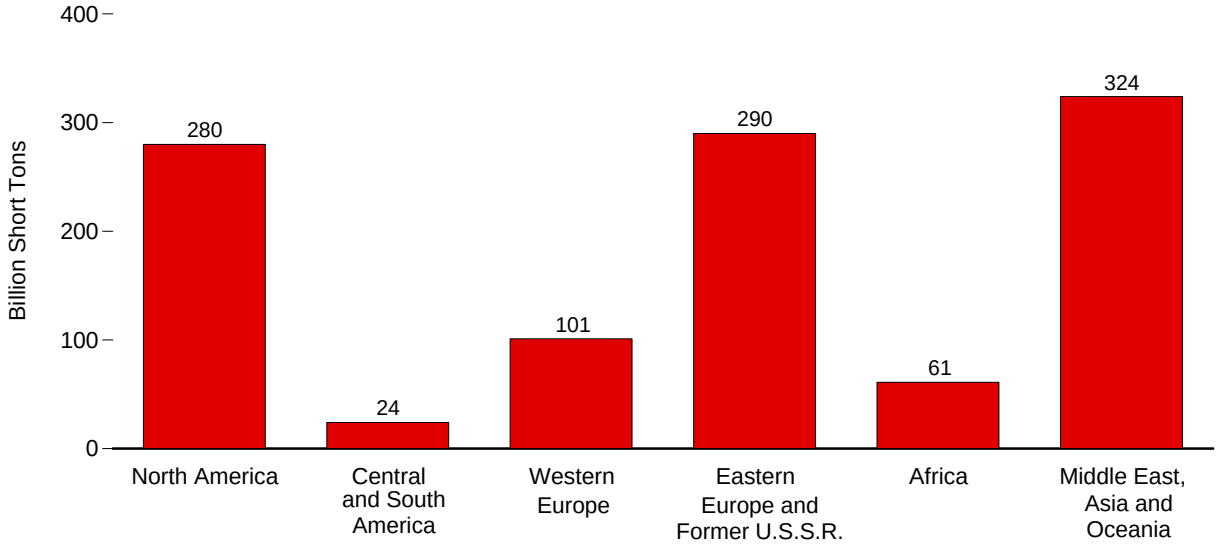
Web Page: For related information, see http://www.eia.doe.gov/international.
Sources: **United States:** Table 6.1. **All Other Data:** Energy Information Administration, "International Energy Annual 2002" (May 2004), Table 1.3.

Figure 11.13 World Recoverable Reserves of Coal

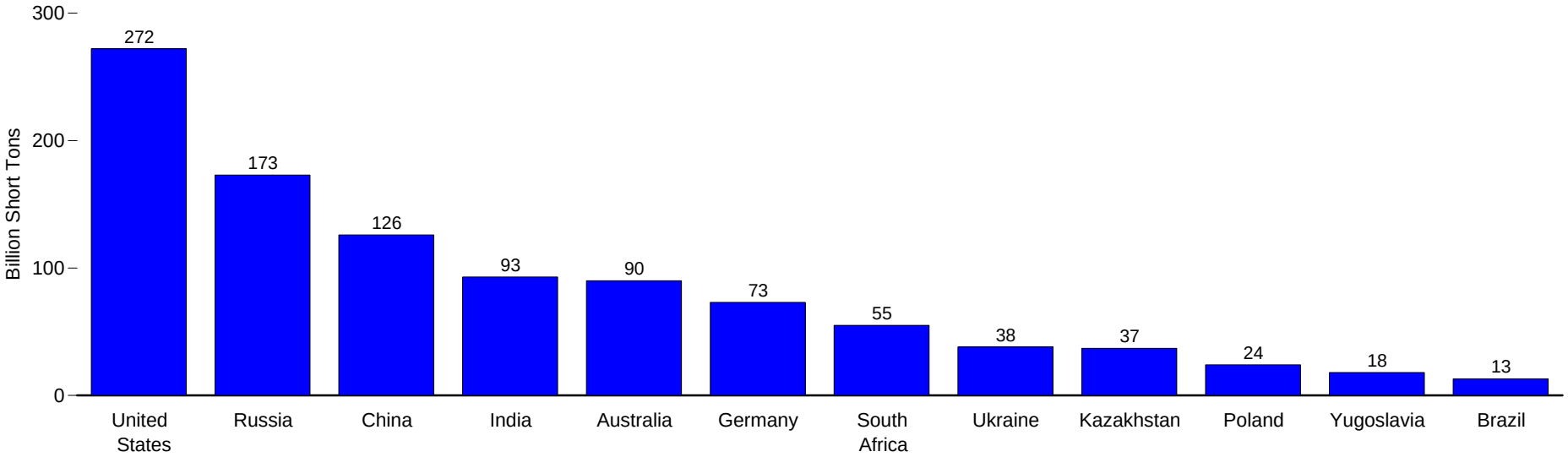
By Type



By Region



Top Reserves Countries



Notes: • Recoverable reserves are as of December 31, 2000, except for U.S. recoverable reserves, which are as of December 31, 2002. • Because vertical scales differ, graphs should not be compared.

Source: Table 11.13.

Table 11.13 World Recoverable Reserves of Coal

(Million Short Tons)

Region and Country	Anthracite and Bituminous Coal	Subbituminous Coal and Lignite	Total
North America	**R130,629**	**R149,836**	**R 280,464**
Canada	3,826	3,425	7,251
Greenland	0	202	202
Mexico	948	387	1,335
United States [1]	R125,855	R145,822	R 271,677
Central and South America	**8,530**	**15,448**	**23,977**
Brazil	0	13,149	13,149
Chile	34	1,268	1,302
Colombia	6,908	420	7,328
Peru	1,058	110	1,168
Other	529	500	1,030
Western Europe	**27,650**	**73,693**	**101,343**
Germany	25,353	47,399	72,753
Greece	0	3,168	3,168
Turkey	306	3,760	4,066
United Kingdom	1,102	551	1,653
Yugoslavia	71	17,849	17,919
Other	818	966	1,784
Eastern Europe and Former U.S.S.R.	**132,046**	**158,138**	**290,183**
Bulgaria	14	2,974	2,988
Czech Republic	2,330	3,929	6,259
Hungary	0	1,209	1,209
Kazakhstan	34,172	3,307	37,479
Poland	22,377	2,050	24,427
Romania	1	1,605	1,606
Russia	54,110	118,964	173,074
Ukraine	17,939	19,708	37,647
Uzbekistan	1,102	3,307	4,409
Other	0	1,085	1,085
Africa	**60,816**	**216**	**61,032**
Botswana	4,740	0	4,740
South Africa	54,586	0	54,586
Zimbabwe	553	0	553
Other	936	216	1,152
Middle East, Asia, and Oceania	**210,604**	**113,675**	**324,279**
Australia	46,903	43,585	90,489
China	68,564	57,651	126,215
India	90,826	2,205	93,031
Indonesia	871	5,049	5,919
Japan	852	0	852
Pakistan	0	2,497	2,497
Thailand	0	1,398	1,398
Other	2,588	1,291	3,879
World	**R570,275**	**R511,005**	**R1,081,279**

[1] U.S. data are more current than other data on this table. They represent recoverable reserves as of December 31, 2002; data for the other countries are as of December 31, 2000, the most recent period for which they are available.

R=Revised.

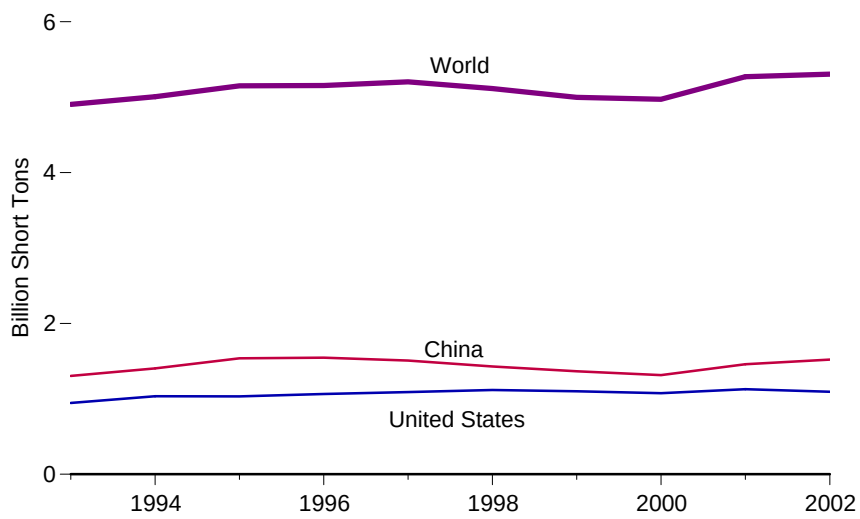
Notes: • World Energy Council data represent "Proved Recoverable Reserves," which are the tonnage within the "Proved Amount in Place" that can be recovered (extracted from the earth in raw form) under present and expected local economic conditions with existing, available technology. • The EIA does not certify the international reserves data but reproduces the information as a matter of convenience for the reader. • U. S. reserves represent estimated recoverable reserves from the Demonstrated Reserve Base which includes both measured and indicated tonnage. The U.S. term "measured" approximates the term "proved," used by the World Energy Council. The U.S. "measured and indicated" data have been combined and cannot be recaptured as "measured alone." • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/international.

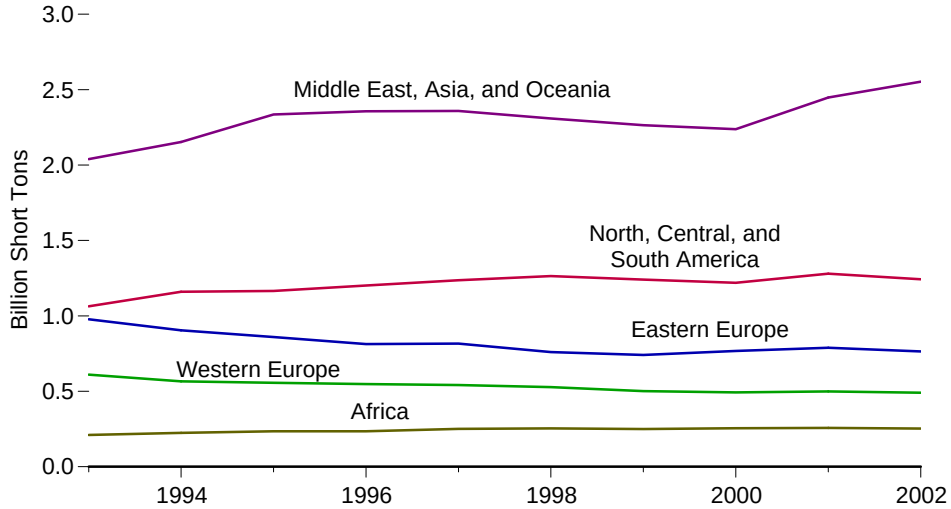
Source: Energy Information Administration, "International Energy Annual 2002" (May 2004), Table 8.2.

Figure 11.14 World Coal Production

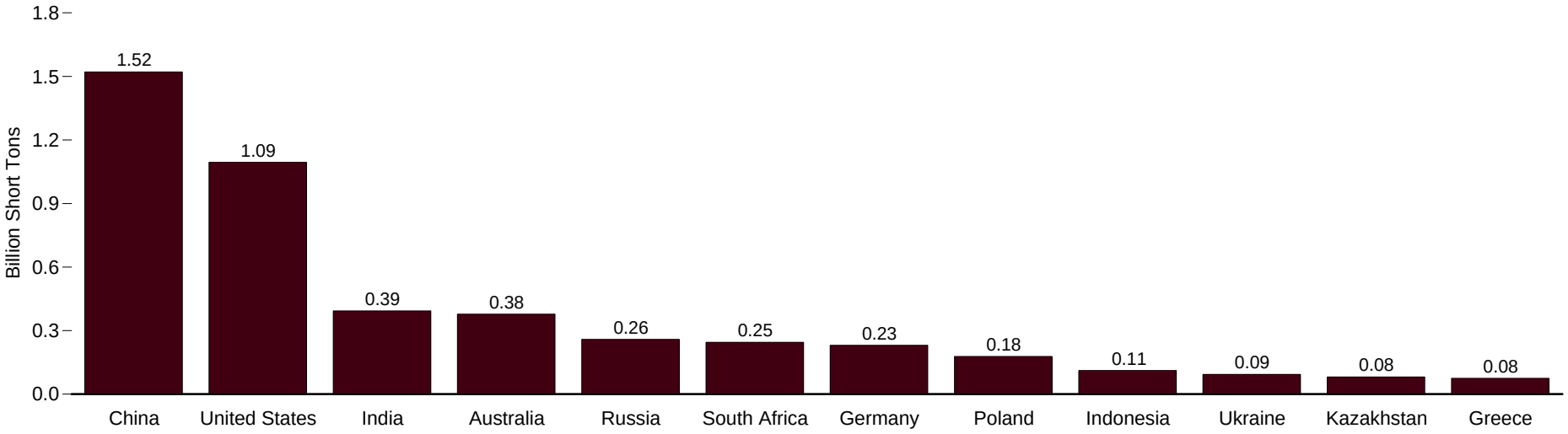
World and Leading Producers, 1993-2002



World Areas, 1993-2002



Top Producing Countries, 2002



Note: Because vertical scales differ, graphs should not be compared.

Source: Table 11.14.

Table 11.14 World Coal Production, 1993-2002

(Million Short Tons)

Region and Country	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002[P]
North, Central, and South America	**1,064**	**1,160**	**1,165**	**1,201**	**1,236**	**1,264**	**1,241**	**1,219**	**1,280**	**1,243**
Canada	76	80	83	[R]84	87	83	80	76	78	73
Colombia	23	25	28	33	36	37	36	42	48	48
Mexico	8	10	10	11	11	12	11	13	13	12
United States	945	1,034	1,033	1,064	1,090	1,118	1,100	1,074	1,128	1,094
Other	11	11	11	10	12	14	13	15	14	15
Western Europe	**611**	**[R]566**	**[R]556**	**[R]548**	**[R]542**	**[R]528**	**501**	**[R]493**	**[R]499**	**491**
France	12	11	11	9	8	7	6	[R]5	3	2
Germany	315	292	274	265	252	233	226	225	226	231
Greece	60	62	64	66	65	67	68	70	[R]73	75
Macedonia	8	8	8	8	8	9	8	8	[R]9	10
Slovenia	6	5	5	5	6	5	5	5	5	5
Spain	35	33	31	[R]30	29	29	27	26	25	24
Turkey	54	60	61	62	66	74	74	70	73	59
United Kingdom	75	54	52	54	52	44	40	34	35	33
Yugoslavia	41	[R]37	[R]45	[R]45	[R]47	49	37	38	[R]38	35
Other	6	5	5	4	[R]9	[R]11	10	12	13	17
Eastern Europe and Former U.S.S.R.	**[R]978**	**[R]904**	**[R]860**	**[R]813**	**[R]816**	**[R]760**	**[R]741**	**[R]768**	**[R]789**	**764**
Bulgaria	[R]28	[R]28	[R]30	[R]31	33	[R]33	[R]28	[R]29	[R]29	28
Czech Republic	94	85	[R]83	[R]85	[R]82	74	65	72	73	70
Hungary	16	16	16	17	17	[R]16	[R]16	[R]15	[R]15	14
Kazakhstan	123	115	92	85	80	77	64	80	[R]83	81
Poland	218	220	220	193	222	196	188	178	179	178
Romania	44	45	45	46	37	29	25	32	[R]37	34
Russia	[R]316	[R]281	[R]271	[R]265	[R]253	241	259	[R]265	[R]273	259
Ukraine	128	104	95	83	85	85	[R]88	[R]89	[R]93	93
Uzbekistan	4	4	3	3	3	3	3	3	3	3
Other	7	6	5	5	5	5	5	5	4	4
Africa	**211**	**224**	**[R]235**	**235**	**251**	**254**	**250**	**255**	**257**	**253**
South Africa	203	216	227	227	244	247	243	248	250	245
Zimbabwe	6	[R]5	[R]5	5	4	5	5	5	[R]4	6
Other	3	3	3	2	2	2	2	2	2	2
Middle East, Asia, and Oceania	**[R]1,970**	**[R]2,082**	**[R]2,263**	**[R]2,282**	**[R]2,291**	**[R]2,243**	**[R]2,209**	**[R]2,194**	**[R]2,403**	**2,502**
Australia	248	248	267	272	292	317	321	338	[R]363	378
China	1,304	1,404	1,537	1,545	1,507	1,429	1,365	1,314	1,459	1,521
India	[R]288	[R]301	[R]321	315	[R]338	[R]343	[R]356	[R]369	[R]385	393
Indonesia	[R]32	[R]36	[R]45	55	60	[R]68	[R]81	84	[R]102	112
Mongolia	6	6	6	6	5	[R]5	[R]6	6	6	6
North Korea	[R]40	[R]37	[R]35	[R]31	[R]30	[R]27	[R]31	[R]33	[R]34	37
South Korea	10	8	6	5	5	5	5	5	4	4
Thailand	17	19	20	24	26	22	20	20	22	22
Vietnam	7	6	9	11	13	12	10	11	[R]14	14
Other	18	18	17	[R]18	15	14	15	14	15	16
World	**[R]4,834**	**[R]4,936**	**[R]5,079**	**[R]5,079**	**[R]5,136**	**[R]5,048**	**[R]4,943**	**[R]4,929**	**[R]5,227**	**5,252**

R=Revised. P=Preliminary.

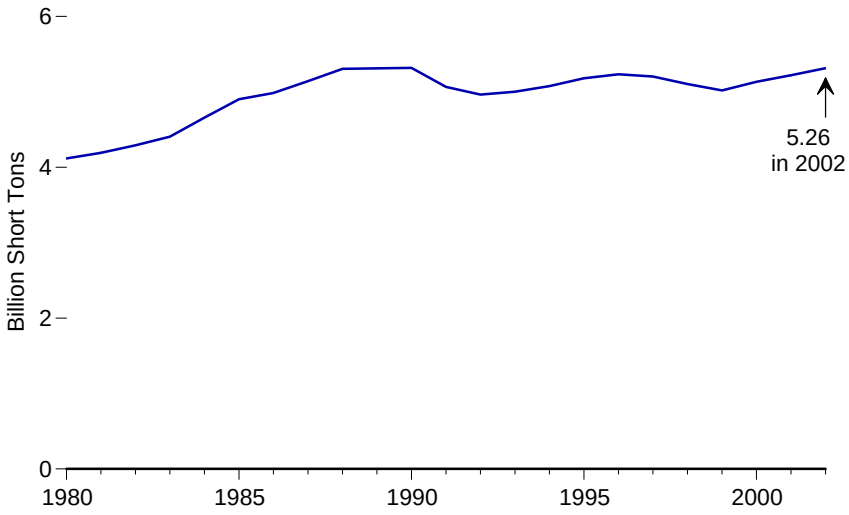
Notes: • Coal includes anthracite, subanthracite, bituminous coal, subbituminous coal, lignite, and brown coal. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/international.

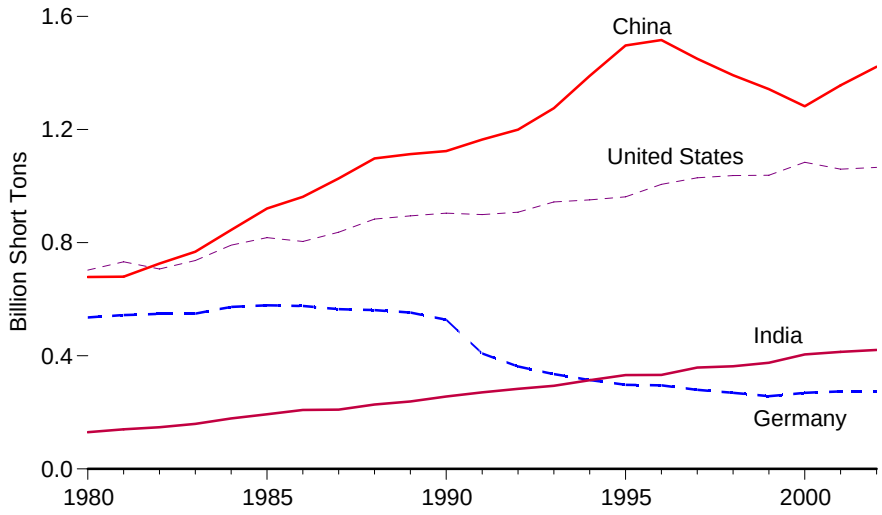
Sources: **United States:** Table 7.1. **All Other Data:** Energy Information Administration, "International Energy Annual 2002" (May 2004), Table 2.5.

Figure 11.15 World Coal Consumption

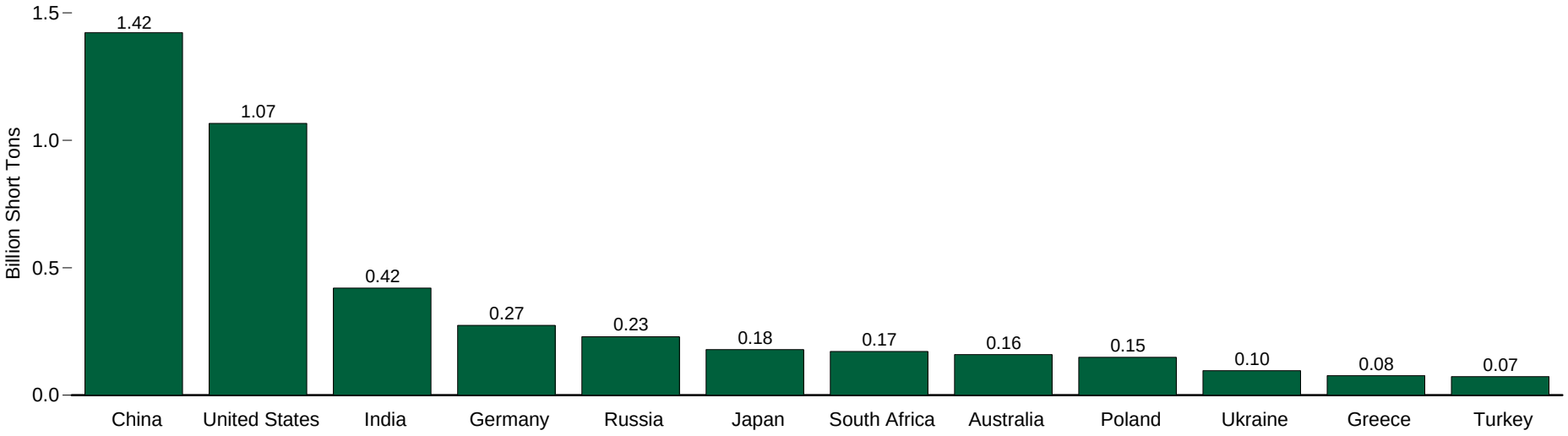
World Total, 1980-2002



Selected Countries, 1980-2002



Top Consuming Countries, 2002



Note: Because vertical scales differ, graphs should not be compared.

Source: Table 11.15.

Table 11.15 World Coal Consumption, 1980-2002

(Million Short Tons)

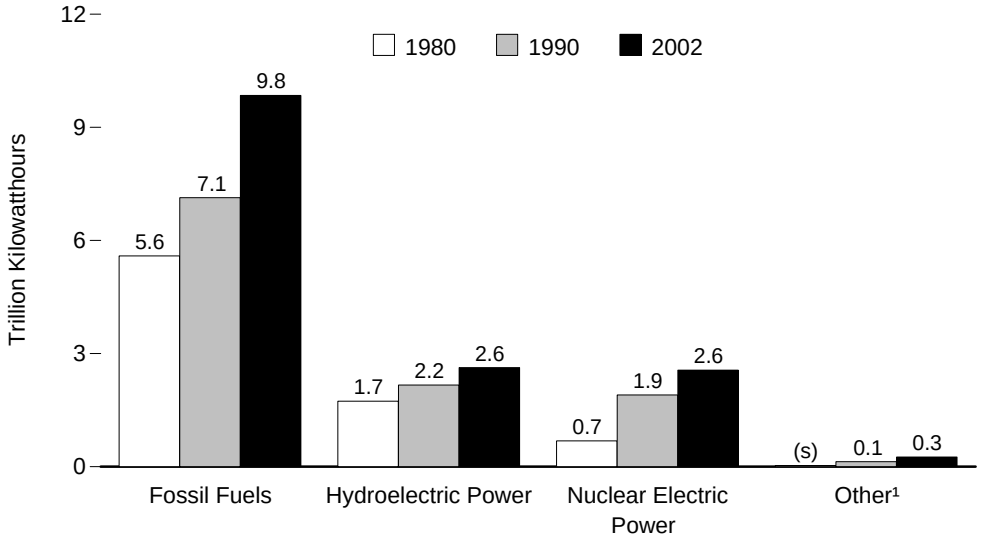
Year	Australia	China	Germany [1]	Greece	India	Japan	North Korea	Poland	Former U.S.S.R.	Russia	South Africa	Turkey	Ukraine	United Kingdom	United States	Other	World
1980	74	679	535	26	130	98	R49	221	751	—	105	20	—	134	703	R602	R4,126
1981	75	680	544	30	R140	106	R51	200	748	—	116	23	—	130	733	R626	R4,202
1982	79	726	548	31	147	105	R54	208	771	—	124	26	—	122	707	R658	R4,304
1983	78	768	549	36	160	100	R56	213	764	—	127	29	—	123	737	R678	R4,417
1984	81	845	573	36	R179	113	R57	227	770	—	137	35	—	88	791	R723	R4,655
1985	86	921	579	42	193	119	R60	238	779	—	142	46	—	116	818	R756	R4,896
1986	84	962	576	44	209	109	R59	247	803	—	145	54	—	123	804	R754	R4,974
1987	93	1,027	565	49	R209	111	R57	258	807	—	148	54	—	129	837	R774	R5,117
1988	96	1,098	562	56	R228	123	R58	253	821	—	151	51	—	123	884	R770	R5,272
1989	104	1,113	553	59	R239	123	R57	242	777	—	140	60	—	126	895	R783	R5,272
1990	104	1,124	528	59	R256	R126	R54	202	848	—	139	60	—	119	904	R746	R5,270
1991	108	1,165	408	59	R271	R129	R52	202	672	—	144	64	—	118	899	R723	R5,013
1992	111	1,199	362	62	R283	R125	R46	192	—	R326	147	66	151	111	908	R813	R4,903
1993	109	1,276	335	62	R294	R127	R42	194	—	R313	146	R60	R136	96	944	R799	R4,933
1994	110	1,390	314	66	R314	R137	R39	184	—	R284	161	66	109	91	951	R790	R5,004
1995	112	1,498	298	64	R332	R142	R36	184	—	R270	162	67	110	79	962	R791	R5,106
1996	120	1,517	296	66	R332	R142	R31	160	—	R278	164	73	95	77	1,006	R798	R5,155
1997	127	1,450	280	66	R359	R151	R30	182	—	R253	172	80	92	69	1,030	R793	R5,133
1998	138	1,392	269	68	R363	R141	R27	168	—	238	161	86	92	R68	1,037	R786	R5,034
1999	141	1,343	257	68	R375	R151	R31	161	—	247	170	84	R91	61	1,039	R745	R4,964
2000	141	1,282	R269	72	R405	R165	R33	158	—	R253	R176	R89	R93	64	1,084	R806	R5,088
2001	R150	R1,357	R274	R75	R414	R173	R34	151	—	R242	R173	R83	R95	R70	1,060	R823	R5,174
2002P	160	1,422	274	76	421	179	37	149	—	229	172	73	96	64	1,066	844	5,262

[1] Through 1990, this is East and West Germany. Beginning in 1991, this is unified Germany.
R=Revised. P=Preliminary. — = Not applicable.
Note: Totals may not equal sum of components due to independent rounding.

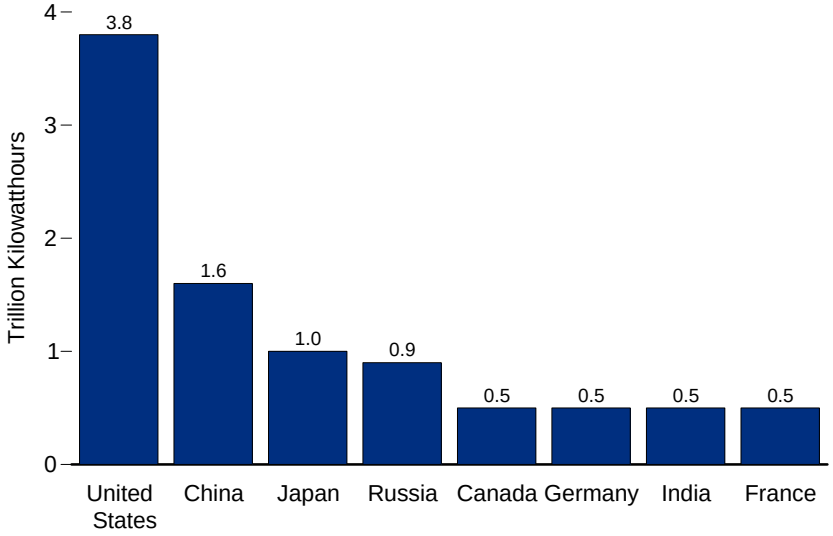
Web Page: For related information, see http://www.eia.doe.gov/international.
Sources: **United States:** Table 7.1. **All Other Data:** Energy Information Administration, "International Energy Annual 2002" (May 2004), Table 1.4.

Figure 11.16 World Net Generation of Electricity

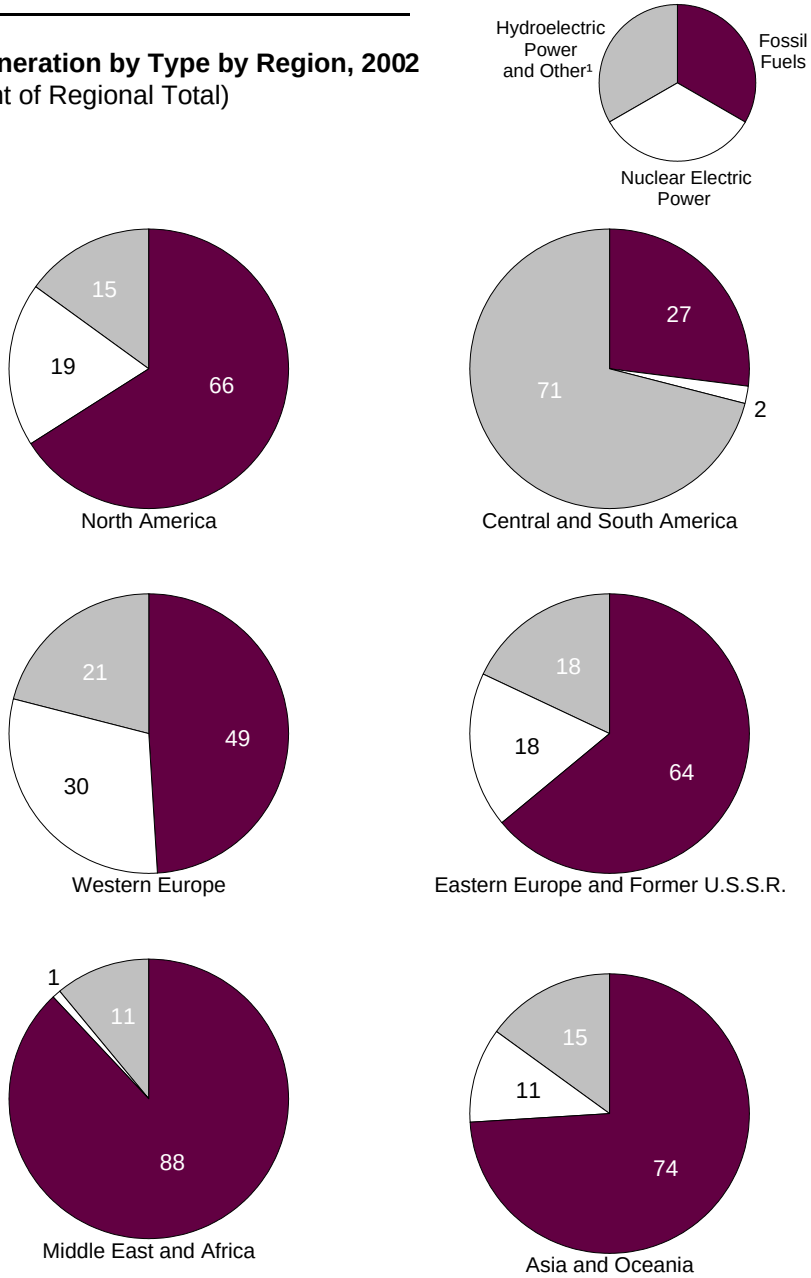
Net Generation by Type–1980, 1990, and 2002



Net Generation in Leading Countries, 2002



Net Generation by Type by Region, 2002
(Percent of Regional Total)



[1] Wood, waste, geothermal, solar, wind, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

(s)=Less than 0.05 trillion kilowatthours.
Note: Because vertical scales differ, graphs should not be compared.
Source: Table 11.16.

Table 11.16 World Net Generation of Electricity by Type, 1980, 1990, and 2002

(Billion Kilowatthours)

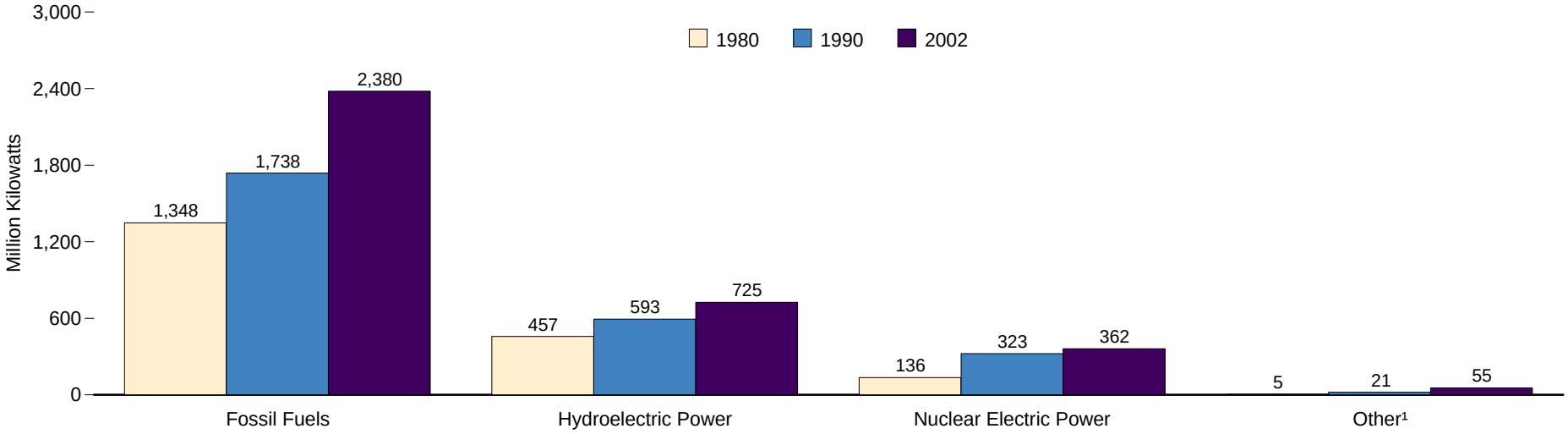
Region and Country	Fossil Fuels			Nuclear Electric Power			Hydroelectric Power [1]			Total [2]		
	1980	1990	2002 P	1980	1990	2002 P	1980	1990	2002 P	1980	1990	2002 P
North America	**1,880.1**	R**2,292.0**	**3,050.4**	**287.0**	**648.9**	**860.3**	**546.9**	**606.5**	**595.8**	**2,721.6**	**3,623.9**	**4,592.7**
Canada	79.8	101.9	155.2	35.9	69.2	71.0	251.0	293.9	315.5	367.9	468.6	548.9
Mexico	46.0	85.7	164.1	0.0	2.8	9.3	16.7	23.2	24.7	63.6	116.6	203.6
United States	1,753.8	2,103.8	2,730.2	251.1	576.9	780.1	279.2	289.4	255.6	2,289.6	3,038.0	3,839.3
Other	0.5	0.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.7	0.9
Central and South America	**99.8**	**114.8**	**214.3**	**2.2**	**9.0**	**19.2**	**201.5**	**365.0**	**534.8**	**308.2**	R **497.0**	**789.7**
Argentina	22.2	20.9	39.7	2.2	7.0	5.4	17.3	20.2	35.5	41.8	48.3	81.4
Brazil	7.5	8.1	28.6	0.0	1.9	13.8	128.4	204.6	282.1	138.3	219.6	339.0
Paraguay	0.0	(s)	(s)	0.0	0.0	0.0	0.7	26.9	48.3	0.8	27.0	48.4
Venezuela	17.6	21.0	28.1	0.0	0.0	0.0	14.4	36.6	58.9	32.0	57.6	87.0
Other	52.4	R 64.8	118.0	0.0	0.0	0.0	40.6	76.5	110.0	95.3	R 144.5	233.9
Western Europe	**1,180.1**	**1,171.6**	**1,436.8**	**219.2**	**707.5**	**881.7**	**431.7**	**453.4**	**503.2**	**1,844.5**	**2,351.7**	**2,918.4**
Belgium	38.3	25.0	29.5	11.9	40.6	45.0	0.3	0.3	0.4	50.8	66.5	76.6
Finland	22.0	22.8	29.8	6.6	18.3	21.2	10.1	10.8	10.7	38.7	51.8	71.6
France	118.0	44.3	49.0	63.4	298.4	414.9	68.3	52.8	60.5	250.8	397.6	528.6
Germany	390.3	358.9	341.6	55.6	145.1	156.8	18.8	17.2	23.0	469.9	526.0	548.3
Italy	125.5	167.5	212.3	2.1	0.0	0.0	45.0	31.3	40.0	176.4	202.1	261.6
Netherlands	58.0	63.2	82.3	3.9	3.3	3.7	0.0	0.1	0.1	62.9	67.6	90.6
Norway	0.1	0.2	0.5	0.0	0.0	0.0	82.7	119.9	125.1	82.9	120.4	125.9
Spain	74.5	66.5	134.8	5.2	51.6	59.9	29.2	25.2	22.8	109.2	143.9	229.0
Sweden	10.1	3.2	6.2	25.3	64.8	65.4	58.1	71.8	66.0	94.3	141.5	142.8
Switzerland	0.9	0.6	1.0	12.9	22.4	25.9	32.5	29.5	34.8	46.4	53.0	63.5
Turkey	12.0	32.3	89.7	0.0	0.0	0.0	11.2	22.9	33.3	23.3	55.2	123.3
United Kingdom	228.9	230.0	265.5	32.3	58.7	83.6	3.9	5.1	4.8	265.1	295.2	360.8
Other	101.4	157.0	194.6	0.0	4.4	5.3	71.7	66.6	81.6	173.8	230.8	295.9
Eastern Europe and Former U.S.S.R.	**1,309.3**	**1,471.5**	**1,042.1**	**83.2**	**251.3**	**297.1**	**211.3**	**253.6**	**275.8**	**1,604.1**	**1,976.6**	**1,619.9**
Czech Republic	—	—	50.8	—	—	17.8	—	—	2.5	—	—	71.8
Kazakhstan	—	—	46.7	—	—	0.0	—	—	8.7	—	—	55.4
Poland	111.1	125.0	130.8	0.0	0.0	0.0	3.2	3.3	2.0	114.7	128.5	133.8
Romania	51.4	49.7	31.8	0.0	0.0	5.1	12.5	10.9	16.7	63.9	60.6	53.6
Russia	—	—	533.2	—	—	134.1	—	—	180.2	—	—	850.6
Ukraine	—	—	83.6	—	—	73.4	—	—	10.2	—	—	167.3
Other	1,146.8	1,296.7	165.2	83.2	251.3	66.7	195.5	239.4	55.5	1,425.6	1,787.5	287.4
Middle East	**82.8**	**216.3**	**470.6**	**0.0**	**0.0**	**0.0**	**9.6**	**12.5**	**19.4**	**92.4**	**228.9**	**490.0**
Iran	15.7	49.8	121.0	0.0	0.0	0.0	5.6	6.0	8.0	21.3	55.9	129.0
Saudi Arabia	20.5	64.9	138.2	0.0	0.0	0.0	0.0	0.0	0.0	20.5	64.9	138.2
Other	46.6	101.6	211.4	0.0	0.0	0.0	4.1	6.5	11.4	50.7	108.1	222.8
Africa	**129.1**	**243.8**	**360.7**	**0.0**	**8.4**	**12.0**	**60.1**	**54.9**	**80.7**	**189.2**	**307.5**	**453.9**
Egypt	8.6	31.5	66.8	0.0	0.0	0.0	9.7	9.9	14.4	18.3	41.4	81.3
South Africa	92.1	146.6	188.3	0.0	8.4	12.0	1.0	1.0	2.4	93.1	156.0	202.6
Other	28.4	65.6	105.5	0.0	0.0	0.0	49.4	44.0	63.9	77.8	110.1	170.0
Asia and Oceania	**907.7**	**1,626.8**	**3,270.4**	**92.7**	**279.9**	**489.3**	**275.2**	**420.9**	**617.9**	**1,280.5**	R **2,354.7**	**4,425.9**
Australia	74.5	131.8	191.3	0.0	0.0	0.0	12.8	14.0	16.3	87.7	146.4	210.3
China	227.9	465.2	1,240.8	0.0	0.0	23.5	57.6	125.1	308.9	285.5	590.3	1,575.1
India	69.7	198.9	457.2	3.0	5.6	17.8	46.5	70.9	68.0	119.3	275.5	547.2
Indonesia	10.6	35.3	85.8	0.0	0.0	0.0	3.0	10.1	10.4	13.5	46.5	99.3
Japan	381.6	524.0	646.5	78.6	192.2	295.1	87.8	88.4	81.4	549.1	822.1	1,044.0
South Korea	29.8	45.5	170.9	3.3	50.2	113.1	1.5	4.6	3.2	34.6	100.4	287.6
Taiwan	31.3	43.6	114.2	7.8	31.6	38.0	2.9	8.2	6.3	42.0	83.3	158.5
Thailand	12.3	38.7	94.8	0.0	0.0	0.0	1.3	4.9	6.4	13.6	43.7	102.4
Other	70.1	143.8	269.0	(s)	0.4	1.8	61.8	94.5	117.0	135.3	R 246.4	401.4
World	**5,588.8**	**7,136.8**	**9,845.2**	**684.4**	**1,905.0**	**2,559.6**	**1,736.3**	**2,166.8**	**2,627.6**	**8,040.5**	R**11,340.2**	**15,290.5**

[1] Excludes pumped storage, except for the United States.
[2] Wood, waste, geothermal, solar, wind, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies are included in total.
R=Revised. P=Preliminary. — = Not applicable. (s)=Less than 0.05 billion kilowatthours.

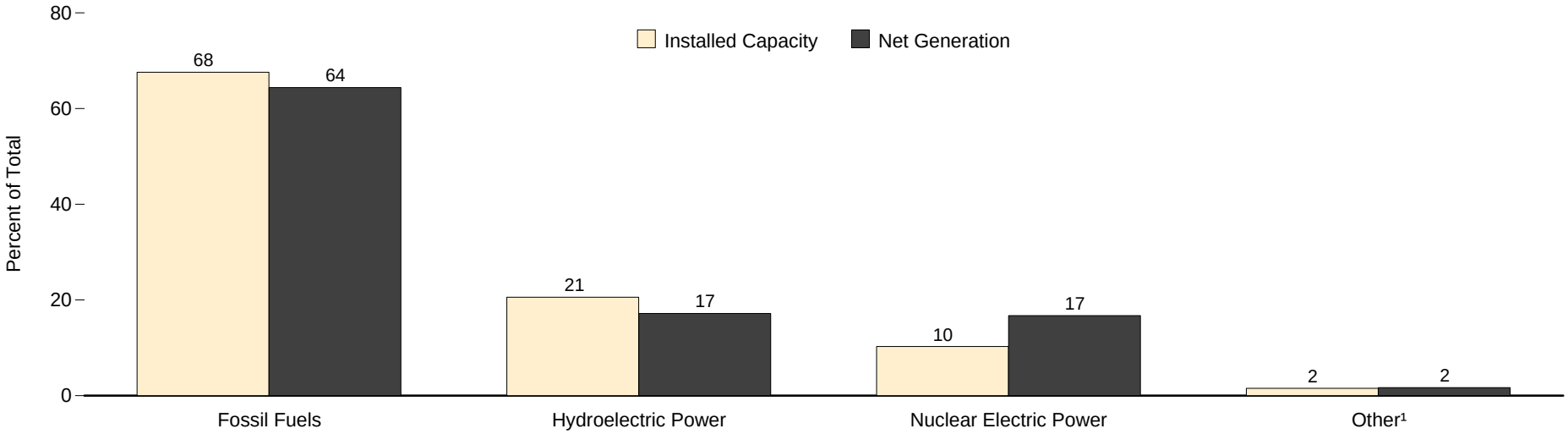
Note: • Totals may not equal sum of components due to independent rounding.
Web Page: For related information, see http://www.eia.doe.gov/international.
Sources: **United States:** Tables 1.2 and 8.2a. **All Other Data:** Energy Information Administration, "International Energy Annual 2002" (May 2004), Tables 2.6, 2.7, 6.1, and 6.3.

Figure 11.17 World Electrical Installed Capacity by Type

By Type–1980, 1990, and 2002



Installed Capacity and Net Generation Shares by Type, 2002



[1] Wood, waste, geothermal, solar, wind, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

Note: Shares are based on data prior to rounding for publication and may not sum exactly to 100 percent.

Sources: Tables 11.16 and 11.17.

Table 11.17 World Electrical Installed Capacity by Type, 1980, 1990, and 2002

(Million Kilowatts)

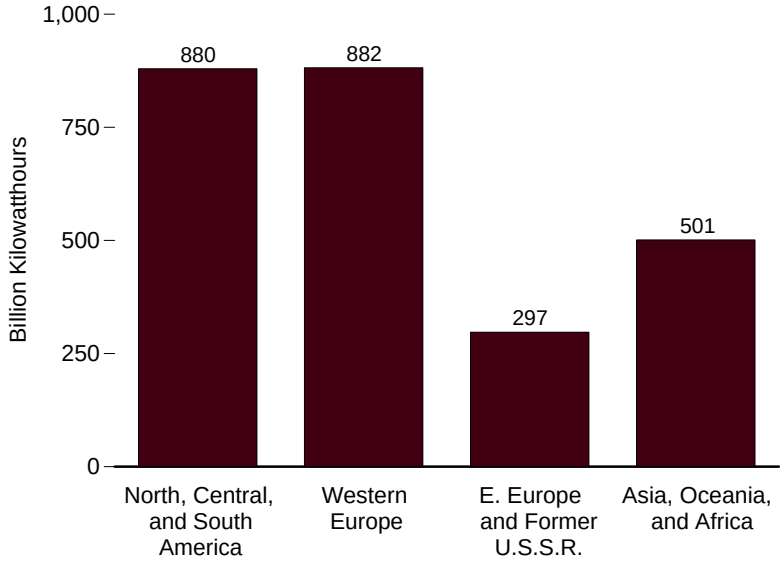
Region and Country	Fossil Fuels			Nuclear Electric Power			Hydroelectric Power [1]			Total [2]		
	1980	1990	2002 P	1980	1990	2002 P	1980	1990	2002 P	1980	1990	2002 P
North America	R **481.7**	R **575.0**	**752.1**	**57.7**	**112.2**	**110.7**	**135.7**	R **159.1**	**176.6**	R **676.4**	R **860.0**	**1,058.2**
Canada	R 26.6	R 28.0	31.9	5.9	11.9	10.6	47.9	57.9	67.2	R 80.8	R 98.9	111.0
Mexico	10.8	R 18.9	30.4	0.0	0.7	1.4	6.1	7.8	9.6	17.0	R 28.0	42.3
United States	444.1	527.8	689.5	51.8	99.6	98.7	81.7	93.4	99.8	578.4	732.8	904.6
Other	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3
Central and South America	**36.0**	**44.9**	**70.2**	**0.4**	**1.7**	**3.0**	**43.0**	**84.1**	**117.5**	**81.2**	**132.8**	**194.3**
Argentina	8.0	9.5	16.4	0.4	1.0	1.0	3.6	6.6	9.6	12.0	17.2	27.0
Brazil	4.1	4.7	7.6	0.0	0.7	2.0	27.5	44.8	63.4	33.4	52.1	76.2
Paraguay	0.1	(s)	0.0	0.0	0.0	0.0	0.2	5.8	8.0	0.2	5.8	8.0
Venezuela	5.8	8.5	8.1	0.0	0.0	0.0	2.7	10.0	13.1	8.5	18.5	21.2
Other	18.0	22.1	38.0	0.0	0.0	0.0	9.0	16.9	23.4	27.1	39.2	61.8
Western Europe	R **291.8**	R **315.8**	**356.0**	**44.7**	**117.7**	**127.7**	**126.7**	R **140.5**	**146.4**	R **464.0**	R **577.1**	**654.5**
Belgium	8.2	7.2	8.1	1.7	5.5	5.7	0.7	0.1	0.1	10.6	12.8	14.2
Finland	6.3	7.8	10.9	2.2	2.4	2.6	2.4	2.6	2.9	11.0	12.7	16.5
France	R 30.1	22.8	26.5	14.4	52.5	63.2	16.4	20.3	20.7	61.0	95.9	111.2
Germany	R 84.1	R 87.5	77.4	10.4	24.5	22.4	7.9	8.7	4.3	R 102.5	R 120.7	115.0
Italy	R 27.6	R 37.5	53.7	1.4	0.0	0.0	15.8	12.6	13.5	R 45.3	50.6	69.1
Netherlands	R 16.9	16.8	19.3	0.5	0.5	0.4	0.0	(s)	(s)	R 17.4	17.3	20.4
Norway	0.2	R 0.2	0.1	0.0	0.0	0.0	19.8	25.7	26.8	20.0	26.0	27.1
Spain	R 13.9	R 19.9	26.4	1.1	7.5	7.5	13.5	11.6	12.7	R 28.5	39.1	50.4
Sweden	7.9	R 7.2	7.3	4.6	9.9	9.5	14.9	15.8	16.5	27.4	33.5	33.6
Switzerland	R 0.6	0.8	0.5	1.9	3.0	3.2	11.5	10.1	11.6	R 14.0	13.9	15.6
Turkey	3.0	9.2	16.6	0.0	0.0	0.0	2.1	6.6	11.7	5.1	15.8	28.3
United Kingdom	R 65.6	R 59.1	61.8	6.5	11.4	12.5	2.5	1.4	1.5	R 74.5	R 72.0	77.0
Other	R 27.3	R 39.9	47.3	0.0	0.7	0.7	19.3	R 25.0	24.0	R 46.7	R 66.8	76.0
Eastern Europe and Former U.S.S.R.	**261.1**	R **311.1**	**299.7**	**14.2**	**45.8**	**48.2**	R **61.0**	R **77.0**	**79.9**	R **336.3**	R **433.9**	**427.9**
Czech Republic	—	—	11.5	—	—	2.8	—	—	1.0	—	—	15.3
Kazakhstan	—	—	14.7	—	—	0.0	—	—	2.2	—	—	16.9
Poland	R 23.0	R 26.1	28.4	0.0	0.0	0.0	R 0.6	R 0.6	0.9	R 23.6	R 26.8	29.3
Romania	12.7	17.3	15.6	0.0	0.0	0.7	3.5	5.6	6.1	16.1	22.9	22.4
Russia	—	—	139.6	—	—	21.2	—	—	44.7	—	—	205.6
Ukraine	—	—	35.3	—	—	11.8	—	—	4.7	—	—	51.9
Other	R 225.5	R 267.7	54.6	14.2	45.8	11.6	56.9	70.7	20.3	R 296.5	R 384.2	86.6
Middle East	**27.9**	**68.2**	**99.7**	**0.0**	**0.0**	**0.0**	**2.6**	**4.8**	**5.5**	**30.4**	**73.0**	**105.2**
Iran	9.4	15.5	25.2	0.0	0.0	0.0	1.8	2.0	2.8	11.2	17.4	28.0
Saudi Arabia	5.9	19.1	23.8	0.0	0.0	0.0	0.0	0.0	0.0	5.9	19.1	23.8
Other	12.5	33.7	50.7	0.0	0.0	0.0	0.8	2.8	2.7	13.3	36.5	53.4
Africa	**30.5**	**57.4**	**79.8**	**0.0**	**1.8**	**1.8**	**13.9**	**18.5**	**20.6**	**44.5**	**77.8**	**102.3**
Egypt	2.4	8.7	14.9	0.0	0.0	0.0	2.4	2.7	2.7	4.9	11.5	17.6
South Africa	17.8	28.6	38.0	0.0	1.8	1.8	0.5	0.6	0.7	18.4	31.0	40.5
Other	10.3	20.1	26.9	0.0	0.0	0.0	10.9	15.2	17.2	21.2	35.4	44.2
Asia and Oceania	R **218.9**	R **365.5**	**722.7**	**18.5**	**43.9**	**70.3**	**74.4**	**109.3**	**178.3**	R **312.6**	R **520.3**	**978.8**
Australia	R 17.6	R 27.8	37.9	0.0	0.0	0.0	6.2	7.3	6.2	R 23.8	R 35.1	45.3
China	45.6	92.1	253.1	0.0	0.0	2.2	20.3	34.6	83.0	65.9	126.6	338.3
India	20.7	51.9	90.2	0.9	1.6	2.9	11.8	18.3	25.8	33.3	71.8	120.3
Indonesia	3.9	9.6	20.7	0.0	0.0	0.0	1.0	3.0	4.4	4.9	12.7	25.6
Japan	R 94.3	R 119.1	168.7	15.7	29.4	45.9	19.6	20.4	22.1	R 129.8	R 169.1	237.9
South Korea	6.5	11.0	38.6	0.6	7.6	13.7	0.8	1.3	1.6	7.9	20.0	54.5
Taiwan	6.9	10.2	20.6	1.3	5.1	5.1	1.4	2.6	4.4	9.6	17.9	30.1
Thailand	2.6	6.0	20.2	0.0	0.0	0.0	1.3	2.3	2.9	3.8	8.3	23.2
Other	R 20.9	37.8	72.7	0.1	0.1	0.5	12.1	19.6	27.9	R 33.7	R 58.8	103.6
World	R **1,347.9**	R **1,738.0**	**2,380.0**	**135.6**	**323.2**	**361.7**	R **457.3**	R **593.3**	**724.7**	R **1,945.4**	R **2,675.0**	**3,521.1**

[1] Excludes pumped storage, except for the United States.
[2] Wood, waste, geothermal, solar, wind, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies are included in total.
R=Revised. P=Preliminary. — = Not applicable. (s)=Less than 0.05 million kilowatts.

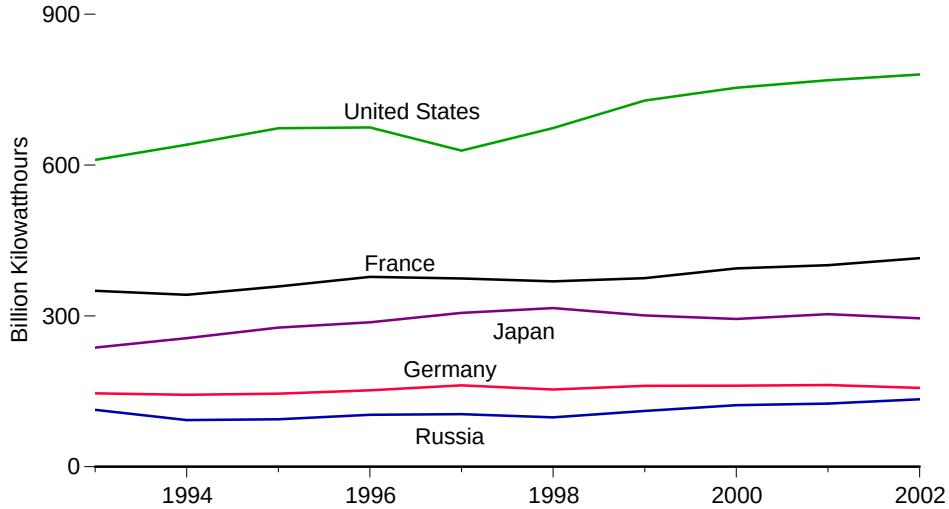
Note: Totals may not equal sum of components due to independent rounding.
Web Page: For related information, see http://www.eia.doe.gov/international.
Sources: **United States:** Table 8.11a **All Other Data:** Energy Information Administration, "International Energy Annual 2002" (May 2004), Tables 6.4, 6.4H, 6.4N, and 6.4T.

Figure 11.18 World Nuclear Electricity Net Generation

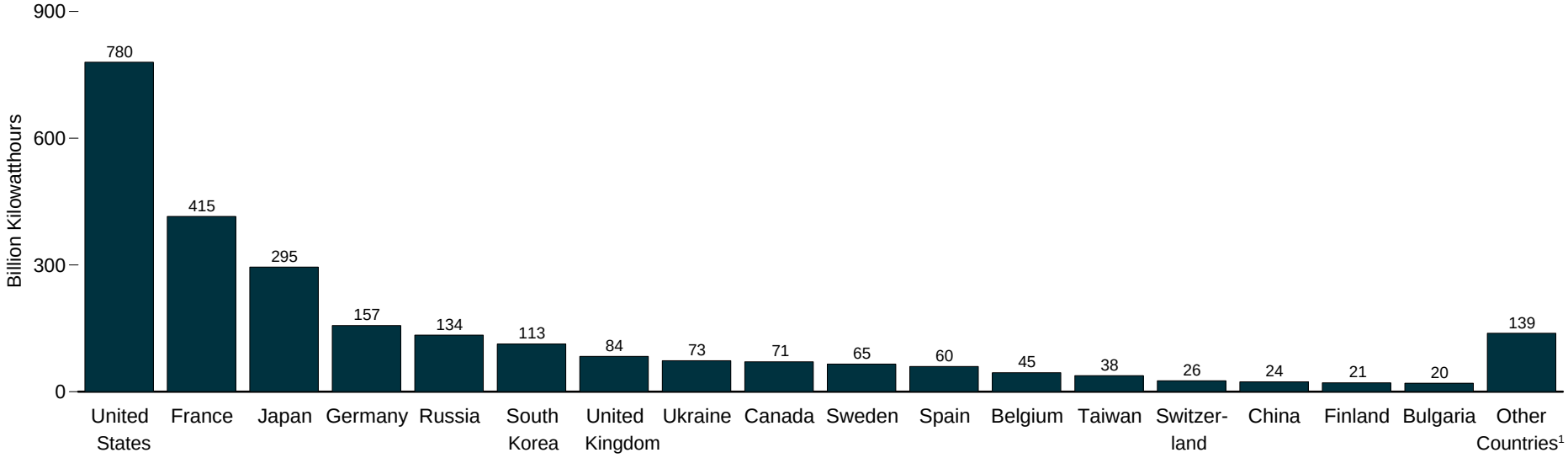
By Region, 2002



By Major Producer, 1993-2002



By Country, 2002



[1] Argentina, Armenia, Brazil, Czech Republic, Hungary, India, Lithuania, Mexico, Netherlands, Pakistan, Romania, Slovakia, Slovenia, and South Africa.

Note: Because vertical scales differ, graphs should not be compared.
Source: Table 11.18.

Table 11.18 World Nuclear Electricity Net Generation, 1993-2002

(Billion Kilowatthours)

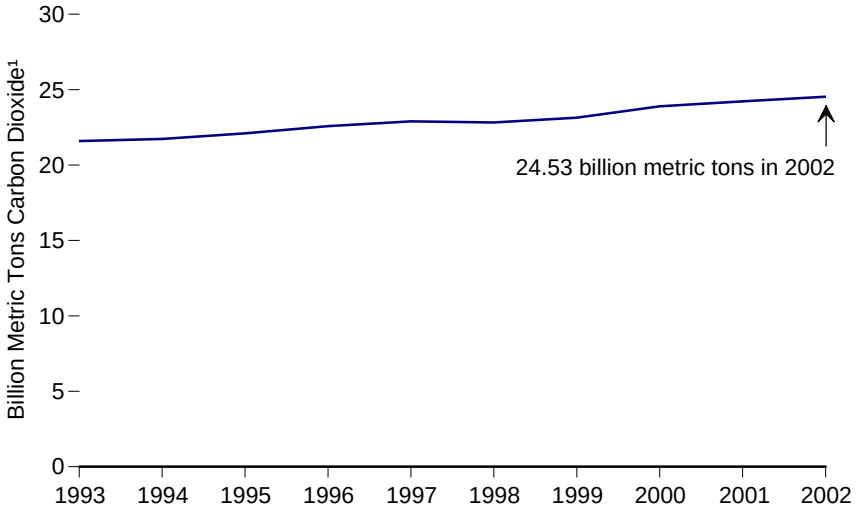
Region and Country	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
North America	**705.1**	**746.9**	**774.4**	**770.3**	**716.4**	**750.2**	**807.6**	**830.4**	**850.0**	**860.3**
Canada	90.1	102.4	93.0	88.1	77.9	67.7	69.8	68.7	72.9	71.0
Mexico	4.7	4.0	8.0	7.5	9.9	8.8	9.5	7.8	8.3	9.3
United States	610.3	640.4	673.4	674.7	628.6	673.7	728.3	753.9	768.8	780.1
Central and South America	**7.7**	**7.9**	**9.5**	**9.2**	**10.5**	**10.3**	**10.5**	**10.9**	**20.8**	**19.2**
Argentina	7.3	7.8	7.1	6.9	7.5	7.1	6.7	6.0	6.5	5.4
Brazil	0.4	0.1	2.4	2.3	3.0	3.1	3.8	4.9	14.3	13.8
Western Europe	**776.6**	**775.4**	**793.0**	**830.3**	**839.9**	**841.0**	**850.2**	**849.4**	**875.4**	**881.7**
Belgium	39.8	38.6	39.3	41.2	45.0	43.9	46.6	45.7	44.0	45.0
Finland	18.9	18.5	18.3	18.5	19.0	20.8	21.8	21.3	21.7	21.2
France	349.8	342.0	358.4	377.5	374.3	368.6	375.1	394.4	400.9	414.9
Germany	145.8	143.2	145.4	152.0	161.8	153.6	161.0	161.2	162.6	156.8
Netherlands	3.8	3.8	3.8	4.0	2.3	3.6	3.6	3.7	3.8	3.7
Slovenia	3.8	4.3	4.5	4.4	4.8	5.0	4.5	4.5	5.0	5.3
Spain	53.3	52.5	52.7	53.5	52.5	56.0	55.9	58.9	60.5	59.9
Sweden	58.3	69.5	66.4	69.6	66.7	69.9	66.6	54.1	65.8	65.4
Switzerland	22.2	23.1	23.7	23.9	24.0	24.5	23.7	23.7	25.5	25.9
United Kingdom	81.0	80.0	80.6	85.8	89.3	95.1	91.5	81.7	85.6	83.6
Eastern Europe and Former U.S.S.R.	**247.3**	**217.7**	**224.3**	**249.8**	**250.3**	**240.9**	**248.6**	**265.7**	**277.3**	**297.1**
Armenia	0.0	0.0	0.0	[R]2.1	1.4	1.4	2.1	1.8	2.0	2.1
Bulgaria	13.3	14.6	16.4	17.8	16.4	16.1	15.0	17.3	18.2	20.2
Czech Republic	12.0	12.3	11.6	12.2	[R]12.5	12.5	12.7	12.9	14.0	17.8
Hungary	13.1	13.3	13.3	13.5	13.3	13.3	13.4	13.5	13.4	13.3
Kazakhstan	0.4	0.4	0.1	0.1	0.3	[R]0.1	0.0	0.0	0.0	0.0
Lithuania	12.3	7.3	10.6	12.7	10.9	12.9	9.9	8.4	11.4	14.1
Romania	—	—	—	0.9	5.1	4.9	4.8	5.2	5.0	5.1
Russia	113.2	92.9	94.3	103.3	104.5	98.3	110.9	122.5	125.4	134.1
Slovakia	11.6	11.5	10.9	11.3	10.5	10.8	12.5	13.1	16.2	17.1
Ukraine	71.4	65.4	67.0	76.0	75.4	70.6	67.4	71.1	71.7	73.4
Africa	**7.3**	**9.7**	**11.3**	**11.8**	**12.6**	**13.6**	**12.8**	**13.0**	**10.7**	**12.0**
South Africa	7.3	9.7	11.3	11.8	12.6	13.6	12.8	13.0	10.7	12.0
Asia and Oceania	**333.8**	**363.6**	**393.6**	**415.0**	**436.4**	**460.8**	**461.2**	**464.7**	**480.9**	**489.3**
China	2.5	13.5	12.4	13.6	11.4	13.5	14.1	16.0	16.7	23.5
India	5.9	4.7	6.5	7.4	10.5	10.6	11.5	14.1	18.2	17.8
Japan	236.8	255.7	276.7	287.1	306.1	315.7	300.8	293.8	303.4	295.1
Pakistan	0.4	0.6	0.5	0.3	0.4	0.4	0.1	0.4	2.0	1.8
South Korea	55.2	55.7	63.7	70.2	73.2	85.2	97.9	103.5	106.5	113.1
Taiwan	33.0	33.5	33.9	36.3	34.8	35.4	36.9	37.0	34.1	38.0
World	**2,077.7**	**2,121.3**	**2,206.0**	**2,286.5**	**2,266.1**	**2,316.9**	**2,391.0**	**2,434.2**	**2,515.1**	**2,559.6**

— = Not applicable.
Note: Totals may not equal sum of components due to independent rounding.

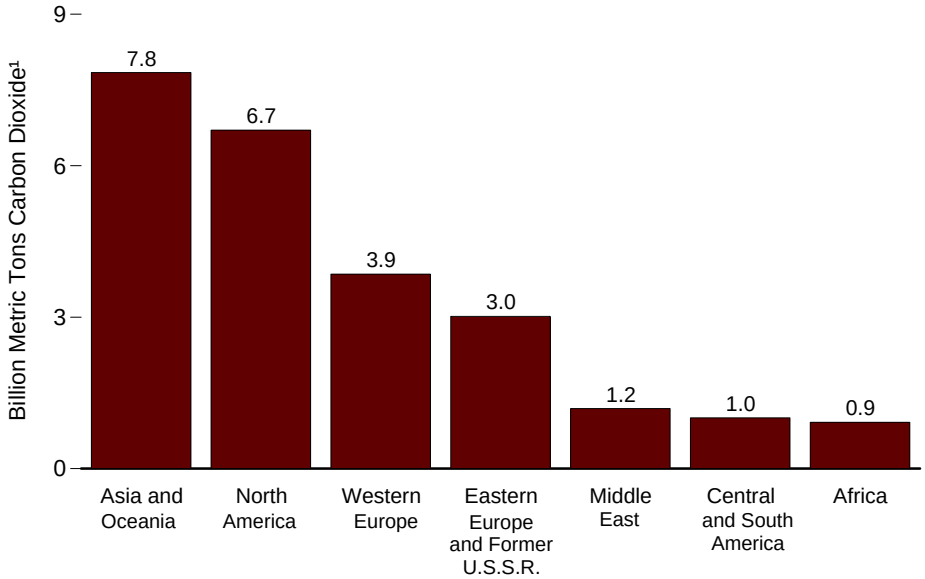
Web Page: For related information, see http://www.eia.doe.gov/international.
Source: Energy Information Administration, "International Energy Annual 2002" (May 2004), Table 2.7.

Figure 11.19 World Carbon Dioxide Emissions from Energy Consumption

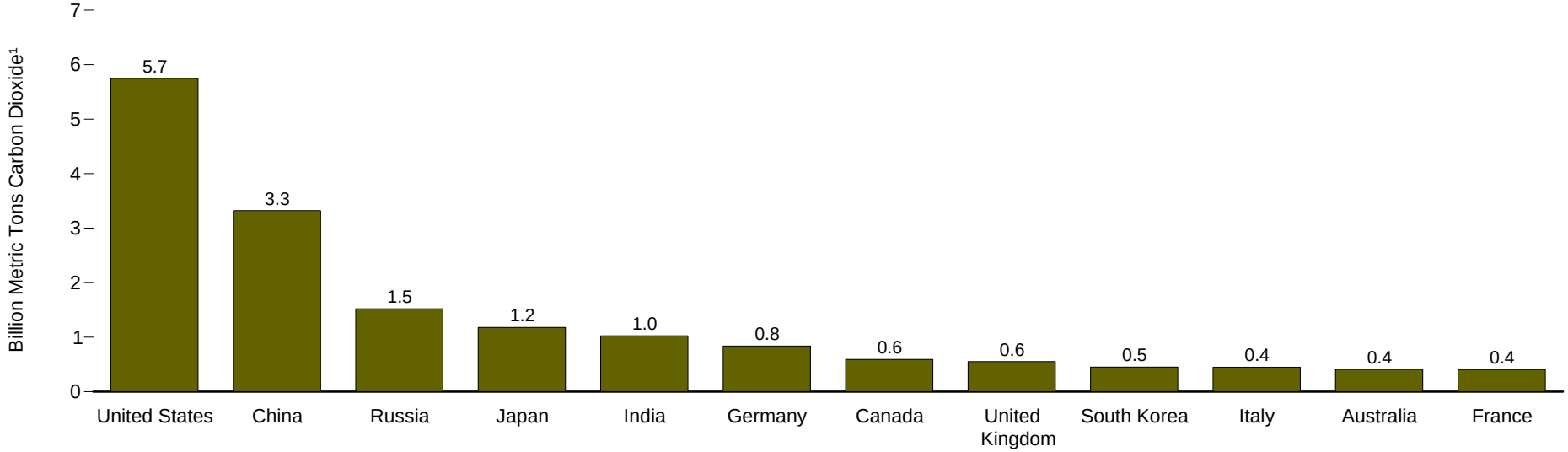
World, 1993-2002



World by Region, 2002



Leading Countries, 2002



[1] Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

Notes: Data include carbon dioxide emissions from fossil-fuel energy consumption and natural gas venting and flaring. • Because vertical scales differ, graphs should not be compared.
Source: Table 11.19.

Table 11.19 World Carbon Dioxide Emissions From Energy Consumption, 1993-2002

(Million Metric Tons of Carbon Dioxide [1])

Region and Country	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002[P]
North America	[R]**5,947**	[R]**6,059**	[R]**6,102**	[R]**6,323**	[R]**6,427**	[R]**6,501**	[R]**6,563**	[R]**6,773**	[R]**6,657**	**6,705**
Canada	478	494	494	[R]508	536	[R]541	[R]552	[R]577	[R]577	592
Mexico	310	330	319	338	347	383	[R]356	[R]376	[R]367	363
United States [2]	[R]5,158	[R]5,234	[R]5,289	[R]5,477	[R]5,543	[R]5,576	[R]5,654	[R]5,819	[R]5,713	5,749
Other	1	1	1	1	1	1	1	1	1	1
Central and South America	[R]**804**	[R]**828**	[R]**869**	[R]**901**	[R]**942**	[R]**968**	[R]**972**	**982**	[R]**1,017**	**1,006**
Argentina	122	119	122	129	129	[R]134	[R]138	135	[R]127	120
Brazil	273	285	302	309	[R]321	321	[R]331	[R]338	[R]347	346
Venezuela	114	120	123	132	134	141	[R]132	133	[R]151	143
Other	[R]295	[R]304	[R]321	[R]330	[R]358	[R]372	[R]371	[R]376	[R]392	396
Western Europe	[R]**3,510**	[R]**3,490**	[R]**3,565**	**3,663**	[R]**3,691**	[R]**3,704**	[R]**3,632**	[R]**3,816**	[R]**3,883**	**3,853**
Belgium	124	128	130	138	141	146	[R]139	[R]144	[R]142	146
France	367	356	369	388	380	[R]404	[R]401	[R]411	[R]412	407
Germany	883	867	875	879	877	863	[R]819	[R]843	[R]860	838
Italy	403	395	434	431	414	[R]425	[R]422	[R]449	[R]449	449
Netherlands	220	220	223	228	236	228	[R]224	[R]249	[R]276	256
Spain	229	236	[R]244	[R]233	[R]265	[R]271	[R]293	[R]318	[R]324	341
Turkey	144	139	151	168	181	182	[R]178	[R]203	[R]189	192
United Kingdom	578	570	560	[R]584	[R]562	[R]548	[R]534	[R]555	[R]570	553
Other	564	[R]579	[R]578	[R]614	[R]635	[R]637	[R]621	[R]643	[R]660	670
Eastern Europe and Former U.S.S.R.	[R]**3,721**	[R]**3,297**	[R]**3,161**	[R]**3,092**	[R]**2,949**	[R]**2,894**	[R]**2,985**	[R]**2,992**	[R]**3,033**	**3,016**
Kazakhstan	[R]209	[R]155	[R]129	[R]140	117	113	[R]133	[R]136	[R]140	153
Poland	338	320	304	287	335	311	[R]323	[R]289	[R]276	268
Romania	124	117	123	125	120	[R]95	[R]93	[R]94	[R]105	100
Russia	[R]1,887	[R]1,699	[R]1,589	[R]1,569	[R]1,438	[R]1,451	[R]1,524	[R]1,543	[R]1,553	1,522
Ukraine	531	442	447	400	375	367	[R]371	[R]358	[R]376	388
Uzbekistan	115	97	104	103	103	101	103	106	112	116
Other	[R]516	[R]467	[R]465	[R]467	[R]462	[R]455	[R]439	[R]467	[R]472	468
Middle East	[R]**858**	[R]**894**	[R]**921**	**949**	**998**	[R]**1,024**	[R]**1,080**	[R]**1,106**	[R]**1,143**	**1,191**
Iran	[R]240	[R]250	260	261	288	[R]297	[R]322	321	[R]339	359
Saudi Arabia	240	246	255	266	263	257	[R]280	299	[R]313	329
Other	377	398	406	422	447	[R]469	[R]478	[R]486	[R]492	503
Africa	**774**	[R]**807**	[R]**817**	[R]**834**	[R]**859**	[R]**850**	**864**	[R]**884**	[R]**906**	**918**
Egypt	96	99	98	107	111	[R]115	114	120	[R]132	138
South Africa	317	344	344	349	380	362	[R]375	[R]383	[R]378	378
Other	361	[R]364	[R]375	[R]378	[R]368	374	376	381	[R]395	403
Asia and Oceania	[R]**5,981**	[R]**6,361**	[R]**6,672**	[R]**6,814**	[R]**7,028**	[R]**6,883**	[R]**7,041**	[R]**7,338**	[R]**7,589**	**7,844**
Australia	282	282	292	298	[R]328	[R]332	[R]352	[R]359	[R]391	410
China	2,610	2,816	2,888	2,945	3,022	2,952	[R]2,913	[R]3,017	[R]3,176	3,322
India	[R]695	[R]734	[R]867	[R]830	[R]873	[R]898	[R]934	[R]996	[R]1,010	1,026
Indonesia	[R]201	[R]209	213	235	[R]245	[R]239	[R]263	275	[R]293	300
Japan	[R]1,035	[R]1,102	[R]1,095	[R]1,128	[R]1,138	[R]1,096	[R]1,135	[R]1,183	[R]1,182	1,179
Malaysia	83	89	89	101	101	102	106	112	128	141
South Korea	334	364	401	410	432	369	[R]390	[R]422	[R]431	451
Taiwan	156	[R]160	[R]181	[R]195	[R]207	[R]221	[R]216	[R]234	[R]215	230
Thailand	115	128	156	169	[R]174	[R]160	[R]179	[R]173	178	189
Other	[R]468	[R]477	[R]491	[R]503	[R]506	[R]513	[R]552	[R]568	[R]585	596
World	[R]**21,596**	[R]**21,736**	[R]**22,107**	[R]**22,576**	[R]**22,893**	[R]**22,824**	[R]**23,137**	[R]**23,891**	[R]**24,228**	**24,533**

[1] Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44. For data in million metric tons carbon equivalent, see the "International Energy Annual 2002" (June 2004), Table H.1.

[2] Data for the United States in this table differ from those in Table 12.1 due to: the inclusion of emissions from bunker fuels consumption; the exclusion of emissions from geothermal power generation, cement production and other industrial processes, and municipal solid waste combustion; and the exclusion of data for the U.S. Territories.

R=Revised. P=Preliminary.

Notes: • Data include carbon dioxide emissions from fossil-fuel energy consumption and natural gas venting and flaring. • See Note 2, "World Carbon Dioxide Emissions," at end of section. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/international.

Source: Energy Information Administration, "International Energy Annual 2002" (May 2004), Table H.1co2.

International Energy

Note 1. World Primary Energy Production. World primary energy production includes production of crude oil (including lease condensate), natural gas plant liquids, dry natural gas, and coal; and net electricity generation from nuclear electric power, hydroelectric power, wood, waste, geothermal, solar, and wind. Data for the United States also include other renewable energy. Crude oil production is measured at the wellhead and includes lease condensate. Natural gas plant liquids are products obtained from processing natural gas at natural gas processing plants, including natural gas plants, cycling plants, and fractionators. Dry natural gas production is that amount of natural gas produced that is available to be marketed and consumed as a gas. Coal (anthracite, bituminous, subbituminous, and lignite) production is the sum of sales, mine consumption, issues to miners, and issues to coking, briquetting, and other ancillary plants at mines. Coal production data include quantities extracted from surface and underground mines and normally exclude wastes removed at mines or associated preparation plants. The data on generation of electricity from nuclear electric power, hydroelectric power, wood, waste, geothermal, solar, and wind include data reported on a net basis, thus excluding electricity that is generally used by the electric power plant for its own operating purposes or electricity losses in the transformers that are considered integral parts of the station.

Note 2. World Carbon Dioxide Emissions. In Table 11.19, data for carbon dioxide emissions include anthropogenic (human-caused) emissions from the consumption of petroleum, natural gas, and coal, and also from natural gas venting and flaring. They do not include carbon dioxide emissions from geothermal power generation, cement production and other industrial processes, and municipal solid waste combustion. Fossil-fuel consumption and natural gas flaring statistics for each country have been reduced to account for the fraction of fuels not combusted and, in the case of petroleum, for the fraction of sequestration of non-fuel uses. Carbon dioxide emissions have been determined by applying carbon emission coefficients to the adjusted consumption and flaring data. Carbon emission coefficients for petroleum and natural gas consumption and natural gas flaring are from Energy Information Administration (EIA), *Documentation for Emissions of Greenhouse Gases in the United States 2002* (January 2004), Table 6.1. Carbon emission coefficients for coal consumption are from EIA, *Emissions of Greenhouse Gases in the United States 1985-1990* (October 1993), Table 11.