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Preface

The *International Energy Annual* presents an overview of key international energy trends for production, consumption, imports, and exports of primary energy commodities in over 220 countries, dependencies, and areas of special sovereignty. Also included are population and gross domestic product data, as well as prices for crude oil and petroleum products in selected countries. Renewable energy reported in the *International Energy Annual* includes hydroelectric power and biomass, geothermal, solar, and wind electric power. Also included are biomass, geothermal, and solar energy produced in the United States and not used for electricity generation.

This report is published to keep the public and other interested parties fully informed of primary energy supplies on a global basis. The data presented have been largely derived from published sources. The data have been converted to units of measurement and thermal values (Appendices E and F) familiar to the American public.

Although the Energy Information Administration (EIA) has mandatory data collection authority for collecting energy information within the United States, it has no authority to require reporting of data from foreign countries. Data for the *International Energy Annual* must be researched and collected from the most authoritative available sources outside EIA. Because EIA does not have access to the statistical surveys in other countries, it is not able to develop error estimates or revision errors such as might be developed in EIA's domestic surveys.

EIA attempts to identify and collect the best data available for foreign countries. The most authoritative sources are usually the official national statistical reports of a country. However, data from official sources are not always available. Therefore, EIA also uses data from reputable secondary sources such as the international organizations—the United Nations, the International Energy Agency, the World Bank, and others. In addition, EIA uses industry reports, academic studies, trade publications, and other sources. Typically these sources are less timely and complete than mandatory survey data for the United States collected by EIA. As a result, it usually takes EIA about two years to prepare complete energy information for all foreign countries.

Many factors beyond EIA's control affect the reliability and integrity of foreign country data. These include a country's level of economic development, commitment to statistical programs, openness with information, and other considerations.

Publication of this report is in keeping with responsibilities given the Energy Information Administration (EIA) in Public Law 95-91/Section 205(a) that states:

The Administrator shall be responsible for carrying out a central, comprehensive, and unified energy data and information program which will collect, evaluate, assemble, analyze, and disseminate data and information....

Electronic Access and Related International (Energy) Web Page

The *International Energy Annual 1998 (IEA98)* is also available on EIA's Internet site at:

<http://www.eia.doe.gov/iea>

The *IEA98* on EIA's Internet site includes text and tables in HTML format and most of the tables are also available there as downloadable spreadsheets, many with data for all countries for all of the years 1980-1998. The entire *IEA98* publication is also available in PDF format on the EIA FTP site at:

<http://www.eia.doe.gov/pub/pdf/international/021998.pdf>

The *IEA98* will also be available on the EIA CD-ROM, *Energy InfoDisc*.

Important Note: All of the data contained in the *IEA98*, as well as additional data, forecasts, and reports on international energy, are available on the **International (Energy) Web Page** on EIA's Internet site at: **<http://www.eia.doe.gov/international>** (If you would like to be notified immediately by e-mail of any updates to the annual data, go to **<http://tonto.eia.doe.gov/email/index.htm#international>** and select the first item, Annual International Energy Statistics.)

Contents

	Page
World Energy Overview	vii
1. World Energy Consumption, 1989-1998	
1.1 World Consumption of Primary Energy by Selected Country Groups, 1989-1998	3
1.2 World Petroleum Consumption, 1989-1998	5
1.3 World Dry Natural Gas Consumption, 1989-1998	8
1.4 World Coal Consumption, 1989-1998	11
1.5 World Net Hydroelectric Power Consumption, 1989-1998	14
1.6 World Net Nuclear Electric Power Consumption, 1989-1998	17
1.7 World Net Biomass, Geothermal, Solar, and Wind Electric Power Consumption, 1989-1998	18
1.8 World Consumption of Primary Energy by Selected Country Groups (Btu), 1989-1998	19
2. World Energy Production, 1989-1998	
2.1 World Production of Primary Energy by Selected Country Groups, 1989-1998	23
2.2 World Crude Oil Production, 1989-1998	25
2.3 World Natural Gas Plant Liquids Production, 1989-1998	27
2.4 World Dry Natural Gas Production, 1989-1998	29
2.5 World Coal Production, 1989-1998	32
2.6 World Net Hydroelectric Power Generation, 1989-1998	34
2.7 World Net Nuclear Electric Power Generation, 1989-1998	37
2.8 World Net Biomass, Geothermal, Solar, and Wind Electric Power Generation, 1989-1998	38
2.9 World Production of Primary Energy by Selected Country Groups (Btu), 1989-1998	39
3. Petroleum	
3.1 World Petroleum Supply and Disposition, 1997	43
3.2 World Output of Refined Petroleum Products, 1997	46
3.3 World Imports of Refined Petroleum Products, 1997	49
3.4 World Exports of Refined Petroleum Products, 1997	52
3.5 World Apparent Consumption of Refined Petroleum Products, 1997	55
3.6 World Crude Oil Refining Capacity, January 1, 1999	58
4. Natural Gas	
4.1 World Natural Gas Production, 1997	65
4.2 World Dry Natural Gas Supply and Disposition, 1997	67
5. Coal	
5.1 World Coal Production, 1997	73
5.2 World Anthracite Coal Production, 1989-1998	75
5.3 World Bituminous Coal Production, 1989-1998	76
5.4 World Lignite Coal Production, 1989-1998	78
5.5 World Coal Supply and Disposition, 1997	79
6. Electricity	
6.1 World Net Conventional Thermal Electricity Generation, 1989-1998	85
6.2 World Total Net Electricity Consumption, 1989-1998	88
6.3 World Net Electricity Generation by Type, 1997	91
6.4 World Electricity Installed Capacity by Type, January 1, 1998	94

	Page
7. Prices	
7.1 Selected Crude Oil Prices, 1989-1999	101
7.2 World Survey of Recent Selected Petroleum Product Prices (Including Taxes)	102
8. Energy Reserves	
8.1 World Crude Oil and Natural Gas Reserves, January 1, 1999	107
8.2 World Estimated Recoverable Coal	110
Appendices	
A. Geographical and Organizational Definitions	115
B. World Population and Gross Domestic Product, 1989-1998	
B1 World Population, 1989-1998	121
B2 World Gross Domestic Product at Market Exchange Rates, 1989-1998	125
C. Conversion Factors and Heat Contents	
C1 General Conversion Factors	131
C2 Barrels of Crude Oil Per Metric Ton, 1989-1998	132
C3 Gross Heat Content of Crude Oil, 1989-1998	134
C4 Gross Heat Content of Natural Gas Plant Liquids, 1989-1998	136
C5 Gross Heat Content of Dry Natural Gas, 1989-1998	138
C6 Gross Heat Content of Coal, 1989-1998	141
C7 Gross Heat Content of Hydroelectric Power, 1989-1998	143
C8 Gross Heat Content of Nuclear Electric Power, 1989-1998	146
C9 Gross Heat Content of Geothermal Electric Power, 1989-1998	147
C10 Gross Heat Content of Biomass, Solar, and Wind Electric Power, 1989-1998	148
D. Oil and Gas Market Chronology: 1998	151
E. World Energy Consumption (Btu), 1989-1998	
E1 World Primary Energy Consumption (Btu), 1989-1998	183
E2 World Petroleum Consumption (Btu), 1989-1998	185
E3 World Dry Natural Gas Consumption (Btu), 1989-1998	188
E4 World Coal Consumption (Btu), 1989-1998	191
E5 World Net Hydroelectric Power Consumption (Btu), 1989-1998	194
E6 World Net Nuclear Electric Power Consumption (Btu), 1989-1998	197
E7 World Net Biomass, Geothermal, Solar, and Wind Electric Power Consumption (Btu), 1989-1998	198
F. World Energy Production (Btu), 1989-1998	
F1 World Primary Energy Production (Btu), 1989-1998	201
F2 World Crude Oil Production (Btu), 1989-1998	203
F3 World Natural Gas Plant Liquids Production (Btu), 1989-1998	205
F4 World Dry Natural Gas Production (Btu), 1989-1998	207
F5 World Coal Production (Btu), 1989-1998	210
F6 World Net Hydroelectric Power Generation (Btu), 1989-1998	212
F7 World Net Nuclear Electric Power Generation (Btu), 1989-1998	215
F8 World Net Biomass, Geothermal, Solar, and Wind Electric Power Generation (Btu), 1989-1998	216
G. World Production of Crude Oil, Natural Gas Plant Liquids (NGPL), Other Liquids, and Refinery Processing Gain	
G1 World Production of Crude Oil, NGPL, and Other Liquids, 1989-1998	219
G2 World Production of Crude Oil, NGPL, Other Liquids, and Refinery Processing Gain, 1989-1998	221
G3 World Oil Supply from Refinery Processing Gain and Other Liquids, 1997	224
H. World Carbon Dioxide Emissions, 1989-1998	
H1 World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1989-1998	229
H2 World Carbon Dioxide Emissions from the Consumption of Petroleum, 1989-1998	231
H3 World Carbon Dioxide Emissions from the Consumption and Flaring of Natural Gas, 1989-1998	234
H4 World Carbon Dioxide Emissions from the Consumption of Coal, 1989-1998	237
Glossary	243

WORLD ENERGY OVERVIEW

The *International Energy Annual* presents information and trends on world energy production and consumption for petroleum, natural gas, coal, and electricity. Production and consumption data are reported in standard units as well as British thermal units (Btu). Trade and reserves are shown for petroleum, natural gas, and coal. Data are provided on crude oil refining capacity and electricity installed capacity by type. Prices are included for selected crude oils and for refined petroleum products in selected countries. Population and Gross Domestic Product data are also provided.

(Note: In the discussion that follows, the data for total production of primary energy in 1989 and 1998 include 2.7 and 2.5 quadrillion Btu, respectively, of biomass, geothermal energy, and solar energy produced in the United States and not used for electricity generation.)

World Primary Energy Production Trends

Between 1989 and 1998, the world's total output of primary energy--petroleum, natural gas, coal, and electric power (hydro, nuclear, biomass, geothermal, solar, and wind)--increased at an average annual rate of 1.1 percent (Table 2.9). World production increased from 346 quadrillion Btu in 1989 to 382 quadrillion Btu in 1998.

In 1998, petroleum (crude oil and natural gas plant liquids) continued to be the world's most important primary energy source, accounting for 39.8 percent, or 152 quadrillion Btu, of world primary energy production (Table 2.9). Between 1989 and 1998, petroleum production increased by 8.5 million barrels per day, or 13.1 percent, rising from 64.4 to 72.8 million barrels per day (Tables 2.2 and 2.3). The Middle East had the largest production gain, followed by Central and South America, and Western Europe. Their combined gains over the period from 1989 to 1998 were 10.5 million barrels per day. In the Eastern Europe and Former U.S.S.R. region, average daily production fell by 5.0 million barrels per day.

Coal ranked second as a primary energy source in 1998, accounting for 23.2 percent of world primary energy

production (Table 2.9). World coal production totaled 5.04 billion short tons--89 quadrillion Btu--in 1998, but it was down by 5.3 percent from the 1989 level of 5.33 billion short tons (Tables 2.1 and 2.9).

Dry natural gas ranked third as a primary energy source, accounting for 22.4 percent of world primary energy production in 1998 (Table 2.9). Production of dry natural gas was 83 trillion cubic feet, or 85 quadrillion Btu, in 1998 (Tables 2.1 and 2.9). Production increased by 10.8 trillion cubic feet from 72.1 trillion cubic feet in 1989, a gain of 15 percent

Hydro, nuclear, and other (biomass, geothermal, solar, and wind) electric power generation ranked fourth, fifth, and seventh, respectively, as primary energy sources in 1998, accounting for 7.0, 6.4, and 0.6 percent, respectively, of world primary energy production (Table 2.9). Together they accounted for a combined total of 5.1 trillion kilowatthours--54 quadrillion Btu--in 1998 (Tables 2.1 and 2.9). Nuclear electric power generation increased significantly between 1989 and 1998, rising from 1.8 trillion kilowatthours to 2.3 trillion kilowatthours, a 25.7-percent increase. Biomass, geothermal, solar, and wind electric power generation also increased significantly over the same period, rising from 117 billion kilowatthours to 196 billion kilowatthours, a 68.1-percent increase. Hydroelectric power continued to represent the largest share of primary electric power generation contributing 2.6 trillion kilowatthours in 1998, up 22.8 percent from 2.1 trillion kilowatthours in 1989.

In 1998, the 2.5 quadrillion Btu of biomass, geothermal energy, and solar energy produced in the United States and not used for generating electricity ranked sixth as a primary energy source, accounting for 0.7 percent of world primary energy production.

Major Energy Producers and Consumers

In 1998, three countries--the United States, Russia, and China--were the leading producers and consumers of world energy (Tables F1 and E1). These three countries

produced 38 percent and consumed 41 percent of the world's total energy.

The United States, Russia, China, Saudi Arabia, and Canada were the world's five largest producers of energy in 1998, supplying 48.4 percent of the world's total energy (Table F1). The next five leading producers of primary energy were the United Kingdom, India, Iran, Norway, and Mexico, and together they supplied an additional 13 percent of the world's total energy. The United States supplied 72.8 quadrillion Btu of primary energy, significantly more than the 41.0 quadrillion Btu produced by Russia or the 33.1 quadrillion Btu produced by China.

The United States, China, Russia, Japan, and Germany were the world's five largest consumers of primary energy in 1998, accounting for 50.3 percent of world energy consumption (Table E1). They were followed by India, Canada, France, the United Kingdom, and Brazil, which together accounted for an additional 13.8 percent of world energy consumption. The United States consumed 94.8 quadrillion Btu, more than two and three-quarter times as much as the 33.9 quadrillion Btu consumed by China, while Russia consumed 26.0 quadrillion Btu.

Regional Energy Production and Consumption

Comparisons of energy production and consumption by region help to highlight key energy trends since 1989. In North America, the overall production of energy rose by 9.1 quadrillion Btu between 1989 and 1998 (Table F1). The supply of natural gas and coal increased significantly, by 4.3 quadrillion Btu and 2.4 quadrillion Btu, respectively, more than offsetting a 0.8-quadrillion-Btu decrease in crude oil production (Tables F4, F5, and F2). Energy consumption in North America increased by 12.1 quadrillion Btu between 1989 and 1998, the second largest increase for any region (Table E1). The largest North American increases occurred in the consumption of petroleum, 3.6 quadrillion Btu, natural gas, 3.5 quadrillion Btu, and coal, 2.6 quadrillion Btu (Tables E2, E3 and E4).

Overall production of energy in the Central and South America region increased by 9.0 quadrillion Btu between 1989 and 1998, led by increases in crude oil production, 5.4 quadrillion Btu, hydroelectric power generation, 1.8 quadrillion Btu, and natural gas production, 1.1 quadrillion Btu (Tables F1, F2, F6, and F4). Energy consumption in the Central and South America region increased by 5.6 quadrillion Btu over the same period

(Table E1). The largest increases occurred in the consumption of petroleum, 2.5 quadrillion Btu, hydroelectric power, 1.8 quadrillion Btu, and natural gas, 1.1 quadrillion Btu (Tables E2, E5, and E3).

In 1998, total energy production in Western Europe was 5.0 quadrillion Btu higher than in 1989 (Table F1). Gains between 1989 and 1998 were greatest for crude oil, 4.8 quadrillion Btu, natural gas, 2.7 quadrillion Btu, and nuclear electric power generation, 1.5 quadrillion Btu (Tables F2, F4, and F7). These increases more than offset a decrease of 5.4 quadrillion Btu in coal production (Table F5). Western European energy consumption increased by 5.9 quadrillion Btu between 1989 and 1998 (Table E1). The increase was led by natural gas, 4.4 quadrillion Btu, petroleum, 3.7 quadrillion Btu, and nuclear electric power, 1.5 quadrillion Btu, which together more than offset a sharp, 4.9-quadrillion-Btu drop in coal consumption (Tables E3, E2, E6, and E4).

Between 1989 and 1998, both energy production and energy consumption in the Eastern Europe and Former U.S.S.R. region declined by more than 25 quadrillion Btu (Tables F1 and E1). As a result, this was the only region to experience declines in either total energy production or consumption over the period. The 25.0-quadrillion-Btu decline in energy production was concentrated in crude oil, 10.6 quadrillion Btu, coal, 8.8 quadrillion Btu, and natural gas, 5.1 quadrillion Btu (Tables F1, F2, F5, and F4). The 25.9-quadrillion-Btu decline in energy consumption included declines in petroleum, 10.9 quadrillion Btu, coal, 8.7 quadrillion Btu, and natural gas, 5.9 quadrillion Btu (Tables E1, E2, E4, and E3).

Since 1989, energy production in the Middle East increased by 14.8 quadrillion Btu, the second largest increase for any region (Table F1). The increase was concentrated in crude oil, 11.1 quadrillion Btu, and natural gas, 3.1 quadrillion Btu (Tables F2 and F4). The increase in energy consumption in the Middle East between 1989 and 1998 was much smaller, only 5.0 quadrillion Btu (Table E1). The largest consumption increases were in natural gas, 2.8 quadrillion Btu, and petroleum, 2.0 quadrillion Btu (Tables E3 and E2).

Energy production in Africa increased by 5.7 quadrillion Btu between 1989 and 1998, led by increases in the production of crude oil, 3.0 quadrillion Btu, natural gas, 1.4 quadrillion Btu, and coal, 1.1 quadrillion Btu (Tables F1, F2, F4, and F5). Energy consumption in Africa grew more slowly over the same period, rising by only 2.6 quadrillion Btu, with petroleum consumption accounting for 1.3 quadrillion Btu of the increase, coal for 0.7 quadrillion Btu, and natural gas for 0.5 quadrillion Btu (Tables E1, E2, E4, and E3).

The largest regional increase in primary energy production between 1989 and 1998 occurred in the Far East and Oceania region, where production increased by 18.0 quadrillion Btu (Table F1). 45 percent of this increase, 8.0 quadrillion Btu, was accounted for by coal production, with smaller contributions from natural gas, 3.8 quadrillion Btu, crude oil, 2.3 quadrillion Btu, and nuclear electric power generation, 2.1 quadrillion Btu (Tables F5, F4, F2, and F7). Consumption in this region increased by 27.6 quadrillion Btu over the same period, also the largest increase for any region (Table E1). 73 percent of this increase occurred in the combined consumption of petroleum, 12.8 quadrillion Btu, and coal, 7.3 quadrillion Btu (Tables E2 and E4). At the same time, consumption of natural gas increased by 4.0 quadrillion Btu and consumption of nuclear electric power by 2.1 quadrillion Btu (Tables E3 and E6).

Petroleum

Global production of petroleum (crude oil and natural gas plant liquids) increased by 8.5 million barrels per day between 1989 and 1998, an average annual rate of growth of 1.4 percent (Tables 2.2 and 2.3). Saudi Arabia, the United States, and Russia were the three largest producers of petroleum in 1998. Together, they produced 31.9 percent of the world's petroleum. Production from Iran and Mexico accounted for an additional 9.9 percent.

In 1998, the United States consumed 18.9 million barrels per day of petroleum--almost 26 percent of world consumption (Table 1.2). Japan ranked a distant second in consumption, with 5.5 million barrels per day, followed by China, Germany, and Russia.

Natural Gas

World production of dry natural gas increased by 10.8 trillion cubic feet, or at an average annual rate of 1.6 percent, over the period from 1989 to 1998 (Table 2.4). Russia was the leading producer in 1998 at 20.9 trillion cubic feet, followed by the United States at 18.9 trillion cubic feet. Together these two countries produced 48 percent of the world total. Canada ranked a distant third in production at 6.0 trillion cubic feet, followed by the United Kingdom and the Netherlands, with 3.2 and 2.8 trillion cubic feet, respectively. These three countries accounted for 15 percent of the world total.

In 1998, the United States, which was the leading consumer of dry natural gas at 21.3 trillion cubic feet, and Russia, which ranked second at 13.9 trillion cubic

feet, together accounted for 43 percent of world consumption (Table 1.3). Germany ranked a distant third in consumption, with 3.3 trillion cubic feet, followed by the United Kingdom and Canada, at 3.1 and 3.0 trillion cubic feet, respectively.

Coal

Coal was the only primary energy source to experience a production decline between 1989 and 1998 (Table 2.5). Production decreased by 283 million short tons over the period. China was the leading producer in 1998 at 1.35 billion short tons--equivalent to 23.1 quadrillion Btu (Tables 2.5 and F5). The United States was the second leading producer in 1998 with 1.12 billion short tons--equivalent to 23.8 quadrillion Btu. India ranked a distant third at 359 million short tons--equivalent to 6.6 quadrillion Btu, followed by Australia, at 314 million short tons--equivalent to 5.7 quadrillion Btu, and Russia at 272 million short tons--equivalent to 4.5 quadrillion Btu. Together, these five countries accounted for 68 percent of world coal production in 1998 (Table 2.5).

China was also the largest consumer of coal in 1998, using 1.31 billion short tons, followed by the United States, which consumed 1.04 billion short tons, India, Russia, and Germany (Table 1.4). These five countries together accounted for 65 percent of world coal consumption.

Hydroelectric Power

The generation of hydroelectric power increased by 476 billion kilowatthours between 1989 and 1998, or at an average annual rate of 2.3 percent (Table 2.6). Canada, the United States, Brazil, China, and Russia, were the five largest producers of hydroelectric power in 1998. Their combined hydroelectric power generation accounted for 51 percent of the world total. Canada led the world with 329 billion kilowatthours or 3.4 quadrillion Btu (Tables 2.6 and F6). The United States was a close second with 324 billion kilowatthours or 3.3 quadrillion Btu. Brazil ranked third with 289 billion kilowatthours or 3.0 quadrillion Btu. China was fourth with 203 billion kilowatthours or 2.1 quadrillion Btu, followed by Russia with 151 billion kilowatthours or 1.6 quadrillion Btu.

Nuclear Electric Power

The generation of nuclear electric power increased by 474 billion kilowatthours between 1989 and 1998, or at an average annual rate of 2.6 percent (Table 2.7). The United States led the world in nuclear electric power generation in 1998 with 674 billion kilowatthours or 7.2 quadrillion Btu (Tables 2.7 and F7). France was second with 367 billion kilowatthours or 3.8 quadrillion Btu and Japan ranked third with 318 billion kilowatthours or 3.3 quadrillion Btu. In 1998, these three countries generated 59 percent of the world's nuclear electric power (Table 2.7).

Biomass, Geothermal, Solar, and Wind Electric Power

The generation of biomass, geothermal, solar, and wind electric power increased by 80 billion kilowatthours between 1989 and 1998, or at an average annual rate of 5.9 percent (Table 2.8). The United States led the world in biomass, geothermal, solar, and wind electric power generation in 1998 with 75.7 billion kilowatthours. Japan was second with 23.9 billion kilowatthours, followed by the Germany with 10.4 billion kilowatthours, Brazil with 9.7 billion kilowatthours, and Finland with 8.4 billion kilowatthours. These five countries accounted for 65 percent of the world biomass, geothermal, solar, and wind electric power generation in 1998.

Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels

Total world carbon dioxide emissions from the consumption of petroleum, natural gas, and coal, and the flaring of natural gas increased from 5.818 billion metric tons of carbon in 1989 to 6.124 billion metric tons in 1998, or by 5.3 percent (Table H1). (**Note: Carbon dioxide emissions are measured here in metric tons of carbon. Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667.** One ton of carbon equals 3.667 tons of carbon dioxide gas.) The United States, China, Russia, Japan, and India were the world's five largest sources of carbon dioxide emissions from the consumption and flaring of fossil fuels in 1998, producing 52 percent of the world total. The next five leading producers of carbon dioxide emissions from the consumption and flaring of fossil fuels were Germany, the United Kingdom, Canada, Italy, and South Korea (listed as Korea, South in Table H1), and together they produced an additional 12 percent of the world total. In 1998, total United States carbon dioxide emissions from

the consumption and flaring of fossil fuels were 1.495 billion metric tons of carbon, twice as much as the 740 million metric tons produced by China, while Russia produced 405 million metric tons.

In 1998, the consumption of petroleum was the world's primary source of carbon dioxide emissions from the consumption and flaring of fossil fuels, accounting for more than 43 percent of the total (Tables H2 and H1). Between 1989 and 1998 emissions from the consumption of petroleum increased by 234 million metric tons, or 9.7 percent, rising from 2.424 to 2.658 billion metric tons. The United States was the largest producer of carbon dioxide from the consumption of petroleum in 1998 and accounted for 24 percent of the world total. Japan was the second largest producer, followed by China, Germany, and Russia, and together these four countries accounted for an additional 20 percent.

Coal ranked second as a source of carbon dioxide emissions from the consumption and flaring of fossil fuels in 1998, accounting for 36 percent of the total (Tables H4 and H1). World carbon dioxide emissions from the consumption of coal totaled 2.202 billion metric tons of carbon in 1998, down 3.5 percent from the 1989 level of 2.283 billion metric tons. China and the United States were the two largest producers of carbon dioxide from the consumption of coal in 1998 and together they accounted for 50 percent of the world total. India, Russia, and South Africa accounted for an additional 16 percent.

Carbon dioxide emissions from the consumption and flaring of natural gas accounted for the remaining 21 percent of carbon dioxide emissions from the consumption and flaring of fossil fuels in 1998 (Tables H3 and H1). Emissions from the consumption and flaring of natural gas increased from 1.112 billion metric tons of carbon in 1989 to 1.264 billion metric tons in 1998, or by 13.7 percent. The United States and Russia were the two largest producers of carbon dioxide from the consumption and flaring of natural gas in 1998 and together they accounted for 41 percent of the world total. The United Kingdom, Canada, and Germany accounted for an additional 11 percent.

Section 1

World Energy Consumption, 1989-1998

Table 1.1 World Consumption of Primary Energy by Selected Country Groups, 1989 - 1998

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Petroleum (thousand barrels per day)										
World Total.....	65,917	65,977	66,567	66,762	66,996	68,283	69,866	71,404	73,128	73,643
OECD. ²	40,881	40,917	41,400	42,424	42,982	44,167	44,962	46,072	46,828	46,984
Non OECD.....	25,036	25,059	25,167	24,338	24,015	24,116	24,904	25,331	26,300	26,660
Other Groups:.....										
OECD Europe.....	13,359	13,368	13,827	14,073	14,140	14,226	14,756	14,964	15,155	15,462
OPEC ³	4,210	4,391	4,480	4,633	4,909	5,051	5,227	5,282	5,590	5,596
EU. ⁴	11,928	11,957	12,443	12,631	12,481	12,577	13,052	13,129	13,270	13,576
IEA ⁵	38,041	37,922	38,216	38,936	39,117	40,040	40,720	41,564	41,975	42,434
Natural Gas (trillion cubic feet)										
World Total.....	72.32	72.91	74.38	74.35	76.58	76.36	78.03	81.91	81.66	82.19
OECD. ²	35.67	35.83	37.08	37.82	39.54	40.55	42.45	44.85	44.83	44.75
Non OECD.....	36.65	37.08	37.30	36.53	37.04	35.82	35.58	37.06	36.83	37.44
Other Groups:.....										
OECD Europe.....	11.00	11.07	11.83	11.73	12.50	12.70	13.63	15.07	14.85	15.30
OPEC ³	5.56	5.48	5.58	6.09	6.43	6.88	7.31	7.97	8.47	8.62
EU. ⁴	9.87	9.98	10.73	10.63	11.12	11.32	12.08	13.33	13.05	13.47
IEA ⁵	34.24	34.38	35.61	36.32	37.70	38.62	40.38	42.52	42.33	42.18
Coal (million short tons)										
World Total.....	5,283	5,259	5,005	4,951	5,000	5,061	5,145	5,245	5,170	5,013
OECD. ²	2,490	2,413	2,296	2,231	2,306	2,297	2,288	2,356	2,347	2,330
Non OECD.....	2,793	2,846	2,709	2,719	2,694	2,764	2,857	2,889	2,823	2,683
Other Groups:.....										
OECD Europe.....	1,254	1,180	1,059	983	1,012	981	946	953	918	878
OPEC ³	9	8	8	9	12	14	14	19	19	20
EU. ⁴	925	893	770	705	654	634	604	605	573	541
IEA ⁵	2,193	2,160	2,041	1,988	1,976	1,976	1,967	2,023	2,020	2,016
Hydroelectric Power (billion kilowatthours)										
World Total.....	2,101.4	2,175.3	2,228.1	2,232.5	2,365.0	2,384.2	2,502.5	2,544.5	2,595.6	2,584.1
OECD. ²	1,149.2	1,181.7	1,204.0	1,196.1	1,268.5	1,224.7	1,308.5	1,351.7	1,366.8	1,333.1
Non OECD.....	952.2	993.6	1,024.1	1,036.4	1,096.5	1,159.5	1,193.9	1,192.8	1,228.9	1,251.0
Other Groups:.....										
OECD Europe.....	421.0	437.3	435.4	463.6	482.2	482.8	488.0	469.0	485.1	502.0
OPEC ³	54.4	57.9	67.6	72.8	71.9	71.1	72.9	75.6	76.0	72.2
EU. ⁴	248.5	257.3	264.4	281.5	285.7	293.6	287.3	287.5	292.5	300.9
IEA ⁵	1,113.9	1,146.3	1,171.4	1,159.4	1,229.0	1,192.8	1,268.1	1,307.6	1,327.2	1,293.1
Nuclear Electric Power (billion kilowatthours)										
World Total.....	1,843.4	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,266.1	2,317.7
OECD. ²	1,540.2	1,607.6	1,694.1	1,718.5	1,795.1	1,855.1	1,928.2	1,979.3	1,956.7	2,015.8
Non OECD.....	303.3	297.6	297.9	293.3	282.7	266.2	277.8	307.2	309.5	302.0
Other Groups:.....										
OECD Europe.....	715.9	716.1	740.4	753.6	797.9	796.8	813.5	851.6	860.9	862.5
OPEC ³	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU. ⁴	681.3	680.7	705.7	718.1	750.7	748.0	764.9	802.1	811.1	812.2
IEA ⁵	1,495.2	1,554.5	1,636.5	1,661.1	1,723.2	1,783.1	1,844.9	1,889.4	1,861.0	1,909.2

See footnotes at end of table.

Table 1.1 World Consumption of Primary Energy by Selected Country Groups, 1989 - 1998 (Continued)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Biomass, Geothermal, Solar, and Wind Electric Power (billion kilowatthours)										
World Total.....	116.8	127.1	136.6	155.0	163.3	171.7	175.2	183.8	192.3	196.3
OECD ²	102.3	111.4	120.8	138.3	146.7	152.9	155.9	161.6	167.9	170.6
Non OECD.....	14.5	15.6	15.8	16.7	16.6	18.8	19.4	22.2	24.4	25.7
Other Groups:.....										
OECD Europe.....	18.7	19.3	20.1	28.2	33.5	37.1	41.2	43.7	51.6	55.4
OPEC ³	1.0	1.1	1.0	1.0	1.0	1.8	2.1	2.2	2.4	2.5
EU ⁴	17.7	17.9	18.5	26.7	31.7	34.8	38.5	40.6	48.1	51.6
IEA ⁵	97.2	106.0	114.9	132.2	140.2	146.5	149.4	154.8	160.9	163.2

¹ Preliminary.

² The Organization for Economic Cooperation and Development (OECD) includes Australia, Austria, Belgium, Canada, Czech Republic, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, South, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.). Refer to Appendix A for a listing of OECD Europe.

³ The Organization of Petroleum Exporting Countries (OPEC) includes Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

⁴ European Union (EU) includes Austria, Belgium, Denmark (including data for Faroe Islands), Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

⁵ International Energy Agency (IEA) includes Australia, Austria, Belgium, Canada, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.).

Notes: For consistency data reflect 1998 membership (as of December 31, 1998) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Table 1.2 World Petroleum Consumption, 1989 - 1998
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	1,733	1,690	1,622	1,643	1,688	1,727	1,755	1,797	1,857	1,873
Mexico.....	1,640	1,679	1,695	1,723	1,710	1,795	1,724	1,763	1,871	1,950
United States.....	17,325	16,988	16,714	17,033	17,237	17,718	17,725	18,309	18,620	18,917
Other.....	8	6	6	5	4	4	4	4	4	5
Total.....	20,706	20,364	20,036	20,404	20,639	21,245	21,208	21,873	22,352	22,744
Central & South America										
Argentina.....	434	413	424	445	468	458	453	479	476	490
Bolivia.....	24	25	26	26	27	30	33	35	36	38
Brazil.....	1,317	1,339	1,346	1,369	1,429	1,511	1,596	1,718	1,823	1,880
Chile.....	126	134	144	151	168	179	197	217	233	245
Colombia.....	209	197	205	230	240	244	251	278	287	295
Costa Rica.....	20	19	20	25	27	28	31	30	30	32
Cuba.....	225	220	204	180	179	183	187	192	164	172
Dominican Republic.....	58	64	62	64	59	68	72	78	84	85
Ecuador.....	90	97	104	119	112	120	123	138	141	145
El Salvador.....	16	16	19	22	22	25	31	30	32	33
Guatemala.....	26	27	26	31	34	38	41	44	48	48
Honduras.....	16	18	17	18	18	20	23	25	25	26
Jamaica.....	43	46	47	51	52	55	60	62	66	68
Netherlands Antilles.....	69	67	64	63	63	66	69	69	73	74
Panama.....	24	27	33	41	40	44	43	47	49	50
Peru.....	121	121	113	119	126	132	143	153	164	170
Puerto Rico.....	143	140	176	156	162	165	162	156	153	160
Trinidad and Tobago.....	21	20	21	22	21	24	22	20	22	23
Uruguay.....	32	31	30	32	35	33	31	34	37	38
Venezuela.....	388	396	405	414	427	440	448	444	450	460
Virgin Islands, U.S.....	60	55	56	55	53	56	90	78	96	127
Other.....	116	118	113	115	124	129	142	136	149	151
Total.....	3,576	3,591	3,654	3,748	3,887	4,050	4,248	4,464	4,641	4,810
Western Europe										
Austria.....	213	217	235	228	231	235	234	232	243	248
Belgium.....	461	461	499	511	499	510	499	564	591	601
Denmark.....	195	191	194	193	198	210	225	238	235	229
Finland.....	226	225	227	222	212	220	175	193	221	212
France.....	1,857	1,818	1,935	1,926	1,875	1,833	1,896	1,935	1,955	2,032
Germany.....	--	--	2,828	2,843	2,900	2,879	2,875	2,911	2,903	2,916
Germany, East.....	300	282	--	--	--	--	--	--	--	--
Germany, West.....	2,280	2,382	--	--	--	--	--	--	--	--
Greece.....	291	315	320	331	339	349	350	368	374	392
Ireland.....	82	92	99	104	104	113	126	126	133	149
Italy.....	1,930	1,872	1,863	1,937	1,852	1,841	2,048	2,058	2,045	2,072
Luxembourg.....	30	33	39	39	39	39	37	38	40	42
Netherlands.....	709	735	756	766	760	760	790	771	808	812
Norway.....	193	191	184	183	186	183	196	216	227	228
Portugal.....	249	250	253	277	268	270	290	277	299	330
Spain.....	1,030	1,011	1,072	1,109	1,056	1,127	1,256	1,175	1,295	1,385
Sweden.....	336	321	323	342	332	353	406	398	328	371
Switzerland.....	260	274	284	287	277	281	257	275	284	272
Turkey.....	440	476	468	492	564	540	601	633	634	626
United Kingdom.....	1,738	1,752	1,801	1,803	1,815	1,837	1,845	1,845	1,799	1,784
Former Yugoslavia.....	310	317	251	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	35	23	20	19	18	18	20
Croatia.....	--	--	--	65	63	79	88	78	81	85
Macedonia, TFYR.....	--	--	--	19	21	18	18	29	21	25
Serbia and Montenegro.....	--	--	--	56	33	32	27	49	67	72
Slovenia.....	--	--	--	35	41	42	47	54	55	58
Other.....	29	32	31	38	41	42	42	43	68	45
Total.....	13,159	13,246	13,660	13,841	13,731	13,815	14,347	14,525	14,726	15,008

See footnotes at end of table.

Table 1.2 World Petroleum Consumption, 1989 - 1998 (Continued)
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	27	20	18	21	17	13	15	12	10	11
Bulgaria.....	235	193	121	130	117	126	131	119	107	109
Former Czechoslovakia.....	315	281	232	213	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	147	152	158	182	174	172
Slovakia.....	--	--	--	--	61	63	65	66	68	76
Hungary.....	181	179	161	171	166	168	160	148	150	155
Poland.....	346	278	275	297	304	309	318	365	398	415
Romania.....	345	382	277	250	248	221	244	257	270	275
Former U.S.S.R.....	8,740	8,392	8,350	--	--	--	--	--	--	--
Armenia.....	--	--	--	48	25	8	6	3	3	4
Azerbaijan.....	--	--	--	203	194	187	179	134	129	125
Belarus.....	--	--	--	375	289	241	228	206	194	188
Estonia.....	--	--	--	25	28	25	26	26	26	27
Georgia.....	--	--	--	27	16	7	3	19	21	21
Kazakhstan.....	--	--	--	404	341	304	281	256	210	220
Kyrgyzstan.....	--	--	--	33	19	8	12	12	10	11
Latvia.....	--	--	--	52	41	40	42	47	36	38
Lithuania.....	--	--	--	84	76	78	73	68	67	66
Moldova.....	--	--	--	57	40	22	22	17	20	20
Russia.....	--	--	--	4,423	3,750	3,179	2,976	2,619	2,562	2,460
Tajikistan.....	--	--	--	20	17	7	10	27	27	28
Turkmenistan.....	--	--	--	76	66	63	64	62	66	65
Ukraine.....	--	--	--	813	570	495	484	388	364	357
Uzbekistan.....	--	--	--	190	177	168	180	139	142	139
Total.....	10,190	9,725	9,434	7,910	6,710	5,884	5,676	5,171	5,055	4,982
Middle East										
Bahrain.....	23	20	21	21	20	21	21	19	22	24
Cyprus.....	30	32	32	38	38	43	43	42	43	45
Iran.....	965	1,003	1,075	1,083	1,108	1,130	1,140	1,119	1,229	1,190
Iraq.....	350	400	263	341	409	457	474	469	438	456
Israel.....	163	165	173	201	198	200	210	214	230	235
Jordan.....	62	66	63	73	72	82	85	92	89	92
Kuwait.....	125	85	45	79	111	132	140	139	154	165
Lebanon.....	35	33	53	55	67	76	82	85	96	98
Oman.....	32	39	39	40	39	40	42	47	49	50
Qatar.....	35	37	43	42	40	40	42	40	43	44
Saudi Arabia.....	950	977	1,019	1,039	1,088	1,109	1,168	1,197	1,210	1,240
Syria.....	198	205	178	185	209	224	226	229	241	245
United Arab Emirates.....	242	243	302	305	310	318	316	306	326	318
Yemen.....	74	76	78	83	69	66	68	68	72	73
Total.....	3,283	3,380	3,384	3,585	3,778	3,938	4,059	4,066	4,241	4,275

See footnotes at end of table.

Table 1.2 World Petroleum Consumption, 1989 - 1998 (Continued)
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Africa										
Algeria.....	182	194	208	214	222	230	228	220	225	230
Angola.....	25	24	25	26	25	25	27	25	30	32
Cameroon.....	24	24	25	25	21	24	25	23	27	26
Congo (Brazzaville).....	7	7	6	6	6	7	7	7	8	8
Congo (Kinshasa).....	22	20	22	24	25	26	24	25	26	26
Cote d'Ivoire (Ivory Coast).....	40	38	39	40	45	55	52	58	57	59
Egypt.....	443	465	456	444	450	448	458	501	531	550
Ethiopia.....	20	20	16	23	22	14	15	12	12	12
Gabon.....	16	15	16	16	15	18	19	21	22	23
Ghana.....	24	20	20	22	23	26	27	27	26	27
Kenya.....	42	42	37	41	42	44	46	48	48	50
Libya.....	147	155	166	145	160	166	172	177	185	198
Morocco.....	111	117	117	130	135	148	142	137	146	145
Nigeria.....	244	251	259	265	271	252	284	286	330	325
Senegal.....	17	17	16	19	19	23	25	25	23	25
South Africa.....	348	375	403	412	402	410	421	428	439	450
Sudan.....	28	25	36	33	32	28	26	26	27	28
Tunisia.....	64	63	68	71	74	75	70	73	78	79
Zimbabwe.....	19	21	23	21	22	23	25	28	29	29
Other.....	164	182	172	192	195	204	209	211	215	215
Total.....	1,985	2,076	2,131	2,169	2,207	2,243	2,303	2,359	2,486	2,537
Far East & Oceania										
Australia.....	687	711	706	712	756	790	834	801	819	831
Bangladesh.....	38	36	38	37	40	46	51	52	55	56
Brunei.....	7	7	10	7	9	11	11	13	16	16
Burma.....	17	15	16	16	17	19	18	20	25	24
China.....	2,380	2,296	2,499	2,662	2,959	3,161	3,363	3,610	3,916	4,110
Guam.....	5	13	14	17	23	32	24	22	25	24
Hong Kong.....	124	127	133	152	158	180	186	183	124	184
India.....	1,150	1,168	1,190	1,275	1,311	1,413	1,575	1,681	1,765	1,840
Indonesia.....	583	651	695	707	765	778	814	886	999	970
Japan.....	4,983	5,140	5,284	5,446	5,401	5,674	5,711	5,867	5,711	5,512
Korea, North.....	64	73	76	74	72	70	63	48	31	35
Korea, South.....	843	1,025	1,202	1,456	1,690	1,856	2,027	2,183	2,392	1,995
Malaysia.....	220	266	282	302	336	378	399	435	469	455
Mongolia.....	17	16	15	13	13	13	11	12	12	12
New Zealand.....	103	109	105	111	123	128	154	134	128	133
Pakistan.....	206	220	221	227	256	282	298	327	333	350
Papua New Guinea.....	15	16	15	15	15	15	15	15	15	16
Philippines.....	229	236	235	260	285	303	328	346	365	361
Singapore.....	329	363	389	420	469	503	512	541	619	580
Sri Lanka.....	31	35	34	37	41	45	48	53	57	60
Taiwan.....	521	542	545	557	616	659	737	780	775	789
Thailand.....	349	407	437	476	545	603	679	749	741	685
Vietnam.....	46	53	56	61	77	85	94	116	159	175
Other.....	70	71	71	66	67	68	69	72	74	74
Total.....	13,017	13,595	14,269	15,105	16,044	17,108	18,024	18,945	19,627	19,287
World Total.....	65,917	65,977	66,567	66,762	66,996	68,283	69,866	71,404	73,128	73,643

¹ Preliminary.

--= Not applicable.

(s) = Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table 1.3 World Dry Natural Gas Consumption, 1989 - 1998
(Billion Cubic Feet)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	2,427	2,378	2,400	2,596	2,736	2,824	2,791	3,000	3,035	2,963
Mexico.....	881	918	949	959	977	1,026	1,043	1,103	1,178	1,283
United States.....	18,801	18,716	19,035	19,544	20,279	20,708	21,581	21,967	21,972	21,338
Total.....	22,109	22,012	22,384	23,099	23,992	24,559	25,414	26,069	26,185	25,585
Central & South America										
Argentina.....	801	717	781	787	833	856	953	1,010	1,008	1,081
Barbados.....	1	1	1	1	1	1	1	1	1	1
Bolivia.....	26	30	26	32	30	35	43	37	47	37
Brazil.....	123	97	119	130	146	152	159	178	195	202
Chile.....	57	66	52	54	62	69	67	64	99	114
Colombia.....	146	151	155	151	157	162	161	167	211	246
Cuba.....	1	1	1	1	1	1	1	2	26	28
Ecuador.....	3	4	3	4	4	4	4	4	4	4
Peru.....	41	19	18	18	34	35	33	34	8	17
Trinidad and Tobago.....	162	177	201	194	218	250	268	303	328	374
Venezuela.....	769	761	793	763	815	876	890	961	994	991
Total.....	2,129	2,024	2,151	2,136	2,301	2,440	2,581	2,761	2,922	3,094
Western Europe										
Austria.....	195	215	228	224	235	242	262	281	271	279
Belgium.....	332	341	363	374	392	401	443	493	470	517
Denmark.....	69	73	82	87	98	108	127	148	168	172
Finland.....	81	95	100	104	108	119	123	129	127	145
France.....	984	997	1,131	1,146	1,158	1,157	1,183	1,314	1,300	1,338
Germany.....	--	--	2,776	2,739	2,830	2,965	3,172	3,420	3,278	3,301
Germany, East.....	588	357	--	--	--	--	--	--	--	--
Germany, West.....	2,247	2,312	--	--	--	--	--	--	--	--
Greece.....	4	4	4	4	3	1	1	1	7	30
Ireland.....	80	82	84	83	94	96	102	114	118	118
Italy.....	1,581	1,674	1,775	1,760	1,801	1,748	1,921	1,984	2,048	2,203
Luxembourg.....	17	17	18	19	20	20	22	25	25	25
Netherlands.....	1,550	1,535	1,715	1,669	1,714	1,654	1,701	1,874	1,763	1,752
Norway.....	73	80	78	131	90	93	101	102	128	128
Portugal.....	0	0	0	0	0	0	0	0	4	28
Spain.....	172	192	216	228	224	239	299	334	428	438
Sweden.....	19	23	24	27	30	30	30	31	31	32
Switzerland.....	66	70	79	83	87	86	95	102	99	102
Turkey.....	114	122	150	164	182	192	248	290	346	370
United Kingdom.....	1,951	2,059	2,218	2,170	2,412	2,542	2,690	3,182	3,013	3,093
Former Yugoslavia.....	287	248	247	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	18	14	15	87	5	5	7
Croatia.....	--	--	--	96	104	91	82	88	99	94
Macedonia, TFYR.....	--	--	--	9	10	0	0	0	0	0
Serbia and Montenegro.....	--	--	--	72	34	58	39	112	113	104
Slovenia.....	--	--	--	24	30	29	35	45	32	34
Total.....	10,409	10,496	11,288	11,231	11,671	11,886	12,761	14,075	13,872	14,309

See footnotes at end of table.

Table 1.3 World Dry Natural Gas Consumption, 1989 - 1998 (Continued)
(Billion Cubic Feet)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	25	9	5	4	1	1	1	1	1	1
Bulgaria.....	223	241	200	186	172	168	208	219	182	135
Former Czechoslovakia.....	451	532	504	411	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	259	238	285	328	333	333
Slovakia.....	--	--	--	--	175	205	273	265	256	251
Hungary.....	418	394	393	349	372	375	407	453	431	432
Poland.....	461	427	399	373	393	393	416	463	463	465
Romania.....	1,384	1,261	1,040	936	908	851	901	894	830	650
Former U.S.S.R.....	24,529	24,961	25,014	--	--	--	--	--	--	--
Armenia.....	--	--	--	66	49	57	57	64	46	49
Azerbaijan.....	--	--	--	523	388	332	318	328	323	197
Belarus.....	--	--	--	646	600	498	452	494	533	545
Estonia.....	--	--	--	53	21	23	26	29	37	36
Georgia.....	--	--	--	177	85	57	74	64	67	57
Kazakhstan.....	--	--	--	710	523	530	397	510	494	473
Kyrgyzstan.....	--	--	--	85	79	64	31	64	68	68
Latvia.....	--	--	--	57	28	25	39	35	46	46
Lithuania.....	--	--	--	141	85	81	99	92	102	113
Moldova.....	--	--	--	78	64	49	49	71	85	82
Russia.....	--	--	--	16,482	16,185	15,214	14,507	14,504	13,434	13,949
Tajikistan.....	--	--	--	67	49	57	29	43	40	40
Turkmenistan.....	--	--	--	141	145	148	170	170	162	155
Ukraine.....	--	--	--	3,503	3,871	3,327	2,970	2,935	2,832	2,606
Uzbekistan.....	--	--	--	1,095	1,541	1,229	1,349	1,434	1,455	1,409
Total.....	27,490	27,825	27,555	26,080	25,994	23,920	23,057	23,458	22,221	22,093
Middle East										
Bahrain.....	186	205	233	188	234	229	229	232	281	293
Iran.....	784	837	811	883	938	1,123	1,243	1,416	1,663	1,828
Iraq.....	88	77	39	101	90	112	112	114	108	104
Israel.....	1	1	1	1	1	1	1	1	1	1
Jordan.....	3	5	5	5	7	10	10	10	10	10
Kuwait.....	415	256	18	93	191	211	211	328	327	327
Oman.....	99	99	124	117	140	147	130	128	159	232
Qatar.....	215	276	328	401	477	477	477	484	513	522
Saudi Arabia.....	1,052	1,077	1,130	1,201	1,268	1,331	1,343	1,460	1,601	1,653
Syria.....	35	103	124	127	131	134	104	142	161	208
United Arab Emirates.....	702	663	790	902	798	765	875	959	1,024	1,072
Total.....	3,581	3,599	3,603	4,018	4,274	4,540	4,735	5,274	5,849	6,250
Africa										
Algeria.....	660	681	775	730	655	690	742	762	712	754
Angola.....	15	19	20	20	20	18	20	20	20	20
Congo (Brazzaville).....	0	0	0	0	0	0	0	0	0	0
Cote d'Ivoire (Ivory Coast).....	0	0	0	0	0	0	1	19	21	24
Egypt.....	273	286	321	349	399	423	439	473	477	489
Gabon.....	3	3	4	4	4	4	4	4	4	4
Libya.....	165	175	175	174	168	173	171	184	192	192
Morocco.....	2	2	1	1	1	1	1	1	2	2
Nigeria.....	166	131	168	173	178	161	183	193	207	208
Senegal.....	0	0	0	0	1	1	2	2	1	1
South Africa.....	0	0	0	1	64	69	69	65	62	55
Tunisia.....	55	54	41	31	53	69	58	67	91	104
Total.....	1,340	1,351	1,505	1,483	1,542	1,610	1,689	1,790	1,788	1,854

See footnotes at end of table.

Table 1.3 World Dry Natural Gas Consumption, 1989 - 1998 (Continued)
(Billion Cubic Feet)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	68	67	11	11	11	11	7	8	8	8
Australia.....	570	625	584	604	630	661	710	703	733	753
Bangladesh.....	164	162	173	206	216	235	260	269	269	283
Brunei.....	57	46	15	35	29	25	34	28	31	28
Burma.....	38	38	36	36	39	51	58	57	53	62
China.....	505	508	526	533	558	589	601	663	749	781
Hong Kong.....	0	0	0	0	0	0	0	8	0	0
India.....	315	399	449	477	532	594	628	696	717	761
Indonesia.....	546	547	557	673	850	965	1,061	1,108	1,125	968
Japan.....	1,731	1,851	1,976	2,023	2,034	2,180	2,207	2,390	2,340	2,446
Korea, South.....	93	107	124	163	203	270	327	432	525	491
Malaysia.....	297	315	383	388	458	482	485	563	589	700
New Zealand.....	168	169	182	195	175	175	166	186	199	175
Pakistan.....	475	482	534	551	583	627	646	696	699	712
Papua New Guinea.....	0	0	0	2	3	2	4	5	4	4
Philippines.....	0	0	0	0	0	0	(s)	(s)	(s)	(s)
Singapore.....	0	0	0	39	53	53	53	53	53	53
Taiwan.....	50	80	105	115	111	141	151	157	187	197
Thailand.....	182	208	236	249	310	342	368	428	538	565
Vietnam.....	1	1	2	7	9	9	25	29	8	19
Total.....	5,263	5,605	5,894	6,306	6,803	7,409	7,790	8,480	8,827	9,005
World Total.....	72,320	72,912	74,380	74,352	76,576	76,365	78,029	81,908	81,664	82,189

¹ Preliminary.

-- Not applicable.

(s) = Value less than 500 million cubic feet.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 4.

Table 1.4 World Coal Consumption, 1989 - 1998
(Million Short Tons)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	59.99	54.95	56.01	47.94	54.19	58.12	58.53	59.13	62.03	65.69
Mexico.....	8.92	8.72	8.34	9.23	10.02	11.08	14.34	14.28	11.99	13.16
United States...?	890.92	895.67	887.98	908.75	944.78	952.41	963.11	1,005.56	1,029.96	1,038.77
Total.....	959.83	959.34	952.33	965.92	1,008.98	1,021.61	1,035.97	1,078.97	1,103.98	1,117.62
Central & South America										
Argentina.....	1.81	1.37	1.55	1.54	1.12	1.84	1.85	1.63	1.60	1.35
Brazil.....	19.31	16.97	19.58	18.76	18.98	18.93	19.62	20.77	20.08	28.76
Chile.....	3.85	4.19	3.34	3.00	2.92	3.54	3.89	5.47	5.38	5.81
Colombia.....	5.17	3.04	9.47	6.61	6.33	6.07	4.45	5.62	5.81	6.18
Costa Rica.....	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Cuba.....	0.25	0.24	0.16	0.09	0.11	0.13	0.12	0.04	0.08	0.08
Dominican Republic.....	0.01	0.01	0.06	0.15	0.13	0.11	0.12	0.14	0.15	0.16
Haiti.....	0.01	0.01	0.03	0.03	0.01	0.00	0.00	0.00	0.00	0.00
Jamaica.....	0.04	0.06	0.02	0.07	0.08	0.06	0.06	0.07	0.07	0.08
Panama.....	0.01	0.04	0.05	0.08	0.06	0.06	0.05	0.11	0.06	0.06
Paraguay.....	0.02	0.04	0.05	0.07	0.06	0.06	0.06	0.06	0.06	0.07
Peru.....	0.36	0.28	0.51	0.56	0.73	0.75	0.80	0.53	0.54	0.57
Puerto Rico.....	0.33	0.23	0.21	0.17	0.18	0.18	0.18	0.19	0.19	0.19
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.37	0.25	(s)	0.01	0.04	0.05	0.01	0.01	0.01	0.01
Virgin Islands, U.S.....	0.00	0.08	0.14	0.23	0.25	0.27	0.28	0.28	0.28	0.25
Other.....	(s)	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	31.56	26.80	35.18	31.36	31.00	32.05	31.50	34.92	34.34	43.59
Western Europe										
Austria.....	7.39	8.45	7.77	7.01	6.14	5.53	6.47	6.59	6.72	6.16
Belgium.....	16.23	18.17	16.91	15.77	13.82	15.05	14.66	13.85	13.54	14.08
Denmark.....	10.09	10.73	14.95	12.22	13.16	14.47	12.08	16.59	12.32	6.34
Finland.....	7.19	6.86	6.98	6.08	7.20	8.68	7.51	8.81	8.20	5.41
France.....	33.45	35.85	36.81	32.62	25.67	25.08	25.65	28.32	24.22	26.10
Germany.....	--	--	406.17	358.99	334.98	314.28	296.64	295.81	279.81	260.30
Germany, East.....	340.32	315.20	--	--	--	--	--	--	--	--
Germany, West.....	212.88	212.42	--	--	--	--	--	--	--	--
Greece.....	58.64	58.95	58.55	62.20	62.47	65.58	64.49	65.72	65.97	65.87
Iceland.....	0.11	0.10	0.11	0.07	0.07	0.11	0.09	0.11	0.09	0.10
Ireland.....	3.64	3.66	3.58	3.25	3.26	3.03	3.02	3.34	3.16	3.20
Italy.....	23.09	24.77	23.41	20.37	17.73	18.71	20.20	18.84	18.43	19.80
Luxembourg.....	1.80	1.82	1.70	1.62	1.67	1.45	0.82	0.77	0.49	0.39
Malta.....	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.34	0.35	0.35
Netherlands.....	12.82	14.94	13.61	13.36	13.79	15.12	14.85	15.94	15.76	15.94
Norway.....	1.59	1.41	1.28	1.25	1.39	1.61	1.68	1.71	1.58	1.77
Portugal.....	4.53	4.84	4.83	5.13	5.49	5.81	6.24	6.00	6.05	4.80
Spain.....	61.90	52.58	52.23	51.61	48.73	47.30	47.73	41.53	45.04	46.59
Sweden.....	4.75	4.46	4.18	3.87	3.96	3.09	4.20	4.01	3.63	3.26
Switzerland.....	0.57	0.53	0.46	0.33	0.26	0.28	0.31	0.11	0.08	0.08
Turkey.....	60.20	59.98	63.55	64.66	60.46	65.57	67.14	70.10	74.00	78.39
United Kingdom.....	125.93	119.38	118.03	110.74	96.14	90.57	78.97	78.85	69.60	63.16
Former Yugoslavia.....	85.31	83.16	81.07	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	2.20	1.65	1.54	1.81	1.81	1.81	1.76
Croatia.....	--	--	--	0.66	0.85	0.57	0.30	0.43	0.49	0.52
Macedonia, TFYR.....	--	--	--	7.54	7.62	7.98	8.20	8.04	7.32	7.27
Serbia and Montenegro.....	--	--	--	44.62	41.82	42.88	44.83	43.11	45.42	48.56
Slovenia.....	--	--	--	6.51	6.18	5.59	5.81	5.55	6.02	5.86
Total.....	1,072.75	1,038.58	916.50	833.01	774.83	760.22	734.00	736.26	710.12	686.07

See footnotes at end of table.

Table 1.4 World Coal Consumption, 1989 - 1998 (Continued)
(Million Short Tons)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	2.46	2.34	1.31	0.85	0.62	0.19	0.18	0.11	0.08	0.04
Bulgaria.....	50.62	45.72	36.55	37.03	35.77	34.11	36.05	36.33	37.46	36.02
Former Czechoslovakia.....	129.97	119.08	110.84	101.36	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	82.47	77.40	74.71	71.06	73.34	77.19
Slovakia.....	--	--	--	--	15.86	13.48	13.96	13.22	12.39	11.99
Hungary.....	24.96	22.95	22.64	19.72	19.33	17.86	17.12	15.78	15.47	17.59
Poland.....	242.05	202.18	201.68	191.77	193.60	184.10	181.06	188.88	180.66	161.07
Romania.....	77.72	51.97	43.32	48.62	48.85	49.35	49.81	50.12	42.07	30.83
Former U.S.S.R.....	777.31	848.47	672.44	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.16	(s)	0.04	(s)	0.01	0.01	(s)
Azerbaijan.....	--	--	--	0.03	0.01	0.01	0.01	0.01	0.01	(s)
Belarus.....	--	--	--	2.05	1.77	1.32	1.24	1.22	0.89	0.69
Estonia.....	--	--	--	2.08	1.83	2.02	2.40	1.51	1.79	1.62
Georgia.....	--	--	--	0.48	0.35	0.31	0.28	0.20	0.15	0.12
Kazakhstan.....	--	--	--	94.16	87.16	88.69	79.68	62.50	62.84	63.78
Kyrgyzstan.....	--	--	--	2.73	2.44	2.24	1.30	1.13	0.82	1.31
Latvia.....	--	--	--	0.74	0.67	0.47	0.29	0.27	0.23	0.43
Lithuania.....	--	--	--	0.73	0.73	0.53	0.41	0.37	0.29	0.27
Moldova.....	--	--	--	2.96	2.57	2.52	1.50	1.30	0.41	0.46
Russia.....	--	--	--	374.59	361.09	316.46	294.74	313.48	284.86	262.60
Tajikistan.....	--	--	--	0.25	0.39	0.23	0.10	0.13	0.13	0.07
Turkmenistan.....	--	--	--	0.55	0.44	0.44	0.22	0.11	0.06	0.06
Ukraine.....	--	--	--	150.93	135.44	109.39	107.19	90.34	93.04	90.07
Uzbekistan.....	--	--	--	6.44	4.80	4.89	3.75	3.69	3.08	3.09
Total.....	1,305.10	1,292.71	1,088.78	1,038.21	996.19	906.06	865.99	851.78	810.03	759.30
Middle East										
Cyprus.....	0.08	0.12	0.02	0.03	0.03	0.03	0.02	0.02	0.02	0.02
Iran.....	1.63	1.78	1.72	1.45	1.28	1.76	1.55	1.36	1.66	1.66
Israel.....	3.83	4.10	4.48	5.52	6.24	6.61	7.24	8.64	9.57	10.82
Lebanon.....	0.00	0.00	0.00	0.00	0.12	0.12	0.20	0.23	0.22	0.23
Other.....	(s)	(s)	0.01	(s)	(s)	(s)	0.01	0.01	(s)	(s)
Total.....	5.54	6.01	6.22	7.00	7.68	8.53	9.03	10.25	11.48	12.74
Africa										
Algeria.....	1.23	1.21	1.18	1.00	0.96	0.84	0.84	0.92	0.84	0.84
Botswana.....	0.74	0.90	0.90	1.00	0.99	0.93	0.91	0.85	0.87	0.89
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.28	0.24	0.25	0.26	0.26	0.27	0.27	0.27	0.26	0.26
Egypt.....	1.37	1.60	1.29	1.25	1.63	1.72	1.18	1.74	1.64	1.73
Ghana.....	(s)	(s)	0.09	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.15	0.17	0.15	0.18	0.15	0.12	0.10	0.10	0.10	0.11
Libya.....	(s)	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01
Madagascar.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Malawi.....	0.05	0.06	0.07	0.07	0.07	0.08	0.08	0.10	0.09	0.08
Mauritania.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Mauritius.....	0.08	0.08	0.07	0.07	0.06	0.04	0.07	0.07	0.07	0.07
Morocco.....	1.99	1.95	2.25	1.93	2.21	2.42	2.92	3.58	3.43	3.48
Mozambique.....	0.07	0.06	0.07	0.07	0.07	0.07	0.06	0.06	0.07	0.09
Niger.....	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.17	0.16
Nigeria.....	0.06	0.07	0.12	0.12	0.14	0.15	0.16	0.16	0.16	0.16
South Africa.....	140.49	139.08	143.64	149.07	152.79	160.47	162.27	164.69	173.39	177.05
Swaziland.....	0.18	0.18	0.14	0.11	0.06	0.20	0.19	0.14	0.16	0.30
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	(s)	(s)
Tunisia.....	0.14	0.12	0.12	0.13	0.13	0.12	0.11	0.12	0.12	0.11
Zambia.....	0.43	0.41	0.32	0.37	0.27	0.16	0.17	0.18	0.17	0.16
Zimbabwe.....	5.66	6.05	5.76	6.09	5.66	6.00	6.13	4.97	5.77	5.50
Total.....	153.13	152.41	156.65	161.92	165.68	173.83	175.70	178.20	187.35	191.02

See footnotes at end of table.

Table 1.4 World Coal Consumption, 1989 - 1998 (Continued)
(Million Short Tons)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	0.14	0.12	0.10	0.01	0.01	0.01	0.01	(s)	(s)	(s)
Australia.....	104.34	103.72	108.08	111.21	109.17	109.96	112.05	118.18	115.55	129.77
Bangladesh.....	0.06	0.62	0.20	0.19	0.07	0.00	0.00	0.00	0.00	0.00
Bhutan.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02
Burma.....	0.10	0.09	0.10	0.09	0.09	0.09	0.10	0.11	0.10	0.10
China.....	1,113.36	1,124.12	1,164.88	1,199.48	1,275.60	1,389.84	1,497.51	1,485.54	1,435.49	1,313.11
Fiji.....	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Hong Kong.....	11.61	10.34	9.27	11.55	13.33	9.61	10.33	8.24	7.07	8.60
India.....	226.03	241.80	252.17	273.67	286.12	303.12	311.36	352.09	363.60	370.01
Indonesia.....	6.10	4.41	4.66	6.53	9.51	11.56	11.66	16.27	16.57	17.07
Japan.....	122.69	125.10	128.24	126.33	128.81	133.43	140.05	144.34	145.41	139.54
Korea, North.....	71.76	73.97	75.32	76.45	80.19	80.14	80.46	81.22	70.11	69.75
Korea, South.....	45.93	41.88	45.42	41.82	44.53	48.70	51.27	58.98	60.33	62.49
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	0.00	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia.....	2.09	2.50	2.55	2.76	2.25	2.62	2.56	3.13	2.38	2.31
Mongolia.....	8.11	7.34	7.71	6.66	6.01	5.52	5.36	5.44	5.26	5.01
Nepal.....	0.10	0.03	0.09	0.12	0.08	0.14	0.14	0.14	0.14	0.13
New Caledonia.....	0.23	0.18	0.19	0.19	0.19	0.18	0.18	0.19	0.19	0.19
New Zealand.....	2.65	2.51	2.46	2.91	2.69	2.60	2.89	2.69	2.92	2.65
Pakistan.....	3.87	4.25	4.25	4.57	4.48	4.75	4.53	5.20	4.84	4.54
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	2.39	2.73	3.03	3.00	3.05	3.39	3.85	5.15	5.71	5.77
Singapore.....	0.02	0.04	0.02	0.03	0.03	0.05	0.05	(s)	(s)	(s)
Sri Lanka.....	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Taiwan.....	19.60	18.88	20.62	24.12	26.65	28.14	28.83	33.36	39.91	40.73
Thailand.....	9.98	14.11	16.63	17.73	18.54	20.52	22.99	27.68	28.61	22.99
Vietnam.....	3.57	4.60	3.78	3.79	4.39	4.35	6.94	6.70	8.59	8.30
Total.....	1,754.77	1,783.39	1,849.82	1,913.25	2,015.85	2,158.76	2,293.17	2,354.69	2,312.86	2,203.13
World Total.....	5,282.69	5,259.24	5,005.49	4,950.68	5,000.22	5,061.05	5,145.36	5,245.07	5,170.16	5,013.47

¹ Preliminary.

² United States apparent coal consumption is calculated as: production+imports-exports-stock builds. Coal consumption by independent power producers is included beginning in 1992. The Monthly Energy Review uses a different methodology for deriving coal consumption and does not include coal consumption by independent power producers.

--= Not applicable.

(s) = Value less than 5 thousand short tons.

Notes: Sum of components may not equal total due to independent rounding.

See Glossary for definition of apparent coal consumption.

Sources: See sources at the end of Section 5.

Table 1.5 World Net Hydroelectric Power Consumption, 1989 - 1998
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	287.6	293.9	305.3	313.2	320.3	326.4	332.0	352.4	347.6	329.3
Mexico.....	24.4	23.2	21.6	25.9	26.0	19.8	27.3	31.1	26.2	24.3
United States. ²	285.9	296.8	302.9	272.7	301.2	284.6	334.2	375.5	376.3	344.3
Total.....	597.9	613.9	629.8	611.8	647.5	630.9	693.5	759.1	750.1	697.9
Central & South America										
Argentina.....	15.2	20.2	19.3	24.3	29.9	34.0	33.4	28.4	34.8	35.8
Bolivia.....	1.2	1.2	1.4	1.3	1.4	1.4	1.4	1.5	1.4	1.4
Brazil.....	202.6	204.6	215.6	221.1	232.7	240.3	251.4	263.1	276.2	288.5
Chile.....	9.5	11.9	13.0	16.6	17.0	16.8	18.2	16.7	18.2	15.0
Colombia.....	26.4	27.2	27.2	22.2	27.7	32.0	33.9	34.3	30.9	31.2
Costa Rica.....	3.3	3.3	3.6	3.5	3.9	3.9	3.5	3.8	4.8	4.6
Dominican Republic.....	0.6	0.4	0.6	2.2	1.7	1.9	2.0	2.1	2.2	2.3
Ecuador.....	4.9	4.9	5.0	4.9	5.8	6.6	5.2	6.2	6.7	7.0
El Salvador.....	1.4	1.4	0.8	1.0	1.2	1.2	1.2	1.1	1.2	1.2
Guatemala.....	2.1	2.1	2.1	1.8	1.9	2.0	1.9	2.3	2.1	2.1
Haiti.....	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.3
Honduras.....	1.8	2.1	2.1	2.2	2.2	2.3	2.1	2.1	1.4	1.9
Jamaica.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nicaragua.....	0.5	0.8	0.6	0.6	0.8	0.6	0.8	1.0	1.0	1.0
Panama.....	2.2	2.2	2.5	2.6	3.0	3.2	2.9	3.3	3.2	3.3
Paraguay.....	24.2	26.9	29.1	26.8	31.1	36.0	41.7	47.6	49.9	50.2
Peru.....	10.3	10.4	11.4	9.7	11.7	12.6	13.6	13.2	13.1	13.7
Puerto Rico.....	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Suriname.....	1.1	1.2	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5
Uruguay.....	3.9	6.9	6.1	7.8	7.2	7.4	5.8	5.7	6.4	9.1
Venezuela.....	34.3	36.6	44.1	46.8	47.0	50.8	50.9	53.3	56.6	52.5
Other.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Total.....	346.3	365.3	386.6	397.6	428.4	455.0	472.2	487.9	512.4	523.1
Western Europe										
Austria.....	34.6	31.2	31.1	34.5	36.3	35.3	36.7	33.9	35.6	37.0
Belgium.....	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.4
Finland.....	12.9	10.8	13.1	15.0	13.3	11.7	12.8	11.7	12.1	14.8
France.....	45.7	52.8	56.3	67.2	63.1	76.5	70.6	64.5	61.6	59.9
Germany.....	--	--	14.7	17.2	17.7	19.7	21.6	21.7	17.2	16.8
Germany, East.....	1.6	1.4	--	--	--	--	--	--	--	--
Germany, West.....	16.5	15.8	--	--	--	--	--	--	--	--
Greece.....	1.9	1.8	3.1	2.2	2.3	2.6	3.5	4.3	3.8	3.6
Iceland.....	4.2	4.2	4.2	4.3	4.4	4.5	4.6	4.7	5.2	5.6
Ireland.....	0.7	0.7	0.7	0.8	0.8	0.9	0.7	0.7	0.7	0.9
Italy.....	33.6	31.3	41.8	41.8	41.0	44.2	37.4	41.6	41.2	42.0
Luxembourg.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Norway.....	117.4	119.9	109.0	115.5	118.0	110.4	120.1	102.6	108.7	114.5
Portugal.....	5.7	9.1	9.0	4.6	8.5	10.6	8.3	14.6	13.0	12.9
Spain.....	19.0	25.2	27.0	18.7	24.1	27.9	22.9	39.4	34.3	34.4
Sweden.....	70.9	71.8	62.6	73.6	73.9	58.5	67.4	51.2	68.3	72.9
Switzerland.....	29.5	29.5	31.8	32.4	35.4	38.7	34.8	28.1	33.7	33.2
Turkey.....	17.6	22.9	22.5	26.3	33.6	30.3	35.2	40.1	39.4	41.8
United Kingdom.....	4.7	5.1	4.5	5.3	4.2	5.0	4.8	3.3	4.1	5.1
Former Yugoslavia.....	23.3	19.6	18.9	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	3.0	2.0	1.2	1.4	1.4	1.5	1.5
Croatia.....	--	--	--	4.3	4.3	4.9	5.2	6.5	5.2	5.5
Macedonia, TFYR.....	--	--	--	0.8	0.5	0.7	0.8	0.8	0.9	1.0
Serbia and Montenegro.....	--	--	--	11.2	10.0	11.0	11.1	11.4	12.0	12.5
Slovenia.....	--	--	--	3.4	3.0	3.4	3.2	3.6	3.1	3.3
Other.....	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total.....	440.4	453.4	450.8	482.6	497.0	498.6	503.7	486.8	502.1	519.6

See footnotes at end of table.

Table 1.5 World Net Hydroelectric Power Consumption, 1989 - 1998 (Continued)
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	3.8	2.8	3.5	3.2	3.3	3.7	4.2	5.6	5.3	5.0
Bulgaria.....	2.7	1.9	2.4	2.0	1.9	1.5	2.3	2.9	2.9	2.8
Former Czechoslovakia.....	4.2	3.9	3.1	3.6	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	1.4	1.4	2.0	1.9	1.7	1.6
Slovakia.....	--	--	--	--	3.9	4.6	5.2	4.5	4.3	3.8
Hungary.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Poland.....	3.7	3.3	3.4	3.5	3.5	3.7	3.8	3.9	3.8	4.3
Romania.....	12.5	10.9	14.1	11.6	12.6	12.9	16.5	15.6	17.3	16.6
Former U.S.S.R.....	221.0	230.7	232.7	--	--	--	--	--	--	--
Armenia.....	--	--	--	3.0	4.2	3.5	1.9	1.6	1.5	1.5
Azerbaijan.....	--	--	--	1.7	2.4	1.8	1.5	1.5	1.5	1.5
Georgia.....	--	--	--	6.5	7.0	4.7	5.3	6.0	6.0	5.9
Kazakhstan.....	--	--	--	6.8	7.6	9.1	8.2	7.3	6.4	6.0
Kyrgyzstan.....	--	--	--	9.2	9.0	11.6	11.0	12.1	11.1	10.9
Latvia.....	--	--	--	2.5	2.8	3.3	2.9	1.8	2.9	3.4
Lithuania.....	--	--	--	0.3	0.4	0.7	0.7	0.9	0.8	0.7
Moldova.....	--	--	--	0.3	0.4	0.3	0.3	0.4	0.4	0.4
Russia.....	--	--	--	170.9	172.1	174.2	174.5	153.1	152.5	150.5
Tajikistan.....	--	--	--	15.8	16.9	16.5	14.5	14.7	13.7	13.1
Ukraine.....	--	--	--	8.0	11.1	12.2	10.0	8.7	9.9	11.3
Uzbekistan.....	--	--	--	6.2	7.3	7.1	6.1	6.5	6.8	6.4
Other.....	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	248.1	253.6	259.3	255.3	267.9	273.0	271.2	249.1	249.1	245.8
Middle East										
Iran.....	6.6	6.0	7.0	9.4	9.7	7.4	7.2	7.3	7.3	7.3
Iraq.....	0.6	0.6	0.3	0.7	0.6	0.6	0.6	0.6	0.6	0.6
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lebanon.....	0.5	0.3	0.5	0.5	0.7	0.8	0.7	0.8	0.9	0.9
Syria.....	4.7	5.6	6.2	7.3	6.6	6.7	6.9	6.9	9.9	10.0
Total.....	12.4	12.5	14.0	18.0	17.7	15.5	15.4	15.6	18.8	18.9
Africa										
Algeria.....	0.3	0.1	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1
Angola.....	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Cameroon.....	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.8	3.0	3.2
Congo (Brazzaville).....	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Congo (Kinshasa).....	6.8	5.6	5.2	6.0	5.7	5.4	5.9	6.1	5.8	5.6
Cote d'Ivoire (Ivory Coast).....	1.6	1.3	1.2	1.0	1.1	1.0	1.7	1.9	2.0	2.2
Egypt.....	7.9	9.9	8.5	8.5	10.4	10.6	10.7	11.4	11.9	12.3
Ethiopia.....	1.0	1.1	1.1	1.1	1.3	1.1	1.1	1.1	1.2	1.2
Gabon.....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Ghana.....	5.2	5.7	6.0	6.0	6.1	6.0	6.0	5.8	6.1	6.2
Kenya.....	2.4	2.5	2.7	2.8	3.0	3.0	3.1	3.3	3.5	3.5
Madagascar.....	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5
Malawi.....	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9
Mali.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Morocco.....	1.1	1.2	1.2	1.0	0.4	0.8	0.6	1.9	2.0	2.2
Nigeria.....	4.1	4.3	5.9	6.0	5.5	5.5	5.4	5.4	5.5	5.7
Reunion.....	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
South Africa.....	2.8	1.0	2.0	0.8	0.1	1.1	0.5	1.3	2.1	1.6
Sudan.....	0.9	0.9	1.0	1.1	1.1	1.1	1.0	1.1	1.0	1.0
Tanzania.....	1.4	1.5	1.7	1.6	1.7	1.5	1.5	1.7	1.4	1.2
Uganda.....	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Zambia.....	6.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.9	8.1
Zimbabwe.....	2.7	3.8	3.5	3.0	2.0	2.0	2.3	2.1	1.8	1.5
Other.....	1.3	1.4	1.5	1.5	1.5	1.5	1.6	1.7	2.0	2.1
Total.....	53.5	55.8	57.3	55.8	55.5	56.3	57.3	60.7	62.7	63.1

See footnotes at end of table.

Table 1.5 World Net Hydroelectric Power Consumption, 1989 - 1998 (Continued)
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	0.8	0.8	0.7	0.5	0.5	0.5	0.4	0.4	0.3	0.3
Australia.....	14.3	14.0	15.7	15.2	16.5	16.2	15.7	15.4	16.6	15.6
Bangladesh.....	0.9	0.9	0.8	0.8	0.6	0.8	0.6	0.7	0.7	0.7
Bhutan.....	1.5	1.5	1.6	1.6	1.6	1.7	1.7	2.0	1.8	1.8
Burma.....	1.1	1.2	1.2	1.5	1.7	1.6	1.6	1.6	1.6	1.7
Cambodia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China.....	117.2	125.1	123.8	130.2	149.2	165.4	184.4	184.9	193.1	202.9
Fiji.....	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
French Polynesia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
India.....	61.5	70.9	72.0	69.2	69.8	81.9	72.0	68.4	74.0	76.2
Indonesia.....	8.5	10.1	10.0	9.7	8.8	6.8	8.6	8.9	5.9	6.1
Japan.....	90.8	88.4	96.5	81.7	94.6	66.6	81.3	79.7	88.9	89.5
Korea, North.....	31.4	28.7	31.4	23.8	23.8	23.3	22.8	22.3	21.6	21.0
Korea, South.....	2.9	4.6	3.5	3.1	4.2	2.3	2.7	2.4	2.8	4.2
Laos.....	0.7	0.8	0.9	0.9	0.9	1.1	1.0	1.2	1.2	1.3
Malaysia.....	5.2	3.9	4.4	4.3	4.8	6.5	6.2	5.1	3.3	3.0
Nepal.....	0.5	0.7	0.9	0.9	0.8	0.8	0.8	1.1	1.1	1.1
New Caledonia.....	0.5	0.5	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5
New Zealand.....	21.9	23.1	22.9	20.4	23.1	25.6	27.0	25.7	23.0	23.6
Pakistan.....	16.8	16.8	18.1	18.5	20.9	19.2	22.6	23.0	20.6	21.5
Papua New Guinea.....	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Philippines.....	6.4	6.0	5.1	4.4	5.0	5.8	6.2	7.0	6.0	4.3
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	2.8	3.1	3.1	2.9	3.8	4.0	4.4	3.2	3.4	3.8
Taiwan.....	6.7	8.2	5.5	8.3	6.8	8.8	8.8	8.9	9.4	10.5
Thailand.....	5.5	4.9	4.5	4.2	3.7	4.5	6.6	7.3	7.1	7.1
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	3.8	5.3	6.3	8.1	8.7	10.2	12.1	14.5	16.0	18.0
Total.....	402.8	420.7	430.2	411.4	450.9	454.9	489.1	485.2	500.4	515.7
World Total.....	2,101.4	2,175.3	2,228.1	2,232.5	2,365.0	2,384.2	2,502.5	2,544.5	2,595.6	2,584.1

¹ Preliminary.

² Includes hydroelectric pumped storage.

--= Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Consumption does not account for thermal equivalent conversion losses.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

Sources: See sources at the end of Section 6.

Table 1.6 World Net Nuclear Electric Power Consumption, 1989 - 1998
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	75.4	69.2	80.7	76.6	90.1	102.4	93.0	88.1	77.9	67.5
Mexico.....	0.0	2.8	4.0	3.7	4.7	4.0	8.0	7.5	9.9	8.8
United States.....	529.4	577.0	612.6	618.8	610.4	640.5	673.4	674.7	628.6	673.7
Total.....	604.8	649.0	697.4	699.1	705.1	747.0	774.4	770.3	716.4	750.0
Central & South America										
Argentina.....	4.8	7.0	7.7	6.7	7.3	7.8	7.1	6.9	7.5	7.1
Brazil.....	1.5	1.9	1.4	1.7	0.4	0.1	2.4	2.3	3.0	3.1
Total.....	6.3	9.0	9.1	8.4	7.7	7.9	9.5	9.2	10.5	10.3
Western Europe										
Belgium.....	39.1	40.6	40.7	41.3	39.8	38.6	39.3	41.2	45.0	43.9
Finland.....	18.0	18.3	18.5	18.3	18.9	18.5	18.3	18.5	19.0	20.8
France.....	288.7	298.4	314.8	321.5	349.8	342.0	358.4	377.5	374.3	366.7
Germany.....	--	--	140.1	150.9	145.8	143.2	145.4	152.0	161.8	152.7
Germany, East.....	11.1	5.3	--	--	--	--	--	--	--	--
Germany, West.....	140.4	139.8	--	--	--	--	--	--	--	--
Netherlands.....	3.8	3.3	3.2	3.6	3.8	3.8	3.8	4.0	2.3	3.6
Spain.....	53.7	51.6	52.8	53.0	53.3	52.5	52.7	53.5	52.5	56.0
Sweden.....	62.8	64.8	72.9	60.4	58.3	69.5	66.4	69.6	66.7	70.8
Switzerland.....	21.5	22.4	21.7	22.3	22.2	23.1	23.7	23.9	24.0	24.5
United Kingdom.....	63.6	58.7	62.8	69.1	81.0	80.0	80.6	85.8	89.3	97.7
Former Yugoslavia.....	4.5	4.4	4.2	--	--	--	--	--	--	--
Slovenia.....	--	--	--	3.8	3.8	4.3	4.5	4.4	4.8	5.0
Total.....	707.3	707.5	731.6	744.1	776.6	775.4	793.0	830.3	839.9	841.7
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	14.6	13.5	12.4	11.0	13.3	14.6	16.4	17.8	16.4	15.5
Former Czechoslovakia.....	23.2	23.4	22.5	23.3	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	12.0	12.3	11.6	12.2	12.5	12.5
Slovakia.....	--	--	--	--	11.6	11.5	10.9	11.3	10.5	9.8
Hungary.....	13.1	13.0	13.0	13.3	13.1	13.3	13.3	13.5	13.3	13.3
Romania.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.1	4.9
Former U.S.S.R.....	212.7	201.3	201.5	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.0	0.0	0.0	0.0	2.1	1.4	1.4
Kazakhstan.....	--	--	--	0.5	0.4	0.4	0.1	0.1	0.3	0.1
Lithuania.....	--	--	--	13.9	12.3	7.3	10.6	12.7	10.9	12.9
Russia.....	--	--	--	113.6	113.2	92.9	94.3	103.3	104.5	98.3
Ukraine.....	--	--	--	70.1	71.4	65.4	67.0	76.0	75.4	70.6
Total.....	263.5	251.3	249.5	245.6	247.3	217.7	224.3	249.8	250.3	239.3
Africa										
South Africa.....	11.1	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6	13.6
Total.....	11.1	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6	13.6
Far East & Oceania										
China.....	0.0	0.0	0.0	0.5	2.5	13.5	12.4	13.6	11.4	13.5
India.....	3.8	5.6	5.2	6.0	5.9	4.7	6.5	7.4	10.5	10.6
Japan.....	174.5	192.2	202.8	212.1	236.8	255.7	276.7	287.1	306.1	318.1
Korea, South.....	45.0	50.2	53.5	53.7	55.2	55.7	63.7	70.2	73.2	85.2
Pakistan.....	0.1	0.4	0.4	0.5	0.4	0.6	0.5	0.3	0.4	0.4
Taiwan.....	27.1	31.6	33.5	32.5	33.0	33.5	33.9	36.3	34.8	35.1
Total.....	250.5	279.9	295.4	305.3	333.8	363.6	393.6	415.0	436.4	462.8
World Total.....	1,843.4	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,266.1	2,317.7

¹ Preliminary.

-- Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Consumption does not account for thermal equivalent conversion losses.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

No consumption is reported for Middle East.

Sources: See sources at the end of Section 6.

Table 1.7 World Net Biomass, Geothermal, Solar, and Wind Electric Power Consumption, 1989 - 1998
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	3.3	2.5	2.8	3.9	4.3	3.8	3.5	3.6	3.9	4.4
Mexico.....	4.7	4.9	5.2	5.5	5.6	5.3	5.4	5.4	5.2	5.4
United States.....	55.5	63.9	71.0	76.8	79.3	81.3	78.6	80.3	76.9	75.7
Total.....	63.4	71.3	78.9	86.2	89.2	90.4	87.5	89.4	86.0	85.5
Central & South America										
Argentina.....	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2
Brazil.....	4.4	4.9	5.3	6.6	6.7	7.2	7.4	8.5	9.5	9.7
Colombia.....	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Costa Rica.....	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.5	0.5	0.6
Cuba.....	1.2	1.6	1.3	1.5	1.0	1.0	0.8	1.1	1.4	1.5
El Salvador.....	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Nicaragua.....	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.2	0.3
Other.....	1.1	1.2	1.1	0.6	0.8	0.8	1.0	1.0	1.1	1.2
Total.....	8.1	8.9	9.0	9.9	9.8	10.5	11.0	12.4	13.8	14.3
Western Europe										
Austria.....	1.1	1.1	1.1	1.2	1.2	1.6	1.9	1.7	1.5	1.5
Denmark.....	0.4	0.7	0.8	1.1	1.5	1.8	2.0	2.3	3.1	3.7
Finland.....	0.0	0.0	0.0	4.7	5.7	6.1	6.3	5.8	7.8	8.4
France.....	2.1	2.1	2.1	2.1	2.1	2.4	2.5	2.5	2.6	2.6
Germany.....	--	--	5.2	5.7	6.1	7.6	8.3	9.2	9.9	10.4
Germany, West.....	4.6	4.8	--	--	--	--	--	--	--	--
Iceland.....	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.6
Italy.....	3.2	3.2	3.2	3.8	4.0	3.8	4.0	4.5	5.3	6.0
Netherlands.....	0.9	0.9	1.0	1.4	1.6	1.6	2.0	2.6	3.9	4.0
Portugal.....	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.3
Spain.....	0.6	0.7	0.7	0.7	0.8	1.0	1.5	1.8	2.3	2.5
Sweden.....	2.2	1.8	1.7	2.0	2.2	2.2	2.4	2.2	3.5	3.5
United Kingdom.....	1.4	1.3	1.0	2.0	4.5	4.6	5.4	5.7	6.0	6.1
Other.....	1.3	1.5	1.7	2.0	2.0	2.5	2.9	3.0	3.1	3.3
Total.....	18.5	19.0	19.7	27.8	32.9	36.4	40.4	42.6	50.2	53.9
Eastern Europe & Former U.S.S.R.										
Poland.....	0.2	0.2	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.5
Other.....	(s)	(s)	(s)	(s)	0.3	0.4	0.4	0.7	1.0	1.0
Total.....	0.3	0.3	0.4	0.4	0.6	0.8	0.8	1.1	1.4	1.5
Middle East										
Jordan.....	(s)	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0	0.0
Total.....	(s)	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0	0.0
Africa										
Ethiopia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	(s)	(s)	(s)
Kenya.....	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4	0.4
Total.....	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Far East & Oceania										
Australia.....	0.8	0.6	0.6	2.6	2.7	2.7	2.7	3.0	3.1	3.4
India.....	(s)	(s)	(s)	(s)	0.1	0.2	0.1	0.9	0.9	0.9
Indonesia.....	1.0	1.1	1.0	1.0	1.0	1.8	2.1	2.2	2.4	2.5
Japan.....	17.0	17.6	18.3	18.4	18.5	19.7	21.8	22.7	24.5	23.9
New Zealand.....	2.4	2.7	2.8	2.8	2.7	2.9	2.6	2.8	2.7	2.5
Philippines.....	5.1	5.2	5.5	5.4	5.4	6.0	5.8	6.2	6.9	7.6
Other.....	0.0	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)
Total.....	26.2	27.2	28.2	30.3	30.4	33.4	35.2	37.9	40.5	40.7
World Total.....	116.8	127.1	136.6	155.0	163.3	171.7	175.2	183.8	192.3	196.3

¹ Preliminary.

-- = Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Consumption does not account for thermal equivalent conversion losses.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

Sources: See sources at the end of Section 6.

Table 1.8 World Consumption of Primary Energy by Selected Country Groups (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Petroleum										
World Total	134.82	134.87	136.11	136.62	136.61	139.10	142.39	145.51	148.62	149.73
OECD ²	82.63	82.70	83.63	85.72	86.56	88.92	90.45	92.70	94.01	94.39
Non OECD.....	52.19	52.17	52.48	50.90	50.05	50.18	51.94	52.82	54.61	55.34
Other Groups:.....										
OECD Europe.....	27.66	27.66	28.66	29.16	29.21	29.36	30.45	30.86	31.24	31.88
OPEC ³	8.74	9.11	9.31	9.55	10.09	10.30	10.87	11.01	11.50	11.51
EU ⁴	24.71	24.75	25.80	26.18	25.79	25.96	26.95	27.11	27.39	28.04
IEA ⁵	76.76	76.50	77.05	78.55	78.61	80.43	81.73	83.40	84.11	85.13
Natural Gas										
World Total	73.93	74.78	76.02	76.23	78.40	78.34	80.01	84.01	83.77	84.40
OECD ²	35.85	36.26	37.69	38.58	40.20	41.33	43.22	45.70	45.64	45.62
Non OECD.....	38.08	38.52	38.33	37.64	38.21	37.01	36.79	38.31	38.13	38.78
Other Groups:.....										
OECD Europe.....	10.31	10.55	11.48	11.50	12.19	12.39	13.32	14.77	14.58	15.09
OPEC ³	6.06	5.98	6.10	6.63	6.98	7.48	7.94	8.60	9.13	9.29
EU ⁴	9.29	9.57	10.48	10.48	10.89	11.10	11.86	13.14	12.90	13.37
IEA ⁵	34.47	34.81	36.19	37.05	38.32	39.35	41.09	43.29	43.11	43.02
Coal										
World Total	90.33	90.41	87.15	87.05	87.54	88.33	89.63	91.64	90.19	87.53
OECD ²	42.76	41.82	40.77	39.45	41.05	40.85	40.55	41.99	41.50	41.13
Non OECD.....	47.57	48.59	46.39	47.60	46.49	47.48	49.07	49.64	48.69	46.40
Other Groups:.....										
OECD Europe.....	17.23	16.25	15.31	13.83	14.47	13.91	13.24	13.54	12.86	12.08
OPEC ³	0.23	0.19	0.19	0.22	0.30	0.36	0.36	0.46	0.47	0.48
EU ⁴	12.62	12.37	11.32	10.01	9.72	9.37	8.97	8.88	8.38	7.87
IEA ⁵	37.98	37.86	36.73	35.52	35.98	35.88	35.71	36.73	36.48	36.35
Hydroelectric Power										
World Total	21.89	22.65	23.18	23.20	24.57	24.77	26.00	26.44	26.96	26.84
OECD ²	11.99	12.31	12.53	12.42	13.16	12.71	13.58	14.03	14.18	13.83
Non OECD.....	9.90	10.33	10.65	10.78	11.40	12.06	12.42	12.40	12.78	13.01
Other Groups:.....										
OECD Europe.....	4.40	4.57	4.53	4.82	5.02	5.02	5.07	4.88	5.04	5.22
OPEC ³	0.57	0.60	0.70	0.76	0.75	0.74	0.76	0.79	0.79	0.75
EU ⁴	2.61	2.70	2.75	2.93	2.97	3.05	2.99	2.99	3.04	3.13
IEA ⁵	11.62	11.95	12.19	12.04	12.75	12.38	13.16	13.58	13.77	13.42
Nuclear Electric Power										
World Total	19.82	20.37	21.29	21.36	22.07	22.50	23.35	24.17	23.95	24.48
OECD ²	16.38	16.99	17.93	18.15	18.99	19.61	20.35	20.84	20.59	21.20
Non OECD.....	3.44	3.38	3.36	3.21	3.08	2.89	3.01	3.33	3.36	3.27
Other Groups:.....										
OECD Europe.....	7.50	7.53	7.76	7.91	8.42	8.40	8.56	8.96	9.07	9.10
OPEC ³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU ⁴	7.12	7.14	7.40	7.55	7.91	7.87	8.04	8.43	8.53	8.56
IEA ⁵	15.91	16.46	17.35	17.57	18.24	18.87	19.49	19.92	19.60	20.12

See footnotes at end of table.

Table 1.8 World Consumption of Primary Energy by Selected Country Groups (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Biomass, Geothermal, Solar, and Wind Electric Power										
World Total	1.57	1.70	1.80	2.00	2.09	2.19	2.22	2.33	2.42	2.47
OECD ²	1.34	1.45	1.56	1.74	1.84	1.90	1.92	2.00	2.05	2.08
Non OECD.....	0.23	0.24	0.25	0.25	0.25	0.29	0.30	0.34	0.37	0.39
Other Groups:.....										
OECD Europe.....	0.23	0.24	0.24	0.33	0.39	0.42	0.47	0.50	0.58	0.63
OPEC ³	0.02	0.02	0.02	0.02	0.02	0.04	0.04	0.05	0.05	0.05
EU, ⁴	0.22	0.22	0.23	0.31	0.37	0.40	0.44	0.46	0.54	0.58
IEA ⁵	1.23	1.34	1.44	1.62	1.71	1.77	1.79	1.86	1.92	1.94
Total Energy⁶										
World Total	344.83	346.83	347.51	348.46	353.21	357.25	365.72	376.25	378.04	377.72
OECD ²	193.67	193.76	196.20	198.11	203.78	207.38	212.22	219.47	220.15	220.59
Non OECD.....	151.16	153.07	151.31	150.35	149.43	149.87	153.50	156.78	157.89	157.13
Other Groups:.....										
OECD Europe.....	67.57	66.96	68.13	67.59	69.73	69.55	71.14	73.56	73.44	74.07
OPEC ³	15.61	15.90	16.31	17.17	18.12	18.90	19.96	20.90	21.94	22.08
EU, ⁴	56.85	57.00	58.14	57.64	57.87	57.93	59.43	60.99	60.86	61.68
IEA ⁵	180.68	181.17	183.09	184.45	187.66	190.77	195.16	201.02	201.20	202.37

¹ Preliminary.

² The Organization for Economic Cooperation and Development (OECD) includes Australia, Austria, Belgium, Canada, Czech Republic, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, South, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.). Refer to Appendix A for a listing of OECD Europe.

³ The Organization of Petroleum Exporting Countries (OPEC) includes Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

⁴ European Union (EU) includes Austria, Belgium, Denmark (including data for Faroe Islands), Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

⁵ International Energy Agency (IEA) includes Australia, Austria, Belgium, Canada, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.).

⁶ Total primary energy consumption, as reported here, includes all of the fuel types reported in this table. It also includes for the United States: (1) the consumption of biomass, geothermal energy, and solar energy not used for electricity generation; (2) electricity imports from Mexico that are derived from geothermal energy; and (3) net imports of electricity derived from nonrenewable sources. It has also been adjusted to include total electricity imports and to exclude total electricity exports for all countries, except the United States. This adjustment is necessary because the consumption data for electric power by type, as reported in this table, are not adjusted for electricity imports and exports, except for hydroelectric power in the United States. As a result of these adjustments, total primary energy consumption reported in this table might not be equal to sum of the individual fuel types reported in this table.

(s) = Value less than 5 trillion Btu.

Notes: For consistency data reflect 1998 membership (as of December 31, 1998) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Section 2

World Energy Production, 1989-1998

Table 2.1 World Production of Primary Energy by Selected Country Groups, 1989 - 1998

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Petroleum (thousand barrels per day)²										
World Total.....	65,892	66,754	66,632	66,961	67,348	68,228	69,837	71,390	73,650	75,151
OECD ³	20,019	20,142	20,710	21,060	21,206	21,875	22,328	23,067	23,440	23,316
Non OECD.....	45,873	46,611	45,922	45,901	46,143	46,353	47,509	48,324	50,210	51,836
Other Groups:.....										
OECD Europe.....	4,480	4,645	4,874	5,272	5,486	6,214	6,630	7,046	7,029	6,996
OPEC ⁴	23,323	24,536	24,625	25,818	26,610	27,031	27,566	28,018	29,355	30,492
EU, ⁵	2,734	2,725	2,744	2,806	2,900	3,453	3,597	3,678	3,611	3,721
IEA ⁶	17,081	17,128	17,539	17,902	18,035	18,690	19,225	19,748	19,923	19,713
Natural Gas (trillion cubic feet)										
World Total.....	72.13	73.57	74.78	74.84	76.36	76.93	77.96	81.64	81.61	82.96
OECD ³	30.34	30.99	31.74	32.47	33.66	34.95	35.46	37.31	37.23	37.41
Non OECD.....	41.78	42.58	43.04	42.38	42.70	41.98	42.50	44.33	44.39	45.55
Other Groups:.....										
OECD Europe.....	7.63	7.47	8.07	8.15	8.59	8.70	9.02	10.36	9.97	9.89
OPEC ⁴	7.65	7.73	8.20	8.64	9.01	9.44	10.08	10.93	11.83	12.12
EU, ⁵	6.12	6.17	6.77	6.78	7.25	7.30	7.58	8.55	8.00	7.92
IEA ⁶	29.28	29.94	30.69	31.44	32.52	33.79	34.32	36.06	35.88	35.96
Coal (million short tons)										
World Total.....	5,325	5,356	5,029	5,019	4,921	5,008	5,126	5,185	5,172	5,043
OECD ³	2,457	2,418	2,257	2,199	2,183	2,227	2,220	2,257	2,283	2,280
Non OECD.....	2,869	2,938	2,773	2,820	2,738	2,781	2,906	2,928	2,889	2,762
Other Groups:.....										
OECD Europe.....	1,135	1,046	909	848	884	835	811	810	790	741
OPEC ⁴	13	13	18	28	36	40	52	61	68	76
EU, ⁵	780	737	609	555	501	454	432	428	409	376
IEA ⁶	2,151	2,153	2,001	1,960	1,852	1,904	1,901	1,935	1,963	1,982
Hydroelectric Power (billion kilowatthours)										
World Total.....	2,087.6	2,166.4	2,208.8	2,208.7	2,340.3	2,356.4	2,476.6	2,513.3	2,574.2	2,563.9
OECD ³	1,135.5	1,172.8	1,184.7	1,172.4	1,243.8	1,196.9	1,282.6	1,320.5	1,345.3	1,313.0
Non OECD.....	952.2	993.6	1,024.1	1,036.4	1,096.5	1,159.5	1,193.9	1,192.8	1,228.9	1,251.0
Other Groups:.....										
OECD Europe.....	421.0	437.3	435.4	463.6	482.2	482.8	488.0	469.0	485.1	502.0
OPEC ⁴	54.4	57.9	67.6	72.8	71.9	71.1	72.9	75.6	76.0	72.2
EU, ⁵	248.5	257.3	264.4	281.5	285.7	293.6	287.3	287.5	292.5	300.9
IEA ⁶	1,100.2	1,137.5	1,152.1	1,135.6	1,204.3	1,165.0	1,242.2	1,276.5	1,305.8	1,273.0
Nuclear Electric Power (billion kilowatthours)										
World Total.....	1,843.4	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,266.1	2,317.7
OECD ³	1,540.2	1,607.6	1,694.1	1,718.5	1,795.1	1,855.1	1,928.2	1,979.3	1,956.7	2,015.8
Non OECD.....	303.3	297.6	297.9	293.3	282.7	266.2	277.8	307.2	309.5	302.0
Other Groups:.....										
OECD Europe.....	715.9	716.1	740.4	753.6	797.9	796.8	813.5	851.6	860.9	862.5
OPEC ⁴	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU, ⁵	681.3	680.7	705.7	718.1	750.7	748.0	764.9	802.1	811.1	812.2
IEA ⁶	1,495.2	1,554.5	1,636.5	1,661.1	1,723.2	1,783.1	1,844.9	1,889.4	1,861.0	1,909.2

See footnotes at end of table.

Table 2.1 World Production of Primary Energy by Selected Country Groups, 1989 - 1998 (Continued)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Biomass, Geothermal, Solar, and Wind Electric Power (billion kilowatthours)										
World Total.....	116.8	127.1	136.6	155.0	163.3	171.7	175.2	183.8	192.3	196.3
OECD ³	102.3	111.4	120.8	138.3	146.7	152.9	155.9	161.6	167.9	170.6
Non OECD.....	14.5	15.6	15.8	16.7	16.6	18.8	19.4	22.2	24.4	25.7
Other Groups:.....										
OECD Europe.....	18.7	19.3	20.1	28.2	33.5	37.1	41.2	43.7	51.6	55.4
OPEC ⁴	1.0	1.1	1.0	1.0	1.0	1.8	2.1	2.2	2.4	2.5
EU, ⁵	17.7	17.9	18.5	26.7	31.7	34.8	38.5	40.6	48.1	51.6
IEA ⁶	97.2	106.0	114.9	132.2	140.2	146.5	149.4	154.8	160.9	163.2

¹ Preliminary.

² Data include the production of crude oil, natural gas plant liquids, refinery gain, and other liquid fuels.

³ The Organization for Economic Cooperation and Development (OECD) includes Australia, Austria, Belgium, Canada, Czech Republic, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, South, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.). Refer to Appendix A for a listing of OECD Europe.

⁴ The Organization of Petroleum Exporting Countries (OPEC) includes Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

⁵ European Union (EU) includes Austria, Belgium, Denmark (including data for Faroe Islands), Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

⁶ International Energy Agency (IEA) includes Australia, Austria, Belgium, Canada, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.).

Notes: For consistency data reflect 1998 membership (as of December 31, 1998) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Table 2.2 World Crude Oil Production, 1989 - 1998
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada ²	1,560	1,553	1,548	1,605	1,679	1,746	1,805	1,837	1,922	1,981
Mexico.....	2,520	2,553	2,680	2,669	2,673	2,685	2,618	2,855	3,023	3,070
United States.....	7,613	7,355	7,417	7,171	6,847	6,662	6,560	6,465	6,452	6,252
Total.....	11,693	11,461	11,644	11,446	11,199	11,093	10,982	11,156	11,396	11,303
Central & South America										
Argentina.....	460	483	485	553	594	650	715	756	834	847
Bolivia.....	20	21	21	21	22	23	28	30	29	35
Brazil.....	596	631	630	626	643	671	695	795	841	969
Chile.....	22	20	17	15	14	12	11	9	7	8
Colombia.....	403	440	419	433	456	450	585	623	652	733
Cuba.....	15	14	14	16	20	24	26	30	30	31
Ecuador.....	279	285	299	321	344	365	392	396	388	375
Peru.....	130	129	115	116	126	128	130	120	118	116
Trinidad and Tobago.....	154	150	151	137	135	132	131	130	124	123
Venezuela.....	1,907	2,137	2,375	2,371	2,450	2,588	2,750	2,938	3,280	3,167
Other.....	9	9	9	11	13	16	18	21	21	32
Total.....	3,995	4,318	4,535	4,621	4,817	5,059	5,481	5,848	6,326	6,435
Western Europe										
Austria.....	23	22	26	23	22	21	23	21	19	21
Denmark.....	117	121	143	163	174	185	186	208	230	238
France.....	65	61	59	58	55	56	50	43	36	34
Germany.....	--	--	71	63	61	58	59	60	56	59
Germany, East.....	1	1	--	--	--	--	--	--	--	--
Germany, West.....	75	71	--	--	--	--	--	--	--	--
Greece.....	17	15	16	13	11	10	9	8	9	6
Italy.....	82	87	80	83	83	86	93	101	112	107
Netherlands.....	64	70	74	53	50	78	66	56	53	52
Norway.....	1,554	1,704	1,890	2,229	2,350	2,521	2,768	3,104	3,143	3,017
Spain.....	21	16	22	22	18	17	13	11	8	11
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0	0	0
Turkey.....	56	73	88	84	76	72	67	67	68	65
United Kingdom.....	1,802	1,820	1,797	1,825	1,915	2,375	2,489	2,568	2,518	2,616
Former Yugoslavia.....	70	64	60	--	--	--	--	--	--	--
Croatia.....	--	--	--	36	36	39	32	30	29	31
Serbia and Montenegro.....	--	--	--	23	23	24	22	22	20	18
Slovenia.....	--	--	--	0	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	3,947	4,125	4,326	4,676	4,873	5,543	5,878	6,299	6,300	6,275
Eastern Europe & Former U.S.S.R.										
Albania.....	47	30	19	11	11	12	10	10	9	6
Bulgaria.....	5	4	1	1	1	1	1	1	1	1
Former Czechoslovakia.....	3	2	3	2	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	2	2	3	4	3	4
Slovakia.....	--	--	--	--	1	1	1	2	2	1
Hungary.....	36	40	34	33	34	39	35	32	35	26
Poland.....	3	2	3	3	5	5	5	5	6	7
Romania.....	180	163	140	136	133	138	135	135	134	132
Former U.S.S.R.....	11,715	10,975	9,992	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	213	200	184	175	176	173	230
Belarus.....	--	--	--	40	40	40	38	36	36	36
Georgia.....	--	--	--	3	2	2	1	1	3	2
Kazakhstan.....	--	--	--	444	408	352	362	403	466	476
Kyrgyzstan.....	--	--	--	2	2	2	2	2	2	2
Lithuania.....	--	--	--	0	2	3	3	3	4	5
Russia.....	--	--	--	7,632	6,730	6,135	5,995	5,850	5,920	5,854
Tajikistan.....	--	--	--	1	1	(s)	1	(s)	1	(s)
Turkmenistan.....	--	--	--	98	79	77	70	76	89	110
Ukraine.....	--	--	--	72	66	64	65	66	58	57
Uzbekistan.....	--	--	--	36	47	75	115	115	112	116
Total.....	11,989	11,216	10,191	8,727	7,764	7,131	7,017	6,917	7,054	7,066

See footnotes at end of table.

Table 2.2 World Crude Oil Production, 1989 - 1998 (Continued)
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Bahrain.....	43	42	38	37	41	41	41	35	40	38
Iran.....	2,810	3,088	3,312	3,429	3,540	3,618	3,643	3,686	3,664	3,634
Iraq.....	2,897	2,040	305	425	512	553	560	579	1,155	2,150
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	1,783	1,175	190	1,058	1,852	2,025	2,057	2,062	2,007	2,085
Oman.....	641	685	700	740	776	810	851	883	904	900
Qatar.....	380	406	395	423	413	415	442	510	550	696
Saudi Arabia.....	5,064	6,410	8,115	8,332	8,198	8,120	8,231	8,218	8,362	8,389
Syria.....	340	388	492	481	554	560	575	582	561	553
United Arab Emirates.....	1,860	2,117	2,386	2,266	2,159	2,193	2,233	2,278	2,316	2,345
Yemen.....	194	193	197	182	220	335	345	340	362	388
Total.....	16,013	16,545	16,130	17,373	18,265	18,669	18,979	19,174	19,923	21,178
Africa										
Algeria.....	1,095	1,175	1,230	1,214	1,162	1,180	1,202	1,242	1,277	1,246
Angola.....	455	475	500	526	509	536	646	709	714	735
Benin.....	4	4	4	6	6	6	3	2	1	1
Cameroon.....	170	161	153	140	127	108	111	108	124	121
Congo (Brazzaville).....	164	165	156	174	181	180	188	201	253	265
Congo (Kinshasa).....	28	29	28	26	25	26	30	30	28	26
Cote d'Ivoire (Ivory Coast).....	2	2	2	2	1	7	8	16	19	20
Egypt.....	865	873	874	881	890	896	920	922	856	834
Equatorial Guinea.....	0	0	(s)	2	5	5	5	17	52	102
Gabon.....	208	270	294	298	313	329	365	368	370	361
Ghana.....	0	0	0	1	2	1	4	6	5	5
Libya.....	1,150	1,375	1,483	1,433	1,361	1,378	1,390	1,401	1,446	1,390
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	1,716	1,810	1,892	1,943	1,960	1,931	1,993	2,001	2,132	2,153
South Africa.....	0	0	0	0	0	0	0	0	0	18
Sudan.....	0	0	0	(s)	(s)	(s)	(s)	2	5	10
Tunisia.....	105	93	104	109	98	92	89	87	84	80
Total.....	5,962	6,432	6,721	6,755	6,638	6,674	6,954	7,112	7,368	7,368
Far East & Oceania										
Australia.....	490	575	545	535	503	536	562	570	588	544
Bangladesh.....	1	1	1	1	1	1	1	1	2	2
Brunei.....	132	150	161	165	165	167	163	155	160	157
Burma.....	15	13	15	14	14	14	10	8	9	11
China.....	2,757	2,774	2,835	2,845	2,890	2,939	2,990	3,131	3,200	3,198
India.....	700	660	615	561	534	590	703	651	675	661
Indonesia.....	1,409	1,462	1,592	1,504	1,511	1,510	1,503	1,547	1,520	1,518
Japan.....	11	11	15	17	12	11	11	12	10	9
Malaysia.....	585	619	646	653	640	645	682	695	700	733
New Zealand.....	38	40	41	38	41	39	32	37	58	47
Pakistan.....	48	62	62	61	60	55	57	55	57	55
Papua New Guinea.....	0	0	(s)	53	126	110	100	103	80	79
Philippines.....	5	5	3	8	9	6	3	2	1	1
Taiwan.....	2	3	2	2	1	1	1	1	1	1
Thailand.....	40	44	46	51	52	56	51	61	72	75
Vietnam.....	32	50	80	106	120	141	173	175	191	246
Total.....	6,264	6,468	6,660	6,615	6,680	6,822	7,043	7,205	7,323	7,337
World Total.....	59,863	60,566	60,207	60,213	60,236	60,991	62,335	63,711	65,690	66,962

¹ Preliminary.

² Includes oil processed from Athabasca Tar Sands.

--= Not applicable.

(s) = Value less than 500 barrels per day.

Notes: Sum of components may not equal total due to independent rounding. Crude oil includes lease condensate.

Sources: See sources at the end of Section 3.

Table 2.3 World Natural Gas Plant Liquids Production, 1989 - 1998
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	410	426	431	460	506	529	581	596	636	651
Mexico.....	384	428	457	454	459	461	447	423	388	424
United States.....	1,546	1,559	1,659	1,697	1,736	1,727	1,762	1,830	1,817	1,759
Total.....	2,340	2,413	2,548	2,611	2,701	2,717	2,789	2,849	2,841	2,834
Central & South America										
Argentina.....	27	27	30	30	35	44	42	44	48	50
Bolivia.....	5	5	5	7	7	7	6	7	8	9
Brazil.....	22	20	22	25	25	35	40	35	30	35
Chile.....	10	12	11	11	12	12	13	12	7	7
Colombia.....	8	8	6	6	5	5	8	8	9	8
Cuba.....	2	2	2	2	2	2	2	2	3	3
Ecuador.....	2	2	2	3	9	9	9	9	5	4
Peru.....	(s)	1	1	1	1	1	1	1	1	1
Trinidad and Tobago.....	0	0	3	5	(s)	(s)	(s)	(s)	(s)	1
Venezuela.....	108	114	117	113	143	146	149	150	143	145
Total.....	184	191	199	203	239	262	270	268	254	262
Western Europe										
Austria.....	1	1	1	1	1	1	1	1	1	1
France.....	12	11	10	13	13	13	12	12	10	5
Greece.....	2	2	1	1	1	1	1	1	1	1
Italy.....	1	1	1	1	1	1	1	1	1	1
Netherlands.....	13	14	10	13	16	25	21	25	24	27
Norway.....	74	78	94	95	100	103	137	138	139	131
Spain.....	9	11	11	9	6	4	4	0	0	0
United Kingdom.....	140	108	141	160	169	218	267	259	233	241
Former Yugoslavia.....	8	10	8	--	--	--	--	--	--	--
Croatia.....	--	--	--	6	7	7	8	6	7	7
Total.....	260	236	277	299	313	373	450	443	415	414
Eastern Europe & Former U.S.S.R.										
Former Czechoslovakia.....	(s)	(s)	(s)	(s)	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Hungary.....	15	15	13	13	11	11	11	10	15	17
Poland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Romania.....	13	8	8	7	4	4	6	7	6	7
Former U.S.S.R.....	425	425	420	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	9	8	8	7	6	7	7
Kazakhstan.....	--	--	--	86	82	63	52	54	55	50
Kyrgyzstan.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	230	220	200	180	185	195	220
Tajikistan.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	12	11	8	11	12	17	17
Ukraine.....	--	--	--	23	21	21	20	15	26	25
Uzbekistan.....	--	--	--	30	38	40	45	50	45	45
Total.....	453	448	441	411	395	355	332	339	367	388
Middle East										
Bahrain.....	8	5	5	7	12	13	10	10	11	10
Iran.....	27	35	50	50	55	55	60	60	70	75
Iraq.....	54	30	0	(s)	15	20	25	20	20	15
Kuwait.....	105	65	0	34	53	85	95	85	109	115
Oman.....	10	10	8	6	5	6	10	10	6	6
Qatar.....	24	40	50	55	55	50	55	50	70	85
Saudi Arabia.....	503	620	680	713	704	698	701	697	712	755
Syria.....	2	2	2	2	8	8	9	8	10	8
United Arab Emirates.....	130	135	146	144	146	150	160	160	160	170
Total.....	863	942	941	1,011	1,053	1,085	1,125	1,100	1,168	1,239

See footnotes at end of table.

Table 2.3 World Natural Gas Plant Liquids Production, 1989 - 1998 (Continued)
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Africa										
Algeria.....	130	130	140	140	145	140	145	150	160	155
Egypt.....	45	40	45	45	55	58	60	65	71	75
Libya.....	35	35	40	40	41	41	40	49	60	60
South Africa.....	0	0	0	2	11	11	11	11	11	11
Tunisia.....	5	5	5	5	4	4	1	1	1	1
Total.....	215	210	230	232	256	254	257	276	303	302
Far East & Oceania²										
Australia.....	65	63	61	56	55	56	52	62	71	62
Bangladesh.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	10	10	10	12	13	13	13	11	15	22
Burma.....	1	1	1	1	(s)	(s)	(s)	(s)	(s)	(s)
India.....	10	10	10	28	30	45	47	80	85	90
Indonesia.....	72	77	76	75	78	80	76	80	85	87
Japan.....	(s)	(s)	(s)	(s)	4	4	4	4	5	5
Malaysia.....	11	12	12	13	17	17	20	20	50	90
New Zealand.....	4	4	5	5	5	5	5	5	7	7
Pakistan.....	(s)	(s)	2	3	2	3	5	3	3	3
Taiwan.....	2	1	1	1	1	1	1	1	1	1
Thailand.....	11	13	13	14	15	22	37	35	50	60
Total.....	187	192	192	208	221	246	261	301	372	427
World Total.....	4,502	4,632	4,827	4,974	5,180	5,292	5,485	5,576	5,721	5,866

¹ Preliminary.

² Does not include China for which data are unavailable.

--= Not applicable.

(s) = Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table 2.4 World Dry Natural Gas Production, 1989 - 1998
(Trillion Cubic Feet)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	3.73	3.85	4.06	4.52	4.91	5.27	5.60	5.78	5.85	6.04
Mexico.....	0.87	0.90	0.90	0.88	0.95	0.97	0.96	1.06	1.16	1.27
United States.....	17.31	17.81	17.70	17.84	18.10	18.82	18.60	18.79	18.90	18.86
Total.....	21.90	22.56	22.65	23.24	23.95	25.06	25.16	25.64	25.91	26.16
Central & South America										
Argentina.....	0.72	0.63	0.70	0.71	0.76	0.79	0.88	0.94	0.97	1.05
Barbados.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	0.11	0.11	0.10	0.11	0.10	0.10	0.11	0.11	0.11	0.11
Brazil.....	0.12	0.10	0.12	0.13	0.15	0.15	0.16	0.18	0.19	0.20
Chile.....	0.06	0.07	0.05	0.06	0.06	0.07	0.07	0.06	0.08	0.07
Colombia.....	0.15	0.15	0.16	0.15	0.16	0.16	0.16	0.17	0.21	0.25
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.03	0.03
Ecuador.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Peru.....	0.04	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.01	0.02
Trinidad and Tobago.....	0.16	0.18	0.20	0.19	0.22	0.25	0.27	0.30	0.33	0.37
Venezuela.....	0.77	0.76	0.79	0.76	0.81	0.88	0.89	0.96	0.99	0.99
Total.....	2.13	2.01	2.15	2.14	2.30	2.44	2.58	2.76	2.92	3.09
Western Europe										
Austria.....	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06
Belgium.....	(s)	(s)	(s)	(s)	(s)	(s)	0.00	(s)	0.00	0.00
Denmark.....	0.11	0.11	0.14	0.15	0.16	0.17	0.19	0.23	0.27	0.27
France.....	0.11	0.10	0.11	0.11	0.12	0.12	0.12	0.10	0.09	0.08
Germany.....	--	--	0.67	0.68	0.68	0.70	0.74	0.80	0.79	0.77
Germany, East.....	0.28	0.14	--	--	--	--	--	--	--	--
Germany, West.....	0.58	0.58	--	--	--	--	--	--	--	--
Greece.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ireland.....	0.08	0.08	0.08	0.08	0.09	0.10	0.10	0.09	0.08	0.06
Italy.....	0.60	0.61	0.61	0.64	0.69	0.73	0.72	0.71	0.68	0.67
Netherlands.....	2.67	2.69	3.04	3.06	3.11	2.95	2.98	3.37	2.99	2.84
Norway.....	1.09	0.98	0.97	1.04	0.97	1.04	1.08	1.45	1.62	1.63
Spain.....	0.06	0.05	0.05	0.04	0.02	0.01	0.01	0.02	0.01	(s)
Switzerland.....	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00
Turkey.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
United Kingdom.....	1.58	1.75	2.01	1.96	2.31	2.47	2.67	3.18	3.03	3.17
Former Yugoslavia.....	0.10	0.09	0.09	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	(s)	0.00	0.00	0.03	0.00	0.00	0.00
Croatia.....	--	--	--	0.06	0.07	0.06	0.07	0.06	0.06	0.06
Serbia and Montenegro.....	--	--	--	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Slovenia.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	7.31	7.24	7.83	7.92	8.33	8.44	8.80	10.09	9.72	9.66

See footnotes at end of table.

Table 2.4 World Dry Natural Gas Production, 1989 - 1998 (Continued)
(Trillion Cubic Feet)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.02	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	(s)	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Former Czechoslovakia.....	0.03	0.03	0.02	0.01	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01
Slovakia.....	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01
Hungary.....	0.21	0.17	0.18	0.18	0.18	0.17	0.17	0.16	0.15	0.14
Poland.....	0.20	0.15	0.15	0.15	0.18	0.17	0.18	0.18	0.18	0.18
Romania.....	1.13	1.00	0.88	0.78	0.75	0.69	0.68	0.63	0.61	0.52
Former U.S.S.R.....	28.11	28.78	28.62	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	0.28	0.24	0.23	0.23	0.24	0.21	0.20
Belarus.....	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Georgia.....	--	--	--	(s)	0.00	0.00	0.00	0.00	0.00	0.00
Kazakhstan.....	--	--	--	0.29	0.24	0.16	0.17	0.15	0.22	0.19
Kyrgyzstan.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	22.62	21.81	21.45	21.01	21.23	20.17	20.87
Tajikistan.....	--	--	--	(s)	0.00	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	2.02	2.29	1.26	1.14	1.31	0.90	0.47
Ukraine.....	--	--	--	0.74	0.68	0.64	0.62	0.64	0.64	0.64
Uzbekistan.....	--	--	--	1.51	1.59	1.67	1.70	1.70	1.74	1.94
Total.....	29.71	30.13	29.85	28.58	27.98	26.47	25.93	26.28	24.85	25.16
Middle East										
Bahrain.....	0.19	0.21	0.23	0.19	0.23	0.23	0.23	0.23	0.28	0.29
Iran.....	0.78	0.84	0.92	0.88	0.96	1.12	1.25	1.42	1.66	1.77
Iraq.....	0.22	0.15	0.04	0.10	0.09	0.11	0.11	0.11	0.11	0.10
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Kuwait.....	0.29	0.19	0.02	0.09	0.19	0.21	0.21	0.33	0.33	0.33
Oman.....	0.10	0.10	0.12	0.12	0.14	0.15	0.15	0.15	0.18	0.25
Qatar.....	0.22	0.28	0.33	0.40	0.48	0.48	0.48	0.48	0.61	0.69
Saudi Arabia.....	1.05	1.08	1.13	1.20	1.27	1.33	1.34	1.46	1.60	1.65
Syria.....	0.04	0.10	0.12	0.13	0.13	0.13	0.10	0.14	0.16	0.21
United Arab Emirates.....	0.81	0.78	0.92	1.02	0.94	0.91	1.11	1.19	1.28	1.31
Total.....	3.69	3.72	3.84	4.14	4.43	4.69	4.99	5.53	6.22	6.61
Africa										
Algeria.....	1.71	1.79	1.93	1.97	1.90	1.81	2.05	2.19	2.43	2.60
Angola.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Congo (Brazzaville).....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	0.00	(s)	0.02	0.02	0.02
Egypt.....	0.27	0.29	0.32	0.35	0.40	0.42	0.44	0.47	0.48	0.49
Gabon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	0.21	0.22	0.23	0.24	0.22	0.23	0.22	0.23	0.23	0.22
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	0.17	0.13	0.17	0.17	0.18	0.16	0.18	0.19	0.21	0.21
Senegal.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
South Africa.....	0.00	0.00	0.00	(s)	0.06	0.07	0.07	0.07	0.06	0.05
Tunisia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.06	0.07
Total.....	2.39	2.46	2.69	2.77	2.81	2.72	3.01	3.23	3.52	3.70

See footnotes at end of table.

Table 2.4 World Dry Natural Gas Production, 1989 - 1998 (Continued)
(Trillion Cubic Feet)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	0.10	0.10	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Australia.....	0.57	0.72	0.75	0.80	0.86	0.93	1.03	1.05	1.07	1.10
Bangladesh.....	0.16	0.16	0.17	0.21	0.22	0.23	0.26	0.27	0.27	0.28
Brunei.....	0.31	0.32	0.28	0.29	0.29	0.30	0.33	0.33	0.32	0.32
Burma.....	0.04	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.05	0.06
China.....	0.51	0.51	0.53	0.53	0.56	0.59	0.60	0.67	0.75	0.78
India.....	0.32	0.40	0.45	0.48	0.53	0.59	0.63	0.70	0.72	0.76
Indonesia.....	1.42	1.53	1.72	1.79	1.97	2.21	2.24	2.35	2.37	2.24
Japan.....	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Malaysia.....	0.61	0.65	0.75	0.80	0.88	0.92	1.02	1.23	1.36	1.44
New Zealand.....	0.17	0.17	0.19	0.20	0.18	0.18	0.17	0.19	0.20	0.17
Pakistan.....	0.47	0.48	0.53	0.55	0.58	0.63	0.65	0.70	0.70	0.71
Papua New Guinea.....	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)
Taiwan.....	0.05	0.08	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Thailand.....	0.18	0.21	0.24	0.25	0.31	0.34	0.37	0.43	0.54	0.57
Vietnam.....	(s)	(s)	(s)	0.01	0.01	0.01	0.03	0.03	0.01	0.02
Total.....	4.98	5.44	5.76	6.06	6.55	7.11	7.50	8.11	8.48	8.58
World Total.....	72.13	73.57	74.78	74.84	76.36	76.93	77.96	81.64	81.61	82.96

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 billion cubic feet.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 4.

Table 2.5 World Coal Production, 1989 - 1998
(Million Short Tons)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	77.73	75.35	78.41	72.32	76.09	80.28	82.57	83.47	86.70	83.09
Mexico.....	8.49	8.59	7.80	7.24	7.84	10.07	10.26	11.14	10.30	11.39
United States.....	980.73	1,029.08	995.98	997.54	945.42	1,033.50	1,032.97	1,063.86	1,089.93	1,118.67
Total.....	1,066.95	1,113.01	1,082.19	1,077.11	1,029.35	1,123.85	1,125.80	1,158.47	1,186.93	1,213.15
Central & South America										
Argentina.....	0.57	0.31	0.32	0.22	0.18	0.38	0.34	0.34	0.28	0.28
Brazil.....	7.35	5.07	5.72	5.22	5.07	4.91	4.58	4.23	4.87	5.18
Chile.....	2.19	2.45	2.48	1.86	1.54	1.30	1.15	1.23	1.21	1.31
Colombia.....	20.21	22.56	26.01	26.21	23.39	24.98	28.37	33.14	35.93	38.37
Peru.....	0.16	0.14	0.08	0.18	0.13	0.10	0.16	0.03	0.02	0.04
Venezuela.....	2.34	2.41	2.40	2.70	4.21	4.72	4.48	4.58	6.39	8.27
Total.....	32.82	32.94	37.01	36.39	34.52	36.39	39.08	43.55	48.71	53.43
Western Europe										
Austria.....	2.28	2.70	2.29	1.95	1.86	1.26	1.43	1.22	1.25	1.21
Belgium.....	2.80	2.69	2.32	1.32	1.07	0.83	0.70	0.62	0.47	0.34
France.....	15.94	15.47	14.45	13.26	11.95	10.48	9.24	9.34	7.64	6.04
Germany.....	--	--	388.37	346.09	315.23	291.78	273.27	264.99	251.74	228.73
Germany, East.....	331.86	308.65	--	--	--	--	--	--	--	--
Germany, West.....	208.86	205.06	--	--	--	--	--	--	--	--
Greece.....	57.17	57.21	58.09	60.68	60.44	62.55	63.64	65.90	64.86	64.93
Ireland.....	0.05	0.03	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	1.18	1.12	1.06	0.91	0.69	0.30	0.42	0.33	0.22	0.09
Norway.....	0.40	0.33	0.36	0.40	0.30	0.33	0.32	0.31	0.24	0.36
Portugal.....	0.28	0.31	0.30	0.24	0.22	0.16	0.00	0.00	0.00	0.00
Spain.....	48.43	39.63	37.00	36.90	34.81	32.67	31.28	30.73	29.16	28.74
Sweden.....	0.02	0.01	0.03	0.04	(s)	(s)	0.00	0.00	0.00	0.00
Turkey.....	57.57	52.28	50.83	56.69	53.53	59.93	60.63	62.09	62.28	67.46
United Kingdom.....	111.44	104.05	104.63	93.58	75.18	53.92	52.48	55.33	53.51	45.50
Former Yugoslavia.....	82.23	83.61	78.04	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	2.20	1.65	1.54	1.81	1.81	1.81	1.76
Croatia.....	--	--	--	0.00	0.13	0.11	0.09	0.07	0.05	0.06
Macedonia, TFYR.....	--	--	--	7.69	7.62	7.56	7.99	7.88	7.17	7.17
Serbia and Montenegro.....	--	--	--	44.21	41.26	42.27	44.10	42.38	44.82	48.07
Slovenia.....	--	--	--	6.12	5.64	5.35	5.38	5.27	5.46	5.31
Total.....	920.53	873.15	737.77	672.29	611.61	571.05	552.80	548.26	530.68	505.77
Eastern Europe & Former U.S.S.R.										
Albania.....	2.42	2.28	1.20	0.88	0.66	0.19	0.18	0.11	0.08	0.04
Bulgaria.....	42.87	39.01	31.26	33.25	31.79	31.60	33.89	34.38	32.65	33.21
Former Czechoslovakia.....	131.86	117.49	109.27	101.90	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	93.87	84.82	81.94	84.02	84.34	83.38
Slovakia.....	--	--	--	--	3.91	4.01	4.14	4.22	4.32	4.41
Hungary.....	22.08	19.38	18.71	17.45	16.10	15.54	15.20	13.45	13.66	15.98
Poland.....	274.68	237.08	230.86	218.44	218.43	220.35	220.17	221.56	220.79	198.21
Romania.....	66.40	42.09	35.72	42.30	43.82	44.70	45.33	46.15	37.27	28.58
Former U.S.S.R.....	816.07	881.84	701.66	--	--	--	--	--	--	--
Georgia.....	--	--	--	0.22	0.13	0.05	0.05	0.03	0.01	0.01
Kazakhstan.....	--	--	--	139.49	123.32	115.33	91.77	84.46	80.08	76.83
Kyrgyzstan.....	--	--	--	2.37	1.90	0.93	0.51	0.45	0.58	0.49
Moldova.....	--	--	--	0.29	0.20	0.12	0.04	0.04	0.04	0.03
Russia.....	--	--	--	405.85	364.03	312.72	296.25	304.04	289.62	272.49
Tajikistan.....	--	--	--	0.24	0.19	0.12	0.04	0.02	0.02	0.01
Ukraine.....	--	--	--	146.75	127.70	104.61	92.20	79.46	85.90	82.93
Uzbekistan.....	--	--	--	5.14	4.21	4.24	3.37	3.13	3.25	3.26
Total.....	1,356.37	1,339.17	1,128.68	1,114.55	1,030.26	939.32	885.07	875.53	852.59	799.87

See footnotes at end of table.

Table 2.5 World Coal Production, 1989 - 1998 (Continued)
(Million Short Tons)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Iran.....	1.32	1.21	1.09	1.07	1.07	1.43	1.25	1.02	1.02	1.02
Total.....	1.32	1.21	1.09	1.07	1.07	1.43	1.25	1.02	1.02	1.02
Africa										
Algeria.....	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Botswana.....	0.70	0.88	0.88	0.99	0.98	0.92	0.90	0.84	0.86	0.88
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.12	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10
Egypt.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.39	0.41
Malawi.....	0.04	0.04	0.06	0.05	0.06	0.06	0.06	0.08	0.07	0.06
Morocco.....	0.56	0.58	0.61	0.63	0.67	0.69	0.72	0.56	0.41	0.43
Mozambique.....	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.07
Niger.....	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.17	0.16
Nigeria.....	0.09	0.10	0.15	0.11	0.13	0.14	0.15	0.15	0.15	0.15
South Africa.....	194.47	193.18	196.43	202.88	207.47	215.84	227.31	227.48	246.38	246.84
Swaziland.....	0.18	0.18	0.14	0.11	0.06	0.20	0.19	0.14	0.16	0.30
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	(s)	(s)
Zambia.....	0.44	0.42	0.34	0.38	0.30	0.18	0.18	0.19	0.18	0.17
Zimbabwe.....	5.63	6.07	6.19	6.12	5.83	6.03	6.09	5.15	5.84	5.56
Total.....	202.48	201.77	205.14	211.63	215.84	224.42	235.96	235.07	254.79	255.16
Far East & Oceania										
Afghanistan.....	0.14	0.12	0.10	0.01	0.01	0.01	0.01	(s)	(s)	(s)
Australia.....	216.13	225.78	235.93	248.96	247.58	248.46	266.55	272.26	292.82	313.67
Bhutan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Burma.....	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.08	0.09
China.....	1,161.95	1,190.36	1,198.66	1,228.58	1,303.53	1,403.50	1,536.97	1,514.68	1,460.84	1,351.25
India.....	221.44	233.39	252.74	270.25	281.23	291.41	301.30	339.58	352.98	358.80
Indonesia.....	9.25	8.84	14.08	24.22	30.39	34.19	45.66	55.48	60.41	66.49
Japan.....	12.55	11.33	9.59	8.64	7.95	8.07	7.12	6.81	4.39	4.08
Korea, North.....	69.11	71.32	72.75	73.85	77.71	77.71	78.07	78.66	67.63	67.63
Korea, South.....	22.91	18.98	16.60	13.19	10.41	8.20	6.31	5.46	4.97	4.81
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Malaysia.....	0.12	0.12	0.20	0.19	0.42	0.15	0.12	0.09	0.12	0.24
Mongolia.....	8.86	7.89	7.76	6.89	6.18	5.69	5.53	5.63	5.43	5.18
Nepal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
New Zealand.....	3.18	2.95	3.09	3.44	3.59	3.46	3.64	3.91	3.71	3.59
Pakistan.....	2.89	3.03	3.18	3.39	3.39	3.54	3.32	4.01	3.92	3.48
Philippines.....	1.36	1.37	1.39	1.83	1.75	1.60	1.46	1.24	1.03	1.03
Taiwan.....	0.86	0.52	0.44	0.37	0.36	0.31	0.26	0.16	0.11	0.09
Thailand.....	9.82	13.71	16.22	16.93	17.14	18.86	20.31	23.92	25.84	22.04
Vietnam.....	4.22	5.10	4.77	5.28	6.50	6.27	9.20	10.83	12.55	11.80
Total.....	1,744.90	1,794.92	1,837.61	1,906.13	1,998.23	2,111.54	2,285.93	2,322.83	2,296.85	2,214.30
World Total.....	5,325.36	5,356.18	5,029.49	5,019.17	4,920.89	5,008.00	5,125.89	5,184.72	5,171.57	5,042.69

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 thousand short tons.

Notes: Sum of components may not equal total due to independent rounding.

Coal includes anthracite, subanthracite, bituminous, subbituminous, lignite, and brown coal.

Sources: See sources at the end of Section 5.

Table 2.6 World Net Hydroelectric Power Generation, 1989 - 1998
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	287.6	293.9	305.3	313.2	320.3	326.4	332.0	352.4	347.6	329.3
Mexico.....	24.4	23.2	21.6	25.9	26.0	19.8	27.3	31.1	26.2	24.3
United States. ²	272.1	288.0	283.6	248.9	276.5	256.8	308.3	344.4	354.9	324.1
Total.....	584.2	605.1	610.5	588.0	622.8	603.1	667.6	727.9	728.7	677.7
Central & South America										
Argentina.....	15.2	20.2	19.3	24.3	29.9	34.0	33.4	28.4	34.8	35.8
Bolivia.....	1.2	1.2	1.4	1.3	1.4	1.4	1.4	1.5	1.4	1.4
Brazil.....	202.6	204.6	215.6	221.1	232.7	240.3	251.4	263.1	276.2	288.5
Chile.....	9.5	11.9	13.0	16.6	17.0	16.8	18.2	16.7	18.2	15.0
Colombia.....	26.4	27.2	27.2	22.2	27.7	32.0	33.9	34.3	30.9	31.2
Costa Rica.....	3.3	3.3	3.6	3.5	3.9	3.9	3.5	3.8	4.8	4.6
Dominican Republic.....	0.6	0.4	0.6	2.2	1.7	1.9	2.0	2.1	2.2	2.3
Ecuador.....	4.9	4.9	5.0	4.9	5.8	6.6	5.2	6.2	6.7	7.0
El Salvador.....	1.4	1.4	0.8	1.0	1.2	1.2	1.2	1.1	1.2	1.2
Guatemala.....	2.1	2.1	2.1	1.8	1.9	2.0	1.9	2.3	2.1	2.1
Haiti.....	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.3
Honduras.....	1.8	2.1	2.1	2.2	2.2	2.3	2.1	2.1	1.4	1.9
Jamaica.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nicaragua.....	0.5	0.8	0.6	0.6	0.8	0.6	0.8	1.0	1.0	1.0
Panama.....	2.2	2.2	2.5	2.6	3.0	3.2	2.9	3.3	3.2	3.3
Paraguay.....	24.2	26.9	29.1	26.8	31.1	36.0	41.7	47.6	49.9	50.2
Peru.....	10.3	10.4	11.4	9.7	11.7	12.6	13.6	13.2	13.1	13.7
Puerto Rico.....	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Suriname.....	1.1	1.2	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5
Uruguay.....	3.9	6.9	6.1	7.8	7.2	7.4	5.8	5.7	6.4	9.1
Venezuela.....	34.3	36.6	44.1	46.8	47.0	50.8	50.9	53.3	56.6	52.5
Other.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Total.....	346.3	365.3	386.6	397.6	428.4	455.0	472.2	487.9	512.4	523.1
Western Europe										
Austria.....	34.6	31.2	31.1	34.5	36.3	35.3	36.7	33.9	35.6	37.0
Belgium.....	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.4
Finland.....	12.9	10.8	13.1	15.0	13.3	11.7	12.8	11.7	12.1	14.8
France.....	45.7	52.8	56.3	67.2	63.1	76.5	70.6	64.5	61.6	59.9
Germany.....	--	--	14.7	17.2	17.7	19.7	21.6	21.7	17.2	16.8
Germany, East.....	1.6	1.4	--	--	--	--	--	--	--	--
Germany, West.....	16.5	15.8	--	--	--	--	--	--	--	--
Greece.....	1.9	1.8	3.1	2.2	2.3	2.6	3.5	4.3	3.8	3.6
Iceland.....	4.2	4.2	4.2	4.3	4.4	4.5	4.6	4.7	5.2	5.6
Ireland.....	0.7	0.7	0.7	0.8	0.8	0.9	0.7	0.7	0.7	0.9
Italy.....	33.6	31.3	41.8	41.8	41.0	44.2	37.4	41.6	41.2	42.0
Luxembourg.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Norway.....	117.4	119.9	109.0	115.5	118.0	110.4	120.1	102.6	108.7	114.5
Portugal.....	5.7	9.1	9.0	4.6	8.5	10.6	8.3	14.6	13.0	12.9
Spain.....	19.0	25.2	27.0	18.7	24.1	27.9	22.9	39.4	34.3	34.4
Sweden.....	70.9	71.8	62.6	73.6	73.9	58.5	67.4	51.2	68.3	72.9
Switzerland.....	29.5	29.5	31.8	32.4	35.4	38.7	34.8	28.1	33.7	33.2
Turkey.....	17.6	22.9	22.5	26.3	33.6	30.3	35.2	40.1	39.4	41.8
United Kingdom.....	4.7	5.1	4.5	5.3	4.2	5.0	4.8	3.3	4.1	5.1
Former Yugoslavia.....	23.3	19.6	18.9	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	3.0	2.0	1.2	1.4	1.4	1.5	1.5
Croatia.....	--	--	--	4.3	4.3	4.9	5.2	6.5	5.2	5.5
Macedonia, TFYR.....	--	--	--	0.8	0.5	0.7	0.8	0.8	0.9	1.0
Serbia and Montenegro.....	--	--	--	11.2	10.0	11.0	11.1	11.4	12.0	12.5
Slovenia.....	--	--	--	3.4	3.0	3.4	3.2	3.6	3.1	3.3
Other.....	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total.....	440.4	453.4	450.8	482.6	497.0	498.6	503.7	486.8	502.1	519.6

See footnotes at end of table.

Table 2.6 World Net Hydroelectric Power Generation, 1989 - 1998 (Continued)
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	3.8	2.8	3.5	3.2	3.3	3.7	4.2	5.6	5.3	5.0
Bulgaria.....	2.7	1.9	2.4	2.0	1.9	1.5	2.3	2.9	2.9	2.8
Former Czechoslovakia.....	4.2	3.9	3.1	3.6	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	1.4	1.4	2.0	1.9	1.7	1.6
Slovakia.....	--	--	--	--	3.9	4.6	5.2	4.5	4.3	3.8
Hungary.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Poland.....	3.7	3.3	3.4	3.5	3.5	3.7	3.8	3.9	3.8	4.3
Romania.....	12.5	10.9	14.1	11.6	12.6	12.9	16.5	15.6	17.3	16.6
Former U.S.S.R.....	221.0	230.7	232.7	--	--	--	--	--	--	--
Armenia.....	--	--	--	3.0	4.2	3.5	1.9	1.6	1.5	1.5
Azerbaijan.....	--	--	--	1.7	2.4	1.8	1.5	1.5	1.5	1.5
Georgia.....	--	--	--	6.5	7.0	4.7	5.3	6.0	6.0	5.9
Kazakhstan.....	--	--	--	6.8	7.6	9.1	8.2	7.3	6.4	6.0
Kyrgyzstan.....	--	--	--	9.2	9.0	11.6	11.0	12.1	11.1	10.9
Latvia.....	--	--	--	2.5	2.8	3.3	2.9	1.8	2.9	3.4
Lithuania.....	--	--	--	0.3	0.4	0.7	0.7	0.9	0.8	0.7
Moldova.....	--	--	--	0.3	0.4	0.3	0.3	0.4	0.4	0.4
Russia.....	--	--	--	170.9	172.1	174.2	174.5	153.1	152.5	150.5
Tajikistan.....	--	--	--	15.8	16.9	16.5	14.5	14.7	13.7	13.1
Ukraine.....	--	--	--	8.0	11.1	12.2	10.0	8.7	9.9	11.3
Uzbekistan.....	--	--	--	6.2	7.3	7.1	6.1	6.5	6.8	6.4
Other.....	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	248.1	253.6	259.3	255.3	267.9	273.0	271.2	249.1	249.1	245.8
Middle East										
Iran.....	6.6	6.0	7.0	9.4	9.7	7.4	7.2	7.3	7.3	7.3
Iraq.....	0.6	0.6	0.3	0.7	0.6	0.6	0.6	0.6	0.6	0.6
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lebanon.....	0.5	0.3	0.5	0.5	0.7	0.8	0.7	0.8	0.9	0.9
Syria.....	4.7	5.6	6.2	7.3	6.6	6.7	6.9	6.9	9.9	10.0
Total.....	12.4	12.5	14.0	18.0	17.7	15.5	15.4	15.6	18.8	18.9
Africa										
Algeria.....	0.3	0.1	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1
Angola.....	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Cameroon.....	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.8	3.0	3.2
Congo (Brazzaville).....	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Congo (Kinshasa).....	6.8	5.6	5.2	6.0	5.7	5.4	5.9	6.1	5.8	5.6
Cote d'Ivoire (Ivory Coast).....	1.6	1.3	1.2	1.0	1.1	1.0	1.7	1.9	2.0	2.2
Egypt.....	7.9	9.9	8.5	8.5	10.4	10.6	10.7	11.4	11.9	12.3
Ethiopia.....	1.0	1.1	1.1	1.1	1.3	1.1	1.1	1.1	1.2	1.2
Gabon.....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Ghana.....	5.2	5.7	6.0	6.0	6.1	6.0	6.0	5.8	6.1	6.2
Kenya.....	2.4	2.5	2.7	2.8	3.0	3.0	3.1	3.3	3.5	3.5
Madagascar.....	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5
Malawi.....	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9
Mali.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Morocco.....	1.1	1.2	1.2	1.0	0.4	0.8	0.6	1.9	2.0	2.2
Nigeria.....	4.1	4.3	5.9	6.0	5.5	5.5	5.4	5.4	5.5	5.7
Reunion.....	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
South Africa.....	2.8	1.0	2.0	0.8	0.1	1.1	0.5	1.3	2.1	1.6
Sudan.....	0.9	0.9	1.0	1.1	1.1	1.1	1.0	1.1	1.0	1.0
Tanzania.....	1.4	1.5	1.7	1.6	1.7	1.5	1.5	1.7	1.4	1.2
Uganda.....	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Zambia.....	6.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.9	8.1
Zimbabwe.....	2.7	3.8	3.5	3.0	2.0	2.0	2.3	2.1	1.8	1.5
Other.....	1.3	1.4	1.5	1.5	1.5	1.5	1.6	1.7	2.0	2.1
Total.....	53.5	55.8	57.3	55.8	55.5	56.3	57.3	60.7	62.7	63.1

See footnotes at end of table.

Table 2.6 World Net Hydroelectric Power Generation, 1989 - 1998 (Continued)
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	0.8	0.8	0.7	0.5	0.5	0.5	0.4	0.4	0.3	0.3
Australia.....	14.3	14.0	15.7	15.2	16.5	16.2	15.7	15.4	16.6	15.6
Bangladesh.....	0.9	0.9	0.8	0.8	0.6	0.8	0.6	0.7	0.7	0.7
Bhutan.....	1.5	1.5	1.6	1.6	1.6	1.7	1.7	2.0	1.8	1.8
Burma.....	1.1	1.2	1.2	1.5	1.7	1.6	1.6	1.6	1.6	1.7
Cambodia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China.....	117.2	125.1	123.8	130.2	149.2	165.4	184.4	184.9	193.1	202.9
Fiji.....	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
French Polynesia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
India.....	61.5	70.9	72.0	69.2	69.8	81.9	72.0	68.4	74.0	76.2
Indonesia.....	8.5	10.1	10.0	9.7	8.8	6.8	8.6	8.9	5.9	6.1
Japan.....	90.8	88.4	96.5	81.7	94.6	66.6	81.3	79.7	88.9	89.5
Korea, North.....	31.4	28.7	31.4	23.8	23.8	23.3	22.8	22.3	21.6	21.0
Korea, South.....	2.9	4.6	3.5	3.1	4.2	2.3	2.7	2.4	2.8	4.2
Laos.....	0.7	0.8	0.9	0.9	0.9	1.1	1.0	1.2	1.2	1.3
Malaysia.....	5.2	3.9	4.4	4.3	4.8	6.5	6.2	5.1	3.3	3.0
Nepal.....	0.5	0.7	0.9	0.9	0.8	0.8	0.8	1.1	1.1	1.1
New Caledonia.....	0.5	0.5	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5
New Zealand.....	21.9	23.1	22.9	20.4	23.1	25.6	27.0	25.7	23.0	23.6
Pakistan.....	16.8	16.8	18.1	18.5	20.9	19.2	22.6	23.0	20.6	21.5
Papua New Guinea.....	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Philippines.....	6.4	6.0	5.1	4.4	5.0	5.8	6.2	7.0	6.0	4.3
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	2.8	3.1	3.1	2.9	3.8	4.0	4.4	3.2	3.4	3.8
Taiwan.....	6.7	8.2	5.5	8.3	6.8	8.8	8.8	8.9	9.4	10.5
Thailand.....	5.5	4.9	4.5	4.2	3.7	4.5	6.6	7.3	7.1	7.1
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	3.8	5.3	6.3	8.1	8.7	10.2	12.1	14.5	16.0	18.0
Total.....	402.8	420.7	430.2	411.4	450.9	454.9	489.1	485.2	500.4	515.7
World Total.....	2,087.6	2,166.4	2,208.8	2,208.7	2,340.3	2,356.4	2,476.6	2,513.3	2,574.2	2,563.9

¹ Preliminary.

² Includes hydroelectric pumped storage.

--= Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit and excludes generation from pumped storage.

Sources: See sources at the end of Section 6.

Table 2.7 World Net Nuclear Electric Power Generation, 1989 - 1998
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	75.4	69.2	80.7	76.6	90.1	102.4	93.0	88.1	77.9	67.5
Mexico.....	0.0	2.8	4.0	3.7	4.7	4.0	8.0	7.5	9.9	8.8
United States.....	529.4	577.0	612.6	618.8	610.4	640.5	673.4	674.7	628.6	673.7
Total.....	604.8	649.0	697.4	699.1	705.1	747.0	774.4	770.3	716.4	750.0
Central & South America										
Argentina.....	4.8	7.0	7.7	6.7	7.3	7.8	7.1	6.9	7.5	7.1
Brazil.....	1.5	1.9	1.4	1.7	0.4	0.1	2.4	2.3	3.0	3.1
Total.....	6.3	9.0	9.1	8.4	7.7	7.9	9.5	9.2	10.5	10.3
Western Europe										
Belgium.....	39.1	40.6	40.7	41.3	39.8	38.6	39.3	41.2	45.0	43.9
Finland.....	18.0	18.3	18.5	18.3	18.9	18.5	18.3	18.5	19.0	20.8
France.....	288.7	298.4	314.8	321.5	349.8	342.0	358.4	377.5	374.3	366.7
Germany.....	--	--	140.1	150.9	145.8	143.2	145.4	152.0	161.8	152.7
Germany, East.....	11.1	5.3	--	--	--	--	--	--	--	--
Germany, West.....	140.4	139.8	--	--	--	--	--	--	--	--
Netherlands.....	3.8	3.3	3.2	3.6	3.8	3.8	3.8	4.0	2.3	3.6
Spain.....	53.7	51.6	52.8	53.0	53.3	52.5	52.7	53.5	52.5	56.0
Sweden.....	62.8	64.8	72.9	60.4	58.3	69.5	66.4	69.6	66.7	70.8
Switzerland.....	21.5	22.4	21.7	22.3	22.2	23.1	23.7	23.9	24.0	24.5
United Kingdom.....	63.6	58.7	62.8	69.1	81.0	80.0	80.6	85.8	89.3	97.7
Former Yugoslavia.....	4.5	4.4	4.2	--	--	--	--	--	--	--
Slovenia.....	--	--	--	3.8	3.8	4.3	4.5	4.4	4.8	5.0
Total.....	707.3	707.5	731.6	744.1	776.6	775.4	793.0	830.3	839.9	841.7
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	14.6	13.5	12.4	11.0	13.3	14.6	16.4	17.8	16.4	15.5
Former Czechoslovakia.....	23.2	23.4	22.5	23.3	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	12.0	12.3	11.6	12.2	12.5	12.5
Slovakia.....	--	--	--	--	11.6	11.5	10.9	11.3	10.5	9.8
Hungary.....	13.1	13.0	13.0	13.3	13.1	13.3	13.3	13.5	13.3	13.3
Romania.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.1	4.9
Former U.S.S.R.....	212.7	201.3	201.5	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.0	0.0	0.0	0.0	2.1	1.4	1.4
Kazakhstan.....	--	--	--	0.5	0.4	0.4	0.1	0.1	0.3	0.1
Lithuania.....	--	--	--	13.9	12.3	7.3	10.6	12.7	10.9	12.9
Russia.....	--	--	--	113.6	113.2	92.9	94.3	103.3	104.5	98.3
Ukraine.....	--	--	--	70.1	71.4	65.4	67.0	76.0	75.4	70.6
Total.....	263.5	251.3	249.5	245.6	247.3	217.7	224.3	249.8	250.3	239.3
Africa										
South Africa.....	11.1	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6	13.6
Total.....	11.1	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6	13.6
Far East & Oceania										
China.....	0.0	0.0	0.0	0.5	2.5	13.5	12.4	13.6	11.4	13.5
India.....	3.8	5.6	5.2	6.0	5.9	4.7	6.5	7.4	10.5	10.6
Japan.....	174.5	192.2	202.8	212.1	236.8	255.7	276.7	287.1	306.1	318.1
Korea, South.....	45.0	50.2	53.5	53.7	55.2	55.7	63.7	70.2	73.2	85.2
Pakistan.....	0.1	0.4	0.4	0.5	0.4	0.6	0.5	0.3	0.4	0.4
Taiwan.....	27.1	31.6	33.5	32.5	33.0	33.5	33.9	36.3	34.8	35.1
Total.....	250.5	279.9	295.4	305.3	333.8	363.6	393.6	415.0	436.4	462.8
World Total.....	1,843.4	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,266.1	2,317.7

¹ Preliminary.

-- Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit.

No generation is reported for Middle East.

Sources: See sources at the end of Section 6.

Table 2.8 World Net Biomass, Geothermal, Solar, and Wind Electric Power Generation, 1989 - 1998
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	3.3	2.5	2.8	3.9	4.3	3.8	3.5	3.6	3.9	4.4
Mexico.....	4.7	4.9	5.2	5.5	5.6	5.3	5.4	5.4	5.2	5.4
United States.....	55.5	63.9	71.0	76.8	79.3	81.3	78.6	80.3	76.9	75.7
Total.....	63.4	71.3	78.9	86.2	89.2	90.4	87.5	89.4	86.0	85.5
Central & South America										
Argentina.....	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2
Brazil.....	4.4	4.9	5.3	6.6	6.7	7.2	7.4	8.5	9.5	9.7
Colombia.....	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Costa Rica.....	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.5	0.5	0.6
Cuba.....	1.2	1.6	1.3	1.5	1.0	1.0	0.8	1.1	1.4	1.5
El Salvador.....	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Nicaragua.....	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.2	0.3
Other.....	1.1	1.2	1.1	0.6	0.8	0.8	1.0	1.0	1.1	1.2
Total.....	8.1	8.9	9.0	9.9	9.8	10.5	11.0	12.4	13.8	14.3
Western Europe										
Austria.....	1.1	1.1	1.1	1.2	1.2	1.6	1.9	1.7	1.5	1.5
Denmark.....	0.4	0.7	0.8	1.1	1.5	1.8	2.0	2.3	3.1	3.7
Finland.....	0.0	0.0	0.0	4.7	5.7	6.1	6.3	5.8	7.8	8.4
France.....	2.1	2.1	2.1	2.1	2.1	2.4	2.5	2.5	2.6	2.6
Germany.....	--	--	5.2	5.7	6.1	7.6	8.3	9.2	9.9	10.4
Germany, West.....	4.6	4.8	--	--	--	--	--	--	--	--
Iceland.....	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.6
Italy.....	3.2	3.2	3.2	3.8	4.0	3.8	4.0	4.5	5.3	6.0
Netherlands.....	0.9	0.9	1.0	1.4	1.6	1.6	2.0	2.6	3.9	4.0
Portugal.....	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.3
Spain.....	0.6	0.7	0.7	0.7	0.8	1.0	1.5	1.8	2.3	2.5
Sweden.....	2.2	1.8	1.7	2.0	2.2	2.2	2.4	2.2	3.5	3.5
United Kingdom.....	1.4	1.3	1.0	2.0	4.5	4.6	5.4	5.7	6.0	6.1
Other.....	1.3	1.5	1.7	2.0	2.0	2.5	2.9	3.0	3.1	3.3
Total.....	18.5	19.0	19.7	27.8	32.9	36.4	40.4	42.6	50.2	53.9
Eastern Europe & Former U.S.S.R.										
Poland.....	0.2	0.2	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.5
Other.....	(s)	(s)	(s)	(s)	0.3	0.4	0.4	0.7	1.0	1.0
Total.....	0.3	0.3	0.4	0.4	0.6	0.8	0.8	1.1	1.4	1.5
Middle East										
Jordan.....	(s)	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0	0.0
Total.....	(s)	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0	0.0
Africa										
Ethiopia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	(s)	(s)	(s)
Kenya.....	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4	0.4
Total.....	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Far East & Oceania										
Australia.....	0.8	0.6	0.6	2.6	2.7	2.7	2.7	3.0	3.1	3.4
India.....	(s)	(s)	(s)	(s)	0.1	0.2	0.1	0.9	0.9	0.9
Indonesia.....	1.0	1.1	1.0	1.0	1.0	1.8	2.1	2.2	2.4	2.5
Japan.....	17.0	17.6	18.3	18.4	18.5	19.7	21.8	22.7	24.5	23.9
New Zealand.....	2.4	2.7	2.8	2.8	2.7	2.9	2.6	2.8	2.7	2.5
Philippines.....	5.1	5.2	5.5	5.4	5.4	6.0	5.8	6.2	6.9	7.6
Other.....	0.0	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)
Total.....	26.2	27.2	28.2	30.3	30.4	33.4	35.2	37.9	40.5	40.7
World Total.....	116.8	127.1	136.6	155.0	163.3	171.7	175.2	183.8	192.3	196.3

¹ Preliminary.

--= Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit.

Sources: See sources at the end of Section 6.

Table 2.9 World Production of Primary Energy by Selected Country Groups (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Petroleum²										
World Total.....	134.66	136.35	135.90	136.50	136.52	138.30	141.47	144.93	149.01	151.96
OECD ³	38.07	38.20	39.20	39.70	39.57	40.94	41.66	43.14	43.59	43.21
Non OECD.....	96.58	98.15	96.70	96.81	96.95	97.36	99.81	101.79	105.42	108.75
Other Groups:.....										
OECD Europe.....	8.65	9.00	9.47	10.26	10.67	12.18	13.00	13.90	13.83	13.77
OPEC ⁴	49.14	51.71	51.95	54.64	56.17	57.07	58.21	59.35	62.02	64.38
EU ⁵	5.11	5.10	5.15	5.23	5.41	6.56	6.85	7.04	6.89	7.12
IEA ⁶	32.03	32.03	32.71	33.22	33.09	34.42	35.31	36.28	36.43	35.89
Natural Gas										
World Total.....	74.24	75.91	76.68	76.84	78.35	79.16	80.23	83.97	84.00	85.49
OECD ³	30.61	31.44	32.18	33.02	34.18	35.67	36.14	38.05	37.94	38.19
Non OECD.....	43.63	44.47	44.50	43.82	44.17	43.49	44.09	45.92	46.06	47.30
Other Groups:.....										
OECD Europe.....	7.23	7.17	7.77	7.93	8.36	8.52	8.88	10.25	9.89	9.87
OPEC ⁴	8.43	8.52	9.05	9.52	9.90	10.36	11.06	11.87	12.84	13.15
EU ⁵	5.69	5.82	6.42	6.50	6.96	7.05	7.36	8.33	7.81	7.78
IEA ⁶	29.55	30.33	31.06	31.93	32.97	34.44	34.92	36.70	36.54	36.69
Coal										
World Total.....	91.05	92.28	87.65	88.35	85.72	87.53	89.67	90.78	90.64	88.61
OECD ³	42.12	42.00	39.96	39.16	38.19	39.58	39.37	40.25	40.55	40.47
Non OECD.....	48.93	50.28	47.69	49.19	47.53	47.95	50.31	50.53	50.09	48.14
Other Groups:.....										
OECD Europe.....	14.42	13.10	11.77	10.93	11.26	10.55	10.03	10.16	9.85	8.90
OPEC ⁴	0.32	0.31	0.43	0.69	0.87	0.99	1.29	1.49	1.66	1.85
EU ⁵	9.26	8.71	7.55	6.72	6.01	5.33	5.05	4.87	4.70	4.15
IEA ⁶	37.16	37.80	35.96	35.29	33.27	34.73	34.73	35.30	35.77	36.12
Hydroelectric Power										
World Total.....	21.74	22.56	22.98	22.96	24.31	24.48	25.73	26.11	26.74	26.63
OECD ³	11.84	12.22	12.33	12.18	12.91	12.43	13.31	13.71	13.96	13.63
Non OECD.....	9.90	10.33	10.65	10.78	11.40	12.06	12.42	12.40	12.78	13.01
Other Groups:.....										
OECD Europe.....	4.40	4.57	4.53	4.82	5.02	5.02	5.07	4.88	5.04	5.22
OPEC ⁴	0.57	0.60	0.70	0.76	0.75	0.74	0.76	0.79	0.79	0.75
EU ⁵	2.61	2.70	2.75	2.93	2.97	3.05	2.99	2.99	3.04	3.13
IEA ⁶	11.48	11.86	11.99	11.80	12.50	12.09	12.89	13.25	13.55	13.21
Nuclear Electric Power										
World Total.....	19.82	20.37	21.29	21.36	22.07	22.50	23.35	24.17	23.95	24.48
OECD ³	16.38	16.99	17.93	18.15	18.99	19.61	20.35	20.84	20.59	21.20
Non OECD.....	3.44	3.38	3.36	3.21	3.08	2.89	3.01	3.33	3.36	3.27
Other Groups:.....										
OECD Europe.....	7.50	7.53	7.76	7.91	8.42	8.40	8.56	8.96	9.07	9.10
OPEC ⁴	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU ⁵	7.12	7.14	7.40	7.55	7.91	7.87	8.04	8.43	8.53	8.56
IEA ⁶	15.91	16.46	17.35	17.57	18.24	18.87	19.49	19.92	19.60	20.12

See footnotes at end of table.

Table 2.9 World Production of Primary Energy by Selected Country Groups (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Biomass, Geothermal, Solar, and Wind Electric Power										
World Total	1.57	1.70	1.80	2.00	2.09	2.19	2.22	2.33	2.42	2.47
OECD ³	1.34	1.45	1.56	1.74	1.84	1.90	1.92	2.00	2.05	2.08
Non OECD.....	0.23	0.24	0.25	0.25	0.25	0.29	0.30	0.34	0.37	0.39
Other Groups:.....										
OECD Europe.....	0.23	0.24	0.24	0.33	0.39	0.42	0.47	0.50	0.58	0.63
OPEC ⁴	0.02	0.02	0.02	0.02	0.02	0.04	0.04	0.05	0.05	0.05
EU, ⁵	0.22	0.22	0.23	0.31	0.37	0.40	0.44	0.46	0.54	0.58
IEA ⁶	1.23	1.34	1.44	1.62	1.71	1.77	1.79	1.86	1.92	1.94
Total Energy⁷										
World Total	345.76	351.39	348.48	350.29	351.33	356.54	365.18	374.87	379.22	382.18
OECD ³	143.05	144.54	145.33	146.23	147.94	152.51	155.25	160.56	161.14	161.33
Non OECD.....	202.71	206.85	203.15	204.06	203.39	204.04	209.93	214.31	218.08	220.85
Other Groups:.....										
OECD Europe.....	42.45	41.60	41.55	42.19	44.11	45.09	46.01	48.64	48.27	47.48
OPEC ⁴	58.47	61.17	62.17	65.62	67.72	69.19	71.37	73.54	77.36	80.19
EU, ⁵	30.01	29.69	29.50	29.24	29.64	30.26	30.71	32.11	31.52	31.31
IEA ⁶	130.04	132.05	132.68	133.70	134.04	138.71	141.65	145.88	146.28	146.52

¹ Preliminary.

² Data include the production of crude oil and natural gas plant liquids.

³ The Organization for Economic Cooperation and Development (OECD) includes Australia, Austria, Belgium, Canada, Czech Republic, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, South, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.). Refer to Appendix A for a listing of OECD Europe.

⁴ The Organization of Petroleum Exporting Countries (OPEC) includes Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

⁵ European Union (EU) includes Austria, Belgium, Denmark (including data for Faroe Islands), Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

⁶ International Energy Agency (IEA) includes Australia, Austria, Belgium, Canada, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.).

⁷ Total primary energy production, as reported here, includes all of the fuel types reported in this table. It also includes for the United States the production of biomass, geothermal energy, and solar energy not used for electricity generation. As a result, total primary energy production might not be equal to sum of the individual fuel types reported in this table.

Notes: For consistency data reflect 1998 membership (as of December 31, 1998) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Section 3

Petroleum

Table 3.1 World Petroleum Supply and Disposition, 1997
(Thousand Barrels per Day)

Region Country	Primary Supply			Disposition			Bunkers	
	Oil Production ¹	Crude Oil Imports	Total Imports of Refined Petroleum Products	Crude Oil Exports	Total Exports of Refined Petroleum Products	Apparent Consumption ² (Including Bunkers)	Residual Fuel Oil	Distillate Fuel Oil and Other Products
North America								
Canada.....	2,623	773	178	1,054	726	1,857	9	2
Mexico.....	3,439	0	299	1,721	93	1,871	1	15
United States.....	9,461	8,225	1,936	108	896	18,620	312	137
Other.....	0	0	4	0	0	4	0	(s)
Total.....	15,523	8,999	2,417	2,883	1,715	22,352	322	155
Central & South America								
Argentina.....	887	19	28	333	105	476	8	6
Bahamas, The.....	0	0	60	0	39	22	6	3
Bolivia.....	37	0	4	(s)	2	36	0	0
Brazil.....	1,081	589	326	3	84	1,823	24	9
Chile.....	15	164	52	0	3	233	6	(s)
Colombia.....	663	0	31	345	61	287	(s)	3
Costa Rica.....	0	13	21	0	4	30	1	(s)
Cuba.....	33	34	103	0	3	164	2	2
Dominican Republic.....	1	43	38	0	0	84	0	0
Ecuador.....	394	0	30	250	27	141	9	(s)
El Salvador.....	0	16	20	0	3	32	0	0
Guatemala.....	16	15	33	17	0	48	0	2
Honduras.....	0	0	26	0	1	25	0	0
Jamaica.....	0	22	44	0	(s)	66	0	2
Netherlands Antilles.....	6	284	34	11	235	73	28	4
Nicaragua.....	0	15	5	0	(s)	20	0	0
Panama.....	1	40	15	0	9	49	18	1
Paraguay.....	0	3	18	0	(s)	21	0	(s)
Peru.....	121	80	29	46	23	164	(s)	1
Puerto Rico.....	0	26	143	(s)	22	153	2	1
Trinidad and Tobago.....	127	39	2	61	85	22	2	4
Uruguay.....	0	29	14	0	7	37	4	3
Venezuela.....	3,440	0	0	2,236	732	450	14	13
Virgin Islands, U.S.....	(s)	421	4	0	324	96	1	2
Other.....	6	19	71	5	5	87	(s)	15
Total.....	6,830	1,874	1,149	3,307	1,774	4,641	125	71
Western Europe								
Austria.....	22	172	78	(s)	29	243	0	0
Belgium.....	12	669	338	0	425	591	80	15
Bosnia and Herzegovina.....	0	0	18	0	0	18	0	0
Croatia.....	37	74	9	4	38	81	(s)	1
Denmark.....	234	92	136	148	88	235	14	12
Finland.....	0	173	92	0	81	221	1	(s)
France.....	89	1,787	342	0	382	1,955	43	9
Germany.....	131	2,052	1,057	71	260	2,903	27	14
Greece.....	13	359	78	4	77	374	43	16
Iceland.....	0	0	16	0	0	18	0	0
Ireland.....	1	62	96	0	25	133	1	2
Italy.....	175	1,596	605	4	422	2,045	31	14
Luxembourg.....	0	0	40	0	(s)	40	0	0
Macedonia, TFYR.....	0	8	13	0	(s)	21	0	0
Netherlands.....	111	1,126	944	11	1,301	808	185	42
Norway.....	3,285	29	72	2,995	283	227	9	9
Portugal.....	2	254	83	0	44	299	5	2
Serbia and Montenegro.....	20	46	5	0	0	67	0	1
Slovenia.....	(s)	11	48	0	2	55	0	0
Spain.....	22	1,116	302	0	158	1,295	76	32
Sweden.....	4	419	142	0	196	328	20	5
Switzerland.....	1	100	178	0	10	284	0	(s)
Turkey.....	72	472	137	0	25	634	1	2
United Kingdom.....	2,796	869	353	1,522	680	1,799	32	24
Other.....	0	0	50	0	(s)	50	36	5
Total.....	7,025	11,484	5,234	4,759	4,527	14,726	603	207

See footnotes at end of table.

Table 3.1 World Petroleum Supply and Disposition, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Primary Supply			Disposition			Bunkers	
	Oil Production ¹	Crude Oil Imports	Total Imports of Refined Petroleum Products	Crude Oil Exports	Total Exports of Refined Petroleum Products	Apparent Consumption (Including Bunkers) ²	Residual Fuel Oil	Distillate Fuel Oil and Other Products
Eastern Europe & Former U.S.S.R.								
Albania.....	9	(s)	2	0	(s)	10	0	0
Bulgaria.....	1	127	13	0	32	107	5	2
Czech Republic.....	3	140	46	2	21	174	0	3
Hungary.....	50	113	30	(s)	38	150	0	4
Poland.....	6	291	131	(s)	28	398	2	10
Romania.....	141	123	76	0	63	270	0	0
Slovakia.....	2	104	5	0	44	68	0	0
Armenia.....	0	0	3	0	0	3	0	0
Azerbaijan.....	180	5	2	6	46	129	0	13
Belarus.....	36	209	9	8	58	194	0	0
Estonia.....	0	0	35	0	9	26	1	1
Georgia.....	3	1	21	3	(s)	21	0	0
Kazakhstan.....	521	31	16	324	27	210	0	7
Kyrgyzstan.....	2	1	8	1	0	10	0	0
Latvia.....	0	0	36	0	1	36	0	0
Lithuania.....	4	116	17	4	68	67	1	(s)
Moldova.....	0	0	20	0	0	20	0	0
Russia.....	6,115	153	68	2,491	1,204	2,562	230	65
Tajikistan.....	1	0	27	1	0	27	0	0
Turkmenistan.....	106	1	2	4	36	66	0	0
Ukraine.....	85	179	136	(s)	26	364	0	14
Uzbekistan.....	157	2	1	18	5	142	0	0
Total.....	7,421	1,596	700	2,861	1,706	5,055	240	117
Middle East								
Bahrain.....	53	221	0	0	248	22	1	1
Cyprus.....	0	21	21	0	(s)	43	1	6
Iran.....	3,746	0	192	2,587	87	1,229	8	2
Iraq.....	1,176	0	0	736	21	438	0	0
Israel.....	(s)	225	43	0	41	230	2	2
Jordan.....	(s)	65	20	0	0	89	0	6
Kuwait.....	2,120	0	(s)	1,134	837	154	3	1
Lebanon.....	0	0	96	0	0	96	0	4
Oman.....	910	0	7	845	24	49	7	1
Qatar.....	621	0	0	475	81	43	0	2
Saudi Arabia.....	9,089	0	0	6,861	920	1,210	100	152
Syria.....	571	0	16	319	36	241	0	2
United Arab Emirates.....	2,479	0	235	2,153	222	326	195	4
Yemen.....	362	0	3	266	24	72	1	1
Total.....	21,128	533	632	15,375	2,541	4,241	319	184

See footnotes at end of table.

Table 3.1 World Petroleum Supply and Disposition, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Primary Supply			Disposition			Bunkers	
	Oil Production ¹	Crude Oil Imports	Total Imports of Refined Petroleum Products	Crude Oil Exports	Total Exports of Refined Petroleum Products	Apparent ² Consumption (Including Bunkers)	Residual Fuel Oil	Distillate Fuel Oil and Other Products
Africa								
Algeria.....	1,438	0	2	818	406	225	2	2
Angola.....	714	0	(s)	677	7	30	8	5
Cameroon.....	124	0	4	99	1	27	0	2
Congo (Brazzaville).....	253	0	(s)	241	4	8	(s)	0
Congo (Kinshasa).....	28	2	20	23	(s)	26	1	0
Cote d'Ivoire (Ivory Coast)...	20	34	7	0	4	57	3	(s)
Egypt.....	928	0	38	313	102	531	50	6
Ethiopia.....	0	0	12	0	0	12	0	(s)
Gabon.....	371	0	4	352	1	22	4	2
Ghana.....	5	22	4	0	4	26	0	1
Kenya.....	1	37	17	0	5	48	3	1
Libya.....	1,506	0	1	1,164	148	185	2	0
Morocco.....	1	120	33	0	7	146	0	2
Nigeria.....	2,137	0	1	1,758	36	330	5	2
Senegal.....	0	15	9	0	1	23	0	1
South Africa.....	196	252	20	0	50	439	37	7
Sudan.....	5	14	9	0	0	27	0	(s)
Tunisia.....	85	19	49	59	16	78	(s)	4
Zimbabwe.....	0	0	29	0	0	29	0	0
Other.....	54	68	151	54	6	215	9	17
Total.....	7,867	584	409	5,557	799	2,486	125	51
Far East & Oceania								
Australia.....	672	362	131	219	155	819	11	3
Bangladesh.....	2	23	32	0	1	55	(s)	(s)
Brunei.....	175	0	3	161	(s)	16	0	0
Burma.....	9	12	6	(s)	1	25	0	(s)
China.....	3,200	718	401	398	154	3,916	6	13
Guam.....	0	0	25	0	0	25	1	1
Hong Kong.....	0	0	325	0	201	124	30	74
India.....	764	671	424	0	36	1,765	6	18
Indonesia.....	1,602	197	284	800	249	999	6	(s)
Japan.....	80	4,584	1,350	0	172	5,711	92	4
Korea, North.....	0	22	8	0	0	31	0	0
Korea, South.....	70	2,393	509	0	630	2,392	91	35
Malaysia.....	751	25	209	356	138	469	2	1
Mongolia.....	0	0	12	0	0	12	0	0
New Zealand.....	67	76	31	37	5	128	4	1
Pakistan.....	61	92	194	10	2	333	(s)	3
Papua New Guinea.....	80	0	14	79	(s)	15	0	(s)
Philippines.....	2	352	35	0	29	365	2	1
Singapore.....	4	1,111	524	(s)	990	619	243	59
Sri Lanka.....	0	36	24	0	4	57	4	3
Taiwan.....	4	698	163	0	57	775	47	4
Thailand.....	123	730	57	29	103	741	13	2
Vietnam.....	191	0	159	189	0	159	0	0
Other.....	0	0	77	0	3	74	(s)	13
Total.....	7,857	12,102	4,997	2,278	2,930	19,627	559	237
World Total.....	73,650	37,173	15,540	37,021	15,991	73,128	2,293	1,023

¹ Oil production includes crude oil, natural gas plant liquids, other liquids, and refinery processing gains.

² Apparent consumption includes internal consumption, refinery fuel and loss, and bunkering. Also included, where available, are liquefied petroleum gases sold directly from natural gas processing plants for fuel or chemical uses.

(s)=Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 3.2 World Output of Refined Petroleum Products, 1997
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Output of Refined Petroleum Products	Refinery ³ Fuel and Loss
North America									
Canada.....	663	98	46	526	124	84	403	1,945	103
Mexico.....	473	56	3	280	447	343	75	1,677	65
United States.....	7,870	1,554	65	3,392	708	691	2,606	16,886	944
Other.....	0	0	0	0	0	0	0	0	0
Total.....	9,006	1,708	115	4,199	1,279	1,118	3,084	20,508	1,112
Central & South America									
Argentina.....	173	26	3	212	38	26	79	557	21
Bahamas, The.....	0	0	0	0	0	0	0	0	0
Bolivia.....	10	3	1	8	(s)	2	13	36	1
Brazil.....	316	59	1	481	292	128	303	1,581	61
Chile.....	46	12	6	60	33	15	13	184	7
Colombia.....	104	13	6	68	58	22	45	317	12
Costa Rica.....	2	1	(s)	4	6	(s)	(s)	13	1
Cuba.....	9	1	5	4	18	2	17	56	2
Dominican Republic.....	9	1	4	9	21	1	1	46	2
Ecuador.....	30	4	1	26	54	7	17	139	5
El Salvador.....	4	1	(s)	2	7	(s)	1	16	1
Guatemala.....	3	1	(s)	7	5	(s)	(s)	16	1
Honduras.....	0	0	0	0	0	0	0	0	0
Jamaica.....	4	1	1	6	10	(s)	1	23	1
Netherlands Antilles.....	42	18	2	45	95	2	69	274	11
Nicaragua.....	2	(s)	(s)	4	6	(s)	1	15	1
Panama.....	6	3	(s)	12	20	1	1	43	2
Paraguay.....	1	(s)	(s)	1	1	(s)	(s)	3	(s)
Peru.....	31	8	13	41	53	7	5	157	6
Puerto Rico.....	26	1	1	2	10	0	26	67	3
Trinidad and Tobago.....	17	10	1	23	47	1	4	103	4
Uruguay.....	7	1	(s)	9	8	2	3	31	1
Venezuela.....	409	111	7	268	282	15	89	1,183	45
Virgin Islands, U.S.....	153	39	1	114	71	7	70	455	18
Other.....	5	(s)	3	4	7	1	(s)	20	1
Total.....	1,409	314	60	1,410	1,144	240	759	5,336	206
Western Europe									
Austria.....	56	11	0	80	27	1	38	214	14
Belgium.....	141	36	2	256	132	19	171	757	33
Bosnia and Herzegovina.....	0	0	0	0	0	0	0	0	0
Croatia.....	25	2	(s)	31	28	8	14	109	4
Denmark.....	59	9	0	75	31	6	9	190	7
Finland.....	87	11	0	89	20	9	20	237	9
France.....	398	143	2	718	192	96	341	1,890	107
Germany.....	585	78	1	929	218	89	460	2,360	128
Greece.....	84	42	1	105	126	18	47	423	16
Iceland.....	0	0	0	0	0	0	0	0	0
Ireland.....	11	1	4	20	18	1	4	59	2
Italy.....	467	62	28	702	342	72	272	1,945	112
Luxembourg.....	0	0	0	0	0	0	0	0	0
Macedonia, TFYR.....	1	0	0	4	3	(s)	(s)	8	(s)
Netherlands.....	327	128	5	433	234	121	482	1,731	79
Norway.....	79	21	3	144	31	12	33	324	16
Portugal.....	66	21	1	80	60	12	37	277	16
Serbia and Montenegro.....	11	2	1	11	15	2	15	57	2
Slovenia.....	2	0	0	4	3	(s)	2	11	(s)
Spain.....	214	84	4	379	241	52	203	1,177	77
Sweden.....	106	3	(s)	156	110	9	55	439	8
Switzerland.....	27	9	(s)	43	13	7	6	105	5
Turkey.....	91	31	2	149	155	25	88	540	30
United Kingdom.....	654	180	72	589	248	73	244	2,061	141
Other.....	0	0	0	0	0	0	0	0	0
Total.....	3,491	874	126	4,997	2,249	633	2,543	14,913	807

See footnotes at end of table.

Table 3.2 World Output of Refined Petroleum Products, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Output of Refined Petroleum Products	Refinery ³ Fuel and Loss
Eastern Europe & Former U.S.S.R.									
Albania.....	2	0	1	2	1	(s)	3	8	(s)
Bulgaria.....	26	3	0	42	29	3	24	127	5
Czech Republic.....	28	3	(s)	50	30	6	41	158	6
Hungary.....	33	4	2	53	27	10	42	169	7
Poland.....	83	5	(s)	104	82	6	45	326	13
Romania.....	75	2	1	81	41	8	57	265	10
Slovakia.....	19	1	1	36	22	2	33	115	4
Armenia.....	0	0	0	0	0	0	0	0	0
Azerbaijan.....	19	13	3	68	60	6	8	176	7
Belarus.....	46	13	2	64	86	5	36	251	10
Estonia.....	0	0	0	0	0	0	0	0	0
Georgia.....	(s)	0	0	(s)	(s)	(s)	(s)	1	(s)
Kazakhstan.....	42	4	8	58	59	2	21	195	7
Kyrgyzstan.....	0	0	0	(s)	(s)	(s)	2	2	(s)
Latvia.....	0	0	0	0	0	0	0	0	0
Lithuania.....	39	5	2	33	27	8	4	118	5
Moldova.....	0	0	0	0	0	0	0	0	0
Russia.....	636	172	3	965	1,229	172	529	3,705	143
Tajikistan.....	0	0	0	0	0	0	0	0	0
Turkmenistan.....	18	5	1	31	31	(s)	16	102	4
Ukraine.....	66	13	(s)	77	82	5	12	256	10
Uzbekistan.....	31	6	1	42	38	7	20	146	6
Total.....	1,162	249	25	1,707	1,844	240	892	6,119	235
Middle East									
Bahrain.....	25	18	32	77	45	1	55	253	10
Cyprus.....	3	(s)	(s)	7	8	1	1	22	1
Iran.....	152	12	159	317	355	44	120	1,159	45
Iraq.....	70	12	21	138	146	33	48	468	18
Israel.....	48	11	10	58	69	11	22	229	9
Jordan.....	12	6	4	17	20	4	6	69	3
Kuwait.....	43	177	32	268	223	1	109	853	33
Lebanon.....	0	0	0	0	0	0	0	0	0
Oman.....	11	3	0	13	35	1	2	66	2
Qatar.....	12	9	(s)	14	17	2	13	68	3
Saudi Arabia.....	264	89	78	501	474	42	205	1,653	64
Syria.....	37	4	4	84	101	7	25	261	17
United Arab Emirates.....	35	65	2	65	39	15	33	253	10
Yemen.....	25	8	2	19	29	1	8	93	4
Total.....	738	415	344	1,580	1,561	162	646	5,446	216

See footnotes at end of table.

Table 3.2 World Output of Refined Petroleum Products, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Output of Refined Petroleum Products	Refinery ³ Fuel and Loss
Africa									
Algeria.....	47	16	10	135	114	24	113	460	18
Angola.....	2	4	1	10	13	1	5	36	1
Cameroon.....	7	(s)	5	6	3	1	2	25	1
Congo (Brazzaville).....	1	(s)	1	2	5	(s)	2	12	(s)
Congo (Kinshasa).....	1	(s)	1	1	3	(s)	1	7	(s)
Cote d'Ivoire (Ivory Coast).....	13	3	9	10	14	1	5	54	2
Egypt.....	117	19	25	120	243	15	66	605	21
Ethiopia.....	0	0	0	0	0	0	0	0	0
Gabon.....	2	1	2	5	5	1	4	19	1
Ghana.....	7	1	3	6	5	(s)	3	26	1
Kenya.....	7	6	2	9	10	1	2	36	1
Libya.....	46	31	6	87	92	9	46	318	12
Morocco.....	10	5	1	49	33	8	15	120	5
Nigeria.....	131	10	58	61	77	7	35	379	15
Senegal.....	3	2	(s)	5	5	(s)	1	16	1
South Africa.....	185	31	17	109	53	10	29	434	17
Sudan.....	3	(s)	1	5	9	(s)	1	18	1
Tunisia.....	8	0	2	12	12	4	7	45	2
Zimbabwe.....	0	0	0	0	0	0	0	0	0
Other.....	15	3	4	17	22	2	7	70	3
Total.....	604	135	149	650	717	84	341	2,680	101
Far East & Oceania									
Australia.....	316	94	6	227	33	28	90	795	42
Bangladesh.....	3	(s)	6	6	2	1	6	24	1
Brunei.....	5	2	(s)	3	1	(s)	3	14	1
Burma.....	6	1	(s)	10	2	(s)	2	21	1
China.....	814	78	53	931	576	198	1,020	3,670	141
Guam.....	0	0	0	0	0	0	0	0	0
Hong Kong.....	0	0	0	0	0	0	0	0	0
India.....	114	47	135	477	214	111	299	1,396	54
Indonesia.....	186	21	133	251	246	18	91	945	36
Japan.....	921	157	477	1,309	764	162	721	4,510	223
Korea, North.....	9	0	1	8	5	(s)	1	23	1
Korea, South.....	215	116	197	724	664	61	525	2,502	96
Malaysia.....	53	36	7	134	57	13	63	362	14
Mongolia.....	0	0	0	0	0	0	0	0	0
New Zealand.....	36	18	(s)	33	9	0	10	106	6
Pakistan.....	25	13	9	35	41	5	13	141	5
Papua New Guinea.....	0	(s)	0	1	(s)	(s)	(s)	1	(s)
Philippines.....	51	18	12	110	130	15	27	363	14
Singapore.....	118	174	6	312	227	32	193	1,061	41
Sri Lanka.....	4	2	3	11	12	(s)	4	36	1
Taiwan.....	109	33	10	118	266	27	100	662	49
Thailand.....	150	66	2	295	159	74	33	777	30
Vietnam.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	1	(s)
Other.....	0	0	0	0	0	0	0	0	0
Total.....	3,134	874	1,057	4,993	3,407	746	3,200	17,412	757
World Total.....	19,544	4,568	1,875	19,537	12,201	3,223	11,465	72,414	3,433

¹ Jet Fuel includes naphtha-type jet fuel and kerosene-type jet fuel.

² Includes asphalt, coke, aviation gasoline, naphthas, paraffin wax, petrochemical feedstocks, unfinished oils, white spirits, and blending components.

³ Refinery fuel and loss reported in this column as a memo item has been included in the output of the individual petroleum products and should not be added to "Total Output of Refined Petroleum Products".

(s)=Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 3.3 World Imports of Refined Petroleum Products, 1997
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Imports of Refined Petroleum Products
North America								
Canada.....	36	12	2	18	42	8	61	178
Mexico.....	127	0	0	98	0	74	(s)	299
United States.....	309	91	2	228	194	205	908	1,936
Other.....	1	(s)	(s)	2	(s)	(s)	(s)	4
Total.....	472	103	4	346	237	287	969	2,417
Central & South America								
Argentina.....	5	3	1	14	2	1	2	28
Bahamas, The.....	2	1	1	6	43	(s)	7	60
Bolivia.....	0	0	0	4	0	0	0	4
Brazil.....	7	0	16	101	8	80	113	326
Chile.....	7	2	0	19	7	16	0	52
Colombia.....	31	(s)	(s)	(s)	(s)	0	0	31
Costa Rica.....	8	2	(s)	9	1	2	(s)	21
Cuba.....	1	2	1	31	59	1	6	103
Dominican Republic.....	6	(s)	1	11	7	12	(s)	38
Ecuador.....	3	0	0	10	0	13	4	30
El Salvador.....	3	(s)	(s)	6	6	3	(s)	20
Guatemala.....	10	0	1	10	6	5	1	33
Honduras.....	6	1	1	11	6	1	(s)	26
Jamaica.....	7	3	(s)	4	19	3	8	44
Netherlands Antilles.....	7	1	0	6	13	1	5	34
Nicaragua.....	(s)	(s)	0	3	(s)	1	(s)	5
Panama.....	2	4	0	3	4	2	(s)	15
Paraguay.....	3	(s)	(s)	12	(s)	2	(s)	18
Peru.....	1	1	2	22	0	3	(s)	29
Puerto Rico.....	12	0	(s)	23	6	(s)	101	143
Trinidad and Tobago.....	(s)	1	0	1	0	0	(s)	2
Uruguay.....	2	(s)	(s)	8	2	1	(s)	14
Venezuela.....	0	0	0	0	0	0	0	0
Virgin Islands, U.S.....	1	0	0	0	3	0	0	4
Other.....	15	9	4	22	16	3	2	71
Total.....	138	30	30	339	210	151	251	1,149
Western Europe								
Austria.....	13	(s)	(s)	31	8	5	21	78
Belgium.....	32	12	3	100	49	18	123	338
Bosnia and Herzegovina....	3	1	0	5	2	0	8	18
Croatia.....	2	1	(s)	5	1	(s)	1	9
Denmark.....	27	11	0	44	14	(s)	41	136
Finland.....	5	1	1	25	27	24	9	92
France.....	38	6	1	165	6	42	85	342
Germany.....	217	64	2	462	66	35	211	1,057
Greece.....	1	2	0	47	8	0	21	78
Iceland.....	3	2	0	7	2	0	1	16
Ireland.....	18	9	6	32	28	3	(s)	96
Italy.....	22	0	0	15	272	55	240	605
Luxembourg.....	13	5	0	21	1	(s)	(s)	40
Macedonia, TFYR.....	4	(s)	0	4	3	(s)	1	13
Netherlands.....	84	14	11	183	140	226	286	944
Norway.....	13	1	2	11	23	7	16	72
Portugal.....	(s)	0	0	3	14	26	40	83
Serbia and Montenegro.....	4	0	0	0	2	0	0	5
Slovenia.....	20	(s)	0	23	1	2	2	48
Spain.....	20	6	0	74	29	40	132	302
Sweden.....	35	16	(s)	27	12	27	24	142
Switzerland.....	60	21	(s)	88	(s)	1	8	178
Turkey.....	17	1	0	16	8	86	8	137
United Kingdom.....	32	31	3	36	24	13	214	353
Other.....	2	1	(s)	6	39	(s)	(s)	50
Total.....	685	204	29	1,430	782	611	1,493	5,234

See footnotes at end of table.

Table 3.3 World Imports of Refined Petroleum Products, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Imports of Refined Petroleum Products
Eastern Europe & Former U.S.S.R.								
Albania.....	2	0	0	0	0	0	0	2
Bulgaria.....	(s) 2	2	0	3	6	(s) 2	2	13
Czech Republic.....	17	1	(s)	12	4	3	9	46
Hungary.....	5	(s)	(s)	4	18	2	1	30
Poland.....	40	5	1	32	3	23	25	131
Romania.....	4	2	0	2	65	(s) 0	2	76
Slovakia.....	2	0	0	1	1	(s)	0	5
Armenia.....	(s)	(s)	(s)	1	1	(s)	(s)	3
Azerbaijan.....	0	0	0	1	0	0	(s)	2
Belarus.....	1	0	(s)	1	(s)	5	1	9
Estonia.....	10	1	1	12	9	(s)	2	35
Georgia.....	11	1	1	5	1	1	1	21
Kazakhstan.....	5	2	0	2	3	3	2	16
Kyrgyzstan.....	3	1	0	2	2	0	1	8
Latvia.....	9	1	(s)	8	16	1	1	36
Lithuania.....	3	0	0	3	8	1	2	17
Moldova.....	6	1	(s)	7	5	1	(s)	20
Russia.....	26	8	0	10	9	0	15	68
Tajikistan.....	23	(s)	0	2	1	(s)	1	27
Turkmenistan.....	0	0	0	0	0	2	0	2
Ukraine.....	10	(s)	(s)	23	46	46	10	136
Uzbekistan.....	0	1	0	0	0	0	(s)	1
Total.....	177	25	4	130	198	90	76	700
Middle East								
Bahrain.....	0	0	0	0	0	0	0	0
Cyprus.....	1	5	0	3	9	1	2	21
Iran.....	35	0	33	107	0	18	0	192
Iraq.....	0	0	0	0	0	0	0	0
Israel.....	(s)	0	0	0	29	0	13	43
Jordan.....	0	0	0	5	12	3	(s)	20
Kuwait.....	0	0	0	0	0	0	(s)	(s)
Lebanon.....	31	2	(s)	28	32	3	0	96
Oman.....	4	1	0	2	0	1	(s)	7
Qatar.....	0	0	0	0	0	0	0	0
Saudi Arabia.....	0	0	0	0	0	0	0	0
Syria.....	0	1	2	10	0	4	0	16
United Arab Emirates.....	0	0	0	2	233	0	0	235
Yemen.....	0	0	0	0	0	0	3	3
Total.....	71	9	35	156	314	28	19	632

See footnotes at end of table.

Table 3.3 World Imports of Refined Petroleum Products, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Imports of Refined Petroleum Products
Africa								
Algeria.....	0	0	0	0	2	0	(s)	2
Angola.....	(s)	0	0	(s)	0	(s)	0	(s)
Cameroon.....	1	0	(s)	0	(s)	(s)	2	4
Congo (Brazzaville).....	(s)	0	0	0	(s)	0	(s)	(s)
Congo (Kinshasa).....	4	3	1	6	4	(s)	2	20
Cote d'Ivoire (Ivory Coast).....	4	(s)	1	2	0	1	0	7
Egypt.....	4	0	0	17	3	13	1	38
Ethiopia.....	1	3	0	6	0	0	1	12
Gabon.....	1	1	(s)	1	0	(s)	1	4
Ghana.....	2	0	0	2	0	0	(s)	4
Kenya.....	3	4	1	6	1	(s)	1	17
Libya.....	0	0	0	0	0	0	1	1
Morocco.....	0	0	0	9	0	24	(s)	33
Nigeria.....	0	0	0	1	0	(s)	0	1
Senegal.....	0	1	0	2	3	2	(s)	9
South Africa.....	10	1	0	5	2	0	2	20
Sudan.....	3	(s)	(s)	1	(s)	1	3	9
Tunisia.....	(s)	6	1	19	12	8	2	49
Zimbabwe.....	8	4	1	15	0	(s)	1	29
Other.....	35	12	12	53	24	4	12	151
Total.....	77	36	17	145	51	53	30	409
Far East & Oceania								
Australia.....	13	2	0	13	13	9	79	131
Bangladesh.....	2	2	4	20	4	(s)	1	32
Brunei.....	0	1	0	1	0	0	1	3
Burma.....	0	0	0	6	0	(s)	0	6
China.....	2	17	13	151	1	117	100	401
Guam.....	5	10	0	8	1	(s)	(s)	25
Hong Kong.....	9	57	0	193	61	5	0	325
India.....	10	1	81	288	7	36	2	424
Indonesia.....	0	51	39	148	46	0	0	284
Japan.....	25	58	40	27	41	599	561	1,350
Korea, North.....	1	0	1	5	1	0	0	8
Korea, South.....	0	10	43	9	73	157	217	509
Malaysia.....	62	1	(s)	32	59	25	30	209
Mongolia.....	4	0	1	6	1	0	(s)	12
New Zealand.....	16	2	0	5	0	0	8	31
Pakistan.....	2	0	2	101	88	2	0	194
Papua New Guinea.....	2	1	(s)	6	5	(s)	(s)	14
Philippines.....	5	(s)	1	11	8	2	6	35
Singapore.....	36	30	11	105	284	(s)	58	524
Sri Lanka.....	1	3	(s)	17	0	3	(s)	24
Taiwan.....	27	9	(s)	0	59	25	44	163
Thailand.....	1	(s)	1	35	16	(s)	5	57
Vietnam.....	38	6	6	75	27	4	2	159
Other.....	11	16	7	26	13	3	2	77
Total.....	271	279	249	1,286	808	988	1,117	4,997
World Total.....	1,891	686	368	3,832	2,599	2,208	3,956	15,540

¹ Jet fuel includes naphtha-type jet fuel and kerosene-type jet fuel.

² Includes asphalt, coke, aviation gasoline, naphthas, paraffin wax, petrochemical feedstocks, unfinished oils, white spirits, and blending components.

(s)=Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 3.4 World Exports of Refined Petroleum Products, 1997
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Exports of Refined Petroleum ³ Products
North America								
Canada.....	107	5	2	111	35	361	106	726
Mexico.....	67	4	0	9	1	5	6	93
United States.....	137	35	(s)	152	120	57	395	896
Other.....	0	0	0	0	0	0	0	0
Total.....	311	44	3	272	156	423	507	1,715
Central & South America								
Argentina.....	43	1	0	20	7	19	14	105
Bahamas, The.....	0	0	0	(s)	38	0	0	39
Bolivia.....	0	0	0	0	0	0	2	2
Brazil.....	11	0	18	13	41	(s)	0	84
Chile.....	1	0	0	1	0	1	(s)	3
Colombia.....	0	1	(s)	9	51	(s)	0	61
Costa Rica.....	1	(s)	0	(s)	2	0	0	4
Cuba.....	0	0	0	0	0	0	3	3
Dominican Republic.....	0	0	0	0	0	0	0	0
Ecuador.....	0	0	0	0	22	0	5	27
El Salvador.....	(s)	0	(s)	0	3	0	(s)	3
Guatemala.....	0	0	0	0	0	0	0	0
Honduras.....	0	0	0	(s)	(s)	1	0	1
Jamaica.....	0	0	(s)	(s)	(s)	0	(s)	(s)
Netherlands Antilles.....	47	18	0	41	70	1	57	235
Nicaragua.....	0	0	0	0	0	0	(s)	(s)
Panama.....	(s)	4	0	3	2	0	0	9
Paraguay.....	0	0	0	0	(s)	0	0	(s)
Peru.....	4	0	(s)	(s)	18	0	0	23
Puerto Rico.....	1	0	0	4	0	0	18	22
Trinidad and Tobago.....	11	8	1	19	45	1	1	85
Uruguay.....	(s)	1	0	3	3	(s)	(s)	7
Venezuela.....	177	89	0	170	255	41	0	732
Virgin Islands, U.S.....	110	27	(s)	96	55	1	35	324
Other.....	1	0	1	1	1	(s)	0	5
Total.....	408	149	21	380	614	65	136	1,774
Western Europe								
Austria.....	19	0	0	6	1	(s)	3	29
Belgium.....	115	19	(s)	120	60	13	98	425
Bosnia and Herzegovina..	0	0	0	0	0	0	0	0
Croatia.....	11	1	(s)	10	2	5	9	38
Denmark.....	36	3	0	21	21	4	4	88
Finland.....	46	4	0	24	1	1	5	81
France.....	105	37	(s)	59	50	40	90	382
Germany.....	68	1	(s)	61	65	15	49	260
Greece.....	13	18	0	4	12	3	26	77
Iceland.....	0	0	0	0	0	0	0	0
Ireland.....	2	0	1	3	18	(s)	3	25
Italy.....	63	11	4	208	87	7	41	422
Luxembourg.....	0	0	0	(s)	0	0	0	(s)
Macedonia, TFYR.....	(s)	0	0	0	0	0	0	(s)
Netherlands.....	214	73	6	433	163	63	349	1,301
Norway.....	42	7	(s)	75	29	99	30	283
Portugal.....	21	8	0	6	5	(s)	4	44
Serbia and Montenegro....	0	0	0	0	0	0	0	0
Slovenia.....	0	(s)	0	0	(s)	0	1	2
Spain.....	29	8	0	16	37	4	64	158
Sweden.....	49	(s)	0	71	57	7	11	196
Switzerland.....	0	0	0	0	8	2	(s)	10
Turkey.....	0	0	0	2	16	0	7	25
United Kingdom.....	199	20	7	136	121	114	84	680
Other.....	0	0	0	0	0	0	(s)	(s)
Total.....	1,032	211	19	1,256	753	378	878	4,527

See footnotes at end of table.

Table 3.4 World Exports of Refined Petroleum Products, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Exports of Refined Petroleum ³ Products
Eastern Europe & Former U.S.S.R.								
Albania.....	0	0	0	0	0	0	(s)	(s)
Bulgaria.....	11	1	0	20	1	0	(s)	32
Czech Republic.....	0	(s)	(s)	8	7	1	4	21
Hungary.....	9	0	1	17	(s)	1	11	38
Poland.....	0	(s)	0	(s)	24	(s)	3	28
Romania.....	37	0	(s)	21	(s)	0	5	63
Slovakia.....	9	1	(s)	22	11	1	(s)	44
Armenia.....	0	0	0	0	0	0	0	0
Azerbaijan.....	7	0	0	33	0	0	6	46
Belarus.....	16	0	1	20	13	0	8	58
Estonia.....	3	(s)	(s)	2	3	0	(s)	9
Georgia.....	0	0	0	0	(s)	0	0	(s)
Kazakhstan.....	2	0	0	15	6	1	3	27
Kyrgyzstan.....	0	0	0	0	0	0	0	0
Latvia.....	(s)	(s)	0	1	(s)	0	(s)	1
Lithuania.....	27	4	0	22	8	6	(s)	68
Moldova.....	0	0	0	0	0	0	0	0
Russia.....	131	27	0	470	474	32	69	1,204
Tajikistan.....	0	0	0	0	0	0	0	0
Turkmenistan.....	8	0	0	13	14	0	1	36
Ukraine.....	1	(s)	(s)	3	21	0	1	26
Uzbekistan.....	1	(s)	0	3	(s)	0	2	5
Total.....	260	34	3	670	584	42	113	1,706
Middle East								
Bahrain.....	13	12	32	78	41	(s)	73	248
Cyprus.....	0	0	0	(s)	0	0	0	(s)
Iran.....	0	0	0	0	74	0	14	87
Iraq.....	0	3	1	3	15	0	0	21
Israel.....	4	2	4	20	8	2	1	41
Jordan.....	0	0	0	0	0	0	0	0
Kuwait.....	3	168	31	253	137	118	126	837
Lebanon.....	0	0	0	0	0	0	0	0
Oman.....	0	0	0	0	24	0	0	24
Qatar.....	3	5	0	7	16	40	10	81
Saudi Arabia.....	174	28	73	139	321	73	111	920
Syria.....	11	0	0	0	22	0	3	36
United Arab Emirates.....	8	60	1	29	4	99	21	222
Yemen.....	0	6	0	4	9	0	5	24
Total.....	215	285	142	532	670	333	364	2,541

See footnotes at end of table.

Table 3.4 World Exports of Refined Petroleum Products, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Exports of Refined Petroleum ³ Products
Africa								
Algeria.....	6	17	0	35	97	160	91	406
Angola.....	(s)	(s)	0	1	2	0	3	7
Cameroon.....	(s)	0	(s)	0	(s)	0	(s)	1
Congo (Brazzaville).....	(s)	(s)	0	(s)	4	0	0	4
Congo (Kinshasa).....	0	0	0	0	(s)	0	0	(s)
Cote d'Ivoire (Ivory Coast)	1	1	1	0	1	(s)	1	4
Egypt.....	63	1	0	0	37	0	1	102
Ethiopia.....	0	0	0	0	0	0	0	0
Gabon.....	1	0	0	0	0	(s)	(s)	1
Ghana.....	0	0	0	0	4	(s)	0	4
Kenya.....	1	(s)	0	2	1	(s)	(s)	5
Libya.....	6	22	1	36	23	15	45	148
Morocco.....	0	0	0	0	0	0	7	7
Nigeria.....	0	0	0	3	12	6	15	36
Senegal.....	1	(s)	(s)	(s)	(s)	(s)	(s)	1
South Africa.....	15	4	4	20	5	0	2	50
Sudan.....	0	0	0	0	0	0	0	0
Tunisia.....	0	0	0	(s)	10	(s)	5	16
Zimbabwe.....	0	0	0	0	0	0	0	0
Other.....	1	(s)	(s)	2	4	0	(s)	6
Total.....	95	46	6	100	199	182	171	799
Far East & Oceania								
Australia.....	25	11	(s)	22	16	47	34	155
Bangladesh.....	0	0	0	0	0	0	1	1
Brunei.....	0	0	0	0	0	0	(s)	(s)
Burma.....	0	0	0	0	0	0	1	1
China.....	42	9	6	47	(s)	13	37	154
Guam.....	0	0	0	0	0	0	0	0
Hong Kong.....	3	4	0	149	45	(s)	0	201
India.....	0	0	0	0	4	1	32	36
Indonesia.....	12	1	0	0	144	68	23	249
Japan.....	13	5	5	58	70	(s)	21	172
Korea, North.....	0	0	0	0	0	0	0	0
Korea, South.....	28	55	28	257	140	12	110	630
Malaysia.....	1	7	4	28	26	25	46	138
Mongolia.....	0	0	0	0	0	0	0	0
New Zealand.....	1	(s)	0	1	1	2	(s)	5
Pakistan.....	0	0	0	0	0	0	2	2
Papua New Guinea.....	0	0	0	(s)	0	0	0	(s)
Philippines.....	0	0	(s)	1	2	12	14	29
Singapore.....	137	143	10	332	193	24	150	990
Sri Lanka.....	0	0	0	0	1	0	2	4
Taiwan.....	0	0	0	24	25	(s)	8	57
Thailand.....	34	5	(s)	34	12	15	3	103
Vietnam.....	0	0	0	0	0	0	0	0
Other.....	1	1	1	1	0	0	(s)	3
Total.....	296	241	56	955	679	219	485	2,930
World Total.....	2,617	1,009	249	4,165	3,655	1,643	2,653	15,991

¹ Jet Fuel includes naphtha-type jet fuel and kerosene-type jet fuel.

² Includes asphalt, coke, aviation gasoline, naphthas, paraffin wax, petrochemical feedstocks, unfinished oils, white spirits, and blending components.

³ Exports of refined products do not include bunker fuels where identifiable.

(s)=Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 3.5 World Apparent Consumption of Refined Petroleum Products, 1997
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Apparent Consumption ³
North America								
Canada.....	594	104	47	435	124	252	302	1,857
Mexico.....	500	47	3	368	475	411	66	1,871
United States.....	8,017	1,599	66	3,435	797	2,233	2,474	18,620
Other.....	1	(s)	(s)	2	(s)	(s)	(s)	4
Total.....	9,111	1,750	116	4,241	1,396	2,896	2,842	22,352
Central & South America								
Argentina.....	103	26	6	201	51	35	56	476
Bolivia.....	11	3	1	11	(s)	9	2	36
Brazil.....	310	59	2	570	267	201	414	1,823
Chile.....	52	14	6	79	40	31	13	233
Colombia.....	135	13	6	58	7	22	45	287
Costa Rica.....	9	2	(s)	13	5	2	(s)	30
Cuba.....	12	6	5	34	75	3	30	164
Dominican Republic.....	15	1	6	20	27	14	1	84
Ecuador.....	32	4	1	47	31	20	6	141
El Salvador.....	7	1	1	9	10	3	1	32
Guatemala.....	13	1	2	17	10	5	1	48
Honduras.....	6	1	1	11	6	1	(s)	25
Jamaica.....	11	4	1	10	29	3	8	66
Netherlands Antilles.....	2	1	2	10	38	2	17	73
Panama.....	8	3	(s)	11	23	3	1	49
Paraguay.....	4	(s)	(s)	13	1	2	(s)	21
Peru.....	28	9	15	62	35	10	5	164
Puerto Rico.....	26	1	1	22	16	(s)	86	153
Trinidad and Tobago.....	7	2	(s)	5	3	2	3	22
Uruguay.....	9	(s)	1	14	7	3	3	37
Venezuela.....	182	11	2	70	36	62	88	450
Virgin Islands, U.S.....	42	11	1	16	8	5	12	96
Other.....	25	10	6	41	39	5	4	128
Total.....	1,048	182	64	1,343	765	442	797	4,641
Western Europe								
Austria.....	48	11	(s)	105	33	6	39	243
Belgium.....	59	28	5	239	123	24	113	591
Bosnia and Herzegovina...	3	1	0	5	2	0	8	18
Croatia.....	18	2	1	25	27	3	5	81
Denmark.....	46	17	(s)	95	26	3	48	235
Finland.....	44	9	0	85	32	6	45	221
France.....	300	108	(s)	874	149	115	409	1,955
Germany.....	751	134	(s)	1,291	158	115	454	2,903
Greece.....	70	25	(s)	135	101	15	28	374
Iceland.....	4	2	0	7	3	0	2	18
Ireland.....	27	8	9	49	28	5	6	133
Italy.....	451	65	25	509	530	128	338	2,045
Luxembourg.....	13	5	0	21	1	(s)	(s)	40
Macedonia, TFYR.....	5	(s)	(s)	7	7	1	1	21
Netherlands.....	96	63	3	175	193	66	213	808
Norway.....	38	14	4	85	16	36	35	227
Portugal.....	45	12	1	77	66	39	59	299
Serbia and Montenegro....	16	2	1	14	17	2	15	67
Slovenia.....	20	(s)	0	27	4	2	2	55
Spain.....	208	75	1	429	216	80	286	1,295
Sweden.....	96	20	(s)	106	45	27	34	328
Switzerland.....	89	29	(s)	141	7	6	12	284
Turkey.....	106	31	2	167	149	90	89	634
United Kingdom.....	521	182	73	495	140	139	250	1,799
Other.....	2	1	(s)	6	39	(s)	(s)	50
Total.....	3,073	846	125	5,170	2,112	907	2,493	14,726

See footnotes at end of table.

Table 3.5 World Apparent Consumption of Refined Petroleum Products, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Apparent ³ Consumption
Eastern Europe & Former U.S.S.R.								
Albania.....	4	0	1	2	1	(s)	2	10
Bulgaria.....	20	5	0	26	29	3	24	107
Czech Republic.....	43	3	(s)	46	19	7	55	174
Hungary.....	29	4	1	37	43	11	26	150
Poland.....	124	10	2	136	52	30	45	398
Romania.....	43	4	1	62	106	8	46	270
Slovakia.....	12	1	(s)	16	13	1	25	68
Armenia.....	(s)	(s)	(s)	1	1	(s)	(s)	3
Azerbaijan.....	11	13	2	33	59	6	5	129
Belarus.....	29	13	1	39	71	10	31	194
Estonia.....	7	(s)	1	10	6	(s)	1	26
Georgia.....	10	1	1	5	2	1	1	21
Kazakhstan.....	44	8	8	65	55	7	21	210
Kyrgyzstan.....	3	1	0	2	2	(s)	3	10
Latvia.....	9	1	(s)	8	16	1	1	36
Lithuania.....	15	1	2	14	26	3	6	67
Moldova.....	6	1	(s)	7	5	1	(s)	20
Russia.....	530	152	3	506	764	140	467	2,562
Tajikistan.....	23	(s)	0	2	1	(s)	1	27
Turkmenistan.....	10	5	1	18	17	2	13	66
Ukraine.....	75	14	(s)	98	107	51	20	364
Uzbekistan.....	31	7	1	39	38	7	20	142
Total.....	1,079	241	26	1,171	1,433	290	814	5,055
Middle East								
Bahrain.....	5	3	(s)	2	3	1	7	22
Cyprus.....	4	6	(s)	10	17	2	4	43
Iran.....	194	15	186	410	259	61	104	1,229
Iraq.....	69	9	21	112	102	37	88	438
Israel.....	44	9	5	38	90	9	35	230
Jordan.....	12	6	4	23	31	7	6	89
Kuwait.....	40	8	1	10	73	1	21	154
Lebanon.....	31	2	(s)	28	32	3	0	96
Oman.....	15	4	(s)	15	12	1	2	49
Qatar.....	10	4	(s)	7	1	19	2	43
Saudi Arabia.....	225	53	5	338	87	219	282	1,210
Syria.....	27	5	5	93	79	10	22	241
United Arab Emirates.....	27	4	1	39	233	13	10	326
Yemen.....	25	2	2	15	20	1	6	72
Total.....	727	131	232	1,142	1,040	383	587	4,241

See footnotes at end of table.

Table 3.5 World Apparent Consumption of Refined Petroleum Products, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Apparent Consumption ³
Africa								
Algeria.....	41	7	(s)	94	6	51	25	225
Angola.....	2	4	1	9	12	1	1	30
Cameroon.....	8	(s)	5	6	3	1	4	27
Congo (Brazzaville).....	1	(s)	1	2	1	(s)	2	8
Congo (Kinshasa).....	5	3	2	7	6	(s)	2	26
Cote d'Ivoire (Ivory Coast).....	15	2	9	12	13	1	4	57
Egypt.....	49	19	25	138	209	29	62	531
Ethiopia.....	1	3	0	6	0	0	1	12
Gabon.....	2	2	2	6	5	1	5	22
Ghana.....	8	1	3	9	1	(s)	4	26
Kenya.....	9	10	3	13	9	1	3	48
Libya.....	39	9	8	52	51	(s)	26	185
Morocco.....	10	5	1	58	33	31	8	146
Nigeria.....	77	11	58	59	65	1	60	330
Senegal.....	2	3	(s)	7	8	2	1	23
South Africa.....	185	31	17	109	54	10	34	439
Sudan.....	6	1	1	6	9	1	4	27
Tunisia.....	8	6	4	30	15	11	4	78
Zimbabwe.....	8	4	1	15	0	(s)	1	29
Other.....	49	15	15	68	42	6	19	215
Total.....	526	137	158	705	543	149	268	2,486
Far East & Oceania								
Australia.....	302	84	3	217	32	70	112	819
Bangladesh.....	5	2	10	26	5	1	6	55
Brunei.....	5	2	(s)	4	1	(s)	4	16
Burma.....	6	1	(s)	15	2	(s)	(s)	25
China.....	774	130	17	1,269	745	291	690	3,916
Guam.....	5	10	0	8	1	(s)	(s)	25
Hong Kong.....	5	53	0	44	16	5	0	124
India.....	124	48	212	756	217	145	264	1,765
Indonesia.....	174	36	171	398	148	19	52	999
Japan.....	932	213	498	1,283	730	688	1,369	5,711
Korea, North.....	10	0	2	13	6	(s)	1	31
Korea, South.....	196	69	233	477	589	200	630	2,392
Malaysia.....	114	31	6	144	83	75	15	469
Mongolia.....	4	0	1	6	1	0	(s)	12
New Zealand.....	48	18	(s)	36	8	8	9	128
Pakistan.....	26	13	11	136	129	7	11	333
Papua New Guinea.....	2	1	(s)	6	5	(s)	(s)	15
Philippines.....	50	19	13	118	129	26	9	365
Singapore.....	17	61	7	76	337	8	114	619
Sri Lanka.....	4	5	3	28	10	4	2	57
Taiwan.....	148	42	3	92	308	50	132	775
Thailand.....	127	61	1	302	167	57	26	741
Vietnam.....	38	6	6	75	27	4	3	159
Other.....	10	15	6	24	13	3	2	74
Total.....	3,127	921	1,203	5,553	3,711	1,661	3,452	19,627
World Total.....	18,691	4,208	1,923	19,325	10,999	6,729	11,253	73,128

¹ Jet Fuel includes naphtha-type jet fuel and kerosene-type jet fuel.

² Includes asphalt, coke, aviation gasoline, naphthas, paraffin wax, petrochemical feedstocks, unfinished oils, white spirits, and blending components.

³ Apparent consumption includes internal consumption, refinery fuel and loss, and bunkering. Also included, where available, are liquefied petroleum gases sold directly from natural gas processing plants for fuel or chemical uses.

(s)=Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 3.6 World Crude Oil Refining Capacity, January 1, 1999

Region Country	Number of Refineries	Thousand Barrels per Day ¹			
		Crude Oil Distillation	Catalytic Cracking	Thermal Cracking	Reforming
North America					
Canada.....	22	1,873	398	137	351
Mexico.....	6	1,525	332	100	243
United States. ²	159	16,261	5,757	1,940	3,582
Total.....	187	19,659	6,487	2,176	4,176
Central & South America					
Argentina.....	11	653	177	46	59
Aruba.....	1	205	0	48	0
Bolivia.....	3	48	0	0	13
Brazil.....	13	1,772	396	9	24
Chile.....	3	205	46	21	16
Colombia.....	5	249	90	52	0
Costa Rica.....	1	15	0	7	1
Cuba.....	4	301	15	0	20
Dominican Republic.....	2	51	0	0	8
Ecuador.....	3	176	18	32	13
El Salvador.....	1	20	0	0	3
Guatemala.....	2	20	0	0	3
Jamaica.....	1	36	0	0	4
Martinique.....	1	16	0	0	3
Netherlands Antilles.....	1	250	50	70	20
Nicaragua.....	1	19	0	0	3
Panama.....	1	60	0	27	11
Paraguay.....	1	8	0	0	0
Peru.....	5	182	23	0	0
Puerto Rico.....	2	49	14	0	6
Suriname.....	1	7	0	0	0
Trinidad and Tobago.....	1	160	27	27	19
Uruguay.....	1	37	9	7	3
Venezuela.....	6	1,187	235	82	47
Virgin Islands, U.S.....	1	545	130	80	125
Total.....	72	6,269	1,230	507	402
Western Europe					
Austria.....	1	209	26	17	33
Belgium.....	5	715	113	61	102
Croatia.....	3	236	31	12	39
Denmark.....	2	135	0	53	22
Finland.....	2	200	45	35	43
France.....	14	1,947	369	154	265
Germany.....	17	2,246	336	208	394
Greece.....	4	388	66	46	54
Ireland.....	1	67	0	0	11
Italy.....	17	2,446	300	416	283
Macedonia, TFYR.....	1	51	0	0	11
Netherlands.....	6	1,188	104	121	172
Norway.....	3	312	54	48	49
Portugal.....	2	304	32	23	50
Serbia and Montenegro.....	2	167	21	0	22
Slovenia.....	1	12	0	0	0
Spain.....	10	1,316	182	151	197
Sweden.....	5	427	30	63	70
Switzerland.....	2	132	0	20	28
Turkey.....	5	688	38	24	65
United Kingdom.....	14	1,854	449	95	369
Total.....	117	15,039	2,198	1,548	2,276

See footnotes at end of table.

Table 3.6 World Crude Oil Refining Capacity, January 1, 1999 (Continued)

Region Country	Number of Refineries	Thousand Barrels per Day ¹			
		Crude Oil Distillation	Catalytic Cracking	Thermal Cracking	Reforming
Eastern Europe & Former U.S.S.R.					
Albania.....	2	26	0	0	4
Bulgaria.....	1	134	25	25	6
Czech Republic.....	4	198	0	0	25
Hungary.....	3	232	24	14	30
Poland.....	7	382	46	0	39
Romania.....	10	522	108	38	65
Slovakia.....	1	115	0	0	22
Azerbaijan.....	2	442	71	0	24
Belarus.....	2	474	0	0	85
Georgia.....	1	106	0	0	10
Kazakhstan.....	3	427	38	30	59
Kyrgyzstan.....	1	10	0	0	0
Lithuania.....	1	263	44	30	26
Russia.....	37	6,745	380	411	848
Turkmenistan.....	2	237	15	0	33
Ukraine.....	6	1,085	69	17	100
Uzbekistan.....	3	222	0	10	23
Total.....	86	11,621	819	574	1,400
Middle East					
Bahrain.....	1	249	41	20	15
Cyprus.....	1	27	0	0	5
Iran.....	9	1,448	33	141	139
Iraq.....	8	348	0	0	44
Israel.....	2	220	50	66	27
Jordan.....	1	90	4	0	11
Kuwait.....	3	886	38	0	48
Lebanon.....	2	38	7	0	7
Oman.....	1	85	0	0	16
Qatar.....	1	58	0	0	12
Saudi Arabia.....	8	1,685	104	138	193
Syria.....	2	242	0	25	26
United Arab Emirates.....	3	288	0	0	30
Yemen.....	2	120	0	0	9
Total.....	44	5,783	276	390	581

See footnotes at end of table.

Table 3.6 World Crude Oil Refining Capacity, January 1, 1999 (Continued)

Region Country	Number of Refineries	Thousand Barrels per Day ¹			
		Crude Oil Distillation	Catalytic Cracking	Thermal Cracking	Reforming
Africa					
Algeria.....	4	503	0	0	88
Angola.....	1	39	0	0	2
Cameroon.....	1	35	0	0	12
Congo (Brazzaville).....	1	21	0	0	2
Congo (Kinshasa).....	1	17	0	0	4
Cote d'Ivoire (Ivory Coast).....	2	69	0	0	14
Egypt.....	8	578	0	0	34
Eritrea.....	1	18	0	0	2
Gabon.....	1	17	0	7	1
Ghana.....	1	45	0	0	6
Kenya.....	1	90	0	0	9
Liberia.....	1	15	0	0	2
Libya.....	3	348	0	0	14
Madagascar.....	1	15	0	6	2
Morocco.....	2	157	5	0	25
Nigeria.....	4	439	83	0	70
Senegal.....	1	17	0	0	2
Sierra Leone.....	1	10	0	0	0
Somalia.....	1	10	0	0	0
South Africa.....	4	469	111	71	79
Sudan.....	1	22	0	0	2
Tanzania.....	1	15	0	3	3
Tunisia.....	1	34	0	0	3
Zambia.....	1	25	0	0	6
Total.....	44	3,006	199	86	381
Far East & Oceania					
Australia.....	10	807	198	0	196
Bangladesh.....	1	33	0	10	2
Brunei.....	1	9	0	0	6
Burma.....	2	32	0	0	0
China.....	95	4,347	892	0	157
India.....	14	1,142	138	65	29
Indonesia.....	8	930	101	59	93
Japan.....	38	5,059	791	0	734
Korea, North.....	2	71	0	0	7
Korea, South.....	6	2,540	158	0	220
Malaysia.....	6	474	0	0	81
New Zealand.....	1	98	0	0	23
Pakistan.....	3	139	0	0	7
Philippines.....	4	389	25	20	45
Singapore.....	4	1,172	65	195	128
Sri Lanka.....	1	48	0	11	3
Taiwan.....	3	770	50	0	115
Thailand.....	4	713	78	17	88
Total.....	203	18,772	2,495	378	1,932
World Total.....	753	80,148	13,704	5,660	11,147

¹ Calendar day basis.

² United States data are as of January 1, 1999. Refinery cracking and reforming data for the United States are available only on a stream day basis. These figures have been converted to calendar days by reducing the stream day data by 5.2 percent. Thus, the United States cracking and reforming data are estimated.

--= Not applicable.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

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Section 4

Natural Gas

Table 4.1 World Natural Gas Production, 1997
(Billion Cubic Feet)

Region Country	Gross Production	Vented, Flared	Reinjected	Marketed Production	Dry Gas Production
North America					
Canada.....	7,044	80	460	6,504	5,847
Mexico.....	1,409	253	0	1,156	1,156
United States.....	24,213	256	3,492	19,866	18,902
Total.....	32,666	589	3,952	27,526	25,905
Central & South America					
Argentina.....	1,309	69	157	1,083	967
Barbados.....	1	0	0	1	1
Bolivia.....	189	17	54	118	112
Brazil.....	348	57	61	231	195
Chile.....	113	4	31	79	75
Colombia.....	453	18	214	222	211
Cuba.....	35	5	0	30	26
Ecuador.....	38	28	6	4	4
Peru.....	34	13	12	8	8
Trinidad and Tobago.....	414	85	0	328	328
Venezuela.....	2,089	230	651	1,208	994
Total.....	5,024	525	1,186	3,313	2,922
Western Europe					
Austria.....	50	0	0	50	50
Croatia.....	57	0	0	57	57
Denmark.....	350	9	69	273	273
France.....	91	0	0	91	91
Germany.....	808	16	0	792	792
Greece.....	1	0	0	1	1
Ireland.....	83	0	0	83	83
Italy.....	680	0	0	680	680
Netherlands.....	2,993	5	0	2,987	2,987
Norway.....	2,485	14	798	1,673	1,622
Serbia and Montenegro.....	32	0	0	32	32
Slovenia.....	(s)	0	0	(s)	(s)
Spain.....	6	(s)	0	6	6
Turkey.....	12	3	0	9	9
United Kingdom.....	3,305	72	93	3,141	3,031
Total.....	10,956	119	959	9,878	9,718
Eastern Europe & Former U.S.S.R.					
Albania.....	1	0	1	1	1
Bulgaria.....	1	0	0	1	1
Czech Republic.....	8	0	0	8	8
Hungary.....	154	0	0	154	154
Poland.....	180	0	0	180	180
Romania.....	614	0	0	614	614
Slovakia.....	8	0	0	8	8
Azerbaijan.....	210	0	0	210	210
Belarus.....	7	0	0	7	7
Kazakhstan.....	215	0	0	215	215
Kyrgyzstan.....	1	0	0	1	1
Russia.....	20,168	0	0	20,168	20,168
Tajikistan.....	1	0	0	1	1
Turkmenistan.....	901	0	0	901	901
Ukraine.....	639	0	0	639	639
Uzbekistan.....	1,737	0	0	1,737	1,737
Total.....	24,849	0	1	24,848	24,848

See footnotes at end of table.

Table 4.1 World Natural Gas Production, 1997 (Continued)
(Billion Cubic Feet)

Region Country	Gross Production	Vented, Flared	Reinjected	Marketed Production	Dry Gas Production
Middle East					
Bahrain.....	375	0	85	290	281
Iran.....	2,917	388	742	1,787	1,660
Iraq.....	134	18	0	117	108
Israel.....	1	0	0	1	1
Jordan.....	10	0	0	10	10
Kuwait.....	384	18	0	366	327
Oman.....	363	34	124	205	176
Qatar.....	837	0	131	706	614
Saudi Arabia.....	1,680	35	11	1,634	1,601
Syria.....	226	16	19	191	161
United Arab Emirates.....	1,698	54	247	1,397	1,282
Yemen.....	527	0	515	12	0
Total.....	9,153	563	1,874	6,716	6,223
Africa					
Algeria.....	5,259	245	2,371	2,643	2,433
Angola.....	220	141	53	25	20
Cameroon.....	73	73	0	0	0
Congo (Brazzaville).....	142	58	84	0	0
Cote d'Ivoire (Ivory Coast).....	21	0	0	21	21
Egypt.....	641	37	33	571	477
Equatorial Guinea.....	32	28	0	4	0
Gabon.....	91	63	21	7	4
Libya.....	456	65	137	253	232
Morocco.....	2	0	0	2	2
Nigeria.....	1,140	798	114	228	207
Senegal.....	1	0	0	1	1
South Africa.....	64	2	0	62	62
Tunisia.....	75	12	0	63	59
Total.....	8,216	1,523	2,814	3,880	3,517
Far East & Oceania					
Afghanistan.....	8	0	0	8	8
Australia.....	1,081	9	0	1,071	1,071
Bangladesh.....	269	0	0	269	269
Brunei.....	391	0	60	330	324
Burma.....	53	0	0	53	53
China.....	749	0	0	749	749
India.....	833	87	4	743	717
Indonesia.....	3,132	173	536	2,422	2,371
Japan.....	80	0	0	80	80
Malaysia.....	1,376	0	0	1,376	1,356
New Zealand.....	202	3	0	200	200
Pakistan.....	699	0	0	699	699
Papua New Guinea.....	4	0	(s)	4	4
Philippines.....	(s)	0	0	(s)	(s)
Taiwan.....	33	0	0	33	33
Thailand.....	571	0	0	571	538
Vietnam.....	18	10	0	8	8
Total.....	9,499	281	601	8,617	8,481
World Total.....	100,363	3,600	11,387	84,777	81,613

(s) = Value less than 500 million cubic feet.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 4.2 World Dry Natural Gas Supply and Disposition, 1997
(Billion Cubic Feet)

Region Country	Dry Gas Production	Imports ¹	Exports ¹	Apparent Consumption ²
North America				
Canada.....	5,847	45	2,889	3,035
Mexico.....	1,156	39	13	1,178
United States.....	18,902	2,994	157	21,972
Total.....	25,905	3,078	3,059	26,185
Central & South America				
Argentina.....	967	65	24	1,008
Barbados.....	1	0	0	1
Bolivia.....	112	0	65	47
Brazil.....	195	0	0	195
Chile.....	75	24	0	99
Colombia.....	211	0	0	211
Cuba.....	26	0	0	26
Ecuador.....	4	0	0	4
Peru.....	8	0	0	8
Trinidad and Tobago.....	328	0	0	328
Venezuela.....	994	0	0	994
Total.....	2,922	88	88	2,922
Western Europe				
Austria.....	50	213	0	271
Belgium.....	0	467	0	470
Bosnia and Herzegovina....	0	5	0	5
Croatia.....	57	42	0	99
Denmark.....	273	0	105	168
Finland.....	0	126	0	127
France.....	91	1,248	47	1,300
Germany.....	792	3,014	148	3,278
Greece.....	1	6	0	7
Ireland.....	83	35	0	118
Italy.....	680	1,380	1	2,048
Luxembourg.....	0	25	0	25
Netherlands.....	2,987	255	1,500	1,763
Norway.....	1,622	0	1,494	128
Portugal.....	0	4	0	4
Serbia and Montenegro.....	32	80	0	113
Slovenia.....	(s)	32	0	32
Spain.....	6	446	0	428
Sweden.....	0	32	0	31
Switzerland.....	0	99	0	99
Turkey.....	9	338	0	346
United Kingdom.....	3,031	47	65	3,013
Total.....	9,718	7,894	3,360	13,872

See footnotes at end of table.

Table 4.2 World Dry Natural Gas Supply and Disposition, 1997 (Continued)
(Billion Cubic Feet)

Region Country	Dry Gas Production	Imports ¹	Exports ¹	Apparent Consumption ²
Eastern Europe & Former U.S.S.R.				
Albania.....	1	0	0	1
Bulgaria.....	1	180	0	182
Czech Republic.....	8	331	(s)	333
Hungary.....	154	285	0	431
Poland.....	180	286	1	463
Romania.....	614	215	0	830
Slovakia.....	8	247	0	256
Armenia.....	0	46	0	46
Azerbaijan.....	210	113	0	323
Belarus.....	7	526	0	533
Estonia.....	0	37	0	37
Georgia.....	0	67	0	67
Kazakhstan.....	215	357	78	494
Kyrgyzstan.....	1	67	0	68
Latvia.....	0	46	0	46
Lithuania.....	0	102	0	102
Moldova.....	0	85	0	85
Russia.....	20,168	360	7,095	13,434
Tajikistan.....	1	39	0	40
Turkmenistan.....	901	0	738	162
Ukraine.....	639	2,179	0	2,832
Uzbekistan.....	1,737	0	283	1,455
Total.....	24,848	5,570	8,195	22,221
Middle East				
Bahrain.....	281	0	0	281
Iran.....	1,660	4	0	1,663
Iraq.....	108	0	0	108
Israel.....	1	0	0	1
Jordan.....	10	0	0	10
Kuwait.....	327	0	0	327
Oman.....	176	0	18	159
Qatar.....	614	0	101	513
Saudi Arabia.....	1,601	0	0	1,601
Syria.....	161	0	0	161
United Arab Emirates.....	1,282	18	276	1,024
Total.....	6,223	21	394	5,849
Africa				
Algeria.....	2,433	0	1,721	712
Angola.....	20	0	0	20
Cote d'Ivoire (Ivory Coast).....	21	0	0	21
Egypt.....	477	0	0	477
Gabon.....	4	0	0	4
Libya.....	232	0	40	192
Morocco.....	2	0	0	2
Nigeria.....	207	0	0	207
Senegal.....	1	0	0	1
South Africa.....	62	0	0	62
Tunisia.....	59	32	0	91
Total.....	3,517	32	1,761	1,788

See footnotes at end of table.

Table 4.2 World Dry Natural Gas Supply and Disposition, 1997 (Continued)
(Billion Cubic Feet)

Region Country	Dry Gas Production	Imports ¹	Exports ¹	Apparent Consumption ²
Far East & Oceania				
Afghanistan.....	8	0	0	8
Australia.....	1,071	0	338	733
Bangladesh.....	269	0	0	269
Brunei.....	324	0	293	31
Burma.....	53	0	0	53
China.....	749	0	0	749
India.....	717	0	0	717
Indonesia.....	2,371	0	1,246	1,125
Japan.....	80	2,242	0	2,340
Korea, South.....	0	536	0	525
Malaysia.....	1,356	0	767	589
New Zealand.....	200	0	0	199
Pakistan.....	699	0	0	699
Papua New Guinea.....	4	0	0	4
Philippines.....	(s)	0	0	(s)
Singapore.....	0	53	0	53
Taiwan.....	33	154	0	187
Thailand.....	538	0	0	538
Vietnam.....	8	0	0	8
Total.....	8,481	2,985	2,644	8,827
World Total.....	81,613	19,668	19,501	81,664

¹ Includes liquefied natural gas.

² Includes stock changes.

(s) = Value less than 500 million cubic feet.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

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Section 5

Coal

Table 5.1 World Coal Production, 1997
(Thousand Short Tons)

Region Country	Primary ¹			Secondary ²		
	Anthracite	Bituminous	Lignite	Metallurgical Coke	Anthracite and Bituminous Briquets	Lignite Briquets
North America						
Canada.....	0	73,859	12,845	3,714	0	0
Mexico.....	0	10,298	0	3,059	0	0
United States.....	4,692	998,899	86,341	22,116	0	0
Total.....	4,692	1,083,056	99,186	28,889	0	0
Central & South America						
Argentina.....	0	276	0	834	0	0
Brazil.....	0	4,874	0	9,428	0	0
Chile.....	0	1,169	42	532	0	0
Colombia.....	0	35,927	0	672	0	0
Cuba.....	0	0	0	20	0	0
Peru.....	2	22	0	0	0	0
Uruguay.....	0	0	0	1	0	0
Venezuela.....	0	6,393	0	0	0	0
Total.....	2	48,661	42	11,488	0	0
Western Europe						
Austria.....	0	0	1,246	1,720	0	0
Belgium.....	0	474	0	3,749	13	0
Bosnia and Herzegovina....	0	0	1,808	0	0	0
Croatia.....	0	53	0	(s)	0	0
Finland.....	0	0	0	969	0	0
France.....	831	6,098	711	5,995	255	0
Germany.....	5,081	51,371	195,285	11,843	351	7,664
Greece.....	0	0	64,860	0	0	109
Ireland.....	0	1	0	0	0	279
Italy.....	0	0	224	5,753	0	0
Macedonia, TFYR.....	0	0	7,165	0	0	0
Netherlands.....	0	0	0	3,192	0	0
Norway.....	0	243	0	0	0	0
Portugal.....	0	0	0	364	0	0
Serbia and Montenegro.....	0	103	44,713	0	0	0
Slovenia.....	0	895	4,566	0	0	0
Spain.....	7,361	12,473	9,329	2,866	0	0
Sweden.....	0	0	0	1,279	0	0
Turkey.....	0	2,756	59,525	3,527	0	1
United Kingdom.....	535	52,972	0	6,859	897	0
Total.....	13,808	127,437	389,431	48,116	1,516	8,053
Eastern Europe & Former U.S.S.R.						
Albania.....	0	0	77	0	0	0
Bulgaria.....	17	2,951	29,684	1,198	0	1,193
Czech Republic.....	0	83,520	823	4,729	0	558
Hungary.....	0	8,253	5,411	772	0	235
Poland.....	320	150,839	69,632	11,610	0	87
Romania.....	0	1,931	35,335	3,655	0	0
Slovakia.....	0	0	4,316	1,653	0	0
Estonia.....	0	0	0	30	0	0
Georgia.....	0	6	0	0	0	0
Kazakhstan.....	0	77,350	2,726	1,874	0	0
Kyrgyzstan.....	0	356	220	0	0	0
Moldova.....	0	36	0	0	0	0
Russia.....	20,217	175,488	93,917	27,970	636	636
Tajikistan.....	0	15	0	(s)	0	0
Ukraine.....	18,550	65,768	1,580	16,535	2,502	674
Uzbekistan.....	0	65	3,183	0	0	0
Total.....	39,104	566,579	246,905	70,026	3,138	3,382

See footnotes at end of table.

Table 5.1 World Coal Production, 1997 (Continued)
(Thousand Short Tons)

Region Country	Primary ¹			Secondary ²		
	Anthracite	Bituminous	Lignite	Metallurgical Coke	Anthracite and Bituminous Briquets	Lignite Briquets
Middle East						
Iran.....	0	1,016	0	171	0	0
Total.....	0	1,016	0	171	0	0
Africa						
Algeria.....	0	24	0	0	0	0
Botswana.....	0	856	0	0	0	0
Cameroon.....	0	1	0	0	0	0
Congo (Kinshasa).....	0	103	0	0	0	0
Egypt.....	0	386	0	1,642	0	0
Malawi.....	0	70	0	0	0	0
Morocco.....	414	0	0	0	0	0
Mozambique.....	0	44	0	0	0	0
Niger.....	0	165	0	0	0	0
Nigeria.....	0	154	0	0	0	0
South Africa.....	4,020	242,364	0	3,130	0	0
Swaziland.....	22	139	0	0	0	0
Tanzania.....	0	4	0	0	0	0
Zambia.....	0	181	0	34	0	0
Zimbabwe.....	0	5,843	0	502	0	0
Total.....	4,456	250,335	0	5,308	0	0
Far East & Oceania						
Afghanistan.....	0	4	0	0	0	0
Australia.....	0	228,719	64,106	4,727	0	610
Bhutan.....	0	2	0	0	0	0
Burma.....	0	34	51	0	0	0
China.....	266,285	1,131,534	63,019	152,262	0	0
India.....	0	327,574	25,408	12,291	0	254
Indonesia.....	0	60,404	1	0	0	0
Japan.....	87	4,289	12	45,204	86	0
Korea, North.....	44,482	0	23,149	3,638	0	0
Korea, South.....	4,974	0	0	12,125	1,531	0
Laos.....	0	4	0	0	0	0
Malaysia.....	0	116	0	0	0	0
Mongolia.....	0	451	4,977	0	0	0
Nepal.....	0	0	13	0	0	0
New Zealand.....	138	3,320	256	0	0	0
Pakistan.....	0	3,917	0	741	0	0
Philippines.....	0	1,025	3	0	0	0
Taiwan.....	0	109	0	3,362	0	0
Thailand.....	1	0	25,837	0	0	0
Vietnam.....	12,553	0	0	0	0	0
Total.....	328,520	1,761,501	206,832	234,349	1,617	863
World Total.....	390,582	3,838,587	942,396	398,347	6,271	12,298

¹ Primary coal includes all coal mined and, when necessary, washed and sorted.

² Secondary coal (e.g. coke, briquets), is derived from primary coal.

(s) = Value less than 500 Short tons.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 5.2 World Anthracite Coal Production, 1989 - 1998
(Thousand Short Tons)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
United States.....	3,348	3,506	3,445	3,483	4,322	4,646	4,711	4,768	4,692	5,231
Total.....	3,348	3,506	3,445	3,483	4,322	4,646	4,711	4,768	4,692	5,231
Central & South America										
Peru.....	11	22	12	89	34	29	18	2	2	3
Total.....	11	22	12	89	34	29	18	2	2	3
Western Europe										
Belgium.....	713	95	0	0	0	0	0	0	0	0
France.....	1,762	2,007	1,764	1,580	1,488	1,044	923	967	831	501
Germany.....	--	--	7,217	7,546	6,650	6,028	5,551	5,274	5,081	2,276
Germany, West.....	7,315	7,447	--	--	--	--	--	--	--	--
Spain.....	7,490	7,791	7,503	8,009	7,846	7,862	7,571	7,099	7,361	7,047
Turkey.....	473	0	0	0	0	0	0	0	0	0
United Kingdom.....	2,201	1,928	1,907	1,714	1,111	1,049	1,169	735	535	455
Total.....	19,955	19,268	18,391	18,849	17,094	15,983	15,214	14,074	13,808	10,279
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	69	47	42	84	79	90	121	25	17	17
Poland.....	0	0	0	0	174	243	304	309	320	320
Former U.S.S.R.....	74,957	69,005	61,399	--	--	--	--	--	--	--
Russia.....	--	--	--	27,836	25,207	22,384	21,667	21,104	20,217	16,535
Ukraine.....	--	--	--	31,017	27,088	22,262	19,728	17,097	18,550	16,645
Total.....	75,027	69,052	61,441	58,936	52,548	44,979	41,820	38,535	39,104	33,516
Africa										
Morocco.....	556	580	607	635	666	693	715	558	414	430
South Africa.....	4,639	4,037	2,964	5,364	5,183	4,721	4,255	3,894	4,020	1,766
Swaziland.....	71	66	51	41	21	75	71	53	22	20
Total.....	5,265	4,683	3,622	6,040	5,869	5,490	5,041	4,505	4,456	2,215
Far East & Oceania										
China.....	240,227	234,627	239,753	243,567	251,048	270,516	296,878	314,875	266,285	255,519
Japan.....	313	246	238	239	219	187	204	183	87	65
Korea, North.....	47,069	47,069	47,399	47,399	47,951	48,502	48,744	50,548	44,482	44,482
Korea, South.....	22,912	18,978	16,599	13,195	10,409	8,199	6,305	5,458	4,974	4,807
New Zealand.....	100	98	143	193	167	157	151	145	138	138
Thailand.....	9	21	24	24	18	13	6	6	1	1
Vietnam.....	4,220	5,100	4,772	5,282	6,503	6,272	9,204	10,828	12,553	11,804
Total.....	314,849	306,139	308,928	309,899	316,315	333,846	361,493	382,042	328,520	316,815
World Total.....	418,453	402,671	395,840	397,297	396,183	404,972	428,297	443,926	390,582	368,060

¹ Preliminary.

--= Not applicable.

Notes: Sum of components may not equal total due to independent rounding.

No production is reported for Middle East.

Sources: See sources at the end of this Section.

Table 5.3 World Bituminous Coal Production, 1989 - 1998
(Thousand Short Tons)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	65,804	64,981	68,506	61,270	65,015	68,497	70,732	71,507	73,859	70,092
Mexico.....	8,491	8,587	7,798	7,242	7,840	10,071	10,257	11,141	10,298	11,388
United States.....	890,942	937,480	906,025	904,000	851,553	940,777	941,763	971,032	998,899	1,028,649
Total.....	965,237	1,011,048	982,329	972,512	924,408	1,019,344	1,022,752	1,053,680	1,083,056	1,110,128
Central & South America										
Argentina.....	568	305	322	223	184	384	336	343	276	276
Brazil.....	7,354	5,065	5,719	5,215	5,065	4,905	4,579	4,226	4,874	5,179
Chile.....	2,148	2,406	2,434	1,792	1,496	1,257	1,104	1,190	1,169	1,261
Colombia.....	20,208	22,562	26,015	26,209	23,394	24,984	28,373	33,141	35,927	38,367
Peru.....	150	117	68	92	100	75	146	25	22	33
Venezuela.....	2,342	2,413	2,398	2,701	4,205	4,716	4,480	4,577	6,393	8,267
Total.....	32,769	32,869	36,955	36,231	34,444	36,321	39,018	43,503	48,661	53,382
Western Europe										
Belgium.....	2,087	2,598	2,323	1,319	1,070	830	702	617	474	342
France.....	11,792	10,894	10,523	9,939	8,622	7,777	6,770	7,490	6,098	5,269
Germany.....	--	--	72,970	71,989	64,091	57,491	56,126	53,322	51,371	43,249
Germany, West.....	80,429	79,019	--	--	--	--	--	--	--	--
Greece.....	0	0	0	0	19	76	77	0	0	0
Ireland.....	47	28	1	1	1	(s)	1	1	1	1
Italy.....	82	64	23	122	11	6	0	0	0	0
Norway.....	397	334	364	396	295	332	322	310	243	362
Portugal.....	284	310	298	244	217	162	0	0	0	0
Spain.....	21,902	13,791	12,381	12,595	12,256	12,281	11,827	13,063	12,473	10,945
Sweden.....	22	12	31	41	4	1	0	0	0	0
Turkey.....	3,349	3,330	3,198	3,354	3,169	3,128	2,478	2,691	2,756	2,425
United Kingdom.....	109,242	102,127	102,726	91,870	74,066	52,873	51,313	54,598	52,972	45,044
Former Yugoslavia.....	13,589	12,957	11,309	--	--	--	--	--	--	--
Croatia.....	--	--	--	0	115	106	83	71	53	62
Serbia and Montenegro.....	--	--	--	112	80	90	78	86	103	116
Slovenia.....	--	--	--	1,458	1,324	1,189	1,066	927	895	912
Total.....	243,222	225,463	216,146	193,442	165,341	136,341	130,842	133,176	127,437	108,725
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	5,210	4,194	3,408	3,695	3,769	3,478	3,513	3,373	2,951	2,951
Former Czechoslovakia.....	127,852	113,848	105,867	99,912	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	92,504	83,811	81,073	83,027	83,520	82,673
Hungary.....	15,594	13,348	12,840	11,979	11,045	10,661	10,405	8,244	8,253	7,589
Moldova.....	--	--	--	287	197	122	35	40	36	33
Poland.....	195,511	162,583	154,353	144,748	143,178	146,505	149,820	150,871	150,839	128,646
Romania.....	10,078	4,901	4,220	4,517	1,349	1,505	1,265	1,458	1,931	2,015
Former U.S.S.R.....	560,856	640,222	472,671	--	--	--	--	--	--	--
Georgia.....	--	--	--	220	132	49	47	25	6	11
Kazakhstan.....	--	--	--	134,913	118,172	110,023	87,651	80,501	77,350	73,745
Kyrgyzstan.....	--	--	--	1,146	811	442	202	151	356	303
Russia.....	--	--	--	238,209	214,510	185,299	179,897	183,535	175,488	163,803
Tajikistan.....	--	--	--	236	192	117	37	22	15	11
Ukraine.....	--	--	--	109,358	96,040	78,930	69,943	60,616	65,768	65,074
Uzbekistan.....	--	--	--	197	177	159	130	82	65	64
Total.....	915,101	939,096	753,359	749,419	682,077	621,099	584,019	571,945	566,579	526,919

See footnotes at end of table.

Table 5.3 World Bituminous Coal Production, 1989 - 1998 (Continued)
(Thousand Short Tons)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Iran.....	1,323	1,213	1,087	1,070	1,069	1,425	1,254	1,016	1,016	1,016
Total.....	1,323	1,213	1,087	1,070	1,069	1,425	1,254	1,016	1,016	1,016
Africa										
Algeria.....	17	11	17	17	22	22	24	24	24	24
Botswana.....	698	875	882	993	981	919	899	843	856	882
Cameroon.....	1	1	1	1	1	1	1	1	1	1
Congo (Kinshasa).....	121	86	88	94	101	104	105	105	103	99
Egypt.....	0	0	0	0	0	0	0	110	386	408
Malawi.....	35	44	59	54	55	57	60	77	70	60
Mozambique.....	46	44	46	44	44	44	42	44	44	66
Niger.....	188	190	190	187	190	190	191	191	165	160
Nigeria.....	89	99	152	110	132	143	154	154	154	154
South Africa.....	189,833	189,145	193,463	197,512	202,288	211,117	223,054	223,581	242,364	245,074
Swaziland.....	111	110	85	69	34	125	118	89	139	280
Tanzania.....	3	4	4	4	4	4	6	6	4	4
Zambia.....	438	416	344	385	295	177	175	186	181	165
Zimbabwe.....	5,634	6,067	6,191	6,116	5,826	6,029	6,095	5,152	5,843	5,563
Total.....	197,216	197,092	201,522	205,586	209,974	218,934	230,923	230,564	250,335	252,941
Far East & Oceania										
Afghanistan.....	140	116	104	9	8	7	6	4	4	4
Australia.....	162,897	175,085	181,489	193,048	195,060	194,723	210,602	213,170	228,719	241,362
Bhutan.....	2	2	2	2	2	2	2	2	2	1
Burma.....	43	34	40	37	35	36	42	38	34	41
China.....	874,563	905,582	909,539	932,908	989,315	1,066,032	1,169,920	1,139,691	1,131,534	1,035,106
India.....	207,510	217,839	235,134	252,820	262,910	271,561	280,072	314,734	327,574	339,512
Indonesia.....	9,246	8,841	14,075	24,222	30,390	34,185	45,660	55,482	60,404	66,493
Japan.....	12,220	11,068	9,335	8,379	7,717	7,867	6,902	6,614	4,289	4,011
Laos.....	1	3	2	4	5	4	4	4	4	1
Malaysia.....	120	122	198	194	415	148	123	91	116	241
Mongolia.....	763	656	645	572	514	473	460	468	451	431
New Zealand.....	2,908	2,675	2,760	3,052	3,224	3,027	3,265	3,530	3,320	3,125
Pakistan.....	2,887	3,033	3,183	3,388	3,389	3,543	3,318	4,010	3,917	3,482
Philippines.....	1,360	1,370	1,391	1,831	1,744	1,597	1,453	1,239	1,025	1,025
Taiwan.....	865	520	444	369	362	314	259	163	109	87
Total.....	1,275,525	1,326,947	1,358,342	1,420,834	1,495,090	1,583,521	1,722,087	1,739,241	1,761,501	1,694,923
World Total.....	3,630,393	3,733,728	3,549,740	3,579,094	3,512,405	3,616,985	3,730,895	3,773,126	3,838,587	3,748,035

¹ Preliminary.

-- Not applicable.

(s) = Value less than 500 short tons.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 5.4 World Lignite Coal Production, 1989 - 1998
(Thousand Short Tons)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	11,921	10,369	9,899	11,053	11,074	11,779	11,838	11,964	12,845	12,997
United States.....	86,439	88,090	86,514	90,062	89,549	88,081	86,500	88,056	86,341	84,793
Total.....	98,360	98,459	96,413	101,115	100,623	99,860	98,337	100,020	99,186	97,790
Central & South America										
Chile.....	42	44	44	66	46	44	44	43	42	46
Total.....	42	44	44	66	46	44	44	43	42	46
Western Europe										
Austria.....	2,277	2,698	2,294	1,952	1,864	1,256	1,430	1,221	1,246	1,213
France.....	2,390	2,572	2,167	1,739	1,843	1,655	1,549	881	711	270
Germany.....	--	--	308,182	266,552	244,494	228,263	211,597	206,396	195,285	183,204
Germany, East.....	331,860	308,647	--	--	--	--	--	--	--	--
Germany, West.....	121,118	118,597	--	--	--	--	--	--	--	--
Greece.....	57,172	57,206	58,086	60,683	60,425	62,470	63,561	65,897	64,860	64,926
Italy.....	1,102	1,054	1,036	787	683	294	419	326	224	92
Spain.....	19,042	18,048	17,111	16,291	14,713	12,524	11,879	10,566	9,329	10,748
Turkey.....	53,752	48,950	47,628	53,339	50,359	56,805	58,156	59,401	59,525	65,036
Former Yugoslavia.....	68,637	70,652	66,727	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	2,205	1,653	1,543	1,808	1,808	1,808	1,764
Croatia.....	--	--	--	0	12	8	8	2	0	0
Macedonia, TFYR.....	--	--	--	7,692	7,625	7,562	7,991	7,877	7,165	7,165
Serbia and Montenegro.....	--	--	--	44,096	41,182	42,184	44,025	42,292	44,713	47,951
Slovenia.....	--	--	--	4,666	4,321	4,161	4,318	4,340	4,566	4,396
Total.....	657,350	628,423	503,232	460,002	429,174	418,726	406,740	401,008	389,431	386,764
Eastern Europe & Former U.S.S.R.										
Albania.....	2,417	2,282	1,198	882	661	186	180	111	77	36
Bulgaria.....	37,594	34,771	27,812	29,470	27,944	28,031	30,257	30,979	29,684	30,242
Former Czechoslovakia.....	4,011	3,643	3,403	1,987	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	1,367	1,005	864	994	823	705
Slovakia.....	--	--	--	--	3,910	4,006	4,144	4,221	4,316	4,409
Hungary.....	6,485	6,029	5,872	5,470	5,056	4,881	4,793	5,208	5,411	8,388
Poland.....	79,164	74,499	76,507	73,692	75,073	73,601	70,049	70,377	69,632	69,247
Romania.....	56,317	37,189	31,502	37,778	42,469	43,191	44,063	44,694	35,335	26,566
Former U.S.S.R.....	180,253	172,609	167,585	--	--	--	--	--	--	--
Kazakhstan.....	--	--	--	4,577	5,147	5,307	4,123	3,958	2,726	3,086
Kyrgyzstan.....	--	--	--	1,225	1,086	493	309	301	220	188
Russia.....	--	--	--	139,808	124,316	105,041	94,682	99,405	93,917	92,153
Ukraine.....	--	--	--	6,370	4,572	3,417	2,531	1,749	1,580	1,213
Uzbekistan.....	--	--	--	4,939	4,029	4,080	3,236	3,046	3,183	3,197
Total.....	366,242	331,020	313,880	306,199	295,630	273,239	259,229	265,045	246,905	239,432
Far East & Oceania										
Australia.....	53,230	50,695	54,439	55,913	52,523	53,740	55,945	59,088	64,106	72,312
Burma.....	40	42	43	43	43	44	44	51	51	46
China.....	47,157	50,155	49,373	52,106	63,167	66,957	70,171	60,109	63,019	60,627
India.....	13,933	15,554	17,604	17,429	18,318	19,850	21,227	24,846	25,408	19,290
Indonesia.....	0	0	0	0	0	3	(s)	(s)	1	(s)
Japan.....	15	17	17	19	18	18	18	18	12	7
Korea, North.....	22,046	24,251	25,353	26,455	29,762	29,211	29,321	28,109	23,149	23,149
Mongolia.....	8,099	7,233	7,112	6,314	5,669	5,213	5,074	5,165	4,977	4,748
Nepal.....	12	12	13	11	12	13	13	13	13	11
New Zealand.....	175	177	191	197	194	278	228	236	256	331
Philippines.....	3	3	3	3	3	3	3	3	3	3
Thailand.....	9,812	13,692	16,192	16,904	17,119	18,844	20,305	23,910	25,837	22,042
Total.....	154,522	161,832	170,339	175,394	186,829	194,173	202,350	201,548	206,832	202,566
World Total.....	1,276,516	1,219,779	1,083,907	1,042,777	1,012,302	986,043	966,700	967,665	942,396	926,598

¹ Preliminary.

-- Not applicable.

(s) = Value less than 500 short tons.

Notes: Sum of components may not equal total due to independent rounding.

No production is reported for Middle East. No production is reported for Africa.

Sources: See sources at the end of this Section.

Table 5.5 World Coal Supply and Disposition, 1997
(Trillion Btu)

Region Country	Production	Imports ¹	Exports ¹	Apparent Consumption ²
North America				
Canada.....	1,703	380	1,004	1,075
Mexico.....	172	63	(s)	215
United States ³	23,211	239	2,214	21,466
Total.....	25,086	681	3,218	22,757
Central & South America				
Argentina.....	5	28	0	36
Brazil.....	72	241	0	310
Chile.....	29	91	(s)	125
Colombia.....	765	0	647	124
Peru.....	(s)	15	0	13
Venezuela.....	153	0	144	(s)
Other.....	0	23	0	22
Total.....	1,025	397	791	631
Western Europe				
Austria.....	12	122	(s)	141
Belgium.....	9	374	50	336
Bosnia and Herzegovina.....	14	0	0	14
Croatia.....	1	8	(s)	12
Denmark.....	0	315	3	260
Finland.....	0	188	0	187
France.....	178	365	15	546
Germany.....	2,687	604	19	3,296
Greece.....	306	32	2	335
Italy.....	1	401	4	421
Luxembourg.....	0	12	0	12
Macedonia, TFYR.....	57	3	0	60
Netherlands.....	0	522	114	358
Norway.....	6	37	5	38
Portugal.....	0	147	2	140
Serbia and Montenegro.....	379	16	0	395
Slovenia.....	58	12	(s)	73
Spain.....	338	246	5	645
Sweden.....	0	94	1	84
Turkey.....	482	279	0	760
United Kingdom.....	1,171	523	34	1,543
Other.....	(s)	95	(s)	88
Total.....	5,698	4,396	253	9,748
Eastern Europe & Former U.S.S.R.				
Bulgaria.....	259	104	(s)	372
Czech Republic.....	1,056	60	258	855
Hungary.....	131	52	20	159
Poland.....	3,471	75	722	2,664
Romania.....	272	142	3	400
Slovakia.....	45	160	1	198
Belarus.....	0	19	0	20
Estonia.....	0	15	3	13
Kazakhstan.....	1,112	41	339	814
Kyrgyzstan.....	8	6	2	12
Latvia.....	0	5	(s)	4
Lithuania.....	0	5	1	5
Moldova.....	1	7	0	7
Russia.....	4,751	301	472	4,663
Tajikistan.....	(s)	2	0	2
Ukraine.....	1,747	231	54	1,924
Uzbekistan.....	41	(s)	(s)	39
Other.....	1	4	0	5
Total.....	12,895	1,229	1,875	12,155

See footnotes at end of table.

Table 5.5 World Coal Supply and Disposition, 1997 (Continued)
(Trillion Btu)

Region Country	Production	Imports ¹	Exports ¹	Apparent Consumption ²
Middle East				
Iran.....	25	16	(s)	41
Israel.....	0	221	0	238
Other.....	0	6	(s)	6
Total.....	25	244	0	284
Africa				
Algeria.....	1	17	0	21
Botswana.....	21	(s)	0	21
Congo (Kinshasa).....	3	4	0	7
Egypt.....	9	41	12	39
Kenya.....	0	3	0	3
Malawi.....	2	(s)	0	2
Mauritius.....	0	2	0	2
Morocco.....	9	79	0	88
Mozambique.....	1	1	0	2
Niger.....	4	0	0	4
Nigeria.....	4	(s)	0	4
South Africa.....	5,025	13	1,704	3,271
Swaziland.....	4	0	0	4
Tunisia.....	0	3	0	3
Zambia.....	4	0	(s)	4
Zimbabwe.....	143	1	2	141
Other.....	(s)	1	0	1
Total.....	5,229	164	1,718	3,617
Far East & Oceania				
Afghanistan.....	(s)	0	0	(s)
Australia.....	5,378	0	3,832	1,471
Bhutan.....	(s)	1	(s)	1
Burma.....	1	(s)	0	2
China.....	24,985	44	788	24,466
Hong Kong.....	0	154	(s)	173
India.....	6,440	248	2	6,697
Indonesia.....	1,474	12	1,122	404
Japan.....	87	3,039	72	3,065
Korea, North.....	1,471	72	11	1,532
Korea, South.....	81	1,206	0	1,278
Malaysia.....	3	64	(s)	66
Mongolia.....	50	4	3	52
Nepal.....	(s)	3	0	3
New Caledonia.....	0	5	0	5
New Zealand.....	75	0	33	53
Pakistan.....	70	24	0	94
Philippines.....	20	95	0	112
Singapore.....	0	(s)	(s)	(s)
Taiwan.....	3	981	0	974
Thailand.....	297	91	0	378
Vietnam.....	249	1	93	170
Other.....	(s)	1	0	1
Total.....	40,683	6,045	5,956	40,995
World Total.....	90,641	13,155	13,812	90,188

¹ Includes coke.

² Sum of production plus imports minus exports (from this Table) minus stock change.

³ United States apparent coal consumption differs from that published in the Monthly Energy Review (MER). Consumption was 21,020 trillion Btu in the October 1999 issue of the MER. The MER uses a different methodology to derive coal consumption and does not include coal consumption by independent power producers.

(s) = Value less than 0.5 trillion Btu.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

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Section 6

Electricity

Table 6.1 World Net Conventional Thermal Electricity Generation, 1989 - 1998
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	119.2	105.5	107.7	116.5	102.7	112.1	121.3	120.5	132.8	149.7
Mexico.....	88.7	85.7	89.7	88.7	93.1	110.5	104.2	110.4	124.7	137.5
United States. ²	2,111.3	2,092.3	2,101.3	2,138.8	2,230.8	2,275.2	2,297.5	2,347.6	2,434.0	2,546.1
Other.....	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.7	0.7
Total.....	2,319.8	2,284.2	2,299.4	2,344.7	2,427.3	2,498.6	2,523.8	2,579.3	2,692.3	2,834.0
Central & South America										
Argentina.....	30.5	20.9	25.0	26.4	25.7	24.6	28.8	36.7	33.5	32.1
Bahamas, The.....	0.9	0.9	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.3
Bolivia.....	0.7	0.9	0.9	1.1	1.1	1.1	1.2	1.1	1.0	1.1
Brazil.....	9.9	8.1	9.0	9.1	8.8	9.1	10.6	13.1	14.7	15.6
Chile.....	7.7	8.2	5.9	5.2	6.3	7.7	8.9	12.9	14.0	13.5
Colombia.....	7.5	8.1	8.9	10.6	9.8	8.8	10.7	8.5	12.2	13.6
Costa Rica.....	(s)	0.1	0.2	0.6	0.4	0.8	0.8	0.6	0.6	0.5
Cuba.....	14.2	12.9	11.0	9.5	9.0	10.0	10.8	11.3	11.8	13.7
Dominican Republic.....	2.7	3.1	3.1	3.4	4.0	4.2	4.4	5.2	5.6	6.1
Ecuador.....	0.8	1.3	1.8	2.1	1.5	1.5	3.1	2.8	2.7	2.7
Guadeloupe.....	0.6	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.1	1.2
Guatemala.....	0.2	0.2	0.3	0.6	0.7	0.7	0.8	0.8	0.9	0.8
Jamaica.....	1.9	2.2	1.9	2.0	3.3	4.2	5.1	5.3	5.5	5.9
Martinique.....	0.6	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1
Nicaragua.....	0.4	0.6	0.6	0.8	0.7	0.9	1.0	1.1	1.2	1.5
Panama.....	0.4	0.5	0.9	1.0	1.0	1.2	1.1	1.0	1.3	1.2
Peru.....	3.0	2.7	2.4	3.0	2.7	1.8	3.6	3.2	3.8	4.5
Puerto Rico.....	13.2	14.1	14.5	15.2	15.3	16.5	17.6	17.6	17.6	17.4
Trinidad and Tobago.....	3.2	3.3	3.5	3.7	3.6	3.8	4.0	4.2	4.7	4.7
Venezuela.....	21.6	21.0	17.7	19.0	20.6	18.7	20.7	20.2	16.7	17.9
Virgin Islands, U.S.....	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other.....	5.3	4.2	5.2	5.3	5.4	5.6	6.5	6.7	7.6	7.8
Total.....	126.3	115.6	116.2	122.0	123.6	125.1	143.7	156.8	159.7	165.2
Western Europe										
Austria.....	13.1	16.8	18.4	15.1	13.7	15.4	17.0	18.1	18.4	17.6
Belgium.....	23.9	25.6	26.4	26.0	26.2	28.6	30.0	29.7	28.5	33.4
Denmark.....	20.8	23.6	33.4	28.1	30.7	36.6	33.4	49.2	39.8	36.6
Finland.....	20.3	22.8	23.8	22.0	26.0	32.3	29.8	35.7	33.9	31.3
France.....	48.5	45.8	58.2	48.8	33.9	33.2	37.8	42.3	38.1	51.8
Germany.....	--	--	351.1	335.7	329.6	331.9	334.9	344.6	335.8	345.5
Germany, East.....	105.1	97.3	--	--	--	--	--	--	--	--
Germany, West.....	251.3	261.6	--	--	--	--	--	--	--	--
Greece.....	29.5	31.0	30.7	32.9	33.7	35.5	35.5	35.7	37.0	39.9
Ireland.....	12.0	12.7	13.3	14.1	14.5	14.9	15.9	17.1	17.8	18.6
Italy.....	159.8	167.7	162.6	166.1	163.8	169.5	184.0	181.6	188.2	195.0
Malta.....	1.0	1.0	1.3	1.4	1.4	1.4	1.5	1.6	1.6	1.6
Netherlands.....	64.8	64.1	66.5	68.8	68.4	70.8	71.7	75.3	78.5	81.0
Portugal.....	18.6	18.0	19.4	23.5	21.1	19.4	23.3	18.4	19.7	24.4
Spain.....	66.9	67.2	67.6	77.0	70.4	72.5	81.6	72.2	89.4	86.6
Sweden.....	5.3	5.0	6.5	7.5	8.6	9.7	9.5	13.6	9.6	9.6
Switzerland.....	1.1	1.1	1.4	1.5	1.2	2.0	2.1	2.0	2.0	2.3
Turkey.....	28.2	32.3	35.2	38.3	37.4	44.8	47.6	51.0	59.6	64.6
United Kingdom.....	225.5	231.3	230.7	222.8	214.1	216.0	224.0	232.5	226.5	234.1
Former Yugoslavia.....	51.2	54.7	52.1	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	8.6	9.1	0.6	0.7	0.8	0.7	0.7
Croatia.....	--	--	--	4.3	4.7	3.1	3.4	3.1	4.1	4.1
Macedonia, TFYR.....	--	--	--	4.9	4.4	4.5	5.0	5.3	5.5	5.7
Serbia and Montenegro.....	--	--	--	23.6	22.0	22.0	24.4	25.0	26.5	26.4
Slovenia.....	--	--	--	4.4	4.4	4.3	4.4	4.3	4.8	4.9
Other.....	1.2	1.2	1.2	1.2	1.2	1.3	1.2	1.3	1.2	1.1
Total.....	1,148.2	1,181.0	1,199.9	1,176.6	1,140.6	1,170.7	1,218.6	1,260.4	1,267.1	1,316.6

See footnotes at end of table.

Table 6.1 World Net Conventional Thermal Electricity Generation, 1989 - 1998 (Continued)
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2
Bulgaria.....	25.4	24.1	21.9	20.7	20.8	20.1	20.9	20.4	20.8	20.1
Former Czechoslovakia.....	56.7	54.6	52.9	51.2	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	42.0	41.3	43.6	45.8	46.6	46.4
Slovakia.....	--	--	--	--	8.0	7.6	9.1	8.9	8.8	6.5
Hungary.....	14.6	13.7	15.1	16.5	17.8	18.1	18.6	19.5	19.9	21.7
Poland.....	133.2	125.0	123.4	121.4	122.5	123.7	127.0	130.9	130.6	130.1
Romania.....	59.4	49.7	39.7	39.9	40.1	39.6	40.0	41.6	32.2	31.0
Former U.S.S.R.....	1,209.2	1,204.1	1,173.0	--	--	--	--	--	--	--
Armenia.....	--	--	--	5.6	1.9	2.0	3.1	2.2	2.9	2.8
Azerbaijan.....	--	--	--	16.9	15.7	14.8	14.6	14.6	14.4	15.0
Belarus.....	--	--	--	35.3	31.3	29.5	23.4	22.3	24.5	21.9
Estonia.....	--	--	--	11.1	8.6	8.6	8.2	8.6	8.7	8.7
Georgia.....	--	--	--	4.7	2.9	2.0	1.5	1.1	1.1	1.0
Kazakhstan.....	--	--	--	71.3	65.6	53.8	54.8	48.2	42.8	43.2
Kyrgyzstan.....	--	--	--	2.5	2.1	1.1	1.2	1.4	1.3	1.3
Latvia.....	--	--	--	1.2	1.0	1.1	1.0	1.2	1.5	1.4
Lithuania.....	--	--	--	3.5	1.4	1.5	1.2	1.9	1.7	2.0
Moldova.....	--	--	--	10.3	9.3	7.5	5.4	5.4	4.6	5.3
Russia.....	--	--	--	679.6	627.9	540.4	546.0	545.5	527.0	523.1
Tajikistan.....	--	--	--	0.8	0.6	0.3	0.2	0.2	0.2	0.2
Turkmenistan.....	--	--	--	12.4	11.9	9.9	9.2	9.5	8.8	8.7
Ukraine.....	--	--	--	160.5	134.9	114.4	106.5	88.9	83.2	76.0
Uzbekistan.....	--	--	--	42.0	39.3	38.2	38.8	36.6	37.9	37.0
Total.....	1,498.8	1,471.5	1,426.2	1,307.6	1,205.6	1,075.4	1,074.4	1,054.7	1,019.4	1,003.7
Middle East										
Bahrain.....	3.3	3.3	3.3	3.7	4.0	4.3	4.5	4.5	4.6	4.8
Cyprus.....	1.7	1.9	2.0	2.3	2.4	2.5	2.3	2.4	2.5	2.7
Iran.....	39.2	49.8	53.6	55.5	62.2	70.1	73.0	78.5	83.1	88.0
Iraq.....	26.6	20.1	18.7	23.1	24.2	25.8	26.7	26.7	27.2	27.8
Israel.....	19.2	19.6	20.2	23.2	24.4	26.6	28.5	30.5	31.6	35.3
Jordan.....	3.2	3.4	3.5	4.1	4.5	4.8	5.3	5.7	5.9	6.1
Kuwait.....	20.2	19.4	10.1	15.8	19.0	21.4	22.3	23.9	25.5	27.0
Lebanon.....	2.0	1.1	2.3	2.9	3.8	4.1	4.3	5.8	7.2	8.8
Oman.....	4.4	5.0	5.2	4.8	5.5	5.8	6.1	6.4	6.9	7.4
Qatar.....	4.4	4.5	4.4	4.8	5.2	5.5	5.6	6.2	6.5	6.7
Saudi Arabia.....	61.6	64.9	69.2	74.0	82.2	91.0	93.9	97.8	103.8	110.1
Syria.....	5.3	5.6	5.6	4.9	5.6	7.9	7.9	9.3	7.4	7.5
United Arab Emirates.....	14.7	16.1	16.2	16.4	16.5	17.7	17.9	18.6	19.3	20.1
Yemen.....	1.6	1.6	1.7	1.8	1.9	2.0	2.2	2.2	2.2	2.2
Total.....	207.3	216.3	216.0	237.3	261.3	289.5	300.5	318.5	333.7	354.4
Africa										
Algeria.....	14.2	15.0	16.0	17.0	17.9	18.5	18.4	19.3	20.3	21.3
Angola.....	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Botswana.....	0.8	0.9	0.9	1.1	1.1	1.0	1.0	0.8	0.9	1.0
Cote d'Ivoire (Ivory Coast).....	1.5	0.9	0.6	0.6	1.0	1.2	1.1	1.1	1.1	1.2
Egypt.....	29.8	31.5	34.0	35.0	37.4	39.4	41.4	40.3	42.9	45.5
Libya.....	15.1	15.8	15.9	15.9	16.0	16.7	16.9	17.2	17.1	16.9
Mauritius.....	0.5	0.6	0.7	0.8	0.8	0.9	0.9	1.1	1.1	1.1
Morocco.....	7.4	7.9	7.5	8.2	8.9	9.5	10.6	9.8	10.4	11.0
Nigeria.....	8.2	7.7	7.7	8.2	8.4	9.4	8.4	8.9	9.0	9.1
Reunion.....	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Senegal.....	0.7	0.9	0.9	1.0	0.9	1.0	1.0	1.1	1.2	1.2
South Africa.....	139.6	146.6	147.8	147.1	155.9	160.0	164.5	174.1	181.4	176.8
Tunisia.....	4.8	5.2	5.3	5.7	5.9	6.3	6.8	7.0	7.2	7.9
Zimbabwe.....	5.4	5.6	5.4	4.8	5.6	4.7	5.1	4.9	5.2	5.5
Other.....	4.5	4.4	4.4	4.2	4.7	4.8	5.4	5.5	5.4	5.6
Total.....	233.0	243.7	248.0	250.7	265.5	274.5	282.7	292.2	304.3	305.3

See footnotes at end of table.

Table 6.1 World Net Conventional Thermal Electricity Generation, 1989 - 1998 (Continued)
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
American Samoa.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Australia.....	124.2	131.8	132.3	135.2	137.9	141.8	147.7	151.8	155.8	167.5
Bangladesh.....	6.1	6.7	7.6	8.2	8.7	9.2	10.6	11.0	11.4	11.2
Bhutan.....	0.0	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	1.1	1.2	1.3	1.3	1.5	1.6	1.8	2.0	2.3	2.6
Burma.....	1.3	1.2	1.4	1.4	1.6	1.9	2.3	2.2	2.4	2.7
Cambodia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China.....	438.3	465.2	519.3	585.3	644.0	701.2	756.1	805.3	850.0	882.5
Cook Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Fiji.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
French Polynesia.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Guam.....	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Hong Kong.....	25.7	27.2	29.9	32.8	33.8	25.1	26.2	26.7	27.2	29.5
India.....	189.8	198.9	223.1	240.7	263.6	279.3	317.2	336.1	355.8	358.4
Indonesia.....	29.1	35.3	37.8	38.7	34.5	40.9	42.3	52.5	62.3	64.5
Japan.....	483.8	524.0	533.2	545.8	517.2	580.4	568.0	577.2	579.9	564.5
Kiribati.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Korea, North.....	20.4	23.0	20.4	13.2	13.2	12.7	12.2	11.8	11.4	11.0
Korea, South.....	40.0	45.5	53.8	65.4	75.5	113.3	123.2	138.4	154.3	131.8
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	0.7	0.7	0.8	0.9	1.1	1.2	1.2	1.3	1.3	1.3
Malaysia.....	15.6	20.0	22.5	23.4	28.1	30.6	36.9	43.4	51.3	54.4
Maldives.....	(s)	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.1	0.1
Mongolia.....	3.4	3.1	3.0	2.8	2.4	2.6	2.5	2.5	2.6	2.7
Nauru.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nepal.....	(s)	(s)	(s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
New Caledonia.....	0.6	0.6	0.8	0.8	0.8	0.8	1.2	1.0	1.0	1.0
New Zealand.....	6.4	6.3	7.6	8.5	7.8	6.8	5.8	8.2	10.8	9.7
Niue.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Pakistan.....	21.9	19.2	21.0	24.8	25.5	28.9	28.4	31.3	35.6	37.4
Papua New Guinea.....	1.2	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2
Philippines.....	13.2	13.2	13.0	13.2	13.2	17.1	19.9	21.8	25.0	27.8
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Singapore.....	13.2	14.8	15.9	16.6	17.8	19.6	20.9	22.1	24.6	26.6
Solomon Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	0.1	(s)	0.2	0.3	0.2	0.3	0.3	1.2	1.6	1.7
Taiwan.....	46.5	43.6	51.9	56.1	65.9	72.0	79.1	72.1	79.7	88.1
Thailand.....	31.5	38.7	42.9	49.7	56.1	62.7	68.7	75.1	78.9	75.7
Tonga.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
U.S. Pacific Islands.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Vanuatu.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	3.7	3.1	2.8	1.5	1.8	1.9	1.4	2.2	2.8	2.7
Total.....	1,519.8	1,626.8	1,745.8	1,869.8	1,955.3	2,155.0	2,277.2	2,400.2	2,531.1	2,558.4
World Total.....	7,053.3	7,139.1	7,251.4	7,308.8	7,379.2	7,588.8	7,821.0	8,062.1	8,307.5	8,537.6

¹ Preliminary.

² U.S. data include purchases from nonutilities.

--- Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Thermal generation consist of electricity generated from coal, oil, and gas.

Generation data consist of both utility and nonutility sources.

Sources: See sources at the end of this Section.

Table 6.2 World Total Net Electricity Consumption, 1989 - 1998
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	441.9	437.1	443.6	450.1	454.5	462.8	473.2	484.8	487.3	484.5
Mexico.....	108.1	107.1	110.5	114.1	119.2	128.9	133.7	143.7	155.9	164.8
United States.....	2,747.3	2,816.8	2,873.1	2,885.1	2,988.4	3,075.5	3,162.4	3,246.7	3,288.5	3,367.4
Other.....	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Total.....	3,297.9	3,361.7	3,427.9	3,450.0	3,562.7	3,667.9	3,770.0	3,876.0	3,932.4	4,017.4
Central & South America										
Argentina.....	47.7	45.9	49.7	56.8	60.7	63.2	66.8	70.7	75.7	75.6
Bolivia.....	1.9	2.0	2.2	2.3	2.3	2.4	2.5	2.4	2.2	2.4
Brazil.....	225.1	228.6	242.1	246.3	259.4	271.7	288.2	307.2	322.7	336.2
Chile.....	16.5	19.3	18.1	20.3	21.8	22.9	25.4	27.7	30.1	26.7
Colombia.....	31.9	33.3	33.9	31.0	35.3	38.4	42.1	40.2	40.5	42.0
Costa Rica.....	3.2	3.4	3.6	3.8	4.1	4.7	4.3	4.7	5.5	5.3
Cuba.....	14.4	13.6	11.6	10.3	9.4	10.3	10.9	11.6	12.3	14.2
Dominican Republic.....	3.1	3.3	3.5	5.2	5.4	5.7	6.0	6.8	7.3	7.9
Ecuador.....	5.2	5.8	6.3	6.5	6.8	7.5	7.7	8.4	8.7	9.0
El Salvador.....	1.9	1.9	1.8	1.9	2.3	2.7	2.8	2.4	3.1	3.3
Guatemala.....	2.2	2.2	2.4	2.3	2.6	2.7	2.7	3.1	2.8	2.9
Honduras.....	1.9	2.1	2.1	2.2	2.3	2.5	2.5	2.6	2.1	2.7
Jamaica.....	2.0	2.3	1.9	2.0	3.3	4.2	5.1	5.3	5.5	5.9
Nicaragua.....	1.4	1.8	1.6	1.7	1.8	1.7	2.0	2.2	2.4	2.5
Panama.....	2.6	2.7	3.3	3.6	3.9	4.2	3.9	4.0	4.1	4.3
Peru.....	12.5	12.3	12.9	11.9	13.5	13.5	16.1	15.4	15.8	17.0
Puerto Rico.....	12.5	13.4	13.8	14.4	14.5	15.6	16.6	16.7	16.7	16.5
Suriname.....	1.2	1.4	1.6	1.6	1.6	1.6	1.7	1.7	1.9	1.9
Trinidad and Tobago.....	3.0	3.1	3.3	3.5	3.3	3.6	3.8	4.0	4.4	4.4
Uruguay.....	4.1	5.6	4.6	4.8	5.1	5.4	5.8	6.0	6.4	6.5
Venezuela.....	52.0	53.6	57.2	60.8	62.5	64.3	66.5	68.2	68.1	65.5
Virgin Islands, U.S.....	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Other.....	5.5	5.5	5.9	6.2	6.9	7.0	7.7	7.7	8.4	9.2
Total.....	452.7	463.7	484.2	500.2	529.6	556.6	591.8	619.7	647.6	662.9
Western Europe										
Austria.....	43.1	45.2	47.9	47.8	47.0	47.9	49.2	50.8	50.9	51.9
Belgium.....	56.9	58.7	61.5	63.8	64.7	67.7	69.8	71.3	72.9	74.5
Denmark.....	29.2	29.4	29.9	30.9	31.2	30.9	32.2	32.5	32.6	33.0
Finland.....	56.5	59.0	58.8	64.1	67.1	70.4	69.5	70.5	75.4	79.3
France.....	316.2	325.8	348.3	354.8	356.0	359.2	366.6	383.9	377.8	389.3
Germany.....	--	--	474.8	468.4	465.2	469.6	479.3	485.4	485.6	488.0
Germany, East.....	110.4	97.7	--	--	--	--	--	--	--	--
Germany, West.....	384.1	391.4	--	--	--	--	--	--	--	--
Greece.....	29.6	31.2	32.0	33.4	34.3	35.9	37.2	38.7	40.4	42.2
Iceland.....	4.2	4.1	4.1	4.2	4.3	4.4	4.6	4.7	5.1	5.8
Ireland.....	11.8	12.5	13.1	13.8	14.2	14.8	15.4	16.4	17.3	18.4
Italy.....	216.5	222.4	228.2	232.1	233.7	239.9	247.1	249.2	257.0	266.7
Luxembourg.....	4.4	4.5	4.8	4.6	4.7	5.1	5.5	5.3	5.6	5.9
Netherlands.....	69.6	71.9	75.0	77.5	78.9	81.6	83.6	86.8	91.4	94.3
Norway.....	94.8	96.2	99.2	99.3	102.6	103.4	106.0	105.4	105.7	111.0
Portugal.....	24.4	25.9	27.2	28.3	28.5	29.7	31.2	32.7	34.3	36.2
Spain.....	128.7	134.0	137.1	139.6	139.4	145.1	152.0	156.3	162.9	170.3
Sweden.....	130.9	131.2	132.4	131.3	132.4	130.5	133.9	133.2	135.1	135.1
Switzerland.....	46.4	47.5	48.6	48.4	48.0	48.5	50.1	50.3	49.8	50.8
Turkey.....	43.2	50.6	54.0	60.0	65.8	69.4	76.6	84.9	94.6	102.2
United Kingdom.....	287.2	287.4	294.5	295.0	299.3	301.1	309.1	321.1	319.6	331.5
Former Yugoslavia.....	73.0	72.8	65.5	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	10.9	10.9	1.9	2.2	2.2	2.3	2.1
Croatia.....	--	--	--	10.9	10.7	11.1	11.5	11.5	12.7	12.9
Macedonia, TFYR.....	--	--	--	5.6	5.2	5.0	5.4	5.7	5.9	6.2
Serbia and Montenegro.....	--	--	--	33.6	29.7	30.7	33.0	33.7	35.8	36.1
Slovenia.....	--	--	--	8.9	9.0	11.4	9.5	9.7	10.0	10.7
Other.....	1.2	1.2	1.5	1.6	1.5	1.6	1.7	1.7	1.7	1.8
Total.....	2,162.2	2,200.7	2,238.4	2,268.6	2,284.3	2,316.7	2,382.1	2,444.0	2,482.8	2,556.2

See footnotes at end of table.

Table 6.2 World Total Net Electricity Consumption, 1989 - 1998 (Continued)
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	3.2	3.1	2.7	2.6	3.1	3.6	4.1	5.6	5.4	5.3
Bulgaria.....	44.4	40.5	36.3	33.9	33.6	33.5	36.7	37.7	33.8	35.5
Former Czechoslovakia.....	81.1	80.7	76.4	70.9	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	49.6	51.2	54.0	56.3	56.2	54.7
Slovakia.....	--	--	--	--	23.9	24.3	24.8	26.5	26.0	21.1
Hungary.....	37.0	36.3	33.7	31.2	31.4	31.5	32.3	33.0	33.2	33.3
Poland.....	129.3	118.5	115.7	112.3	115.1	116.2	119.3	122.6	123.2	121.9
Romania.....	74.7	65.8	55.2	52.0	50.9	49.6	52.9	54.8	51.0	49.6
Former U.S.S.R.....	1,491.0	1,488.4	1,475.3	--	--	--	--	--	--	--
Armenia.....	--	--	--	8.3	5.7	5.1	4.7	5.4	5.4	5.4
Azerbaijan.....	--	--	--	16.7	16.9	15.7	15.4	15.2	15.8	15.5
Belarus.....	--	--	--	39.3	35.2	31.4	29.4	28.9	30.6	28.7
Estonia.....	--	--	--	7.1	6.6	6.9	6.8	7.1	7.1	7.6
Georgia.....	--	--	--	11.3	9.9	7.1	7.0	6.7	6.7	6.1
Kazakhstan.....	--	--	--	86.2	83.4	64.9	64.3	56.8	49.5	48.8
Kyrgyzstan.....	--	--	--	8.8	9.3	9.4	12.6	10.6	9.9	11.1
Latvia.....	--	--	--	7.5	6.1	5.9	5.9	6.0	5.9	4.9
Lithuania.....	--	--	--	11.2	10.3	10.1	10.0	8.5	8.8	7.8
Moldova.....	--	--	--	9.8	6.9	7.8	7.2	6.9	6.6	7.1
Russia.....	--	--	--	879.9	830.6	730.6	738.2	726.3	709.4	702.7
Tajikistan.....	--	--	--	16.3	15.1	14.8	14.3	14.1	13.9	12.6
Turkmenistan.....	--	--	--	8.6	7.9	6.6	6.5	6.0	6.5	5.5
Ukraine.....	--	--	--	216.7	200.6	178.1	168.8	159.5	156.7	144.0
Uzbekistan.....	--	--	--	44.2	40.4	43.7	40.5	44.0	42.5	41.3
Total.....	1,860.7	1,833.3	1,795.3	1,674.7	1,592.5	1,448.0	1,455.5	1,438.7	1,404.2	1,370.5
Middle East										
Bahrain.....	3.1	3.1	3.1	3.4	3.7	4.0	4.2	4.2	4.3	4.4
Cyprus.....	1.6	1.7	1.8	2.1	2.3	2.3	2.2	2.3	2.4	2.5
Iran.....	42.6	51.9	56.4	60.4	66.9	72.0	74.6	79.8	84.1	88.6
Iraq.....	25.3	19.3	17.7	22.1	23.0	24.5	25.4	25.4	25.9	26.4
Israel.....	17.5	17.9	18.4	21.2	22.4	24.4	25.7	27.4	28.3	31.8
Jordan.....	3.0	3.2	3.4	4.0	4.3	4.6	5.5	5.6	5.9	6.1
Kuwait.....	18.8	18.0	9.4	14.7	17.6	19.9	20.7	22.3	23.7	25.1
Lebanon.....	2.7	1.7	2.7	3.3	4.2	4.7	5.0	6.8	8.1	9.6
Oman.....	4.1	4.7	4.8	4.5	5.1	5.4	5.6	5.9	6.4	6.8
Qatar.....	4.1	4.2	4.1	4.5	4.8	5.1	5.2	5.7	6.0	6.2
Saudi Arabia.....	57.3	60.4	64.4	68.8	76.4	84.6	87.3	91.0	96.5	102.4
Syria.....	9.2	10.4	11.0	11.4	11.4	13.7	13.7	15.1	16.2	16.3
United Arab Emirates.....	13.6	14.9	15.1	15.3	15.4	16.5	16.7	17.3	18.0	18.7
Yemen.....	1.5	1.5	1.6	1.7	1.8	1.9	2.1	2.0	2.1	2.1
Total.....	204.4	212.8	213.9	237.5	259.5	283.7	293.8	310.8	327.8	347.2
Africa										
Algeria.....	13.4	14.0	14.5	15.1	15.8	16.3	17.0	17.9	19.0	19.9
Angola.....	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8
Cameroon.....	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.7	2.9	3.1
Congo (Kinshasa).....	6.3	5.0	4.7	5.4	4.1	4.1	5.5	5.9	5.7	5.5
Cote d'Ivoire (Ivory Coast).....	2.9	2.1	1.7	1.5	2.0	2.0	2.6	2.8	2.9	3.2
Egypt.....	35.1	38.5	39.6	40.5	44.4	46.6	48.4	48.1	51.0	53.8
Ghana.....	4.6	5.2	5.4	5.4	5.4	5.3	5.2	5.0	5.3	5.4
Kenya.....	2.8	2.9	3.1	3.1	3.4	3.5	3.6	3.8	4.0	4.1
Libya.....	14.1	14.7	14.8	14.8	14.9	15.6	15.7	16.0	15.9	15.7
Morocco.....	8.0	8.6	8.7	9.5	10.0	10.8	10.7	11.1	11.7	12.4
Nigeria.....	11.3	11.1	12.6	13.1	12.8	13.7	12.9	13.4	13.5	13.7
South Africa.....	142.7	143.8	146.1	144.6	149.4	156.2	161.1	168.6	175.8	174.5
Tunisia.....	4.4	4.8	5.0	5.4	5.5	5.9	6.5	6.8	6.9	7.5
Zambia.....	4.8	5.7	5.7	5.7	5.7	5.7	5.7	5.9	6.2	6.4
Zimbabwe.....	8.4	10.0	9.7	8.7	8.9	7.9	7.9	8.8	9.9	8.4
Other.....	14.4	16.5	17.3	17.5	19.3	19.2	19.8	20.9	21.0	20.3
Total.....	277.1	287.1	293.2	294.5	305.7	316.9	327.0	339.4	353.4	355.6

See footnotes at end of table.

Table 6.2 World Total Net Electricity Consumption, 1989 - 1998 (Continued)
(Billion Kilowatthours)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	1.0	1.0	1.0	0.8	0.7	0.8	0.7	0.6	0.6	0.5
American Samoa.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Australia.....	129.5	136.1	138.2	142.3	146.1	149.5	154.5	158.4	163.2	173.3
Bangladesh.....	6.5	7.1	7.8	8.4	8.7	9.3	10.5	10.9	11.2	11.0
Bhutan.....	(s)	(s)	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3
Brunei.....	1.0	1.1	1.2	1.2	1.4	1.5	1.7	1.9	2.1	2.4
Burma.....	2.2	2.2	2.4	2.7	3.0	3.2	3.6	3.5	3.8	4.0
Cambodia.....	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
China.....	518.2	550.9	600.9	670.6	744.1	816.2	880.9	926.0	972.7	1,014.0
Fiji.....	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
French Polynesia.....	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Guam.....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Hong Kong.....	22.2	23.5	24.7	25.6	27.3	25.4	28.8	31.9	32.6	34.6
India.....	238.1	257.1	280.6	295.1	316.9	341.9	369.7	385.4	411.7	416.3
Indonesia.....	35.9	43.2	45.4	46.0	41.2	46.0	49.2	59.1	65.7	68.0
Japan.....	712.5	764.6	791.3	797.9	806.4	857.9	881.4	899.0	929.4	926.3
Korea, North.....	48.2	48.1	48.2	34.3	34.3	33.4	32.5	31.7	30.7	29.7
Korea, South.....	81.8	93.4	103.0	113.6	125.4	159.4	176.3	196.3	214.2	205.8
Laos.....	0.2	0.3	0.2	0.2	0.3	0.5	0.3	0.4	0.4	0.5
Macau.....	0.7	0.8	0.9	1.0	1.1	1.2	1.5	1.4	1.4	1.4
Malaysia.....	19.2	22.3	24.9	25.8	30.6	34.5	40.1	45.2	50.8	53.4
Mongolia.....	3.3	3.1	2.9	2.7	2.3	2.5	2.7	2.7	2.7	2.8
Nepal.....	0.6	0.7	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.2
New Caledonia.....	1.1	1.0	1.0	1.0	1.0	1.1	1.5	1.4	1.4	1.4
New Zealand.....	28.6	29.9	30.9	29.5	31.3	32.8	33.0	34.2	33.9	33.3
Pakistan.....	36.0	33.8	36.8	40.7	43.5	45.3	47.9	50.8	52.7	55.1
Papua New Guinea.....	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Philippines.....	22.9	22.7	22.0	21.4	21.9	26.9	29.7	32.5	35.2	36.8
Samoa.....	(s)	(s)	(s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Singapore.....	12.3	13.7	14.8	15.5	16.5	18.1	19.4	20.5	22.9	24.7
Sri Lanka.....	2.6	2.9	3.1	2.9	3.7	4.0	4.4	4.1	4.7	5.1
Taiwan.....	74.6	77.5	84.6	90.2	98.3	106.2	113.3	109.1	115.3	124.2
Thailand.....	35.1	41.2	44.7	50.7	56.1	63.0	70.6	77.2	80.7	77.6
U.S. Pacific Islands.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Vietnam.....	7.0	7.9	8.4	8.9	9.7	11.2	12.5	15.5	17.5	19.2
Other.....	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Total.....	2,044.8	2,189.7	2,324.6	2,433.6	2,576.5	2,796.4	2,971.6	3,104.7	3,262.8	3,327.3
World Total.....	10,299.8	10,549.0	10,777.4	10,859.1	11,110.7	11,386.2	11,791.8	12,133.2	12,411.0	12,636.9

¹ Preliminary.

-- Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Consumption equals generation plus imports minus exports minus distribution losses.

Sources: See sources at the end of this Section.

Table 6.3 World Net Electricity Generation by Type, 1997
(Billion Kilowatthours)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
North America					
Canada.....	132.8	347.6	77.9	3.9	562.2
Mexico.....	124.7	26.2	9.9	5.2	166.1
United States.....	2,434.0	354.9	628.6	76.9	3,494.4
Other.....	0.7	0.0	0.0	0.0	0.7
Total.....	2,692.3	728.7	716.4	86.0	4,223.4
Central & South America					
Argentina.....	33.5	34.8	7.5	0.2	76.0
Bolivia.....	1.0	1.4	0.0	(s)	2.4
Brazil.....	14.7	276.2	3.0	9.5	303.5
Chile.....	14.0	18.2	0.0	0.2	32.3
Colombia.....	12.2	30.9	0.0	0.3	43.4
Costa Rica.....	0.6	4.8	0.0	0.5	5.9
Cuba.....	11.8	0.1	0.0	1.4	13.3
Dominican Republic.....	5.6	2.2	0.0	(s)	7.8
Ecuador.....	2.7	6.7	0.0	0.0	9.4
El Salvador.....	1.6	1.2	0.0	0.5	3.2
Guadeloupe.....	1.1	0.0	0.0	0.0	1.1
Guatemala.....	0.9	2.1	0.0	0.2	3.2
Honduras.....	0.8	1.4	0.0	0.0	2.1
Jamaica.....	5.5	0.1	0.0	0.3	5.9
Nicaragua.....	1.2	1.0	0.0	0.2	2.4
Panama.....	1.3	3.2	0.0	(s)	4.5
Paraguay.....	0.1	49.9	0.0	0.1	50.1
Peru.....	3.8	13.1	0.0	0.1	17.0
Puerto Rico.....	17.6	0.3	0.0	0.0	17.9
Suriname.....	0.5	1.5	0.0	0.0	2.0
Trinidad and Tobago.....	4.7	0.0	0.0	(s)	4.7
Uruguay.....	0.6	6.4	0.0	(s)	7.0
Venezuela.....	16.7	56.6	0.0	0.0	73.2
Virgin Islands, U.S.....	1.0	0.0	0.0	0.0	1.0
Other.....	6.4	0.4	0.0	(s)	6.9
Total.....	159.7	512.4	10.5	13.8	696.4
Western Europe					
Austria.....	18.4	35.6	0.0	1.5	55.5
Belgium.....	28.5	0.3	45.0	1.1	74.9
Bosnia and Herzegovina.....	0.7	1.5	0.0	0.0	2.2
Croatia.....	4.1	5.2	0.0	0.0	9.4
Denmark.....	39.8	(s)	0.0	3.1	42.9
Finland.....	33.9	12.1	19.0	7.8	72.8
France.....	38.1	61.6	374.3	2.6	476.6
Germany.....	335.8	17.2	161.8	9.9	524.7
Greece.....	37.0	3.8	0.0	0.1	41.0
Iceland.....	(s)	5.2	0.0	0.4	5.5
Ireland.....	17.8	0.7	0.0	0.1	18.6
Italy.....	188.2	41.2	0.0	5.3	234.6
Macedonia, TFYR.....	5.5	0.9	0.0	0.0	6.4
Malta.....	1.6	0.0	0.0	0.0	1.6
Netherlands.....	78.5	0.1	2.3	3.9	84.7
Norway.....	0.7	108.7	0.0	0.3	109.6
Portugal.....	19.7	13.0	0.0	1.1	33.7
Serbia and Montenegro.....	26.5	12.0	0.0	0.0	38.5
Slovenia.....	4.8	3.1	4.8	0.0	12.6
Spain.....	89.4	34.3	52.5	2.3	178.5
Sweden.....	9.6	68.3	66.7	3.5	148.2
Switzerland.....	2.0	33.7	24.0	1.1	60.8
Turkey.....	59.6	39.4	0.0	0.4	99.4
United Kingdom.....	226.5	4.1	89.3	6.0	325.9
Other.....	0.5	0.2	0.0	0.1	0.7
Total.....	1,267.1	502.1	839.9	50.2	2,659.3

See footnotes at end of table.

Table 6.3 World Net Electricity Generation by Type, 1997 (Continued)
(Billion Kilowatthours)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
Eastern Europe & Former U.S.S.R.					
Albania.....	0.2	5.3	0.0	0.0	5.5
Bulgaria.....	20.8	2.9	16.4	0.0	40.1
Czech Republic.....	46.6	1.7	12.5	0.9	61.7
Hungary.....	19.9	0.2	13.3	0.0	33.4
Poland.....	130.6	3.8	0.0	0.4	134.8
Romania.....	32.2	17.3	5.1	0.0	54.6
Slovakia.....	8.8	4.3	10.5	0.0	23.6
Armenia.....	2.9	1.5	1.4	0.0	5.8
Azerbaijan.....	14.4	1.5	0.0	0.0	15.9
Belarus.....	24.5	(s)	0.0	0.0	24.5
Estonia.....	8.7	(s)	0.0	0.0	8.7
Georgia.....	1.1	6.0	0.0	0.0	7.0
Kazakhstan.....	42.8	6.4	0.3	0.0	49.5
Kyrgyzstan.....	1.3	11.1	0.0	0.0	12.4
Latvia.....	1.5	2.9	0.0	0.0	4.4
Lithuania.....	1.7	0.8	10.9	0.0	13.3
Moldova.....	4.6	0.4	0.0	0.0	5.0
Russia.....	527.0	152.5	104.5	(s)	784.0
Tajikistan.....	0.2	13.7	0.0	0.0	13.9
Turkmenistan.....	8.8	(s)	0.0	0.0	8.8
Ukraine.....	83.2	9.9	75.4	0.0	168.6
Uzbekistan.....	37.9	6.8	0.0	0.0	44.7
Total.....	1,019.4	249.1	250.3	1.4	1,520.2
Middle East					
Bahrain.....	4.6	0.0	0.0	0.0	4.6
Cyprus.....	2.5	0.0	0.0	0.0	2.5
Iran.....	83.1	7.3	0.0	0.0	90.4
Iraq.....	27.2	0.6	0.0	0.0	27.8
Israel.....	31.6	(s)	0.0	0.0	31.6
Jordan.....	5.9	(s)	0.0	0.0	5.9
Kuwait.....	25.5	0.0	0.0	0.0	25.5
Lebanon.....	7.2	0.9	0.0	0.0	8.0
Oman.....	6.9	0.0	0.0	0.0	6.9
Qatar.....	6.5	0.0	0.0	0.0	6.5
Saudi Arabia.....	103.8	0.0	0.0	0.0	103.8
Syria.....	7.4	9.9	0.0	0.0	17.4
United Arab Emirates.....	19.3	0.0	0.0	0.0	19.3
Yemen.....	2.2	0.0	0.0	0.0	2.2
Total.....	333.7	18.8	0.0	0.0	352.5
Africa					
Algeria.....	20.3	0.1	0.0	0.0	20.4
Angola.....	0.5	1.4	0.0	0.0	1.9
Botswana.....	0.9	0.0	0.0	0.0	0.9
Cameroon.....	0.1	3.0	0.0	0.0	3.1
Congo (Kinshasa).....	0.1	5.8	0.0	0.0	5.9
Cote d'Ivoire (Ivory Coast).....	1.1	2.0	0.0	0.0	3.1
Egypt.....	42.9	11.9	0.0	0.0	54.8
Ethiopia.....	0.1	1.2	0.0	(s)	1.3
Ghana.....	(s)	6.1	0.0	0.0	6.1
Kenya.....	0.3	3.5	0.0	0.4	4.2
Libya.....	17.1	0.0	0.0	0.0	17.1
Morocco.....	10.4	2.0	0.0	0.0	12.4
Nigeria.....	9.0	5.5	0.0	0.0	14.5
Reunion.....	0.6	0.5	0.0	0.0	1.1
South Africa.....	181.4	2.1	12.6	0.0	196.2
Sudan.....	0.9	1.0	0.0	0.0	1.9
Tunisia.....	7.2	(s)	0.0	0.0	7.2
Zambia.....	(s)	7.9	0.0	0.0	7.9
Zimbabwe.....	5.2	1.8	0.0	0.0	6.9
Other.....	6.1	6.9	0.0	0.0	13.0
Total.....	304.3	62.6	12.6	0.4	380.0

See footnotes at end of table.

Table 6.3 World Net Electricity Generation by Type, 1997 (Continued)
(Billion Kilowatthours)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
Far East & Oceania					
Afghanistan.....	0.2	0.3	0.0	0.0	0.5
American Samoa.....	0.1	0.0	0.0	0.0	0.1
Australia.....	155.8	16.6	0.0	3.1	175.5
Bangladesh.....	11.4	0.7	0.0	0.0	12.1
Bhutan.....	(s)	1.8	0.0	0.0	1.8
Brunei.....	2.3	0.0	0.0	0.0	2.3
Burma.....	2.4	1.6	0.0	0.0	4.0
Cambodia.....	0.1	0.1	0.0	0.0	0.2
China.....	850.0	193.1	11.4	0.0	1,054.5
Cook Islands.....	(s)	0.0	0.0	0.0	(s)
Fiji.....	0.1	0.4	0.0	0.0	0.5
French Polynesia.....	0.2	0.1	0.0	0.0	0.4
Guam.....	0.8	0.0	0.0	0.0	0.8
Hong Kong.....	27.2	0.0	0.0	0.0	27.2
India.....	355.8	74.0	10.5	0.9	441.1
Indonesia.....	62.3	5.9	0.0	2.4	70.7
Japan.....	579.9	88.9	306.1	24.5	999.3
Kiribati.....	(s)	0.0	0.0	0.0	(s)
Korea, North.....	11.4	21.6	0.0	0.0	33.0
Korea, South.....	154.3	2.8	73.2	(s)	230.3
Laos.....	(s)	1.2	0.0	0.0	1.3
Macau.....	1.3	0.0	0.0	0.0	1.3
Malaysia.....	51.3	3.3	0.0	0.0	54.6
Maldives.....	0.1	0.0	0.0	0.0	0.1
Mongolia.....	2.6	0.0	0.0	0.0	2.6
Nauru.....	(s)	0.0	0.0	0.0	(s)
Nepal.....	0.1	1.1	0.0	0.0	1.2
New Caledonia.....	1.0	0.5	0.0	0.0	1.5
New Zealand.....	10.8	23.0	0.0	2.7	36.5
Niue.....	(s)	0.0	0.0	0.0	(s)
Pakistan.....	35.6	20.6	0.4	0.0	56.7
Papua New Guinea.....	1.2	0.5	0.0	0.0	1.7
Philippines.....	25.0	6.0	0.0	6.9	37.8
Samoa.....	(s)	(s)	0.0	0.0	0.1
Singapore.....	24.6	0.0	0.0	0.0	24.6
Solomon Islands.....	(s)	0.0	0.0	0.0	(s)
Sri Lanka.....	1.6	3.4	0.0	0.0	5.0
Taiwan.....	79.7	9.4	34.8	0.0	124.0
Thailand.....	78.9	7.1	0.0	0.0	86.0
Tonga.....	(s)	0.0	0.0	0.0	(s)
U.S. Pacific Islands.....	0.2	(s)	0.0	0.0	0.2
Vanuatu.....	(s)	0.0	0.0	0.0	(s)
Vietnam.....	2.8	16.0	0.0	0.0	18.8
Total.....	2,531.1	500.4	436.4	40.5	3,508.3
World Total.....	8,307.5	2,574.2	2,266.1	192.3	13,340.2

¹ Thermal generation consists of electricity generated from coal, oil, and gas.

² Geothermal and Other consists of geothermal, biomass, solar, and wind generation.

(s)=Value less than 50 million kilowatthours.

Notes: Generation data consist of both utility and nonutility sources. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 6.4 World Electricity Installed Capacity by Type, January 1, 1998
(Million Kilowatts)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
North America					
Canada.....	32	67	13	(s)	112
Mexico.....	26	10	1	1	38
United States.....	563	99	100	17	779
Other.....	(s)	0	0	0	(s)
Total.....	621	176	114	18	929
Central & South America					
Argentina.....	12	9	1	0	22
Brazil.....	5	54	1	2	62
Chile.....	4	4	0	0	8
Colombia.....	6	8	0	0	15
Cuba.....	4	(s)	0	0	4
Paraguay.....	(s)	7	0	0	7
Peru.....	3	2	0	0	5
Puerto Rico.....	4	(s)	0	0	5
Venezuela.....	9	14	0	0	23
Other.....	11	7	0	(s)	19
Total.....	58	106	2	3	169
Western Europe					
Austria.....	6	9	0	(s)	15
Belgium.....	8	(s)	6	(s)	13
Croatia.....	2	2	0	0	4
Denmark.....	11	(s)	0	1	12
Finland.....	10	3	3	(s)	16
France.....	24	21	63	(s)	108
Germany.....	81	4	22	2	110
Greece.....	7	2	0	(s)	9
Ireland.....	4	(s)	0	(s)	4
Italy.....	50	13	0	1	64
Netherlands.....	19	(s)	(s)	(s)	20
Norway.....	(s)	27	0	(s)	27
Portugal.....	5	4	0	(s)	9
Serbia and Montenegro.....	8	4	0	0	12
Spain.....	24	12	7	(s)	43
Sweden.....	8	16	10	(s)	34
Switzerland.....	1	10	3	(s)	14
Turkey.....	12	10	0	(s)	22
United Kingdom.....	55	1	13	(s)	70
Other.....	4	3	1	(s)	8
Total.....	338	143	128	6	614
Eastern Europe & Former U.S.S.R.					
Bulgaria.....	7	1	4	0	12
Czech Republic.....	11	1	2	0	14
Hungary.....	6	(s)	2	0	8
Poland.....	28	2	0	0	30
Romania.....	16	6	1	0	23
Slovakia.....	3	2	2	0	7
Armenia.....	2	1	(s)	0	3
Azerbaijan.....	4	1	0	0	5
Belarus.....	7	(s)	0	0	7
Estonia.....	3	0	0	0	3
Georgia.....	2	3	0	0	5
Kazakhstan.....	17	2	(s)	0	19
Kyrgyzstan.....	1	3	0	0	4
Lithuania.....	3	1	3	0	6
Russia.....	141	44	21	(s)	206
Tajikistan.....	(s)	4	0	0	4
Turkmenistan.....	4	(s)	0	0	4
Ukraine.....	37	5	14	0	55
Uzbekistan.....	10	2	0	0	12
Other.....	2	3	0	0	5
Total.....	303	80	48	(s)	432

See footnotes at end of table.

Table 6.4 World Electricity Installed Capacity by Type, January 1, 1998 (Continued)
(Million Kilowatts)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
Middle East					
Bahrain.....	1	0	0	0	1
Cyprus.....	1	0	0	0	1
Iran.....	24	3	0	0	27
Iraq.....	9	1	0	0	10
Israel.....	4	(s)	0	0	4
Jordan.....	1	(s)	0	0	1
Kuwait.....	7	0	0	0	7
Lebanon.....	1	(s)	0	0	1
Oman.....	2	0	0	0	2
Qatar.....	1	0	0	0	1
Saudi Arabia.....	21	0	0	0	21
Syria.....	4	1	0	0	4
United Arab Emirates.....	5	0	0	0	5
Yemen.....	1	0	0	0	1
Total.....	83	5	0	0	87
Africa					
Algeria.....	6	(s)	0	0	6
Angola.....	(s)	(s)	0	0	1
Cameroon.....	(s)	1	0	0	1
Congo (Kinshasa).....	(s)	3	0	0	3
Cote d'Ivoire (Ivory Coast).....	(s)	1	0	0	1
Egypt.....	14	3	0	0	17
Ghana.....	(s)	1	0	0	1
Kenya.....	(s)	1	0	(s)	1
Libya.....	5	0	0	0	5
Morocco.....	3	1	0	0	4
Mozambique.....	(s)	2	0	0	2
Nigeria.....	4	2	0	0	6
South Africa.....	34	1	2	0	36
Sudan.....	(s)	(s)	0	0	1
Tanzania.....	(s)	(s)	0	0	1
Tunisia.....	2	(s)	0	0	2
Zambia.....	(s)	2	0	0	2
Zimbabwe.....	1	1	0	0	2
Other.....	3	2	0	(s)	4
Total.....	72	21	2	(s)	95
Far East & Oceania					
Australia.....	32	7	0	(s)	39
Bangladesh.....	3	(s)	0	0	3
Burma.....	1	(s)	0	0	1
China.....	192	60	2	0	254
Hong Kong.....	11	0	0	0	11
India.....	75	22	2	1	100
Indonesia.....	16	3	0	(s)	20
Japan.....	152	21	45	1	219
Korea, North.....	5	5	0	0	10
Korea, South.....	32	2	10	0	44
Malaysia.....	12	2	0	0	14
New Zealand.....	2	5	0	(s)	8
Pakistan.....	8	5	(s)	0	13
Philippines.....	8	2	0	2	12
Singapore.....	6	0	0	0	6
Sri Lanka.....	(s)	1	0	0	2
Taiwan.....	17	4	5	0	26
Thailand.....	14	3	0	(s)	17
Vietnam.....	2	3	0	0	5
Other.....	3	1	0	0	4
Total.....	590	147	65	4	807
World Total.....	2,066	678	359	30	3,133

¹ Thermal capacity consists of coal, oil, and gas.

² Geothermal and Other Capacity consists of geothermal, biomass, solar, and wind sources.

(s)=Value less than 500 thousand kilowatts.

Notes: Capacity data consist of both utility and nonutility sources. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

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Section 7

Prices

Table 7.1 Selected Crude Oil Prices, 1989-1999
(U.S. Dollars per Barrel)

Region	Country	Crude (API Gravity)	Sulfur Weight ¹	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
North America														
	Canada.....	Lloydminster (22)	2.2	9.97	14.98	19.27	11.38	15.95	11.58	16.44	18.24	24.44	13.36	7.90
	Mexico.....	Isthmus (33)	1.3	14.53	19.90	24.80	15.80	17.25	11.86	15.92	18.53	23.82	15.80	9.37
	Mexico.....	Maya (22)	3.4	10.63	17.05	20.00	10.75	12.50	9.01	13.77	15.79	19.33	10.81	6.38
	United States.....	West Texas Inter. (39)	0.3	16.75	21.70	27.20	18.70	19.75	14.20	17.60	19.80	25.50	17.80	11.50
	United States.....	U S Refiners' Acquisition Cost of Imported Crude Oil	--	16.04	20.51	22.30	16.10	16.80	12.93	16.56	17.51	23.05	14.55	10.16
Central & South America														
	Colombia.....	Cano Limon (31)	0.5	15.20	20.15	24.95	15.73	16.58	11.72	16.02	18.49	23.94	15.65	9.05
	Ecuador.....	Oriente (30)	0.9	13.56	18.81	22.87	13.94	15.62	11.60	16.17	18.20	22.85	14.90	8.50
	Venezuela.....	Tia Juana Light(31)	1.2	12.27	24.69	28.62	19.67	17.97	12.97	16.57	18.52	26.62	15.93	9.45
	Venezuela.....	Bachaquero (24)	1.6	11.45	16.87	27.89	13.94	14.88	11.12	15.25	17.64	24.74	--	--
	Venezuela.....	Bachaquero (17)	2.4	10.00	15.00	24.45	10.45	12.75	9.25	14.10	15.70	20.45	--	--
Western Europe														
	Norway.....	Ekofisk Blend (42)	0.2	15.85	20.75	27.25	18.00	18.15	13.20	15.95	19.45	24.30	16.50	10.60
	United Kingdom.....	Brent Blend (38)	0.4	15.80	21.00	27.20	17.75	17.90	13.15	16.15	19.37	24.05	15.89	10.44
Eastern Europe & Former U.S.S.R.														
	Russia.....	Urals (33)	1.3	14.55	20.25	26.05	16.55	16.30	12.35	16.40	19.47	22.85	15.79	10.09
Middle East														
	Iran.....	Iranian Light (34)	1.4	12.75	18.20	23.65	15.50	16.70	12.40	16.18	17.73	22.63	14.93	9.83
	Iraq.....	Kirkuk Blend (35)	2.0	14.40	19.45	--	--	--	--	--	--	--	--	8.79 ²
	Kuwait.....	Kuwait Blend (31)	2.5	12.30	17.35	--	--	15.30	11.10	15.58	17.40	21.83	14.90	9.38
	Oman	Oman (34)	1.2	13.40	18.05	23.65	15.20	16.65	12.70	16.35	17.80	22.30	15.35	9.95
	Qatar.....	Dukhan (42)	1.3	13.45	18.30	24.40	16.05	17.35	13.53	16.93	18.22	23.24	15.78	10.50
	Saudi Arabia.....	Arabian Light (33)	1.8	13.15	18.40	24.00	15.90	16.80	12.40	16.63	18.20	22.98	15.50	10.03
	Saudi Arabia.....	Arabian Medium (29)	2.9	12.30	17.55	22.00	14.25	15.40	11.20	15.73	17.40	21.93	14.90	9.63
	Saudi Arabia.....	Arabian Heavy (27)	2.8	11.90	17.15	20.00	13.15	14.40	10.10	15.13	17.05	21.08	14.00	9.28
	United Arab Emirates..	Murban (41)	0.8	13.70	19.05	24.65	16.80	18.15	14.09	17.31	18.81	24.06	16.27	10.50
Africa														
	Algeria.....	Saharan Blend (44)	0.1	16.10	21.15	28.85	18.80	18.60	13.80	16.30	19.79	24.75	16.90	10.78
	Angola.....	Cabinda (32)	0.1	14.40	19.65	25.35	16.65	17.35	12.28	15.42	18.67	23.70	16.05	9.90
	Egypt.....	Suez Blend (32)	1.5	12.75	16.75	24.25	15.20	14.75	10.55	14.60	17.65	21.80	15.05	9.00
	Gabon.....	Mandji (31)	1.1	14.00	19.05	23.25	14.55	15.60	11.10	14.75	17.80	22.30	14.45	9.13
	Libya.....	Es Sider (37)	0.5	15.40	20.40	26.90	17.20	17.55	12.55	16.05	19.20	24.10	16.72	10.65
	Nigeria.....	Bonny Light (36)	0.1	15.05	21.20	27.80	18.20	18.50	13.50	16.15	19.70	24.65	16.50	10.60
	Nigeria.....	Forcados (31)	0.2	15.95	21.35	27.30	18.10	17.95	13.60	16.15	19.70	24.75	16.50	10.40
Far East & Oceania														
	Australia.....	Gippsland (42)	--	16.00	19.65	26.75	21.35	18.60	14.40	16.90	19.40	24.95	16.95	10.60
	Brunei.....	Seria Light (37)	0.1	16.50	20.20	27.25	21.15	19.40	15.60	18.05	20.85	24.80	--	--
	China.....	Daqing (33)	0.1	15.30	18.15	26.10	18.50	19.00	13.20	16.90	19.95	25.00	16.60	9.85
	Indonesia.....	Minas (34)	0.1	15.50	18.55	26.50	18.65	19.10	14.15	16.95	20.05	24.95	16.50	9.95
	Malaysia.....	Tapis Blend (44)	0.1	16.75	20.35	27.60	21.45	19.50	15.70	17.60	20.89	25.70	16.00	12.40

¹ Percentage of sulfur contained by gross weight.

² Netback price at U.S. Gulf.

--=Not applicable.

(s)=No significant volume of exports.

Note: Most foreign crude oil prices are for the available date that is closest to January 1 of the year. The prices for crude oils from Brunei and Malaysia and the United States prices are averages for the month of January. The foreign crude oils are free on board (f.o.b.) at the port of lading. The United States refiner acquisition cost for imported crude oil includes all charges associated with the acquisition, transportation, and storage of imported crude oil up to the time that the oil is booked into the U.S. refineries.

Sources: Bloomberg L.P., Bloomberg Oil Buyers' Guide, various issues. Dow Jones & Co., The Wall Street Journal, various issues. Energy Information Administration, Weekly Petroleum Status Report, DOE/EIA-0208, various issues. The McGraw-Hill Companies, Inc., Platt's Oilgram Price Report, various issues. PennWell Publishing Co., Oil & Gas Journal, various issues. Petroleum and Energy Intelligence Weekly, Inc., Petroleum Intelligence Weekly and Oil Market Intelligence, various issues. Petroleum Intelligence Group, Petroleum Market Intelligence, various issues.

Table 7.2 World Survey of Recent Selected Petroleum Product Prices (Including Taxes)

Region Country	Date ¹	Automotive Fuels		Residential Fuels			Industrial Fuels	
		Premium Gasoline	Diesel Fuel	Light Fuel Oil	Kerosene	LPG ²	Light Fuel Oil	Heavy Fuel Oil
		U.S. Dollars per Gallon					U.S. Dollars per Barrel	
North America								
Canada	1Q/99	1.54	1.32	--	--	--	18.32	13.17
Mexico.....	4/99	1.80	1.49	0.33	--	0.76	15.42	9.15
United States.....	1/99	1.13	0.97	0.80	0.47	0.43	18.98	11.42
Central & South America								
Argentina.....	4/99	3.43	1.53	0.55	1.77	2.04	--	--
Barbados.....	4/99	2.52	2.26	0.47	1.00	0.84	--	--
Bolivia.....	4/99	1.97	1.32	0.85	0.72	0.47	--	--
Brazil.....	4/99	2.13	0.94	0.44	0.87	1.00	--	--
Chile.....	4/99	1.80	1.16	0.36	0.97	1.39	--	--
Colombia.....	4/99	1.58	0.92	0.30	0.83	0.33	--	--
Costa Rica.....	4/99	1.31	0.92	0.31	0.84	0.82	--	--
Cuba.....	4/99	1.89	0.66	0.40	0.32	0.49	--	--
Dominican Republic.....	4/99	1.49	0.85	0.50	1.16	0.20	--	--
Ecuador.....	4/99	2.14	0.93	0.29	--	0.39	--	--
El Salvador.....	4/99	2.03	1.13	0.58	0.89	0.69	--	--
Grenada.....	4/99	2.03	1.54	--	1.14	2.00	--	--
Guatemala.....	4/99	1.58	1.14	0.60	0.82	0.47	--	--
Guyana.....	4/99	1.01	0.91	0.54	0.71	1.59	--	--
Haiti.....	4/99	2.22	1.35	0.71	1.08	1.43	--	--
Honduras.....	4/99	1.85	1.15	0.67	0.91	0.94	--	--
Jamaica.....	4/99	1.38	1.24	0.45	1.05	1.14	--	--
Nicaragua.....	4/99	1.71	1.27	0.43	0.97	0.82	--	--
Panama.....	4/99	1.46	1.02	0.53	0.97	0.92	--	--
Paraguay.....	4/99	1.75	0.88	0.68	1.04	0.90	--	--
Peru.....	4/99	2.21	1.21	0.38	0.91	1.31	--	--
Suriname.....	4/99	2.11	1.55	0.25	1.36	1.47	--	--
Trinidad and Tobago.....	4/99	1.48	0.77	0.51	0.69	0.76	--	--
Uruguay.....	4/99	3.30	1.55	0.53	1.51	1.35	--	--
Venezuela.....	4/99	0.51	0.31	0.17	0.35	0.51	--	--
Western Europe								
Austria.....	1Q/99	3.30	2.14	1.08	--	--	--	--
Belgium.....	1Q/99	3.56	2.03	0.66	--	--	23.07	16.21
Denmark.....	1Q/99	3.84	2.31	2.42	--	--	43.69	21.66
Finland.....	1Q/99	3.82	2.20	1.06	--	--	36.33	24.65
France.....	1Q/99	3.79	2.23	1.21	--	--	34.50	14.94
Germany.....	1Q/99	3.36	2.03	0.84	--	--	30.42	15.00
Greece.....	1Q/99	2.55	1.72	0.90	--	--	32.02	23.14
Ireland.....	1Q/99	3.02	2.35	1.19	--	--	32.71	22.64
Italy.....	1Q/99	3.81	2.51	2.97	--	--	103.95	23.58
Luxembourg.....	1Q/99	2.70	1.88	0.74	--	--	27.57	15.91
Netherlands.....	1Q/99	4.03	2.32	1.48	--	--	--	22.88
Norway.....	1Q/99	4.28	3.14	1.74	--	--	56.67	43.76
Portugal.....	1Q/99	3.41	1.99	2.09	--	--	83.70	20.77
Spain.....	1Q/99	2.74	1.89	1.03	--	--	37.14	17.96
Sweden.....	1Q/99	3.68	2.32	1.83	--	--	30.85	--
Switzerland.....	1Q/99	2.97	2.52	0.64	--	--	20.03	16.52
Turkey.....	1Q/99	2.54	1.63	1.79	--	--	--	18.40
United Kingdom.....	1Q/99	3.97	3.47	0.72	--	--	25.89	19.18

See footnotes at end of table.

Table 7.2 World Survey of Recent Selected Petroleum Product Prices (Including Taxes) (Continued)

Region Country	Date ¹	Automotive Fuels		Residential Fuels			Industrial Fuels	
		Premium Gasoline	Diesel Fuel	Light Fuel Oil	Kerosene	LPG ²	Light Fuel Oil	Heavy Fuel Oil
		U.S. Dollars per Gallon					U.S. Dollars per Barrel	
Eastern Europe & Former U.S.S.R.								
Czech.....	1Q/99	2.34	1.58	1.13	--	--	31.90	8.64
Hungary.....	1Q/99	2.84	2.55	--	--	--	85.91	12.84
Kazakhstan.....	1997	1.25	--	0.61	--	--	21.73	10.00
Poland.....	1Q/99	1.89	1.21	0.80	--	--	20.46	9.33
Romania.....	1998	1.73	1.36	--	--	--	--	--
Russia.....	1998	1.78	1.35	--	--	--	--	--
Slovakia.....	1998	2.31	2.17	0.56	--	--	23.69	13.10
Middle East								
Kuwait.....	1997	0.05 ³	0.05	0.02	0.05	--	--	--
Qatar.....	1997	0.60 ³	0.57	--	0.42	--	--	--
Saudi Arabia.....	1997	0.61 ³	0.37	0.15	0.44	--	--	--
United Arab Emirates.....	1997	0.89 ³	0.75	0.58	0.79	--	--	--
Africa								
Algeria.....	1997	1.25 ³	0.74	0.63	0.28	--	--	--
Libya.....	1997	0.18 ³	0.16	0.02	0.11	--	--	--
South Africa.....	1/6/99	1.46	1.30	--	--	--	--	--
Far East & Oceania								
Australia.....	1Q/99	1.61	--	--	--	--	--	--
China.....	3/99	1.05	1.01	--	--	--	--	17.68
Hong Kong.....	1Q/99	5.22	2.73	1.06	1.45	2.16	63.82	44.74
India.....	1998	2.32 ³	1.01	0.23	--	--	--	19.52
Indonesia.....	1998	0.50	0.15	0.10	--	--	3.89	5.02
Japan.....	1Q/99	3.13 ³	1.95	1.33	--	--	36.78	24.12
Korea, South.....	1Q/99	3.68	1.46	1.21	--	--	--	25.15
New Zealand.....	1Q/99	1.74	0.80	--	--	--	29.26	29.73
Taiwan.....	1997	2.36	1.71	--	--	--	35.42	25.09
Thailand.....	1998	1.03	0.84	1.07	--	--	--	23.46

¹Data are for the available time period that is closest to January 1, 1999. Daily, monthly, quarterly, and annual data are averages. (1Q=first quarter)

²Liquefied petroleum gas (LPG) prices refer to residential propane or a mixture of propane and butane.

³Price is for regular gasoline.

--=Not applicable.

Note: 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, and market structures; and the extent to which the standard categories of sales are representative of total national sales for a given period.

Sources: Census and Statistics Department, *Hong Kong Energy Statistics, First Quarter, 1999*, 1999. Energy Information Administration, *Monthly Energy Review*, September 1999, and *Petroleum Marketing Monthly*, October 1999. Energy Research Institute, University of Cape Town, *Selected Energy Statistics, South Africa*, February 1999. International Energy Agency, *Energy Prices and Taxes, Second Quarter 1999*, 1999. Latin American Energy Organization, *Energy-Economic Information System*, various versions. Organization of Petroleum Exporting Countries, *Annual Statistical Bulletin 1997*, 1998. State Development Planning Commission, *China Energy*, May 1999.

Section 8

Energy Reserves

Table 8.1 World Crude Oil and Natural Gas Reserves, January 1, 1999

Region Country	Crude Oil (Billion Barrels)		Natural Gas (Trillion Cubic Feet)	
	Oil and Gas Journal	World Oil	Oil and Gas Journal	World Oil
North America				
Canada.....	4.9	5.6	63.9	63.6
Mexico.....	47.8	28.4	63.5	30.3
United States ¹	21.0	21.0	164.0	164.0
Total.....	73.8	55.0	291.4	257.9
Central & South America				
Argentina.....	2.6	2.8	24.1	24.2
Barbados.....	(s)	NA	(s)	NA
Bolivia.....	0.1	0.2	4.3	5.3
Brazil.....	7.1	7.5	8.0	8.7
Chile.....	0.2	0.1	3.5	2.7
Colombia.....	2.6	2.6	6.9	8.0
Cuba.....	0.3	0.2	0.6	(s)
Ecuador.....	2.1	2.6	3.7	3.7
Guatemala.....	0.5	NA	0.1	NA
Peru.....	0.8	0.8	7.0	7.1
Suriname.....	0.1	NA	0.0	NA
Trinidad and Tobago.....	0.5	0.6	18.3	19.8
Venezuela.....	72.6	45.5	142.5	146.6
Other.....	0.0	0.6	0.0	(s)
Total.....	89.5	63.4	219.1	226.1
Western Europe				
Austria.....	0.1	0.1	0.9	0.9
Croatia.....	0.1	0.1	1.2	1.2
Denmark.....	0.9	0.9	3.9	3.2
France.....	0.1	0.1	0.5	0.6
Germany.....	0.4	0.4	12.3	12.0
Greece.....	(s)	NA	0.3	NA
Ireland.....	0.0	0.0	0.7	NA
Italy.....	0.6	0.6	8.1	7.8
Netherlands.....	0.1	0.1	63.1	62.5
Norway.....	10.9	11.9	41.4	43.6
Serbia and Montenegro.....	0.1	0.1	1.7	0.6
Spain.....	(s)	NA	0.1	NA
Turkey.....	0.3	0.3	0.3	0.3
United Kingdom.....	5.2	5.2	27.0	26.7
Other.....	0.0	(s)	0.0	0.3
Total.....	18.9	19.8	161.5	159.8
Eastern Europe & Former U.S.S.R.				
Albania.....	0.2	0.2	0.1	0.1
Bulgaria.....	(s)	NA	0.2	NA
Czech Republic.....	(s)	(s)	0.1	0.1
Slovakia.....	(s)	NA	0.5	NA
Hungary.....	0.1	(s)	3.1	1.4
Poland.....	0.1	0.1	5.1	4.9
Romania.....	1.4	0.9	13.2	4.1
Azerbaijan.....	1.2	NA	4.4	NA
Kazakhstan.....	5.4	7.0	65.0	70.6
Russia.....	48.6	55.1	1,700.0	1,705.0
Turkmenistan.....	0.5	NA	101.0	NA
Ukraine.....	0.4	NA	39.6	NA
Uzbekistan.....	0.6	NA	66.2	NA
Other.....	0.3	4.7	0.8	129.9
Total.....	58.9	67.9	1,999.4	1,916.2

See footnotes at end of table.

Table 8.1 World Crude Oil and Natural Gas Reserves, January 1, 1999 (Continued)

Region Country	Crude Oil (Billion Barrels)		Natural Gas (Trillion Cubic Feet)	
	Oil and Gas Journal	World Oil	Oil and Gas Journal	World Oil
Middle East				
Bahrain.....	0.2	NA	4.2	NA
Iran.....	89.7	92.9	812.3	812.2
Iraq.....	112.5	99.0	109.8	112.6
Israel.....	(s)	NA	(s)	NA
Jordan.....	(s)	NA	0.2	NA
Kuwait. ²	96.5	94.7	52.7	56.4
Oman.....	5.3	5.6	28.4	29.1
Qatar.....	3.7	5.3	300.0	395.0
Saudi Arabia ²	261.5	261.4	204.5	208.0
Syria.....	2.5	2.3	8.5	8.4
United Arab Emirates.....	97.8	63.9	212.0	209.0
Yemen.....	4.0	1.9	16.9	17.0
Other.....	0.0	0.2	0.0	5.5
Total.....	673.6	627.1	1,749.5	1,853.2
Africa				
Algeria.....	9.2	13.0	130.3	137.5
Angola.....	5.4	4.0	1.6	1.7
Benin.....	(s)	NA	(s)	NA
Cameroon.....	0.4	0.7	3.9	3.9
Congo (Brazzaville).....	1.5	1.7	3.2	4.3
Congo (Kinshasa).....	0.2	NA	(s)	NA
Cote d'Ivoire (Ivory Coast).....	0.1	0.1	1.1	1.0
Egypt.....	3.5	3.7	31.5	37.2
Equatorial Guinea.....	(s)	NA	1.3	NA
Ethiopia.....	(s)	NA	0.9	NA
Gabon.....	2.5	2.6	1.2	3.5
Ghana.....	(s)	NA	0.8	NA
Libya.....	29.5	26.9	46.4	46.3
Madagascar.....	0.0	0.0	0.1	NA
Morocco.....	(s)	NA	0.1	NA
Mozambique.....	0.0	0.0	2.0	NA
Namibia.....	0.0	0.0	3.0	NA
Nigeria.....	22.5	22.5	124.0	124.0
Rwanda.....	0.0	0.0	2.0	NA
Somalia.....	0.0	0.0	0.2	NA
South Africa.....	(s)	NA	0.8	NA
Sudan.....	0.3	NA	3.0	NA
Tanzania.....	0.0	0.0	1.0	NA
Tunisia.....	0.3	0.3	2.8	2.3
Other.....	0.0	1.7	0.0	16.2
Total.....	75.4	77.2	361.1	377.9

See footnotes at end of table.

Table 8.1 World Crude Oil and Natural Gas Reserves, January 1, 1999 (Continued)

Region Country	Crude Oil (Billion Barrels)		Natural Gas (Trillion Cubic Feet)	
	Oil and Gas Journal	World Oil	Oil and Gas Journal	World Oil
Far East & Oceania				
Afghanistan.....	0.0	0.0	3.5	NA
Australia.....	2.9	1.8	44.6	28.4
Bangladesh.....	(s)	NA	10.6	NA
Brunei.....	1.4	1.0	13.8	9.6
Burma.....	0.1	0.2	10.0	15.0
China.....	24.0	33.5	48.3	42.4
India.....	4.0	3.0	19.0	12.9
Indonesia.....	5.0	8.6	72.3	77.1
Japan.....	0.1	NA	1.4	NA
Malaysia.....	3.9	4.6	81.7	85.8
New Zealand.....	0.1	0.1	2.5	2.2
Pakistan.....	0.2	0.2	21.6	21.6
Papua New Guinea.....	0.3	0.6	5.4	14.0
Philippines.....	0.2	0.3	2.9	3.5
Taiwan.....	(s)	NA	2.7	NA
Thailand.....	0.3	0.4	12.5	14.8
Vietnam.....	0.6	2.0	6.8	6.0
Other.....	0.0	0.8	0.0	20.8
Total.....	43.0	57.1	359.6	354.0
World Total.....	1,033.2	967.5	5,141.6	5,145.2

¹ Data for the United States are from the Energy Information Administration.

² Includes one-half of the reserves in the Neutral Zone.

NA = Not Available

(s) = Value less than 50 million barrels of crude oil or less than 50 billion cubic feet of natural gas.

Notes: Sum of components may not equal total due to independent rounding. All reserve data except those for the Former U.S.S.R. and natural gas reserves in Canada are proved reserves. Former U.S.S.R. data are "explored reserves," which are understood to be proved, and some probable. World Oil only reported disaggregated data for the Former U.S.S.R. Republics of Russia and Kazakhstan. Aggregated data for the other Republics of the Former U.S.S.R. were reported as 4.6 billion barrels of crude oil and 128.8 trillion cubic feet of natural gas.

Sources: PennWell Publishing Co., Oil and Gas Journal, Vol 96, No. 52, (December 1998). Gulf Publishing Co., World Oil, Vol 220, No. 8, (August 1999). Energy Information Administration, U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1998 Annual Report, DOE/EIA-0216(98) (December 1999).

Table 8.2 World Estimated Recoverable Coal
(Million Short Tons)

Region Country	Recoverable Anthracite and Bituminous ¹	Recoverable Lignite and Subbituminous ¹	Total Recoverable Coal ¹
North America			
Canada.....	4,970	4,535	9,505
Greenland.....	0	202	202
Mexico.....	948	387	1,335
United States.. ²	125,889	148,267	274,156
Total.....	131,807	153,390	285,197
Central & South America			
Argentina.....	0	143	143
Bolivia.....	1	0	1
Brazil.....	0	13,173	13,173
Chile.....	34	1,268	1,302
Colombia.....	7,020	420	7,439
Ecuador.....	0	26	26
Peru.....	1,058	110	1,168
Venezuela.....	528	0	528
Total.....	8,641	15,140	23,781
Western Europe			
Austria.....	0	28	28
Croatia.....	7	36	43
France.....	105	23	128
Germany.....	26,455	47,399	73,855
Greece.....	0	3,168	3,168
Ireland.....	15	0	15
Italy.....	0	37	37
Netherlands.....	548	0	548
Norway.....	0	7	7
Portugal.....	3	36	40
Serbia and Montenegro.....	71	18,087	18,157
Slovenia.....	0	65	65
Spain.....	220	507	728
Sweden.....	0	1	1
Turkey.....	495	690	1,185
United Kingdom.....	1,102	551	1,653
Total.....	29,022	70,636	99,658
Eastern Europe & Former U.S.S.R.			
Bulgaria.....	14	2,974	2,988
Czech Republic.....	2,880	3,929	6,809
Hungary.....	657	4,260	4,917
Kazakhstan.....	34,172	3,307	37,479
Kyrgyzstan.....	0	895	895
Poland.....	13,352	2,421	15,773
Romania.....	1	3,979	3,980
Russia.....	54,110	118,964	173,074
Slovakia.....	0	190	190
Ukraine.....	18,065	19,806	37,871
Uzbekistan.....	1,102	3,307	4,409
Total.....	124,354	164,032	288,386
Middle East			
Iran.....	213	0	213
Total.....	213	0	213

See footnotes at end of table.

Table 8.2 World Estimated Recoverable Coal (Continued)
(Million Short Tons)

Region Country	Recoverable Anthracite and Bituminous ¹	Recoverable Lignite and Subbituminous ¹	Total Recoverable Coal ¹
Africa			
Algeria.....	44	0	44
Botswana.....	4,754	0	4,754
Central African Republic....	0	4	4
Congo (Kinshasa).....	97	0	97
Egypt.....	0	24	24
Malawi.....	2	0	2
Morocco.....	6	0	6
Mozambique.....	265	0	265
Niger.....	77	0	77
Nigeria.....	23	186	209
South Africa.....	60,994	0	60,994
Swaziland.....	128	0	128
Tanzania.....	220	0	220
Zambia.....	0	61	61
Zimbabwe.....	809	0	809
Total.....	67,420	276	67,695
Far East & Oceania			
Afghanistan.....	73	0	73
Australia.....	52,139	47,510	99,649
Burma.....	2	0	2
China.....	68,564	57,651	126,215
India.....	80,174	2,205	82,379
Indonesia.....	849	4,905	5,754
Japan.....	865	0	865
Korea, North.....	331	331	661
Korea, South.....	90	0	90
Malaysia.....	4	0	4
Nepal.....	2	0	2
New Caledonia.....	2	0	2
New Zealand.....	32	597	629
Pakistan.....	0	3,228	3,228
Philippines.....	26	303	330
Taiwan.....	1	0	1
Thailand.....	0	2,205	2,205
Vietnam.....	165	0	165
Total.....	203,321	118,934	322,255
World Total.....	564,777	522,408	1,087,185

¹ World Energy Council definition of "Proved Recoverable Reserves": Proved Recoverable Reserves 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.

² Data represent both measured and indicated tonnage, as of January 1, 1999 (equated to December 31, 1998). 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 prior to depletion adjustments and cannot be recaptured as "measured alone."

--= Not applicable

Notes: Formerly entitled "World Estimated Recoverable Reserves of Coal." The estimates in this table are dependent on the judgment of each reporting country to interpret local economic conditions and its own mineral assessment criteria in terms of specified standards of the World Energy Council. Consequently, the data may not all meet the same standards of reliability and some data, including the Energy Information Administration's (EIA)'s, may not represent reserves of coal that are known to be recoverable under current economic conditions and regulations. Some data, including the EIA's, represent estimated recovery rates for highly reliable estimates of coal quantities in the ground that have physical characteristics like those of coals currently being profitably mined. U.S. coal rank approximations are based partly on Btu and may not match precisely borderline geologic ranks. Further, data in this table may represent different base years. Data for the U.S. represent recoverable coal estimates as of December 31, 1998. Data for other countries are as of December 31, 1996, the most recent period for which they are available. The Energy Information Administration does not certify the international reserves data but reproduces the information as a matter of convenience for the reader. Sum of components may not equal total due to independent rounding.

Sources: World Energy Council, 1998 Survey of Energy Resources, 1998. United States: Energy Information Administration. Unpublished File Data of the Coal Reserves Database (October 1999).

Appendix A

Geographical and Organizational Definitions

Appendix A

Geographical and Organizational Definitions

North America

Bermuda	Greenland	Saint Pierre and Miquelon
Canada	Mexico	United States

Central and South America

Antarctica	Dominican Republic	Nicaragua
Antigua and Barbuda	Ecuador	Panama
Argentina	El Salvador	Paraguay
Aruba	Falkland Islands	Peru
Bahamas, The	French Guiana	Puerto Rico
Barbados	Grenada	Saint Kitts and Nevis
Belize	Guadeloupe	Saint Lucia
Bolivia	Guatemala	Saint Vincent/Grenadines
Brazil	Guyana	Suriname
Cayman Islands	Haiti	Trinidad and Tobago
Chile	Honduras	Turks and Caicos Islands
Colombia	Jamaica	Uruguay
Costa Rica	Martinique	Venezuela
Cuba	Montserrat	Virgin Islands, British
Dominica	Netherlands Antilles	Virgin Islands, U.S.

Western Europe

Austria	Iceland	Switzerland
Belgium	Ireland	Turkey
Denmark	Italy	United Kingdom
Faroe Islands	Luxembourg	Former Yugoslavia
Finland	Malta	Bosnia and Herzegovina
France	Netherlands	Croatia
Germany	Norway	Macedonia, The Former Yugoslav
Germany, East	Portugal	Republic of (TFYR)
Germany, West	Spain	Serbia and Montenegro
Gibraltar	Sweden	Slovenia
Greece		

Eastern Europe and Former U.S.S.R.

Albania	Former U.S.S.R.	Latvia
Bulgaria	Armenia	Lithuania
Former Czechoslovakia	Azerbaijan	Moldova
Czech Republic	Belarus	Russia
Slovakia	Estonia	Tajikistan
Hungary	Georgia	Turkmenistan
Poland	Kazakhstan	Ukraine
Romania	Kyrgyzstan	Uzbekistan

Middle East

Bahrain	Jordan	Saudi Arabia
Cyprus	Kuwait	Syria
Iran	Lebanon	United Arab Emirates
Iraq	Oman	Yemen
Israel	Qatar	

Africa

Algeria	Gabon	Reunion
Angola	Gambia, The	Rwanda
Benin	Ghana	Saint Helena
Botswana	Guinea	Sao Tome and Principe
Burkina Faso	Guinea-Bissau	Senegal
Burundi	Kenya	Seychelles
Cameroon	Lesotho	Sierra Leone
Cape Verde	Liberia	Somalia
Central African Republic	Libya	South Africa
Chad	Madagascar	Sudan
Comoros	Malawi	Swaziland
Congo (Brazzaville)	Mali	Tanzania
Congo (Kinshasa)	Mauritania	Togo
Cote d'Ivoire (Ivory Coast)	Mauritius	Tunisia
Djibouti	Morocco	Uganda
Egypt	Mozambique	Western Sahara
Equatorial Guinea	Namibia	Zambia
Eritrea	Niger	Zimbabwe
Ethiopia	Nigeria	

Far East and Oceania

Afghanistan	India	Niue
American Samoa	Indonesia	Pakistan
Australia	Japan	Papua New Guinea
Bangladesh	Kiribati	Philippines
Bhutan	Korea, North	Samoa
Brunei	Korea, South	Singapore
Burma	Laos	Solomon Islands
Cambodia	Macau	Sri Lanka
China	Malaysia	Taiwan
Cook Islands	Maldives	Thailand
Fiji	Mongolia	Tonga
French Polynesia	Nauru	U.S. Pacific Islands ³
Guam	Nepal	Vanuatu
Hawaiian Trade Zone ¹	New Caledonia	Vietnam
Hong Kong ²	New Zealand	Wake Island

Organization for Economic Cooperation and Development (OECD)⁴

Australia	Greenland	New Zealand
Austria	Guam	Norway
Belgium	Hawaiian Trade Zone ¹	Poland
Canada	Hungary	Portugal
Czech Republic	Iceland	Puerto Rico
Denmark	Ireland	Spain
Faroe Islands	Italy	Sweden
Finland	Japan	Switzerland
France	Korea, South	Turkey
Germany	Luxembourg	United Kingdom
Germany, East	Mexico	United States
Germany, West	Netherlands	Virgin Islands, U.S.
Greece		

OECD Europe

Austria	Germany, West	Norway
Belgium	Greece	Poland
Czech Republic	Hungary	Portugal
Denmark	Iceland	Spain
Faroe Islands	Ireland	Sweden
Finland	Italy	Switzerland
France	Luxembourg	Turkey
Germany	Netherlands	United Kingdom
Germany, East		

¹As of January 1, 1987, Hawaiian Trade Zone data are included in the United States data.

²Under a Sino-British declaration of September 1984, Hong Kong reverted to Chinese control on July 1, 1997. It is now a semi-autonomous entity that exists pursuant to international agreement and maintains its own government apart from the People's Republic of China.

³Includes data for three independent countries - Federated States of Micronesia, Republic of the Marshall Islands, and Republic of Palau - and a United States territory, Commonwealth of the Northern Mariana Islands.

⁴Membership is as of December 31, 1998.

International Energy Agency (IEA)¹

Australia	Greece	Norway
Austria	Greenland	Portugal
Belgium	Guam	Puerto Rico
Canada	Hawaiian Trade Zone ²	Spain
Denmark	Hungary	Sweden
Faroe Islands	Ireland	Switzerland
Finland	Italy	Turkey
France	Japan	United Kingdom
Germany	Luxembourg	United States
Germany, East	Netherlands	Virgin Islands, U.S.
Germany, West	New Zealand	

European Union (EU)³

Austria	Germany	Luxembourg
Belgium	Germany, East	Netherlands
Denmark	Germany, West	Portugal
Faroe Islands	Greece	Spain
Finland	Ireland	Sweden
France	Italy	United Kingdom

Former U.S.S.R.

Armenia	Kazakhstan	Russia
Azerbaijan	Kyrgyzstan	Tajikistan
Belarus	Latvia	Turkmenistan
Estonia	Lithuania	Ukraine
Georgia	Moldova	Uzbekistan

Organization of Petroleum Exporting Countries (OPEC)³

Algeria	Kuwait	Saudi Arabia
Indonesia	Libya	United Arab Emirates
Iran	Nigeria	Venezuela
Iraq	Qatar	

¹Membership is as of December 31, 1998.

²As of January 1, 1987, Hawaiian Trade Zone data are included in the United States data.

³Membership is as of December 31, 1998.

Appendix B

**World Population
and Gross Domestic
Product, 1989-1998**

Table B1 World Population, 1989 - 1998
(Millions)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Bermuda.....	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Canada.....	27.29	27.70	28.03	28.38	28.70	29.04	29.35	29.67	30.01	30.30
Greenland.....	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Mexico.....	84.27	86.15	87.84	89.54	91.21	93.01	94.85	96.58	98.40	100.24
Saint Pierre and Miquelon.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
United States.....	246.82	249.44	252.13	255.00	257.75	260.29	262.77	265.19	267.74	270.30
Total.....	358.51	363.42	368.12	373.04	377.78	382.47	387.09	391.57	396.28	400.97
Central & South America										
Antigua and Barbuda.....	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07
Argentina.....	32.08	32.53	32.97	33.42	33.87	34.32	34.77	35.22	35.67	36.12
Aruba.....	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.09	0.09	0.09
Bahamas, The.....	0.25	0.26	0.26	0.26	0.27	0.27	0.28	0.28	0.29	0.30
Barbados.....	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.27
Belize.....	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.24
Bolivia.....	6.43	6.57	6.73	6.90	7.07	7.24	7.41	7.59	7.77	7.95
Brazil.....	142.31	144.72	147.07	149.36	151.57	153.73	155.82	157.87	159.64	161.79
Cayman Islands.....	0.26	0.27	0.28	0.29	0.30	0.32	0.33	0.35	0.36	0.38
Chile.....	12.96	13.10	13.32	13.54	13.77	13.99	14.20	14.42	14.62	14.82
Colombia.....	34.31	34.97	35.69	36.41	37.13	37.85	38.54	39.30	40.06	40.83
Costa Rica.....	2.92	3.00	3.07	3.14	3.20	3.27	3.33	3.40	3.46	3.53
Cuba.....	10.52	10.62	10.74	10.83	10.90	10.95	10.98	11.02	11.07	11.12
Dominica.....	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Dominican Republic.....	7.02	7.17	7.32	7.47	7.62	7.77	7.91	8.05	8.19	8.33
Ecuador.....	10.03	10.26	10.50	10.74	10.98	11.22	11.46	11.70	11.94	12.17
El Salvador.....	5.19	5.27	5.35	5.43	5.52	5.64	5.73	5.82	5.91	6.03
Falkland Islands.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
French Guiana.....	0.11	0.12	0.12	0.13	0.13	0.14	0.15	0.15	0.16	0.17
Grenada.....	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.09	0.09
Guadeloupe.....	0.38	0.39	0.40	0.41	0.41	0.42	0.42	0.43	0.44	0.44
Guatemala.....	8.94	9.20	9.47	9.74	10.03	10.32	10.62	10.93	11.24	11.52
Guyana.....	0.79	0.80	0.80	0.81	0.82	0.82	0.83	0.84	0.85	0.85
Haiti.....	6.36	6.49	6.62	6.76	6.90	7.04	7.18	7.34	7.49	7.65
Honduras.....	4.60	4.76	4.92	5.08	5.25	5.42	5.60	5.79	5.98	6.18
Jamaica.....	2.45	2.47	2.49	2.51	2.53	2.55	2.57	2.60	2.62	2.64
Martinique.....	0.37	0.37	0.38	0.38	0.39	0.39	0.39	0.40	0.40	0.41
Montserrat.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Netherlands Antilles.....	0.19	0.19	0.19	0.19	0.19	0.20	0.20	0.21	0.21	0.21
Nicaragua.....	3.74	3.87	4.00	4.13	4.26	4.40	4.54	4.69	4.85	4.99
Panama.....	2.35	2.40	2.44	2.49	2.53	2.58	2.63	2.67	2.72	2.76
Paraguay.....	4.09	4.22	4.33	4.45	4.57	4.70	4.83	4.96	5.09	5.22
Peru.....	21.11	21.57	22.00	22.45	22.74	23.13	23.53	23.95	24.37	24.80
Puerto Rico.....	3.50	3.53	3.55	3.58	3.62	3.65	3.69	3.73	3.77	3.81
Saint Kitts and Nevis.....	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Saint Lucia.....	0.14	0.13	0.13	0.14	0.14	0.14	0.14	0.14	0.15	0.15
Saint Vincent/Grenadines.....	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Suriname.....	0.40	0.40	0.40	0.40	0.40	0.40	0.41	0.41	0.42	0.41
Trinidad and Tobago.....	1.21	1.22	1.23	1.24	1.25	1.26	1.27	1.28	1.29	1.30
Turks and Caicos Islands.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02
Uruguay.....	3.09	3.11	3.13	3.15	3.17	3.20	3.22	3.24	3.27	3.29
Venezuela.....	18.87	19.50	19.97	20.44	20.91	21.38	21.84	22.31	22.78	23.24
Virgin Islands, British.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Virgin Islands, U.S.....	0.10	0.10	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12
Total.....	347.99	354.53	360.91	367.34	373.53	379.81	385.94	392.22	398.23	404.56

See footnotes at end of table.

Table B1 World Population, 1989 - 1998 (Continued)
(Millions)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Western Europe										
Austria.....	7.66	7.73	7.81	7.91	7.99	8.03	8.05	8.06	8.07	8.08
Belgium.....	9.94	9.97	9.98	10.05	10.08	10.09	10.14	10.16	10.19	10.21
Denmark.....	5.13	5.14	5.15	5.17	5.19	5.20	5.23	5.26	5.28	5.30
Faroe Islands.....	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04
Finland.....	4.96	4.99	5.01	5.04	5.07	5.09	5.11	5.12	5.14	5.15
France.....	56.42	56.73	57.05	57.37	57.65	57.90	58.14	58.37	58.61	58.85
Germany.....	--	--	79.98	80.57	81.19	81.42	81.66	81.90	82.05	82.03
Germany, East.....	16.63	16.25	--	--	--	--	--	--	--	--
Germany, West.....	61.99	63.23	--	--	--	--	--	--	--	--
Gibraltar.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Greece.....	10.09	10.16	10.25	10.32	10.38	10.43	10.45	10.48	10.50	10.52
Iceland.....	0.25	0.25	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27
Ireland.....	3.51	3.52	3.53	3.55	3.57	3.59	3.60	3.63	3.66	3.70
Italy.....	56.70	56.74	56.80	56.86	57.05	57.20	57.30	57.33	57.37	57.40
Luxembourg.....	0.38	0.38	0.39	0.39	0.40	0.40	0.41	0.42	0.42	0.42
Malta.....	0.35	0.35	0.36	0.36	0.36	0.36	0.37	0.37	0.38	0.38
Netherlands.....	14.85	14.95	15.07	15.18	15.29	15.38	15.46	15.53	15.60	15.69
Norway.....	4.23	4.24	4.26	4.29	4.31	4.33	4.36	4.38	4.41	4.43
Portugal.....	9.88	9.87	9.87	9.86	9.88	9.90	9.92	9.93	9.93	9.93
Spain.....	38.79	38.85	38.92	39.01	39.09	39.15	39.21	39.27	39.32	39.37
Sweden.....	8.49	8.56	8.62	8.67	8.72	8.78	8.83	8.84	8.85	8.85
Switzerland.....	6.65	6.71	6.80	6.88	6.94	6.99	7.04	7.07	7.09	7.10
Turkey.....	54.89	56.47	57.06	57.93	58.81	59.71	60.61	61.54	62.51	63.45
United Kingdom.....	57.36	57.56	57.81	58.01	58.19	58.39	58.47	58.65	58.82	58.97
Former Yugoslavia.....	23.69	23.82	23.93	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	4.41	4.43	4.46	4.48	4.51	4.20	4.21
Croatia.....	--	--	--	4.71	4.69	4.72	4.70	4.66	4.67	4.67
Macedonia, TFYR.....	--	--	--	2.06	2.07	1.95	1.97	1.98	2.00	2.01
Serbia and Montenegro.....	--	--	--	10.45	10.48	10.52	10.55	10.58	10.60	10.62
Slovenia.....	--	--	--	2.00	1.99	1.99	1.99	1.99	1.99	1.98
Total.....	452.92	456.55	458.98	461.39	464.16	466.33	468.39	470.37	471.99	473.66
Eastern Europe & Former U.S.S.R.										
Albania.....	3.20	3.26	3.32	3.36	3.48	3.55	3.61	3.67	3.73	3.79
Bulgaria.....	8.99	8.97	8.91	8.87	8.49	8.45	8.40	8.35	8.29	8.24
Former Czechoslovakia.....	15.64	15.66	15.68	15.67	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	10.33	10.34	10.33	10.32	10.30	10.29
Slovakia.....	--	--	--	--	5.32	5.35	5.36	5.37	5.38	5.39
Hungary.....	10.40	10.36	10.35	10.32	10.29	10.26	10.23	10.19	10.15	10.11
Poland.....	37.96	38.12	38.24	38.37	38.46	38.54	38.59	38.62	38.65	38.67
Romania.....	23.15	23.21	23.19	22.79	22.76	22.73	22.68	22.61	22.55	22.51
Former U.S.S.R.....	285.86	290.10	292.05	--	--	--	--	--	--	--
Armenia.....	--	--	--	3.69	3.73	3.75	3.76	3.77	3.79	3.80
Azerbaijan.....	--	--	--	7.33	7.40	7.46	7.51	7.55	7.61	7.64
Belarus.....	--	--	--	10.31	10.36	10.31	10.28	10.25	10.22	10.19
Estonia.....	--	--	--	1.53	1.51	1.49	1.48	1.46	1.45	1.43
Georgia.....	--	--	--	5.45	5.44	5.43	5.42	5.41	5.43	5.44
Kazakhstan.....	--	--	--	16.52	16.48	16.30	16.07	15.92	15.83	15.60
Kyrgyzstan.....	--	--	--	4.49	4.48	4.49	4.51	4.57	4.64	4.70
Latvia.....	--	--	--	2.63	2.59	2.55	2.51	2.49	2.47	2.45
Lithuania.....	--	--	--	3.74	3.73	3.72	3.71	3.71	3.71	3.70
Moldova.....	--	--	--	4.45	4.46	4.46	4.46	4.46	4.46	4.46
Russia.....	--	--	--	148.31	148.15	147.97	148.14	147.74	147.10	146.54
Tajikistan.....	--	--	--	5.57	5.64	5.74	5.84	5.92	6.05	6.10
Turkmenistan.....	--	--	--	4.03	4.31	4.41	4.51	4.57	4.64	4.86
Ukraine.....	--	--	--	52.06	52.24	52.11	51.73	51.33	50.89	50.50
Uzbekistan.....	--	--	--	21.21	21.70	22.19	22.56	23.01	23.56	24.05
Total.....	385.20	389.68	391.74	390.69	391.35	391.60	391.69	391.28	390.90	390.46

See footnotes at end of table.

Table B1 World Population, 1989 - 1998 (Continued)
(Millions)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Bahrain.....	0.49	0.50	0.51	0.52	0.54	0.56	0.58	0.60	0.62	0.64
Cyprus.....	0.67	0.68	0.69	0.71	0.72	0.73	0.73	0.74	0.74	0.75
Iran.....	53.19	54.50	55.84	57.15	58.49	59.78	60.28	61.13	61.69	62.63
Iraq.....	17.43	18.08	18.51	18.90	19.26	19.65	20.09	20.61	21.18	21.80
Israel.....	4.52	4.66	4.95	5.12	5.26	5.40	5.54	5.70	5.83	5.97
Jordan.....	4.50	4.62	4.80	5.02	5.26	5.51	5.73	5.94	6.13	6.30
Kuwait.....	2.05	2.14	2.09	1.42	1.46	1.62	1.80	1.89	1.98	2.03
Lebanon.....	2.54	2.56	2.61	2.70	2.81	2.92	3.01	3.08	3.14	3.19
Oman.....	1.56	1.63	1.76	1.88	2.00	2.05	2.13	2.21	2.26	2.29
Qatar.....	0.46	0.49	0.51	0.53	0.56	0.59	0.61	0.63	0.67	0.70
Saudi Arabia.....	14.43	14.87	16.54	16.96	17.35	17.71	18.25	18.83	19.48	20.17
Syria.....	11.72	12.12	12.53	12.96	13.39	13.84	14.15	14.62	15.10	15.60
United Arab Emirates.....	1.86	1.92	1.98	2.04	2.10	2.16	2.31	2.44	2.58	2.72
Yemen.....	10.95	11.28	11.61	11.95	12.30	12.67	13.05	13.50	13.98	14.45
Total.....	126.37	130.05	134.93	137.86	141.50	145.19	148.26	151.92	155.38	159.23
Africa										
Algeria.....	24.33	25.02	25.64	26.27	26.89	27.50	28.06	28.57	29.05	29.80
Angola.....	9.24	9.74	10.23	10.41	10.58	10.67	10.82	11.19	11.57	11.92
Benin.....	4.61	4.74	4.89	4.98	5.08	5.24	5.41	5.59	5.83	6.04
Botswana.....	1.24	1.30	1.33	1.36	1.39	1.42	1.46	1.50	1.53	1.57
Burkina Faso.....	8.77	9.00	9.19	9.43	9.68	9.89	10.20	10.78	11.09	11.27
Burundi.....	5.30	5.46	5.62	5.74	5.81	5.90	5.98	6.09	6.19	6.30
Cameroon.....	11.54	11.68	11.81	12.14	12.48	12.83	13.28	13.55	13.92	14.31
Cape Verde.....	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42
Central African Republic.....	2.96	3.01	3.04	3.08	3.16	3.23	3.31	3.40	3.48	3.55
Chad.....	5.56	5.69	5.82	5.96	6.09	6.21	6.33	6.52	6.70	6.88
Comoros.....	0.52	0.53	0.54	0.56	0.57	0.59	0.61	0.63	0.65	0.67
Congo (Brazzaville).....	2.16	2.23	2.30	2.37	2.44	2.52	2.59	2.67	2.75	2.81
Congo (Kinshasa).....	34.49	35.56	36.67	38.94	42.28	43.93	45.45	46.81	48.04	49.46
Cote d'Ivoire (Ivory Coast).....	11.26	11.72	12.19	12.67	13.18	13.70	14.23	14.78	15.30	15.68
Djibouti.....	0.50	0.52	0.54	0.55	0.57	0.58	0.60	0.62	0.63	0.64
Egypt.....	51.48	52.69	53.92	55.54	56.49	57.85	59.23	60.60	62.01	63.18
Equatorial Guinea.....	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.43
Eritrea.....	--	--	--	--	--	3.22	3.32	3.43	3.59	3.71
Ethiopia.....	50.17	51.69	53.38	55.12	56.90	54.94	55.65	56.37	58.12	59.88
Gabon.....	0.91	0.93	0.96	0.99	1.02	1.05	1.08	1.11	1.14	1.19
Gambia, The.....	0.88	0.92	0.96	0.99	1.03	1.08	1.11	1.15	1.19	1.23
Ghana.....	14.67	15.13	15.61	16.11	16.63	17.14	17.65	18.15	18.66	19.16
Guinea.....	5.53	5.75	6.05	6.40	6.76	7.09	7.35	7.52	7.61	7.68
Guinea-Bissau.....	0.95	0.97	0.99	1.02	1.04	1.06	1.09	1.11	1.14	1.16
Kenya.....	24.87	25.03	25.91	26.98	28.11	29.29	30.52	31.80	33.14	33.78
Lesotho.....	1.70	1.78	1.83	1.88	1.93	1.98	2.03	2.08	2.13	2.17
Liberia.....	2.40	2.46	2.52	2.58	2.64	2.70	2.76	2.81	2.88	2.96
Libya.....	3.98	4.15	4.33	4.51	4.70	4.90	5.21	5.59	5.78	5.92
Madagascar.....	12.22	12.50	12.99	13.50	13.95	14.41	14.87	15.35	15.85	16.30
Malawi.....	8.02	8.29	8.56	8.82	9.13	9.46	9.79	10.14	10.44	10.62
Mali.....	8.05	8.23	8.42	8.57	8.73	8.93	9.18	9.48	9.79	10.11
Mauritania.....	1.95	2.00	2.04	2.11	2.15	2.21	2.28	2.35	2.39	2.45
Mauritius.....	1.02	1.03	1.04	1.05	1.06	1.08	1.09	1.13	1.15	1.16
Morocco.....	23.70	24.18	24.65	25.12	25.58	26.07	26.39	26.85	27.31	27.78
Mozambique.....	13.96	14.15	14.47	14.80	15.13	15.47	15.82	16.18	16.54	16.92
Namibia.....	1.31	1.35	1.39	1.42	1.46	1.50	1.54	1.58	1.61	1.66
Niger.....	7.49	7.73	7.99	8.26	8.56	8.85	9.15	9.47	9.79	10.08
Nigeria.....	84.72	87.03	89.36	91.72	94.11	96.52	98.95	101.41	103.90	106.41
Reunion.....	0.59	0.60	0.61	0.62	0.63	0.64	0.65	0.66	0.67	0.68
Rwanda.....	7.01	7.18	7.36	7.55	7.72	6.68	5.98	6.27	7.72	7.96
Saint Helena.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Sao Tome and Principe.....	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.14	0.14	0.14
Senegal.....	7.10	7.30	7.50	7.70	7.91	8.13	8.57	8.80	9.04	9.28
Seychelles.....	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08
Sierra Leone.....	3.91	3.99	4.04	4.06	4.08	4.12	4.19	4.29	4.42	4.57
Somalia.....	8.55	8.68	8.78	8.86	8.95	9.08	9.25	9.47	9.82	10.24
South Africa.....	36.24	37.07	38.01	38.82	39.63	40.44	41.24	42.39	43.34	44.13
Sudan.....	24.99	25.75	26.53	27.32	28.13	28.95	29.71	30.29	30.90	31.81

Table B1 World Population, 1989 - 1998 (Continued)
(Millions)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Swaziland.....	0.74	0.77	0.80	0.83	0.85	0.88	0.91	0.94	0.97	0.99
Tanzania.....	24.80	25.63	26.36	27.30	28.25	29.17	30.34	30.80	31.51	32.26
Togo.....	3.41	3.51	3.62	3.73	3.84	3.93	4.06	4.17	4.28	4.40
Tunisia.....	7.97	8.15	8.32	8.48	8.66	8.81	8.96	9.09	9.21	9.33
Uganda.....	16.06	16.46	16.90	17.34	17.88	18.41	19.26	19.85	20.44	21.03
Western Sahara.....	0.22	0.23	0.24	0.25	0.26	0.27	0.28	0.28	0.28	0.29
Zambia.....	6.80	7.07	7.39	7.60	7.80	8.00	8.19	8.39	8.59	8.78
Zimbabwe.....	9.74	9.96	10.16	10.36	10.56	10.61	10.65	10.78	10.92	11.04
Total.....	601.46	617.43	634.70	653.70	673.40	690.10	707.62	725.87	746.05	764.28
Far East & Oceania										
Afghanistan.....	15.81	16.12	16.43	16.79	17.32	18.47	19.66	20.88	22.13	23.11
American Samoa.....	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06
Australia.....	16.81	17.06	17.28	17.49	17.67	17.85	18.07	18.31	18.52	18.75
Bangladesh.....	106.51	108.12	109.88	112.71	114.84	116.49	118.23	120.07	122.01	123.99
Bhutan.....	1.52	1.54	1.57	1.58	1.60	1.61	1.64	1.71	1.76	1.80
Brunei.....	0.25	0.25	0.26	0.27	0.28	0.28	0.29	0.30	0.31	0.31
Burma.....	40.92	41.35	41.55	42.33	43.12	43.92	44.80	45.92	46.40	47.18
Cambodia.....	8.45	8.57	8.81	9.05	9.31	9.57	9.84	10.27	10.52	11.44
China.....	1,139.20	1,155.30	1,170.10	1,183.60	1,196.40	1,208.80	1,220.52	1,232.46	1,244.20	1,255.70
Cook Islands.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Fiji.....	0.72	0.73	0.74	0.75	0.77	0.78	0.80	0.80	0.81	0.82
French Polynesia.....	0.19	0.20	0.20	0.21	0.21	0.21	0.22	0.22	0.23	0.23
Guam.....	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.15
Hong Kong.....	5.69	5.70	5.75	5.80	5.90	6.04	6.16	6.31	6.50	6.69
India.....	817.49	834.70	851.66	867.82	883.91	899.95	915.97	939.41	955.12	970.93
Indonesia.....	178.14	180.48	182.94	186.04	189.13	192.22	195.28	198.34	201.39	204.42
Japan.....	123.07	123.48	123.96	124.42	124.83	125.18	125.47	125.76	126.07	126.41
Kiribati.....	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08
Korea, North.....	20.13	20.46	20.80	21.15	21.51	21.87	22.24	22.61	22.98	23.35
Korea, South.....	42.45	42.87	43.30	43.75	44.19	44.64	45.09	45.54	45.99	46.43
Laos.....	4.03	4.15	4.27	4.40	4.52	4.65	4.77	4.90	5.03	5.16
Macau.....	0.33	0.33	0.35	0.37	0.38	0.40	0.41	0.42	0.42	0.43
Malaysia.....	17.35	17.76	18.33	18.76	19.21	19.66	20.11	20.55	21.00	21.39
Maldives.....	0.21	0.22	0.22	0.23	0.24	0.25	0.25	0.26	0.27	0.27
Mongolia.....	2.07	2.12	2.17	2.20	2.23	2.27	2.30	2.34	2.37	2.40
Nauru.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nepal.....	17.74	18.11	18.88	19.26	19.81	20.28	20.81	21.36	21.82	22.59
New Caledonia.....	0.17	0.17	0.17	0.18	0.18	0.19	0.19	0.20	0.20	0.20
New Zealand.....	3.33	3.36	3.48	3.51	3.55	3.60	3.66	3.71	3.76	3.79
Niue.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Pakistan.....	109.14	112.40	115.77	119.23	122.79	126.47	130.25	134.15	138.16	141.58
Papua New Guinea.....	3.63	3.70	3.77	3.85	3.92	4.00	4.07	4.16	4.21	4.31
Philippines.....	60.10	61.48	63.69	65.34	66.98	68.62	70.27	71.90	73.53	75.15
Samoa.....	0.16	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17
Singapore.....	2.93	3.02	3.09	3.18	3.26	3.36	3.47	3.61	3.74	3.87
Solomon Islands.....	0.31	0.32	0.33	0.34	0.35	0.37	0.38	0.39	0.40	0.42
Sri Lanka.....	16.83	17.02	17.27	17.43	17.65	17.89	18.14	18.32	18.55	18.77
Taiwan.....	20.11	20.35	20.56	20.75	20.94	21.13	21.30	21.47	21.60	21.79
Thailand.....	55.21	55.84	56.57	57.29	58.01	58.71	59.40	60.00	60.60	61.20
Tonga.....	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
U.S. Pacific Islands.....	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Vanuatu.....	0.14	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.18
Vietnam.....	64.77	66.23	67.77	69.41	71.03	72.51	73.96	75.36	76.39	77.56
Wake Island.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	2,896.30	2,944.22	2,992.64	3,040.21	3,086.79	3,132.99	3,178.81	3,232.79	3,277.79	3,323.24
World Total.....	5,168.75	5,255.87	5,342.03	5,424.23	5,508.50	5,588.48	5,667.81	5,756.03	5,836.62	5,916.39

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5000.

Notes: Sum of components may not equal total due to independent rounding.

Sources: The United Nations, Monthly Bulletin of Statistics, various issues. U.S. Department of Commerce, Bureau of the Census, International Data Base. International Monetary Fund, International Financial Statistics, various issues.

Table B2 World Gross Domestic Product at Market Exchange Rates, 1989 - 1998

(Millions of 1990 U.S. Dollars)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Bermuda.....	--	--	--	--	--	--	--	--	--	--
Canada.....	575,154	573,800	563,550	567,861	580,468	604,097	618,152	628,317	655,896	675,489
Greenland.....	--	--	--	--	--	--	--	--	--	--
Mexico.....	250,000	262,673	273,765	283,697	289,232	302,001	283,377	298,048	318,848	334,220
Saint Pierre and Miquelon.....	--	--	--	--	--	--	--	--	--	--
United States.....	5,674,252	5,743,800	5,690,540	5,844,986	5,980,898	6,187,856	6,329,197	6,547,387	6,804,797	7,068,853
Central & South America										
Antigua and Barbuda.....	323	334	400	403	425	452	433	458	--	--
Argentina.....	141,262	141,352	156,189	171,363	181,136	195,632	187,768	196,755	213,669	222,718
Aruba.....	--	--	--	--	--	--	--	--	--	--
Bahamas, The.....	3,006	3,134	2,922	2,698	2,635	2,700	2,675	--	--	--
Barbados.....	1,769	1,710	1,641	1,541	1,562	1,625	1,671	1,739	1,792	--
Belize.....	364	402	415	450	469	481	500	507	526	534
Bolivia.....	4,677	4,867	5,123	5,208	5,430	5,684	5,949	6,209	6,485	6,793
Brazil.....	459,783	438,808	466,948	466,989	495,169	519,324	539,452	555,556	575,684	576,973
Cayman Islands.....	--	--	--	--	--	--	--	--	--	--
Chile.....	29,427	30,387	32,723	36,740	39,307	41,551	45,967	49,353	52,838	54,642
Colombia.....	38,621	40,274	41,082	42,741	45,042	47,666	50,443	51,478	53,074	--
Costa Rica.....	5,513	5,709	5,838	6,290	6,688	6,988	7,155	7,109	7,335	7,788
Cuba.....	14,500	14,100	12,500	11,100	9,500	9,600	9,800	10,500	10,700	--
Dominica.....	156	166	170	175	178	--	--	--	--	--
Dominican Republic.....	7,483	7,074	7,142	7,716	7,947	8,293	8,690	9,323	10,084	10,816
Ecuador.....	10,374	10,685	11,222	11,622	11,857	12,376	12,663	13,035	13,439	--
El Salvador.....	4,394	4,544	4,706	5,062	5,434	5,763	6,132	6,236	6,500	6,708
French Guiana.....	--	--	--	--	--	--	--	--	--	--
Grenada.....	210	221	228	229	--	--	--	--	--	--
Guadeloupe.....	--	--	--	--	--	--	--	--	--	--
Guatemala.....	7,419	7,650	7,929	8,314	8,640	8,988	9,433	9,710	10,105	10,587
Guyana.....	416	397	420	453	490	--	--	--	--	--
Haiti.....	2,786	2,791	2,923	2,538	2,476	2,270	2,370	2,434	2,461	2,534
Honduras.....	6,263	6,269	6,473	6,837	7,263	7,168	7,460	7,735	8,079	8,325
Jamaica.....	4,026	4,246	4,277	4,342	4,405	4,454	4,474	4,396	4,292	4,262
Martinique.....	--	--	--	--	--	--	--	--	--	--
Montserrat.....	--	--	--	--	--	--	--	--	--	--
Netherlands Antilles.....	1,600	1,700	1,700	1,700	1,700	1,800	1,800	1,900	1,900	--
Nicaragua.....	1,100	1,100	1,100	1,100	1,100	1,100	1,200	1,500	1,600	--
Panama.....	5,020	5,392	5,814	6,291	6,634	6,823	6,942	7,111	7,425	7,718
Paraguay.....	5,107	5,265	5,395	5,492	5,719	5,896	6,174	6,252	6,417	6,390
Peru.....	35,189	33,906	34,891	34,279	36,466	41,245	44,279	45,381	48,654	48,803
Puerto Rico.....	--	--	--	--	--	--	--	--	--	--
Saint Kitts and Nevis.....	130	134	139	144	151	159	165	175	186	--
Saint Lucia.....	383	398	405	431	431	440	442	446	448	--
Saint Vincent/Grenadines.....	189	198	199	214	214	209	225	227	--	--
Suriname.....	1,732	1,733	1,784	1,855	1,815	1,687	--	--	--	--
Trinidad and Tobago.....	4,993	5,068	5,204	5,118	5,044	5,224	5,349	5,514	5,711	--
Turks and Caicos Islands.....	--	--	--	--	--	--	--	--	--	--
Uruguay.....	8,282	8,355	8,623	9,303	9,582	10,190	10,010	10,539	11,072	11,586
Venezuela.....	45,471	48,599	53,326	56,559	56,714	55,382	57,407	57,158	60,047	59,643
Virgin Islands, British.....	--	--	--	--	--	--	--	--	--	--
Virgin Islands, U.S.....	--	--	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table B2 World Gross Domestic Product at Market Exchange Rates, 1989 - 1998 (Continued)

(Millions of 1990 U.S. Dollars)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Western Europe										
Austria.....	152,559	159,499	164,969	167,168	168,021	172,023	174,934	178,399	182,894	188,980
Belgium.....	185,978	191,992	199,114	202,256	199,294	204,411	209,199	211,892	218,266	224,609
Denmark.....	127,307	129,116	135,208	136,937	138,084	146,033	150,477	155,437	160,187	164,905
Finland.....	134,787	134,806	125,281	120,832	119,412	124,844	131,160	135,823	143,986	150,753
France.....	1,166,198	1,195,435	1,204,782	1,218,776	1,202,542	1,236,534	1,262,300	1,281,894	1,311,645	1,353,130
Germany.....	--	--	1,702,420	1,739,865	1,719,688	1,768,893	1,803,367	1,827,319	1,864,207	1,899,468
Germany, East.....	--	--	--	--	--	--	--	--	--	--
Germany, West.....	1,420,004	1,503,621	--	--	--	--	--	--	--	--
Greece.....	82,531	81,846	85,779	86,155	85,372	86,622	89,727	92,057	93,837	97,138
Iceland.....	6,169	6,244	6,321	6,109	6,170	6,395	6,461	6,829	7,185	7,547
Ireland.....	41,826	45,095	46,017	47,929	49,423	53,029	58,925	63,277	69,493	75,959
Italy.....	1,072,198	1,095,151	1,106,418	1,112,678	1,099,825	1,123,696	1,156,748	1,164,344	1,181,955	1,198,481
Luxembourg.....	10,130	10,350	10,980	11,470	12,470	13,000	13,490	13,900	14,410	--
Malta.....	2,192	2,330	2,476	2,592	2,708	2,801	3,006	3,114	3,205	3,337
Netherlands.....	272,942	283,541	290,076	295,898	296,886	304,684	311,714	322,698	334,670	347,005
Norway.....	113,202	115,352	119,052	122,942	126,303	133,240	137,995	145,271	150,290	153,257
Portugal.....	64,566	67,240	68,941	72,122	71,106	72,836	74,983	77,367	80,209	83,018
Spain.....	474,218	491,955	503,110	506,573	500,500	511,115	525,321	536,721	555,989	577,073
Sweden.....	226,668	229,756	225,933	222,719	217,774	225,044	233,911	236,876	241,044	248,064
Switzerland.....	220,919	226,029	226,605	226,317	225,238	226,245	227,973	227,541	229,053	233,813
Turkey.....	138,005	150,656	152,189	160,623	174,040	165,223	176,493	188,837	203,059	208,694
United Kingdom.....	979,693	983,584	964,291	959,187	979,122	1,021,384	1,049,243	1,073,586	1,111,011	1,133,927
Former Yugoslavia.....	95,400	89,600	90,700	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	1,700	1,100	700	1,000	1,400	1,900	--
Croatia.....	--	--	--	8,000	7,800	8,300	8,500	8,900	9,500	--
Macedonia, TFYR.....	--	--	--	2,000	1,800	1,800	1,800	1,800	1,800	--
Serbia and Montenegro.....	--	--	--	42,500	38,900	37,400	38,800	40,500	40,900	--
Slovenia.....	--	--	--	20,600	21,200	22,300	23,200	23,900	24,800	25,777
Eastern Europe & Former U.S.S.R.										
Albania.....	2,300	2,100	1,500	1,400	1,500	1,700	1,800	2,000	1,900	--
Bulgaria.....	22,633	20,548	18,860	16,829	16,397	16,685	17,055	15,185	14,137	14,630
Former Czechoslovakia.....	44,846	44,151	38,678	37,046	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	27,783	28,674	30,496	31,694	32,000	31,149
Slovakia.....	--	--	--	--	9,121	9,569	10,231	10,904	11,616	12,129
Hungary.....	34,253	33,055	29,122	28,231	28,069	28,896	29,326	29,684	31,039	32,625
Poland.....	66,150	58,980	54,860	56,304	58,438	61,425	65,727	69,672	74,452	77,977
Romania.....	41,280	38,248	33,313	28,801	29,206	30,366	32,546	33,815	32,514	30,105
Former U.S.S.R.....	954,982	948,092	891,370	--	--	--	--	--	--	--
Armenia.....	--	--	--	3,932	3,588	3,779	4,039	4,276	4,422	4,735
Azerbaijan.....	--	--	--	7,482	5,748	4,617	4,072	4,121	4,364	4,803
Belarus.....	--	--	--	30,529	28,204	24,649	22,085	22,700	25,059	27,144
Estonia.....	--	--	--	5,696	5,204	5,040	5,181	5,390	5,964	6,203
Georgia.....	--	--	--	5,317	3,963	3,512	3,598	4,000	4,451	4,585
Kazakhstan.....	--	--	--	33,604	30,495	26,668	24,476	24,595	25,034	24,396
Kyrgyzstan.....	--	--	--	4,424	3,741	2,986	2,824	3,026	3,344	3,400
Latvia.....	--	--	--	6,996	5,880	6,000	6,024	6,192	6,720	6,960
Lithuania.....	--	--	--	7,178	4,994	5,045	5,173	5,415	5,811	6,105
Moldova.....	--	--	--	5,887	5,817	4,015	3,945	3,633	3,683	3,361
Russia.....	--	--	--	493,794	451,226	393,454	377,643	364,264	367,305	350,278
Tajikistan.....	--	--	--	3,034	2,551	2,013	1,760	1,461	1,489	1,568
Turkmenistan.....	--	--	--	5,013	4,512	3,668	3,362	3,106	2,301	2,417
Ukraine.....	--	--	--	128,074	109,867	84,656	74,386	66,916	64,737	63,648
Uzbekistan.....	--	--	--	19,996	19,521	18,708	18,527	18,844	19,815	20,696

See footnotes at end of table.

Table B2 World Gross Domestic Product at Market Exchange Rates, 1989 - 1998 (Continued)

(Millions of 1990 U.S. Dollars)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Bahrain.....	3,829	4,006	4,189	4,515	4,888	5,004	5,111	5,270	5,793	5,848
Cyprus.....	5,186	5,570	5,608	6,159	6,201	6,565	6,965	7,164	7,282	7,646
Iran.....	107,749	120,405	134,186	141,871	144,128	145,196	151,367	160,278	165,515	168,521
Iraq.....	70,200	48,700	24,000	24,800	25,100	23,900	23,600	23,600	29,500	--
Israel.....	49,342	52,185	55,755	59,431	61,331	65,478	70,096	73,221	74,639	76,052
Jordan.....	3,982	4,021	4,094	4,752	5,018	5,445	5,768	5,814	5,941	6,043
Kuwait.....	18,000	18,400	9,300	13,900	19,500	19,800	20,400	21,500	22,600	22,600
Lebanon.....	2,200	2,800	3,900	4,100	4,400	4,700	5,000	5,200	5,500	--
Oman.....	9,720	10,535	11,171	12,120	12,865	13,359	14,005	14,499	15,332	15,043
Qatar.....	7,000	7,200	7,290	7,770	7,960	7,961	7,769	8,459	9,349	9,648
Saudi Arabia.....	94,587	104,670	113,453	116,619	115,877	116,470	117,017	118,649	120,911	119,354
Syria.....	22,208	23,904	25,614	28,325	30,783	33,139	35,045	36,620	37,094	36,945
United Arab Emirates.....	28,630	33,642	33,914	34,841	34,941	36,007	37,311	41,016	41,419	39,349
Yemen.....	10,100	10,270	10,317	10,831	11,132	11,043	11,991	12,668	13,326	--
Africa										
Algeria.....	62,700	61,900	61,200	62,100	60,800	60,100	62,091	64,574	68,126	70,783
Angola.....	10,300	10,300	10,300	9,800	7,500	7,600	8,400	9,400	10,100	--
Benin.....	1,707	1,762	1,845	1,915	1,973	2,054	2,178	2,273	2,368	--
Botswana.....	3,117	3,296	3,821	4,063	4,058	4,224	4,355	4,659	4,982	4,817
Burkina Faso.....	2,931	2,893	3,174	3,257	3,293	3,254	3,386	3,594	3,793	4,045
Burundi.....	1,109	1,148	1,206	1,233	1,146	1,111	1,033	944	948	990
Cameroon.....	11,995	12,247	12,192	11,416	11,053	10,762	11,117	11,673	12,256	12,881
Cape Verde.....	--	--	--	--	--	--	--	--	--	--
Central African Republic.....	--	--	1,388	1,341	1,282	1,745	2,024	2,002	--	--
Chad.....	--	--	--	1,289	1,073	1,693	1,855	2,086	--	--
Comoros.....	--	--	--	--	--	--	--	--	--	--
Congo (Brazzaville).....	3,500	3,534	3,660	3,667	3,632	3,433	3,508	3,629	3,635	--
Congo (Kinshasa).....	9,584	9,350	8,201	7,345	6,352	6,105	6,201	6,147	5,796	--
Cote d'Ivoire (Ivory Coast).....	10,700	10,700	10,700	10,600	10,622	10,819	11,606	12,396	13,139	13,888
Djibouti.....	--	--	--	--	--	--	--	--	--	--
Egypt.....	40,788	43,114	43,579	45,511	46,823	48,671	50,890	53,507	56,655	59,825
Equatorial Guinea.....	--	--	--	--	--	--	--	--	--	--
Eritrea.....	--	--	--	--	--	--	--	--	--	--
Ethiopia.....	8,164	8,129	7,638	6,988	7,777	7,900	8,387	9,280	9,796	9,846
Gabon.....	4,287	4,512	4,738	4,587	4,738	4,888	5,189	5,305	5,427	5,457
Gambia, The.....	291	300	303	319	321	333	320	--	--	--
Ghana.....	6,025	6,227	6,557	6,812	7,148	7,420	7,754	8,155	8,570	8,823
Guinea.....	--	--	--	--	--	--	--	--	--	--
Guinea-Bissau.....	226	233	240	247	255	--	--	--	--	--
Kenya.....	8,190	8,533	8,656	8,587	8,617	8,844	9,234	9,617	9,816	9,934
Lesotho.....	597	625	649	657	693	776	846	954	988	1,008
Liberia.....	--	--	--	--	--	--	--	--	--	--
Libya.....	25,100	27,400	28,400	27,700	26,400	25,300	25,800	26,200	26,300	--
Madagascar.....	2,988	3,082	2,887	2,921	2,983	2,981	3,032	3,097	3,210	3,336
Malawi.....	1,773	1,858	2,003	1,844	2,043	1,806	1,969	2,156	2,294	--
Mali.....	2,389	2,447	2,442	--	--	--	--	--	--	--
Mauritania.....	--	--	--	--	--	--	--	--	--	--
Mauritius.....	2,388	2,559	2,777	2,934	3,095	3,221	3,362	3,546	3,731	3,937
Morocco.....	24,993	25,963	27,620	26,648	26,380	29,111	27,196	30,491	29,771	31,758
Mozambique.....	1,457	1,443	1,471	1,443	1,691	1,787	1,800	1,890	2,160	--
Namibia.....	2,295	2,302	2,619	2,811	2,755	2,937	3,087	3,179	3,235	3,274
Niger.....	--	--	2,484	2,503	2,479	2,404	2,468	2,550	--	--
Nigeria.....	29,968	32,426	33,959	34,970	35,766	36,244	37,184	38,422	39,930	40,657
Reunion.....	--	--	--	--	--	--	--	--	--	--
Rwanda.....	2,301	2,347	2,366	2,378	2,000	--	--	--	--	--
Sao Tome and Principe.....	--	--	--	--	--	--	--	--	--	--
Senegal.....	5,500	5,700	5,700	5,800	5,700	5,800	6,100	6,500	6,800	--
Seychelles.....	343	369	377	--	--	--	--	--	--	--
Sierra Leone.....	629	635	617	533	500	501	487	--	--	--
Somalia.....	--	--	--	--	--	--	--	--	--	--
South Africa.....	107,079	106,739	105,652	103,335	104,667	107,544	111,164	114,768	116,692	116,797
Sudan.....	9,200	9,000	9,100	10,100	10,900	11,500	12,000	12,500	13,000	--
Swaziland.....	823	884	881	892	921	953	982	1,017	1,055	1,073

Table B2 World Gross Domestic Product at Market Exchange Rates, 1989 - 1998 (Continued)

(Millions of 1990 U.S. Dollars)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Tanzania.....	3,720	3,886	4,377	4,457	4,509	4,537	4,699	4,896	5,058	5,260
Togo.....	1,409	1,411	--	--	--	--	--	--	--	--
Tunisia.....	11,501	12,315	12,795	13,794	14,097	14,561	14,904	15,931	16,818	17,653
Uganda.....	3,672	3,488	3,941	4,123	4,415	4,882	5,351	5,665	5,959	6,284
Western Sahara.....	--	--	--	--	--	--	--	--	--	--
Zambia.....	3,301	3,285	3,227	3,226	3,446	3,325	3,249	3,461	3,583	3,565
Zimbabwe.....	8,169	8,739	9,222	8,429	8,541	9,125	9,065	9,757	10,178	10,269
Far East & Oceania										
Afghanistan.....	--	--	--	--	--	--	--	--	--	--
Australia.....	286,776	290,206	286,393	294,058	305,605	322,067	335,209	348,046	358,226	375,513
Bangladesh.....	20,010	21,336	22,062	22,994	24,025	25,038	26,151	27,551	29,170	30,797
Bhutan.....	265	277	287	298	317	338	363	387	415	439
Brunei.....	3,500	3,600	3,700	3,700	3,500	3,600	3,700	3,800	3,900	--
Burma.....	23,314	23,971	23,815	26,116	27,693	29,764	31,832	33,882	35,450	37,454
Cambodia.....	--	--	--	--	--	--	--	--	--	--
China.....	368,853	383,007	418,214	477,755	542,210	610,867	675,301	739,756	804,880	867,662
Fiji.....	1,137	1,178	1,147	1,219	1,250	1,313	1,347	1,392	1,370	1,338
French Polynesia.....	--	--	--	--	--	--	--	--	--	--
Guam.....	--	--	--	--	--	--	--	--	--	--
Hong Kong.....	72,274	74,841	78,564	83,442	88,577	93,456	97,050	101,415	106,678	101,286
India.....	289,534	305,947	307,244	323,932	339,580	365,282	394,687	423,720	444,813	--
Indonesia.....	98,974	106,141	122,380	130,285	138,749	149,210	161,475	174,361	182,467	157,509
Japan.....	2,797,376	2,932,088	3,082,886	3,114,331	3,123,710	3,143,843	3,190,089	3,315,236	3,344,969	3,247,966
Korea, North.....	--	--	--	--	--	--	--	--	--	--
Korea, South.....	231,646	253,672	276,840	290,861	307,589	333,978	363,825	389,669	410,999	387,007
Laos.....	811	866	900	963	1,007	1,103	1,181	1,262	1,349	1,403
Macau.....	--	--	--	--	--	--	--	--	--	--
Malaysia.....	39,021	42,822	46,452	50,074	54,253	59,300	64,851	70,431	75,857	--
Maldives.....	126	146	157	167	177	189	202	216	229	244
Mongolia.....	1,907	1,859	1,687	1,527	1,481	1,515	1,610	1,649	1,703	1,762
Nepal.....	3,356	3,521	3,748	3,921	4,050	4,370	4,495	4,752	4,939	--
New Caledonia.....	--	--	--	--	--	--	--	--	--	--
New Zealand.....	43,894	43,558	42,659	42,997	45,646	48,026	49,454	50,745	52,405	52,056
Pakistan.....	37,749	39,432	41,586	44,840	45,699	47,479	49,918	51,973	53,731	56,598
Papua New Guinea.....	3,030	2,939	3,220	3,665	4,154	--	--	--	--	--
Philippines.....	43,034	44,309	44,083	44,231	45,169	47,151	49,397	52,199	54,852	54,588
Singapore.....	34,550	37,354	40,172	42,700	47,158	52,056	56,583	61,006	65,146	--
Sri Lanka.....	7,563	8,032	8,402	8,762	9,371	9,898	10,438	10,830	11,528	12,055
Taiwan.....	168,598	177,933	191,371	203,291	215,529	228,624	242,020	255,128	271,739	284,863
Thailand.....	76,721	85,640	92,648	100,137	108,532	118,233	128,681	135,783	135,200	121,442
Tonga.....	118	124	131	126	126	132	--	--	--	--
Vanuatu.....	145	153	169	168	175	180	185	--	--	--
Vietnam.....	6,200	6,500	6,900	7,500	8,100	8,800	9,600	10,500	11,400	--

¹ Preliminary.

-- Not applicable.

Notes: The data presented in this table are obtained by converting the gross domestic product (GDP) for each country measured in 1990 foreign currency units to U.S. dollars using 1990 annual average foreign currency market exchange rates. GDP figures theoretically should be converted by using purchasing power parity (PPP) rates to avoid the problem that the market exchange rate for a foreign currency is not a precise reflection of the purchasing power of that currency. In practice, it is often difficult to find generally agreeable PPP rates for some countries.

Sources: International Monetary Fund, International Financial Statistics, various issues. U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, various issues. International Energy Agency, Energy Balances of OECD Countries 1996-1997, and Energy Balances of Non-OECD Countries 1996-1997. World Bank, World Tables 1995. WEFA Group, Eurasia Economic Outlook, Third Quarter 1999; Middle East and Africa Economic Outlook Fourth Quarter 1999; and World Economic Outlook, Fourth Quarter 1999.

Appendix C

Conversion Factors and Heat Contents

Table C1 General Conversion Factors

Product	Barrels per Metric Ton
Refined Petroleum Products	
Asphalt	6.06
Distillate Fuel Oil	7.46
Gasoline, Aviation	8.90
Gasoline, Motor	8.53
Greases	6.30
Jet Fuel, Kerosene-Type	7.93
Jet Fuel, Naphtha-Type	8.27
Kerosene	7.73
Liquefied Petroleum Gas (LPG)	11.60
Lubricants	7.00
Miscellaneous Products	8.04
Naphthas	8.22
Natural Gas Liquids (NGL)	10.40
Natural Gasoline	10.00
Paraffin Oil	7.14
Paraffin Wax	7.87
Petrolatum	7.87
Petroleum Coke	5.51
Residual Fuel Oil	6.66
White Spirits	8.50
Crude Oil	See Table C2 on next page.

Product Unit	Equivalent
Liquid Fuels	
42 U.S. gallons	1 barrel
1 cubic meter	6.289 barrels
159 liters	1 barrel
Gaseous Fuels	
35.315 cubic feet	1 cubic meter
Liquefied Natural Gas (LNG)	
1 metric ton	48,700 cubic feet of natural gas
Solid Fuels	
1 long ton	1.120 short tons
1 metric ton	1.102 short tons
Heat	
1 quadrillion (10 ¹⁵) British thermal units (Btu)	1.055056 exa (10 ¹⁸) joules
1 exa (10 ¹⁸) joule	0.9478 quadrillion (10 ¹⁵) Btu

Table C2 Barrels of Crude Oil Per Metric Ton, 1989 - 1998

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
North America										
Canada.....	7.453	7.186	7.186	7.186	7.186	7.186	7.186	7.186	7.186	7.186
Mexico.....	6.965	6.965	6.965	6.965	6.965	6.965	6.965	6.965	6.965	6.965
United States.....	7.333	7.333	7.333	7.333	7.333	7.333	7.333	7.333	7.333	7.333
Central & South America										
Argentina.....	7.149	7.120	7.120	7.120	7.120	7.120	7.120	7.120	7.120	7.120
Bolivia.....	7.881	7.881	7.881	7.881	7.881	7.881	7.881	7.881	7.881	7.881
Brazil.....	7.268	7.056	7.056	7.056	7.056	7.056	7.056	7.056	7.056	7.056
Chile.....	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506
Colombia.....	7.084	7.080	7.080	7.080	7.080	7.080	7.080	7.080	7.080	7.080
Cuba.....	6.449	6.449	6.449	6.449	6.449	6.449	6.449	6.449	6.449	6.449
Ecuador.....	7.130	7.130	7.130	7.130	7.130	7.130	7.130	7.130	7.130	7.130
Peru.....	7.407	7.407	7.407	7.407	7.407	7.407	7.407	7.407	7.407	7.407
Trinidad and Tobago.....	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084
Venezuela.....	6.880	6.890	6.890	6.890	6.890	6.890	6.890	6.890	6.890	6.890
Western Europe										
Austria.....	7.082	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200
Denmark.....	7.689	7.405	7.405	7.405	7.405	7.405	7.405	7.405	7.405	7.405
France.....	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332
Germany.....	--	--	7.330	7.330	7.330	7.330	7.330	7.330	7.330	7.330
Germany, East.....	7.340	7.340	--	--	--	--	--	--	--	--
Germany, West.....	7.247	7.247	--	--	--	--	--	--	--	--
Greece.....	7.178	7.231	7.231	7.231	7.231	7.231	7.231	7.231	7.231	7.231
Italy.....	6.853	7.300	7.300	7.300	7.300	7.300	7.300	7.300	7.300	7.300
Netherlands.....	6.853	7.239	7.239	7.239	7.239	7.239	7.239	7.239	7.239	7.239
Norway.....	7.810	7.644	7.644	7.644	7.644	7.644	7.644	7.644	7.644	7.644
Spain.....	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506
Sweden.....	7.247	6.623	6.623	6.623	6.623	6.623	6.623	6.623	6.623	6.623
Turkey.....	7.150	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200
United Kingdom.....	7.466	7.523	7.523	7.523	7.523	7.523	7.523	7.523	7.523	7.523
Former Yugoslavia.....	7.418	7.418	7.418	--	--	--	--	--	--	--
Croatia.....	--	--	--	7.418	7.418	7.418	7.418	7.418	7.418	7.418
Serbia and Montenegro.....	--	--	--	7.418	7.418	7.418	7.418	7.418	7.418	7.418
Slovenia.....	--	--	--	--	7.418	7.418	7.418	7.418	7.418	7.418
Eastern Europe & Former U.S.S.R.										
Albania.....	6.594	6.594	6.594	6.594	6.594	6.594	6.594	6.594	6.594	6.594
Bulgaria.....	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332
Former Czechoslovakia.....	6.780	6.780	6.780	6.780	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	6.780	6.780	6.780	6.780	6.780	6.780
Slovakia.....	--	--	--	--	6.780	6.780	6.780	6.780	6.780	6.780
Hungary.....	6.690	6.690	6.690	6.690	6.690	6.690	6.690	6.690	6.690	6.690
Poland.....	7.418	7.418	7.418	7.418	7.418	7.418	7.418	7.418	7.418	7.418
Romania.....	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506
Former U.S.S.R.....	7.270	7.270	7.270	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270	7.270
Belarus.....	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270	7.270
Georgia.....	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270	7.270
Lithuania.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270
Kazakhstan.....	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270	7.270
Kyrgyzstan.....	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270	7.270
Russia.....	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270	7.270
Tajikistan.....	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270	7.270
Turkmenistan.....	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270	7.270
Ukraine.....	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270	7.270
Uzbekistan.....	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270	7.270

See footnotes at end of table.

Table C2 Barrels of Crude Oil Per Metric Ton, 1989 - 1998 (Continued)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Middle East										
Bahrain.....	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320
Iran.....	7.305	7.350	7.350	7.350	7.350	7.350	7.350	7.350	7.350	7.350
Iraq.....	7.426	7.430	7.430	7.430	7.430	7.430	7.430	7.430	7.430	7.430
Israel.....	7.247	7.247	7.247	7.247	7.247	7.247	7.247	7.247	7.247	7.247
Jordan.....	7.190	7.190	7.190	7.190	7.190	7.190	7.190	7.190	7.190	7.190
Kuwait.....	7.245	7.250	7.250	7.250	7.250	7.250	7.250	7.250	7.250	7.250
Oman.....	7.332	7.330	7.330	7.330	7.330	7.330	7.330	7.330	7.330	7.330
Qatar.....	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500
Saudi Arabia.....	7.268	7.323	7.323	7.323	7.323	7.323	7.323	7.323	7.323	7.323
Syria.....	6.836	7.290	7.290	7.290	7.290	7.290	7.290	7.290	7.290	7.290
United Arab Emirates.....	7.480	7.596	7.596	7.596	7.596	7.596	7.596	7.596	7.596	7.596
Yemen.....	7.632	7.631	7.631	7.631	7.631	7.631	7.631	7.631	7.631	7.631
Africa										
Algeria.....	7.936	8.130	8.130	8.130	8.130	8.130	8.130	8.130	8.130	8.130
Angola.....	7.409	7.409	7.409	7.409	7.409	7.409	7.409	7.409	7.410	7.410
Benin.....	6.870	6.870	6.870	6.870	6.870	6.870	6.870	6.870	6.870	6.870
Cameroon.....	7.205	7.205	7.205	7.205	7.205	7.205	7.205	7.205	7.205	7.205
Congo (Brazzaville).....	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506
Congo (Kinshasa).....	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320
Cote d'Ivoire (Ivory Coast).....	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285
Egypt.....	7.256	7.256	7.256	7.256	7.256	7.256	7.256	7.256	7.260	7.260
Equatorial Guinea.....	--	--	8.077	8.077	8.077	8.077	8.077	8.077	8.077	8.077
Gabon.....	7.305	7.305	7.305	7.305	7.305	7.305	7.305	7.305	7.305	7.305
Ghana.....	--	--	--	7.285	7.285	7.285	7.285	7.285	7.285	7.285
Libya.....	7.515	7.580	7.580	7.580	7.580	7.580	7.580	7.580	7.580	7.580
Morocco.....	7.600	7.600	7.600	7.600	7.600	7.600	7.600	7.600	7.600	7.600
Nigeria.....	7.315	7.315	7.315	7.315	7.315	7.315	7.315	7.315	7.500	7.500
South Africa.....	--	--	--	--	--	--	--	--	--	7.720
Sudan.....	--	--	--	7.452	7.452	7.452	7.452	7.452	7.452	7.452
Tunisia.....	7.689	7.689	7.689	7.689	7.689	7.689	7.689	7.689	7.689	7.689
Far East & Oceania										
Australia.....	7.855	7.868	7.868	7.868	7.868	7.868	7.868	7.868	7.868	7.868
Bangladesh.....	7.453	7.453	7.453	7.453	7.453	7.453	7.453	7.453	7.453	7.453
Brunei.....	7.340	7.340	7.340	7.340	7.340	7.340	7.340	7.340	7.340	7.340
Burma.....	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084
China.....	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.300	7.300
India.....	7.600	7.440	7.440	7.440	7.440	7.440	7.440	7.440	7.330	7.330
Indonesia.....	7.558	7.360	7.360	7.360	7.360	7.360	7.360	7.360	7.360	7.360
Japan.....	7.285	7.357	7.357	7.357	7.357	7.357	7.357	7.357	7.357	7.357
Malaysia.....	7.641	7.641	7.641	7.641	7.641	7.641	7.641	7.641	7.641	7.641
New Zealand.....	8.127	7.321	7.321	7.321	7.321	7.321	7.321	7.321	7.321	7.321
Pakistan.....	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500
Papua New Guinea.....	--	--	7.809	7.809	7.809	7.809	7.809	7.809	7.809	7.809
Philippines.....	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285
Taiwan.....	6.568	6.568	6.568	6.568	6.568	6.568	6.568	6.568	6.568	6.568
Thailand.....	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758
Vietnam.....	7.082	7.082	7.082	7.082	7.082	7.082	7.082	7.082	7.082	7.082

-- Not applicable.

Sources: See sources at the end of Section 3.

Table C3 Gross Heat Content of Crude Oil, 1989 - 1998
(Thousand Btu per Barrel)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
North America										
Canada.....	5,810	5,810	5,810	5,810	5,810	5,810	5,810	5,810	5,810	5,810
Mexico.....	6,010	6,010	6,010	6,010	6,010	6,010	6,010	6,010	6,010	6,010
United States.....	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800
Central & South America										
Argentina.....	5,993	5,993	5,993	5,993	5,993	5,993	5,993	5,993	5,993	5,993
Bolivia.....	5,574	5,574	5,574	5,574	5,574	5,574	5,574	5,574	5,574	5,574
Brazil.....	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910
Chile.....	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780
Colombia.....	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023
Cuba.....	6,393	6,393	6,393	6,393	6,393	6,393	6,393	6,393	6,393	6,393
Ecuador.....	5,986	5,986	5,986	5,986	5,986	5,986	5,986	5,986	5,986	5,986
Peru.....	5,831	5,831	5,831	5,831	5,831	5,831	5,831	5,831	5,831	5,831
Trinidad and Tobago.....	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023
Venezuela.....	6,135	6,135	6,135	6,135	6,135	6,135	6,135	6,135	6,135	6,135
Western Europe										
Austria.....	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020
Denmark.....	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677
France.....	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869
Germany.....	--	--	5,926	5,926	5,926	5,926	5,926	5,926	5,926	5,926
Germany, East.....	5,874	5,874	--	--	--	--	--	--	--	--
Germany, West.....	5,927	5,927	--	--	--	--	--	--	--	--
Greece.....	5,926	5,926	5,926	5,926	5,926	5,926	5,926	5,926	5,926	5,926
Italy.....	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158
Netherlands.....	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158
Norway.....	5,620	5,620	5,620	5,620	5,620	5,620	5,620	5,620	5,620	5,620
Spain.....	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780
Sweden.....	6,148	6,148	6,148	6,148	6,148	6,148	6,148	6,148	6,148	6,148
Turkey.....	5,976	5,976	5,976	5,976	5,976	5,976	5,976	5,976	5,976	5,976
United Kingdom.....	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803
Former Yugoslavia.....	5,823	5,823	5,823	--	--	--	--	--	--	--
Croatia.....	--	--	--	5,823	5,823	5,823	5,823	5,823	5,823	5,823
Serbia and Montenegro.....	--	--	--	5,823	5,823	5,823	5,823	5,823	5,823	5,823
Slovenia.....	--	--	--	--	5,823	5,823	5,823	5,823	5,823	5,823
Eastern Europe & Former U.S.S.R.										
Albania.....	6,305	6,305	6,305	6,305	6,305	6,305	6,305	6,305	6,305	6,305
Bulgaria.....	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879
Former Czechoslovakia.....	6,211	6,211	6,211	6,211	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	6,211	6,211	6,211	6,211	6,211	6,211
Slovakia.....	--	--	--	--	6,211	6,211	6,211	6,211	6,211	6,211
Hungary.....	6,249	6,249	6,249	6,249	6,249	6,249	6,249	6,249	6,249	6,249
Poland.....	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820
Romania.....	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780
Former U.S.S.R.....	5,880	5,880	5,880	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880	5,880
Belarus.....	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880	5,880
Georgia.....	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880	5,880
Kazakhstan.....	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880	5,880
Kyrgyzstan.....	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880	5,880
Lithuania.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880
Russia.....	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880	5,880
Tajikistan.....	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880	5,880
Turkmenistan.....	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880	5,880
Ukraine.....	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880	5,880
Uzbekistan.....	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880	5,880

See footnotes at end of table.

Table C3 Gross Heat Content of Crude Oil, 1989 - 1998 (Continued)
(Thousand Btu per Barrel)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Middle East										
Bahrain.....	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879
Iran.....	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888
Iraq.....	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820
Israel.....	5,920	5,920	5,920	5,920	5,920	5,920	5,920	5,920	5,920	5,920
Jordan.....	5,956	5,956	5,956	5,956	5,956	5,956	5,956	5,956	5,956	5,956
Kuwait.....	5,921	5,921	5,921	5,921	5,921	5,921	5,921	5,921	5,921	5,921
Oman.....	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869
Qatar.....	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777
Saudi Arabia.....	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910
Syria.....	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158
United Arab Emirates.....	5,788	5,788	5,788	5,788	5,788	5,788	5,788	5,788	5,788	5,788
Yemen.....	5,729	5,725	5,725	5,725	5,725	5,725	5,725	5,725	5,725	5,725
Africa										
Algeria.....	5,555	5,555	5,555	5,555	5,555	5,555	5,555	5,555	5,555	5,555
Angola.....	5,828	5,828	5,828	5,828	5,828	5,828	5,828	5,828	5,828	5,828
Benin.....	6,142	6,142	6,142	6,142	6,142	6,142	6,142	6,142	6,142	6,142
Cameroon.....	5,948	5,948	5,948	5,948	5,948	5,948	5,948	5,948	5,948	5,948
Congo (Brazzaville).....	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780
Congo (Kinshasa).....	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879
Cote d'Ivoire (Ivory Coast).....	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899
Egypt.....	5,922	5,922	5,922	5,922	5,922	5,922	5,922	5,922	5,922	5,922
Equatorial Guinea.....	--	--	5,464	5,464	5,464	5,464	5,464	5,464	5,464	5,464
Gabon.....	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888
Ghana.....	--	--	--	5,936	5,936	5,936	5,936	5,936	5,936	5,936
Libya.....	5,775	5,775	5,775	5,775	5,775	5,775	5,775	5,775	5,775	5,775
Morocco.....	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738
Nigeria.....	5,880	5,880	5,880	5,880	5,880	5,880	5,880	5,880	5,880	5,880
South Africa.....	--	--	--	--	--	--	--	--	--	5,657
Sudan.....	--	--	--	5,084	5,084	5,084	5,084	5,084	5,084	5,084
Tunisia.....	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677
Far East & Oceania										
Australia.....	5,578	5,578	5,578	5,578	5,578	5,578	5,578	5,578	5,578	5,578
Bangladesh.....	5,792	5,792	5,792	5,792	5,792	5,792	5,792	5,792	5,792	5,792
Brunei.....	5,865	5,865	5,865	5,865	5,865	5,865	5,865	5,865	5,865	5,865
Burma.....	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020
China.....	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879
India.....	5,729	5,729	5,729	5,729	5,729	5,729	5,729	5,729	5,729	5,729
Indonesia.....	5,740	5,740	5,740	5,740	5,740	5,740	5,740	5,740	5,740	5,740
Japan.....	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899
Malaysia.....	5,697	5,697	5,697	5,697	5,697	5,697	5,697	5,697	5,697	5,697
New Zealand.....	5,441	5,441	5,441	5,441	5,441	5,441	5,441	5,441	5,441	5,441
Pakistan.....	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777
Papua New Guinea.....	--	--	5,607	5,607	5,607	5,607	5,607	5,607	5,607	5,607
Philippines.....	5,902	5,902	5,902	5,902	5,902	5,902	5,902	5,902	5,902	5,902
Taiwan.....	6,321	6,321	6,321	6,321	6,321	6,321	6,321	6,321	6,321	6,321
Thailand.....	6,317	6,317	6,317	6,317	6,317	6,317	6,317	6,317	6,317	6,317
Vietnam.....	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022

-- Not applicable.

Sources: See sources at the end of Section 3.

Table C4 Gross Heat Content of Natural Gas Plant Liquids, 1989 - 1998
(Thousand Btu per Barrel)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
North America										
Canada.....	3,980	3,980	3,980	3,980	3,980	3,980	3,980	3,980	3,980	3,980
Mexico.....	3,620	3,620	3,620	3,620	3,620	3,620	3,620	3,620	3,620	3,620
United States.....	3,826	3,822	3,807	3,804	3,801	3,794	3,796	3,777	3,762	3,769
Central & South America										
Argentina.....	3,820	3,820	3,820	3,820	3,820	3,820	3,820	3,820	3,820	3,820
Bolivia.....	4,130	4,130	4,130	4,130	4,130	4,130	4,130	4,130	4,130	4,130
Brazil.....	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250
Chile.....	4,150	4,150	4,150	4,150	4,150	4,150	4,150	4,150	4,150	4,150
Colombia.....	3,286	3,286	3,286	3,286	3,286	3,286	3,286	3,286	3,286	3,286
Cuba.....	4,344	4,344	4,344	4,344	4,344	4,344	4,344	4,344	4,344	4,344
Ecuador.....	4,235	4,235	4,235	4,235	4,235	4,235	4,235	4,235	4,235	4,235
Peru.....	4,617	4,617	4,617	4,617	4,617	4,617	4,617	4,617	4,617	4,617
Trinidad and Tobago.....	--	--	4,344	4,344	4,344	4,344	4,344	4,344	4,344	4,344
Venezuela.....	4,195	4,195	4,195	4,195	4,195	4,195	4,195	4,195	4,195	4,195
Western Europe										
Austria.....	4,262	4,262	4,262	4,262	4,262	4,262	4,262	4,262	4,262	4,262
France.....	4,385	4,385	4,385	4,385	4,385	4,385	4,385	4,385	4,385	4,385
Greece.....	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050
Italy.....	4,259	4,259	4,259	4,259	4,259	4,259	4,259	4,259	4,259	4,259
Netherlands.....	4,347	4,347	4,347	4,347	4,347	4,347	4,347	4,347	4,347	4,347
Norway.....	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348
Spain.....	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348
United Kingdom.....	4,490	4,490	4,490	4,490	4,490	4,490	4,490	4,490	4,490	4,490
Former Yugoslavia.....	4,349	4,349	4,349	--	--	--	--	--	--	--
Croatia.....	--	--	--	4,349	4,349	4,349	4,349	4,349	4,349	4,349
Eastern Europe & Former U.S.S.R.										
Former Czechoslovakia.....	4,645	4,645	4,645	4,645	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	4,645	4,645	4,645	4,645	4,645	4,645
Hungary.....	4,386	4,386	4,386	4,386	4,386	4,386	4,386	4,386	4,386	4,386
Poland.....	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454
Romania.....	4,619	4,619	4,619	4,619	4,619	4,619	4,619	4,619	4,619	4,619
Former U.S.S.R.....	4,150	4,150	4,150	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150	4,150
Kazakhstan.....	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150	4,150
Kyrgyzstan.....	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150	4,150
Russia.....	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150	4,150
Tajikistan.....	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150	4,150
Turkmenistan.....	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150	4,150
Ukraine.....	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150	4,150
Uzbekistan.....	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150	4,150
Middle East										
Bahrain.....	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287
Iran.....	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348
Iraq.....	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348
Kuwait.....	4,190	4,190	4,190	4,190	4,190	4,190	4,190	4,190	4,190	4,190
Oman.....	4,581	4,581	4,581	4,581	4,581	4,581	4,581	4,581	4,581	4,581
Qatar.....	3,790	3,790	3,790	3,790	3,790	3,790	3,790	3,790	3,790	3,790
Saudi Arabia.....	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265
Syria.....	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300
United Arab Emirates.....	4,532	4,532	4,532	4,532	4,532	4,532	4,532	4,532	4,532	4,532

See footnotes at end of table.

Table C4 Gross Heat Content of Natural Gas Plant Liquids, 1989 - 1998 (Continued)

(Thousand Btu per Barrel)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Africa										
Algeria.....	5,080	5,080	5,080	5,080	5,080	5,080	5,080	5,080	5,080	5,080
Egypt.....	4,940	4,940	4,940	4,940	4,940	4,940	4,940	4,940	4,940	4,940
Libya.....	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350
South Africa.....	--	--	--	4,649	4,649	4,649	4,649	4,649	4,649	4,649
Tunisia.....	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300
Far East & Oceania										
Australia.....	4,290	4,290	4,290	4,290	4,290	4,290	4,290	4,290	4,290	4,290
Bangladesh.....	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050
Brunei.....	4,506	4,506	4,506	4,506	4,506	4,506	4,506	4,506	4,506	4,506
Burma.....	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348
India.....	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
Indonesia.....	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060
Japan.....	4,327	4,327	4,327	4,327	4,327	4,327	4,327	4,327	4,327	4,327
Malaysia.....	4,410	4,410	4,410	4,410	4,410	4,410	4,410	4,410	4,410	4,410
New Zealand.....	4,075	4,075	4,075	4,075	4,075	4,075	4,075	4,075	4,075	4,075
Pakistan.....	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372
Taiwan.....	3,825	3,825	3,825	3,825	3,825	3,825	3,825	3,825	3,825	3,825
Thailand.....	4,349	4,349	4,349	4,349	4,349	4,349	4,349	4,349	4,349	4,349

--= Not applicable.

Sources: See sources at the end of Section 3.

Table C5 Gross Heat Content of Dry Natural Gas, 1989 - 1998
(Btu per Cubic Foot)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
North America										
Canada.....	1,014	1,014	1,015	1,017	1,017	1,035	1,024	1,021	1,023	1,023
Mexico.....	1,050	1,110	1,116	1,110	1,110	1,111	1,111	1,135	1,078	1,068
United States.....	1,031	1,031	1,030	1,030	1,027	1,028	1,027	1,027	1,026	1,026
Central & South America										
Argentina.....	1,036	1,036	1,036	1,083	1,083	1,083	1,083	1,083	1,083	1,083
Barbados.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Bolivia.....	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Brazil.....	1,107	1,175	1,175	1,174	1,174	1,174	1,174	1,174	1,174	1,174
Chile.....	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,050	1,050	1,050
Colombia.....	929	929	929	929	929	929	929	929	929	929
Cuba.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Ecuador.....	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Peru.....	929	929	929	929	929	929	929	929	929	929
Trinidad and Tobago.....	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045
Venezuela.....	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191
Western Europe										
Austria.....	1,074	1,074	1,060	1,060	1,063	1,063	1,063	1,063	1,063	1,063
Belgium.....	1,003	1,006	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065
Denmark.....	1,092	1,089	1,092	1,091	1,093	1,099	1,098	1,098	1,105	1,116
Finland.....	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015
France.....	1,063	1,099	1,101	1,102	1,052	1,052	1,040	1,032	1,027	1,032
Germany.....	--	--	893	893	895	895	895	895	895	895
Germany, East.....	390	390	--	--	--	--	--	--	--	--
Germany, West.....	888	888	--	--	--	--	--	--	--	--
Greece.....	1,443	1,402	1,476	1,449	1,428	1,563	1,522	1,521	1,475	1,524
Ireland.....	1,010	1,009	1,010	1,010	1,009	1,009	1,011	1,011	1,008	1,008
Italy.....	1,012	1,013	1,013	1,013	1,001	1,001	1,001	1,020	1,023	1,023
Luxembourg.....	1,079	1,088	1,093	1,093	1,092	1,094	1,094	1,098	1,104	1,108
Netherlands.....	894	894	894	894	894	894	894	894	894	894
Norway.....	1,085	1,091	1,088	1,093	1,099	1,113	1,113	1,112	1,096	1,096
Portugal.....	--	--	--	--	--	--	--	--	1,077	1,071
Spain.....	1,140	1,140	1,140	1,140	1,156	1,156	1,141	1,141	1,142	1,141
Sweden.....	1,045	1,045	1,043	1,043	1,043	989	989	989	990	989
Switzerland.....	1,023	1,022	1,022	1,022	1,023	1,021	1,022	1,022	1,022	1,022
Turkey.....	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,029	1,028
United Kingdom.....	1,031	1,029	1,002	1,040	1,038	1,042	1,052	1,053	1,053	1,059
Former Yugoslavia.....	1,061	1,061	1,061	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	992	992	992	992	992	992	992
Croatia.....	--	--	--	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Macedonia, TFYR.....	--	--	--	1,061	1,061	1,061	1,061	1,061	1,061	1,061
Serbia and Montenegro.....	--	--	--	1,061	1,061	1,061	1,061	1,061	1,061	1,061
Slovenia.....	--	--	--	959	959	959	959	960	960	960

See footnotes at end of table.

Table C5 Gross Heat Content of Dry Natural Gas, 1989 - 1998 (Continued)
(Btu per Cubic Foot)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Eastern Europe & Former U.S.S.R.										
Albania.....	1,047	1,047	1,044	1,044	1,044	1,044	1,044	1,044	1,044	1,044
Bulgaria.....	943	943	990	990	990	990	990	990	990	990
Former Czechoslovakia.....	1,006	1,006	974	974	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	987	954	973	963	944	940
Slovakia.....	--	--	--	--	974	974	974	972	972	972
Hungary.....	971	975	975	975	975	975	968	962	959	967
Poland.....	765	725	758	760	791	791	781	782	784	792
Romania.....	1,070	1,070	1,009	1,009	1,009	1,009	1,009	1,003	1,003	1,000
Former U.S.S.R.....	1,026	1,026	1,012	--	--	--	--	--	--	--
Armenia.....	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012	1,012
Azerbaijan.....	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012	1,012
Belarus.....	--	--	--	1,037	1,037	1,037	1,037	1,037	1,037	1,037
Estonia.....	--	--	--	996	996	996	996	996	996	996
Georgia.....	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012	1,012
Kazakhstan.....	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012	1,012
Kyrgyzstan.....	--	--	--	1,033	1,033	1,033	1,033	1,033	1,033	1,033
Latvia.....	--	--	--	1,004	1,004	1,004	1,004	1,004	1,004	1,004
Lithuania.....	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012	1,012
Moldova.....	--	--	--	1,064	1,064	1,064	1,064	1,064	1,064	1,064
Russia.....	--	--	--	1,008	1,008	1,008	1,008	1,008	1,008	1,008
Tajikistan.....	--	--	--	1,018	1,018	1,018	1,018	1,018	1,018	1,018
Turkmenistan.....	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012	1,012
Ukraine.....	--	--	--	1,033	1,033	1,033	1,033	1,033	1,033	1,033
Uzbekistan.....	--	--	--	1,015	1,015	1,015	1,015	1,015	1,015	1,015
Middle East										
Bahrain.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Iran.....	1,058	1,056	1,056	1,056	1,056	1,056	1,056	1,056	1,056	1,056
Iraq.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Israel.....	1,039	1,039	1,039	1,039	1,039	1,039	1,039	1,039	1,039	1,039
Jordan.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Kuwait.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Oman.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Qatar.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Saudi Arabia.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Syria.....	962	962	962	962	962	962	962	962	962	962
United Arab Emirates.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Africa										
Algeria.....	1,180	1,180	1,180	1,180	1,180	1,180	1,180	1,127	1,127	1,127
Angola.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Congo (Brazzaville).....	--	--	--	--	1,047	1,047	1,047	1,047	1,047	1,047
Cote d'Ivoire (Ivory Coast).....	--	--	--	--	--	--	1,047	1,047	1,047	1,047
Egypt.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Gabon.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Libya.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Morocco.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Nigeria.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Senegal.....	--	--	--	--	899	899	899	899	899	899
South Africa.....	--	--	--	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Tunisia.....	1,236	1,236	1,236	1,236	1,229	1,229	1,229	1,229	1,229	1,229

See footnotes at end of table.

Table C5 Gross Heat Content of Dry Natural Gas, 1989 - 1998 (Continued)
(Btu per Cubic Foot)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Far East & Oceania										
Afghanistan.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Australia.....	1,043	1,045	1,044	1,063	1,065	1,070	1,067	1,068	1,052	1,068
Bangladesh.....	941	941	941	941	941	941	941	941	941	992
Brunei.....	1,214	1,214	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154
Burma.....	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014
China.....	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,163
Hong Kong.....	--	--	--	--	--	--	1,047	1,047	1,047	1,047
India.....	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151
Indonesia.....	1,100	1,100	1,100	1,100	1,090	1,090	1,090	1,090	1,090	1,090
Japan.....	1,101	1,101	1,101	1,101	1,101	1,101	1,101	1,101	1,101	1,101
Korea, South.....	1,118	1,119	1,119	1,152	1,118	1,118	1,118	1,118	1,118	1,118
Malaysia.....	1,043	1,043	1,043	1,043	1,043	1,043	1,043	1,043	1,043	1,043
New Zealand.....	1,011	1,009	1,009	1,012	1,018	1,025	1,017	1,032	1,040	1,047
Pakistan.....	934	934	934	934	934	934	934	934	934	934
Papua New Guinea.....	--	--	--	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Philippines.....	--	--	--	--	--	--	1,047	1,047	1,047	977
Singapore.....	--	--	--	1,043	1,043	1,043	1,043	1,043	1,043	1,043
Taiwan.....	1,047	1,047	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Thailand.....	1,000	1,000	1,000	1,000	1,000	1,000	1,000	977	977	977
Vietnam.....	1,026	1,026	1,026	1,026	1,036	1,036	1,036	1,036	1,036	1,036

--= Not applicable.

Sources: See sources at the end of Section 4.

Table C6 Gross Heat Content of Coal, 1989 - 1998
(Thousand Btu per Short Ton)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
North America										
Canada.....	22,367	22,543	22,670	22,414	22,485	22,747	22,957	22,957	19,640	19,486
Mexico.....	19,352	19,352	19,352	19,352	19,352	15,644	15,958	16,321	16,660	16,660
United States.....	21,765	21,822	21,681	21,682	21,418	21,394	21,326	21,322	21,296	21,296
Central & South America										
Argentina.....	19,438	19,438	19,438	19,330	19,330	19,330	19,330	19,330	19,330	19,330
Brazil.....	17,459	17,459	17,459	16,000	16,000	16,000	14,746	14,746	14,746	14,746
Chile.....	24,652	24,664	24,666	24,488	24,544	24,505	24,070	24,103	24,103	24,103
Colombia.....	23,405	23,405	23,405	23,405	23,405	21,296	21,296	21,296	21,296	21,296
Peru.....	19,435	19,435	19,435	19,435	19,435	19,435	19,435	19,435	19,435	19,435
Venezuela.....	24,403	24,403	24,403	23,917	23,917	23,917	23,917	23,917	23,917	23,917
Western Europe										
Austria.....	10,493	10,493	10,493	9,372	9,373	9,370	9,370	9,370	9,370	9,370
Belgium.....	18,319	17,229	17,054	17,054	17,054	15,184	17,257	15,997	18,503	18,503
France.....	22,378	22,174	22,389	22,582	22,391	22,077	22,436	23,120	23,252	23,706
Germany.....	--	--	10,205	10,544	10,690	10,992	11,017	10,532	10,674	10,319
Germany, East.....	7,640	7,640	--	--	--	--	--	--	--	--
Germany, West.....	13,208	13,230	--	--	--	--	--	--	--	--
Greece.....	5,444	5,444	5,444	4,479	4,942	4,715	4,696	4,330	4,716	4,716
Ireland.....	24,768	24,768	24,768	23,414	23,604	22,469	22,469	22,469	22,469	22,469
Italy.....	9,932	9,774	9,297	10,819	9,216	8,608	8,348	4,172	4,172	4,172
Norway.....	24,172	24,172	24,172	24,168	24,168	24,161	24,161	24,161	24,161	24,161
Portugal.....	14,763	12,477	12,477	12,477	12,477	12,477	--	--	--	--
Spain.....	14,031	13,482	13,423	13,429	13,393	13,704	11,539	11,644	11,601	11,274
Sweden.....	20,642	20,642	20,642	23,404	23,404	23,404	--	--	--	--
Turkey.....	8,635	8,563	8,556	8,557	8,747	7,848	7,658	7,620	7,734	7,667
United Kingdom.....	22,689	22,687	22,687	20,860	20,849	20,828	21,728	21,645	21,890	21,890
Former Yugoslavia.....	10,707	10,564	10,425	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	7,958	7,958	7,958	7,646	7,646	7,646	7,646
Croatia.....	--	--	--	--	27,664	28,085	22,675	23,522	23,808	23,808
Macedonia, TFYR.....	--	--	--	7,936	7,936	7,936	7,936	7,936	7,936	7,936
Serbia and Montenegro.....	--	--	--	7,989	7,981	7,984	5,275	8,452	8,455	8,456
Slovenia.....	--	--	--	9,995	9,923	9,679	11,054	10,873	10,704	10,813
Eastern Europe & Former U.S.S.R.										
Albania.....	8,463	8,463	8,463	8,463	8,463	8,463	8,463	8,463	8,463	8,463
Bulgaria.....	8,728	8,486	8,514	8,086	8,214	8,073	7,755	8,062	7,935	7,911
Former Czechoslovakia.....	20,669	20,663	20,662	20,783	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	11,666	11,722	11,737	12,270	12,522	12,524
Slovakia.....	--	--	--	--	10,712	10,712	10,540	10,540	10,540	10,540
Hungary.....	10,353	10,309	10,302	11,129	10,660	11,826	9,646	9,541	9,566	9,109
Poland.....	16,113	15,747	15,506	16,111	16,036	16,166	15,462	16,451	15,721	15,308
Romania.....	8,172	7,868	7,882	6,737	6,901	6,944	6,882	7,137	7,311	7,472
Former U.S.S.R.....	15,351	15,507	15,180	--	--	--	--	--	--	--
Georgia.....	--	--	--	16,840	16,840	16,840	15,976	15,976	15,976	15,976
Kazakhstan.....	--	--	--	16,561	16,663	12,602	12,603	13,888	13,888	13,888
Kyrgyzstan.....	--	--	--	12,451	11,977	12,361	12,523	13,888	13,888	13,888
Moldova.....	--	--	--	16,840	16,840	16,840	16,840	13,888	13,888	13,888
Russia.....	--	--	--	15,670	15,686	15,719	15,795	16,393	16,403	16,351
Tajikistan.....	--	--	--	15,976	15,976	15,976	15,976	15,976	15,976	15,976
Ukraine.....	--	--	--	17,492	17,537	17,557	20,841	20,314	20,338	20,363
Uzbekistan.....	--	--	--	12,729	12,741	12,725	12,729	12,687	12,667	12,665

See footnotes at end of table.

Table C6 Gross Heat Content of Coal, 1989 - 1998 (Continued)
(Thousand Btu per Short Ton)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Middle East										
Iran.....	26,232	26,232	26,232	26,232	26,232	26,232	25,200	24,403	24,403	24,403
Africa										
Algeria.....	24,403	24,403	24,403	24,403	24,403	24,403	25,200	25,200	25,200	25,200
Botswana.....	22,000	22,000	22,000	22,000	22,000	22,000	25,200	24,403	24,403	24,403
Cameroon.....	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	24,403	24,403
Congo (Kinshasa).....	23,927	23,927	23,927	23,927	23,927	23,927	25,200	24,403	24,403	24,403
Egypt.....	--	--	--	--	--	--	--	24,403	24,403	24,403
Malawi.....	22,000	22,000	21,500	21,500	21,500	21,500	25,200	24,403	24,403	24,403
Morocco.....	30,103	30,103	30,103	30,103	30,103	30,103	25,200	22,221	22,221	22,221
Mozambique.....	24,403	24,403	24,403	24,403	24,403	24,403	25,200	24,403	24,403	24,403
Niger.....	25,200	25,200	25,200	25,200	25,200	25,200	25,200	24,403	24,403	24,403
Nigeria.....	24,403	24,403	24,403	24,403	24,403	24,403	25,200	24,403	24,403	24,403
South Africa.....	20,456	20,438	20,401	20,473	20,464	20,444	20,424	20,414	20,396	20,338
Swaziland.....	23,400	23,386	23,386	23,386	23,386	23,386	23,387	24,403	24,403	24,403
Tanzania.....	24,403	24,403	24,403	24,403	24,403	24,403	25,200	24,403	24,403	24,403
Zambia.....	23,411	23,411	23,411	24,244	25,308	25,308	21,246	23,415	23,415	23,415
Zimbabwe.....	24,403	24,403	24,403	24,403	24,403	24,403	24,403	24,403	24,403	24,403
Far East & Oceania										
Afghanistan.....	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000
Australia.....	17,309	17,574	17,498	17,540	17,782	18,374	18,485	18,390	18,364	18,209
Bhutan.....	17,500	17,500	17,500	17,500	18,500	18,500	25,200	24,403	24,403	24,403
Burma.....	16,499	15,334	15,840	15,606	15,537	15,559	16,325	15,359	14,845	16,021
China.....	18,121	18,101	18,109	18,100	17,973	17,978	17,103	17,103	17,103	17,103
India.....	16,807	16,762	16,727	17,050	17,042	17,006	20,000	18,233	18,244	18,420
Indonesia.....	24,403	24,403	24,403	24,403	24,403	24,402	25,199	24,403	24,403	24,403
Japan.....	21,091	21,086	21,088	21,088	21,088	19,816	19,813	19,812	19,811	19,820
Korea, North.....	21,935	21,772	21,707	21,079	20,849	20,915	20,918	21,638	21,755	21,755
Korea, South.....	16,203	16,203	16,203	16,200	16,200	16,200	16,199	16,199	16,199	16,199
Laos.....	22,500	22,500	22,500	22,500	22,500	22,500	25,200	24,403	24,403	24,403
Malaysia.....	24,403	24,403	24,403	24,403	24,403	24,403	25,200	27,776	27,776	27,776
Mongolia.....	10,236	10,206	10,206	9,237	9,237	9,238	9,720	9,305	9,304	9,306
Nepal.....	8,000	8,000	8,000	8,000	8,000	8,000	8,000	7,936	7,936	7,936
New Zealand.....	22,656	22,609	22,616	22,626	22,645	21,572	20,405	20,616	20,071	19,613
Pakistan.....	19,443	19,443	19,443	19,443	19,443	19,443	19,124	17,753	17,753	17,753
Philippines.....	20,204	20,204	20,204	20,206	20,206	20,205	17,003	19,017	19,011	19,010
Taiwan.....	24,602	24,602	24,602	23,500	22,324	22,324	25,200	24,403	24,403	24,403
Thailand.....	9,902	9,912	9,911	9,415	9,418	9,412	15,843	11,510	11,508	11,508
Vietnam.....	24,403	24,403	24,403	24,403	29,308	29,308	25,200	19,816	19,816	19,816

--= Not applicable.

Note: Heat contents are calculated based on individual heat contents for production of anthracite, bituminous, and lignite.

Sources: See sources at the end of Section 5.

Table C7 Gross Heat Content of Hyrdoelectric Power, 1989 - 1998
(Btu per Kilowatthour)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
North America										
Canada.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Mexico.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
United States.....	10,432	10,402	10,436	10,342	10,309	10,316	10,312	10,335	10,311	10,311
Central & South America										
Argentina.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Bolivia.....	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403
Brazil.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Chile.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Colombia.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Costa Rica.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Dominican Republic.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
Ecuador.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
El Salvador.....	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402
Guatemala.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Haiti.....	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410
Honduras.....	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402
Jamaica.....	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403
Nicaragua.....	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415
Panama.....	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398
Paraguay.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Peru.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Puerto Rico.....	10,389	10,389	10,389	10,389	10,389	10,389	10,389	10,389	10,389	10,389
Suriname.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Uruguay.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Venezuela.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Western Europe										
Austria.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Belgium.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Finland.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
France.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Germany.....	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Germany, East.....	10,400	10,400	--	--	--	--	--	--	--	--
Germany, West.....	10,400	10,400	--	--	--	--	--	--	--	--
Greece.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Iceland.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Ireland.....	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398
Italy.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Luxembourg.....	10,409	10,409	10,409	10,409	10,409	10,409	10,409	10,409	10,409	10,409
Norway.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Portugal.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Spain.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Sweden.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Switzerland.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Turkey.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
United Kingdom.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Former Yugoslavia.....	10,400	10,400	10,400	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Croatia.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Macedonia, TFYR.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Serbia and Montenegro.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Slovenia.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400

See footnotes at end of table.

Table C7 Gross Heat Content of Hyrdoelectric Power, 1989 - 1998 (Continued)
(Btu per Kilowatthour)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Eastern Europe & Former U.S.S.R.										
Albania.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Bulgaria.....	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398
Former Czechoslovakia.....	10,400	10,400	10,400	10,400	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Slovakia.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Hungary.....	10,419	10,419	10,419	10,419	10,419	10,419	10,419	10,419	10,419	10,419
Poland.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
Romania.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Former U.S.S.R.....	10,400	10,400	10,400	--	--	--	--	--	--	--
Armenia.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Azerbaijan.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Georgia.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Kazakhstan.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Kyrgyzstan.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Latvia.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Lithuania.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Moldova.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Russia.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Tajikistan.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Ukraine.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Uzbekistan.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Middle East										
Iran.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Iraq.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Israel.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Jordan.....	10,526	10,526	10,526	10,526	10,526	10,526	10,526	10,526	10,526	10,526
Lebanon.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Syria.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Africa										
Algeria.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
Angola.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Cameroon.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Congo (Brazzaville).....	10,390	10,390	10,390	10,390	10,390	10,390	10,390	10,390	10,390	10,390
Congo (Kinshasa).....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Cote d'Ivoire (Ivory Coast).....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
Egypt.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Ethiopia.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
Gabon.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
Ghana.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Kenya.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Madagascar.....	10,412	10,412	10,412	10,412	10,412	10,412	10,412	10,412	10,412	10,412
Malawi.....	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394
Mali.....	10,375	10,375	10,375	10,375	10,375	10,375	10,375	10,375	10,375	10,375
Morocco.....	10,407	10,407	10,407	10,407	10,407	10,407	10,407	10,407	10,407	10,407
Nigeria.....	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398
Reunion.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
South Africa.....	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394
Sudan.....	10,391	10,391	10,391	10,391	10,391	10,391	10,391	10,391	10,391	10,391
Tanzania.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Uganda.....	10,392	10,392	10,392	10,392	10,392	10,392	10,392	10,392	10,392	10,392
Zambia.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Zimbabwe.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401

See footnotes at end of table.

Table C7 Gross Heat Content of Hyrdoelectric Power, 1989 - 1998 (Continued)
(Btu per Kilowatthour)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Far East & Oceania										
Afghanistan.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Australia.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Bangladesh.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Bhutan.....	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Burma.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Cambodia.....	10,333	10,333	10,333	10,333	10,333	10,333	10,333	10,333	10,333	10,333
China.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Fiji.....	10,405	10,405	10,405	10,405	10,405	10,405	10,405	10,405	10,405	10,405
French Polynesia.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
India.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Indonesia.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Japan.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Korea, North.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Korea, South.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Laos.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
Malaysia.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
Nepal.....	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394
New Caledonia.....	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394
New Zealand.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Pakistan.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Papua New Guinea.....	10,393	10,393	10,393	10,393	10,393	10,393	10,393	10,393	10,393	10,393
Philippines.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Samoa.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Sri Lanka.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
Taiwan.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Thailand.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
U.S. Pacific Islands.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Vietnam.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399

--= Not applicable.

Note: There is no generally accepted practice for evaluating the thermal conversion rates for power plants that generate electricity from hydroelectric sources. Therefore, estimates of the prevailing annual average heat content for fossil-fueled, steam-electric power plants are used to evaluate the heat content for hydroelectric power. By using that factor, it is possible to evaluate fossil fuel requirements for replacing those sources during periods of interruption such as droughts.

Sources: See sources at the end of Section 6.

Table C8 Gross Heat Content of Nuclear Electric Power, 1989 - 1998
(Btu per Kilowatthour)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
North America										
Canada.....	11,550	11,478	11,478	11,440	11,376	11,376	11,365	11,365	11,365	11,365
Mexico.....	--	10,295	10,065	10,065	10,065	10,065	10,065	10,065	10,065	10,065
United States.....	10,724	10,680	10,740	10,678	10,682	10,676	10,658	10,623	10,623	10,623
Central & South America										
Argentina.....	11,809	11,809	11,809	11,809	11,809	11,809	11,809	11,809	11,809	11,809
Brazil.....	10,258	10,258	10,246	10,246	10,246	10,246	10,246	10,246	10,246	10,246
Western Europe										
Belgium.....	10,378	10,378	10,373	10,373	10,373	10,373	10,373	10,373	10,373	10,373
Finland.....	10,365	10,365	10,278	10,278	10,278	10,278	10,278	10,278	10,278	10,278
France.....	10,161	10,413	10,405	10,399	10,396	10,355	10,355	10,349	10,349	10,349
Germany.....	--	--	10,205	10,205	10,205	10,205	10,189	10,189	10,189	10,189
Germany, East.....	11,278	11,278	--	--	--	--	--	--	--	--
Germany, West.....	10,469	10,437	--	--	--	--	--	--	--	--
Netherlands.....	10,548	10,548	10,485	10,485	10,485	10,485	10,485	10,485	10,308	10,308
Spain.....	10,775	10,151	10,151	10,151	10,151	10,151	10,151	10,151	10,151	10,151
Sweden.....	10,001	10,001	10,090	10,090	10,090	10,090	10,090	10,090	10,090	10,090
Switzerland.....	10,632	10,632	10,540	10,540	10,540	10,540	10,540	10,540	10,540	10,540
United Kingdom.....	11,892	11,892	12,461	12,461	12,424	12,552	12,446	12,446	12,446	12,446
Former Yugoslavia.....	11,373	11,373	10,035	--	--	--	--	--	--	--
Slovenia.....	--	--	--	10,035	10,035	10,035	10,035	10,035	10,035	10,035
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	11,006	11,006	11,006	11,006	11,006	11,006	11,006	11,006	11,006	11,006
Former Czechoslovakia.....	12,274	12,274	12,274	12,274	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	12,099	12,099	12,099	12,099	12,099	12,099
Slovakia.....	--	--	--	--	12,318	12,318	12,318	12,318	12,318	11,922
Hungary.....	11,373	11,373	10,065	10,065	10,065	10,065	10,065	10,065	10,065	10,065
Romania.....	--	--	--	--	--	--	--	11,930	11,930	11,930
Former U.S.S.R.....	11,443	11,463	11,469	--	--	--	--	--	--	--
Armenia.....	--	--	--	--	--	--	--	11,725	11,725	11,725
Kazakhstan.....	--	--	--	11,373	11,373	11,373	11,373	11,373	11,373	11,373
Lithuania.....	--	--	--	10,663	10,663	10,663	10,663	10,663	10,663	10,663
Russia.....	--	--	--	11,038	11,030	11,030	11,030	11,030	11,030	11,030
Ukraine.....	--	--	--	10,911	10,911	10,911	10,873	10,873	10,873	10,873
Africa										
South Africa.....	10,308	10,308	10,035	10,035	10,035	10,035	10,035	10,035	10,035	10,035
Far East & Oceania										
China.....	--	--	--	10,339	10,207	10,159	10,159	10,159	10,159	10,159
India.....	11,671	11,671	11,844	11,906	11,957	11,957	11,998	11,998	11,998	11,998
Japan.....	10,646	10,273	10,250	10,250	10,234	10,226	10,236	10,223	10,217	10,217
Korea, South.....	10,422	10,088	10,088	10,088	10,088	10,035	10,035	9,991	9,955	9,900
Pakistan.....	11,784	10,797	10,797	10,797	10,797	10,797	10,797	10,797	10,797	10,797
Taiwan.....	10,227	10,227	9,876	9,876	9,876	9,876	9,876	9,876	9,876	9,876

--= Not applicable.

Note: The average heat content of electricity generated by nuclear electric power plants is calculated by dividing the heat content of electricity consumed in nuclear generating units (3,412 Btu per kilowatthour) by the estimated efficiency factor (the ratio of output to input) for each nuclear power plant.

Sources: See sources at the end of Section 6.

Table C9 Gross Heat Content of Geothermal Electric Power, 1989 - 1998
(Btu per Kilowatthour)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
North America										
Mexico.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
United States.....	21,096	21,096	20,997	20,914	20,914	20,914	20,914	20,960	20,960	20,960
Central & South America										
Costa Rica.....	--	--	--	--	--	21,020	21,020	21,020	21,020	21,020
El Salvador.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Nicaragua.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Western Europe										
Iceland.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Italy.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Portugal.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Turkey.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Eastern Europe & Former U.S.S.R.										
Romania.....	21,273	21,273	--	--	--	--	--	--	--	--
Former U.S.S.R.....	21,020	21,020	21,020	--	--	--	--	--	--	--
Russia.....	--	--	--	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Middle East										
Jordan.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Africa										
Ethiopia.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Kenya.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Far East & Oceania										
Indonesia.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Japan.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
New Zealand.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Philippines.....	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Vietnam.....	21,020	21,020	21,020	21,020	21,020	--	--	--	--	--

-- Not applicable.

Note: The average heat content of electricity generated by geothermal electric power plants is calculated by weighting the annual average heat rates of operating geothermal units by the installed nameplate capacities.

Sources: See sources at the end of Section 6.

Table C10 Gross Heat Content of Biomass, Solar, and Wind Electric Power, 1989 - 1998
(Btu per Kilowatthour)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
North America										
Canada.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Mexico.....	--	--	--	--	--	10,400	10,400	10,400	10,400	10,400
United States.....	10,432	10,402	10,436	10,342	10,309	10,316	10,312	10,335	10,311	10,311
Central & South America										
Argentina.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Bolivia.....	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403
Brazil.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Chile.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Colombia.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Cuba.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Dominican Republic.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
El Salvador.....	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402
Guatemala.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Haiti.....	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410
Jamaica.....	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403
Nicaragua.....	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415
Panama.....	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398
Paraguay.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Peru.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Trinidad and Tobago.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Uruguay.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Western Europe										
Austria.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Belgium.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Denmark.....	10,345	10,345	10,345	10,345	10,345	10,345	10,345	10,345	10,345	10,345
Finland.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
France.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Germany.....	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Germany, West.....	10,400	10,400	--	--	--	--	--	--	--	--
Italy.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Luxembourg.....	10,409	10,409	10,409	10,409	10,409	10,409	10,409	10,409	10,409	10,409
Netherlands.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Norway.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Portugal.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Spain.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Sweden.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Switzerland.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
United Kingdom.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Eastern Europe & Former U.S.S.R.										
Czech Republic.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Poland.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
Romania.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Far East & Oceania										
Australia.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
India.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Japan.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Korea, South.....	--	--	--	--	--	10,401	10,401	10,401	10,401	10,401
New Zealand.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400

--= Not applicable.

Note: There is no generally accepted practice for evaluating the thermal conversion rates for power plants that generate electricity from biomass, wind, and solar sources. Therefore, estimates of the prevailing annual average heat content for fossil-fueled, steam-electric power plants are used to evaluate the heat content for biomass, wind and solar power.

Sources: See sources at the end of Section 6.

Appendix D

**Oil and Gas Market
Chronology: 1998**

Oil and Gas Market Chronology: 1998

The following chronology lists international events of potential significance for world oil and natural gas markets in 1998. Sources include: *Dow Jones (DJ)*, *Los Angeles Times (LAT)*, *Reuters (REU)*, *The Congressional Quarterly (CQ)*, *The New York Times (NYT)*, *The Wall Street Journal (WSJ)*, *The Washington Post (WP)*, and *The Washington Times (WT)*.

(Note: For monthly chronologies for 1996-1999 and annual highlights for 1970-1998, see the Chronologies section of our International (Energy) Web Page at (<http://www.eia.doe.gov/emeu/international/chronolo.html>).

- Jan. 5** France's Total SA reports that it has successfully tested a new well in Block 14 offshore Cabinda, Angola. The new discovery, called Landana, produces 7,300 barrels per day of 36-degree API crude oil, encouraging Total and its partners to continue with three more exploration wells in 1998. Total holds 20 percent of Block 14, with Chevron Corporation holding 31 percent, Angola's national oil company Sonangol 20 percent, Italy's Agip 20 percent, and Petrolgal 9 percent. (DJ)
- Jan. 7** Due to the continuing Asian economic crisis, South Korea's refiners have reportedly cut operations to around 80 percent of capacity. The refiners have also had difficulty securing crude oil supplies for delivery in late January or February, which could cut operations to as low as 70 percent-75 percent of capacity. (DJ)
- Jan. 8** Elf Exploration Angola, a unit of France's Elf Aquitaine, and its partner Societed Nacional de Combustiveis de Angola begin production of 9,500 barrels of oil per day from the Oombo field, located offshore Angola. Elf Exploration operates the field and holds a 50 percent interest. (DJ)
- Jan. 9** Premier Oil PLC announces that it has made a significant gas discovery in the Natuna Sea, Block A, Indonesia. After four drill tests produced a combined flow rate of 43 million cubic feet of gas per day, Premier has suspended the Pelikan-1 as a future producer. The Pelikan-1 well is located about 31 miles from the Anoa oil production platform, and it follows a gas discovery at the Gajah Puteri well drilled in late 1997. The oil rig will now move to another location in the block to drill the Adik Anoa oil and gas prospect. Premier operates Block A, holding a 66.67 percent interest, with Kuwait Foreign Exploration Company holding the remaining 33.33 percent interest. (DJ)
- Jan. 9** Shell Philippines Exploration, a unit of Royal Dutch/Shell and its partner Occidental Philippines, a unit of Occidental Petroleum Corporation, sign two gas supply agreements for the Malampaya natural gas-to-power project in the Philippines. The first agreement is with First Gas Holdings, a company 40 percent-owned by British Gas. The agreement calls for 1.46 trillion cubic feet of natural gas to be sent over a 20-year period to two power plants that will be built by First Gas. Initial delivery is scheduled to begin January 1, 2002. The second agreement is with National Power Corporation of the Philippines. It is a 20-year agreement beginning January 1, 2002, to supply gas to a turbine power plant to be built at Ilijan, Batangas. Total financing for the gas-to-power project is around \$4.5 billion, which will cover the development of the offshore subsea gas production wells, the construction of a 317-mile offshore pipeline and shore terminal, and the construction of the three power plants. (DJ)
- Jan. 12** The Albanian government awards oil exploration blocks to two international oil consortia, one led by Austria's OMV and the other led by an Albanian subsidiary of Occidental Petroleum. OMV and its United Kingdom partners Enterprise Oil and Clyde Gas have received two blocks in the south and one in central north Albania. Meanwhile, Occidental and its partner International Petroleum Corporation have received two blocks in the south and one in the north. Although the production-sharing agreements still need to be approved by the Albanian government, drilling is expected to begin in mid-1998. (DJ)
- Jan. 12** After running aground in rough seas near the United Arab Emirates on January 7, 1998, a sunken barge has spilled about 28,000 barrels of fuel oil into the Persian Gulf. The spill created a 5-mile by 2-mile oil slick along the coastline of the northern emirate of Umm Al Quwain. International environmental experts have teamed with the Emirates Coast Guard, the Federal Environment Authority and the Abu Dhabi National Oil Company in cleanup efforts. (DJ)

- Jan. 13** Japan's Mitsubishi Petroleum Development Company begins oil production from a well in Block 3/91, located 25 miles off the coast of Angola. Daily output from the well is estimated at 9,500 barrels, with the concession expected to yield a total of around 15 million barrels of crude oil. (DJ)
- Jan. 14** In a show of support for Richard Butler, chairman of the United Nations (U.N.) Special Commission on Iraq, the U.N. Security Council unanimously approves a statement deploring Iraq's recent actions to impede inspections by U.N. weapons monitors. (DJ)
- Jan. 14** China National Offshore Oil Corporation and Norway's Statoil begin production from the Lufeng 22-1 oil field. Lufeng 22-1 is the deepest oil field in the South China Sea and is currently producing about 60,000 barrels per day. (DJ)
- Jan. 14** Iraq begins exporting crude oil under the third phase of the United Nations sponsored oil-for-food program. First loadings are filling the million barrel tanker White Sea for French oil company Elf Aquitaine. Other companies expected to lift Iraqi crude in January include France's Total, Italy's Agip, Russia's Lukoil, and China's Sinochem. (DJ)
- Jan. 15** Environmentalists hail the implementation of a 50-year moratorium on mining and oil exploration in the Antarctic. A protocol for the protection of the Antarctic was adopted by twenty-six countries in 1991, but it could not be implemented until Japan's ratification cleared the way last month. Antarctica contains 70 percent of the world's fresh water, and the moratorium attempts to preserve the world's least polluted continent. (WP)
- Jan. 19** Elf Exploration Incorporated, a subsidiary of France's Elf Aquitaine announces the development of its Virgo discovery located in the Gulf of Mexico off the coast of Louisiana. The next step for Elf and its partners is to construct a drilling and production platform that will have a daily production capacity of 120 million cubic feet of gas and 15,000 barrels of oil. Elf Exploration holds a 64 percent interest in the license with Coastal Oil and Gas 16.2 percent, Pogo Producing Company 10.8 percent, and Nippon Oil Exploration USA Limited 9 percent. (DJ)
- Jan. 19** Bohai Petroleum Company, a unit of China National Offshore Oil Corporation, begins production from the Boxi Oil field located in the Bohai Sea. The field's reserves are estimated at more than 37 million barrels of oil and about 353 billion cubic feet of natural gas. (DJ)
- Jan. 19** Gazprom, Russia's giant natural gas company, signs a \$340 million agreement with Poland designed to help repay Poland's \$200 million debt to Gazprom and to finance the Jamal-Europa gas pipeline. Under the agreement, Poland will give Gazprom \$175 million worth of goods and services. The other \$165 million will finance the construction of the pipeline, which will cross Russia and Eastern Europe into Western Europe. The Polish section of the pipeline is expected to be completed later this year. (DJ)
- Jan. 20** Russia's second and seventh largest oil concerns, AO Yukos and AO Sibneft, announce a merger to create a new company to be named AO Yuksi. In terms of reserves, Yuksi will surpass Royal Dutch/Shell Group as the world's largest private oil company and rank third behind Shell and Exxon Corporation in terms of production. Yukos's shareholders will take a 60 percent share in the new company, with shareholders from Sibneft controlling the remaining 40 percent. (WSJ)
- Jan. 21** Following a speech last week by Luis Giusti, president of state-owned Petroleos de Venezuela, in which he claimed that Saudi Arabia has been producing 9.12 million barrels of crude oil per day and that its overproduction has led to falling oil prices, Saudi Arabia defends itself stating that it is abiding by its new OPEC production quota of 8.76 million barrels per day. Giusti also said that Venezuela is currently producing 3.3 million barrels per day, which is about 25 percent over its OPEC quota of 2.583 million barrels per day, and that production will reach 3.6 million barrels per day in 1998. (DJ)
- Jan. 22** Statoil, Norway's state-owned energy company, reports that 10 drilling services contracts have been awarded to companies holding production sharing contracts in the Caspian Sea off the coast of Azerbaijan. The 10 contracts, worth \$110 million, have been awarded to Azdri MI, Schlumberger, Geoservices, Oceaneering, Baker Hughes Intec, Franks International and Security DBS. The first exploration well in the Shah Deniz area, where Statoil holds a 25.5 percent interest, is scheduled to be drilled in June 1998. (DJ)
- Jan. 25** Toyota Motor Corporation announces that it will attempt to introduce its hybrid electric/gasoline-powered Prius compact simultaneously in the United States and Europe in the year 2000. This new hybrid system generates half the

carbon dioxide of a gasoline engine and reduces emissions of other toxic substances such as nitrogen oxides. The Prius was introduced in Japan in December 1997, and sales have been strong, with 3,500 orders received in the first month. (DJ)

- Jan. 26** The Algerian Energy Council adopts a series of measures designed to strengthen Algeria's oil and gas industry, including the opening of the refining, petrochemical, and fertilizer sectors to foreign investment. (DJ)
- Jan. 26** Delegates from OPEC's Ministerial Monitoring Committee hold an emergency one-day meeting to discuss falling oil prices. The delegates agree that OPEC's crude oil output is above the 27.5 million barrels per day ceiling by at least 500,000 barrels per day, but less than 1 million barrels per day. The delegates also say that there is little OPEC can do to lift oil prices soon outside of recommending strict adherence to production quotas or possibly cutting production. (DJ)
- Jan. 27** Su Shulin, Executive Deputy Director of the Daqing Petroleum Management Bureau, states that China's largest oil field, Daqing, will maintain annual crude production of around 100,000 barrels per day through 2010. Proven reserves in the field are said to be around 40 billion barrels. (DJ)
- Jan. 28** Amoco Corporation announces a crude oil discovery at its Immortelle oil field, located 34 miles off the east coast of Trinidad. This represents Amoco's largest crude oil find in Trinidad in 25 years. Reserve estimates range between 40 and 70 million barrels, and as many as eight wells could be drilled by the end of the year. [Editor's note: EIA estimates Trinidad oil production for 1997 at 124,000 barrels per day.] (DJ)
- Jan. 29** Hungarian oil and gas company MOL renews an agreement with Nafta Industria Serbia (NIS) to ship Russian natural gas to Serbia. Under the agreement, MOL will ship 99 billion cubic feet of Russian gas across Hungary from the border with Ukraine to the Hungarian-Serbian border in 1998. Annual gas shipments to Serbia will gradually increase over the course of the agreement eventually reaching 134 billion cubic feet in 2002. Over the next 20 years, MOL expects to ship a total of at least 2.6 trillion cubic feet of gas to Serbia. In addition, MOL is set to develop a pipeline system to deliver natural gas to Bosnia. MOL says it will invest around \$77 million in the new system and expects to have it in service by the year 2000. (DJ)
- Jan. 31** New York, Massachusetts, Vermont and Maine have decided to hold out for California's zero emission standard for cars rather than join the federal National Low Emission Vehicle program. Under the federal program, automakers will agree to begin producing cars that will significantly reduce the amount of smog-producing emissions if all 13 northeastern states will agree not to adopt California's tougher standard. The automakers say that the new cars would be 70 percent more effective in eliminating emissions of hydrocarbons and 50 percent more effective in reducing emissions of oxides of nitrogen. The cleaner cars could be available in the northeast as early as this year and nationally by 2000. Many federal officials and some automakers believe that the auto industry will agree to the new program even without participation from all 13 states. The automakers have until February 17 to decide whether they will go along with the National Low Emission Vehicle program. (WP)
- Feb. 1** A U.S. federal judge denies a preliminary injunction requested by civil rights lawyers that would have removed California-based Unocal Corporation from a \$1.2 billion pipeline project in Burma. The lawsuit alleges a variety of human rights violations by the Burmese government in connection with the project. The judge's ruling states that prohibiting Unocal's participation in the project would not stop the human rights abuses claimed in the lawsuit. President Clinton imposed trade and economic sanctions on Burma in April 1997, but the ban did not affect existing investments. Unocal holds a 28 percent share in the pipeline project, which is being constructed from Burma to Thailand. (DJ)
- Feb. 1** United Nations (U.N.) Secretary-General Kofi Annan calls for an increase in the amount of oil Iraq can sell under the U.N.-sponsored oil-for-food program. Annan recommends raising the sales limit from \$2.14 billion every six months to \$5.2 billion. The recommendation now moves to the U.N.'s 15-member Security Council for approval. (WP)
- Feb. 2** Western partners in the Caspian Pipeline Consortium have frozen funds for a \$2 billion pipeline and are pushing for a shake-up in the Consortium's Russian-led management. The 900-mile pipeline will eventually transport 1.4 million barrels of oil per day from Kazakhstan's Tengiz oil field through Russia to the Black Sea port of Novorossiysk. Oil shipments were scheduled to begin in late 1999, but will likely be delayed at least one year as a result of this latest development. Continued funding of the project was contingent upon the Consortium obtaining Russian rights of way and various federal and local permits for the pipeline by the end of 1997. During a meeting in December 1997, the Western partners discovered that much of this work had not been completed. (WSJ)

- Feb. 3** Azerbaijan's state oil company Socar and U.S.-based Conoco announce an agreement to conduct a joint study of Azerbaijan's natural gas processing industries. The study will examine the commercial viability of gathering, processing, and transporting Azerbaijan's natural gas and natural gas liquids for export and domestic use. The study will be conducted over a period of six months. (DJ)
- Feb. 3** Russia's RAO Gazprom has sold its 10 percent stake in Centgas, a consortium set up to construct a \$2 billion Turkmenistan-Afghanistan-Pakistan natural gas pipeline. U.S.-based Unocal Corporation acquired 7 percent of Gazprom's shares, bringing its total stake in the Centgas to 54 percent. The remaining 3 percent went to Japanese-owned Indonesia Petroleum and Itochu, South Korea's Hyundai Engineering & Construction Company, and Pakistan's Crescent Group. The 800-mile pipeline will extend from the Daulatabad gas field in southeastern Turkmenistan through Afghanistan to Pakistan. (DJ)
- Feb. 4** General Motors and Amoco Corporation announce a groundbreaking partnership to jointly develop clean-burning motor vehicle fuels. The partnership is the first of its kind between an automaker and an oil company. General Motors Vice Chairman Harry Pearce says that cleaner diesel fuels and cleaner-burning reformulated gasoline are necessary for the success of future hybrid vehicles, which will run on a combination of gasoline and electricity. (WSJ) (DJ)
- Feb. 4** General Motors, Chrysler Corporation, and Ford Motor Company announce that they will participate in the Environmental Protection Agency's National Low Emission Vehicle Program. The Program requires automakers to build cars that will be 70 percent cleaner than current models. In exchange for the voluntary participation of the car companies, eight Northeastern states and the District of Columbia gave up the right to adopt higher California emissions standards. The automakers will begin producing the cleaner cars in 1999 in the Northeast and two years later in the rest of the country. Ten foreign automakers have agreed to participate as well, including Honda, Toyota, Nissan, BMW, Mercedes, Saab, Subaru, Suzuki, Volvo, and Rolls Royce. (NYT) (WP) (DJ)
- Feb. 5** Following a ruling by a federal judge denying a request from environmentalists and Native Americans seeking to block the sale of the Elk Hills Naval Petroleum Reserve, the U.S. Department of Energy formally transfers ownership of the reserve to Occidental Petroleum Corporation. Occidental purchased a 78 percent interest in the field for \$3.65 billion. Chevron Corporation currently holds the remaining 22 percent. Elk Hills contains 450 million barrels of proven oil reserves. However, officials from Occidental believe the reserve may contain one billion barrels of recoverable reserves. (DJ)
- Feb. 5** Norway's state oil company Statoil AS and its partners will invest \$400 million to expand the development of Venezuelan oil field LL 652. The investment will cover the first phase of the expansion designed to increase production from 10,000 barrels per day to 115,000 barrels per day over the next ten years. The field's recoverable reserves are estimated at 500 million barrels. Statoil and Chevron each hold a 30 percent interest in the project with Phillips and Atlantic Richfield each holding 20 percent. (DJ)
- Feb. 5** The United Kingdom's Hardy Oil & Gas announces the discovery of a major new natural gas field in the South West Miano concession onshore Pakistan. The exploration well Sawan-1, operated by Austria's OMV, produced a flow rate of 58 million cubic feet per day. Reserves are estimated at approximately 918 billion cubic feet. Commercial development is expected to begin in 1998, and initial production is to start by the end of 1999. Hardy and Pakistan Petroleum Limited each hold a 30 percent interest in the concession, with OMV holding a 25 percent interest. (DJ)
- Feb. 6** Iraq rejects key parts of United Nations (U.N.) Secretary-General Kofi Annan's proposal to increase the amount of oil Iraq is permitted to sell under the U.N.'s oil-for-food program from \$2.14 billion to \$5.2 billion. In a letter to Annan, Iraqi Foreign Minister Mohammed Saeed al-Sahhaf objects to additional funds to pay for U.N. monitoring, proposals to repair electric power stations in northern Iraq, and plans for U.N. agencies to target aid to specific groups such as the poor and children. Al-Sahhaf writes that the Iraqi government should deliver the aid and determine which power stations are repaired not the U.N. (WP) (DJ)
- Feb. 9** In a letter to United Nations (U.N.) Secretary-General Kofi Annan, Iraqi Foreign Minister Mohammed Saeed al-Sahhaf informs the U.N. that Iraq can only export up to \$4 billion of oil in six months. The letter is a response to Annan's recommendation that the U.N. Security Council allow Iraq to increase the amount it can export under the oil-for-food program from \$2.14 billion to \$5.2 billion. In addition, al-Sahhaf writes that a larger share of the oil sales should go towards humanitarian aid, while the amounts funding U.N. programs and a compensation fund for Persian Gulf war victims should be reduced. (DJ)

- Feb. 9** Georgian President Eduard Shevardnadze escapes an assassination attempt as he is headed home in T'bilisi, Georgia's capital. This represents the second assassination attempt against him in three years. Shevardnadze is not injured, but two bodyguards are dead and four others seriously wounded. Shevardnadze suggests that the attack could have been related to his country's attempt to be part of a pipeline route transporting Caspian Sea oil to the Black Sea. (WP)
- Feb. 10** The United Nations (U.N.) approves 34 oil contracts submitted by Iraq that will meet its \$2 billion quota under the third phase of the U.N.-sponsored oil-for-food program. The 34 contracts total 151.8 million barrels of oil. Iraq exported 121.1 million barrels during the first phase and 127.3 million barrels during the second. The increase in volume is due to weakening oil prices on international markets. (DJ)
- Feb. 10** Philippine President Fidel Ramos signs into law legislation deregulating the country's oil industry. It is the last major structural reform sought by the International Monetary Fund (IMF) before it allows the Philippines to withdraw from its current IMF borrowing program. The new law provides for a five-month transition period before full deregulation and a \$73 million buffer fund that can be used to subsidize certain petroleum products. (DJ)
- Feb. 10** Energy Africa Limited, a South African oil and gas exploration company, announces the discovery of oil off the coast of Congo about 10 miles southwest of the Nkossa oil field. The Bilondo Marine 1 well produced flow rates of 8,520 barrels of oil per day. The well also tapped into a different geological structure from Nkossa, proving the existence of a separate field. The discovery was made within the Haute Mer exploration permit, which could contain estimated oil reserves of 500 million barrels. Energy Africa holds a 4 percent interest in a consortium that includes Elf Aquitaine (51 percent), Chevron (30 percent), and Hydro Congo (15 percent). (DJ)
- Feb. 11** Russia's RAO Gazprom and Italy's ENI SpA sign a preliminary agreement for joint exploration and exploitation of the Astrakhan region in Russia. The Astrakhan fields are estimated to contain up to one billion barrels of oil equivalent. The deal is worth \$3 billion and includes ENI taking a yet-to-be-determined stake in Gazprom. In addition, the two companies envision joint ventures in other regions of the world, including Europe, the Mediterranean, and China. (DJ)
- Feb. 16** The United Nations (U.N.) Iraq Sanctions Committee approves a pricing plan for Iraqi oil to be shipped under the third phase of the U.N.-sponsored oil-for-food program. The approval clears the way for Iraq to export \$1.07 billion of oil in each of two 90-day periods. The first 90-day period ends on March 5, 1998. (DJ)
- Feb. 17** A barge carrying about 200,000 gallons of diesel fuel sinks in rough seas off the coast of the United Arab Emirates. The barge is suspected of transporting smuggled fuel from Iraq. (DJ)
- Feb. 18** United Nations (U.N.) Secretary-General Kofi Annan receives unanimous support from the U.N. Security Council for his diplomatic trip to Iraq. Annan is scheduled to meet with President Saddam Hussein and other Iraqi leaders in an attempt to reach a diplomatic solution to the standoff between Iraq and the U.N. over weapons inspections. (DJ)
- Feb. 18** The international environmental group Greenpeace praises a policy decision by the European Union (EU) Commission to ban the disposal of offshore oil and gas platforms at sea. The Commission also called on countries in the Ospar Convention to adopt the same policy. The Ospar Convention regulates marine pollution in the Northeast Atlantic from Gibraltar to the Arctic. The policy, which carries an exemption for large concrete platforms, still requires approval from EU foreign ministers. The ministers will address the policy at a Ministerial meeting on July 20-24, 1998. (DJ)
- Feb. 19** The U.S. Justice Department intervenes in four lawsuits against DuPont Company's Conoco Unit, Royal Dutch/Shell Group's Shell Oil Company, Burlington Resources, and Amoco Corporation. The companies are accused of violating the False Claims Act by knowingly underpaying royalties to the US government and Indian nations for oil extracted from public and Indian lands. No estimate of the value of the underpayments has been released, but a Justice Department attorney says that, since 1988, the companies had undervalued hundreds of millions of barrels of oil taken from the Gulf of Mexico and western states. (NYT) (WSJ)
- Feb. 20** The United Nations (U.N.) Security Council votes unanimously to more than double the amount of oil Iraq can export under the U.N. oil-for-food program. The Security Council's vote increases the amount Iraq can export from \$2.14 billion to \$5.26 billion over six months. Iraq maintains that it only has the capability to export up to \$4 billion over a six-month period. (DJ)
- Feb. 22** Sudan signs a \$600 million agreement with three foreign companies to construct a 994-mile pipeline to carry oil from the western fields of Higlig to Bashair Port, near Port Sudan on the Red Sea. The pipeline will transport 150,000

barrels per day and is expected to be operational by June 1999. The Sudanese government's partners are China's CPECC Oil Company, Argentina's Techint, and Britain's Weir and Allan Diesel. (DJ)

- Feb. 22** United Nations (U.N.) Secretary-General Kofi Annan reaches an agreement with senior Iraqi officials over U.N. inspections of suspected Iraqi weapons sites. The deal includes opening eight Iraqi presidential compounds to weapons inspectors, one of the major points of contention between Iraq and the U.N. Annan will now present the agreement to the U.N. Security Council for approval. (WP)
- Feb. 23** Amerada Hess Corporation of the U.S. signs two production-sharing contracts with Malaysia's Petronas Carigali, marking Amerada Hess' entry into exploration activities in Malaysia. The contracts give Amerada Hess a 70 percent stake in block PM304 offshore Terengganu and an 80 percent stake in block SK306 offshore Sarawak. Amerada Hess has committed to spending \$24.9 million and drilling five wells on the two blocks. (DJ)
- Feb. 23** Japan's Export-Import Bank signs a loan agreement worth approximately \$80 million with Gas Authority of India Limited to help finance capacity expansion work on a natural gas pipeline linking Gujarat, Madhya, and Uttar provinces with the Bombay North oil and gas field. The loan is being co-financed by the Asian Development Bank. The loan will be used to boost the capacity of the pipeline from 636 million cubic feet per day to 1.2 billion cubic feet per day. (DJ)
- Feb. 24** Turkmenistan and Shell Exploration B.V. sign a Memorandum of Understanding (MOU) providing Shell with the exclusive right to promote a project to transport Turkmen natural gas to Turkey. As part of the MOU, Shell will conduct a feasibility study on a proposed 1,200-mile gas pipeline connecting Turkmenistan and Turkey via Iranian territory. (DJ)
- Feb. 26** Longtime competitors Halliburton Company and Dresser Industries announce plans to merge for \$8.1 billion. The new company will retain the Halliburton name at its Dallas, Texas headquarters and will form the world's largest oil-drilling services company. The deal is still subject to approval by shareholders and regulatory agencies. (WP)
- Feb. 26** State oil company Petroleos de Venezuela (PDVSA) announces that three major Venezuelan oil joint ventures will be delayed 6-8 months due to budget cuts. Lower-than-expected oil prices have forced PDVSA to cut its investment plan for 1998 by approximately \$1 billion. The three projects are the Cerro Negro joint venture with Mobil Corporation, the Total-led Sincor project in the Zuata region, and the Arco-led Petrolera Ameriven S.A. joint venture in the Hamaca zone. All three are extra-heavy crude upgrading projects in the Orinoco Belt region in southeast Venezuela. (DJ)
- Mar. 1** The Jordanian government announces that it has signed an agreement with the Royal Dutch/Shell group allowing the company to extract crude from oil shales in Jordan. A recent study by Jordan's Natural Resources Authority indicates that there are 40 billion tons of oil shale reserves in the southwestern regions of the Kingdom. Jordan also announced that it has received offers from an international consortium to build a refinery in Aqaba, located 217 miles south of the Jordanian capital Amman. The refinery is expected to cost \$2 billion, with a capacity of 250,000 barrels per day. (DJ)
- Mar. 1** Iraqi officials and independent experts report that Iraq's oil production system has fallen into such disrepair that Iraq cannot take full advantage of a recent United Nations (U.N.) Security Council resolution that more than doubled U.N.-authorized Iraqi oil sales to \$5.26 billion every six months. Iraq says that, under current conditions, it can sell only \$4 billion worth of oil over the next six months, unless it is allowed to purchase more equipment. Experts say that Iraq's production system needs \$800 million of repairs, and that these repairs could take a year or more to complete. (NYT)
- Mar. 2** The United Nations Security Council unanimously approves a resolution endorsing Secretary Kofi Annan's agreement with Iraq on weapons inspections, which includes the controversial presidential palaces. The resolution threatens any Iraqi violation of the agreement with the "severest consequences," but does not authorize an automatic military response. (NYT) (DJ)
- Mar. 3** The Independent Petroleum Association of America (IPAA) announces that it has filed a lawsuit against the U.S. Department of the Interior, challenging the validity of a natural gas transportation regulation that went into effect on February 1, 1998. The IPAA contends that under the new law, independent oil and gas producers will no longer be allowed to deduct the full cost of transporting gas to the marketplace, which effectively adds these costs to the wellhead price. This, in turn, allegedly will drive up the cost of gas and increase royalty payments required by the government for that production. IPAA claims that this situation will threaten future natural gas production on federal lands. (DJ)

- Mar. 4** The Hungarian government announces that it will sell 1 percent, or 984,000 ordinary shares, in state-owned oil and gas company MOL Rt. The stake may be increased to 2 percent if demand from domestic small investors is greater than the 1- percent offer. The offer is part of the government's plan to privatize MOL and reduce its ownership from 36.2 percent to 25 percent. (DJ)
- Mar. 6** Ford Motor Company and Mobil Corporation form an alliance to develop fuel and vehicle technologies to increase efficiency and reduce emissions. This announcement follows a similar agreement between General Motors Corporation and Amoco Corporation. Ford and Mobil will focus on developing a direct-injection diesel system that substantially improves fuel efficiency and fuel cell processors for use in passenger vehicles. Ford expects to introduce a fuel-cell vehicle in 2004. (WSJ)
- Mar. 6** French petroleum company Total SA signs an agreement with the Nigerian National Petroleum Corporation to rehabilitate the Kaduna refinery in northern Nigeria. The 110,000- barrel-per-day refinery has been shut since July 1997. Currently, the 125,000-barrel-per-day unit in Warri is the only functional refinery in the country. All other refineries have been shut for safety reasons. The rehabilitation is estimated to cost around \$200 million, and some units at the refinery may resume production in six months. (DJ)
- Mar. 11** The United States Mineral Management Service decides to exclude an area offshore of the Arctic National Wildlife Refuge in Alaska from an oil-drilling lease sale scheduled for August 1998. The decision is a victory for environmental groups, such as the Alaska Wilderness League. (DJ)
- Mar. 12** Amoco Corporation reports that it will invest \$230 million to develop the Amherstia field offshore Trinidad and Tobago. The field contains 2 trillion cubic feet of natural gas reserves and first production is expected in the first quarter of 2000. Amoco also expects Amherstia to yield crude oil and condensate. (DJ)
- Mar. 12** As the United States Bureau of Land Management considers proposals that would allow drilling for crude oil and natural gas on a 4.6-million-acre portion of the National Petroleum Reserve-Alaska, the American Petroleum Institute (API) announces its support for a proposal that would open it all up to drilling. However, API also wants the drilling to be conducted in an environmentally sound manner. API maintains that the oil industry has the technology to design and build facilities that minimize the industry's impact on fish, birds, and other wildlife. (DJ)
- Mar. 16** State-owned China National Petroleum Corporation signs a 25-year, \$325 million contract with Monde Group LLC of Houston, Texas, for an oil recovery program in China. Under the contract, Monde will take over operation of 800 wells in five sections of the Zhongyuan oil field near Puyang, Henan Province. Monde will attempt to reduce recent production declines from the field using enhanced oil recovery systems such as improved drilling techniques and 3D seismic surveys. (DJ)
- Mar. 17** Following a long-time dispute over transit fees, Russia and Turkmenistan reach an agreement to transport 706 billion cubic feet of Turkmen natural gas to Ukraine via Russian territory. (DJ)
- Mar. 18** The U.S. Interior Department's Minerals Management Service holds its semiannual lease sale in New Orleans, Louisiana, receiving bids on 794 of 4,180 tracts offered in the sale. The tracts cover about 4.3 million acres, all of which are located in the central region of the Gulf of Mexico. Oil producers submit bids totaling \$810.4 million. Conoco submits the most bids, with 122 valued at \$48.7 million, and Shell Oil Company is second with 119 at \$46.9 million. Other major bidders include Mobil Corporation, Chevron Corporation, Elf Aquitaine SA, and Oryx Energy Company. The next lease sale is scheduled for August 1998 covering western blocks in the Gulf. (WSJ)
- Mar. 19** Sergei Volchkov, deputy manager for construction for the Caspian Pipeline Consortium (CPC), reports that further delays are expected in the construction of a 838-mile oil pipeline running from Kazakhstan's Tengiz oil field to the Russian Black Sea port of Novorossiysk. Earlier this year, CPC reported that construction on the \$4.5 billion pipeline would begin in the third quarter of 1998, but that date now has been pushed to the fourth quarter of 1998, and start-up has been pushed to early 2000. Securing land permits for construction has proved slower than expected. The planned capacity for the pipeline is approximately 500 million barrels per year. (DJ)
- Mar. 19** Shell Exploration and Production Company announces that it plans to spend \$1 billion developing the Angus, Europa, and Macaroni oil and gas discoveries located in the Gulf of Mexico. The Angus development is expected to yield 40,000 barrels of oil per day and 60 million cubic feet of gas per day by the end of 1999. The Europa development is expected to produce 60,000 barrels of oil per day and 45 million cubic feet of gas per day by early 2001. The Macaroni

development is anticipated to yield 35,000 barrels of oil per day and 65 million cubic feet of gas per day by late 1999. The three discoveries will add 300 million barrels of oil equivalent to the Gulf of Mexico's deepwater inventory. (DJ)

Mar. 20 In the continuing battle for market share in the United States (U.S.), Mexico and Saudi Arabia each move ahead of Venezuela as the biggest exporters of crude oil to the U.S. for January 1998, according to the U.S. Energy Information Administration. Venezuela has been the biggest foreign oil source for the U.S. on an annual basis for the past two years. (DJ)

Mar. 20 Russia's RAO Gazprom and the Bulgarian government reach a preliminary agreement providing for increased natural gas deliveries from Gazprom to Bulgaria in exchange for increased transit of Russian gas through Bulgaria to neighboring countries. Under the agreement, annual gas deliveries to Bulgaria will rise from 212 billion cubic feet in 1997 to 283 billion cubic feet in 1998. Transit of Russian gas through Bulgaria to other countries, such as Turkey, Greece, and The Former Yugoslav Republic of Macedonia, will increase to 671 billion cubic feet per year by 2010. (DJ)

Mar. 21 Russia announces plans for the sale of state-owned Rosneft, the Russian government's last major holding in the oil industry. The government is offering a 75 percent stake in the firm at a starting price of \$2.1 billion. Buyers will be required to invest \$400 million in the company within three months of the sale. (WP)

Mar. 22 In a joint statement, three major oil exporters, Saudi Arabia, Venezuela, and Mexico, pledge to reduce their own oil output in an attempt to boost sagging oil prices. Mexico and Venezuela indicate that they will cut production by 100,000 barrels per day and 200,000 barrels per day, respectively, while Saudi Arabia will cut 300,000 barrels per day. The three countries also are trying to get commitments from other Organization of Petroleum Exporting Countries (OPEC) member states and non-OPEC countries for further cuts to ultimately reduce worldwide oil production by 1.6 million to 2 million barrels per day. (NYT) (WSJ)

Mar. 24 After a dispute with Mobil Corporation, Elf Nigeria, a subsidiary of France's Elf Aquitaine SA, receives approval from Nigeria's Department of Petroleum Resources to develop the Amenam oil field. The field, located in Elf's OML99 area, contains estimated reserves of 400 million barrels of oil and is expected to produce 90,000 barrels per day. In a related story, France's Total SA and Brazil's Petrobras have been awarded block OPL246 in Nigeria's deep offshore zone. Some estimates put the block's reserves at one billion barrels of oil. (DJ)

Mar. 24 France's Elf Aquitaine SA acquires a 5 percent stake for \$528 million in the newly formed Russian oil company AO Yuksi. Yuksi was formed earlier this year in a merger of Russian oil producers AO Yukos and AO Sibneft. Elf will help Yuksi finance new equipment and development projects. The deal also covers joint development of the Sugmut field, located in western Siberia, which contains estimated reserves of more than 700 million barrels. Elf and Yuksi will each hold a 50 percent stake in the field, with total development costs estimated at \$1.5 billion. (WSJ)

Mar. 26 In response to the recent drop in oil prices, Russia's second largest oil company, AO Lukoil, announces that it will reduce its exports of oil products by more than 7 million barrels for 1998. However, Lukoil's president, Vagit Alekperov states that the cuts will not include crude oil exports. To compensate for the cuts, Alekperov says that Lukoil will boost sales of oil products in Russia's domestic market. (DJ)

Mar. 30 The U.S. Environmental Protection Agency (EPA) sues Mobil Corporation alleging that Mobil violated the Clean Water Act by spilling more than one million gallons of oil and contaminated water into tributaries of the San Juan River. The lawsuit cites 73 spills occurring between December 1991 and January 1998 at oil and gas production fields Mobil operates on Navajo Nation lands near Aneth, Utah. EPA also alleges that Mobil violated EPA regulations by not having containment equipment in the event of a spill and by failing to report some spills. The maximum penalty under the Clean Water Act is more than \$5 million. (DJ)

Mar. 31 The Organization of Petroleum Exporting Countries (OPEC) releases an official communiqué from its 104th (extraordinary) meeting convened in Vienna, Austria, on March 30, 1998. The communiqué states that member countries have agreed to voluntary cuts from each country's current production levels in an attempt to boost oil prices. OPEC has agreed to cuts totaling 1.245 million barrels per day effective April 1, 1998. The cuts, in barrels per day, break down as follows: Algeria 50,000; Indonesia 70,000; Iran 140,000; Kuwait 125,000; Libya 80,000; Nigeria 125,000; Qatar 30,000; Saudi Arabia 300,000; United Arab Emirates 125,000; and Venezuela 200,000. In addition, non-OPEC oil-producing countries Mexico, Oman, and Yemen have agreed to cut production by 100,000, 30,000, and 20,000 barrels per day, respectively. Moreover, a third non-OPEC country, Norway, the world's third largest oil exporter, has pledged to reduce its oil production by 3 percent, or approximately 100,000 barrels per day. However,

Norway's cuts will not take effect until mid-April 1998. (Cuts are from February production based on secondary sources.) (DJ) (WSJ) (NYT)

- Apr. 1** India's state-owned Gas Authority of India reaches an agreement, in principle, with U.K.-based Cairn Energy, U.S.-based Brown and Root, and Australia's Command Petroleum to build a \$2.5 billion natural gas pipeline from Myanmar to India's eastern coast. The proposed deep-sea pipeline would transport nearly one billion cubic feet of natural gas annually from fields offshore Myanmar to the India state of Orissa. The four companies plan to form a joint venture company by mid-1999. (DJ)
- Apr. 1** Following a G-8 (G-7 plus Russia) ministers' summit, U.S. Energy Secretary Federico Peña maintains that the U.S. government will not fund the construction of a proposed oil pipeline stretching from Azerbaijan to the Turkish Mediterranean port of Ceyhan or a pipeline running from Kazakhstan's Tengiz oil field to the Russian Black Sea port of Novorossiysk. However, Peña also indicates that the U.S. government does advocate multiple pipeline routes for the area. (DJ)
- Apr. 2** Saudi Arabia's Petroma Refining and Marketing Company and U.S.-based Hutchison Group are planning to build a 500,000-barrel-per-day joint venture refinery in Bahrain. The refinery will be part of a larger \$5 billion petrochemical complex to be located in Bahrain's new Hidd industrial zone on Muharraq Island northeast of the mainland. A joint venture company, called Bahrain Refining Company, will be set up to run the project. Construction is expected to begin in 1999, and the refinery is scheduled to come on line in 2003. (DJ)
- Apr. 3** After agreeing to reduce its oil production by 200,000 barrels per day beginning April 1, 1998, Venezuela announces that it will first fill its storage tanks. Venezuelan Oil Minister Erwin Arrieta says that Venezuela will keep production at current levels, as long as it has spare storage capacity, and reduce the volume of crude oil going into the market to achieve the 200,000-barrel-per-day cut. Once the storage tanks are full, then it will cut production. Venezuela reportedly has total storage capacity of 40 million barrels. (DJ)
- Apr. 5** Egypt and China sign an agreement to establish a joint drilling company with an investment capital of \$73.8 million. The company will be set up by the Chinese National Oil Company and two Egyptian private concerns. (DJ)
- Apr. 8** U.S. Energy Secretary Federico Peña and key members of the U.S. Congress agree to temporarily halt the sale of \$207 million worth of oil from the Strategic Petroleum Reserve. The oil sale is designed to cover the Reserve's expenses so that it is self-sufficient. Government officials are now looking to cover the costs from other sources. Peña has delayed the sale for one month. (WSJ)
- Apr. 8** In support of last month's decision by OPEC and some non-OPEC countries to cut oil production by approximately 1.5 million barrels per day, Russia and China announce that they will cut production by 61,000 and 150,000 barrels per day, respectively. In addition, Russia has pledged to reduce oil product exports by 30,000-40,000 barrels per day. The cuts by Russia amount to a 2.3 percent reduction in crude exports and a 3.2 percent reduction in product exports. China's cuts represent about 5 percent of its planned 2.9-million-barrels-per-day output for 1998. (WP) (DJ)
- Apr. 8** Petroleos de Venezuela SA (PDVSA) announces that due to its commitment to cut oil production by 200,000 barrels per day as part of a coordinated effort by the Organization of Petroleum Exporting Countries (OPEC) and some non-OPEC countries to boost oil prices, it will be unable to meet oil deliveries to some of its international clients and therefore, declares *force majeure* on affected shipments. This declaration follows recent statements from PDVSA's president and the Energy and Mines Minister that Venezuela would keep production at current levels, as long as it has spare storage capacity, and reduce the volume of crude oil going into the market to achieve the 200,000-barrel-per-day cut. PDVSA now states that the country has reduced output from 3.370 million barrels per day to 3.170 million barrels per day. No information has been released on how many cargoes or clients will be affected by the declaration. (DJ)
- Apr. 8** Exxon Corporation and British Petroleum announce that they will spend \$1.2 billion developing the Hoover and Diana oil and gas fields, located south of Galveston, Texas, in the Gulf of Mexico. The fields contain estimated recoverable reserves of more than 300 million oil-equivalent barrels, and production is estimated to begin by 2000. Exxon holds a 66.7 percent operating interest in the project, with British Petroleum holding the remaining 33.3 percent interest. (NYT) (DJ)
- Apr. 9** Crude oil output from the Organization of Petroleum Exporting Countries (OPEC) totals 28.86 million barrels per day for March 1998, an increase of 163,000 barrels per day from February 1998. OPEC production is now more than 1.3 million barrels per day above the 27.5-million-barrels-per-day quota level that took effect on January 1, 1998. Rising

Iraqi oil production accounts for 50 percent of the March production increase. Iraq's oil production is currently estimated to be at 1.837 million barrels per day. (DJ) *Note: EIA estimates OPEC crude oil output of 28.50 million barrels per day for February 1998.*

- Apr. 9** Russia announces that it will cut oil exports through Latvia in a dispute over the Russian-speaking minority in the Baltic country. Andrei Pershin, spokesman for Acting First Deputy Prime Minister Boris Nemtsov, contends that Latvian laws violate the rights of Latvia's Russian-speaking population. Pershin says that Russian oil exports through the Ventspils terminal will be cut 15 percent. The Ventspils terminal handles 11 percent to 12 percent of Russian oil exports. (NYT)
- Apr. 13** The discovery that an existing Soviet-era pipeline between Azerbaijan and Georgia must be replaced sparks new debate over the selection of pipeline routes out of the oil-rich Caspian Sea region. Azerbaijan's state oil company Socar now wants to lay a much bigger 42-inch line with throughput of up to 600,000 barrels per day at a cost of \$590 million. The original plan was to refurbish the existing 20-inch line at a cost of \$315 million. The 540-mile route runs from Azerbaijan's capital, Baku, to Supsa on Georgia's Black Sea coast. The Azerbaijan International Operating Company, a consortium led by British Petroleum and responsible for constructing the pipeline, must now decide whether the bigger line is needed and who will pay for it. (WSJ)
- Apr. 14** Saudi Arabia announces that it will implement crude oil output cuts by further delaying new light crude production from the Ghawar field. In March 1998, Saudi Arabia agreed to cut its crude production by 300,000 barrels per day beginning April 1, 1998. Saudi Arabia's commitment is part of an agreement between the Organization of Petroleum Exporting Countries (OPEC) and several non-OPEC producers to voluntary cuts in crude production in an attempt to boost sagging oil prices. (DJ)
- Apr. 14** Approximately 1,000 pipeline workers agree to a 17.5 percent pay increase, ending a seven-day strike against construction company Brown Root Murphy, a unit of U.S.-based Halliburton Company. The strikers are working on a \$2 billion natural gas pipeline stretching between Bolivia and Brazil. The 1,863-mile pipeline will transport between 283 million cubic feet and 1.1 billion cubic feet per day of Bolivian natural gas to southern Brazil. (DJ)
- Apr. 14** In the continuing battle for the biggest share of the U.S. crude oil import market, Venezuela reclaims the top spot for February 1998, while Saudi Arabia falls to fourth behind Canada and Mexico. Data from the U.S. Energy Information Administration show that U.S. crude imports from Saudi Arabia fell 31 percent from January 1998 to February 1998 and dropped below one million barrels per day for the first time in four-and-a-half years. Meanwhile, Venezuela exported 1.32 million barrels per day of crude to the U.S., claiming 18.6 percent of U.S. crude imports in February 1998. (DJ)
- Apr. 16** A joint venture between Chevron Corporation and the Nigerian National Petroleum Corporation begins production from the Gbokoda oil field, located on the western Niger Delta. Crude oil production is expected to reach 40,000 barrels per day by the end of 1998, and by 2000, the field's output will increase the joint venture's total production by more than 85,000 barrels per day. (DJ)
- Apr. 16** Kazakhstan's President Nursultan Nazarbayev suspends further privatization of the country's oil and gas sector. Analysts estimate that Kazakhstan has so far privatized less than 50 percent of its oil and gas industries. In its short history as a newly independent state, this energy-rich nation has attracted billions of dollars in foreign investment. The country's biggest energy projects are the Tengiz field operated by Chevron and Mobil and the Karachaganak oil and gas field operated by British Gas, Agip, and AO Lukoil. (DJ) (WSJ)
- Apr. 19** The Gulf Cooperation Council's (GCC) Assistant Secretary-General for Economic Affairs, Abdulla al-Khulaifi, reports that the GCC's natural gas reserves have risen from 343 trillion cubic feet in 1986 to 731 trillion cubic feet today. He asserts that GCC countries currently hold 15 percent of the world's gas reserves but only account for 4.6 percent of world output. However, current trends indicate that, in the next few years, the GCC will account for around 10 percent of all internationally-traded gas and become a leading supplier of liquefied natural gas. In order to diversify and expand its gas industries, GCC countries also are evaluating plans to connect all GCC states by an inter-Gulf gas grid. GCC member states are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. (DJ)
- Apr. 19** The Kuwait News Agency reports that OPEC member countries have lost an estimated \$8 billion in the first quarter of 1998 due to the global drop in oil prices. (DJ)

- Apr. 22** Iran's Deputy Oil Minister Ali Hashemi announces that a new natural gas field has been discovered at Taqdis Gardan in Iran's southern Fars province. The field contains 2.1 trillion cubic feet of recoverable gas and 10.5 million barrels of natural gas liquids valued at \$3.2 billion. The field will be developed by Iranian contracting companies and is expected to be fully operational by 2000. (DJ)
- Apr. 23** Northern States Power Company (NSP) of Minneapolis, Minnesota announces that it is pulling out of a \$1 billion project to build a natural gas pipeline from western Canada to the U.S. Midwest region. Other reports indicate that another partner in the project, TransCanada Pipelines, is about to withdraw as well. The 800-mile line, called Viking Voyageur, was to transport up to 1.4 billion cubic feet per day of natural gas from Alberta through Minnesota, Wisconsin and Illinois. NSP and TransCanada each hold a 40 percent interest in the pipeline, with Nicor of Naperville, Illinois holding the remaining 20 percent. (WSJ)
- Apr. 23** U.S. oil companies Mobil and Exxon sign agreements with Turkmenistan to explore for oil and natural gas in the Turkmen Caspian Sea region. Mobil and its partner Monument Oil and Gas, a British company, will explore an area in western Turkmenistan near the Caspian Sea. Mobil will hold a 52.4 percent interest in the project, and Monument will hold a 27.6 percent interest. Turkmenistan's national oil company will hold the remaining 20 percent interest. (WP)
- Apr. 23** France's Total and state-owned Petroleos de Venezuela SA (PDVSA) agree to purchase Norwegian-based Norsk Hydro's 15 percent stake in the Sincor extra-heavy crude oil upgrading joint venture project located in Venezuela's Orinoco Belt. Total's share of the project will increase from 40 percent to 47 percent, while PDVSA's share will increase from 30 percent to 38 percent. Norway's state-owned Statoil retains its 15 percent interest. Start-up of the Sincor project is expected by the end of 2001, with production levels reaching 200,000 barrels per day of extra-heavy crude. (DJ)
- Apr. 24** ARCO announces that it plans to invest at least \$2 billion in Venezuela over the next 10 years. Most of the investment will be in ARCO's heavy-oil joint venture project with Venezuela's state oil company Petroleos de Venezuela (PDVSA), Phillips Petroleum Company, and Texaco, scheduled to begin production in 1999. The remainder of the investment will go toward four oil fields which ARCO and its partners are operating for PDVSA. (NYT)
- Apr. 27** Bulgaria and Russia sign an agreement under which Russia will deliver between 177 billion cubic feet and 212 billion cubic feet of natural gas annually to Bulgaria for the next 12 years. The price of the gas has not been disclosed; however, Bulgaria will pay 20 percent of the price in goods or through construction work. (DJ)
- Apr. 28** Despite direct appeals for relief from Iraq's foreign minister and oil minister, the United Nations (U.N.) Security Council decides to continue economic sanctions on Iraq, imposed in 1990 following Iraq's invasion of Kuwait. The Security Council also announces that it will once again begin reviewing the sanctions every 60 days. The Council suspended 60-day reviews in October 1997 after Iraq expelled American members of U.N. weapons inspection teams. (DJ)
- May 1** Iraq maintains that to meet its \$2 billion oil export target, it has contracted for the export of 186 million barrels of oil under the third phase of the United Nations sponsored oil-for-food program. The third phase ends on June 3, 1998. The amount of oil for export in the third phase is higher than the previous two phases due to lower world oil prices. Iraq exported 120 million barrels during the first phase, and exported another 127 million barrels in the second phase. (DJ)
- May 3** Amoco Norway, a subsidiary of Amoco Corporation of the U.S., announces an oil and natural gas discovery off the coast of Norway. Amoco estimates that the find, located in the Donnatello block, holds between 200 million and 500 million barrels of oil and gas. Initial tests at the site flowed approximately 5,200 barrels per day of oil and 5.3 million cubic feet per day of gas. Company officials maintain that the find is one of the biggest off the Norwegian coast in recent years. Amoco holds a 30 percent interest in the Donnatello block, followed by the Norwegian government's State Direct Financial Interest with 30 percent, Britain's Enterprise Oil PLC with 25 percent, and Mobil Corporation of the U.S. with 15 percent. (WSJ)
- May 4** The Atlantic Richfield Company (ARCO) announces that it will acquire Union Texas Petroleum Holdings Incorporated, an independent oil company based in Houston, Texas, for \$2.47 billion. The acquisition will add 140,000 barrels per day to ARCO's oil and natural gas production and increase ARCO's total oil and gas reserves by 14 percent. The deal also helps ARCO enter the Caspian Sea region, with ARCO gaining a 12.5 percent interest in the Caspian Pipeline Consortium and a 5 percent interest in Kazakhstan's Tengiz oil field. ARCO also will gain additional interests in projects located in the United Kingdom, Indonesia, Alaska, and Venezuela. (NYT) (WSJ)

- May 6** Taiwan's Economics Ministry decides to delay the privatization of state-owned Chinese Petroleum Corporation (CPC). The decision follows a parliamentary committee's call for the delay so that legislation, detailing how the petroleum industry will operate after CPC is privatized, can be drafted. Analysts suggest that the first sale of state shares may be delayed from six months to two years. The original privatization plan called for a 15 percent stake to be sold by the end of June 1998 and another 18 percent by July 1999. Government ownership in CPC was scheduled to fall to less than 50 percent by July 2000. (WSJ)
- May 8** The United Nations (U.N.) Security Council accepts a recommendation to end a limited travel ban on some Iraqi government officials. The ban was approved on November 12, 1997 following Iraq's refusal to allow U.N. weapons inspectors access to eight "presidential palaces." In a letter to the Security Council, Richard Butler, chairman of the U.N. Special Commission, reported that Iraq has been granting weapons inspectors access to all sites and recommended termination of the travel ban. (DJ)
- May 11** In March 1998, the Organization of Petroleum Exporting Countries (OPEC) and several non-OPEC countries agreed to crude oil production cuts, beginning April 1, 1998, in an attempt to boost sagging world oil prices. Iraq was the only OPEC member excluded from the deal because its oil exports are conducted under the United Nations oil-for-food program. A *Dow Jones* poll of industry observers indicates that OPEC's April 1998 crude oil output, including Iraq, was 27.995 million barrels per day, down 865,000 barrels per day from March 1998. A second report from the Paris-based International Energy Agency (IEA) indicates that OPEC's April 1998 crude production, including Iraq, was 27.95 million barrels per day, down 800,000 barrels per day from the March 1998 rate. The *Dow Jones* poll shows that, since February 1998, OPEC, excluding Iraq, has cut production by 1.117 million barrels per day, while IEA reports that production, excluding Iraq, has dropped by 1.03 million barrels per day over the same period. These declines are between 83 and 90 percent of the 1.245 million barrels per day of production cuts agreed to by OPEC at the end of March 1998. (DJ)
- May 11** India announces that it has conducted three underground nuclear tests, the country's first since 1974. The tests were conducted simultaneously 330 miles southwest of New Delhi, near the Pakistani border. The Indian government indicates that the three tests included a thermonuclear device, commonly known as a hydrogen bomb. Two days later, on May 13, 1998, India announces that it has conducted two more underground nuclear tests in the same desert range. (WP) (DJ)
- May 13** Russia postpones the privatization of Eastern Oil Company, Tyumen Oil Company, and Slavneft until at least the fall of 1998. Alexander Braverman, First Deputy Minister for State Property, says that attempts to sell government stakes in the companies have failed thus far because of a lack of demand. Braverman also indicates that if the privatization of AO Rosneft goes well, the government may reduce the stakes to be offered in Eastern, Tyumen, and Slavneft or delay the sale even further. (DJ)
- May 14** The United Nations Security Council issues a declaration deploring India's nuclear test explosions, urging maximum restraint and dialogue to ease tensions between India and Pakistan. The statement also calls on India, Pakistan, and other nations to sign, without conditions, international treaties banning test explosions and nuclear proliferation. Immediately following the tests, the United States and other countries imposed economic sanctions on India. (DJ)
- May 14** The U.S. Federal Energy Regulatory Commission approves an agreement among the seven owners of the Trans-Alaska Pipeline System (TAPS) designed to increase competition and lower tariffs. TAPS runs from Prudhoe Bay on Alaska's North Slope to the port of Valdez, Alaska. (DJ)
- May 18** The Caspian Pipeline Consortium (CPC) takes its first major step towards construction of a \$2 billion, 940-mile pipeline route from Kazakhstan's Tengiz oil field to Russia's Black Sea port of Novorossiysk. CPC has secured approval of an investment feasibility study, and must now obtain approval for a construction feasibility study and final land allocation. The pipeline will have an initial capacity of 560,000 barrels per day of oil, eventually rising to 1.34 million barrels per day. CPC officials expect the line to be operational in 2000. (REU) (DJ)
- May 18** Under an agreement with the European Union and Russia, U.S. President Bill Clinton confirms that the United States will not impose sanctions on France's Total, Russia's Gazprom, and Malaysia's Petronas under the Iran-Libya Sanction Act (ILSA). Passed in 1996, ILSA imposes mandatory and discretionary sanctions on non-U.S. companies which invest more than \$20 million annually (lowered in August 1997 from \$40 million) in the Iranian oil and gas sectors. In 1997, the three companies signed a \$2 billion deal to develop Iran's South Pars natural gas field. In exchange, the European Union and Russia agree to tighten controls on the export of weapons technology to Iran. (REU) (NYT)

- May 19** The U.S. Virgin Islands approves a \$625 million joint venture between Hess Oil Virgin Islands and Venezuela's state-owned Petroleos de Venezuela SA (PDVSA). The approval clears the way for PDVSA to acquire a 50 percent stake in Hess Oil, a division of New York-based Amerada Hess Corporation, over a 10-year period. The two companies will share construction costs of a new, \$500 million facility, utilizing Venezuelan heavy crude oil, to make coke, a solid petroleum product used in heavy industry. (DJ)
- May 19** The U.S. Justice Department files suit against Texaco, contending that the oil company was involved in a nationwide effort to undervalue oil it produced on federal and tribal lands in order to pay lower royalties. The suit is separate but similar to a suit the Justice Department filed against four other major oil companies in February 1998. (NYT) (WP)
- May 20** U.S. oil company Chevron Corporation confirms that it has selected Australian Gas and Light Company (AGL) and Malaysia's state-owned Petronas to build, own, and operate a \$938 million, 1,304-mile section of a natural gas pipeline linking Papua New Guinea with Australia. Under the deal, AGL will be primarily responsible for the Australian onshore operations of the line, with Petronas managing a 100-mile offshore section north of Cape York. Chevron says that construction of the pipeline is expected to begin in 1999, with completion scheduled for mid-to-late 2001. The pipeline will be able to deliver 185 billion cubic feet per year of natural gas to markets on the east coast of Australia. (DJ)
- May 21** Following two weeks of student protests, civil unrest and riots, President Suharto resigns, ending 32 years as leader of State of Indonesia. Vice President Baharuddin Jusuf Habibie is immediately sworn in as the new president. (DJ)
- May 25** Russian oil companies AO Yukos and AO Sibneft call off merger proceedings to form AO Yuksi. If the merger had been completed, Yuksi would have been one of the world's largest private oil companies. In a joint press release, the companies blame the instability of the Russian stock market and sagging world oil prices for the failure of the merger. The companies also indicate that they now will independently seek western partners. Yuksi was expected to bid for a controlling interest in Russia's state-owned oil company AO Rosneft. (WSJ) (DJ)
- May 25** Union Texas Petroleum Holdings Incorporated assumes operation of the Boqueron marginal field from Venezuela's state-owned Petroleos de Venezuela SA. In a press release, Union Texas reports that it will use high-pressure natural gas injection to boost crude oil production. Production from Boqueron, which is currently 8,100 barrels per day, will be increased to 50,000-60,000 barrels per day within three to five years. (DJ)
- May 26** The deadline for the long-awaited auction of Russia's state-owned oil company AO Rosneft passes without any of the Western and Russian companies expected to compete for Rosneft submitting an offer. Prime Minister Sergei Kiriyenko is expected to announce a new auction and to lower the \$2.1 billion starting price the Russian government has been seeking. (NYT)
- May 26** China verifies that a field located in the Qaidam basin in northwest Qinghai province holds 2.7 trillion cubic feet of natural gas. This brings the total proven gas reserves in Qinghai oil field to 5.3 trillion cubic feet. (DJ) *Note: As of January 1, 1998, China's proven natural gas reserves were estimated by the Oil and Gas Journal to be 41 trillion cubic feet.*
- May 27** Norway's Statoil AS and Norsk Hydro AS sign an agreement with Russia's Gazprom to jointly explore the Pechora Gulf area of the Barents Sea, a region considered rich in petroleum potential. (DJ)
- May 27** Colombia's state-run oil company Ecopetrol signs an offshore exploration agreement with Amoco Corporation and Atlantic Richfield Company for two blocks off Colombia's Caribbean coast. The two U.S. oil companies are expected to complete seismic studies within the next two years, and to invest \$190 million drilling six test wells over the next six years. The companies will concentrate on exploration for crude oil, but also expect to find natural gas deposits. (DJ)
- May 28** Shell Oil Company, Texaco, and Saudi Arabia's Aramco approve final terms and conditions of a proposed U.S. refining and marketing joint venture. The alliance will be the nation's largest seller of gasoline, combining the companies' eastern and Gulf Coast refining and gas station businesses. The joint venture will be called Motiva Enterprises LLC and is expected to be operating in June 1998. (WSJ) (WP)
- May 29** Pakistan announces that it has conducted five underground nuclear tests, the country's first-ever nuclear detonations. The tests were conducted at the Chagai Hills test site in western Pakistan, near the Afghan border. Pakistan follows up with two more tests on May 30, 1998. These additional tests are conducted in the remote desert hills of southwestern Baluchistan province. (WP) (DJ)

- May 29** United Nations (U.N.) Secretary General Kofi Annan approves Iraq's new aid distribution plan under the U.N. sponsored oil-for-food program, clearing the way for Iraq to export up to \$5.26 billion worth of oil during the fourth phase of the program. Early this year, the U.N. agreed to allow Iraq to increase its oil exports from \$2 billion, but Iraq maintains that it only has the capability to reach \$4 billion. If oil prices remain at current levels, Iraq will need to export close to 2 million barrels per day of oil to reach \$4 billion, up from current export rates of around 1.5 million barrels per day. To reach 2 million barrels per day, Iraq's production facilities are estimated to need approximately \$300 million worth of repairs. (DJ)
- June 1** The Russian government announces that it is reducing the price for a 75 percent stake in AO Rosneft. Prime Minister Sergei Kiriyenko says that the minimum bid for the state-owned oil company will be set at \$1.6 billion. The government was forced to cancel the sale last month after receiving no bids at the previous minimum price of \$2.1 billion. (DJ)
- June 2** S.M. Hosseini, Iran's Deputy Oil Minister for International Affairs, reports that Iran is seeking to increase its oil production capacity and capture at least 7 percent of the world crude oil market by 2020. Iran currently holds 5.7 percent of the world crude oil market. Hosseini says that Iran will accomplish its goal by using enhanced oil recovery (EOR) technologies, exploring new areas, and attracting foreign partners to previously discovered fields. Iran expects to recover an additional 20-30 billion barrels of oil using EOR technologies and another 20 billion barrels from undeveloped areas in northwest and northeast Iran. (DJ) *Note: The U.S. Energy Information Administration estimates Iran's share of world crude oil supply to be 5.4 percent for the first quarter of 1998.*
- June 3** Russian gas company Gazprom announces that it is cutting in half its natural gas supplies to Yugoslavia due to that country's failure to pay for previous supplies. (DJ)
- June 4** Jordan awards a \$400 million contract to Amoco Corporation for the construction of a 168-mile natural gas pipeline, running from fields in Egypt's Nile Delta, across the Sinai Peninsula, and under the Red Sea to the southern Jordanian port of Aqaba. Beginning in 2001, the pipeline will transport 212 million cubic feet of gas per day, gradually increasing to 318 million cubic feet per day by 2006. (DJ)
- June 4** In a second attempt in recent months to raise world oil prices, Saudi Arabia, Venezuela, and Mexico agree, during a meeting in Amsterdam, to reduce their oil production by 450,000 barrels per day starting July 1, 1998. Under the agreement, Saudi Arabia will cut 225,000 barrels per day, Venezuela 125,000 barrels per day, and Mexico 100,000 barrels per day. These cuts are in addition to the reductions agreed to under the so-called "Riyadh Pact" of March 1998. The three major oil exporters now will attempt to secure additional cuts from other oil exporters ahead of the June 16, 1998, meeting of the Gulf Cooperation Council and the June 24, 1998, meeting of the Organization of Petroleum Exporting Countries. (WSJ) (REU) (DJ)
- June 6** Jordan completes a feasibility study on a 650-mile oil pipeline, to run between the Iraqi and Jordanian capitals. The proposed pipeline would cost approximately \$250 million, with a capacity of 100,000 barrels per day. Jordanian officials say that they expect to approach France, Italy, Germany, and Japan to help finance the line. (DJ)
- June 7** In support of the Amsterdam agreement reached by Saudi Arabia, Venezuela, and Mexico, Qatar pledges to cut its crude oil output by 20,000 barrels per day. This latest pledge is in addition to the 30,000-barrel-per-day cut Qatar announced in March 1998. (DJ)
- June 8** Nigeria's leader Gen. Sani Abacha dies after suffering a heart attack. Just hours after Gen. Abacha's death, Gen. Abdulsalam Abubakar is named the country's new head of state. (NYT) (DJ)
- June 9** In its *Oil Market Report* for May 1998, the International Energy Agency (IEA) lowers its forecast for world oil demand in the second quarter of 1998 by 0.51 million barrels per day. The revision is due to the continuing Asian economic difficulties and weak U.S. oil demand in April and May 1998. At the same time, the IEA estimates that crude oil production by all members of the Organization of Petroleum Exporting Countries (OPEC) in May 1998 averaged 28.07 million barrels per day, down 250,000 barrels per day from its revised April 1998 production estimate. By contrast, a *Dow Jones* survey of industry participants estimates that total OPEC crude oil output in May 1998 was 28.167 million barrels per day, an increase of 172,000 barrels per day from its April 1998 estimate. The IEA also updated and revised its estimates of OPEC compliance with the 1.245-million-barrel-per-day production reduction agreed to at the OPEC meeting on March 31, 1998. OPEC crude oil production in May 1998, excluding Iraq (whose production was not included in the agreement), was estimated to be 1.0 million barrels per day below that for February 1998, the baseline month for the reduction agreement. This 80 percent compliance in May, the IEA noted, was in contrast with their

revised estimate for April, when only 660,000 barrels per day, or just over 50 percent, of the targeted reduction was achieved. (DJ)

- June 10** Six days after Saudi Arabia, Venezuela, Mexico pledged additional production cuts of 450,000 barrels per day effective July 1, 1998, Iran pledges additional cuts of 100,000 barrels per day. The new cuts are in addition to the 140,000-barrel-per-day reduction Iran pledged to make in March 1998. (DJ)
- June 12** U.S. President Bill Clinton extends by 10 years the ban on offshore oil drilling for much of the United States. The offshore drilling ban was first imposed by President George Bush in 1990. The extended ban prevents drilling for oil and natural gas in most parts of the Atlantic and Pacific coasts until 2012. It does not include areas off the Texas and Louisiana coasts, where extensive drilling has been going on for many years. (WP) (NYT)
- June 13** Cairn Energy announces that it has started production at the Sangu-1 natural gas field, Bangladesh's first operational offshore gas field. The initial flow rate from the field, located 30 miles southwest of Chittagong in the Bay of Bengal, has reached 20 million cubic feet per day, and is expected to increase to 160 million cubic feet per day over the next six to nine months. The field contains proven reserves of 850 billion cubic feet. Cairn holds a 55.25 percent stake in the field, with Halliburton holding 25 percent and Royal Dutch/Shell holding the remaining 19.75 percent. (DJ)
- June 15** Russia's gas monopoly Gazprom notifies Belarus that it will reduce natural gas exports to Belarus by 30 to 40 percent because of unpaid bills. Belarus owes Gazprom an estimated \$200 million for past natural gas supplies. (DJ)
- June 16** Shell Nigeria shuts in 129,000 barrels per day of Bonny crude oil output due to a combination of community unrest in the Nembe and Odeama regions of Nigeria and a pipeline leak near the Nun River flowstation. Shell has declared *force majeure* effective June 19, 1998, through the end of the month, affecting a total of six Bonny crude cargoes. The cargoes are expected to be delayed for one to two days. (DJ)
- June 16** At a meeting of oil ministers from the six-nation Gulf Cooperation Council (GCC), the United Arab Emirates (UAE) and Kuwait each pledge to cut their oil production by 75,000 barrels per day, while Oman pledges to cut its output by 20,000 barrels per day. These GCC cuts follow a second round of production cuts announced by Saudi Arabia, Venezuela, and Mexico on June 4, 1998. The latest production cuts from UAE, Kuwait, and Oman will take effect on July 1, 1998. (DJ) (WSJ)
- June 17** Boris Nemtsov, Russia's deputy prime minister, announces that Russia will cut oil exports by 63,000 barrels per day beginning July 1, 1998, to support efforts by other oil producers to boost world oil prices. Nemtsov says that the cut is equivalent to 1 percent of Russia's daily oil production. (DJ)
- June 18** Shell Nigeria reopens four of five Bonny crude oil flowstations in the Nembe and Odeama Creek regions. The flowstations were shut on June 8, 1998, due to local community unrest. A spokesman for the company says that resumption of operations at the flowstations means that the *force majeure* announced on June 16, 1998, for the rest of June, will only cause a delay of one day to cargo loadings. Six cargoes will be affected by the delay. (DJ)
- June 18** U.S. President Bill Clinton nominates Bill Richardson to be the next Secretary of Energy, replacing Federico Peña, and nominates Richard Holbrooke to replace Richardson as the U.S. ambassador to the United Nations. (DJ)
- June 18** Belgian oil company Petrofina SA announces its seventh oil and natural gas discovery offshore Vietnam. It is the company's second gas-only discovery, yielding 36 million cubic feet per day of natural gas. (DJ)
- June 19** The United Nations (U.N.) Security Council unanimously approves a resolution allowing Iraq to spend \$300 million on spare parts for its oil industry. The funding is intended to help Iraq increase oil exports under the fourth phase of the U.N.'s oil-for-food program. The spare parts are expected to expand Iraq's oil export capacity from 1.6 million barrels per day to 1.8 million or 1.9 million barrels per day. (NYT) (DJ)
- June 20** Egypt joins efforts by the Organization of Petroleum Exporting Countries (OPEC) and several non-OPEC nations to support sagging world oil prices by cutting 20,000 barrels per day from its own crude oil production. Egypt says the cut will take effect on July 1, 1998. However, Egypt also announces that its oil production will decline by 20,000 barrels per day by 1999 as a result of declining output from aging fields. (DJ)

- June 23** Occidental Petroleum declares *force majeure* on the Cano Limon oil field in Colombia after five guerrilla attacks in four days on the Cano Limon pipeline, which carries crude oil out of the area. The field produces 152,000 barrels per day. Occidental last declared *force majeure* on the field in August 1997. (DJ)
- June 24** The Organization of Petroleum Exporting Countries (OPEC) agrees, at its 105th ministerial conference, to another round of oil production cuts. In recent weeks oil prices have fallen to their lowest levels in more than a decade. OPEC members have agreed to cut production by 1.355 million barrels per day, effective July 1, 1998, bringing the group's total reductions since March 1998 to 2.6 million barrels per day. Together with promises from non-OPEC nations such as Russia, Oman, and Mexico, world oil producers have pledged to cut worldwide production by approximately 3.1 million barrels per day. (WP) (WSJ) (NYT)
- June 24** Russia confirms that it will cut its oil production by 100,000 barrels per day effective July 1, 1998. (DJ)
- June 29** Saudi Arabia calls for a new alliance of seven to nine major oil-producing countries, establishing an ad-hoc group that would work together to raise oil prices and reduce the glut of oil in the current market. Saudi Arabia, Venezuela, and Mexico currently are in high-level negotiations to create the new alliance, which may also include Iran, Iraq, Kuwait, United Arab Emirates, and possibly Libya and Norway. (WSJ)
- June 29** Amoco announces plans for its TransCaspian Gas Pipeline System project that will transport natural gas from Turkmenistan to markets in Turkey and Europe. The \$2.4 billion, 750-mile pipeline will start near Turkmenbashi in western Turkmenistan, extending across the Caspian Sea basin, to a landing point near Baku, Azerbaijan. The line will continue across Azerbaijan and Georgia to Erzurum, Turkey, and link into the Turkish gas transportation grid. Construction is expected to take three years, and the pipeline will have an initial capacity of 350 billion cubic feet per year, eventually increasing to 1.225 trillion cubic feet per year. (DJ)
- June 29** Mexico's state-owned oil company Petroleos Mexicanos (Pemex) receives a \$1 billion credit from the Export-Import Bank of Japan. Pemex says the money will be used to increase production at the Cantarell oil fields located in the Gulf of Mexico. (DJ)
- June 30** Brazil's Petroleo Brasileiro SA (Petrobras) and five other companies sign an agreement to build a 373-mile natural gas pipeline between the Brazilian cities of Uruguayana and Porto Alegre. The pipeline is expected to be operational in December 2000 with a capacity of 424 million cubic feet per day. Petrobras' partners in the project are Total Global Gas Ventures, Nova, YPF SA, Techint SA, and Compania General de Combustibles SA. (DJ)
- July 2** Iran's National Iranian Oil Company (NIOC) announces that it is seeking foreign investors for a number of onshore and offshore development projects. The onshore projects include the Ceshmeh Khosh gas injection project and the Darquain, Masjed-e-Suleyman, Agha Jari, and the Central Zagrog oil fields, all of which would be offered on a buyback basis. Offshore development projects include the Nowrooz, Foroozan, Salaman, Sirri C and D blocks, Hendajan, Soroosh, South Pars oil fields, and a pilot development at Esfandiar. NIOC says that foreign investments may help Iran increase its offshore oil production capacity by 276,000 barrels per day by 2000 from a current rate of approximately 500,000 barrels per day. (DJ)
- July 2** Amoco Kazakhstan and Turkish Petroleum Overseas form an equally held joint venture, Tepco LLC, to explore for and produce oil and natural gas onshore in western Kazakhstan. Under the terms of the production sharing agreement, Tepco will commence immediate exploration of Central Territory Block B. Turkish Petroleum is a unit of Turk Petrolleri Anonim Ortakligi, Turkey's state oil company. (DJ)
- July 3** The Royal Dutch/Shell Group (Royal Dutch) announces that it has withdrawn from a joint bid for Rosneft, Russia's only remaining state-owned oil company. Royal Dutch says that low oil prices, which would limit returns from the project, and financial turmoil in Russia contributed to its decision to pull out of the bid. Royal Dutch's Russian partners in the bid are Lukoil and Gazprom. (NYT)
- July 5** Iraq and Jordan sign an agreement for the construction of an oil pipeline between the two countries. The pipeline is expected to replace a fleet of more than 3,000 tankers that currently transport Iraqi crude oil to Jordan. Jordan depends entirely on Iraq for oil and currently incurs \$50 million per year in transportation fees. (DJ)
- July 6** Russia and Kazakhstan sign an agreement that divides the northern part of the Caspian Sea seabed into separate Russian and Kazakh sectors, recognizing Kazakhstan's claim to the oil near its coastline. The agreement also provides both nations with equal access to the Caspian's fishing grounds. The five nations that surround the Caspian Sea -

Russia, Kazakhstan, Azerbaijan, Turkmenistan, and Iran - have argued for years over who owns the oil in the Caspian seabed. Previously, Kazakhstan, Azerbaijan, and Turkmenistan, the three nations with oil near their coastlines, had called for dividing the Caspian into national sectors, while Russia and Iran, who have little or no oil near their coasts, had advocated sharing the Caspian's resources. Although Azerbaijan, Turkmenistan, and Iran are not part of the settlement, it may set a precedent for future agreements among the Caspian nations. (NYT) (WP) (DJ)

- July 7** Following the Royal Dutch/Shell Group's action on July 3, 1998, British Petroleum (BP) becomes the second major oil company to withdraw from a possible bid for Rosneft, Russia's last state-owned oil company. BP intended to bid with its Russian partner Omeximbank, which controls Russian oil company Sidanco. The Russian government is now once again considering postponing the privatization of Rosneft until the end of 1998. The sale of Rosneft originally was scheduled for May 1998. (WSJ)
- July 8** Following a small fire, Chevron shuts a 170,000-barrel-per-day crude unit at its El Segundo, California refinery. A date for restarting the unit is currently unknown. The El Segundo refinery has a total crude oil capacity rating of 258,000 barrels per day. (DJ)
- July 9** For the second time in two months, the Russian government postpones the sale of state oil company, Rosneft. The announcement comes just days after British Petroleum and the Royal Dutch/Shell Group withdrew from their respective bidding partnerships. Russian officials now say that the sale will take place in September or October 1998. (NYT)
- July 9** Mobil of Venezuela announces that Venezuelan engineering company Vepica and Jantesa and Japan's JGC have won a \$500 million contract to develop a crude oil upgrading unit for the Cerro Negro heavy crude project located in the Orinoco Belt. Mobil is the operator of the project. The upgrading unit will transform extra-heavy 8.5° API crude into lighter 16° API crude. The unit is expected to be completed in 2001, at which time the crude output of the Cerro Negro project will double to 120,000 barrels per day from an initial level of 60,000 barrels per day in 1999. (DJ)
- July 9** In its June 1998 monthly oil market report, the International Energy Agency (IEA) projects that world oil demand in 1998 will be 1.1 million barrels per day higher than in 1997. This is about half the incremental demand in 1997, which was 2.1 million barrels per day. In addition, IEA reports that June 1998 Organization of Petroleum Exporting Countries (OPEC) crude production fell 330,000 barrels per day to 27.95 million barrels per day from 28.28 million barrels per day in May 1998. When compared to February 1998, OPEC production from non-Iraqi sources has been cut by 970,000 barrels per day, which is approximately 80 percent of the 1.245 million-barrel-per-day target agreed to by OPEC in March. A *Dow Jones* survey of industry observers reports similar findings. The survey finds that OPEC production totaled 27.853 million barrels per day in June 1998, a decrease of 314,000 barrels per day from May 1998 output. (DJ)
- July 10** Monument Oil and Gas signs a production-sharing agreement with Turkmenneft, Turkmenistan's state oil company, and Mobil Exploration & Production Turkmenistan for the Garashyszylyk concession area, located in western Turkmenistan. The agreement covers development and production of oil and natural gas over a 1,700 square mile area. Mobil holds a 52.4 percent share in the deal, while Monument holds a 27.6 percent share and Turkmenneft 20 percent. (DJ)
- July 13** South Korea's Samsung agrees to build a \$240 million oil refinery for Ghana's state-owned Tema Oil Refinery. Construction of a residual fluid catalytic cracking unit will begin later this year and is expected to be complete in 2001. The unit will refine about 93,000 barrels per day of residual fuel oil, producing various types of oil products such as gasoline and liquefied petroleum gas. (DJ)
- July 14** Sonangol, Angola's state oil company, and Eссор Exploration Angola, a subsidiary of Exxon, discover a new offshore oil field located about 224 miles northwest of Luanda, Angola. The field is called Hungo One and has an estimated production capacity of 16,000 barrels per day. It is the third discovery in Block 15 in recent months. Eссор holds a 40 percent stake in Block 15, with BP Exploration Angola holding 26.67 percent, Italy's Agip Angola 20 percent, and Norway's Den Norske Stats Oljeselskap 13.33 percent. (DJ)
- July 15** Iraq and Syria sign an agreement to build a second oil pipeline between the two countries. No information is available on the new line's capacity or the route it will take; however, U.S. State Department spokesman James P. Rubin states that implementation of the agreement would be a violation of United Nations sanctions against Iraq. Two days earlier, Syria agreed to reopen an existing oil pipeline, linking Iraq's Kirkuk oil fields to the Mediterranean terminals of Banias in Syria and Tripoli in Lebanon. Syria closed the line in 1982 in support of Iran during the Iran/Iraq war. The pipeline

has an estimated capacity of 650,000 barrels per day and is expected to be operational within a few months. However, use of the pipeline will require United Nations approval. (DJ)

- July 15** Australia's Boral Ltd. confirms that its Bass Strait drilling program yielded estimated reserves of between 450 billion and 600 billion cubic feet of natural gas in the Yolla Field. Partners in the Yolla Field include Boral with a 30.5 percent interest, Premier Petroleum with 30.5 percent, Cue Energy Resources with 14 percent, CalEnergy Gas with 20 percent, and Santos with 5 percent. (DJ)
- July 16** The U.S. blocks the proposed August price formula for Iraqi crude oil over concerns that the Kirkuk grade is priced too low for the European market. It is the first time Iraq's crude oil price formula has been questioned since the United Nations' oil-for-food program began in 1996. (DJ)
- July 17** Mobil Oil and the Royal Dutch/Shell Group announce that they are pulling out of the \$3 billion Camisea natural gas project in Peru. The companies indicate that demands from the Peruvian government for local gas supplies at reduced rates made the project unprofitable. Camisea holds an estimated 11 trillion cubic feet of natural gas, and the development project was considered to be a key to Peru's economic development. (WSJ) (WP)
- July 20** Abida tribesmen blow up part of Yemen's Marib-Ras Issa oil pipeline in protest of government price hikes on gasoline, kerosene, and cooking gas. This marks the eighth attack on Yemeni oil and gas pipelines since June 19, 1998. The 272-mile pipeline carries 220,000 barrels per day of oil and runs from Marib to the Red Sea province of al-Hudaydah, 140 miles west of Yemen's capital Sanaa. (DJ)
- July 21** British Petroleum, Amoco, and Ramco Energy sign contracts to develop Azerbaijan's Caspian Sea oil resources. In three separate contracts, the companies have pledged to invest as much as \$13 billion over the next 15 years. The Caspian Sea region is said to contain approximately 30 billion barrels of oil reserves, comparable to the North Sea region. (NYT)
- July 21** Oil analysts calculate that oil export revenues of the Organization of Petroleum Exporting Countries (OPEC) have fallen by a third in 1998 due to the decline in oil prices. According to Petrostrategies of Paris, OPEC's collective export revenues have fallen from \$89.6 billion in the first six months of 1997 to \$60.7 billion in the first six months of 1998. Analysts predict that for all of 1998, OPEC oil export revenues will fall 30 percent from a 1997 total of \$121.5 billion. Export revenues have declined for almost all OPEC members, with the exception of Iraq, whose revenue has increased 20 percent in the first six months of 1998 under the United Nations' oil-for-food program. (NYT)
- July 22** Unocal agrees to pay fines of \$43.8 million to California for contaminating the state's Central Coast with millions of gallons of petroleum over four decades. Unocal allowed a refined oil product, called diluent, to gradually leak from an underground pipeline at its Guadalupe Oil Field in San Luis Obispo County. As part of the settlement, \$9 million will be used to restore natural resources, \$15 million will fund water quality improvement projects, and \$11.1 million will create emergency response programs for future oil spills and other pollution incidents on the Central Coast. (LAT)
- July 22** In response to poor market conditions, Singapore Refining Company (SRC) cuts crude oil throughput by 45,600 barrels per day, or 16 percent, at its 285,000-barrel-per-day refinery. SRC will continue to run the refinery at this lower throughput level until mid-August 1998, when the company will decide on an optimal operating level. SRC is a joint venture made up of Singapore Petroleum, British Petroleum, and Caltex Petroleum. (DJ)
- July 23** In response to U.S. opposition to the August pricing plan for Iraqi crude oil, Iraq offers the United Nations a revised pricing mechanism for Iraq's August oil exports. The revised pricing formula adjusts the price of Kirkuk and Basrah Light for the European, U.S. and Asian markets. The U.S. had been concerned that, under the original pricing plan, prices for crude oil headed for European markets were too low. (DJ)
- July 27** Russia announces plans to sell a 5 percent stake in RAO Gazprom, the country's largest company and the world's largest natural gas company, with the Russian government retaining a 35 percent stake in the company. The 5 percent stake is valued at \$500 million, although the government may get more if the shares are sold to foreign investors. The Royal Dutch/Shell Group and Italy's ENI SpA are considered to be probable contenders for the shares. Gazprom holds nearly 40 percent of the world's proven natural gas reserves. (WSJ)
- July 27** Nigeria's leader General Abdulsalam Abubakar cancels oil concessions granted to Nigerian companies at the time of previous leader General Sani Abacha's death on June 8, 1998. General Abubakar also reportedly is no longer awarding

new oil concessions or prospecting leases. Companies that are affected by the decision include Malabor Petroleum, DICS Petroleum, Feuimarc Petroleum, and Continental Petroleum. (DJ)

- July 29** British Petroleum (BP) begins oil production at its Schiehallion field at an initial rate of 30,000 barrels per day. The field is located offshore northern Scotland. The development is expected to produce 340 million barrels from the main field and an additional 85 million barrels from the nearby Loyal reservoir. Peak production is expected to reach 154,000 barrels per day. BP is the operator of the field and holds a 33.35 percent stake. BP's partners include Royal Dutch/Shell Group (33.35 percent), Amerada Hess (15.66 percent) and Murphy Oil (5.88 percent) of the U.S., Norway's Statoil (5.88 percent), and Australia's OMV (5.88 percent). (DJ)
- July 29** Anadarko Petroleum announces that it has discovered oil and natural gas at the Eugene Island South Addition Block 346 in the Gulf of Mexico, located approximately 75 miles offshore Louisiana. Anadarko estimates that the Tanzanite field contains reserves of at least 140 million barrels of oil equivalent. (DJ)
- July 29** The Indonesian government postpones exploration of the giant Natuna natural gas field due to the economic crisis in Thailand and the oversupply of liquefied natural gas in the world market. Thailand was expected to be the main buyer of Natuna gas. Production from the field was expected to begin between 2003 and 2007, but Indonesia government now says exploration may not restart until 2007. The Natuna field is located in the Natuna Sea about 700 miles north of Jakarta. (DJ)
- July 31** The U.S. Senate confirms the nomination of Bill Richardson as Secretary of Energy. Richardson replaces Federico Peña, who resigned in June 1998. (DJ)
- Aug. 2** Oman LNG signs an initial 20-year agreement with MetGas of India, an affiliate of Enron Corporation, to supply MetGas with 1.2 million metric tons (58.44 billion cubic feet) per year of liquefied natural gas (LNG). Deliveries are scheduled to begin in late 2001, and the LNG will be used to generate electricity at a 2,450-megawatt power plant currently under construction on the Indian coast, 150 miles south of Bombay. (DJ)
- Aug. 3** The Caspian Pipeline Consortium (CPC) submits the final draft of a construction feasibility study for a Caspian Sea oil pipeline to Russia's regional authorities for approval. The \$2 billion, 981-mile pipeline will transport 1.3 million barrels per day of oil from Kazakhstan's Tengiz oil field to the Russian port city of Novorossiysk. Construction is scheduled to begin in late 1998 or early 1999, and the line is expected to be operational in 2001. (DJ)
- Aug. 3** The Mexican and Venezuelan governments renew the San Jose Accord, under which these two countries provide crude oil and refined products at favorable terms to other countries in Central America and the Caribbean. Under the annually-renewed accord, participating countries pay for oil at the market price when the international price is below \$15 per barrel. When the price of oil is above \$15 per barrel, a portion of the oil price is converted into credits that are used to finance development projects in participating countries and trade between participating nations and the two supplier countries. Countries participating in the accord, in addition to Mexico and Venezuela, include: Barbados, Belize, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, and Panama. (DJ)
- Aug. 5** In protest against economic sanctions imposed on Iraq following the Persian Gulf War, President Saddam Hussein freezes cooperation with United Nations (UN) weapons inspectors. UN weapons inspectors have been searching suspected weapons sites in Iraq since 1991 in an attempt to eliminate Iraq's weapons of mass destruction. (DJ)
- Aug. 5** Lone Star Gas International, a unit of Texas Utilities, wins a 30-year concession to distribute natural gas throughout Mexico City, Mexico. Over the first five years of the concession, Lone Star and its two local partners, Grupo Diavas and Controladora Comercial & Industrial, will invest \$125 million expanding Mexico City's natural gas distribution network. (WSJ)
- Aug. 5** Chevron U.S.A. and Arco Alaska agree to equal ownership of leases on the Alaskan North Slope. Each company will hold a 50 percent stake in 35 tracts consisting of 200,000 acres southwest of the Kuparuk and Alpine oil fields. In addition, the companies will each hold a 50 percent stake in 16 tracts in the McCovey/Salmon area, including 196,000 offshore acres of the Prudhoe Bay oil field in the Beaufort Sea. (DJ)
- Aug. 6** The U.S. Interior Department announces that it will open a new area of the Alaska North Slope wilderness to oil and gas leasing. Interior Secretary Bruce Babbitt says exploration will be allowed on a four-million-acre parcel in the northeastern quarter of the National Petroleum Reserve, west of the Prudhoe Bay oil field. However, an area north and

east of Teshekpuk Lake near the Beaufort Sea, will remain off limits. The National Petroleum Reserve is estimated to contain 2.2 billion barrels of oil. (NYT) (WSJ) (WP)

- Aug. 6** Abdulillah al-Tikriti, director-general of the economy department at Iraq's Foreign Ministry, reports that Iraq has discovered a new oil field and a new natural gas field. The oil field is located in the northern part of Iraq, with estimated reserves of 500 million barrels. The natural gas field, located in the desert west of Baghdad, contains estimated reserves of 21.2 trillion cubic feet. (DJ)
- Aug. 7** In its July 1998 report, the International Energy Agency (IEA) estimates that the Organization of Petroleum Exporting Countries (OPEC) produced 27.81 million barrels per day of oil in July 1998, down 355,000 barrels per day from 28.17 million barrels per day in June 1998. Excluding Iraqi production, OPEC produced 25.53 million barrels per day in July. The figures show OPEC to be 56 percent compliant with production cuts agreed to earlier this year. In addition, the IEA reduces its projection of world oil demand in 1998 by 200,000 barrels per day to 74.7 million barrels per day, a rate just 900,000 barrels per day higher than demand in 1997. (DJ) (WSJ)
- Aug. 7** A *Dow Jones* survey of oil market observers shows Organization of Petroleum Exporting Countries (OPEC) production for July at 27.67 million barrels per day, down from 27.853 million barrels per day in June. Excluding Iraq, OPEC produced 25.41 million barrels per day, representing 61 percent compliance with agreed production cuts. (DJ)
- Aug. 10** The *Middle East Economic Survey* (MEES) reports that U.S. imports of Iraqi crude oil have jumped to 100,474 barrels per day in the first four months of 1998, compared to an average of 85,989 barrels per day for 1997. MEES also notes that the number of U.S. companies importing Iraqi crude oil has fallen from 10 in 1997 to 3 thus far in 1998-- Chevron, Clark, and Exxon. (DJ) *Note: EIA estimates U.S. imports of Iraqi crude oil averaged 89,123 barrels per day in 1997 and 100,475 barrels per day in the first four months of 1998.*
- Aug. 11** British Petroleum announces that it will acquire Amoco for \$48.2 billion in stock. If the merger is approved by regulators and shareholders of both companies, it will be the largest oil industry merger and the largest foreign take-over of a U.S. company to date. The company will be known as BP Amoco, and it will be the world's third-largest multinational oil company in terms of net income behind Exxon and Royal Dutch/Shell Group. (NYT) (WSJ) (WP)
- Aug. 11** Bolivia announces the discovery of a new gas field in the southern part of the country, near its border with Argentina. The San Alberto X field contains natural gas reserves of 1 trillion cubic feet and is expected to produce 35.5 million cubic feet per day. Production from the field will feed into a 1,900-mile pipeline currently under construction between Santa Cruz, Bolivia and the Brazilian state of Rio Grande do Sul. Interests in the field are held by Petrobras Bolivia, Petrolera Andina, and Total Exploration Bolivie. (DJ)
- Aug. 13** As part of Russia's continuing privatization program, the government announces that it will sell a 5 percent stake in Gazprom as a single lot, at a starting price of \$1.65 billion. The sale will leave the government with a 35 percent stake in the natural gas monopoly. In other privatization news, Gazprom President Rem Vyakhirev announced on August 6, 1998, that Gazprom will not bid for a controlling stake in Rosneft, Russia's only remaining state oil company. (DJ)
- Aug. 13** Saudi Arabia's state oil company Aramco notifies U.S., European, and Japanese crude oil lifters that it will cut September 1998 exports by 18 percent. The cut is much higher than traders anticipated, causing a jump in September crude oil prices. (DJ)
- Aug. 13** Data from the U.S. Energy Information Administration show that Saudi Arabia was the leading exporter of crude oil to the highly competitive U.S. market in June 1998. U.S. imports of Saudi crude oil averaged 1.585 million barrels per day in June, followed by Venezuela at 1.424 million barrels per day, and Mexico at 1.379 million barrels per day. (DJ)
- Aug. 13** Petroecuador, Ecuador's state-run oil company, reports that it has increased its crude oil transport capacity through the country's two main oil pipelines by nearly 30,000 barrels per day, to more than 400,000 barrels per day. The company says the capacity expansion work cost \$787,000 and was completed by the Ecuadorean unit of Argentine oil company YPF SA. (DJ)
- Aug. 16** The National Iranian Drilling Company signs a contract worth \$25 million with Turkmenistan to drill four wells in the Turkmen-Bashi region. The drilling work will be carried out over the next 18 months. (DJ)

- Aug. 17** Shell Philippines Exploration, a unit of Royal Dutch/Shell Group, awards a \$500 million contract to Allseas Marine Contractors for the construction of a 314-mile natural gas pipeline in the Philippines. The new line will link the Malampaya gas fields, located near Palawan Island, with a landing terminal in Tabangao, Batangas. (DJ)
- Aug. 18** Phillips Petroleum begins oil and gas production from Ekofisk II, the company's \$2.5 billion North Sea redevelopment project. As part of the project, Phillips phased out or modified 14 existing platforms and installed 31 miles of new pipeline. Production capacity is expected to be 306,000 barrels per day of oil and 789 million cubic feet per day of natural gas, approximately 20 percent above initial expectations. (DJ)
- Aug. 18** BG PLC and Atlantic Richfield (Arco) report that proven natural gas reserves contained within their production sharing contract blocks in Irian Jaya, Indonesia have more than doubled to 14.4 trillion cubic feet. The reserves are located in the BG-operated Muturi block and the Arco-operated Wiriagar and Berau blocks in Berau Bay. Natural gas from these blocks will supply the Tangguh liquefied natural gas project of Pertamina, the state-run oil company of Indonesia. The project is expected to come online between 2003 and 2004. (DJ)
- Aug. 20** Iraq and Syria sign an agreement to reopen an oil pipeline linking Iraq's Kirkuk oil fields to Mediterranean terminals in Baniyas, Syria and Tripoli, Lebanon. Syria closed the pipeline in 1982 in support of Iran during the eight-year Iran-Iraq War. The pipeline has an estimated capacity of 650,000 barrels per day. Since Iraqi oil exports currently operate under the United Nations (UN) oil-for-food program, Iraq will need UN approval before the pipeline can be reopened. (DJ)
- Aug. 20** Following its regular 60-day review of trade sanctions against Iraq, the United Nations (UN) Security Council decides to extend the sanctions and expresses concern over Iraq's continuing refusal to cooperate with arms inspectors. On August 5, 1998, Iraq suspended cooperation with UN weapons inspectors, stating that it has destroyed its banned weapons of mass destruction and calling on the UN to lift the trade sanctions. (DJ)
- Aug. 21** Due to Afghanistan's continuing civil war and recent U.S. attacks on suspected terrorist training camps inside Afghanistan, Unocal suspends plans for the construction of a \$2 billion natural gas pipeline that would run from Turkmenistan to Pakistan via Afghanistan. Unocal has stressed that the gas pipeline project will not proceed until an internationally-recognized government is in place. To date, only three countries -- Saudi Arabia, Pakistan and the United Arab Emirates -- have recognized Afghanistan's Taliban government. (DJ) (WSJ)
- Aug. 22** A senior official from Aramco, Saudi Arabia's state oil company, announces that production has started at the company's new light crude Shaybah oil field. Production capacity is expected to be 500,000 barrels per day. Shaybah is located in an area of the Empty Quarter in southeast Saudi Arabia, near the border with the United Arab Emirates. The field contains an estimated seven billion barrels of 40°–42° API gravity extra light crude oil. (DJ)
- Aug. 25** French oil company Elf Aquitaine abandons its plan to invest more than \$500 million and acquire a 12 percent stake in Russian oil company Sibneft. This latest action follows Elf's announcement on August 21, 1998 to delay its plan to invest in the Russian oil firm. (WSJ) (DJ)
- Aug. 25** Unocal reports that its West Seno #2 discovery well offshore Indonesia tested at a rate of 10,069 barrels per day of 39° API gravity oil and 9.5 million cubic feet per day of natural gas. The West Seno #2 well is located on the Makassar Strait production-sharing contract area. Unocal is the operator of Makassar Strait and holds a 50 percent interest, with Mobil holding the remaining 50 percent. (DJ)
- Aug. 27** Belgian petroleum firm Petrofina announces that production from the Badami oil field in Alaska commenced on August 24, 1998. This field's reserves are estimated at 120 million barrels and production capacity is expected to be 20,000 barrels per day. Petrofina holds a 30 percent stake in the field, with British Petroleum holding the remaining 70 percent. Badami is located 35 miles east of Prudhoe Bay. (DJ)
- Aug. 28** At the Daqing oil field, China has closed 543 wells, 1,104 wells are inundated, and daily production is down approximately 1 percent due to flooding from the Nenjiang River in northeast China's Heilongjiang Province. Daqing is China's largest oil field and accounted for about 50 percent of the country's total onshore production in 1997. Flooding along the Nenjiang and Songhua Rivers has reduced crude oil output at the Jilin, Liaohe, and Daqing oil fields by around 5 percent. (DJ)
- Aug. 29** Mobil Corporation agrees to pay \$56.5 million to settle lawsuits with the U.S. Federal Government and the State of Texas over royalties for oil extracted from public and Indian lands. Both suits claimed that Mobil undervalued the oil

taken from these lands. Mobil will pay \$45 million to settle with the Federal Government and the Navajo and Jicarilla Apache tribes and \$11.5 million to settle with Texas. (WP) (NYT)

- Aug. 31** Japan's Mitsubishi Oil reports that production has started at its Rang Dong oil field, located in Block 15-2 offshore southern Vietnam. Peak production is expected to reach 45,000 barrels per day. Mitsubishi holds a 82.5 percent interest in Block 15-2, with PetroVietnam, Vietnam's state-run oil and gas company, holding the remaining 17.5 percent. (DJ)
- Aug. 31** Indonesia's President B.J. Habibie approves Atlantic Richfield's plan to build a \$4 billion liquefied natural gas (LNG) complex in Irian Jaya, Indonesia. LNG from the complex will be used to meet future demand for natural gas from power utilities in Japan, South Korea, and Taiwan. (DJ)
- Sep. 2** China discovers its first large coalbed methane gas field, located in northern China's Shanxi province. The field's proven reserves are estimated to be 1.9 trillion cubic feet, with annual production expected to reach 35 billion cubic feet by the end of 1998. (DJ)
- Sep. 3** France's Elf Aquitaine discovers its fourth oil field in Block 17 offshore Angola. The discovery is located at the Lirio 1 well, which tested at an initial rate of 11,000 barrels per day. Elf holds a 35 percent stake in Block 17 and is the block's operator for a consortium consisting of Esso Exploration, a unit of Exxon (20 percent); British Petroleum (16.67 percent); Den Norske Stats Ojeseskap (13.33 percent); Norsk Hydro (10 percent); and Petrofina (5 percent). (DJ)
- Sep. 3** The U.S. Senate approves a spending bill providing the U.S. Department of Energy with \$420 million at current prices to buy oil for the Strategic Petroleum Reserve (SPR). If a joint House-Senate conference committee preserves the measure, it could add 29 million barrels of crude oil to the SPR, which currently contains 563 million barrels. (DJ)
- Sep. 4** Royal Dutch/Shell and Texaco announce that they will combine their European refining and marketing activities. Shell and Texaco expect to save approximately \$200 million by joining operations. Shell will hold 88 percent of the venture, with Texaco holding 12 percent. Together, the two companies will control 19 refineries and process 2.1 million barrels per day of oil, or about 15 percent of European capacity. The companies say that the deal could be finalized by mid-1999. (NYT) (WSJ)
- Sep. 7** Norway's Saga Petroleum signs a joint study agreement with the National Iranian Oil Company to develop an onshore/offshore area in the northern part of the Persian Gulf. The area to be studied includes the Dara Block and an undeveloped section of the Hendijan field. The agreement provides for a 12-month exploration study. (DJ)
- Sep. 9** The United Nations (U.N.) Security Council unanimously agrees to a resolution suspending periodic reviews of economic sanctions imposed on Iraq. The resolution is in response to Iraq's August 5, 1998, decision to break off cooperation with U.N. arms inspectors. The Security Council has been conducting regular 60-day reviews and more comprehensive six-month reviews of the sanctions. (DJ) (WSJ)
- Sep. 10** The U.S. Energy Information Administration (EIA) reports that in 1997, for the first time in 10 years, U.S. proved reserves of crude oil increased. Crude oil reserves reached 22.546 billion barrels, up 2.4 percent from 22.017 in 1996. In addition, EIA reports that natural gas reserves increased for the fourth year in a row. (DJ)
- Sep. 11** The Paris-based International Energy Agency estimates that in August 1998, the Organization of Petroleum Exporting Countries (OPEC) implemented 83 percent of their pledged oil production cutbacks. OPEC production, excluding Iraq, fell to 24.83 million barrels per day. Total OPEC production for August 1998 declined to 27.26 million barrels per day from 27.65 million barrels per day in July 1998. Meanwhile a *Dow Jones* survey of oil market observers indicates that OPEC was 86 percent compliant with its oil production cutbacks. According to *Dow Jones*, OPEC's August production, excluding Iraq, fell to 24.757 million barrels per day. Total August output declined to 27.058 million barrels per day from 27.67 million barrels per day in July 1998. (DJ) (WSJ)
- Sep. 14** Phillips Petroleum and Japanese-owned Indonesian Petroleum Company sign an exploration agreement with Kazakhstan to acquire stakes in 10 blocks totaling 2,000 square miles in the Kazakhstan sector of the Caspian Sea. The exploration area is said to contain an estimated 6 billion barrels of recoverable oil reserves. Other stakeholders include Royal Dutch/Shell, Mobil, British Petroleum, Statoil, Agip, Total, and British Gas. Over the next six years, the consortium will drill six wells and conduct seismic surveys. (NYT) (DJ)

- Sep. 14** Anadarko Petroleum reports that its Tanzanite No. 1 well tested 21,917 barrels per day of oil and 29.7 million cubic feet per day of natural gas. The well is located in the Gulf of Mexico approximately 75 miles offshore Louisiana. (DJ)
- Sep. 17** Lasmo announces that peak oil production from its Dacion development in eastern Venezuela will hit 120,000 barrels per day by the end of 2002. This is a 650 percent increase compared to the 16,000 barrels per day forecast for the end of 1998. The Dacion development contains estimated reserves of 550 million barrels of oil. Lasmo holds a 90 percent stake in the project, with Venezuelan state oil company Petroleos de Venezuela holding the remaining 10 percent. (DJ)
- Sep. 18** Mobil's Canadian unit receives six oil and gas exploration licenses totaling more than one million acres on the Grand Banks, offshore Newfoundland. Two of the licenses are within the eastern edge of the Flemish Pas Basin, while the remaining four are within the Jeanne d'Arc basin. Mobil plans to invest \$100 million exploring these areas over the next five years. (DJ)
- Sep. 18** Arco China (a unit of Atlantic Richfield), Texaco China, and Chinese National Offshore Oil agree to develop the Qinhuangdao 32-6 offshore oil field, located in China's Bohai Bay. Oil production is expected to begin in mid-2001 and to reach 60,000 barrels per day by 2002. Chinese National Offshore Oil will be the operator of the field with a 51 percent interest and Arco and Texaco will each hold a 24.5 percent interest. (DJ)
- Sep. 23** Texaco acquires a 65 percent stake in the North Buzachi oil field in west Kazakhstan from Nimir Petroleum, a privately owned Saudi Arabian oil company. Nimir will continue to hold the remaining 35 percent stake. North Buzachi is an undeveloped onshore oil field, located 120 miles north of the Caspian Sea port of Aktau. The field contains estimated reserves of 1 billion to 1.5 billion barrels of oil. Texaco reports that production could begin within two to four years. (DJ)
- Sep. 25** Egypt and Jordan announce the testing of the linkage of their power systems as the first step toward a proposed electricity grid extending east to the Persian Gulf and west to Morocco and even Europe. The Egypt-Jordan link should begin commercial operation in October. The power is carried by cables that are lifted over the Suez Canal by 740-foot towers and then run along the floor of the Gulf of Aqaba between the two nations. (DJ)
- Sep. 27** Chile switches to summer time three weeks earlier than in previous years, a move ordered by the government to save energy in the wake of a long drought. (DJ)
- Sep. 27** Turkey restores full diplomatic ties with Iraq after nearly six years of all-but-frozen relations. Iraq's ambassador to Ankara left last year. It is not known whether Iraq's ambassador will now return. (DJ)
- Sep. 28** Japan's Ministry of International Trade and Industry decides to liquidate 27 oil exploration companies affiliated with the debt-ridden, state-run Japan National Oil Corporation (JNOC) as part of the Ministry's restructuring scheme. The Ministry estimates JNOC's losses for fiscal year 1998-1999 will amount to approximately \$3 billion, some of which can be covered by proceeds from the sale of some of the subsidiaries. (DJ)
- Sep. 28** India's Foreign Investment Promotion Board approves 23 project proposals, including a liquefied natural gas (LNG) terminal in Kakinada on the eastern coast. The board also gave the go-ahead for a disinvestment proposal by state-owned Bharat Petroleum in relation to its liquefied petroleum gas storing and marketing joint venture with Caltex Petroleum. (DJ)
- Sep. 29** Finance Minister Mikhail Zadornov says that tax payments by Russian oil companies were 10 percent less than expected in September. Zardonov also indicates that natural gas monopoly Gazprom has not paid any taxes so far during September. (DJ)
- Sep. 30** Saudi Arabia asks several U.S. oil companies for proposals to develop its oil reserves. The topic is raised in a meeting between Saudi Crown Prince Abdullah and top executives from Atlantic Richfield, Chevron, Conoco, Exxon, Mobil, Phillips, and Texaco. (DJ) (WP)
- Oct. 1** South Korea's oil refining sector fully deregulates, allowing for 100 percent foreign investment. Originally, South Korea had expected to fully deregulate its refining industry by January 1999, but it decided to move up the date in order to help reform its economy. (DJ)
- Oct. 2** A British Petroleum underwater pipeline leaks an estimated 155,000 gallons of oil into the Gulf of Mexico, forming a slick about 100 miles south of the mouth of the Mississippi River. (DJ)

- Oct. 4** Mexican Energy Minister Luis Tellez announces that his country will maintain oil export cuts for an additional six months, or until June 1999. As part of agreements earlier this year with producers from the Organization of Petroleum Exporting Countries, Mexico had already agreed to trim its exports by 200,000 barrels a day through the end of 1998. (DJ)
- Oct. 5** China begins exploration at one of its largest gas fields in Chengdu, capital of Sichuan province. The field is estimated to contain approximately 3.5 trillion cubic feet of proved reserves. (DJ)
- Oct. 7** European Union (EU) nations approve an accord in which European car makers will voluntarily agree to cut carbon dioxide emissions 25 percent by 2008. EU officials say they will seek similar deals with automakers in Asia and North America. (WP)
- Oct. 7** China National Star Petroleum Corporation, the smallest of the country's three exploration companies, discovers 730 million barrels of crude oil reserves in the Tarim Basin. The oil field is located in the remote northwest province of Xinjiang. (DJ)
- Oct. 7** Oil production at Shell Nigeria is cut by 269,000 barrels per day, as a result of protests against Shell's activities in the region. (DJ)
- Oct. 9** In a report to Congress, the U.S. Energy Information Administration (EIA) assessed the macroeconomic and energy market impacts of six energy-related, carbon-reduction scenarios in relation to a reference case. EIA undertook this study in response to a request from the Chairman and Ranking Minority Members of the House Committee on Science. (NYT)
- Oct. 9** Phillips Petroleum Company and Ultramar Diamond Shamrock Corporation (UDS) agree to combine their gasoline stations and refineries into a joint-venture company to be called Diamond 66. The joint venture will be owned 55 percent by UDS and 45 percent by Phillips. Moody's Investor Services says Diamond 66 will be the largest independent refining and marketing company in North America. (DJ)
- Oct. 9** French petroleum company Total SA starts oil production at the Sirri A field in the Persian Gulf near the coast of Iran. Total says production in the start-up phase will reach 7,000 barrels per day from three wells, with a goal of 20,000 barrels per day from 11 wells. Total heads the development of the two Sirri fields, along with Malaysia's Petronas. (DJ)
- Oct. 12** The Paris-based International Energy Agency (IEA) estimates that the Organization of Petroleum Exporting Countries (OPEC) achieved 98 percent of its targeted production reduction in September. The IEA reports that OPEC's September crude oil output, excluding Iraq, was 24.44 million barrels a day, compared with its target of 24.387 million barrels per day. Meanwhile, *Dow Jones* reports that crude oil output from OPEC members, excluding Iraq, totaled 24.319 million barrels per day in September, down from 24.757 million barrels per day in August, and 68,000 barrels per day below the production level agreed to at the June OPEC meeting. (DJ)
- Oct. 13** Russian crude oil exports soar to an average of 2.54 million barrels per day for the first eight months of 1998, up 10 percent from a rate of 2.3 million barrels per day during the same period last year. (DJ)
- Oct. 13** Chad's Minister of Oil and Mines Abdoulaye says the 621-mile Chad-Cameroon oil pipeline will definitely go ahead as planned. The pipeline will transport 225,000 barrels of crude oil per day from the Doba oil fields in eastern Chad to the Cameroon port of Kribi. Work on the pipeline is expected to start in early 1999. (DJ)
- Oct. 14** China says it will give North Korea almost 600,000 barrels of crude oil. China cites "valuing the North Korea-China friendship and preserving the excellent traditions of helping each other in times of adversity" as reasons for the donation. Cash shortages have forced North Korea to cut its crude oil imports. (DJ)
- Oct. 14** China's Xinhua News Agency reports that three new medium-sized oilfields have been discovered at Shijiuto off Bohai Bay in northern China, with estimated proved reserves of 440 million barrels of oil and 300 billion cubic feet of natural gas. (DJ)
- Oct. 15** Japan's Ministry of International Trade and Industry changes its forecast for domestic oil consumption in Fiscal Year 1998 from a growth of 0.3 percent to a decline of 3.7 percent. (DJ)

- Oct. 15** The ITAR-Tass news agency reports that Russia's financial crisis has not affected foreign investment in Sakhalin Island's oil and gas projects. Sakhalin Island has attracted several joint ventures aiming to develop Sakhalin's eight onshore oil and gas fields. (DJ)
- Oct. 18** Villagers trying to tap into a trans-national oil product pipeline in Nigeria touch off a blazing inferno that razes several villages and destroys a swath of surrounding cropland. Hundreds of people are killed. (DJ)
- Oct. 18** Leftist rebels blow up an oil pipeline in Machuca, Colombia, a village 180 miles from Bogota, killing 45 villagers. President Andres Pastrana pleads for "gestures of peace" from the rebel group following the attack. The blast shuts down the Colombia Central pipeline, which transports 100,000 barrels per day from oil fields in east central Colombia to the Caribbean coast. (DJ)
- Oct. 19** The *Middle East Economic Survey* (MEES) reports that Iraq's methods for producing crude oil are causing permanent damage to the country's oil reservoirs. MEES reports this damage has been underscored by a deterioration in the quality of Iraqi oil exports. (DJ)
- Oct. 19** The threat of confrontation between Iran and Afghanistan's ruling Taliban militia is defused after a series of diplomatic efforts by United Nations special envoys. Iran had sent more than 200,000 troops to its border with Afghanistan after Taliban troops killed eight Iranian diplomats and a journalist in northern Afghanistan in August 1998. (DJ)
- Oct. 20** Norway's state oil company Statoil says its natural gas commitments to Europe are being met by increased output from its North Sea Troll and Statfjord fields, after production in the Sleipner area was shut down as a result of fire damage. (DJ)
- Oct. 20** Turkish and Syrian officials sign a security agreement after several weeks of escalating tensions between the two countries. Turkey had threatened military action against Syria, claiming Syria was supporting Kurdish rebels. (DJ)
- Oct. 20** Turkey invites Russia to cooperate in the construction of the Ceyhan oil pipeline route, which would transport Caspian Sea oil from the Azerbaijani capital of Baku to the Turkish Mediterranean port of Ceyhan. (DJ)
- Oct. 23** Canada announces tough new rules aimed at cutting sulfur levels in gasoline by about 90 percent by the year 2005. (DJ)
- Oct. 23** Israeli Prime Minister Benjamin Netanyahu and Palestinian leader Yasser Arafat sign a land-for-peace West Bank accord at a White House ceremony. (DJ)
- Oct. 25** Turkey says it will limit oil tanker traffic through the Bosphorus Straits due to environmental concerns. According to Turkish Foreign Minister Ismail Cem, about 440 million barrels of crude oil pass through the Bosphorus each year on 4,500 oil tankers. Turkey is concerned about the potential for oil tanker accidents. (DJ)
- Oct. 26** Peru and Ecuador sign a historic peace treaty, ending a 57-year dispute over a part of the Amazon jungle that had caused three wars between the two countries. The peace accord also outlines cooperation on several large projects, including the interconnection of oil pipelines. Peru and Ecuador are in the process of selecting an investment bank to work as an advisor for the project. (DJ)
- Oct. 26** Georgia negotiates a \$200 million loan from the European Bank for Reconstruction and Development to help build an oil pipeline that would carry some of the early oil produced by an international consortium in Azerbaijan's Caspian Sea shelf through Georgia to the Black Sea. (DJ)
- Oct. 27** The U.S.-led Korean Peninsula Energy Development Organization (KEDO) purchases 360,000 barrels of 2 percent sulfur fuel oil for delivery into North Korea in November 1998. (DJ)
- Oct. 28** South Korean Hyundai Oil Refining Company, a unit of the Hyundai Group, plans to open its first gasoline station in North Korea this year. (DJ)
- Oct. 28** Japan's Nippon Oil Company, the country's second largest petroleum distributor and Mitsubishi Oil Company, the sixth-ranking company in the industry, agree to merge as of April 1, 1999. The combined company will be the largest oil distributor in Japan. (WSJ)

- Oct. 29** Turkey, Azerbaijan, Georgia, Kazakhstan, and Uzbekistan sign a declaration that declares the Baku-Tbilisi-Ceyhan pipeline project as the main oil export pipeline for Azerbaijan. U.S. Secretary of Energy Bill Richardson serves as an official witness at the ceremony. (WT)
- Oct. 30** The presidents of Turkmenistan and Turkey sign an agreement under which Turkey would buy natural gas from Turkmenistan for 30 years. The gas would be shipped through a proposed Trans-Caspian pipeline. Turkey would buy 565 billion cubic feet of gas annually, with the amount eventually ramping up to 1 trillion cubic feet per year. (NYT)
- Nov. 2** Russian President Boris Yeltsin approves the sale of an additional 5 percent stake in Gazprom, the national natural gas company. The decree will allow foreign ownership of Gazprom stock to increase from its former limit of 9 percent to 14 percent. (DJ)
- Nov. 3** The fourth conference on global climate change is held in Buenos Aires to discuss implementation of the Kyoto Protocol, which aims to reduce greenhouse gas emissions. Argentina and Kazakhstan push to include the topic of voluntary greenhouse-gas-emission reductions by developing nations on the agenda, but are defeated by other developing countries. (DJ)
- Nov. 4** The president of the China National Petroleum Company says that natural gas will supply 8 percent of China's energy demand by 2020, up from its current share of 2 percent. China proposes building a pipeline grid to transport natural gas from the resource-rich western part of the country to the economically-more-developed east. China also aims to import Russian and Central Asian gas by 2020. (DJ)
- Nov. 4** Russian Prime Minister Yevgeny Primakov cancels the sale of a controlling stake in state oil company Rosneft. The Russian media reports that the country's financial crisis has made it unlikely that the government would be able to find a buyer. The auction, which was scheduled to take place October 30, was the third attempt to sell off the company. (DJ)
- Nov. 5** The South Korean Ministry of Trade and Industry reports that South Korean energy consumption fell 3.6 percent in September 1998 compared to a year ago. However, this 3.6 percent drop is smaller than the 10.6 percent drop in August 1998 compared to August 1997. South Korean energy consumption during the first nine months of this year was down 6.7 percent compared to a year ago. The energy demand decrease is a result of the country's economic slowdown. (DJ)
- Nov. 6** The Norwegian government approves development of the North Sea Huldra Field, which contains approximately 6.9 trillion cubic feet of dry natural gas. The field will be operated by Statoil in conjunction with Total, Conoco, Petro-Canada, and Svenska Petroleum Exploration. Production is expected to begin in 2001. (DJ)
- Nov. 8** China begins operations at the Shinxi oil field, the biggest desert oil field in the Xinjiang province, according to Chinese media reports. The field is expected to produce 1 million barrels of crude oil by the end of 1998. The field is believed to hold 840 million barrels of oil and 1 trillion cubic feet of natural gas. (DJ)
- Nov. 9** Turkish Prime Minister Mesut Yilmaz breaks ground for part of a pipeline that will carry Iranian natural gas to Turkey and the rest of Europe. Turkey is scheduled to receive Iranian gas by mid-1999 through the pipeline under construction between the Iranian border and the Turkish city of Erzurum. (DJ)
- Nov. 9** Interfax news agency reports that Russian crude oil exports rose by 9.9 percent in the first nine months of the year, despite a government pledge to the Organization of Petroleum Exporting Countries to cut back production to help combat the oil price slump on the world market. Despite the rise in Russian crude exports, Russian oil revenues dropped by 28 percent compared with the same period last year due to the lower world oil prices. (DJ)
- Nov. 9** President Clinton lifts most of the economic sanctions that were imposed on India and Pakistan following nuclear tests each country conducted in May 1998. According to a senior U.S. official, the decision is a "recognition that some real progress has been made on the nuclear issue—but not enough". The decision lifts the punitive measures hitting U.S. companies the hardest, and also will restore the availability of assistance from the U.S. Export-Import Bank, the Overseas Private Investment Corporation, and the Trade and Development Agency. (CQ) (WSJ)
- Nov. 12** The United States signs the Kyoto Protocol, the global climate change agreement aimed at reducing greenhouse gas emissions. The United States is the 60th nation to sign the protocol. Under the protocol, during the period 2008 to 2012 the United States is required to reduce emissions of carbon dioxide and other specified heat-trapping gases to 7 percent below 1990 levels. The agreement still must be submitted to the U.S. Senate for ratification. (DJ)

- Nov. 12** Nigerian youths abduct seven foreign oil workers, including three Americans, from an offshore Nigerian drilling rig that is under contract by Texaco. Oil rigs in Nigeria have been the subjects of attack and protest on several occasions this year by Nigerian youths alleging that the targeted oil companies are destroying their villages. (DJ)
- Nov. 13** Several major oil and gas companies close their Jakarta offices during the day due to civil unrest in the capital of Indonesia. Companies affected included Esso Indonesia, Limited, PT Caltex Pacific Indonesia, and Shell Company. At least 16 people, including eight students, were killed during the week in a wave of protests and rioting in Jakarta. The violence was the worst Jakarta has seen since May, when hundreds died in violence that led to the resignation of President B.J. Habibie's predecessor, ex-President Suharto. (DJ)
- Nov. 13** Texaco and China launch a \$500 million joint initiative to exploit coal-bed methane in eastern China. According to the news agency Xinhua, the Huaibei mine in Anhui province contains over 2.1 trillion cubic feet of methane. Some 300 wells with a combined annual output capacity of 18 billion cubic feet will be drilled in the joint effort. (DJ)
- Nov. 14** President Clinton aborts airstrikes against Iraq after receiving a last minute letter from Iraq pledging unconditional cooperation with United Nations weapons inspectors. (DJ)
- Nov. 16** The Organization of the Petroleum Exporting Countries (OPEC) crude oil production fell by 420,000 barrels a day in October to 26.85 million barrels per day from 27.27 million barrels per day in September, according to the *Middle East Economic Survey*. The Paris-based International Energy Agency estimates that OPEC October output was 26.99 million barrels per day including Iraq and 24.56 million barrels per day excluding Iraq. (DJ)
- Nov. 17** The Israeli Knesset approves the Wye Pact with the Palestinian Authority, setting the stage for the beginning of a phased Israeli troop pullback from parts of the West Bank. (DJ)
- Nov. 17** Crude oil and gasoline prices are low and should stay that way for the foreseeable future, according to the *Annual Energy Outlook 1999* released by the Energy Information Administration (EIA). EIA says the Asian economic crisis will continue to depress crude oil prices for much of the next decade, keeping them under \$20 per barrel until at least 2007. (WP)
- Nov. 24** North Korea denies it is building an underground nuclear facility and disallows U.S. weapons inspectors to view the site. North Korea also threatens to abrogate the 1994 Korean Peninsula Energy Development Organization (KEDO) agreement requiring it to abandon its suspect nuclear weapons program in exchange for fuel oil and the construction of two light-water nuclear reactors by consortium members. North Korea is demanding a cash compensation of \$300 million for the inspection, a demand the United States has rejected. (DJ)
- Nov. 25** Russia, Kazakhstan, and major oil companies agree to build a multi-billion dollar pipeline linking the oil-rich Caspian Sea region with the Black Sea. The project is scheduled to be completed in 2001 and would be the first major new pipeline in the region. It would connect the Tengiz oilfield in Kazakhstan to the Russian Black Sea port of Novorossiysk. The Tengiz pipeline has had a tangled history, being under discussion for the better part of a decade. (NYT)
- Nov. 26** The International Monetary Fund (IMF) agrees to resume assistance to Pakistan, which had been cut off earlier this year after it detonated five nuclear devices. The agreement follows a decision by the United States to support the IMF's resumption of aid to Pakistan, which has been on the verge of defaulting on its international debts. (NYT)
- Nov. 26** Organization of Petroleum Exporting Countries (OPEC) member countries are unable to agree on additional production reductions beyond those agreed to in June 1998 or even on extending current reductions beyond June 1999. OPEC members do agree to reschedule their twice-yearly ministerial meetings to March and September from June and November. (DJ)
- Nov. 27** Russian Prime Minister Yevgeny Primakov issues a resolution approving a draft agreement between the Russian and Iranian governments on cooperation in the oil and gas industry. The document stipulates the aim of the agreement is to promote economic, scientific, and technical cooperation in the areas of exploration, development, and storage construction. (DJ)
- Nov. 30** A United Nations human rights envoy calls for an independent inquiry into claims of widespread environmental damage in Nigeria caused by international oil companies. (DJ)

- Dec. 2** Exxon Corporation agrees to buy Mobil Corporation for approximately \$75.4 billion, which will make the company the largest corporation in the U.S. The companies say they expect to cut about 9,000 jobs from their combined worldwide workforce of 122,700 and to close offices, saving \$730 million. The merger comes in the context of low oil prices, which have hurt profits at many oil companies. (DJ)
- Dec. 3** President Clinton waives economic sanctions against India and Pakistan six months after imposing them as punishment for a series of nuclear weapons tests. (WT)
- Dec. 4** The director of Brazil's state-owned oil company Petroleo Brasileiro SA (Petrobras) says the company will not be privatized. Instead, the government plans to sell more Petrobras shares, but will remain the majority shareholder. The statement puts to rest speculation that Petrobras will be privatized as part of the country's privatization program. (DJ)
- Dec. 5** Mobil Oil Qatar Inc., a unit of Mobil Corporation, signs a final agreement with state-owned Qatar General Petroleum Corporation to develop part of Qatar's natural gas reserves. The production-sharing contract calls for the development of reserves in the North Field with a design capacity of 1 billion cubic feet per day, beginning in 1999. The gas will be supplied to power, chemical, and petrochemical industries at Qatar's Ras Laffan Industrial City. (DJ)
- Dec. 5** Omani Oil Minister Mohammed bin Hamed Al-Rumhy says Oman has lost nearly 50 percent of its oil revenues because of the sharp fall in oil prices this year. Al-Rumhy warns that the current lack of capital for oil and natural gas investment likely will cause shortages in these commodities down the line. (DJ)
- Dec. 7** Unocal Corporation drops out of a consortium that has been trying to build a \$4.4 billion Central Asian oil pipeline passing through war-torn Afghanistan. A Company spokesman attributes the decision to continuing political instability in the region and low oil prices. (DJ)
- Dec. 9** Kazakhstan signs an agreement with three international oil companies to conduct a feasibility study on building parallel pipelines for shipping the country's oil and natural gas to Western markets. The study will look at the commercial viability of shipping oil and natural gas from western Kazakhstan across the Caspian Sea to Baku, Azerbaijan, and then on to the Turkish port of Ceyhan on the Mediterranean. Signing of the agreement takes place in a ceremony at the U.S. Department of Energy. (WSJ) (WT)
- Dec. 11** Enron Corporation forms a \$450 million joint venture with a leading South Korean natural gas distribution company, marking the company's first significant investment in the region. Enron says it will invest more than \$220 million in a new natural gas distribution company in partnership with SK Corporation, a unit of global conglomerate SK Group. SK Group, which has about 20 percent of South Korea's natural gas market, will contribute the assets of five city distribution companies valued at approximately \$225 million. The new company will be called SK/Enron Company. The deal awaits South Korean government approval. (WSJ)
- Dec. 12** The United Nations approves 11 contracts for the export of 60.1 million barrels of Iraqi crude oil through the oil-for-food program. Iraq is allowed to export up to \$5.26 billion of oil over 180 days in the fifth phase of the program, which began November 26, 1998. (DJ)
- Dec. 12** New England Electric System (NEES) of Westborough, Massachusetts, and National Grid Group of Coventry, England, agree to merge. Under the proposal, which still requires regulatory approval, NEES will become a wholly owned subsidiary of National Grid. Earlier in the week, Scottish Power announced it would take over U.S. PacificCorp for \$7.9 billion in what would be the first purchase of an entire U.S. electric utility by a foreign company. In March 1998, a Massachusetts law took effect that encouraged electric companies to sell off their generating plants. (WT)
- Dec. 14** According to the *Middle East Economic Survey*, OPEC crude oil production rose 710,000 barrels per day in November to an average 27.56 million barrels per day from 26.85 million barrels per day a month earlier. The International Energy Agency reports that OPEC's November oil output was 27.3 million barrels per day, versus 27.1 million barrels per day in October. (DJ)
- Dec. 14** India's Petronet LNG Limited signs an agreement with Ras Laffan Liquefied Natural Gas Company Limited (RasGas) of Qatar and Mobil LNG and Power Incorporated of the United States for the supply of liquefied natural gas (LNG). The agreement provides for the supply of five million metric tons a year of LNG to India's Dahej terminal and 2.5 million metric tons a year to the Cochin terminal, for a period of 25 years. The Dahej terminal is expected to meet the growing demand for gas by consumers in the state of Gujarat, while the Cochin terminal will meet gas requirements in the state of Kerala. (DJ)

- Dec. 15** Royal/Dutch Shell announces it will sell 40 percent of its chemicals' businesses and record changes of \$4.5 billion, as part of a sweeping reorganization. The cutbacks, which will include job losses, are expected to affect Shell operations in Texas, Venezuela, Britain, Norway, and France. (NYT) (DJ)
- Dec. 16** Chevron Corporation, the third-largest oil company in the U.S., says it plans to eliminate all exploration in the continental U.S. but maintain its aggressive overseas oil exploration efforts. Chevron Chairman Ken Derr says the company will cut costs by \$500 million in 1999. (WSJ)
- Dec. 16** U.S. Energy Secretary Bill Richardson and Bangladesh Secretary of Energy and Mineral Resources Tawfiq-e-Elahi Chowdhury sign an agreement on U.S.-Bangladeshi cooperation in the development of Bangladesh's natural gas resources. (DJ)
- Dec. 16** The United States begins a four-day air strike campaign against Iraq hours after United Nations (U.N.) military inspectors declare that their work in Iraq has been blocked. President Clinton says he ordered the attack after a "stark, sobering, and profoundly disturbing report" from the chief U.N. arms inspector that described Iraq's actions to thwart weapons inspections. (WSJ)
- Dec. 18** A team of international scientists concludes that the period from December 1997 to December 1998 was the warmest year in recorded history. The United Nations Meteorological Organization reports that, altogether, the record of warming over the past 25 years clearly indicates a "greenhouse" effect warming of the climate from accumulating greenhouse gases, particularly carbon dioxide from the burning of coal, natural gas, and oil. (DJ)
- Dec. 20** The United States halts its air strike campaign against Iraq. (DJ)
- Dec. 21** Venezuelan President-elect Hugo Chavez says he is waiting for additional information from state-owned company Petroleos de Venezuela SA before deciding when the country will comply fully with its commitment to cut crude oil output by 525,000 barrels a day. (DJ)
- Dec. 21** Ruhrgas AG, a major German natural-gas distributor, buys a 2.5 percent stake in giant Russian gas monopoly RAO Gazprom for \$660 million, strengthening the two companies' cooperation. The successful tender of the Gazprom stake brings relief to the cash-strapped Russian government, which is battling a deep economic crisis and has \$17.5 billion in foreign debt payments due in 1999. According to German press reports, Ruhrgas will eventually hold a 4 percent stake in Gazprom once both companies have set up a joint venture. (DJ)
- Dec. 21** European Union countries approve rules ensuring that consumers will be informed through labels, guides, and posters about the fuel efficiency of new cars. The rules are expected to come into force after approval in early 1999. They will require fuel economy labels to be attached to cars in showrooms, fuel efficiency posters to be hung in dealerships, fuel economy guidebooks to be made available for free in booklet and electronic media form and fuel consumption data to be provided in promotional literature. (DJ)
- Dec. 23** The Colombian government says it will allow gasoline and diesel prices to float with international oil prices starting January 1, 1999. The move will end a system of artificial price fixing that has cost the government more than \$3.2 billion in subsidies over the past five years. (DJ)
- Dec. 25** A Japanese consortium, including Japan Petroleum Development Corporation, Itochu Corporation, Indonesia Petroleum Limited, and Teikoku Oil Company, signs a production sharing contract with Azerbaijan's State Oil Company, also known as SOCAR, for an oil and gas concession in the Caspian Sea. The contract involves the development of an offshore Caspian Sea petroleum exploration block encompassing the Yanan Tava, Atashkah, and Mugan Deniz fields of Azerbaijan. The contract marks the first time Japanese oil developers have undertaken a project in the Caspian without an alliance with foreign partners. (DJ)
- Dec. 28** A natural gas pipeline explodes in a rural hamlet in northern Colombia, killing at least 12 people, bringing down power lines, and setting homes on fire. Another 80 people are injured. Authorities have not determined the cause of the explosion, but say it appears accidental. (DJ)
- Dec. 28** A consortium led by CMS Energy Corporation wins a bid to build a \$1.6 billion natural-gas-fired power plant in India, beating out four other major energy companies, including a group headed by Enron Corporation. The 1,886-megawatt power plant will be built on India's eastern coast. The construction is scheduled to begin in April 2001 and commercial operation is expected to start by 2003. (DJ)

Dec. 30 U.S. federal regulators approve the proposed purchase of Amoco by British Petroleum P.L.C. after extracting a handful of antitrust concessions from the new company. With a market capitalization of about \$140 billion, BP Amoco will rank third in the global oil industry behind the proposed Exxon-Mobil merger and Royal Dutch/Shell. (NYT)

Appendix E

**World Energy
Consumption (Btu),
1989-1998**

Table E1 World Primary Energy Consumption (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	11.08	10.91	10.89	10.92	11.44	11.74	11.75	12.18	12.01	11.85
Mexico.....	4.80	4.98	5.02	5.13	5.14	5.29	5.36	5.59	5.68	5.92
United States.....	84.53	84.12	84.03	85.50	87.31	89.27	91.00	93.97	94.38	94.79
Other.....	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	100.43	100.02	99.95	101.56	103.90	106.31	108.12	111.74	112.07	112.57
Central & South America										
Argentina.....	1.97	1.92	1.99	2.15	2.31	2.35	2.43	2.51	2.61	2.72
Brazil.....	5.63	5.65	5.90	5.95	6.13	6.49	6.81	7.31	7.69	8.08
Chile.....	0.51	0.57	0.57	0.60	0.65	0.69	0.75	0.81	0.89	0.91
Colombia.....	0.95	0.89	1.06	0.99	1.06	1.10	1.11	1.19	1.21	1.27
Cuba.....	0.51	0.50	0.46	0.41	0.41	0.41	0.42	0.43	0.40	0.42
Venezuela.....	2.06	2.08	2.21	2.22	2.29	2.42	2.47	2.57	2.66	2.63
Other.....	2.48	2.54	2.65	2.73	2.85	3.04	3.24	3.32	3.49	3.70
Total.....	14.11	14.16	14.83	15.05	15.70	16.50	17.24	18.15	18.95	19.73
Western Europe										
Austria.....	1.13	1.17	1.21	1.20	1.23	1.23	1.27	1.29	1.32	1.34
Belgium.....	2.08	2.14	2.27	2.25	2.25	2.31	2.37	2.54	2.60	2.66
Denmark.....	0.82	0.80	0.83	0.82	0.85	0.84	0.88	0.88	0.89	0.80
Finland.....	1.13	1.13	1.14	1.18	1.20	1.22	1.12	1.15	1.26	1.26
France.....	8.61	8.84	9.41	9.43	9.34	9.24	9.45	9.87	9.78	10.00
Germany.....	--	--	14.29	13.98	14.06	14.01	14.11	14.31	14.10	13.83
Germany, East.....	3.72	3.33	--	--	--	--	--	--	--	--
Germany, West.....	11.21	11.48	--	--	--	--	--	--	--	--
Greece.....	0.99	1.05	1.07	1.04	1.09	1.11	1.12	1.15	1.20	1.26
Ireland.....	0.35	0.37	0.39	0.40	0.40	0.42	0.45	0.46	0.48	0.52
Italy.....	6.99	6.98	7.15	7.19	7.01	6.93	7.52	7.64	7.70	7.98
Netherlands.....	3.26	3.37	3.56	3.53	3.60	3.58	3.69	3.83	3.81	3.82
Norway.....	1.56	1.58	1.59	1.65	1.65	1.66	1.73	1.75	1.80	1.86
Portugal.....	0.71	0.75	0.75	0.76	0.78	0.82	0.85	0.88	0.93	0.98
Spain.....	4.09	3.94	4.15	4.12	4.04	4.22	4.48	4.38	4.70	5.04
Sweden.....	2.20	2.17	2.17	2.18	2.18	2.16	2.35	2.27	2.17	2.27
Switzerland.....	1.13	1.17	1.21	1.21	1.19	1.20	1.18	1.22	1.23	1.21
Turkey.....	1.78	1.97	2.08	2.10	2.33	2.23	2.47	2.70	2.85	2.89
United Kingdom.....	9.39	9.32	9.58	9.39	9.65	9.64	9.60	10.16	9.74	9.75
Former Yugoslavia.....	2.23	2.13	1.87	--	--	--	--	--	--	--
Croatia.....	--	--	--	0.33	0.33	0.36	0.37	0.36	0.38	0.39
Serbia and Montenegro.....	--	--	--	0.69	0.55	0.60	0.46	0.72	0.78	0.81
Other.....	0.29	0.30	0.31	0.81	0.80	0.79	0.86	0.84	0.87	0.85
Total.....	63.67	63.99	65.01	64.24	64.54	64.58	66.31	68.39	68.60	69.52
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	1.47	1.30	1.01	1.00	0.93	0.92	0.99	1.02	0.95	0.89
Former Czechoslovakia.....	4.19	3.98	3.61	3.23	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	1.57	1.56	1.60	1.66	1.69	1.75
Slovakia.....	--	--	--	--	0.74	0.75	0.82	0.82	0.81	0.78
Hungary.....	1.34	1.28	1.20	1.10	1.09	1.10	1.07	1.08	1.04	1.05
Poland.....	4.83	3.87	3.84	3.81	3.95	3.78	3.58	4.08	3.86	3.51
Romania.....	3.16	2.88	2.24	2.06	2.00	1.89	2.03	2.06	2.05	1.76
Former U.S.S.R.....	59.75	60.69	57.46	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	0.97	0.83	0.75	0.72	0.64	0.63	0.49
Belarus.....	--	--	--	1.57	1.34	1.10	1.06	1.06	1.06	1.06
Kazakhstan.....	--	--	--	3.35	2.77	2.23	2.04	1.97	1.86	1.88
Lithuania.....	--	--	--	0.44	0.37	0.37	0.37	0.33	0.34	0.34
Russia.....	--	--	--	34.87	32.66	29.61	28.19	27.82	26.11	25.99
Turkmenistan.....	--	--	--	0.29	0.27	0.26	0.28	0.27	0.29	0.27
Ukraine.....	--	--	--	8.88	8.58	7.31	7.12	6.60	6.52	6.14
Uzbekistan.....	--	--	--	1.66	2.04	1.76	1.85	1.91	1.89	1.84
Other.....	0.15	0.11	0.09	1.81	1.38	1.19	1.16	1.27	1.23	1.22
Total.....	74.88	74.11	69.45	65.03	60.53	54.58	52.87	52.58	50.34	48.96

See footnotes at end of table.

Table E1 World Primary Energy Consumption (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Bahrain.....	0.24	0.26	0.29	0.24	0.29	0.28	0.28	0.28	0.34	0.36
Iran.....	2.97	3.10	3.24	3.35	3.47	3.66	3.81	3.95	4.44	4.53
Iraq.....	0.82	0.92	0.60	0.84	0.96	1.08	1.13	1.12	1.03	1.06
Israel.....	0.44	0.45	0.48	0.54	0.60	0.62	0.61	0.65	0.72	0.76
Kuwait.....	0.70	0.45	0.11	0.26	0.43	0.50	0.52	0.64	0.67	0.70
Oman.....	0.17	0.18	0.21	0.20	0.23	0.24	0.22	0.23	0.27	0.35
Qatar.....	0.29	0.36	0.42	0.49	0.57	0.57	0.57	0.58	0.61	0.63
Saudi Arabia.....	3.07	3.15	3.28	3.39	3.52	3.64	3.85	4.05	4.08	4.19
Syria.....	0.50	0.59	0.56	0.59	0.64	0.68	0.65	0.70	0.77	0.83
United Arab Emirates.....	1.26	1.23	1.49	1.55	1.48	1.49	1.60	1.67	1.79	1.82
Yemen.....	0.15	0.16	0.17	0.17	0.14	0.14	0.14	0.14	0.15	0.15
Other.....	0.28	0.29	0.33	0.36	0.39	0.45	0.47	0.50	0.52	0.53
Total.....	10.90	11.13	11.17	11.99	12.72	13.33	13.88	14.51	15.38	15.90
Africa										
Algeria.....	1.17	1.22	1.35	1.30	1.22	1.28	1.34	1.32	1.26	1.32
Angola.....	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.10
Egypt.....	1.35	1.44	1.43	1.43	1.51	1.55	1.58	1.73	1.80	1.86
Gabon.....	0.04	0.04	0.04	0.05	0.04	0.05	0.05	0.06	0.06	0.06
Libya.....	0.48	0.51	0.53	0.49	0.51	0.53	0.54	0.57	0.59	0.62
Morocco.....	0.30	0.31	0.32	0.33	0.36	0.40	0.37	0.40	0.41	0.41
Nigeria.....	0.71	0.70	0.77	0.79	0.80	0.68	0.83	0.85	0.97	0.96
South Africa.....	3.40	3.36	3.52	3.79	3.87	4.07	4.10	4.15	4.31	4.43
Zimbabwe.....	0.22	0.24	0.23	0.24	0.22	0.23	0.24	0.22	0.25	0.23
Other.....	1.40	1.44	1.44	1.51	1.55	1.63	1.62	1.69	1.75	1.78
Total.....	9.15	9.34	9.74	10.01	10.18	10.51	10.77	11.07	11.51	11.77
Far East & Oceania										
Australia.....	3.55	3.67	3.70	3.83	3.95	3.98	4.13	4.14	4.07	4.30
Bangladesh.....	0.25	0.25	0.26	0.29	0.30	0.33	0.36	0.37	0.38	0.40
Brunei.....	0.08	0.07	0.04	0.05	0.05	0.05	0.06	0.06	0.07	0.07
China.....	26.96	27.01	28.26	29.31	31.36	34.04	35.18	35.48	35.47	33.93
Hong Kong.....	0.50	0.48	0.46	0.50	0.55	0.59	0.64	0.67	0.51	0.67
India.....	7.27	7.78	8.06	8.71	9.10	9.81	11.11	11.60	12.10	12.51
Indonesia.....	2.07	2.19	2.31	2.50	2.87	3.06	3.29	3.58	3.83	3.62
Japan.....	17.69	18.28	19.00	19.26	19.53	20.30	20.95	21.63	21.57	21.28
Korea, North.....	2.04	2.07	2.13	2.02	2.08	2.07	2.06	2.10	1.82	1.81
Korea, South.....	3.28	3.66	4.17	4.65	5.38	5.89	6.44	7.03	7.62	6.93
Malaysia.....	0.86	0.98	1.09	1.14	1.28	1.42	1.46	1.63	1.65	1.74
New Zealand.....	0.71	0.74	0.74	0.75	0.78	0.81	0.87	0.83	0.80	0.79
Pakistan.....	1.13	1.18	1.25	1.29	1.41	1.50	1.58	1.70	1.68	1.74
Philippines.....	0.71	0.73	0.73	0.77	0.84	0.90	0.96	1.02	1.09	1.08
Singapore.....	0.73	0.80	0.86	0.97	1.08	1.16	1.18	1.25	1.42	1.33
Taiwan.....	1.93	2.04	2.09	2.21	2.43	2.61	2.86	3.06	3.24	3.31
Thailand.....	1.07	1.25	1.37	1.47	1.68	1.87	2.24	2.44	2.52	2.34
Vietnam.....	0.23	0.28	0.28	0.31	0.39	0.42	0.52	0.56	0.68	0.74
Other.....	0.61	0.62	0.57	0.55	0.58	0.63	0.63	0.64	0.66	0.68
Total.....	71.68	74.09	77.35	80.57	85.63	91.44	96.53	99.80	101.19	99.27
World Total.....	344.83	346.83	347.51	348.46	353.21	357.25	365.72	376.25	378.04	377.72

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Primary energy consumption reported in this table includes petroleum, dry natural gas, coal, net hydroelectric, nuclear, biomass, geothermal, solar, and wind electric power, as reported in Tables E2-E7. Primary energy consumption for the United States also includes:

(1) the consumption of biomass, geothermal energy, and solar energy not used for electricity generation; (2) electricity imports from Mexico that are derived from geothermal energy; and (3) net imports of electricity derived from nonrenewable sources. Primary energy consumption for all countries, except the United States, has been adjusted to include total electricity imports and to exclude total electricity exports. This adjustment is necessary because the consumption data for electric power by type, as reported in Tables E5-E7, are not adjusted for electricity imports and exports, except for hydroelectric power in the United States. As a result of these adjustments, primary energy consumption reported in this table might not be equal to sum of the individual fuel types reported in Tables E2-E7.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Table E2 World Petroleum Consumption (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	3.48	3.39	3.24	3.28	3.33	3.40	3.45	3.53	3.66	3.70
Mexico.....	3.36	3.44	3.45	3.47	3.44	3.62	3.47	3.56	3.70	3.85
United States.....	34.21	33.55	32.85	33.53	33.84	34.74	34.66	35.86	36.38	37.06
Other.....	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	41.07	40.39	39.55	40.30	40.62	41.77	41.60	42.96	43.74	44.62
Central & South America										
Argentina.....	0.89	0.84	0.84	0.90	0.97	0.92	0.91	0.97	0.98	1.00
Bolivia.....	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.07	0.07	0.07
Brazil.....	2.68	2.71	2.73	2.77	2.88	3.10	3.24	3.52	3.72	3.84
Chile.....	0.25	0.27	0.29	0.30	0.34	0.36	0.40	0.44	0.47	0.50
Colombia.....	0.41	0.39	0.41	0.46	0.48	0.48	0.50	0.55	0.57	0.58
Costa Rica.....	0.04	0.04	0.04	0.05	0.06	0.06	0.07	0.06	0.06	0.07
Cuba.....	0.49	0.48	0.44	0.39	0.39	0.40	0.41	0.42	0.36	0.37
Dominican Republic.....	0.12	0.13	0.13	0.14	0.12	0.14	0.15	0.16	0.17	0.17
Ecuador.....	0.18	0.20	0.21	0.24	0.22	0.24	0.25	0.28	0.29	0.29
El Salvador.....	0.03	0.03	0.04	0.05	0.05	0.05	0.06	0.06	0.07	0.07
Guatemala.....	0.05	0.05	0.05	0.06	0.07	0.08	0.08	0.09	0.10	0.10
Honduras.....	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05
Jamaica.....	0.09	0.10	0.10	0.11	0.11	0.12	0.13	0.13	0.14	0.14
Netherlands Antilles.....	0.15	0.15	0.14	0.14	0.14	0.14	0.15	0.15	0.16	0.16
Panama.....	0.05	0.06	0.07	0.09	0.09	0.09	0.09	0.10	0.10	0.11
Peru.....	0.25	0.25	0.23	0.25	0.26	0.27	0.30	0.32	0.34	0.35
Puerto Rico.....	0.30	0.29	0.37	0.33	0.34	0.35	0.34	0.33	0.32	0.34
Trinidad and Tobago.....	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.05	0.05
Uruguay.....	0.07	0.07	0.06	0.07	0.07	0.07	0.06	0.07	0.08	0.08
Venezuela.....	0.78	0.79	0.81	0.83	0.83	0.85	0.88	0.88	0.89	0.90
Virgin Islands, U.S.....	0.12	0.11	0.12	0.12	0.11	0.11	0.18	0.16	0.19	0.25
Other.....	0.24	0.25	0.24	0.24	0.26	0.27	0.30	0.28	0.31	0.32
Total.....	7.33	7.34	7.46	7.66	7.92	8.26	8.66	9.13	9.48	9.83
Western Europe										
Austria.....	0.45	0.45	0.49	0.48	0.48	0.49	0.49	0.48	0.51	0.52
Belgium.....	0.97	0.97	1.06	1.08	1.05	1.08	1.05	1.19	1.25	1.27
Denmark.....	0.41	0.40	0.41	0.40	0.41	0.44	0.47	0.50	0.49	0.48
Finland.....	0.48	0.47	0.48	0.46	0.44	0.46	0.36	0.40	0.46	0.44
France.....	3.81	3.73	3.99	3.96	3.85	3.77	3.90	4.00	4.04	4.20
Germany.....	--	--	5.85	5.87	5.97	5.92	5.92	5.98	5.96	5.99
Germany, East.....	0.62	0.58	--	--	--	--	--	--	--	--
Germany, West.....	4.69	4.90	--	--	--	--	--	--	--	--
Greece.....	0.62	0.67	0.68	0.70	0.72	0.74	0.74	0.77	0.79	0.82
Ireland.....	0.17	0.19	0.21	0.22	0.22	0.24	0.26	0.26	0.28	0.31
Italy.....	4.07	3.94	3.92	4.08	3.87	3.84	4.28	4.28	4.26	4.31
Luxembourg.....	0.06	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09
Netherlands.....	1.47	1.52	1.57	1.59	1.58	1.59	1.65	1.61	1.68	1.69
Norway.....	0.38	0.38	0.37	0.37	0.37	0.37	0.39	0.43	0.45	0.45
Portugal.....	0.52	0.52	0.53	0.58	0.55	0.56	0.60	0.57	0.61	0.68
Spain.....	2.13	2.09	2.21	2.29	2.18	2.33	2.60	2.43	2.69	2.88
Sweden.....	0.69	0.65	0.66	0.70	0.68	0.72	0.84	0.82	0.67	0.76
Switzerland.....	0.53	0.56	0.58	0.59	0.57	0.58	0.53	0.56	0.58	0.55
Turkey.....	0.91	0.98	0.97	1.02	1.16	1.11	1.23	1.30	1.29	1.27
United Kingdom.....	3.55	3.59	3.68	3.67	3.70	3.72	3.72	3.72	3.64	3.60
Former Yugoslavia.....	0.66	0.67	0.53	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	0.07	0.05	0.04	0.04	0.04	0.04	0.04
Croatia.....	--	--	--	0.14	0.13	0.17	0.19	0.17	0.17	0.18
Macedonia, TFYR.....	--	--	--	0.04	0.05	0.04	0.04	0.06	0.04	0.05
Serbia and Montenegro.....	--	--	--	0.12	0.07	0.07	0.06	0.11	0.14	0.15
Slovenia.....	--	--	--	0.07	0.09	0.09	0.10	0.11	0.11	0.12
Other.....	0.06	0.07	0.07	0.09	0.09	0.09	0.09	0.09	0.15	0.10
Total.....	27.26	27.42	28.32	28.69	28.37	28.51	29.61	29.97	30.38	30.96

See footnotes at end of table.

Table E2 World Petroleum Consumption (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.06	0.04	0.04	0.04	0.04	0.03	0.03	0.02	0.02	0.02
Bulgaria.....	0.50	0.41	0.26	0.28	0.25	0.27	0.28	0.25	0.23	0.23
Former Czechoslovakia.....	0.67	0.60	0.49	0.45	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	0.31	0.32	0.33	0.38	0.36	0.36
Slovakia.....	--	--	--	--	0.13	0.14	0.14	0.14	0.14	0.16
Hungary.....	0.38	0.37	0.34	0.36	0.35	0.36	0.33	0.31	0.31	0.32
Poland.....	0.72	0.58	0.57	0.62	0.62	0.63	0.65	0.75	0.81	0.84
Romania.....	0.74	0.82	0.60	0.53	0.53	0.47	0.52	0.55	0.58	0.59
Former U.S.S.R.....	18.25	17.48	17.45	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.10	0.05	0.02	0.01	0.01	0.01	0.01
Azerbaijan.....	--	--	--	0.43	0.41	0.39	0.38	0.28	0.28	0.27
Belarus.....	--	--	--	0.79	0.62	0.51	0.49	0.44	0.41	0.40
Estonia.....	--	--	--	0.06	0.06	0.05	0.05	0.06	0.06	0.06
Georgia.....	--	--	--	0.06	0.03	0.02	0.01	0.04	0.04	0.04
Kazakhstan.....	--	--	--	0.85	0.71	0.63	0.59	0.53	0.44	0.46
Kyrgyzstan.....	--	--	--	0.07	0.04	0.02	0.02	0.03	0.02	0.02
Latvia.....	--	--	--	0.11	0.09	0.08	0.09	0.10	0.08	0.08
Lithuania.....	--	--	--	0.18	0.16	0.17	0.16	0.14	0.14	0.14
Moldova.....	--	--	--	0.12	0.09	0.05	0.05	0.04	0.04	0.04
Russia.....	--	--	--	9.32	7.86	6.66	6.25	5.52	5.37	5.16
Tajikistan.....	--	--	--	0.04	0.04	0.01	0.02	0.05	0.05	0.05
Turkmenistan.....	--	--	--	0.16	0.14	0.13	0.13	0.13	0.14	0.14
Ukraine.....	--	--	--	1.74	1.22	1.06	1.01	0.80	0.74	0.73
Uzbekistan.....	--	--	--	0.40	0.37	0.35	0.38	0.30	0.30	0.29
Total.....	21.32	20.32	19.75	16.72	14.13	12.37	11.92	10.85	10.57	10.41
Middle East										
Bahrain.....	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
Cyprus.....	0.06	0.07	0.07	0.08	0.08	0.09	0.09	0.09	0.09	0.10
Iran.....	2.03	2.11	2.27	2.28	2.34	2.36	2.39	2.34	2.57	2.48
Iraq.....	0.72	0.83	0.56	0.73	0.86	0.95	1.00	1.00	0.91	0.95
Israel.....	0.35	0.35	0.37	0.43	0.42	0.42	0.44	0.45	0.49	0.50
Jordan.....	0.13	0.14	0.13	0.15	0.15	0.17	0.18	0.19	0.19	0.19
Kuwait.....	0.26	0.18	0.09	0.17	0.23	0.28	0.30	0.30	0.33	0.35
Lebanon.....	0.07	0.07	0.11	0.11	0.14	0.16	0.17	0.18	0.20	0.21
Oman.....	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.10	0.10	0.10
Qatar.....	0.06	0.07	0.08	0.07	0.07	0.07	0.08	0.07	0.08	0.08
Saudi Arabia.....	1.97	2.02	2.09	2.13	2.19	2.24	2.45	2.52	2.40	2.46
Syria.....	0.42	0.43	0.37	0.39	0.44	0.48	0.48	0.49	0.51	0.52
United Arab Emirates.....	0.53	0.53	0.67	0.60	0.65	0.69	0.69	0.66	0.72	0.70
Yemen.....	0.15	0.16	0.17	0.17	0.14	0.14	0.14	0.14	0.15	0.15
Total.....	6.88	7.08	7.10	7.44	7.84	8.18	8.54	8.57	8.78	8.85

See footnotes at end of table.

Table E2 World Petroleum Consumption (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Africa										
Algeria.....	0.36	0.38	0.41	0.42	0.43	0.45	0.44	0.43	0.44	0.45
Angola.....	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.06	0.07
Cameroon.....	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.06	0.05
Congo (Brazzaville).....	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.02
Congo (Kinshasa).....	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05
Cote d'Ivoire (Ivory Coast).....	0.08	0.08	0.08	0.09	0.09	0.11	0.11	0.12	0.12	0.12
Egypt.....	0.94	0.99	0.97	0.94	0.95	0.96	0.98	1.07	1.13	1.17
Ethiopia.....	0.04	0.04	0.03	0.05	0.05	0.03	0.03	0.02	0.02	0.03
Gabon.....	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.05
Ghana.....	0.05	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.05	0.06
Kenya.....	0.09	0.09	0.08	0.09	0.09	0.09	0.10	0.10	0.10	0.10
Libya.....	0.31	0.33	0.35	0.31	0.34	0.35	0.36	0.38	0.39	0.42
Morocco.....	0.23	0.24	0.24	0.27	0.28	0.30	0.29	0.28	0.29	0.29
Nigeria.....	0.50	0.51	0.53	0.54	0.55	0.45	0.58	0.59	0.69	0.68
Senegal.....	0.04	0.04	0.03	0.04	0.04	0.05	0.05	0.05	0.05	0.05
South Africa.....	0.58	0.63	0.69	0.85	0.83	0.84	0.86	0.88	0.90	0.92
Sudan.....	0.06	0.05	0.08	0.07	0.07	0.06	0.06	0.06	0.06	0.06
Tunisia.....	0.13	0.13	0.14	0.15	0.15	0.15	0.14	0.15	0.16	0.16
Zimbabwe.....	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.06
Other.....	0.34	0.38	0.37	0.40	0.41	0.46	0.44	0.44	0.45	0.45
Total.....	3.98	4.17	4.29	4.50	4.56	4.62	4.77	4.90	5.16	5.26
Far East & Oceania										
Australia.....	1.37	1.42	1.42	1.43	1.50	1.57	1.66	1.59	1.63	1.65
Bangladesh.....	0.08	0.08	0.08	0.08	0.09	0.10	0.11	0.11	0.12	0.12
Brunei.....	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.03	0.03	0.03
Burma.....	0.04	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05
China.....	5.03	4.85	5.29	5.57	6.19	6.57	6.98	7.44	8.10	8.50
Guam.....	0.01	0.03	0.03	0.04	0.05	0.07	0.05	0.04	0.05	0.05
Hong Kong.....	0.26	0.27	0.28	0.32	0.33	0.38	0.39	0.39	0.26	0.38
India.....	2.40	2.44	2.49	2.66	2.73	2.94	3.27	3.48	3.66	3.81
Indonesia.....	1.22	1.36	1.45	1.48	1.59	1.61	1.70	1.84	2.09	2.03
Japan.....	10.14	10.44	10.76	11.10	10.95	11.56	11.63	11.92	11.59	11.18
Korea, North.....	0.13	0.15	0.16	0.15	0.15	0.14	0.13	0.10	0.06	0.07
Korea, South.....	1.77	2.15	2.53	3.05	3.54	3.88	4.23	4.57	5.00	4.17
Malaysia.....	0.46	0.55	0.58	0.62	0.70	0.79	0.83	0.91	0.94	0.91
Mongolia.....	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
New Zealand.....	0.21	0.22	0.21	0.22	0.25	0.26	0.31	0.27	0.26	0.27
Pakistan.....	0.44	0.47	0.47	0.49	0.55	0.61	0.64	0.71	0.72	0.76
Papua New Guinea.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Philippines.....	0.49	0.50	0.50	0.55	0.60	0.64	0.69	0.72	0.77	0.76
Singapore.....	0.73	0.80	0.85	0.93	1.03	1.11	1.13	1.20	1.36	1.27
Sri Lanka.....	0.07	0.07	0.07	0.08	0.09	0.09	0.10	0.11	0.12	0.13
Taiwan.....	1.11	1.14	1.15	1.17	1.30	1.39	1.56	1.64	1.63	1.66
Thailand.....	0.72	0.84	0.91	1.00	1.14	1.26	1.42	1.56	1.54	1.42
Vietnam.....	0.10	0.11	0.12	0.13	0.16	0.18	0.20	0.24	0.33	0.36
Other.....	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.15	0.15	0.16
Total.....	26.99	28.15	29.64	31.31	33.17	35.39	37.30	39.12	40.52	39.80
World Total.....	134.82	134.87	136.11	136.62	136.61	139.10	142.39	145.51	148.62	149.73

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table E3 World Dry Natural Gas Consumption (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	2.46	2.41	2.44	2.64	2.78	2.92	2.86	3.06	3.10	3.03
Mexico.....	0.92	1.02	1.06	1.06	1.08	1.14	1.16	1.25	1.27	1.37
United States.....	19.38	19.30	19.61	20.13	20.83	21.29	22.16	22.56	22.54	21.89
Total.....	22.77	22.73	23.10	23.83	24.69	25.35	26.18	26.87	26.92	26.29
Central & South America										
Argentina.....	0.83	0.74	0.81	0.85	0.90	0.93	1.03	1.09	1.09	1.17
Barbados.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.04
Brazil.....	0.14	0.11	0.14	0.15	0.17	0.18	0.19	0.21	0.23	0.24
Chile.....	0.06	0.07	0.05	0.05	0.06	0.07	0.07	0.07	0.10	0.12
Colombia.....	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.20	0.23
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.03	0.03
Ecuador.....	(s)	0.01	(s)	(s)	(s)	(s)	0.01	0.01	(s)	(s)
Peru.....	0.04	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.01	0.02
Trinidad and Tobago.....	0.17	0.18	0.21	0.20	0.23	0.26	0.28	0.32	0.34	0.39
Venezuela.....	0.92	0.91	0.95	0.91	0.97	1.04	1.06	1.14	1.18	1.18
Total.....	2.31	2.21	2.35	2.37	2.55	2.70	2.86	3.06	3.24	3.41
Western Europe										
Austria.....	0.21	0.23	0.24	0.24	0.25	0.26	0.28	0.30	0.29	0.30
Belgium.....	0.33	0.34	0.39	0.40	0.42	0.43	0.47	0.52	0.50	0.55
Denmark.....	0.07	0.08	0.09	0.09	0.11	0.12	0.14	0.16	0.19	0.19
Finland.....	0.08	0.10	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.15
France.....	1.05	1.10	1.25	1.26	1.22	1.22	1.23	1.36	1.34	1.38
Germany.....	--	--	2.48	2.45	2.53	2.65	2.84	3.06	2.93	2.95
Germany, East.....	0.23	0.14	--	--	--	--	--	--	--	--
Germany, West.....	2.00	2.05	--	--	--	--	--	--	--	--
Greece.....	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	0.01	0.05
Ireland.....	0.08	0.08	0.08	0.08	0.10	0.10	0.10	0.12	0.12	0.12
Italy.....	1.60	1.70	1.80	1.78	1.80	1.75	1.92	2.02	2.09	2.25
Luxembourg.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
Netherlands.....	1.39	1.37	1.53	1.49	1.53	1.48	1.52	1.68	1.58	1.57
Norway.....	0.08	0.09	0.08	0.14	0.10	0.10	0.11	0.11	0.14	0.14
Portugal.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	0.03
Spain.....	0.20	0.22	0.25	0.26	0.26	0.28	0.34	0.38	0.49	0.50
Sweden.....	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Switzerland.....	0.07	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.10	0.10
Turkey.....	0.12	0.13	0.15	0.17	0.19	0.20	0.26	0.30	0.36	0.38
United Kingdom.....	2.01	2.12	2.22	2.26	2.50	2.65	2.83	3.35	3.17	3.28
Former Yugoslavia.....	0.30	0.26	0.26	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	0.02	0.01	0.01	0.09	(s)	(s)	0.01
Croatia.....	--	--	--	0.10	0.11	0.10	0.09	0.09	0.10	0.10
Macedonia, TFYR.....	--	--	--	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Serbia and Montenegro.....	--	--	--	0.08	0.04	0.06	0.04	0.12	0.12	0.11
Slovenia.....	--	--	--	0.02	0.03	0.03	0.03	0.04	0.03	0.03
Total.....	9.86	10.12	11.06	11.10	11.46	11.69	12.57	13.92	13.75	14.24

See footnotes at end of table.

Table E3 World Dry Natural Gas Consumption (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.03	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	0.21	0.23	0.20	0.18	0.17	0.17	0.21	0.22	0.18	0.13
Former Czechoslovakia.....	0.45	0.54	0.49	0.40	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	0.26	0.23	0.28	0.32	0.31	0.31
Slovakia.....	--	--	--	--	0.17	0.20	0.27	0.26	0.25	0.24
Hungary.....	0.41	0.38	0.38	0.34	0.36	0.37	0.39	0.44	0.41	0.42
Poland.....	0.35	0.31	0.30	0.28	0.31	0.31	0.32	0.36	0.36	0.37
Romania.....	1.48	1.35	1.05	0.94	0.92	0.86	0.91	0.90	0.83	0.65
Former U.S.S.R.....	25.17	25.61	25.31	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.07	0.05	0.06	0.06	0.06	0.05	0.05
Azerbaijan.....	--	--	--	0.53	0.39	0.34	0.32	0.33	0.33	0.20
Belarus.....	--	--	--	0.67	0.62	0.52	0.47	0.51	0.55	0.57
Estonia.....	--	--	--	0.05	0.02	0.02	0.03	0.03	0.04	0.04
Georgia.....	--	--	--	0.18	0.09	0.06	0.08	0.06	0.07	0.06
Kazakhstan.....	--	--	--	0.72	0.53	0.54	0.40	0.52	0.50	0.48
Kyrgyzstan.....	--	--	--	0.09	0.08	0.07	0.03	0.07	0.07	0.07
Latvia.....	--	--	--	0.06	0.03	0.02	0.04	0.04	0.05	0.05
Lithuania.....	--	--	--	0.14	0.09	0.08	0.10	0.09	0.10	0.11
Moldova.....	--	--	--	0.08	0.07	0.05	0.05	0.08	0.09	0.09
Russia.....	--	--	--	16.61	16.31	15.34	14.62	14.62	13.54	14.06
Tajikistan.....	--	--	--	0.07	0.05	0.06	0.03	0.04	0.04	0.04
Turkmenistan.....	--	--	--	0.14	0.15	0.15	0.17	0.17	0.16	0.16
Ukraine.....	--	--	--	3.62	4.00	3.44	3.07	3.03	2.93	2.69
Uzbekistan.....	--	--	--	1.11	1.56	1.25	1.37	1.46	1.48	1.43
Total.....	28.09	28.42	27.74	26.30	26.23	24.11	23.21	23.60	22.34	22.21
Middle East										
Bahrain.....	0.19	0.21	0.24	0.20	0.24	0.24	0.24	0.24	0.29	0.31
Iran.....	0.83	0.88	0.86	0.93	0.99	1.19	1.31	1.50	1.76	1.93
Iraq.....	0.09	0.08	0.04	0.11	0.09	0.12	0.12	0.12	0.11	0.11
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Kuwait.....	0.43	0.27	0.02	0.10	0.20	0.22	0.22	0.34	0.34	0.34
Oman.....	0.10	0.10	0.13	0.12	0.15	0.15	0.14	0.13	0.17	0.24
Qatar.....	0.23	0.29	0.34	0.42	0.50	0.50	0.50	0.51	0.54	0.55
Saudi Arabia.....	1.10	1.13	1.18	1.26	1.33	1.39	1.41	1.53	1.68	1.73
Syria.....	0.03	0.10	0.12	0.12	0.13	0.13	0.10	0.14	0.15	0.20
United Arab Emirates.....	0.73	0.69	0.83	0.94	0.84	0.80	0.92	1.00	1.07	1.12
Total.....	3.75	3.77	3.77	4.20	4.47	4.75	4.96	5.52	6.13	6.54
Africa										
Algeria.....	0.78	0.80	0.91	0.86	0.77	0.81	0.88	0.86	0.80	0.85
Angola.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Congo (Brazzaville).....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	0.00	(s)	0.02	0.02	0.03
Egypt.....	0.29	0.30	0.34	0.37	0.42	0.44	0.46	0.50	0.50	0.51
Gabon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	0.17	0.18	0.18	0.18	0.18	0.18	0.18	0.19	0.20	0.20
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	0.17	0.14	0.18	0.18	0.19	0.17	0.19	0.20	0.22	0.22
Senegal.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
South Africa.....	0.00	0.00	0.00	(s)	0.07	0.07	0.07	0.07	0.06	0.06
Tunisia.....	0.07	0.07	0.05	0.04	0.07	0.08	0.07	0.08	0.11	0.13
Total.....	1.50	1.52	1.69	1.66	1.71	1.79	1.88	1.95	1.95	2.02

See footnotes at end of table.

Table E3 World Dry Natural Gas Consumption (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	0.07	0.07	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Australia.....	0.59	0.65	0.61	0.64	0.67	0.71	0.76	0.75	0.77	0.80
Bangladesh.....	0.15	0.15	0.16	0.19	0.20	0.22	0.24	0.25	0.25	0.28
Brunei.....	0.07	0.06	0.02	0.04	0.03	0.03	0.04	0.03	0.04	0.03
Burma.....	0.04	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.05	0.06
China.....	0.58	0.58	0.61	0.61	0.64	0.68	0.69	0.76	0.86	0.91
Hong Kong.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
India.....	0.36	0.46	0.52	0.55	0.61	0.68	0.72	0.80	0.83	0.88
Indonesia.....	0.60	0.60	0.61	0.74	0.93	1.05	1.16	1.21	1.23	1.06
Japan.....	1.91	2.04	2.18	2.23	2.24	2.40	2.43	2.63	2.58	2.69
Korea, South.....	0.10	0.12	0.14	0.19	0.23	0.30	0.37	0.48	0.59	0.55
Malaysia.....	0.31	0.33	0.40	0.40	0.48	0.50	0.51	0.59	0.61	0.73
New Zealand.....	0.17	0.17	0.18	0.20	0.18	0.18	0.17	0.19	0.21	0.18
Pakistan.....	0.44	0.45	0.50	0.51	0.54	0.59	0.60	0.65	0.65	0.66
Papua New Guinea.....	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)
Singapore.....	0.00	0.00	0.00	0.04	0.06	0.06	0.06	0.06	0.06	0.06
Taiwan.....	0.05	0.08	0.11	0.11	0.11	0.14	0.15	0.16	0.19	0.20
Thailand.....	0.18	0.21	0.24	0.25	0.31	0.34	0.37	0.42	0.53	0.55
Vietnam.....	(s)	(s)	(s)	0.01	0.01	0.01	0.03	0.03	0.01	0.02
Total.....	5.64	6.02	6.31	6.77	7.29	7.95	8.36	9.09	9.45	9.67
World Total.....	73.93	74.78	76.02	76.23	78.40	78.34	80.01	84.01	83.77	84.40

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5 trillion Btu.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 4.

Table E4 World Coal Consumption (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	1.34	1.24	1.27	1.07	1.21	1.27	1.29	1.30	1.08	1.17
Mexico.....	0.17	0.17	0.16	0.18	0.20	0.18	0.26	0.26	0.21	0.24
United States.2.....	18.96	19.11	18.78	19.19	19.79	19.98	20.05	20.94	21.47	21.67
Total.....	20.47	20.52	20.21	20.44	21.20	21.43	21.60	22.50	22.76	23.07
Central & South America										
Argentina.....	0.04	0.03	0.03	0.03	0.02	0.04	0.04	0.04	0.04	0.03
Brazil.....	0.42	0.37	0.43	0.39	0.30	0.30	0.30	0.32	0.31	0.44
Chile.....	0.09	0.10	0.08	0.07	0.07	0.08	0.09	0.13	0.12	0.13
Colombia.....	0.12	0.07	0.22	0.16	0.15	0.13	0.10	0.12	0.12	0.13
Costa Rica.....	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	(s)	(s)
Cuba.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Dominican Republic.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Haiti.....	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00
Jamaica.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Panama.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Peru.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.01
Puerto Rico.....	0.01	0.01	0.01	(s)	0.01	0.01	0.01	(s)	(s)	(s)
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Virgin Islands, U.S.....	0.00	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	0.71	0.60	0.80	0.69	0.58	0.59	0.57	0.64	0.63	0.77
Western Europe										
Austria.....	0.13	0.16	0.13	0.11	0.12	0.11	0.13	0.13	0.14	0.13
Belgium.....	0.38	0.43	0.41	0.33	0.33	0.36	0.38	0.34	0.34	0.35
Denmark.....	0.23	0.25	0.34	0.27	0.30	0.31	0.26	0.35	0.26	0.13
Finland.....	0.16	0.15	0.15	0.13	0.17	0.20	0.17	0.20	0.19	0.12
France.....	0.76	0.81	0.84	0.70	0.59	0.56	0.57	0.63	0.55	0.59
Germany.....	--	--	4.34	3.94	3.81	3.66	3.51	3.46	3.30	3.06
Germany, East.....	2.71	2.52	--	--	--	--	--	--	--	--
Germany, West.....	2.80	2.83	--	--	--	--	--	--	--	--
Greece.....	0.34	0.35	0.35	0.30	0.34	0.34	0.33	0.32	0.34	0.33
Iceland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ireland.....	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08
Italy.....	0.56	0.60	0.57	0.45	0.42	0.42	0.46	0.43	0.42	0.45
Luxembourg.....	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.01	0.01
Malta.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Netherlands.....	0.30	0.35	0.32	0.30	0.33	0.34	0.34	0.36	0.36	0.36
Norway.....	0.04	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
Portugal.....	0.11	0.12	0.12	0.11	0.12	0.13	0.14	0.14	0.14	0.11
Spain.....	1.01	0.85	0.87	0.82	0.78	0.76	0.71	0.59	0.65	0.67
Sweden.....	0.11	0.10	0.09	0.08	0.10	0.07	0.10	0.09	0.08	0.08
Switzerland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)
Turkey.....	0.56	0.62	0.72	0.64	0.63	0.61	0.62	0.68	0.76	0.77
United Kingdom.....	2.88	2.72	2.67	2.34	2.18	1.99	1.78	1.75	1.54	1.40
Former Yugoslavia.....	0.97	0.94	0.88	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Croatia.....	--	--	--	0.01	0.02	0.01	(s)	0.01	0.01	0.01
Macedonia, TFYR.....	--	--	--	0.06	0.06	0.07	0.07	0.07	0.06	0.06
Serbia and Montenegro.....	--	--	--	0.36	0.34	0.35	0.25	0.38	0.39	0.42
Slovenia.....	--	--	--	0.07	0.06	0.06	0.06	0.07	0.07	0.07
Total.....	14.22	13.99	12.98	11.22	10.90	10.53	10.05	10.15	9.75	9.28

See footnotes at end of table.

Table E4 World Coal Consumption (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.03	0.03	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	0.52	0.45	0.36	0.37	0.34	0.31	0.30	0.33	0.37	0.33
Former Czechoslovakia.....	2.70	2.47	2.29	2.07	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	0.86	0.85	0.82	0.79	0.85	0.93
Slovakia.....	--	--	--	--	0.24	0.20	0.21	0.20	0.20	0.19
Hungary.....	0.29	0.26	0.27	0.23	0.22	0.22	0.18	0.17	0.16	0.17
Poland.....	3.70	2.95	2.95	2.91	3.00	2.82	2.59	2.96	2.66	2.29
Romania.....	0.73	0.49	0.40	0.42	0.40	0.41	0.42	0.43	0.40	0.28
Former U.S.S.R.....	11.99	13.24	10.17	--	--	--	--	--	--	--
Armenia.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Azerbaijan.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Belarus.....	--	--	--	0.04	0.04	0.03	0.03	0.03	0.02	0.02
Estonia.....	--	--	--	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Georgia.....	--	--	--	0.01	0.01	0.01	0.01	(s)	(s)	(s)
Kazakhstan.....	--	--	--	1.56	1.29	0.90	0.90	0.79	0.81	0.84
Kyrgyzstan.....	--	--	--	0.05	0.03	0.04	0.02	0.02	0.01	0.02
Latvia.....	--	--	--	0.02	0.01	0.01	0.01	0.01	(s)	0.01
Lithuania.....	--	--	--	0.02	0.02	0.02	0.01	0.01	0.01	(s)
Moldova.....	--	--	--	0.08	0.05	0.05	0.03	0.02	0.01	0.01
Russia.....	--	--	--	6.07	5.64	4.99	4.66	5.15	4.66	4.28
Tajikistan.....	--	--	--	0.01	0.01	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	0.01	0.01	0.01	0.01	(s)	(s)	(s)
Ukraine.....	--	--	--	2.73	2.48	1.98	2.23	1.87	1.92	1.87
Uzbekistan.....	--	--	--	0.09	0.06	0.06	0.05	0.05	0.04	0.04
Total.....	19.95	19.89	16.45	16.72	14.74	12.94	12.50	12.85	12.16	11.28
Middle East										
Cyprus.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Iran.....	0.04	0.04	0.04	0.04	0.03	0.05	0.04	0.03	0.04	0.04
Israel.....	0.10	0.10	0.11	0.11	0.18	0.19	0.18	0.21	0.24	0.27
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01
Total.....	0.14	0.15	0.15	0.15	0.22	0.24	0.23	0.25	0.28	0.32
Africa										
Algeria.....	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Botswana.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Egypt.....	0.04	0.04	0.03	0.03	0.04	0.04	0.03	0.04	0.04	0.04
Ghana.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Madagascar.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Malawi.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mauritania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mauritius.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Morocco.....	0.05	0.05	0.06	0.04	0.07	0.07	0.07	0.09	0.09	0.09
Mozambique.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Niger.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
South Africa.....	2.68	2.65	2.74	2.86	2.93	3.08	3.08	3.13	3.27	3.34
Swaziland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Tunisia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Zambia.....	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)
Zimbabwe.....	0.14	0.15	0.14	0.15	0.14	0.15	0.15	0.12	0.14	0.13
Total.....	2.99	2.98	3.06	3.17	3.25	3.41	3.41	3.46	3.62	3.69

See footnotes at end of table.

Table E4 World Coal Consumption (Btu), 1989 - 1998 (Continued)

 (Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	1.44	1.44	1.49	1.57	1.58	1.51	1.52	1.61	1.47	1.66
Bangladesh.....	(s)	0.02	0.01	(s)	(s)	0.00	0.00	0.00	0.00	0.00
Bhutan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Burma.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
China.....	20.11	20.26	21.05	21.71	22.91	24.96	25.51	25.30	24.47	22.35
Fiji.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Hong Kong.....	0.26	0.23	0.21	0.23	0.26	0.19	0.20	0.20	0.17	0.21
India.....	3.82	4.08	4.23	4.69	4.95	5.27	6.28	6.49	6.70	6.88
Indonesia.....	0.14	0.10	0.11	0.16	0.23	0.28	0.29	0.40	0.40	0.42
Japan.....	2.65	2.71	2.77	2.70	2.72	2.81	2.95	3.05	3.07	2.94
Korea, North.....	1.58	1.62	1.64	1.62	1.68	1.68	1.69	1.76	1.53	1.52
Korea, South.....	0.91	0.83	0.93	0.84	1.01	1.12	1.17	1.25	1.28	1.33
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	0.00	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia.....	0.05	0.06	0.06	0.06	0.06	0.07	0.06	0.09	0.07	0.06
Mongolia.....	0.08	0.08	0.08	0.06	0.06	0.05	0.06	0.05	0.05	0.05
Nepal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
New Caledonia.....	(s)	(s)	(s)	(s)	0.01	0.01	0.01	(s)	(s)	(s)
New Zealand.....	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.05	0.05	0.04
Pakistan.....	0.08	0.08	0.08	0.09	0.09	0.10	0.09	0.10	0.09	0.09
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.05	0.06	0.06	0.06	0.08	0.08	0.08	0.10	0.11	0.11
Singapore.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Taiwan.....	0.43	0.40	0.45	0.51	0.63	0.66	0.73	0.81	0.97	0.99
Thailand.....	0.11	0.14	0.17	0.18	0.19	0.21	0.38	0.38	0.38	0.29
Vietnam.....	0.09	0.11	0.09	0.09	0.13	0.13	0.17	0.13	0.17	0.16
Total.....	31.85	32.28	33.50	34.67	36.65	39.19	41.27	41.77	41.00	39.13
World Total.....	90.33	90.41	87.15	87.05	87.54	88.33	89.63	91.64	90.19	87.53

¹ Preliminary.

² United States apparent coal consumption is calculated as: production+imports-exports-stock builds. Coal consumption by independent power producers is included beginning in 1992. The Monthly Energy Review uses a different methodology for deriving coal consumption and does not include coal consumption by independent power producers.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Coal includes anthracite, subanthracite, bituminous, subbituminous, lignite, and brown coal.

Sources: See sources at the end of Section 5.

Table E5 World Net Hydroelectric Power Consumption (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	2.99	3.06	3.17	3.26	3.33	3.40	3.45	3.67	3.62	3.42
Mexico.....	0.25	0.24	0.23	0.27	0.27	0.21	0.28	0.32	0.27	0.25
United States..?	2.98	3.09	3.16	2.82	3.10	2.94	3.45	3.88	3.88	3.55
Total.....	6.23	6.39	6.56	6.35	6.71	6.54	7.18	7.87	7.77	7.23
Central & South America										
Argentina.....	0.16	0.21	0.20	0.25	0.31	0.35	0.35	0.30	0.36	0.37
Bolivia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01
Brazil.....	2.11	2.13	2.24	2.30	2.42	2.50	2.61	2.74	2.87	3.00
Chile.....	0.10	0.12	0.14	0.17	0.18	0.17	0.19	0.17	0.19	0.16
Colombia.....	0.27	0.28	0.28	0.23	0.29	0.33	0.35	0.36	0.32	0.32
Costa Rica.....	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
Dominican Republic.....	0.01	(s)	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Ecuador.....	0.05	0.05	0.05	0.05	0.06	0.07	0.05	0.06	0.07	0.07
El Salvador.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Guatemala.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Haiti.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Honduras.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02
Jamaica.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nicaragua.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Panama.....	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Paraguay.....	0.25	0.28	0.30	0.28	0.32	0.37	0.43	0.49	0.52	0.52
Peru.....	0.11	0.11	0.12	0.10	0.12	0.13	0.14	0.14	0.14	0.14
Puerto Rico.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Suriname.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Uruguay.....	0.04	0.07	0.06	0.08	0.08	0.08	0.06	0.06	0.07	0.09
Venezuela.....	0.36	0.38	0.46	0.49	0.49	0.53	0.53	0.55	0.59	0.55
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	3.60	3.80	4.02	4.13	4.46	4.73	4.91	5.07	5.33	5.44
Western Europe										
Austria.....	0.36	0.32	0.32	0.36	0.38	0.37	0.38	0.35	0.37	0.38
Belgium.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Finland.....	0.13	0.11	0.14	0.16	0.14	0.12	0.13	0.12	0.13	0.15
France.....	0.48	0.55	0.59	0.70	0.66	0.80	0.73	0.67	0.64	0.62
Germany.....	--	--	0.15	0.18	0.18	0.21	0.22	0.23	0.18	0.18
Germany, East.....	0.02	0.01	--	--	--	--	--	--	--	--
Germany, West.....	0.20	0.19	--	--	--	--	--	--	--	--
Greece.....	0.02	0.02	0.03	0.02	0.02	0.03	0.04	0.04	0.04	0.04
Iceland.....	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.06
Ireland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Italy.....	0.35	0.33	0.43	0.43	0.43	0.46	0.39	0.43	0.43	0.44
Luxembourg.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Norway.....	1.22	1.25	1.13	1.20	1.23	1.15	1.25	1.07	1.13	1.19
Portugal.....	0.06	0.09	0.09	0.05	0.09	0.11	0.09	0.15	0.13	0.13
Spain.....	0.20	0.26	0.28	0.19	0.25	0.29	0.24	0.41	0.36	0.36
Sweden.....	0.74	0.75	0.65	0.77	0.77	0.61	0.70	0.53	0.71	0.76
Switzerland.....	0.31	0.31	0.33	0.34	0.37	0.40	0.36	0.29	0.35	0.34
Turkey.....	0.18	0.24	0.23	0.27	0.35	0.31	0.37	0.42	0.41	0.43
United Kingdom.....	0.05	0.05	0.05	0.06	0.04	0.05	0.05	0.03	0.04	0.05
Former Yugoslavia.....	0.24	0.20	0.20	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	0.03	0.02	0.01	0.01	0.01	0.02	0.02
Croatia.....	--	--	--	0.04	0.04	0.05	0.05	0.07	0.05	0.06
Macedonia, TFYR.....	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Serbia and Montenegro.....	--	--	--	0.12	0.10	0.11	0.12	0.12	0.13	0.13
Slovenia.....	--	--	--	0.04	0.03	0.03	0.03	0.04	0.03	0.03
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4.61	4.74	4.69	5.02	5.17	5.19	5.24	5.06	5.22	5.40

See footnotes at end of table.

Table E5 World Net Hydroelectric Power Consumption (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.04	0.03	0.04	0.03	0.03	0.04	0.04	0.06	0.06	0.05
Bulgaria.....	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.03
Former Czechoslovakia.....	0.04	0.04	0.03	0.04	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	0.01	0.02	0.02	0.02	0.02	0.02
Slovakia.....	--	--	--	--	0.04	0.05	0.05	0.05	0.04	0.04
Hungary.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Poland.....	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Romania.....	0.13	0.11	0.15	0.12	0.13	0.13	0.17	0.16	0.18	0.17
Former U.S.S.R.....	2.30	2.40	2.42	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.03	0.04	0.04	0.02	0.02	0.02	0.02
Azerbaijan.....	--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Georgia.....	--	--	--	0.07	0.07	0.05	0.05	0.06	0.06	0.06
Kazakhstan.....	--	--	--	0.07	0.08	0.09	0.09	0.08	0.07	0.06
Kyrgyzstan.....	--	--	--	0.10	0.09	0.12	0.11	0.13	0.12	0.11
Latvia.....	--	--	--	0.03	0.03	0.03	0.03	0.02	0.03	0.03
Lithuania.....	--	--	--	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Moldova.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	1.78	1.79	1.81	1.82	1.59	1.59	1.56
Tajikistan.....	--	--	--	0.16	0.18	0.17	0.15	0.15	0.14	0.14
Ukraine.....	--	--	--	0.08	0.12	0.13	0.10	0.09	0.10	0.12
Uzbekistan.....	--	--	--	0.06	0.08	0.07	0.06	0.07	0.07	0.07
Other.....	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	2.58	2.64	2.70	2.65	2.79	2.84	2.82	2.59	2.59	2.56
Middle East										
Iran.....	0.07	0.06	0.07	0.10	0.10	0.08	0.07	0.08	0.08	0.08
Iraq.....	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lebanon.....	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Syria.....	0.05	0.06	0.06	0.08	0.07	0.07	0.07	0.07	0.10	0.10
Total.....	0.13	0.13	0.15	0.19	0.18	0.16	0.16	0.16	0.20	0.20
Africa										
Algeria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Angola.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cameroon.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Congo (Brazzaville).....	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
Congo (Kinshasa).....	0.07	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Cote d'Ivoire (Ivory Coast).....	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Egypt.....	0.08	0.10	0.09	0.09	0.11	0.11	0.11	0.12	0.12	0.13
Ethiopia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Gabon.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ghana.....	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Kenya.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04
Madagascar.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
Malawi.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Mali.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Morocco.....	0.01	0.01	0.01	0.01	(s)	0.01	0.01	0.02	0.02	0.02
Nigeria.....	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Reunion.....	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
South Africa.....	0.03	0.01	0.02	0.01	(s)	0.01	0.01	0.01	0.02	0.02
Sudan.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Tanzania.....	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01
Uganda.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Zambia.....	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Zimbabwe.....	0.03	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Other.....	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Total.....	0.56	0.58	0.60	0.58	0.58	0.58	0.60	0.63	0.65	0.66

See footnotes at end of table.

Table E5 World Net Hydroelectric Power Consumption (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	0.15	0.15	0.16	0.16	0.17	0.17	0.16	0.16	0.17	0.16
Bangladesh.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Bhutan.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Burma.....	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cambodia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
China.....	1.22	1.30	1.29	1.35	1.55	1.72	1.92	1.92	2.01	2.11
Fiji.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
French Polynesia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
India.....	0.64	0.74	0.75	0.72	0.73	0.85	0.75	0.71	0.77	0.79
Indonesia.....	0.09	0.11	0.10	0.10	0.09	0.07	0.09	0.09	0.06	0.06
Japan.....	0.94	0.92	1.00	0.85	0.98	0.69	0.85	0.83	0.92	0.93
Korea, North.....	0.33	0.30	0.33	0.25	0.25	0.24	0.24	0.23	0.22	0.22
Korea, South.....	0.03	0.05	0.04	0.03	0.04	0.02	0.03	0.02	0.03	0.04
Laos.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Malaysia.....	0.05	0.04	0.05	0.04	0.05	0.07	0.06	0.05	0.03	0.03
Nepal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
New Caledonia.....	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01
New Zealand.....	0.23	0.24	0.24	0.21	0.24	0.27	0.28	0.27	0.24	0.24
Pakistan.....	0.17	0.17	0.19	0.19	0.22	0.20	0.24	0.24	0.21	0.22
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01
Philippines.....	0.07	0.06	0.05	0.05	0.05	0.06	0.06	0.07	0.06	0.04
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.03	0.04	0.04
Taiwan.....	0.07	0.09	0.06	0.09	0.07	0.09	0.09	0.09	0.10	0.11
Thailand.....	0.06	0.05	0.05	0.04	0.04	0.05	0.07	0.08	0.07	0.07
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	0.04	0.06	0.07	0.08	0.09	0.11	0.13	0.15	0.17	0.19
Total.....	4.19	4.37	4.47	4.28	4.69	4.73	5.09	5.05	5.20	5.36
World Total.....	21.89	22.65	23.18	23.20	24.57	24.77	26.00	26.44	26.96	26.84

¹ Preliminary.

² Includes hydroelectric pumped storage.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

Consumption accounts for thermal equivalent conversion losses.

Sources: See sources at the end of Section 6.

Table E6 World Net Nuclear Electric Power Consumption (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	0.87	0.79	0.93	0.88	1.02	1.17	1.06	1.00	0.88	0.77
Mexico.....	0.00	0.03	0.04	0.04	0.05	0.04	0.08	0.08	0.10	0.09
United States.....	5.68	6.16	6.58	6.61	6.52	6.84	7.18	7.17	6.68	7.16
Total.....	6.55	6.99	7.55	7.52	7.59	8.04	8.31	8.24	7.66	8.01
Central & South America										
Argentina.....	0.06	0.08	0.09	0.08	0.09	0.09	0.08	0.08	0.09	0.08
Brazil.....	0.02	0.02	0.01	0.02	(s)	(s)	0.02	0.02	0.03	0.03
Total.....	0.07	0.10	0.10	0.10	0.09	0.09	0.11	0.11	0.12	0.12
Western Europe										
Belgium.....	0.41	0.42	0.42	0.43	0.41	0.40	0.41	0.43	0.47	0.45
Finland.....	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.20	0.21
France.....	2.93	3.11	3.28	3.34	3.64	3.54	3.71	3.91	3.87	3.79
Germany.....	--	--	1.43	1.54	1.49	1.46	1.48	1.55	1.65	1.56
Germany, East.....	0.12	0.06	--	--	--	--	--	--	--	--
Germany, West.....	1.47	1.46	--	--	--	--	--	--	--	--
Netherlands.....	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.02	0.04
Spain.....	0.58	0.52	0.54	0.54	0.54	0.53	0.53	0.54	0.53	0.57
Sweden.....	0.63	0.65	0.74	0.61	0.59	0.70	0.67	0.70	0.67	0.71
Switzerland.....	0.23	0.24	0.23	0.23	0.23	0.24	0.25	0.25	0.25	0.26
United Kingdom.....	0.76	0.70	0.78	0.86	1.01	1.00	1.00	1.07	1.11	1.22
Former Yugoslavia.....	0.05	0.05	0.04	--	--	--	--	--	--	--
Slovenia.....	--	--	--	0.04	0.04	0.04	0.04	0.04	0.05	0.05
Total.....	7.40	7.43	7.67	7.82	8.18	8.16	8.33	8.72	8.83	8.86
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.16	0.15	0.14	0.12	0.15	0.16	0.18	0.20	0.18	0.17
Former Czechoslovakia.....	0.28	0.29	0.28	0.29	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	0.15	0.15	0.14	0.15	0.15	0.15
Slovakia.....	--	--	--	--	0.14	0.14	0.13	0.14	0.13	0.12
Hungary.....	0.15	0.15	0.13	0.13	0.13	0.13	0.13	0.14	0.13	0.13
Romania.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.06
Former U.S.S.R.....	2.43	2.31	2.31	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.00	0.00	0.00	0.00	0.02	0.02	0.02
Kazakhstan.....	--	--	--	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Lithuania.....	--	--	--	0.15	0.13	0.08	0.11	0.14	0.12	0.14
Russia.....	--	--	--	1.25	1.25	1.02	1.04	1.14	1.15	1.08
Ukraine.....	--	--	--	0.76	0.78	0.71	0.73	0.83	0.82	0.77
Total.....	3.03	2.89	2.86	2.71	2.73	2.41	2.47	2.76	2.76	2.64
Africa										
South Africa.....	0.11	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13	0.14
Total.....	0.11	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13	0.14
Far East & Oceania										
China.....	0.00	0.00	0.00	0.01	0.03	0.14	0.13	0.14	0.12	0.14
India.....	0.04	0.07	0.06	0.07	0.07	0.06	0.08	0.09	0.13	0.13
Japan.....	1.86	1.97	2.08	2.17	2.42	2.61	2.83	2.93	3.13	3.25
Korea, South.....	0.47	0.51	0.54	0.54	0.56	0.56	0.64	0.70	0.73	0.84
Pakistan.....	(s)	(s)	(s)	0.01	(s)	0.01	0.01	(s)	(s)	(s)
Taiwan.....	0.28	0.32	0.33	0.32	0.33	0.33	0.34	0.36	0.34	0.35
Total.....	2.65	2.87	3.01	3.12	3.41	3.70	4.02	4.23	4.45	4.71
World Total.....	19.82	20.37	21.29	21.36	22.07	22.50	23.35	24.17	23.95	24.48

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

Consumption accounts for thermal equivalent conversion losses.

No consumption is reported for Middle East.

Sources: See sources at the end of Section 6.

Table E7 World Net Biomass, Geothermal, Solar, and Wind Electric Power Consumption (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	0.03	0.03	0.03	0.04	0.05	0.04	0.04	0.04	0.04	0.05
Mexico.....	0.10	0.10	0.11	0.12	0.12	0.11	0.11	0.11	0.11	0.11
United States.....	0.73	0.83	0.91	0.97	1.00	1.02	0.96	0.99	0.95	0.93
Total.....	0.87	0.96	1.05	1.12	1.16	1.17	1.11	1.14	1.10	1.09
Central & South America										
Argentina.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brazil.....	0.05	0.05	0.05	0.07	0.07	0.07	0.08	0.09	0.10	0.10
Colombia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Costa Rica.....	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Cuba.....	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.02
El Salvador.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nicaragua.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	0.01
Other.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.09	0.10	0.10	0.11	0.11	0.12	0.13	0.14	0.16	0.16
Western Europe										
Austria.....	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Denmark.....	(s)	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.04
Finland.....	0.00	0.00	0.00	0.05	0.06	0.06	0.07	0.06	0.08	0.09
France.....	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Germany.....	--	--	0.05	0.06	0.06	0.08	0.09	0.10	0.10	0.11
Germany, West.....	0.05	0.05	--	--	--	--	--	--	--	--
Iceland.....	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Italy.....	0.06	0.07	0.07	0.07	0.08	0.07	0.08	0.08	0.09	0.11
Netherlands.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.04
Portugal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Spain.....	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03
Sweden.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.04	0.04
United Kingdom.....	0.01	0.01	0.01	0.02	0.05	0.05	0.06	0.06	0.06	0.06
Other.....	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03
Total.....	0.23	0.23	0.24	0.33	0.38	0.42	0.46	0.49	0.57	0.61
Eastern Europe & Former U.S.S.R.										
Poland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Total.....	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.02
Middle East										
Jordan.....	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00
Total.....	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00
Africa										
Ethiopia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Far East & Oceania										
Australia.....	0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.03	0.03	0.03
India.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Indonesia.....	0.02	0.02	0.02	0.02	0.02	0.04	0.04	0.05	0.05	0.05
Japan.....	0.19	0.20	0.21	0.21	0.21	0.23	0.26	0.27	0.29	0.29
New Zealand.....	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Philippines.....	0.11	0.11	0.11	0.11	0.11	0.13	0.12	0.13	0.14	0.16
Other.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
Total.....	0.37	0.39	0.40	0.42	0.42	0.47	0.50	0.54	0.58	0.59
World Total.....	1.57	1.70	1.80	2.00	2.09	2.19	2.22	2.33	2.42	2.47

¹ Preliminary.

-- = Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

Consumption accounts for thermal equivalent conversion losses.

Sources: See sources at the end of Section 6.

Appendix F

**World Energy
Production (Btu),
1989-1998**

Table F1 World Primary Energy Production (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	13.32	13.39	13.94	14.48	15.40	16.35	16.85	17.29	17.23	17.18
Mexico.....	7.46	7.71	8.01	8.01	8.11	8.10	8.04	8.74	9.04	9.29
United States.....	69.40	70.78	70.45	70.02	68.37	70.83	71.29	72.52	72.51	72.81
Total.....	90.18	91.88	92.40	92.50	91.88	95.28	96.18	98.56	98.78	99.28
Central & South America										
Argentina.....	2.02	2.05	2.13	2.36	2.57	2.79	3.02	3.12	3.40	3.52
Bolivia.....	0.17	0.17	0.17	0.18	0.17	0.18	0.19	0.20	0.20	0.21
Brazil.....	3.75	3.79	3.94	4.01	4.17	4.33	4.53	4.89	5.17	5.59
Chile.....	0.28	0.32	0.31	0.32	0.33	0.32	0.33	0.31	0.33	0.29
Colombia.....	1.78	1.93	1.97	1.95	1.99	2.01	2.40	2.60	2.73	2.99
Ecuador.....	0.67	0.68	0.71	0.76	0.83	0.88	0.93	0.95	0.93	0.90
Paraguay.....	0.25	0.28	0.30	0.28	0.32	0.37	0.43	0.50	0.52	0.52
Peru.....	0.43	0.41	0.38	0.37	0.43	0.44	0.45	0.43	0.40	0.41
Trinidad and Tobago.....	0.51	0.52	0.55	0.51	0.53	0.55	0.57	0.60	0.62	0.66
Venezuela.....	5.77	6.31	6.96	6.96	7.27	7.70	8.08	8.64	9.49	9.24
Other.....	0.28	0.32	0.31	0.35	0.36	0.39	0.38	0.41	0.45	0.52
Total.....	15.89	16.76	17.73	18.06	18.97	19.98	21.33	22.65	24.22	24.86
Western Europe										
Austria.....	0.50	0.46	0.47	0.50	0.51	0.49	0.52	0.49	0.49	0.52
Belgium.....	0.47	0.48	0.47	0.46	0.44	0.43	0.43	0.45	0.49	0.48
Denmark.....	0.37	0.38	0.46	0.51	0.55	0.59	0.61	0.70	0.81	0.83
Finland.....	0.32	0.30	0.33	0.39	0.39	0.37	0.39	0.37	0.40	0.45
France.....	4.06	4.28	4.47	4.63	4.85	4.87	4.93	5.04	4.90	4.75
Germany.....	--	--	6.35	6.17	5.84	5.71	5.60	5.51	5.45	5.02
Germany, East.....	2.79	2.49	--	--	--	--	--	--	--	--
Germany, West.....	5.15	5.08	--	--	--	--	--	--	--	--
Greece.....	0.38	0.37	0.39	0.33	0.35	0.35	0.36	0.35	0.37	0.36
Italy.....	1.22	1.22	1.31	1.36	1.39	1.46	1.40	1.47	1.47	1.47
Netherlands.....	2.60	2.63	2.95	2.93	2.98	2.91	2.91	3.25	2.89	2.78
Norway.....	5.71	5.94	6.23	7.09	7.28	7.65	8.35	9.29	9.58	9.39
Spain.....	1.58	1.43	1.44	1.34	1.34	1.33	1.20	1.37	1.27	1.30
Sweden.....	1.39	1.41	1.41	1.40	1.38	1.33	1.40	1.26	1.42	1.51
Switzerland.....	0.54	0.55	0.56	0.58	0.61	0.66	0.62	0.56	0.62	0.61
Turkey.....	0.81	0.85	0.87	0.95	0.99	0.95	0.99	1.05	1.05	1.12
United Kingdom.....	9.03	8.96	9.26	9.07	9.40	10.18	10.76	11.58	11.29	11.62
Former Yugoslavia.....	1.44	1.39	1.29	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	0.05	0.03	0.03	0.06	0.03	0.03	0.03
Croatia.....	--	--	--	0.20	0.21	0.22	0.21	0.21	0.19	0.19
Serbia and Montenegro.....	--	--	--	0.55	0.52	0.53	0.43	0.55	0.58	0.61
Other.....	0.21	0.25	0.25	0.41	0.45	0.48	0.47	0.53	0.51	0.51
Total.....	38.57	38.48	38.50	38.91	39.52	40.54	41.63	44.06	43.83	43.55
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.57	0.51	0.43	0.41	0.43	0.43	0.47	0.51	0.47	0.47
Former Czechoslovakia.....	3.09	2.79	2.59	2.46	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	1.27	1.18	1.14	1.22	1.25	1.24
Slovakia.....	--	--	--	--	0.24	0.25	0.25	0.24	0.23	0.21
Hungary.....	0.69	0.63	0.60	0.60	0.57	0.59	0.55	0.51	0.52	0.50
Poland.....	4.63	3.88	3.74	3.68	3.70	3.75	3.60	3.84	3.67	3.24
Romania.....	2.28	1.87	1.62	1.49	1.47	1.44	1.47	1.44	1.42	1.25
Former U.S.S.R.....	71.89	72.11	66.43	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	0.77	0.71	0.65	0.64	0.64	0.61	0.72
Kazakhstan.....	--	--	--	3.76	3.38	2.56	2.27	2.35	2.48	2.42
Lithuania.....	--	--	--	0.15	0.14	0.09	0.13	0.15	0.13	0.16
Russia.....	--	--	--	48.96	45.51	42.84	41.85	41.99	40.82	41.04
Tajikistan.....	--	--	--	0.17	0.18	0.18	0.15	0.16	0.15	0.14
Turkmenistan.....	--	--	--	2.27	2.50	1.45	1.32	1.50	1.13	0.73
Ukraine.....	--	--	--	4.37	4.01	3.51	3.56	3.36	3.50	3.40
Uzbekistan.....	--	--	--	1.79	1.90	2.04	2.14	2.15	2.19	2.39
Other.....	0.19	0.13	0.09	0.44	0.45	0.43	0.40	0.44	0.43	0.42
Total.....	83.35	81.92	75.51	71.33	66.46	61.40	59.94	60.51	58.99	58.32

See footnotes at end of table.

Table F1 World Primary Energy Production (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Bahrain.....	0.30	0.31	0.33	0.29	0.35	0.35	0.34	0.33	0.40	0.40
Iran.....	7.02	7.67	8.27	8.53	8.83	9.16	9.35	9.64	9.84	9.89
Iraq.....	6.47	4.54	0.69	1.02	1.21	1.33	1.35	1.39	2.60	4.71
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	4.32	2.83	0.43	2.44	4.28	4.73	4.81	4.94	4.85	5.03
Oman.....	1.49	1.59	1.64	1.72	1.82	1.90	1.99	2.07	2.13	2.20
Qatar.....	1.06	1.20	1.25	1.39	1.45	1.44	1.51	1.66	1.90	2.31
Saudi Arabia.....	12.81	15.92	19.75	20.39	20.11	20.00	20.25	20.39	20.82	21.00
Syria.....	0.85	1.03	1.29	1.29	1.45	1.47	1.48	1.53	1.54	1.56
United Arab Emirates.....	4.99	5.51	6.24	6.11	5.78	5.84	6.14	6.34	6.50	6.61
Yemen.....	0.41	0.40	0.41	0.38	0.46	0.70	0.72	0.71	0.76	0.81
Other.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Total.....	39.72	41.02	40.31	43.57	45.76	46.94	47.97	49.03	51.36	54.54
Africa										
Algeria.....	4.48	4.73	5.04	5.06	4.87	4.79	5.13	5.28	5.63	5.75
Angola.....	1.00	1.04	1.10	1.16	1.12	1.17	1.41	1.55	1.55	1.60
Cameroon.....	0.40	0.38	0.36	0.33	0.30	0.26	0.27	0.26	0.30	0.29
Congo (Brazzaville).....	0.35	0.35	0.33	0.37	0.39	0.38	0.40	0.43	0.54	0.56
Congo (Kinshasa).....	0.13	0.12	0.12	0.12	0.12	0.11	0.13	0.13	0.12	0.12
Egypt.....	2.32	2.36	2.40	2.44	2.55	2.59	2.67	2.73	2.61	2.59
Gabon.....	0.46	0.59	0.64	0.65	0.68	0.72	0.80	0.81	0.81	0.79
Libya.....	2.70	3.18	3.43	3.34	3.17	3.21	3.23	3.28	3.39	3.26
Nigeria.....	3.90	4.07	4.30	4.43	4.45	4.37	4.53	4.57	4.85	4.90
South Africa.....	4.12	4.05	4.12	4.26	4.41	4.61	4.85	4.86	5.26	5.29
Tunisia.....	0.24	0.22	0.23	0.25	0.23	0.21	0.20	0.22	0.25	0.25
Zambia.....	0.08	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.09	0.09
Zimbabwe.....	0.17	0.19	0.19	0.18	0.16	0.17	0.17	0.15	0.16	0.15
Other.....	0.25	0.26	0.27	0.27	0.28	0.30	0.31	0.39	0.47	0.59
Total.....	20.59	21.63	22.62	22.96	22.81	22.98	24.18	24.73	26.03	26.24
Far East & Oceania										
Australia.....	5.59	6.14	6.29	6.59	6.63	6.94	7.45	7.58	8.02	8.29
Bangladesh.....	0.17	0.16	0.17	0.20	0.21	0.23	0.25	0.26	0.26	0.29
Brunei.....	0.67	0.72	0.68	0.70	0.71	0.72	0.75	0.73	0.74	0.74
Burma.....	0.09	0.08	0.09	0.09	0.09	0.10	0.10	0.09	0.09	0.11
China.....	28.77	29.38	29.68	30.33	31.85	34.07	35.44	35.48	34.84	33.13
India.....	6.25	6.57	6.86	7.17	7.37	7.86	9.13	9.30	9.72	9.95
Indonesia.....	4.96	5.20	5.81	5.96	6.29	6.63	6.98	7.43	7.48	7.49
Japan.....	3.36	3.44	3.61	3.54	3.90	3.81	4.19	4.29	4.55	4.67
Korea, North.....	1.84	1.85	1.91	1.80	1.87	1.87	1.87	1.93	1.70	1.69
Korea, South.....	0.87	0.86	0.84	0.79	0.77	0.72	0.77	0.82	0.84	0.97
Malaysia.....	1.92	2.03	2.19	2.26	2.34	2.40	2.58	2.82	2.99	3.21
Mongolia.....	0.09	0.08	0.08	0.06	0.06	0.05	0.05	0.05	0.05	0.05
New Zealand.....	0.60	0.61	0.64	0.62	0.64	0.66	0.64	0.67	0.69	0.65
Pakistan.....	0.78	0.82	0.89	0.91	0.96	0.98	1.04	1.09	1.07	1.08
Papua New Guinea.....	(s)	(s)	0.01	0.12	0.27	0.23	0.21	0.22	0.17	0.17
Philippines.....	0.21	0.21	0.20	0.21	0.22	0.23	0.22	0.23	0.23	0.23
Taiwan.....	0.43	0.51	0.44	0.45	0.44	0.47	0.47	0.49	0.48	0.49
Thailand.....	0.45	0.52	0.57	0.59	0.65	0.73	0.94	0.97	1.14	1.15
Vietnam.....	0.21	0.29	0.36	0.45	0.55	0.61	0.76	0.78	0.84	0.98
Other.....	0.19	0.19	0.10	0.09	0.10	0.11	0.11	0.10	0.10	0.11
Total.....	57.45	59.69	61.41	62.95	65.92	69.42	73.96	75.33	76.01	75.41
World Total.....	345.76	351.39	348.48	350.29	351.33	356.54	365.18	374.87	379.22	382.18

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Primary energy production reported in this table includes petroleum (crude oil and natural gas plant liquids), dry natural gas, and coal, and net hydroelectric, nuclear, biomass, geothermal, solar, and wind electric power generation. Primary energy production for the United States also includes the production of biomass, geothermal energy, and solar energy not used for electricity generation.

As a result, primary energy production for the United States reported in this table might not be equal to sum of the individual fuel types reported in Tables F2-F8.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Table F2 World Crude Oil Production (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada ²	3.31	3.29	3.28	3.41	3.56	3.70	3.83	3.91	4.08	4.20
Mexico.....	5.53	5.60	5.88	5.87	5.86	5.89	5.74	6.28	6.63	6.74
United States.....	16.12	15.57	15.70	15.22	14.49	14.10	13.89	13.72	13.66	13.24
Total.....	24.95	24.47	24.86	24.51	23.92	23.70	23.46	23.91	24.37	24.17
Central & South America										
Argentina.....	1.01	1.06	1.06	1.21	1.30	1.42	1.56	1.66	1.82	1.85
Bolivia.....	0.04	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.06	0.07
Brazil.....	1.29	1.36	1.36	1.35	1.39	1.45	1.50	1.72	1.82	2.09
Chile.....	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02
Colombia.....	0.89	0.97	0.92	0.95	1.00	0.99	1.29	1.37	1.43	1.61
Cuba.....	0.04	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.07	0.07
Ecuador.....	0.61	0.62	0.65	0.70	0.75	0.80	0.86	0.87	0.85	0.82
Peru.....	0.28	0.27	0.24	0.25	0.27	0.27	0.28	0.26	0.25	0.25
Trinidad and Tobago.....	0.34	0.33	0.33	0.30	0.30	0.29	0.29	0.29	0.27	0.27
Venezuela.....	4.27	4.79	5.32	5.32	5.49	5.80	6.16	6.60	7.34	7.09
Other.....	0.02	0.02	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.07
Total.....	8.82	9.53	10.02	10.24	10.64	11.18	12.11	12.95	13.98	14.21
Western Europe										
Austria.....	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.05
Denmark.....	0.24	0.25	0.30	0.34	0.36	0.38	0.39	0.43	0.48	0.49
France.....	0.14	0.13	0.13	0.12	0.12	0.12	0.11	0.09	0.08	0.07
Germany.....	--	--	0.15	0.14	0.13	0.13	0.13	0.13	0.12	0.13
Germany, East.....	(s)	(s)	--	--	--	--	--	--	--	--
Germany, West.....	0.16	0.15	--	--	--	--	--	--	--	--
Greece.....	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.01
Italy.....	0.18	0.20	0.18	0.19	0.19	0.19	0.21	0.23	0.25	0.24
Netherlands.....	0.14	0.16	0.17	0.12	0.11	0.18	0.15	0.13	0.12	0.12
Norway.....	3.19	3.50	3.88	4.59	4.82	5.17	5.68	6.39	6.45	6.19
Spain.....	0.04	0.03	0.05	0.05	0.04	0.03	0.03	0.02	0.02	0.02
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00
Turkey.....	0.12	0.16	0.19	0.18	0.17	0.16	0.15	0.15	0.15	0.14
United Kingdom.....	3.82	3.85	3.81	3.88	4.06	5.03	5.27	5.45	5.33	5.54
Former Yugoslavia.....	0.15	0.14	0.13	--	--	--	--	--	--	--
Croatia.....	--	--	--	0.08	0.08	0.08	0.07	0.06	0.06	0.07
Serbia and Montenegro.....	--	--	--	0.05	0.05	0.05	0.05	0.05	0.04	0.04
Slovenia.....	--	--	--	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	8.28	8.65	9.06	9.80	10.19	11.60	12.29	13.19	13.15	13.11
Eastern Europe & Former U.S.S.R.										
Albania.....	0.11	0.07	0.04	0.02	0.03	0.03	0.02	0.02	0.02	0.01
Bulgaria.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Former Czechoslovakia.....	0.01	0.01	0.01	0.01	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	(s)	0.01	0.01	0.01	0.01	0.01
Slovakia.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Hungary.....	0.08	0.09	0.08	0.08	0.08	0.09	0.08	0.07	0.08	0.06
Poland.....	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Romania.....	0.38	0.34	0.30	0.29	0.28	0.29	0.28	0.29	0.28	0.28
Former U.S.S.R.....	25.14	23.55	21.44	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	0.46	0.43	0.39	0.38	0.38	0.37	0.49
Belarus.....	--	--	--	0.09	0.09	0.09	0.08	0.08	0.08	0.08
Georgia.....	--	--	--	0.01	(s)	(s)	(s)	(s)	0.01	(s)
Kazakhstan.....	--	--	--	0.96	0.88	0.76	0.78	0.87	1.00	1.02
Kyrgyzstan.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lithuania.....	--	--	--	0.00	(s)	0.01	0.01	0.01	0.01	0.01
Russia.....	--	--	--	16.42	14.44	13.17	12.87	12.59	12.71	12.56
Tajikistan.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	0.21	0.17	0.17	0.15	0.16	0.19	0.24
Ukraine.....	--	--	--	0.15	0.14	0.14	0.14	0.14	0.12	0.12
Uzbekistan.....	--	--	--	0.08	0.10	0.16	0.25	0.25	0.24	0.25
Total.....	25.74	24.08	21.88	18.78	16.66	15.31	15.06	14.89	15.14	15.17

See footnotes at end of table.

Table F2 World Crude Oil Production (Btu), 1989 - 1998 (Continued)

 (Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Bahrain.....	0.09	0.09	0.08	0.08	0.09	0.09	0.09	0.08	0.09	0.08
Iran.....	6.04	6.64	7.12	7.39	7.61	7.78	7.83	7.94	7.87	7.81
Iraq.....	6.15	4.33	0.65	0.91	1.09	1.17	1.19	1.23	2.45	4.57
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	3.85	2.54	0.41	2.29	4.00	4.38	4.45	4.47	4.34	4.51
Oman.....	1.37	1.47	1.50	1.59	1.66	1.74	1.82	1.90	1.94	1.93
Qatar.....	0.80	0.86	0.83	0.89	0.87	0.88	0.93	1.08	1.16	1.47
Saudi Arabia.....	10.92	13.83	17.51	18.02	17.68	17.52	17.76	17.78	18.04	18.10
Syria.....	0.76	0.87	1.11	1.08	1.25	1.26	1.29	1.31	1.26	1.24
United Arab Emirates.....	3.93	4.47	5.04	4.80	4.56	4.63	4.72	4.82	4.89	4.95
Yemen.....	0.41	0.40	0.41	0.38	0.46	0.70	0.72	0.71	0.76	0.81
Total.....	34.34	35.50	34.65	37.44	39.27	40.13	40.80	41.32	42.80	45.46
Africa										
Algeria.....	2.22	2.38	2.49	2.47	2.36	2.39	2.44	2.53	2.59	2.53
Angola.....	0.97	1.01	1.06	1.12	1.08	1.14	1.37	1.51	1.52	1.56
Benin.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)
Cameroon.....	0.37	0.35	0.33	0.31	0.28	0.23	0.24	0.24	0.27	0.26
Congo (Brazzaville).....	0.35	0.35	0.33	0.37	0.38	0.38	0.40	0.43	0.53	0.56
Congo (Kinshasa).....	0.06	0.06	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.06
Cote d'Ivoire (Ivory Coast).....	(s)	(s)	(s)	(s)	(s)	0.01	0.02	0.03	0.04	0.04
Egypt.....	1.87	1.89	1.89	1.91	1.92	1.94	1.99	2.00	1.85	1.80
Equatorial Guinea.....	0.00	0.00	(s)	(s)	0.01	0.01	0.01	0.03	0.10	0.20
Gabon.....	0.45	0.58	0.63	0.64	0.67	0.71	0.78	0.79	0.80	0.78
Ghana.....	0.00	0.00	0.00	(s)	(s)	(s)	0.01	0.01	0.01	0.01
Libya.....	2.42	2.90	3.13	3.03	2.87	2.90	2.93	2.96	3.05	2.93
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	3.68	3.88	4.06	4.18	4.21	4.14	4.28	4.31	4.58	4.62
South Africa.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Sudan.....	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	0.01	0.02
Tunisia.....	0.22	0.19	0.22	0.23	0.20	0.19	0.18	0.18	0.17	0.17
Total.....	12.62	13.61	14.22	14.33	14.05	14.12	14.72	15.09	15.59	15.58
Far East & Oceania										
Australia.....	1.00	1.17	1.11	1.09	1.02	1.09	1.14	1.16	1.20	1.11
Bangladesh.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	0.28	0.32	0.35	0.35	0.35	0.36	0.35	0.33	0.34	0.34
Burma.....	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
China.....	5.91	5.95	6.08	6.12	6.20	6.31	6.42	6.74	6.87	6.86
India.....	1.46	1.38	1.29	1.18	1.12	1.23	1.47	1.37	1.41	1.38
Indonesia.....	2.95	3.06	3.34	3.16	3.17	3.16	3.15	3.25	3.18	3.18
Japan.....	0.02	0.02	0.03	0.04	0.03	0.02	0.02	0.03	0.02	0.02
Malaysia.....	1.22	1.29	1.34	1.36	1.33	1.34	1.42	1.45	1.46	1.52
New Zealand.....	0.08	0.08	0.08	0.08	0.08	0.08	0.06	0.07	0.11	0.09
Pakistan.....	0.10	0.13	0.13	0.13	0.13	0.12	0.12	0.12	0.12	0.12
Papua New Guinea.....	0.00	0.00	(s)	0.11	0.26	0.23	0.20	0.21	0.16	0.16
Philippines.....	0.01	0.01	0.01	0.02	0.02	0.01	0.01	(s)	(s)	(s)
Taiwan.....	(s)	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Thailand.....	0.09	0.10	0.11	0.12	0.12	0.13	0.12	0.14	0.17	0.17
Vietnam.....	0.07	0.11	0.18	0.23	0.26	0.31	0.38	0.39	0.42	0.54
Total.....	13.24	13.67	14.08	14.02	14.12	14.43	14.89	15.28	15.49	15.53
World Total.....	127.98	129.50	128.77	129.13	128.86	130.46	133.32	136.64	140.52	143.23

¹ Preliminary.

² Includes oil processed from Athabasca Tar Sands.

--- Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Crude oil includes lease condensate.

Sources: See sources at the end of Section 3.

Table F3 World Natural Gas Plant Liquids Production (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	0.60	0.62	0.63	0.67	0.74	0.77	0.84	0.87	0.92	0.95
Mexico.....	0.51	0.57	0.60	0.60	0.61	0.61	0.59	0.56	0.51	0.56
United States.....	2.16	2.17	2.31	2.36	2.41	2.39	2.44	2.53	2.50	2.42
Total.....	3.26	3.36	3.54	3.63	3.75	3.77	3.87	3.96	3.93	3.93
Central & South America										
Argentina.....	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.07
Bolivia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Brazil.....	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.05	0.05	0.05
Chile.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01
Colombia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ecuador.....	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Peru.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Trinidad and Tobago.....	0.00	0.00	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.17	0.17	0.18	0.17	0.22	0.22	0.23	0.23	0.22	0.22
Total.....	0.28	0.29	0.30	0.31	0.36	0.39	0.41	0.40	0.38	0.39
Western Europe										
Austria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
France.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01
Greece.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Netherlands.....	0.02	0.02	0.02	0.02	0.03	0.04	0.03	0.04	0.04	0.04
Norway.....	0.12	0.12	0.15	0.15	0.16	0.16	0.22	0.22	0.22	0.21
Spain.....	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
United Kingdom.....	0.23	0.18	0.23	0.26	0.28	0.36	0.44	0.43	0.38	0.39
Former Yugoslavia.....	0.01	0.02	0.01	--	--	--	--	--	--	--
Croatia.....	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.42	0.38	0.45	0.48	0.51	0.60	0.73	0.72	0.67	0.67
Eastern Europe & Former U.S.S.R.										
Former Czechoslovakia.....	(s)	(s)	(s)	(s)	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Hungary.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03
Poland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Romania.....	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Former U.S.S.R.....	0.64	0.64	0.64	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Kazakhstan.....	--	--	--	0.13	0.12	0.10	0.08	0.08	0.08	0.08
Kyrgyzstan.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	0.35	0.33	0.30	0.27	0.28	0.30	0.33
Tajikistan.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	0.02	0.02	0.01	0.02	0.02	0.03	0.03
Ukraine.....	--	--	--	0.03	0.03	0.03	0.03	0.02	0.04	0.04
Uzbekistan.....	--	--	--	0.05	0.06	0.06	0.07	0.08	0.07	0.07
Total.....	0.69	0.68	0.67	0.63	0.60	0.54	0.51	0.52	0.56	0.59
Middle East										
Bahrain.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Iran.....	0.04	0.06	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.12
Iraq.....	0.09	0.05	0.00	(s)	0.02	0.03	0.04	0.03	0.03	0.02
Kuwait.....	0.16	0.10	0.00	0.05	0.08	0.13	0.15	0.13	0.17	0.18
Oman.....	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01
Qatar.....	0.03	0.06	0.07	0.08	0.08	0.07	0.08	0.07	0.10	0.12
Saudi Arabia.....	0.78	0.97	1.06	1.11	1.10	1.09	1.09	1.09	1.11	1.18
Syria.....	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.02	0.01
United Arab Emirates.....	0.22	0.22	0.24	0.24	0.24	0.25	0.26	0.27	0.26	0.28
Total.....	1.35	1.47	1.47	1.58	1.65	1.70	1.76	1.72	1.82	1.93

See footnotes at end of table.

Table F3 World Natural Gas Plant Liquids Production (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Africa										
Algeria.....	0.24	0.24	0.26	0.26	0.27	0.26	0.27	0.28	0.30	0.29
Egypt.....	0.08	0.07	0.08	0.08	0.10	0.10	0.11	0.12	0.13	0.14
Libya.....	0.06	0.06	0.06	0.06	0.07	0.07	0.06	0.08	0.10	0.10
South Africa.....	0.00	0.00	0.00	(s)	0.02	0.02	0.02	0.02	0.02	0.02
Tunisia.....	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)
Total.....	0.39	0.38	0.41	0.42	0.46	0.45	0.46	0.49	0.54	0.54
Far East & Oceania²										
Australia.....	0.10	0.10	0.10	0.09	0.09	0.09	0.08	0.10	0.11	0.10
Bangladesh.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.04
Burma.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
India.....	0.02	0.02	0.02	0.05	0.05	0.08	0.08	0.13	0.14	0.15
Indonesia.....	0.11	0.11	0.11	0.11	0.12	0.12	0.11	0.12	0.13	0.13
Japan.....	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Malaysia.....	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.08	0.14
New Zealand.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Pakistan.....	(s)	(s)	(s)	(s)	(s)	(s)	0.01	(s)	(s)	0.01
Taiwan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Thailand.....	0.02	0.02	0.02	0.02	0.02	0.03	0.06	0.06	0.08	0.10
Total.....	0.29	0.30	0.30	0.32	0.35	0.39	0.41	0.48	0.59	0.68
World Total.....	6.67	6.85	7.13	7.38	7.67	7.84	8.14	8.30	8.49	8.73

¹ Preliminary.

² Does not include China for which data are unavailable.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table F4 World Dry Natural Gas Production (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	3.78	3.90	4.12	4.60	4.99	5.45	5.74	5.90	5.98	6.18
Mexico.....	0.91	1.00	1.00	0.98	1.05	1.08	1.06	1.21	1.25	1.35
United States.....	17.85	18.36	18.23	18.38	18.58	19.35	19.10	19.30	19.39	19.35
Total.....	22.54	23.27	23.35	23.95	24.63	25.88	25.90	26.41	26.62	26.88
Central & South America										
Argentina.....	0.75	0.65	0.73	0.77	0.82	0.85	0.96	1.02	1.05	1.14
Barbados.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	0.11	0.11	0.10	0.11	0.10	0.10	0.11	0.11	0.11	0.11
Brazil.....	0.14	0.11	0.14	0.15	0.17	0.18	0.19	0.21	0.23	0.24
Chile.....	0.06	0.07	0.05	0.06	0.06	0.07	0.07	0.07	0.08	0.07
Colombia.....	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.20	0.23
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.03	0.03
Ecuador.....	(s)	0.01	(s)	(s)	(s)	(s)	0.01	0.01	(s)	(s)
Peru.....	0.04	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.01	0.02
Trinidad and Tobago.....	0.17	0.18	0.21	0.20	0.23	0.26	0.28	0.32	0.34	0.39
Venezuela.....	0.92	0.91	0.95	0.91	0.97	1.04	1.06	1.14	1.18	1.18
Total.....	2.31	2.20	2.35	2.36	2.54	2.70	2.85	3.06	3.23	3.41
Western Europe										
Austria.....	0.05	0.05	0.05	0.05	0.06	0.05	0.06	0.06	0.05	0.06
Belgium.....	(s)	(s)	(s)	(s)	(s)	(s)	0.00	(s)	0.00	0.00
Denmark.....	0.12	0.12	0.15	0.16	0.17	0.19	0.21	0.25	0.30	0.30
France.....	0.11	0.11	0.13	0.12	0.13	0.13	0.12	0.11	0.09	0.08
Germany.....	--	--	0.60	0.61	0.61	0.63	0.67	0.72	0.71	0.69
Germany, East.....	0.11	0.05	--	--	--	--	--	--	--	--
Germany, West.....	0.52	0.51	--	--	--	--	--	--	--	--
Greece.....	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Ireland.....	0.08	0.08	0.08	0.08	0.10	0.10	0.10	0.10	0.08	0.06
Italy.....	0.61	0.62	0.62	0.65	0.69	0.73	0.72	0.72	0.70	0.69
Netherlands.....	2.39	2.41	2.72	2.73	2.78	2.64	2.66	3.01	2.67	2.54
Norway.....	1.18	1.06	1.05	1.14	1.06	1.16	1.20	1.61	1.78	1.79
Spain.....	0.06	0.06	0.05	0.05	0.03	0.01	0.02	0.02	0.01	(s)
Switzerland.....	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00
Turkey.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
United Kingdom.....	1.63	1.80	2.01	2.04	2.40	2.57	2.80	3.34	3.19	3.35
Former Yugoslavia.....	0.11	0.10	0.10	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	(s)	0.00	0.00	0.03	0.00	0.00	0.00
Croatia.....	--	--	--	0.07	0.08	0.07	0.07	0.07	0.06	0.06
Serbia and Montenegro.....	--	--	--	0.03	0.04	0.03	0.03	0.03	0.03	0.04
Slovenia.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	6.98	7.00	7.58	7.75	8.15	8.31	8.70	10.03	9.69	9.68

See footnotes at end of table.

Table F4 World Dry Natural Gas Production (Btu), 1989 - 1998 (Continued)

 (Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.03	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	(s)	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Former Czechoslovakia.....	0.03	0.03	0.02	0.01	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01
Slovakia.....	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01
Hungary.....	0.21	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.15	0.13
Poland.....	0.15	0.11	0.12	0.11	0.14	0.14	0.14	0.14	0.14	0.14
Romania.....	1.21	1.07	0.88	0.78	0.75	0.70	0.69	0.64	0.62	0.52
Former U.S.S.R.....	28.84	29.53	28.97	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	0.28	0.24	0.23	0.23	0.24	0.21	0.20
Belarus.....	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Georgia.....	--	--	--	(s)	0.00	0.00	0.00	0.00	0.00	0.00
Kazakhstan.....	--	--	--	0.29	0.24	0.16	0.17	0.15	0.22	0.20
Kyrgyzstan.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	22.80	21.99	21.62	21.17	21.40	20.33	21.03
Tajikistan.....	--	--	--	(s)	0.00	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	2.04	2.32	1.27	1.15	1.32	0.91	0.47
Ukraine.....	--	--	--	0.76	0.70	0.66	0.64	0.66	0.66	0.66
Uzbekistan.....	--	--	--	1.53	1.61	1.69	1.72	1.72	1.76	1.96
Total.....	30.47	30.91	30.16	28.81	28.20	26.68	26.13	26.47	25.03	25.35
Middle East										
Bahrain.....	0.19	0.21	0.24	0.20	0.24	0.24	0.24	0.24	0.29	0.31
Iran.....	0.83	0.88	0.97	0.93	1.01	1.19	1.32	1.50	1.75	1.86
Iraq.....	0.23	0.15	0.04	0.11	0.09	0.12	0.12	0.12	0.11	0.11
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Kuwait.....	0.30	0.19	0.02	0.10	0.20	0.22	0.22	0.34	0.34	0.34
Oman.....	0.10	0.10	0.13	0.12	0.15	0.16	0.15	0.15	0.18	0.26
Qatar.....	0.23	0.29	0.34	0.42	0.50	0.50	0.50	0.51	0.64	0.72
Saudi Arabia.....	1.10	1.13	1.18	1.26	1.33	1.39	1.41	1.53	1.68	1.73
Syria.....	0.03	0.10	0.12	0.12	0.13	0.13	0.10	0.14	0.15	0.20
United Arab Emirates.....	0.85	0.82	0.96	1.07	0.98	0.95	1.16	1.25	1.34	1.37
Total.....	3.87	3.89	4.01	4.33	4.64	4.91	5.22	5.79	6.52	6.92
Africa										
Algeria.....	2.02	2.11	2.28	2.33	2.24	2.13	2.42	2.47	2.74	2.94
Angola.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Congo (Brazzaville).....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	0.00	(s)	0.02	0.02	0.03
Egypt.....	0.29	0.30	0.34	0.37	0.42	0.44	0.46	0.50	0.50	0.51
Gabon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	0.22	0.23	0.24	0.25	0.24	0.24	0.23	0.24	0.24	0.24
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	0.17	0.14	0.18	0.18	0.19	0.17	0.19	0.20	0.22	0.22
Senegal.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
South Africa.....	0.00	0.00	0.00	(s)	0.07	0.07	0.07	0.07	0.06	0.06
Tunisia.....	0.02	0.01	0.01	0.02	0.02	0.02	0.01	0.03	0.07	0.08
Total.....	2.74	2.81	3.07	3.17	3.19	3.09	3.42	3.56	3.89	4.09

See footnotes at end of table.

Table F4 World Dry Natural Gas Production (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	0.11	0.11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Australia.....	0.60	0.76	0.79	0.86	0.92	1.00	1.10	1.12	1.13	1.17
Bangladesh.....	0.15	0.15	0.16	0.19	0.20	0.22	0.24	0.25	0.25	0.28
Brunei.....	0.37	0.39	0.32	0.33	0.34	0.34	0.38	0.38	0.37	0.36
Burma.....	0.04	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.05	0.06
China.....	0.58	0.58	0.61	0.61	0.64	0.68	0.69	0.77	0.86	0.91
India.....	0.36	0.46	0.52	0.55	0.61	0.68	0.72	0.80	0.83	0.88
Indonesia.....	1.57	1.68	1.90	1.97	2.15	2.41	2.44	2.57	2.58	2.44
Japan.....	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09
Malaysia.....	0.63	0.68	0.78	0.83	0.92	0.96	1.06	1.28	1.41	1.50
New Zealand.....	0.17	0.17	0.19	0.20	0.18	0.18	0.17	0.19	0.21	0.18
Pakistan.....	0.44	0.45	0.50	0.51	0.54	0.59	0.60	0.65	0.65	0.66
Papua New Guinea.....	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)
Taiwan.....	0.05	0.08	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Thailand.....	0.18	0.21	0.24	0.25	0.31	0.34	0.37	0.42	0.53	0.55
Vietnam.....	(s)	(s)	(s)	0.01	0.01	0.01	0.03	0.03	0.01	0.02
Total.....	5.34	5.84	6.16	6.48	6.99	7.59	8.00	8.65	9.02	9.16
World Total.....	74.24	75.91	76.68	76.84	78.35	79.16	80.23	83.97	84.00	85.49

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 4.

Table F5 World Coal Production (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	1.74	1.70	1.78	1.62	1.71	1.83	1.90	1.92	1.70	1.62
Mexico.....	0.16	0.17	0.15	0.14	0.15	0.16	0.16	0.18	0.17	0.19
United States.....	21.35	22.46	21.59	21.63	20.25	22.11	22.03	22.68	23.21	23.82
Total.....	23.25	24.32	23.52	23.39	22.11	24.09	24.09	24.78	25.09	25.63
Central & South America										
Argentina.....	0.01	0.01	0.01	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Brazil.....	0.13	0.09	0.10	0.08	0.08	0.08	0.07	0.06	0.07	0.08
Chile.....	0.05	0.06	0.06	0.05	0.04	0.03	0.03	0.03	0.03	0.03
Colombia.....	0.47	0.53	0.61	0.61	0.55	0.53	0.60	0.71	0.77	0.82
Peru.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.06	0.06	0.06	0.06	0.10	0.11	0.11	0.11	0.15	0.20
Total.....	0.73	0.74	0.84	0.81	0.77	0.76	0.82	0.91	1.02	1.13
Western Europe										
Austria.....	0.02	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Belgium.....	0.05	0.05	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01
France.....	0.36	0.34	0.32	0.30	0.27	0.23	0.21	0.22	0.18	0.14
Germany.....	--	--	3.96	3.65	3.37	3.21	3.01	2.79	2.69	2.36
Germany, East.....	2.54	2.36	--	--	--	--	--	--	--	--
Germany, West.....	2.76	2.71	--	--	--	--	--	--	--	--
Greece.....	0.31	0.31	0.32	0.27	0.30	0.29	0.30	0.29	0.31	0.31
Ireland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)
Norway.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Portugal.....	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00
Spain.....	0.68	0.53	0.50	0.50	0.47	0.45	0.36	0.36	0.34	0.32
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00
Turkey.....	0.50	0.45	0.43	0.49	0.47	0.47	0.46	0.47	0.48	0.52
United Kingdom.....	2.53	2.36	2.37	1.95	1.57	1.12	1.14	1.20	1.17	1.00
Former Yugoslavia.....	0.88	0.88	0.81	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Croatia.....	--	--	--	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Macedonia, TFYR.....	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Serbia and Montenegro.....	--	--	--	0.35	0.33	0.34	0.23	0.36	0.38	0.41
Slovenia.....	--	--	--	0.06	0.06	0.05	0.06	0.06	0.06	0.06
Total.....	10.65	10.05	8.81	7.71	6.95	6.28	5.89	5.84	5.70	5.21
Eastern Europe & Former U.S.S.R.										
Albania.....	0.02	0.02	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	0.37	0.33	0.27	0.27	0.26	0.26	0.26	0.28	0.26	0.26
Former Czechoslovakia.....	2.73	2.43	2.26	2.12	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	1.10	0.99	0.96	1.03	1.06	1.04
Slovakia.....	--	--	--	--	0.04	0.04	0.04	0.04	0.05	0.05
Hungary.....	0.23	0.20	0.19	0.19	0.17	0.18	0.15	0.13	0.13	0.15
Poland.....	4.43	3.73	3.58	3.52	3.50	3.56	3.40	3.64	3.47	3.03
Romania.....	0.54	0.33	0.28	0.28	0.30	0.31	0.31	0.33	0.27	0.21
Former U.S.S.R.....	12.53	13.67	10.65	--	--	--	--	--	--	--
Georgia.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kazakhstan.....	--	--	--	2.31	2.05	1.45	1.16	1.17	1.11	1.07
Kyrgyzstan.....	--	--	--	0.03	0.02	0.01	0.01	0.01	0.01	0.01
Moldova.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	6.36	5.71	4.92	4.68	4.98	4.75	4.46
Tajikistan.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ukraine.....	--	--	--	2.57	2.24	1.84	1.92	1.61	1.75	1.69
Uzbekistan.....	--	--	--	0.07	0.05	0.05	0.04	0.04	0.04	0.04
Total.....	20.84	20.72	17.24	17.74	15.47	13.63	12.94	13.27	12.90	12.01

See footnotes at end of table.

Table F5 World Coal Production (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Iran.....	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.02	0.02	0.02
Total.....	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.02	0.02	0.02
Africa										
Algeria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Botswana.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Egypt.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	0.01	0.01
Malawi.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Morocco.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Mozambique.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Niger.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
South Africa.....	3.98	3.95	4.01	4.15	4.25	4.41	4.64	4.64	5.03	5.02
Swaziland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Zambia.....	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)
Zimbabwe.....	0.14	0.15	0.15	0.15	0.14	0.15	0.15	0.13	0.14	0.14
Total.....	4.17	4.16	4.22	4.37	4.45	4.62	4.85	4.83	5.23	5.22
Far East & Oceania										
Afghanistan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	3.74	3.97	4.13	4.37	4.40	4.57	4.93	5.01	5.38	5.71
Bhutan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Burma.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
China.....	21.06	21.55	21.71	22.24	23.43	25.23	26.29	25.91	24.98	23.11
India.....	3.72	3.91	4.23	4.61	4.79	4.96	6.03	6.19	6.44	6.61
Indonesia.....	0.23	0.22	0.34	0.59	0.74	0.83	1.15	1.35	1.47	1.62
Japan.....	0.26	0.24	0.20	0.18	0.17	0.16	0.14	0.14	0.09	0.08
Korea, North.....	1.52	1.55	1.58	1.56	1.62	1.63	1.63	1.70	1.47	1.47
Korea, South.....	0.37	0.31	0.27	0.21	0.17	0.13	0.10	0.09	0.08	0.08
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Malaysia.....	(s)	(s)	(s)	(s)	0.01	(s)	(s)	(s)	(s)	0.01
Mongolia.....	0.09	0.08	0.08	0.06	0.06	0.05	0.05	0.05	0.05	0.05
Nepal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
New Zealand.....	0.07	0.07	0.07	0.08	0.08	0.07	0.07	0.08	0.07	0.07
Pakistan.....	0.06	0.06	0.06	0.07	0.07	0.07	0.06	0.07	0.07	0.06
Philippines.....	0.03	0.03	0.03	0.04	0.04	0.03	0.02	0.02	0.02	0.02
Taiwan.....	0.02	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)
Thailand.....	0.10	0.14	0.16	0.16	0.16	0.18	0.32	0.28	0.30	0.25
Vietnam.....	0.10	0.12	0.12	0.13	0.19	0.18	0.23	0.21	0.25	0.23
Total.....	31.37	32.26	32.99	34.30	35.93	38.11	41.05	41.11	40.68	39.38
World Total.....	91.05	92.28	87.65	88.35	85.72	87.53	89.67	90.78	90.64	88.61

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Coal includes anthracite, subanthracite, bituminous, subbituminous, lignite, and brown coal.

Sources: See sources at the end of Section 5.

Table F6 World Net Hydroelectric Power Generation (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	2.99	3.06	3.17	3.26	3.33	3.40	3.45	3.67	3.62	3.42
Mexico.....	0.25	0.24	0.23	0.27	0.27	0.21	0.28	0.32	0.27	0.25
United States.2.....	2.84	3.00	2.96	2.57	2.85	2.65	3.18	3.56	3.66	3.34
Total.....	6.08	6.29	6.36	6.10	6.45	6.25	6.92	7.55	7.55	7.02
Central & South America										
Argentina.....	0.16	0.21	0.20	0.25	0.31	0.35	0.35	0.30	0.36	0.37
Bolivia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01
Brazil.....	2.11	2.13	2.24	2.30	2.42	2.50	2.61	2.74	2.87	3.00
Chile.....	0.10	0.12	0.14	0.17	0.18	0.17	0.19	0.17	0.19	0.16
Colombia.....	0.27	0.28	0.28	0.23	0.29	0.33	0.35	0.36	0.32	0.32
Costa Rica.....	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
Dominican Republic.....	0.01	(s)	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Ecuador.....	0.05	0.05	0.05	0.05	0.06	0.07	0.05	0.06	0.07	0.07
El Salvador.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Guatemala.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Haiti.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Honduras.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02
Jamaica.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nicaragua.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Panama.....	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Paraguay.....	0.25	0.28	0.30	0.28	0.32	0.37	0.43	0.49	0.52	0.52
Peru.....	0.11	0.11	0.12	0.10	0.12	0.13	0.14	0.14	0.14	0.14
Puerto Rico.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Suriname.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Uruguay.....	0.04	0.07	0.06	0.08	0.08	0.08	0.06	0.06	0.07	0.09
Venezuela.....	0.36	0.38	0.46	0.49	0.49	0.53	0.53	0.55	0.59	0.55
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	3.60	3.80	4.02	4.13	4.46	4.73	4.91	5.07	5.33	5.44
Western Europe										
Austria.....	0.36	0.32	0.32	0.36	0.38	0.37	0.38	0.35	0.37	0.38
Belgium.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Finland.....	0.13	0.11	0.14	0.16	0.14	0.12	0.13	0.12	0.13	0.15
France.....	0.48	0.55	0.59	0.70	0.66	0.80	0.73	0.67	0.64	0.62
Germany.....	--	--	0.15	0.18	0.18	0.21	0.22	0.23	0.18	0.18
Germany, East.....	0.02	0.01	--	--	--	--	--	--	--	--
Germany, West.....	0.20	0.19	--	--	--	--	--	--	--	--
Greece.....	0.02	0.02	0.03	0.02	0.02	0.03	0.04	0.04	0.04	0.04
Iceland.....	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.06
Ireland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Italy.....	0.35	0.33	0.43	0.43	0.43	0.46	0.39	0.43	0.43	0.44
Luxembourg.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Norway.....	1.22	1.25	1.13	1.20	1.23	1.15	1.25	1.07	1.13	1.19
Portugal.....	0.06	0.09	0.09	0.05	0.09	0.11	0.09	0.15	0.13	0.13
Spain.....	0.20	0.26	0.28	0.19	0.25	0.29	0.24	0.41	0.36	0.36
Sweden.....	0.74	0.75	0.65	0.77	0.77	0.61	0.70	0.53	0.71	0.76
Switzerland.....	0.31	0.31	0.33	0.34	0.37	0.40	0.36	0.29	0.35	0.34
Turkey.....	0.18	0.24	0.23	0.27	0.35	0.31	0.37	0.42	0.41	0.43
United Kingdom.....	0.05	0.05	0.05	0.06	0.04	0.05	0.05	0.03	0.04	0.05
Former Yugoslavia.....	0.24	0.20	0.20	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	0.03	0.02	0.01	0.01	0.01	0.02	0.02
Croatia.....	--	--	--	0.04	0.04	0.05	0.05	0.07	0.05	0.06
Macedonia, TFYR.....	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Serbia and Montenegro.....	--	--	--	0.12	0.10	0.11	0.12	0.12	0.13	0.13
Slovenia.....	--	--	--	0.04	0.03	0.03	0.03	0.04	0.03	0.03
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4.61	4.74	4.69	5.02	5.17	5.19	5.24	5.06	5.22	5.40

See footnotes at end of table.

Table F6 World Net Hydroelectric Power Generation (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.04	0.03	0.04	0.03	0.03	0.04	0.04	0.06	0.06	0.05
Bulgaria.....	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.03
Former Czechoslovakia.....	0.04	0.04	0.03	0.04	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	0.01	0.02	0.02	0.02	0.02	0.02
Slovakia.....	--	--	--	--	0.04	0.05	0.05	0.05	0.04	0.04
Hungary.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Poland.....	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Romania.....	0.13	0.11	0.15	0.12	0.13	0.13	0.17	0.16	0.18	0.17
Former U.S.S.R.....	2.30	2.40	2.42	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.03	0.04	0.04	0.02	0.02	0.02	0.02
Azerbaijan.....	--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Georgia.....	--	--	--	0.07	0.07	0.05	0.05	0.06	0.06	0.06
Kazakhstan.....	--	--	--	0.07	0.08	0.09	0.09	0.08	0.07	0.06
Kyrgyzstan.....	--	--	--	0.10	0.09	0.12	0.11	0.13	0.12	0.11
Latvia.....	--	--	--	0.03	0.03	0.03	0.03	0.02	0.03	0.03
Lithuania.....	--	--	--	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Moldova.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	1.78	1.79	1.81	1.82	1.59	1.59	1.56
Tajikistan.....	--	--	--	0.16	0.18	0.17	0.15	0.15	0.14	0.14
Ukraine.....	--	--	--	0.08	0.12	0.13	0.10	0.09	0.10	0.12
Uzbekistan.....	--	--	--	0.06	0.08	0.07	0.06	0.07	0.07	0.07
Other.....	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	2.58	2.64	2.70	2.65	2.79	2.84	2.82	2.59	2.59	2.56
Middle East										
Iran.....	0.07	0.06	0.07	0.10	0.10	0.08	0.07	0.08	0.08	0.08
Iraq.....	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lebanon.....	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Syria.....	0.05	0.06	0.06	0.08	0.07	0.07	0.07	0.07	0.10	0.10
Total.....	0.13	0.13	0.15	0.19	0.18	0.16	0.16	0.16	0.20	0.20
Africa										
Algeria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Angola.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cameroon.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Congo (Brazzaville).....	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
Congo (Kinshasa).....	0.07	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Cote d'Ivoire (Ivory Coast).....	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Egypt.....	0.08	0.10	0.09	0.09	0.11	0.11	0.11	0.12	0.12	0.13
Ethiopia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Gabon.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ghana.....	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Kenya.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04
Madagascar.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
Malawi.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Mali.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Morocco.....	0.01	0.01	0.01	0.01	(s)	0.01	0.01	0.02	0.02	0.02
Nigeria.....	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Reunion.....	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
South Africa.....	0.03	0.01	0.02	0.01	(s)	0.01	0.01	0.01	0.02	0.02
Sudan.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Tanzania.....	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01
Uganda.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Zambia.....	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Zimbabwe.....	0.03	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Other.....	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Total.....	0.56	0.58	0.60	0.58	0.58	0.58	0.60	0.63	0.65	0.66

See footnotes at end of table.

Table F6 World Net Hydroelectric Power Generation (Btu), 1989 - 1998 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	0.15	0.15	0.16	0.16	0.17	0.17	0.16	0.16	0.17	0.16
Bangladesh.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Bhutan.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Burma.....	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cambodia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
China.....	1.22	1.30	1.29	1.35	1.55	1.72	1.92	1.92	2.01	2.11
Fiji.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
French Polynesia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
India.....	0.64	0.74	0.75	0.72	0.73	0.85	0.75	0.71	0.77	0.79
Indonesia.....	0.09	0.11	0.10	0.10	0.09	0.07	0.09	0.09	0.06	0.06
Japan.....	0.94	0.92	1.00	0.85	0.98	0.69	0.85	0.83	0.92	0.93
Korea, North.....	0.33	0.30	0.33	0.25	0.25	0.24	0.24	0.23	0.22	0.22
Korea, South.....	0.03	0.05	0.04	0.03	0.04	0.02	0.03	0.02	0.03	0.04
Laos.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Malaysia.....	0.05	0.04	0.05	0.04	0.05	0.07	0.06	0.05	0.03	0.03
Nepal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
New Caledonia.....	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01
New Zealand.....	0.23	0.24	0.24	0.21	0.24	0.27	0.28	0.27	0.24	0.24
Pakistan.....	0.17	0.17	0.19	0.19	0.22	0.20	0.24	0.24	0.21	0.22
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01
Philippines.....	0.07	0.06	0.05	0.05	0.05	0.06	0.06	0.07	0.06	0.04
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.03	0.04	0.04
Taiwan.....	0.07	0.09	0.06	0.09	0.07	0.09	0.09	0.09	0.10	0.11
Thailand.....	0.06	0.05	0.05	0.04	0.04	0.05	0.07	0.08	0.07	0.07
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	0.04	0.06	0.07	0.08	0.09	0.11	0.13	0.15	0.17	0.19
Total.....	4.19	4.37	4.47	4.28	4.69	4.73	5.09	5.05	5.20	5.36
World Total.....	21.74	22.56	22.98	22.96	24.31	24.48	25.73	26.11	26.74	26.63

¹ Preliminary.

² Includes hydroelectric pumped storage.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit and excludes generation from pumped storage.

Sources: See sources at the end of Section 6.

Table F7 World Net Nuclear Electric Power Generation (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	0.87	0.79	0.93	0.88	1.02	1.17	1.06	1.00	0.88	0.77
Mexico.....	0.00	0.03	0.04	0.04	0.05	0.04	0.08	0.08	0.10	0.09
United States.....	5.68	6.16	6.58	6.61	6.52	6.84	7.18	7.17	6.68	7.16
Total.....	6.55	6.99	7.55	7.52	7.59	8.04	8.31	8.24	7.66	8.01
Central & South America										
Argentina.....	0.06	0.08	0.09	0.08	0.09	0.09	0.08	0.08	0.09	0.08
Brazil.....	0.02	0.02	0.01	0.02	(s)	(s)	0.02	0.02	0.03	0.03
Total.....	0.07	0.10	0.10	0.10	0.09	0.09	0.11	0.11	0.12	0.12
Western Europe										
Belgium.....	0.41	0.42	0.42	0.43	0.41	0.40	0.41	0.43	0.47	0.45
Finland.....	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.20	0.21
France.....	2.93	3.11	3.28	3.34	3.64	3.54	3.71	3.91	3.87	3.79
Germany.....	--	--	1.43	1.54	1.49	1.46	1.48	1.55	1.65	1.56
Germany, East.....	0.12	0.06	--	--	--	--	--	--	--	--
Germany, West.....	1.47	1.46	--	--	--	--	--	--	--	--
Netherlands.....	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.02	0.04
Spain.....	0.58	0.52	0.54	0.54	0.54	0.53	0.53	0.54	0.53	0.57
Sweden.....	0.63	0.65	0.74	0.61	0.59	0.70	0.67	0.70	0.67	0.71
Switzerland.....	0.23	0.24	0.23	0.23	0.23	0.24	0.25	0.25	0.25	0.26
United Kingdom.....	0.76	0.70	0.78	0.86	1.01	1.00	1.00	1.07	1.11	1.22
Former Yugoslavia.....	0.05	0.05	0.04	--	--	--	--	--	--	--
Slovenia.....	--	--	--	0.04	0.04	0.04	0.04	0.04	0.05	0.05
Total.....	7.40	7.43	7.67	7.82	8.18	8.16	8.33	8.72	8.83	8.86
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.16	0.15	0.14	0.12	0.15	0.16	0.18	0.20	0.18	0.17
Former Czechoslovakia.....	0.28	0.29	0.28	0.29	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	0.15	0.15	0.14	0.15	0.15	0.15
Slovakia.....	--	--	--	--	0.14	0.14	0.13	0.14	0.13	0.12
Hungary.....	0.15	0.15	0.13	0.13	0.13	0.13	0.13	0.14	0.13	0.13
Romania.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.06
Former U.S.S.R.....	2.43	2.31	2.31	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.00	0.00	0.00	0.00	0.02	0.02	0.02
Kazakhstan.....	--	--	--	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Lithuania.....	--	--	--	0.15	0.13	0.08	0.11	0.14	0.12	0.14
Russia.....	--	--	--	1.25	1.25	1.02	1.04	1.14	1.15	1.08
Ukraine.....	--	--	--	0.76	0.78	0.71	0.73	0.83	0.82	0.77
Total.....	3.03	2.89	2.86	2.71	2.73	2.41	2.47	2.76	2.76	2.64
Africa										
South Africa.....	0.11	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13	0.14
Total.....	0.11	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13	0.14
Far East & Oceania										
China.....	0.00	0.00	0.00	0.01	0.03	0.14	0.13	0.14	0.12	0.14
India.....	0.04	0.07	0.06	0.07	0.07	0.06	0.08	0.09	0.13	0.13
Japan.....	1.86	1.97	2.08	2.17	2.42	2.61	2.83	2.93	3.13	3.25
Korea, South.....	0.47	0.51	0.54	0.54	0.56	0.56	0.64	0.70	0.73	0.84
Pakistan.....	(s)	(s)	(s)	0.01	(s)	0.01	0.01	(s)	(s)	(s)
Taiwan.....	0.28	0.32	0.33	0.32	0.33	0.33	0.34	0.36	0.34	0.35
Total.....	2.65	2.87	3.01	3.12	3.41	3.70	4.02	4.23	4.45	4.71
World Total.....	19.82	20.37	21.29	21.36	22.07	22.50	23.35	24.17	23.95	24.48

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit.

No generation is reported for Middle East.

Sources: See sources at the end of Section 6.

Table F8 World Net Biomass, Geothermal, Solar, and Wind Electric Power Generation (Btu), 1989 - 1998
(Quadrillion (10¹⁵) Btu)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	0.03	0.03	0.03	0.04	0.05	0.04	0.04	0.04	0.04	0.05
Mexico.....	0.10	0.10	0.11	0.12	0.12	0.11	0.11	0.11	0.11	0.11
United States.....	0.73	0.83	0.91	0.97	1.00	1.02	0.96	0.99	0.95	0.93
Total.....	0.87	0.96	1.05	1.12	1.16	1.17	1.11	1.14	1.10	1.09
Central & South America										
Argentina.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brazil.....	0.05	0.05	0.05	0.07	0.07	0.07	0.08	0.09	0.10	0.10
Colombia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Costa Rica.....	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Cuba.....	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.02
El Salvador.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nicaragua.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	0.01
Other.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.09	0.10	0.10	0.11	0.11	0.12	0.13	0.14	0.16	0.16
Western Europe										
Austria.....	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Denmark.....	(s)	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.04
Finland.....	0.00	0.00	0.00	0.05	0.06	0.06	0.07	0.06	0.08	0.09
France.....	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Germany.....	--	--	0.05	0.06	0.06	0.08	0.09	0.10	0.10	0.11
Germany, West.....	0.05	0.05	--	--	--	--	--	--	--	--
Iceland.....	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Italy.....	0.06	0.07	0.07	0.07	0.08	0.07	0.08	0.08	0.09	0.11
Netherlands.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.04
Portugal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Spain.....	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03
Sweden.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.04	0.04
United Kingdom.....	0.01	0.01	0.01	0.02	0.05	0.05	0.06	0.06	0.06	0.06
Other.....	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03
Total.....	0.23	0.23	0.24	0.33	0.38	0.42	0.46	0.49	0.57	0.61
Eastern Europe & Former U.S.S.R.										
Poland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Total.....	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.02
Middle East										
Jordan.....	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00
Total.....	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00
Africa										
Ethiopia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Far East & Oceania										
Australia.....	0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.03	0.03	0.03
India.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Indonesia.....	0.02	0.02	0.02	0.02	0.02	0.04	0.04	0.05	0.05	0.05
Japan.....	0.19	0.20	0.21	0.21	0.21	0.23	0.26	0.27	0.29	0.29
New Zealand.....	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Philippines.....	0.11	0.11	0.11	0.11	0.11	0.13	0.12	0.13	0.14	0.16
Other.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
Total.....	0.37	0.39	0.40	0.42	0.42	0.47	0.50	0.54	0.58	0.59
World Total.....	1.57	1.70	1.80	2.00	2.09	2.19	2.22	2.33	2.42	2.47

¹ Preliminary.

-- = Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit.

Sources: See sources at the end of Section 6.

Appendix G

**World Production of Crude Oil,
Natural Gas Plant Liquids (NGPL),
Other Liquids, and
Refinery Processing Gain**

Table G1 World Production of Crude Oil, NGPL, and Other Liquids, 1989 - 1998
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	1,970	1,979	1,979	2,065	2,186	2,275	2,386	2,432	2,558	2,632
Mexico.....	2,904	2,981	3,137	3,123	3,132	3,146	3,064	3,278	3,411	3,495
United States.....	9,219	8,994	9,168	8,996	8,836	8,645	8,626	8,607	8,611	8,392
Total.....	14,093	13,955	14,284	14,185	14,154	14,066	14,076	14,318	14,580	14,519
Central & South America										
Argentina.....	487	510	515	583	629	694	757	800	882	897
Barbados.....	1	1	1	1	1	1	1	1	1	2
Bolivia.....	25	26	26	28	29	30	34	37	37	43
Brazil.....	761	790	808	793	806	858	890	1,001	1,068	1,229
Chile.....	32	32	28	26	26	24	23	21	14	15
Colombia.....	411	448	425	439	461	455	593	631	661	741
Cuba.....	17	16	16	18	22	26	28	32	33	34
Ecuador.....	281	287	301	324	353	374	401	405	393	379
Guatemala.....	4	4	4	5	7	8	10	13	16	24
Peru.....	130	130	116	117	127	129	131	121	119	117
Suriname.....	4	4	4	5	5	6	7	7	5	7
Trinidad and Tobago.....	154	150	154	142	135	132	131	130	124	123
Venezuela.....	2,015	2,251	2,492	2,484	2,593	2,734	2,899	3,088	3,423	3,312
Total.....	4,323	4,649	4,890	4,967	5,195	5,472	5,906	6,287	6,777	6,922
Western Europe										
Austria.....	24	23	27	24	22	22	24	22	20	21
Denmark.....	117	121	143	163	174	185	186	208	230	238
France.....	77	72	69	70	68	69	62	55	46	40
Germany.....	--	--	95	85	81	79	78	78	75	77
Germany, East.....	1	1	--	--	--	--	--	--	--	--
Germany, West.....	104	104	--	--	--	--	--	--	--	--
Greece.....	19	17	17	14	12	11	10	9	10	7
Italy.....	84	89	82	86	86	89	97	105	114	110
Netherlands.....	77	84	84	67	67	103	87	81	77	79
Norway.....	1,628	1,782	1,984	2,324	2,450	2,624	2,905	3,242	3,282	3,149
Spain.....	30	27	33	31	24	21	17	11	8	11
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0	0	0
Turkey.....	56	73	88	84	76	72	67	67	68	65
United Kingdom.....	1,942	1,928	1,938	1,986	2,084	2,593	2,756	2,827	2,751	2,856
Former Yugoslavia.....	78	74	68	--	--	--	--	--	--	--
Croatia.....	--	--	--	42	43	46	40	36	37	38
Serbia and Montenegro.....	--	--	--	23	23	24	22	22	20	18
Total.....	4,238	4,395	4,629	4,999	5,210	5,938	6,350	6,764	6,736	6,710
Eastern Europe & Former U.S.S.R.										
Albania.....	47	30	19	11	11	12	10	10	9	6
Bulgaria.....	5	4	1	1	1	1	1	1	1	1
Former Czechoslovakia.....	3	2	3	2	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	2	3	3	4	3	4
Slovakia.....	--	--	--	--	1	1	1	2	2	1
Hungary.....	51	55	47	46	45	50	46	42	50	43
Poland.....	3	2	3	3	5	5	5	5	6	7
Romania.....	193	171	148	143	137	142	141	142	141	138
Former U.S.S.R.....	12,140	11,400	10,412	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	222	208	192	182	182	180	237
Belarus.....	--	--	--	40	40	40	38	36	36	36
Georgia.....	--	--	--	3	2	2	1	1	3	2
Kazakhstan.....	--	--	--	530	490	415	414	457	521	526
Kyrgyzstan.....	--	--	--	2	2	2	2	2	2	2
Lithuania.....	--	--	--	0	2	3	3	3	4	5
Russia.....	--	--	--	7,862	6,950	6,335	6,175	6,035	6,115	6,074
Tajikistan.....	--	--	--	1	1	1	1	1	1	1
Turkmenistan.....	--	--	--	110	90	85	81	88	106	127
Ukraine.....	--	--	--	95	87	85	85	81	85	82
Uzbekistan.....	--	--	--	66	85	115	160	165	157	161
Total.....	12,442	11,664	10,633	9,137	8,159	7,487	7,349	7,256	7,421	7,454

See footnotes at end of table.

Table G1 World Production of Crude Oil, NGPL, and Other Liquids, 1989 - 1998 (Continued)
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Bahrain.....	51	47	43	44	53	54	51	45	52	48
Iran.....	2,837	3,123	3,362	3,479	3,595	3,673	3,703	3,746	3,734	3,709
Iraq.....	2,951	2,070	305	425	527	573	585	599	1,175	2,165
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	1,888	1,240	190	1,092	1,905	2,110	2,152	2,147	2,116	2,200
Oman.....	651	695	708	746	781	816	861	893	910	906
Qatar.....	404	446	445	478	468	465	497	560	620	781
Saudi Arabia.....	5,567	7,030	8,795	9,045	8,902	8,818	8,933	8,915	9,074	9,144
Syria.....	342	390	494	483	562	568	584	590	571	561
United Arab Emirates.....	1,990	2,252	2,532	2,410	2,305	2,343	2,393	2,438	2,476	2,515
Yemen.....	194	193	197	182	220	335	345	340	362	388
Total.....	16,876	17,487	17,071	18,384	19,318	19,754	20,104	20,273	21,091	22,417
Africa										
Algeria.....	1,225	1,305	1,370	1,354	1,307	1,320	1,347	1,392	1,437	1,401
Angola.....	455	475	500	526	509	536	646	709	714	735
Benin.....	4	4	4	6	6	6	3	2	1	1
Cameroon.....	170	161	153	140	127	108	111	108	124	121
Congo (Brazzaville).....	164	165	156	174	181	180	188	201	253	265
Congo (Kinshasa).....	28	29	28	26	25	26	30	30	28	26
Cote d'Ivoire (Ivory Coast).....	2	2	2	2	1	7	8	16	19	20
Egypt.....	910	913	919	926	945	954	980	987	927	909
Equatorial Guinea.....	0	0	(s)	2	5	5	5	17	52	102
Gabon.....	208	270	294	298	313	329	365	368	370	361
Ghana.....	0	0	0	1	2	1	4	6	5	5
Libya.....	1,185	1,410	1,523	1,473	1,402	1,419	1,430	1,450	1,506	1,450
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	1,716	1,810	1,892	1,943	1,960	1,931	1,993	2,001	2,132	2,153
South Africa.....	70	70	70	129	183	183	192	195	196	199
Sudan.....	0	0	0	(s)	(s)	(s)	(s)	2	5	10
Tunisia.....	110	98	109	114	102	96	90	88	85	81
Total.....	6,247	6,712	7,021	7,113	7,067	7,100	7,392	7,572	7,856	7,840
Far East & Oceania										
Australia.....	555	638	606	591	558	592	614	632	659	606
Bangladesh.....	1	1	1	1	1	2	1	2	2	2
Brunei.....	142	160	171	177	178	180	176	166	175	179
Burma.....	16	14	16	15	14	14	10	8	9	11
China.....	2,757	2,774	2,835	2,845	2,890	2,939	2,990	3,131	3,200	3,198
India.....	710	670	625	589	564	635	750	731	760	751
Indonesia.....	1,481	1,539	1,668	1,579	1,589	1,590	1,579	1,627	1,605	1,605
Japan.....	13	14	18	20	19	18	18	18	17	17
Malaysia.....	596	631	658	666	657	662	702	715	750	823
New Zealand.....	54	56	56	55	58	55	45	45	66	55
Pakistan.....	48	62	64	64	63	58	62	58	60	58
Papua New Guinea.....	0	0	(s)	53	126	110	100	103	80	79
Philippines.....	5	5	3	8	9	6	3	2	1	1
Taiwan.....	4	4	3	3	2	2	2	2	2	1
Thailand.....	51	57	59	65	67	78	89	96	122	135
Vietnam.....	32	50	80	106	120	141	173	175	191	246
Total.....	6,465	6,675	6,863	6,838	6,916	7,081	7,315	7,513	7,699	7,768
World Total.....	64,683	65,537	65,390	65,625	66,018	66,899	68,492	69,983	72,161	73,628

¹ Preliminary.

--= Not applicable.

(s) = Value less than 500 barrels per day.

Notes: NGPL are natural gas plant liquids. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table G2 World Production of Crude Oil, NGPL, Other Liquids, and Refinery Processing Gain, 1989 - 1998
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	2,027	2,025	2,032	2,125	2,241	2,328	2,448	2,494	2,623	2,694
Mexico.....	2,932	3,009	3,165	3,151	3,160	3,174	3,092	3,306	3,439	3,523
United States.....	9,880	9,677	9,883	9,768	9,602	9,413	9,400	9,445	9,461	9,278
Total.....	14,839	14,712	15,080	15,045	15,003	14,915	14,940	15,245	15,523	15,494
Central & South America										
Argentina.....	492	515	520	588	634	699	762	805	887	902
Barbados.....	1	1	1	1	1	1	1	1	1	2
Bolivia.....	25	26	26	28	29	30	34	37	37	43
Brazil.....	774	803	821	806	819	871	903	1,014	1,081	1,242
Chile.....	33	33	29	27	27	25	24	22	15	16
Colombia.....	413	450	427	441	463	457	595	633	663	743
Cuba.....	17	16	16	18	22	26	28	32	33	34
Dominican Republic.....	1	1	1	1	1	1	1	1	1	1
Ecuador.....	282	288	302	325	354	375	402	406	394	380
Guatemala.....	4	4	4	5	7	8	10	13	16	24
Netherlands Antilles.....	6	6	6	6	6	6	6	6	6	6
Panama.....	1	1	1	1	1	1	1	1	1	1
Peru.....	132	132	118	119	129	131	133	123	121	119
Suriname.....	4	4	4	5	5	6	7	7	5	7
Trinidad and Tobago.....	157	153	157	145	138	135	134	133	127	126
Venezuela.....	2,032	2,268	2,509	2,501	2,610	2,751	2,916	3,105	3,440	3,329
Virgin Islands, U.S.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4,375	4,702	4,942	5,019	5,247	5,524	5,958	6,339	6,830	6,974
Western Europe										
Austria.....	26	25	29	26	24	24	26	24	22	23
Belgium.....	12	12	12	12	12	12	12	12	12	12
Denmark.....	121	125	147	167	178	189	190	212	234	242
France.....	120	115	113	112	111	112	105	98	89	83
Germany.....	--	--	141	132	137	135	134	134	131	133
Germany, East.....	1	1	--	--	--	--	--	--	--	--
Germany, West.....	156	151	--	--	--	--	--	--	--	--
Greece.....	22	20	20	17	15	14	13	12	13	10
Ireland.....	1	1	1	1	1	1	1	1	1	1
Italy.....	122	133	124	155	147	150	158	166	175	171
Netherlands.....	111	118	118	101	101	137	121	115	111	113
Norway.....	1,631	1,785	1,987	2,327	2,453	2,627	2,908	3,245	3,285	3,152
Portugal.....	2	2	2	2	2	2	2	2	2	2
Spain.....	44	41	47	45	38	35	31	25	22	25
Sweden.....	4	4	4	4	4	4	4	4	4	4
Switzerland.....	1	1	1	1	1	1	1	1	1	1
Turkey.....	60	77	92	88	80	76	71	71	72	69
United Kingdom.....	1,991	1,977	1,986	2,032	2,129	2,638	2,801	2,872	2,796	2,901
Former Yugoslavia.....	78	74	68	--	--	--	--	--	--	--
Croatia.....	--	--	--	42	43	46	40	36	37	38
Serbia and Montenegro.....	--	--	--	23	23	24	22	22	20	18
Slovenia.....	--	--	--	0	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4,504	4,662	4,893	5,287	5,499	6,227	6,639	7,053	7,025	6,999

See footnotes at end of table.

Table G2 World Production of Crude Oil, NGPL, Other Liquids, and Refinery Processing Gain, 1989 - 1998 (Cont.)
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	47	30	19	11	11	12	10	10	9	6
Bulgaria.....	5	4	1	1	1	1	1	1	1	1
Former Czechoslovakia.....	3	2	3	2	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	2	3	3	4	3	4
Slovakia.....	--	--	--	--	1	1	1	2	2	1
Hungary.....	51	55	47	46	45	50	46	42	50	43
Poland.....	3	2	3	3	5	5	5	5	6	7
Romania.....	193	171	148	143	137	142	141	142	141	138
Former U.S.S.R.....	12,140	11,400	10,412	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	222	208	192	182	182	180	237
Belarus.....	--	--	--	40	40	40	38	36	36	36
Georgia.....	--	--	--	3	2	2	1	1	3	2
Kazakhstan.....	--	--	--	530	490	415	414	457	521	526
Kyrgyzstan.....	--	--	--	2	2	2	2	2	2	2
Lithuania.....	--	--	--	0	2	3	3	3	4	5
Russia.....	--	--	--	7,862	6,950	6,335	6,175	6,035	6,115	6,074
Tajikistan.....	--	--	--	1	1	1	1	1	1	1
Turkmenistan.....	--	--	--	110	90	85	81	88	106	127
Ukraine.....	--	--	--	95	87	85	85	81	85	82
Uzbekistan.....	--	--	--	66	85	115	160	165	157	161
Total.....	12,442	11,664	10,633	9,137	8,159	7,487	7,349	7,256	7,421	7,454
Middle East										
Bahrain.....	52	48	44	45	54	55	52	46	53	49
Iran.....	2,849	3,135	3,374	3,491	3,607	3,685	3,715	3,758	3,746	3,721
Iraq.....	2,955	2,074	305	426	528	574	586	600	1,176	2,166
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	1,897	1,245	190	1,096	1,909	2,114	2,156	2,151	2,120	2,204
Oman.....	651	695	708	746	781	816	861	893	910	906
Qatar.....	405	447	446	479	469	466	498	561	621	782
Saudi Arabia.....	5,582	7,045	8,810	9,060	8,917	8,833	8,948	8,930	9,089	9,159
Syria.....	342	390	494	483	562	568	584	590	571	561
United Arab Emirates.....	1,993	2,255	2,535	2,413	2,308	2,346	2,396	2,441	2,479	2,518
Yemen.....	194	193	197	182	220	335	345	340	362	388
Total.....	16,921	17,528	17,103	18,421	19,355	19,791	20,141	20,310	21,128	22,454
Africa										
Algeria.....	1,226	1,306	1,371	1,355	1,308	1,321	1,348	1,393	1,438	1,402
Angola.....	455	475	500	526	509	536	646	709	714	735
Benin.....	4	4	4	6	6	6	3	2	1	1
Cameroon.....	170	161	153	140	127	108	111	108	124	121
Congo (Brazzaville).....	164	165	156	174	181	180	188	201	253	265
Congo (Kinshasa).....	28	29	28	26	25	26	30	30	28	26
Cote d'Ivoire (Ivory Coast).....	3	3	3	3	2	8	9	17	20	21
Egypt.....	911	914	920	927	946	955	981	988	928	910
Equatorial Guinea.....	0	0	(s)	2	5	5	5	17	52	102
Gabon.....	209	271	295	299	314	330	366	369	371	362
Ghana.....	0	0	0	1	2	1	4	6	5	5
Kenya.....	1	1	1	1	1	1	1	1	1	1
Libya.....	1,185	1,410	1,523	1,473	1,402	1,419	1,430	1,450	1,506	1,450
Morocco.....	1	1	1	1	1	1	1	1	1	1
Nigeria.....	1,721	1,815	1,897	1,948	1,965	1,936	1,998	2,006	2,137	2,158
South Africa.....	70	70	70	129	183	183	192	195	196	199
Sudan.....	0	0	0	(s)	(s)	(s)	(s)	2	5	10
Tunisia.....	110	98	109	114	102	96	90	88	85	81
Total.....	6,258	6,723	7,032	7,124	7,078	7,111	7,403	7,583	7,867	7,851

See footnotes at end of table.

Table G2 World Production of Crude Oil, NGPL, Other Liquids, and Refinery Processing Gain, 1989 - 1998 (Cont.)
(Thousand Barrels per Day)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Australia.....	568	651	619	604	572	606	627	645	672	619
Bangladesh.....	1	1	1	1	1	2	1	2	2	2
Brunei.....	142	160	171	177	178	180	176	166	175	179
Burma.....	16	14	16	15	14	14	10	8	9	11
China.....	2,757	2,774	2,835	2,845	2,890	2,939	2,990	3,131	3,200	3,198
India.....	714	674	629	593	568	639	754	735	764	755
Indonesia.....	1,478	1,536	1,665	1,576	1,586	1,587	1,576	1,624	1,602	1,602
Japan.....	73	74	76	79	82	81	81	81	80	80
Korea, South.....	3	3	3	3	3	3	3	3	70	70
Malaysia.....	597	632	659	667	658	663	703	716	751	824
New Zealand.....	55	57	57	56	59	56	47	46	67	56
Pakistan.....	49	63	65	65	64	59	63	59	61	59
Papua New Guinea.....	0	0	(s)	53	126	110	100	103	80	79
Philippines.....	6	6	4	9	10	7	4	3	2	2
Singapore.....	4	4	4	4	4	4	4	4	4	4
Taiwan.....	6	6	5	5	4	4	4	4	4	3
Thailand.....	52	58	60	66	68	79	90	97	123	136
Vietnam.....	32	50	80	106	120	141	173	175	191	246
Total.....	6,553	6,763	6,950	6,926	7,007	7,173	7,407	7,604	7,857	7,926
World Total.....	65,892	66,754	66,632	66,961	67,348	68,228	69,837	71,390	73,650	75,151

¹ Preliminary.

--= Not applicable.

(s) = Value less than 500 barrels per day.

Notes: NGPL are natural gas plant liquids. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table G3 World Oil Supply From Refinery Processing Gain and Other Liquids, 1997
(Thousand Barrels per Day)

Region Country	Refinery Processing Gain	Other Liquids
North America		
Canada.....	65	0
Mexico.....	28	0
United States.....	850	343
Total.....	942	343
Central & South America		
Argentina.....	5	0
Brazil.....	13	197
Chile.....	1	0
Colombia.....	2	0
Dominican Republic.....	1	0
Ecuador.....	1	0
Netherlands Antilles.....	6	0
Panama.....	1	0
Peru.....	2	0
Trinidad and Tobago.....	3	0
Venezuela.....	17	0
Virgin Islands, U.S.....	(s)	0
Total.....	52	197
Western Europe		
Austria.....	2	0
Belgium.....	12	0
Denmark.....	4	0
France.....	43	0
Germany.....	56	19
Greece.....	3	0
Ireland.....	1	0
Italy.....	61	2
Netherlands.....	34	0
Norway.....	3	0
Portugal.....	2	0
Spain.....	14	0
Sweden.....	4	0
Switzerland.....	1	0
Turkey.....	4	0
United Kingdom.....	45	0
Total.....	289	21
Middle East		
Bahrain.....	1	0
Iran.....	12	0
Iraq.....	1	0
Kuwait.....	4	0
Qatar.....	1	0
Saudi Arabia.....	15	0
United Arab Emirates.....	3	0
Total.....	37	0
Africa		
Algeria.....	1	0
Cote d'Ivoire (Ivory Coast).....	1	0
Egypt.....	1	0
Gabon.....	1	0
Kenya.....	1	0
Morocco.....	1	0
Nigeria.....	5	0
South Africa.....	0	185
Total.....	11	185

See footnotes at end of table.

Table G3 World Oil Supply From Refinery Processing Gain and Other Liquids, 1997 (Continued)
(Thousand Barrels per Day)

Region Country	Refinery Processing Gain	Other Liquids
Far East & Oceania		
Australia.....	13	0
India.....	4	0
Indonesia.....	-3	0
Japan.....	63	3
Korea, South.....	70	0
Malaysia.....	1	0
New Zealand.....	1	1
Pakistan.....	1	0
Philippines.....	1	0
Singapore.....	4	0
Taiwan.....	2	0
Thailand.....	1	0
Total.....	158	4
World Total.....	1,490	750

(s) = Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Appendix H

**World Carbon
Dioxide Emissions,
1989-1998**

Table H1 World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1989 - 1998
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	134.29	129.01	126.73	125.63	129.26	134.34	134.39	139.01	136.42	138.46
Mexico.....	78.99	80.41	81.10	85.52	84.67	89.68	87.74	92.95	93.90	95.02
United States.....	1,365.88	1,351.44	1,336.70	1,358.19	1,386.34	1,406.67	1,420.90	1,469.82	1,489.07	1,494.60
Other.....	0.33	0.25	0.22	0.18	0.18	0.17	0.16	0.16	0.16	0.18
Total.....	1,579.49	1,561.11	1,544.75	1,569.52	1,600.45	1,630.86	1,643.20	1,701.94	1,719.55	1,728.26
Central & South America										
Argentina.....	29.61	27.00	28.71	29.56	32.50	32.68	33.78	35.69	35.22	36.37
Brazil.....	59.37	57.57	60.22	60.86	64.38	69.17	72.01	74.55	78.98	84.52
Chile.....	7.93	8.54	8.10	8.37	9.01	9.92	10.84	12.33	13.37	14.29
Colombia.....	12.58	11.08	15.07	14.51	14.89	14.55	14.27	15.60	16.57	17.58
Cuba.....	9.80	9.57	8.81	7.72	7.99	7.85	8.31	8.14	7.48	7.80
Venezuela.....	29.16	29.64	30.11	30.02	31.21	32.70	33.67	35.98	36.89	37.07
Other.....	40.16	40.83	42.18	44.64	47.11	48.89	52.77	52.91	55.46	58.27
Total.....	188.61	184.24	193.20	195.67	207.08	215.77	225.65	235.20	243.97	255.90
Western Europe										
Austria.....	14.83	15.32	16.36	15.19	15.71	15.56	15.87	16.48	16.93	16.89
Belgium.....	31.64	33.02	34.43	33.18	33.33	34.46	35.33	36.71	37.23	38.79
Denmark.....	15.95	15.24	17.41	16.57	15.96	17.50	18.80	19.75	20.10	16.82
Finland.....	14.12	14.35	14.02	13.31	14.12	15.48	12.12	13.92	15.17	13.52
France.....	98.40	100.53	105.13	101.23	98.12	94.97	97.43	104.12	102.29	106.63
Germany.....	--	--	254.27	244.12	238.88	234.39	233.15	239.69	232.85	227.51
Germany, East.....	84.64	77.93	--	--	--	--	--	--	--	--
Germany, West.....	185.80	191.43	--	--	--	--	--	--	--	--
Greece.....	20.97	22.11	22.19	21.69	22.87	23.25	23.03	23.40	24.15	25.39
Ireland.....	6.57	7.02	7.27	7.53	7.63	7.89	8.53	8.76	8.97	9.64
Italy.....	110.96	110.93	111.32	111.16	108.45	106.50	116.46	116.37	115.80	119.98
Netherlands.....	52.43	55.65	57.43	56.34	59.58	59.54	60.13	62.41	64.35	65.34
Norway.....	9.60	9.15	8.66	9.44	9.23	9.62	9.99	10.70	11.43	11.60
Portugal.....	11.60	11.75	11.86	12.65	12.28	12.34	13.25	12.79	14.02	14.78
Spain.....	64.65	60.41	62.56	64.03	61.76	63.50	65.59	63.21	71.29	75.16
Sweden.....	15.54	14.82	14.52	14.79	14.93	15.14	17.00	17.56	14.06	15.33
Switzerland.....	11.35	12.02	12.43	12.49	12.16	12.35	11.51	12.34	12.57	12.12
Turkey.....	32.99	35.89	38.30	37.59	38.84	37.54	40.78	44.29	46.80	47.07
United Kingdom.....	165.17	162.62	164.38	155.80	156.84	154.71	152.03	159.38	149.92	147.37
Former Yugoslavia.....	41.76	40.76	36.40	--	--	--	--	--	--	--
Croatia.....	--	--	--	4.37	4.70	4.78	4.76	4.68	4.98	5.09
Serbia and Montenegro.....	--	--	--	12.75	10.88	11.27	8.25	13.37	14.58	15.25
Other.....	4.29	4.56	4.68	12.91	13.01	12.23	13.31	12.90	13.41	12.62
Total.....	993.26	995.50	993.61	957.15	949.29	943.02	957.32	992.84	990.90	996.90
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	25.71	22.54	17.16	17.35	16.13	15.72	15.72	16.44	16.51	14.85
Former Czechoslovakia.....	85.62	79.72	72.74	65.12	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	30.98	30.17	30.55	30.62	31.80	33.60
Slovakia.....	--	--	--	--	10.93	10.66	11.47	11.84	11.54	11.60
Hungary.....	19.67	18.49	18.22	17.08	17.83	17.76	16.26	15.82	15.24	15.79
Poland.....	109.27	87.38	87.59	87.58	91.43	86.35	80.70	92.12	85.73	77.05
Romania.....	52.26	46.75	36.24	34.37	34.07	31.85	33.46	34.15	33.00	27.52
Former U.S.S.R.....	1,013.20	1,035.68	954.77	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	15.71	13.66	12.47	12.08	10.37	10.25	11.67
Belarus.....	--	--	--	24.43	22.34	18.04	16.86	16.44	16.25	16.07
Kazakhstan.....	--	--	--	65.51	53.75	42.64	39.79	37.53	36.29	37.09
Lithuania.....	--	--	--	6.21	4.80	4.99	4.78	4.39	4.37	4.50
Russia.....	--	--	--	569.93	535.63	476.89	442.69	442.48	411.22	405.04
Turkmenistan.....	--	--	--	5.10	5.10	4.86	4.93	4.88	5.17	5.01
Ukraine.....	--	--	--	154.13	144.87	120.74	120.18	106.09	104.91	99.73
Uzbekistan.....	--	--	--	25.88	31.41	26.45	28.34	27.93	27.95	27.17
Other.....	2.14	1.60	1.08	25.03	17.51	13.74	12.20	13.75	12.99	13.33
Total.....	1,307.87	1,292.16	1,187.80	1,113.43	1,030.44	913.35	870.04	864.85	823.23	800.03

See footnotes at end of table.

Table H1 World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1989 - 1998 (Cont.)
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Middle East										
Bahrain.....	3.66	3.85	4.30	3.65	4.34	4.29	4.20	4.16	5.12	5.36
Iran.....	53.36	55.41	62.05	63.65	65.28	68.01	70.76	70.55	78.90	79.39
Iraq.....	16.60	17.81	11.05	14.90	18.44	20.70	20.71	20.68	18.61	19.38
Israel.....	8.68	8.99	9.32	10.62	12.71	13.09	13.18	12.92	14.44	15.41
Kuwait.....	11.65	7.50	9.78	4.84	7.61	8.83	9.32	11.21	11.86	12.33
Oman.....	2.80	3.35	3.83	3.62	4.01	4.09	3.83	3.95	4.88	5.96
Qatar.....	4.24	5.19	6.22	7.07	8.16	8.25	8.32	8.38	8.94	9.11
Saudi Arabia.....	56.83	57.48	62.42	63.47	65.47	67.08	68.25	71.41	61.89	63.82
Syria.....	8.20	9.96	8.90	9.42	10.75	11.15	10.70	11.37	12.12	12.95
United Arab Emirates.....	22.15	21.37	25.58	27.55	25.99	25.54	27.31	28.08	30.98	31.31
Yemen.....	2.86	3.07	3.11	3.22	2.77	2.67	2.71	2.69	2.96	3.01
Other.....	5.24	5.41	6.20	6.82	7.51	8.47	8.80	9.24	9.70	10.01
Total.....	196.27	199.39	212.75	218.84	233.05	242.16	248.09	254.64	260.40	268.04
Africa										
Algeria.....	21.30	22.50	23.18	22.26	23.19	24.26	24.30	23.94	23.08	23.92
Angola.....	1.29	1.95	2.04	2.04	2.10	2.00	3.30	3.30	3.55	3.70
Egypt.....	23.05	24.76	25.18	24.92	26.28	27.10	26.82	29.50	30.60	31.63
Gabon.....	1.56	1.56	1.57	1.65	1.63	1.61	1.66	1.75	1.78	1.81
Libya.....	10.06	11.39	11.28	9.79	10.05	10.32	10.61	11.16	11.61	12.13
Morocco.....	5.66	5.88	6.08	6.13	6.93	7.43	7.09	7.33	7.49	7.48
Nigeria.....	20.65	22.26	23.99	25.32	26.36	26.02	27.26	28.01	28.10	27.07
South Africa.....	79.71	79.78	83.37	87.26	90.12	94.05	94.24	95.82	99.53	101.60
Zimbabwe.....	4.19	4.47	4.36	4.48	4.26	4.54	4.67	4.13	4.65	4.47
Other.....	20.37	20.84	20.56	21.93	23.83	24.55	24.32	25.06	26.14	26.77
Total.....	187.83	195.39	201.62	205.77	214.76	221.88	224.27	230.01	236.52	240.58
Far East & Oceania										
Australia.....	69.36	71.29	71.70	74.22	77.21	77.35	79.67	80.36	77.91	83.40
Bangladesh.....	3.79	4.02	3.96	4.44	4.63	5.05	5.65	5.83	5.94	6.36
Brunei.....	1.43	1.24	0.75	0.99	1.00	0.95	0.94	0.94	1.14	1.09
China.....	610.24	610.30	638.74	659.26	711.86	768.01	787.62	793.96	785.49	740.38
Hong Kong.....	11.04	10.43	11.11	11.67	12.76	11.93	12.49	12.20	8.84	12.20
India.....	144.43	153.79	159.55	173.58	185.73	195.15	225.69	235.33	244.61	252.55
Indonesia.....	36.91	39.15	41.20	46.23	53.72	55.54	58.44	65.21	70.96	67.82
Japan.....	256.94	265.75	272.20	278.35	279.97	295.00	292.50	303.68	296.17	288.48
Korea, North.....	45.40	46.74	47.49	46.80	48.42	48.44	48.41	49.72	42.74	42.70
Korea, South.....	55.05	59.63	68.65	71.57	83.60	92.78	100.51	109.38	120.09	107.51
Malaysia.....	14.39	17.74	19.20	19.90	22.68	24.08	24.03	27.29	27.00	28.11
New Zealand.....	7.67	7.88	7.86	8.58	8.71	8.80	9.75	8.97	9.09	8.68
Pakistan.....	16.85	18.31	18.49	19.01	21.11	22.98	23.71	26.01	25.98	26.77
Philippines.....	10.78	11.15	11.21	12.33	13.69	14.36	15.62	16.28	17.84	17.72
Singapore.....	14.80	16.05	17.01	18.93	21.60	22.58	22.06	24.32	27.62	25.93
Taiwan.....	32.19	32.57	34.18	36.05	42.57	43.66	48.93	53.35	57.77	58.96
Thailand.....	19.08	22.85	25.34	27.26	31.51	34.91	42.58	45.91	46.80	42.67
Vietnam.....	4.30	5.27	4.87	5.19	7.26	7.55	9.24	9.05	11.49	12.25
Other.....	10.45	10.54	9.88	9.30	9.77	10.38	10.27	10.59	10.97	11.14
Total.....	1,365.08	1,404.70	1,463.39	1,523.65	1,637.81	1,739.48	1,818.11	1,878.40	1,888.47	1,834.75
World Total.....	5,818.41	5,832.48	5,797.11	5,784.04	5,872.85	5,906.52	5,986.68	6,157.88	6,163.03	6,124.44

¹ Preliminary.

--= Not applicable.

Notes: Sum of components may not equal total due to independent rounding.

Includes carbon dioxide emissions from the consumption of petroleum, natural gas, and coal, and the flaring of natural gas.

Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon = 3.667 tons of carbon dioxide gas.

Source: Office of Energy Markets and End Use, Energy Information Administration.

Table H2 World Carbon Dioxide Emissions from the Consumption of Petroleum, 1989 - 1998
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	64.06	62.05	58.75	59.53	57.85	59.45	59.82	61.38	63.71	64.24
Mexico.....	60.72	61.49	61.86	65.60	63.39	67.93	63.35	66.01	66.67	69.50
United States.....	605.70	590.44	576.10	586.68	587.71	600.31	596.29	618.73	625.52	636.65
Other.....	0.33	0.25	0.22	0.18	0.18	0.17	0.16	0.16	0.16	0.18
Total.....	730.81	714.23	696.93	711.99	709.12	727.86	719.62	746.28	756.06	770.57
Central & South America										
Argentina.....	15.34	14.36	15.09	15.35	17.78	17.26	16.84	17.24	17.63	18.14
Bolivia.....	0.86	0.89	0.91	0.93	0.93	1.04	1.18	1.18	1.21	1.26
Brazil.....	46.54	46.03	46.85	48.07	53.95	58.53	61.07	62.63	66.99	69.10
Chile.....	4.66	4.98	5.27	5.52	6.35	6.80	7.56	8.14	8.70	9.15
Colombia.....	7.52	7.23	7.42	8.41	9.02	9.08	9.58	10.20	10.48	10.79
Costa Rica.....	0.79	0.75	0.79	0.99	1.09	1.09	1.27	1.20	1.21	1.27
Cuba.....	9.58	9.39	8.68	7.64	7.89	7.74	8.21	8.09	6.95	7.27
Dominican Republic.....	2.04	2.26	2.20	2.64	2.34	2.63	2.92	3.07	3.24	3.28
Ecuador.....	3.33	3.65	3.88	4.46	4.20	4.48	4.61	5.04	5.13	5.28
El Salvador.....	0.61	0.66	0.75	0.87	0.88	0.98	1.25	1.18	1.26	1.32
Guatemala.....	0.98	1.03	0.98	1.18	1.31	1.47	1.64	1.71	1.89	1.87
Honduras.....	0.65	0.74	0.73	0.74	0.73	0.81	0.94	1.05	1.06	1.08
Jamaica.....	1.89	2.01	2.09	2.26	2.31	2.36	2.65	2.66	2.80	2.89
Netherlands Antilles.....	2.90	2.83	2.68	2.71	2.82	2.60	3.08	3.08	3.22	3.24
Panama.....	0.99	1.08	1.36	1.76	1.71	1.80	1.75	2.03	2.09	2.12
Peru.....	4.84	4.82	4.44	4.69	5.07	5.35	5.78	5.99	6.37	6.61
Puerto Rico.....	5.56	5.50	6.67	6.30	6.78	6.66	5.98	5.34	5.19	5.43
Trinidad and Tobago.....	0.64	0.63	0.66	0.83	0.84	0.83	0.82	0.77	0.82	0.84
Uruguay.....	1.34	1.25	1.18	1.25	1.41	1.25	1.26	1.34	1.46	1.50
Venezuela.....	14.28	14.50	14.56	14.95	15.34	15.90	16.39	15.92	16.17	16.52
Virgin Islands, U.S.....	2.02	1.92	2.04	2.07	2.25	2.01	3.42	2.96	3.63	4.80
Other.....	4.63	4.74	4.59	4.68	5.10	5.36	5.86	5.73	6.11	6.19
Total.....	131.97	131.23	133.81	138.32	150.10	156.03	164.05	166.53	173.61	179.94
Western Europe										
Austria.....	8.32	8.42	9.14	8.84	9.01	9.09	8.84	8.85	9.34	9.54
Belgium.....	17.38	17.41	18.77	19.23	19.20	19.42	19.01	20.68	21.65	22.01
Denmark.....	7.87	7.72	7.87	7.80	8.04	8.62	9.13	9.66	9.45	9.23
Finland.....	8.94	8.86	8.85	8.69	8.16	8.42	6.48	7.52	8.59	8.24
France.....	64.26	64.53	66.25	65.56	65.78	63.53	65.39	68.90	69.37	72.11
Germany.....	--	--	107.56	108.26	104.80	102.45	101.90	106.65	106.10	106.57
Germany, East.....	10.43	9.95	--	--	--	--	--	--	--	--
Germany, West.....	86.32	90.56	--	--	--	--	--	--	--	--
Greece.....	11.99	12.99	13.14	13.56	14.01	14.41	14.34	15.06	15.25	15.97
Ireland.....	3.21	3.62	3.91	4.14	4.18	4.57	5.13	5.12	5.37	6.03
Italy.....	74.16	71.76	71.38	74.34	72.08	71.02	76.59	76.47	75.64	76.66
Luxembourg.....	1.22	1.35	1.57	1.59	1.60	1.58	1.48	1.52	1.59	1.66
Netherlands.....	24.38	24.99	25.73	26.23	27.86	27.87	27.87	28.13	29.39	29.52
Norway.....	6.65	6.66	6.39	6.40	6.72	6.87	7.06	7.70	8.17	8.19
Portugal.....	8.97	8.73	8.94	9.92	9.23	9.10	9.54	9.52	10.38	11.47
Spain.....	36.22	35.60	36.77	39.37	38.03	40.16	42.59	42.76	47.73	51.05
Sweden.....	12.42	11.91	11.79	12.48	12.08	12.90	14.09	14.76	11.41	12.90
Switzerland.....	10.10	10.64	11.00	11.16	10.78	10.98	9.95	10.73	11.04	10.55
Turkey.....	16.85	18.06	17.64	18.65	19.97	19.07	21.15	22.50	22.16	21.90
United Kingdom.....	63.49	64.42	65.00	65.01	65.34	65.41	65.94	66.40	64.93	64.38
Former Yugoslavia.....	12.58	12.92	10.01	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	1.41	0.92	0.83	0.80	0.49	0.49	0.53
Croatia.....	--	--	--	2.60	2.71	3.13	3.46	3.11	3.18	3.34
Macedonia, TFYR.....	--	--	--	0.79	0.89	0.75	0.75	1.23	0.86	1.02
Serbia and Montenegro.....	--	--	--	2.15	1.36	1.13	1.09	1.76	2.50	2.67
Slovenia.....	--	--	--	1.38	1.64	1.60	1.79	2.07	2.06	2.17
Other.....	1.24	1.37	1.32	1.67	1.83	1.83	1.84	1.89	3.07	1.99
Total.....	486.99	492.49	503.05	511.24	506.20	504.75	516.22	533.48	539.70	549.70

See footnotes at end of table.

Table H2 World Carbon Dioxide Emissions from the Consumption of Petroleum, 1989 - 1998 (Continued)
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	1.06	0.82	0.63	0.70	0.70	0.53	0.60	0.47	0.39	0.41
Bulgaria.....	9.57	7.71	4.99	5.24	4.97	5.38	4.94	4.83	4.44	4.54
Former Czechoslovakia.....	12.28	11.00	9.14	8.10	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	6.21	6.09	6.40	6.59	6.17	6.09
Slovakia.....	--	--	--	--	2.62	2.50	2.55	2.68	2.73	3.05
Hungary.....	6.53	6.41	5.87	6.37	7.03	6.82	6.00	5.20	5.31	5.48
Poland.....	12.50	9.76	10.16	11.11	12.18	11.80	11.78	13.14	14.37	14.99
Romania.....	12.20	14.64	10.81	10.09	10.48	8.92	9.62	10.15	10.83	11.03
Former U.S.S.R.....	338.81	332.17	327.76	--	--	--	--	--	--	--
Armenia.....	--	--	--	2.12	1.06	0.34	0.24	0.13	0.13	0.17
Azerbaijan.....	--	--	--	7.60	8.00	7.63	7.45	5.58	5.54	5.36
Belarus.....	--	--	--	13.82	12.40	10.02	9.37	8.46	7.81	7.57
Estonia.....	--	--	--	1.07	1.20	1.09	1.03	1.08	1.08	1.10
Georgia.....	--	--	--	1.08	0.67	0.31	0.13	0.72	0.78	0.80
Kazakhstan.....	--	--	--	16.37	13.95	12.40	11.39	10.23	8.70	9.12
Kyrgyzstan.....	--	--	--	1.30	0.78	0.36	0.46	0.49	0.42	0.45
Latvia.....	--	--	--	2.16	1.69	1.68	1.78	2.03	1.55	1.62
Lithuania.....	--	--	--	3.50	3.32	3.40	3.16	2.85	2.76	2.73
Moldova.....	--	--	--	2.32	1.80	0.96	0.92	0.71	0.80	0.80
Russia.....	--	--	--	171.87	153.75	126.26	114.47	101.82	98.45	94.51
Tajikistan.....	--	--	--	0.82	0.68	0.29	0.44	1.00	1.00	1.04
Turkmenistan.....	--	--	--	2.69	2.67	2.38	2.30	2.36	2.78	2.72
Ukraine.....	--	--	--	32.94	24.49	21.03	19.65	15.19	14.16	13.87
Uzbekistan.....	--	--	--	7.66	7.26	6.83	7.36	5.76	5.67	5.55
Total.....	392.95	382.51	369.35	308.93	277.91	237.02	222.04	201.47	195.86	193.04
Middle East										
Bahrain.....	0.85	0.76	0.78	0.82	0.82	0.84	0.75	0.66	0.88	0.95
Cyprus.....	1.26	1.32	1.33	1.57	1.62	1.84	1.81	1.81	1.84	1.94
Iran.....	39.65	40.90	43.18	43.67	45.83	45.35	45.08	42.28	47.10	45.59
Iraq.....	12.60	14.40	10.11	13.32	17.06	18.99	19.00	18.93	16.74	17.41
Israel.....	6.23	6.24	6.62	7.56	8.37	8.15	8.28	8.04	8.92	9.12
Jordan.....	2.54	2.72	2.56	2.97	2.98	3.28	3.41	3.70	3.57	3.68
Kuwait.....	4.85	3.29	1.82	3.20	4.48	5.40	5.89	6.01	6.67	7.15
Lebanon.....	1.35	1.26	2.24	2.20	2.70	3.10	3.28	3.43	3.98	4.08
Oman.....	1.23	1.51	1.52	1.55	1.60	1.65	1.76	1.92	2.00	2.06
Qatar.....	1.00	1.03	1.09	1.03	0.98	1.06	1.14	1.08	1.20	1.24
Saudi Arabia.....	39.03	38.66	38.89	39.56	41.45	41.94	41.69	43.22	37.27	38.19
Syria.....	7.71	8.31	6.95	7.22	8.76	9.10	9.05	9.19	9.69	9.87
United Arab Emirates.....	10.77	10.79	13.41	13.54	13.72	13.81	13.94	13.43	14.78	14.40
Yemen.....	2.86	3.07	3.11	3.22	2.77	2.67	2.71	2.69	2.96	3.01
Total.....	131.91	134.23	133.62	141.43	153.11	157.19	157.78	156.40	157.60	158.69

See footnotes at end of table.

Table H2 World Carbon Dioxide Emissions from the Consumption of Petroleum, 1989 - 1998 (Continued)
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Africa										
Algeria.....	5.88	6.43	6.75	6.95	7.60	8.08	7.20	7.31	7.30	7.48
Angola.....	1.06	1.03	1.08	1.10	1.09	1.06	1.14	1.07	1.27	1.34
Cameroon.....	0.82	0.90	0.92	0.94	0.83	0.87	0.92	0.81	1.00	0.95
Congo (Brazzaville).....	0.25	0.27	0.24	0.23	0.26	0.28	0.29	0.27	0.32	0.32
Congo (Kinshasa).....	0.88	0.82	0.87	0.99	1.05	1.06	1.00	1.01	1.09	1.07
Cote d'Ivoire (Ivory Coast).....	1.63	1.54	1.60	1.64	1.87	2.22	2.11	2.39	2.33	2.42
Egypt.....	17.96	18.83	18.36	17.82	18.75	19.30	19.09	20.87	22.00	22.77
Ethiopia.....	0.80	0.81	0.66	0.97	0.90	0.59	0.64	0.46	0.46	0.48
Gabon.....	0.66	0.64	0.64	0.66	0.64	0.67	0.72	0.81	0.84	0.88
Ghana.....	0.95	0.80	0.80	0.91	0.95	1.04	1.07	1.05	1.03	1.07
Kenya.....	1.67	1.68	1.47	1.64	1.70	1.81	1.87	1.96	1.95	2.03
Libya.....	5.91	6.26	6.81	6.09	6.65	6.82	7.14	7.48	7.79	8.32
Morocco.....	4.25	4.49	4.48	4.99	5.23	5.58	5.20	5.01	5.24	5.20
Nigeria.....	9.48	9.78	10.14	10.28	10.79	10.14	11.38	11.44	13.67	13.45
Senegal.....	0.71	0.69	0.64	0.78	0.80	0.95	1.02	1.03	0.94	1.00
South Africa.....	12.90	13.84	15.19	15.94	16.11	16.25	16.52	16.85	17.08	17.52
Sudan.....	1.16	1.05	1.51	1.36	1.33	1.17	1.07	1.07	1.13	1.15
Tunisia.....	2.46	2.50	2.70	2.81	2.93	2.91	2.68	2.78	2.93	2.96
Zimbabwe.....	0.75	0.81	0.89	0.80	0.89	0.90	0.98	1.12	1.16	1.15
Other.....	6.64	7.34	6.99	7.63	7.98	8.19	8.36	8.54	8.67	8.69
Total.....	76.83	80.53	82.72	84.52	88.36	89.90	90.41	93.34	98.19	100.23
Far East & Oceania										
Australia.....	24.81	25.63	25.31	25.47	27.91	29.23	30.45	29.02	29.61	30.04
Bangladesh.....	1.52	1.44	1.49	1.54	1.68	1.87	2.12	2.18	2.29	2.32
Brunei.....	0.25	0.26	0.36	0.27	0.37	0.37	0.37	0.48	0.63	0.63
Burma.....	0.64	0.60	0.63	0.66	0.71	0.77	0.75	0.81	1.03	0.97
China.....	90.73	87.52	95.28	98.79	121.16	124.94	132.16	142.32	154.82	162.48
Guam.....	0.20	0.50	0.56	0.68	0.90	1.29	0.97	0.87	0.99	0.96
Hong Kong.....	5.00	4.99	5.24	5.98	6.51	7.47	7.68	7.56	5.02	7.45
India.....	41.85	43.15	43.74	46.39	52.40	53.25	57.68	61.04	64.75	67.49
Indonesia.....	22.31	25.42	26.90	28.40	31.21	30.74	31.89	35.35	40.71	39.53
Japan.....	164.77	170.18	173.03	180.26	181.04	191.72	185.27	190.98	183.97	177.56
Korea, North.....	2.62	3.00	3.09	2.97	2.96	2.87	2.60	1.97	1.28	1.45
Korea, South.....	30.25	36.59	43.23	47.74	55.02	60.32	66.05	71.11	79.74	66.50
Malaysia.....	8.77	10.71	11.17	11.73	13.62	14.33	15.15	16.70	16.50	16.01
Mongolia.....	0.66	0.62	0.58	0.53	0.51	0.52	0.46	0.48	0.48	0.48
New Zealand.....	3.73	3.98	3.81	4.09	4.59	4.78	5.78	5.01	4.75	4.92
Pakistan.....	8.56	9.18	9.21	9.38	10.97	12.10	12.75	14.11	14.26	14.99
Papua New Guinea.....	0.66	0.67	0.66	0.66	0.66	0.65	0.65	0.65	0.65	0.69
Philippines.....	9.49	9.68	9.58	10.74	11.76	12.35	13.52	13.74	15.03	14.88
Singapore.....	14.79	16.02	16.99	18.32	20.77	21.75	21.23	23.53	26.83	25.14
Sri Lanka.....	1.28	1.36	1.41	1.48	1.71	1.80	1.92	2.17	2.25	2.39
Taiwan.....	20.88	21.39	21.62	21.71	25.47	25.30	28.76	30.84	30.89	31.43
Thailand.....	13.70	16.08	17.44	19.09	22.12	24.43	27.38	30.17	29.46	27.23
Vietnam.....	1.89	2.15	2.29	2.53	3.20	3.52	3.91	4.79	6.54	7.18
Other.....	2.86	2.89	2.90	2.68	2.73	2.75	2.80	2.95	3.00	3.01
Total.....	472.20	494.02	516.56	542.08	600.01	629.08	652.29	688.81	715.49	705.72
World Total.....	2,423.66	2,429.23	2,436.04	2,438.53	2,484.81	2,501.82	2,522.40	2,586.31	2,636.51	2,657.90

¹ Preliminary.

--= Not applicable.

Notes: Sum of components may not equal total due to independent rounding.

Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon = 3.667 tons of carbon dioxide gas.

Source: Office of Energy Markets and End Use, Energy Information Administration.

Table H3 World Carbon Dioxide Emissions from the Consumption and Flaring of Natural Gas, 1989 - 1998
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	36.63	35.84	36.31	39.29	41.22	43.26	42.36	45.26	45.80	45.10
Mexico.....	13.93	14.67	15.25	15.32	16.39	17.18	17.81	20.49	21.95	19.73
United States.....	280.52	279.55	284.88	293.25	304.00	309.93	323.38	329.33	328.06	319.02
Total.....	331.08	330.06	336.44	347.86	361.62	370.36	383.56	395.07	395.80	383.85
Central & South America										
Argentina.....	13.42	11.98	12.87	13.40	14.17	14.51	15.99	17.53	16.71	17.49
Barbados.....	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.02
Bolivia.....	0.43	0.49	0.43	0.75	0.91	1.17	0.86	0.76	0.91	0.73
Brazil.....	2.34	2.38	2.56	3.01	3.04	3.17	3.29	3.86	4.19	4.43
Chile.....	0.94	1.04	0.84	1.11	0.93	1.05	1.01	1.02	1.54	1.77
Colombia.....	2.06	2.11	2.16	2.26	2.19	2.26	2.35	2.45	3.04	3.54
Cuba.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.47	0.48
Ecuador.....	0.40	0.42	0.39	0.43	0.39	0.39	0.60	0.60	0.56	0.56
Peru.....	0.68	0.39	0.31	0.34	0.56	0.57	0.54	0.56	0.28	0.31
Trinidad and Tobago.....	4.09	4.30	4.39	3.89	4.47	5.05	5.33	5.80	6.14	6.81
Venezuela.....	14.65	15.00	15.55	15.06	15.85	16.77	17.28	20.05	20.71	20.55
Total.....	39.04	38.15	39.54	40.28	42.54	44.97	47.29	52.66	54.57	56.69
Western Europe										
Austria.....	3.02	3.32	3.48	3.42	3.60	3.71	4.01	4.31	4.15	4.26
Belgium.....	4.80	4.93	5.57	5.74	6.01	6.14	6.80	7.55	7.21	7.92
Denmark.....	1.27	1.20	1.41	1.49	1.65	1.82	2.10	2.44	2.81	2.87
Finland.....	1.18	1.39	1.46	1.52	1.57	1.74	1.80	1.88	1.85	2.12
France.....	15.06	15.78	17.93	18.19	17.55	17.52	17.71	19.53	19.22	19.88
Germany.....	--	--	35.97	35.41	36.64	38.57	41.13	44.31	42.43	42.53
Germany, East.....	3.30	2.00	--	--	--	--	--	--	--	--
Germany, West.....	28.73	29.56	--	--	--	--	--	--	--	--
Greece.....	0.08	0.08	0.09	0.08	0.06	0.03	0.03	0.03	0.15	0.67
Ireland.....	1.16	1.19	1.22	1.21	1.37	1.39	1.48	1.66	1.72	1.71
Italy.....	23.04	24.41	25.89	25.67	25.96	25.19	27.68	29.14	30.16	32.45
Luxembourg.....	0.26	0.27	0.28	0.30	0.31	0.31	0.35	0.39	0.40	0.40
Netherlands.....	19.95	19.81	22.12	21.53	22.10	21.37	21.98	24.22	22.75	22.54
Norway.....	1.88	1.55	1.41	2.30	1.60	1.68	1.84	1.87	2.24	2.26
Portugal.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.44
Spain.....	2.82	3.18	3.58	3.77	3.74	3.98	4.91	5.49	7.04	7.19
Sweden.....	0.29	0.35	0.36	0.41	0.45	0.42	0.43	0.44	0.45	0.45
Switzerland.....	0.97	1.04	1.16	1.22	1.28	1.26	1.39	1.51	1.46	1.50
Turkey.....	1.69	1.82	2.22	2.43	2.71	2.88	3.71	4.32	5.17	5.48
United Kingdom.....	30.12	30.50	33.14	32.49	37.25	39.72	41.88	49.46	46.69	48.17
Former Yugoslavia.....	4.39	3.79	3.77	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	0.25	0.20	0.21	1.24	0.07	0.07	0.10
Croatia.....	--	--	--	1.45	1.56	1.37	1.24	1.33	1.49	1.42
Macedonia, TFYR.....	--	--	--	0.14	0.16	0.00	0.00	0.00	0.00	0.00
Serbia and Montenegro.....	--	--	--	1.09	0.52	0.88	0.60	1.70	1.72	1.59
Slovenia.....	--	--	--	0.34	0.41	0.40	0.48	0.62	0.45	0.46
Total.....	144.01	146.17	161.07	160.46	166.71	170.62	182.77	202.28	199.66	206.41

See footnotes at end of table.

Table H3 World Carbon Dioxide Emissions from the Consumption and Flaring of Natural Gas, 1989 - 1998 (Cont.)
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.37	0.14	0.08	0.05	0.02	0.04	0.02	0.02	0.01	0.01
Bulgaria.....	3.03	3.27	2.85	2.65	2.45	2.40	2.97	3.12	2.59	1.93
Former Czechoslovakia.....	6.53	7.71	7.07	5.76	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	3.68	3.27	3.99	4.55	4.52	4.51
Slovakia.....	--	--	--	--	2.46	2.87	3.83	3.71	3.58	3.51
Hungary.....	5.84	5.53	5.52	4.89	5.23	5.27	5.67	6.27	5.95	6.01
Poland.....	5.07	4.46	4.35	4.08	4.48	4.48	4.68	5.21	5.23	5.30
Romania.....	21.33	19.43	15.11	13.60	13.20	12.36	13.08	12.91	11.98	9.36
Former U.S.S.R.....	371.83	370.28	370.23	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.96	0.72	0.82	0.82	0.93	0.67	0.72
Azerbaijan.....	--	--	--	8.09	5.66	4.84	4.63	4.79	4.71	6.31
Belarus.....	--	--	--	9.64	8.95	7.43	6.75	7.38	7.96	8.14
Estonia.....	--	--	--	0.76	0.30	0.32	0.38	0.41	0.54	0.52
Georgia.....	--	--	--	2.57	1.23	0.82	1.08	0.93	0.98	0.82
Kazakhstan.....	--	--	--	10.34	7.62	7.72	5.78	7.43	7.20	6.90
Kyrgyzstan.....	--	--	--	1.26	1.18	0.95	0.46	0.96	1.01	1.01
Latvia.....	--	--	--	0.82	0.41	0.36	0.56	0.51	0.66	0.66
Lithuania.....	--	--	--	2.06	1.23	1.18	1.44	1.34	1.49	1.65
Moldova.....	--	--	--	1.19	0.97	0.76	0.76	1.08	1.30	1.25
Russia.....	--	--	--	244.47	239.04	224.48	210.54	210.49	194.96	202.45
Tajikistan.....	--	--	--	0.98	0.72	0.83	0.42	0.64	0.59	0.58
Turkmenistan.....	--	--	--	2.06	2.11	2.16	2.47	2.47	2.37	2.26
Ukraine.....	--	--	--	52.10	57.57	49.48	44.17	43.65	42.12	38.76
Uzbekistan.....	--	--	--	16.00	22.52	17.96	19.71	20.95	21.26	20.59
Total.....	413.99	410.81	405.20	384.35	381.75	350.79	334.21	339.73	321.69	323.24
Middle East										
Bahrain.....	2.81	3.09	3.51	2.83	3.52	3.45	3.45	3.50	4.24	4.41
Iran.....	12.70	13.42	17.83	19.08	18.59	21.53	24.71	27.45	30.80	32.79
Iraq.....	4.00	3.41	0.94	1.57	1.38	1.71	1.71	1.75	1.87	1.97
Israel.....	0.02	0.02	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.01
Jordan.....	0.04	0.07	0.07	0.08	0.11	0.15	0.15	0.14	0.15	0.15
Kuwait.....	6.81	4.21	7.96	1.64	3.13	3.43	3.43	5.20	5.19	5.18
Oman.....	1.57	1.84	2.31	2.07	2.41	2.44	2.07	2.04	2.87	3.89
Qatar.....	3.24	4.16	5.13	6.04	7.19	7.19	7.19	7.29	7.74	7.87
Saudi Arabia.....	17.80	18.82	23.53	23.91	24.03	25.13	26.56	28.19	24.63	25.63
Syria.....	0.49	1.66	1.95	2.20	1.99	2.04	1.64	2.18	2.43	3.08
United Arab Emirates.....	11.38	10.58	12.16	14.01	12.28	11.73	13.38	14.65	16.19	16.90
Total.....	60.86	61.29	75.40	73.46	74.64	78.82	84.30	92.39	96.13	101.90
Africa										
Algeria.....	14.64	15.31	15.69	14.64	14.89	15.57	16.58	16.05	15.26	15.92
Angola.....	0.23	0.92	0.96	0.94	1.00	0.94	2.15	2.23	2.28	2.35
Congo (Brazzaville).....	0.00	0.00	0.00	0.00	0.65	0.65	0.65	0.65	0.81	0.79
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.29	0.32	0.37
Egypt.....	4.22	4.90	6.01	6.39	6.66	6.98	7.19	7.68	7.71	7.90
Gabon.....	0.91	0.92	0.93	0.99	0.99	0.94	0.94	0.94	0.94	0.94
Libya.....	4.14	5.13	4.47	3.70	3.39	3.49	3.47	3.68	3.82	3.81
Morocco.....	0.03	0.03	0.02	0.01	0.02	0.02	0.01	0.01	0.03	0.03
Nigeria.....	11.13	12.43	13.78	14.97	15.48	15.78	15.78	16.47	14.34	13.52
Senegal.....	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.03	0.02	0.02
South Africa.....	0.00	0.00	0.00	0.02	0.96	1.04	1.04	0.98	0.96	0.90
Tunisia.....	0.99	0.96	0.73	0.56	1.16	1.43	1.22	1.38	1.81	2.04
Total.....	36.29	40.60	42.58	42.21	45.21	46.85	49.07	50.39	48.29	48.59

See footnotes at end of table.

Table H3 World Carbon Dioxide Emissions from the Consumption and Flaring of Natural Gas, 1989 - 1998 (Cont.)
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	1.13	1.10	0.24	0.17	0.16	0.16	0.11	0.12	0.12	0.12
Australia.....	8.56	9.52	8.90	9.34	9.76	10.26	10.98	10.95	11.23	11.58
Bangladesh.....	2.22	2.19	2.34	2.79	2.92	3.18	3.53	3.65	3.65	4.04
Brunei.....	1.17	0.98	0.39	0.72	0.63	0.58	0.57	0.46	0.52	0.46
Burma.....	0.56	0.58	0.56	0.53	0.57	0.74	0.85	0.82	0.78	0.91
China.....	8.37	8.42	8.72	8.84	9.25	9.76	9.97	10.98	12.41	13.07
Hong Kong.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00
India.....	7.79	9.35	10.55	10.56	10.18	10.93	11.85	12.87	13.22	13.94
Indonesia.....	11.05	11.13	11.47	13.87	16.72	17.73	19.24	19.98	20.20	17.93
Japan.....	27.44	29.34	31.32	32.07	32.24	34.55	34.99	37.89	37.09	38.77
Korea, South.....	1.50	1.72	2.00	2.70	3.27	4.35	5.26	6.96	8.45	7.90
Malaysia.....	4.47	5.64	6.59	6.55	7.64	8.10	7.28	8.45	8.85	10.51
New Zealand.....	2.45	2.48	2.67	2.86	2.57	2.59	2.45	2.80	3.02	2.63
Pakistan.....	6.39	7.03	7.18	7.41	7.84	8.43	8.69	9.36	9.39	9.57
Papua New Guinea.....	0.00	0.00	0.00	0.03	0.04	0.03	0.05	0.07	0.06	0.06
Philippines.....	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	(s)
Singapore.....	0.00	0.00	0.00	0.58	0.80	0.80	0.80	0.80	0.80	0.80
Taiwan.....	0.76	1.21	1.51	1.65	1.60	2.02	2.17	2.26	2.69	2.84
Thailand.....	2.62	2.99	3.40	3.59	4.47	4.92	5.29	6.03	7.57	7.95
Vietnam.....	0.02	0.02	0.04	0.11	0.51	0.51	0.51	0.59	0.25	0.54
Total.....	86.49	93.72	97.87	104.37	111.18	119.66	124.57	135.17	140.29	143.61
World Total.....	1,111.76	1,120.79	1,158.10	1,152.99	1,183.64	1,182.06	1,205.77	1,267.68	1,256.43	1,264.29

¹ Preliminary.

-- Not applicable.

Notes: Sum of components may not equal total due to independent rounding.

Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon = 3.667 tons of carbon dioxide gas.

Source: Office of Energy Markets and End Use, Energy Information Administration.

Table H4 World Carbon Dioxide Emissions from the Consumption of Coal, 1989 - 1998
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
North America										
Canada.....	33.60	31.12	31.67	26.81	30.19	31.64	32.21	32.37	26.91	29.13
Mexico.....	4.34	4.25	3.99	4.60	4.89	4.57	6.58	6.45	5.28	5.78
United States.....	479.66	481.45	475.72	478.26	494.63	496.43	501.23	521.77	535.49	538.93
Total.....	517.60	516.82	511.38	509.67	529.71	532.64	540.02	560.59	567.69	573.84
Central & South America										
Argentina.....	0.85	0.65	0.76	0.80	0.55	0.92	0.94	0.92	0.88	0.74
Brazil.....	10.50	9.16	10.81	9.78	7.40	7.47	7.65	8.06	7.80	10.99
Chile.....	2.32	2.52	1.98	1.74	1.73	2.07	2.27	3.17	3.13	3.37
Colombia.....	3.00	1.75	5.48	3.84	3.68	3.20	2.35	2.95	3.05	3.25
Costa Rica.....	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Cuba.....	0.21	0.16	0.11	0.06	0.08	0.09	0.08	0.03	0.05	0.05
Dominican Republic.....	0.01	0.01	0.04	0.10	0.09	0.08	0.08	0.09	0.09	0.10
Haiti.....	(s)	0.01	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00
Jamaica.....	0.03	0.04	0.04	0.03	0.03	0.04	0.04	0.04	0.04	0.05
Panama.....	0.01	0.02	0.03	0.04	0.04	0.04	0.04	0.07	0.04	0.04
Peru.....	0.22	0.16	0.33	0.35	0.45	0.46	0.51	0.35	0.36	0.37
Puerto Rico.....	0.20	0.14	0.13	0.10	0.13	0.13	0.13	0.11	0.12	0.12
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.23	0.15	(s)	(s)	0.03	0.03	(s)	(s)	0.01	0.01
Virgin Islands, U.S.....	0.00	0.05	0.09	0.15	0.18	0.20	0.17	0.17	0.17	0.15
Other.....	0.01	0.03	0.04	0.05	0.05	0.04	0.04	0.04	0.04	0.04
Total.....	17.59	14.86	19.85	17.07	14.44	14.77	14.31	16.01	15.79	19.27
Western Europe										
Austria.....	3.49	3.58	3.74	2.93	3.10	2.76	3.02	3.32	3.43	3.09
Belgium.....	9.46	10.67	10.09	8.22	8.12	8.90	9.52	8.48	8.37	8.86
Denmark.....	6.82	6.31	8.13	7.28	6.27	7.06	7.57	7.65	7.84	4.72
Finland.....	4.00	4.10	3.71	3.11	4.40	5.31	3.83	4.52	4.74	3.16
France.....	19.08	20.22	20.95	17.48	14.79	13.91	14.33	15.69	13.70	14.64
Germany.....	--	--	110.74	100.45	97.43	93.37	90.12	88.74	84.33	78.40
Germany, East.....	70.91	65.98	--	--	--	--	--	--	--	--
Germany, West.....	70.75	71.31	--	--	--	--	--	--	--	--
Greece.....	8.90	9.04	8.96	8.04	8.80	8.80	8.66	8.31	8.75	8.76
Iceland.....	0.07	0.07	0.07	0.05	0.05	0.07	0.06	0.07	0.06	0.06
Ireland.....	2.19	2.20	2.14	2.18	2.09	1.94	1.93	1.98	1.88	1.90
Italy.....	13.76	14.75	14.05	11.14	10.42	10.28	12.18	10.76	10.01	10.87
Luxembourg.....	1.30	1.31	1.23	1.13	1.30	1.05	0.58	0.54	0.34	0.27
Malta.....	0.20	0.20	0.20	0.16	0.18	0.18	0.18	0.21	0.21	0.21
Netherlands.....	8.11	10.85	9.58	8.58	9.62	10.30	10.28	10.05	12.21	13.28
Norway.....	1.07	0.94	0.85	0.74	0.91	1.06	1.09	1.13	1.03	1.15
Portugal.....	2.63	3.02	2.92	2.73	3.05	3.24	3.71	3.28	3.59	2.87
Spain.....	25.60	21.62	22.20	20.89	19.99	19.36	18.09	14.96	16.53	16.92
Sweden.....	2.84	2.57	2.37	1.89	2.40	1.81	2.48	2.36	2.21	1.98
Switzerland.....	0.28	0.34	0.27	0.10	0.09	0.10	0.17	0.10	0.07	0.07
Turkey.....	14.46	16.01	18.44	16.51	16.17	15.59	15.92	17.47	19.47	19.69
United Kingdom.....	71.56	67.70	66.24	58.29	54.25	49.58	44.21	43.52	38.30	34.83
Former Yugoslavia.....	24.80	24.05	22.62	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	0.43	0.32	0.32	0.36	0.36	0.36	0.35
Croatia.....	--	--	--	0.32	0.43	0.28	0.07	0.24	0.31	0.33
Macedonia, TFYR.....	--	--	--	1.62	1.63	1.68	1.74	1.69	1.57	1.54
Serbia and Montenegro.....	--	--	--	9.51	9.01	9.26	6.57	9.91	10.36	10.99
Slovenia.....	--	--	--	1.67	1.58	1.44	1.66	1.75	1.88	1.85
Total.....	362.26	356.84	329.50	285.45	276.38	267.65	258.33	257.08	251.54	240.78

See footnotes at end of table.

Table H4 World Carbon Dioxide Emissions from the Consumption of Coal, 1989 - 1998 (Continued)
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.70	0.65	0.38	0.21	0.15	0.04	0.04	0.02	0.02	0.01
Bulgaria.....	13.11	11.55	9.32	9.45	8.71	7.95	7.81	8.49	9.48	8.38
Former Czechoslovakia.....	66.82	61.02	56.53	51.25	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	21.10	20.81	20.16	19.48	21.10	23.00
Slovakia.....	--	--	--	--	5.85	5.29	5.09	5.44	5.23	5.04
Hungary.....	7.31	6.55	6.83	5.81	5.57	5.67	4.59	4.34	3.99	4.30
Poland.....	91.69	73.16	73.08	72.39	74.77	70.07	64.25	73.77	66.13	56.76
Romania.....	18.73	12.69	10.32	10.68	10.39	10.58	10.76	11.09	10.19	7.14
Former U.S.S.R.....	302.56	333.24	256.78	--	--	--	--	--	--	--
Armenia.....	--	--	--	0.10	(s)	0.02	(s)	(s)	(s)	(s)
Azerbaijan.....	--	--	--	0.02	(s)	(s)	(s)	(s)	(s)	(s)
Belarus.....	--	--	--	0.97	0.99	0.60	0.75	0.60	0.47	0.36
Estonia.....	--	--	--	0.46	0.34	0.44	0.47	0.35	0.36	0.33
Georgia.....	--	--	--	0.26	0.17	0.16	0.14	0.09	0.07	0.05
Kazakhstan.....	--	--	--	38.80	32.19	22.52	22.62	19.87	20.38	21.07
Kyrgyzstan.....	--	--	--	1.24	0.86	0.98	0.57	0.46	0.30	0.53
Latvia.....	--	--	--	0.58	0.31	0.26	0.17	0.11	0.12	0.20
Lithuania.....	--	--	--	0.66	0.24	0.41	0.18	0.20	0.13	0.12
Moldova.....	--	--	--	1.87	1.33	1.27	0.66	0.57	0.18	0.20
Russia.....	--	--	--	153.58	142.83	126.16	117.69	130.17	117.81	108.09
Tajikistan.....	--	--	--	0.15	0.19	0.10	0.05	0.06	0.05	0.03
Turkmenistan.....	--	--	--	0.36	0.32	0.32	0.16	0.05	0.03	0.02
Ukraine.....	--	--	--	69.09	62.82	50.23	56.35	47.25	48.62	47.10
Uzbekistan.....	--	--	--	2.22	1.63	1.66	1.27	1.22	1.02	1.02
Total.....	500.93	498.85	413.24	420.15	370.78	325.55	313.78	323.65	305.67	283.74
Middle East										
Cyprus.....	0.05	0.05	(s)	0.01	0.03	0.02	0.02	0.02	0.02	0.02
Iran.....	1.02	1.09	1.04	0.90	0.86	1.13	0.97	0.82	1.01	1.01
Israel.....	2.43	2.73	2.68	3.04	4.32	4.92	4.90	4.88	5.51	6.28
Other.....	(s)	(s)	0.01	(s)	0.08	0.08	0.13	0.14	0.14	0.14
Total.....	3.50	3.87	3.73	3.95	5.29	6.15	6.02	5.86	6.67	7.45
Africa										
Algeria.....	0.78	0.76	0.75	0.67	0.70	0.61	0.53	0.58	0.52	0.52
Botswana.....	0.40	0.49	0.49	0.55	0.54	0.51	0.57	0.52	0.53	0.54
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.18	0.16	0.17	0.17	0.18	0.19	0.18	0.19	0.18	0.18
Egypt.....	0.87	1.02	0.81	0.72	0.87	0.83	0.54	0.95	0.88	0.96
Ghana.....	(s)	(s)	0.07	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.09	0.11	0.09	0.11	0.11	0.09	0.07	0.06	0.07	0.07
Libya.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Madagascar.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Malawi.....	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.06	0.05	0.05
Mauritania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mauritius.....	0.05	0.05	0.04	0.04	0.05	0.03	0.04	0.04	0.04	0.04
Morocco.....	1.38	1.36	1.58	1.13	1.69	1.84	1.88	2.31	2.22	2.25
Mozambique.....	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05
Niger.....	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.10	0.10
Nigeria.....	0.04	0.04	0.07	0.07	0.09	0.09	0.10	0.10	0.10	0.10
South Africa.....	66.80	65.95	68.17	71.30	73.05	76.76	76.68	77.99	81.49	83.18
Swaziland.....	0.11	0.11	0.08	0.07	0.03	0.12	0.11	0.09	0.10	0.18
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Tunisia.....	0.10	0.09	0.09	0.10	0.11	0.10	0.08	0.09	0.09	0.09
Zambia.....	0.25	0.24	0.19	0.22	0.17	0.10	0.09	0.10	0.10	0.09
Zimbabwe.....	3.44	3.66	3.47	3.68	3.37	3.64	3.69	3.01	3.49	3.33
Total.....	74.71	74.26	76.31	79.04	81.19	85.14	84.80	86.28	90.04	91.76

See footnotes at end of table.

Table H4 World Carbon Dioxide Emissions from the Consumption of Coal, 1989 - 1998 (Continued)
(Million Metric Tons of Carbon)

Region Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 ¹
Far East & Oceania										
Afghanistan.....	0.08	0.06	0.06	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	35.99	36.14	37.48	39.40	39.54	37.85	38.24	40.39	37.07	41.78
Bangladesh.....	0.04	0.39	0.13	0.11	0.03	0.00	0.00	0.00	0.00	0.00
Bhutan.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.01
Burma.....	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.05
China.....	511.14	514.36	534.75	551.64	581.44	633.31	645.49	640.65	618.26	564.83
Fiji.....	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01
Hong Kong.....	6.04	5.44	5.87	5.70	6.25	4.47	4.81	4.53	3.82	4.75
India.....	94.79	101.29	105.26	116.63	123.15	130.97	156.17	161.42	166.64	171.13
Indonesia.....	3.56	2.60	2.83	3.96	5.79	7.07	7.32	9.89	10.05	10.36
Japan.....	64.73	66.23	67.84	66.01	66.69	68.73	72.24	74.81	75.11	72.15
Korea, North.....	42.78	43.74	44.40	43.83	45.46	45.57	45.81	47.75	41.45	41.25
Korea, South.....	23.29	21.31	23.42	21.13	25.31	28.11	29.20	31.31	31.90	33.11
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	0.00	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia.....	1.15	1.39	1.44	1.62	1.41	1.65	1.60	2.15	1.65	1.60
Mongolia.....	2.14	1.97	2.07	1.65	1.50	1.38	1.42	1.38	1.34	1.28
Nepal.....	0.06	0.01	0.05	0.07	0.05	0.10	0.08	0.08	0.08	0.07
New Caledonia.....	0.12	0.09	0.10	0.10	0.14	0.13	0.13	0.11	0.12	0.12
New Zealand.....	1.49	1.42	1.38	1.62	1.56	1.42	1.52	1.17	1.32	1.12
Pakistan.....	1.91	2.10	2.09	2.22	2.31	2.45	2.27	2.53	2.32	2.21
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	1.28	1.47	1.62	1.59	1.93	2.01	2.10	2.54	2.80	2.83
Singapore.....	0.02	0.03	0.02	0.02	0.03	0.04	0.03	(s)	(s)	(s)
Sri Lanka.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Taiwan.....	10.55	9.97	11.05	12.69	15.50	16.33	18.00	20.25	24.19	24.69
Thailand.....	2.76	3.78	4.50	4.58	4.92	5.56	9.91	9.72	9.77	7.50
Vietnam.....	2.40	3.09	2.54	2.55	3.55	3.52	4.82	3.66	4.70	4.54
Total.....	806.39	816.96	848.95	877.20	926.62	990.75	1,041.25	1,054.42	1,032.69	985.42
World Total.....	2,282.98	2,282.46	2,202.97	2,192.53	2,204.40	2,222.64	2,258.51	2,303.89	2,270.10	2,202.26

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5,000 metric tons.

Notes: Sum of components may not equal total due to independent rounding.

Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon = 3.667 tons of carbon dioxide gas.

Source: Office of Energy Markets and End Use, Energy Information Administration.

Glossary

Glossary

Alcohol: The family name of a group of organic chemical compounds composed of carbon, hydrogen, and oxygen. The series of molecules vary in chain length and are composed of a hydrocarbon plus a hydroxyl group, $\text{CH}_2(\text{CH}_2)_n\text{-OH}$. Alcohol includes methanol and ethanol.

Anthracite Coal: The highest rank of coal; used primarily for residential and commercial space heating. It is a hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter. The moisture content of fresh-mined anthracite generally is less than 15 percent. The heat content of anthracite ranges from 22 to 28 million Btu per ton on a moist, mineral-matter-free basis. The heat content of anthracite coal consumed in the United States averages 25 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter). *Note:* Since the 1980's, anthracite refuse or mine waste has been used for steam electric power generation. This fuel typically has a heat content of 15 million Btu per ton or less.

API: The American Petroleum Institute, a trade association.

API Gravity: An arbitrary scale expressing the gravity or density of liquid petroleum products. The measuring scale is calibrated in terms of degrees API. A lighter, less dense product has a higher API gravity.

Apparent Consumption (Coal): Primary coal production plus imports of coal and coke, minus exports of coal and coke plus or minus stock changes of coal and coke. *Note:* In the United States apparent consumption is reported data by major end-use sectors.

Apparent Consumption (Natural Gas): Dry natural gas production plus imports minus exports plus or minus stock changes.

Apparent Consumption (Petroleum): Includes internal consumption, refinery fuel and loss, and bunkering. Also included, where available, are liquefied petroleum gases sold directly from natural gas processing plants for fuel or chemical uses.

Asphalt (Natural): A natural mineral pitch, tar, or bitumen composed principally of hydrocarbons, a natural bituminous rock of dark color comparatively hard and nonvolatile. Does not include asphalt, bitumen, tar, etc., derived from petroleum processing.

Asphalt (Refined): A dark brown to black solid or semi-solid material obtained from petroleum processing in which the predominant component is bitumen. Used mainly in road construction.

Associated Gas: Gas produced in a field containing both oil and gas. The field is developed primarily for extraction of crude oil.

ASTM: The American Society for Testing and Materials.

Aviation Gasoline (Finished): A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in aviation reciprocating engines. Fuel specifications are provided in ASTM Specification D 910 and Military Specification MIL-G-5572. *Note:* Data on blending components are not counted in data on finished aviation gasoline.

Barrel (Petroleum): A unit of volume equal to 42 U.S. gallons.

Biomass: Organic nonfossil material of biological origin constituting a renewable energy resource.

Bitumen: A naturally occurring viscous mixture, mainly of hydrocarbons heavier than pentane, that may contain sulfur compounds and that, in its natural occurring viscous state, is not recoverable at a commercial rate through a well.

Bituminous Coal: A dense coal, usually black, sometimes dark brown, often with well-defined bands of bright and dull material, used primarily as fuel in steam-electric power generation, with substantial quantities also used for heat and power applications in manufacturing and to make coke. Bituminous coal is the most abundant coal in active United States mining regions. Its moisture content usually is less than 20 percent. The heat content of bituminous coal ranges

from 21 to 30 million Btu per ton on a moist, mineral-matter-free basis. The heat content of bituminous coal consumed in the United States averages 24 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

British Thermal Unit (Btu): The quantity of heat needed to raise the temperature of 1 pound of water by 1 degree Fahrenheit at or near 39.2 degrees Fahrenheit.

Bunkers: Fuels supplied to ships and aircraft in international transportation, irrespective of the flag of the carrier, consisting primarily of residual, distillate, and jet fuel oils.

Butane: A normally gaseous straight-chain or branch-chain hydrocarbon, (C₄H₁₀). It is extracted from natural gas or refinery gas streams. It includes isobutane and normal butane and is covered by ASTM Specification D 1835 and Gas Processors Association Specifications for commercial butane.

Coal: A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time.

Coal Briquets: Anthracite, bituminous, and lignite briquets comprise the secondary solid fuels manufactured from coal by a process in which the coal is partly dried, warmed to expel excess moisture, and then compressed into briquets, usually without the use of a binding substance. In the reduction of briquets to coal equivalent, different conversion factors are applied according to their origin from hard coal, peat, brown coal, or lignite.

Coal Coke: See **Coke (Coal)**.

Coal Production: The sum of sales, mine consumption, issues to miners, and issues to coking, briquetting, and other ancillary plants at mines. Production data include quantities extracted from surface and underground working, and normally exclude wastes removed at mines or associated preparation plants.

Coal Rank: The classification of coals according to their progressive alteration from lignite to anthracite. In the United States, the standard ranks of coal include lignite, subbituminous coal, bituminous coal, and anthracite and are based on fixed carbon, volatile matter, heating value, and agglomerating (or caking) properties.

Coal Stocks: Coal quantities that are held in storage for future use and disposition. *Note:* When coal data are

collected for a particular reporting period (month, quarter, or year), coal stocks are commonly measured as of the last day of the period.

Coke (Coal): A solid carbonaceous residue derived from low-ash, low-sulfur bituminous coal from which the volatile constituents are driven off by baking in an oven at temperatures as high as 2,000 degrees Fahrenheit so that the fixed carbon and residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace. Coke from coal is grey, hard, and porous and has a heating value of 24.8 million Btu per ton.

Coke (Petroleum): A residue high in carbon content and low in hydrogen that is the final product of thermal decomposition in the condensation process in cracking. This product is reported as marketable coke or catalyst coke. The conversion is 5 barrels (of 42 U.S. gallons each) per short ton. Coke from petroleum has a heating value of 6.024 million Btu per ton.

Coking Coal: Bituminous coal suitable for making coke. See **Coke (Coal)**.

Conventional Gasoline: Finished motor gasoline not included in the oxygenated or reformulated gasoline categories. *Note:* This category excludes reformulated gasoline blendstock for oxygenate blending (RBOB) as well as other blendstock.

Conventional Thermal Electricity Generation: Electricity generated by an electric power plant using coal, petroleum, or gas as its source of energy.

Conversion Factor: A number that translates units of one system into corresponding values of another system. Conversion factors can be used to translate physical units of measure for various fuels into Btu equivalents.

Crude Oil (including Lease Condensate): A mixture of hydrocarbons that exists in liquid phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Included are lease condensate and liquid hydrocarbons produced from tar sands, Gilsonite, and oil shale. Drip gases are also included, but topped crude oil (residual) and other unfinished oils are excluded. Liquids produced at natural gas processing plants and mixed with crude oil are likewise excluded where identifiable.

Crude Oil Production: The volume of crude oil produced from oil reservoirs during given periods of time. The amount of such production for a given period is measured as volumes delivered from lease storage tanks (i.e., the point of custody transfer) to pipelines, trucks, or other media for transport to refineries or terminals with, adjustments for (1) net differences

between opening and closing lease inventories, and (2) basic sediment and water.

Distillate Fuel Oil: A general classification for one of the petroleum fractions produced in conventional distillation operations. It includes diesel fuels and fuel oils. Products known as No. 1, No. 2, and No. 4 diesel fuel are used in on-highway diesel engines, such as those in trucks and automobiles, as well as off-highway engines, such as those in railroad locomotives and agricultural machinery. Products known as No. 1, No. 2, and No. 4 fuel oils are used primarily for space heating and electric power generation.

Domestic Inland Consumption (Petroleum): Domestic inland consumption is the sum of all refined petroleum products supplied for domestic use (excludes international marine bunkers). Consumption is calculated by product by adding production, imports, crude oil burned directly, and refinery fuel and losses, and then subtracting exports and changes in primary stocks (net withdrawals is a plus quantity and net additions is a minus quantity).

Electricity Installed Capacity: The maximum load that a generating unit, generating station, or other electrical apparatus can carry under specified conditions for a given period of time and not limited by existing service conditions.

Ethane: A normally gaseous straight-chain hydrocarbon, (C₂H₆). It is a colorless paraffinic gas that boils at a temperature of -127.48 degrees Fahrenheit. It is extracted from natural gas and refinery gas streams.

Gasohol: A blend of finished motor gasoline containing alcohol (generally ethanol but sometimes methanol) at a concentration of 10 percent or less by volume. Data on gasohol that has at least 2.7 percent oxygen, by weight, and is intended for sale inside carbon monoxide nonattainment areas are included in data on oxygenated gasoline. See **Oxygenates**.

Gasoline: See **Motor Gasoline (Finished)**.

Geothermal Electric Power Generation: Electricity derived from heat found under the earth's surface. Within the earth, there are vast amounts of molten rock and metal, covered by succeeding layers of cooler material, up to the crust of the earth's surface. Underground rivers generate steam that is liberated in the form of geysers through fissures in the earth's surface.

Gross Electricity Generation: The total amount of electric energy produced by a generating facility, as measured at the generator terminals.

High Sulfur No. 2 Diesel Fuel: No. 2 diesel fuel that has a sulfur level above 0.05 percent by weight.

Hydroelectric Power Generation: Electricity generated by an electric power plant whose turbines are driven by falling water. It includes electric utility and industrial generation of hydroelectricity, unless otherwise specified. Generation is reported on a net basis, i. e., on the amount of electric energy generated after the electric energy consumed by station auxiliaries and the losses in the transformers that are considered integral parts of the station are deducted.

Joule: The meter-kilogram-second unit of work or energy, equal to the work done by a force of one newton when its point of application moves through a distance of one meter in the direction of the force; equivalent to 10⁷ and one watt-second.

Kerosene: A light petroleum distillate that is used in space heaters, cook stoves, and water heaters and is suitable for use as a light source when burned in wick-fed lamps. Kerosene has a maximum distillation temperature of 400 degrees Fahrenheit at the 10-percent recovery point, a final boiling point of 572 degrees Fahrenheit, and a minimum flash point of 100 degrees Fahrenheit. Included are No. 1-K and No. 2-K, the two grades recognized by ASTM Specification D 3699 as well as all other grades of kerosene called range or stove oil, which have properties similar to those of No. 1 fuel oil. See **Kerosene-Type Jet Fuel**.

Kerosene-Type Jet Fuel: A kerosene-based product having a maximum distillation temperature of 400 degrees Fahrenheit at the 10-percent recovery point and a final maximum boiling point of 572 degrees Fahrenheit and meeting ASTM Specification D 1655 and Military Specifications MIL-T-5624P and MIL-T-8133D (Grades JP-5 and JP-8). It is used for commercial and military turbojet and turboprop aircraft engines.

Kilowatt (kW): One thousand watts.

Kilowatthour (kWh): One thousand watthours.

Lease Condensate: A liquid recovered from natural gas at the well or at small gas/oil separators in the field. Consists primarily of pentanes and heavier hydrocarbons. Also called field condensate. Does not include plant condensate.

Lignite: The lowest rank of coal, often referred to as brown coal, used almost exclusively as fuel for steam-electric power generation. It is brownish-black and has a high inherent moisture content, sometimes as high as 45 percent. The heat content of lignite ranges from 9 to 17 million Btu per ton on a moist, mineral-matter-free basis. The heat content of lignite consumed in the United

States averages 13 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Liquefied Natural Gas (LNG): Conventional natural gas that is liquefied by reducing its temperature to minus 260 degrees Fahrenheit at atmospheric pressure. The volume of the LNG is 1/600 that of the gas in its vapor state.

Liquefied Petroleum Gases (LPG): Ethane, ethylene, propane, propylene, normal butane, butylene, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate raw natural gas plant liquids.

Liquefied Refinery Gases (LRG): Liquefied petroleum fractionated from refinery or still gases. Through compression and/or refrigeration, they are retained in the liquid state. The reported categories are ethane/ethylene, propane/propylene, normal butane/butylene, and isobutane. Excludes still gas used for chemical or rubber manufacture, which is reported as petrochemical feedstock, and also excludes liquefied petroleum gases intended for blending into gasoline, which are reported as gasoline blending components.

Low Sulfur No. 2 Diesel Fuel: No. 2 diesel fuel that has a sulfur level no higher than 0.05 percent by weight. It is used primarily in motor vehicle diesel engines for on-highway use.

Lubricants (Greases): Mixtures of lubricating oils that contain substances that reduce their ability to flow.

Lubricants (Lubricating Oils): Substances used to reduce friction between bearing surfaces. Petroleum lubricants may be produced either from distillates or residues. Other substances may be added to impart or improve certain required properties. "Lubricants" include all grades of lubricating oils from spindle oil to cylinder oil and those used in greases.

Metallurgical Coal: Coking coal and pulverized coal consumed in making steel.

Metallurgical Coke: A strong, hard coke produced mainly for use in the iron and steel industry, where it serves as a chemical agent and source of energy. It is used mainly in blast furnaces to absorb the oxygen contained in iron oxides and provide energy for smelting. A portion of its potential energy is captured in the gases generated in the smelting process, then recycled in the form of blast furnace gas to provide additional energy inside or outside the smelting process. Metallurgical coke is also used to some extent as a domestic fuel and as a raw material for the manufacture of gas.

Motor Gasoline (Finished): A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in spark-ignition engines. Motor gasoline, as defined in ASTM Specification D 4814 or Federal Specification VV-G-1690C, is characterized as having a boiling range of 122 to 158 degrees Fahrenheit at the 10 percent recovery point to 365 to 374 degrees Fahrenheit at the 90 percent recovery point. "Motor Gasoline" includes conventional gasoline; all types of oxygenated gasoline, including gasohol; and reformulated gasoline, but excludes aviation gasoline. *Note:* Volumetric data on blending components, such as oxygenates, are not counted in data on finished motor gasoline until the blending components are blended into the gasoline.

Motor Gasoline Blending: Mechanical mixing of motor gasoline blending components, and oxygenates when required, to produce finished motor gasoline. Finished motor gasoline may be further mixed with other motor gasoline blending components and oxygenates, resulting in increased volumes of finished motor gasoline and/or changes in the formulation of finished motor gasoline (e.g., conventional motor gasoline mixed with MTBE to produce oxygenated motor gasoline).

Motor Gasoline Blending Components: Naphthas (e.g., straight-run gasoline, alkylate, reformate, benzene, toluene, xylene) used for blending or compounding into finished motor gasoline. These components include reformulated gasoline blendstock for oxygenate blending (RBOB) but exclude oxygenates (alcohol, ethers), butane, and pentanes plus. *Note:* Oxygenates are reported as individual components and are included in the total for other hydrocarbons, hydrogen, and oxygenates.

Naphtha-Type Jet Fuel: A fuel in the heavy naphtha boiling range having an average gravity of 52.8 degrees API, 20 to 90 percent distillation temperatures of 290 degrees to 470 degrees Fahrenheit, and meeting Military Specification MIL-T-5624L (Grade JP-4). It is used primarily for military turbojet and turboprop aircraft engines because it has a lower freeze point than other aviation fuels and meets engine requirements at high altitudes and speeds.

Naphthas: Refined or partly refined light distillates with an approximate boiling point range of 27 degrees to 221 degrees Centigrade. Blended further or mixed with other materials, they make high-grade motor gasoline or jet fuel. Also used as solvents, petrochemical feedstocks, or as raw materials for the production of town gas.

Natural Gas: A mixture of hydrocarbon compounds, primarily methane and small quantities of various nonhydrocarbons existing in gaseous phase or in solution

with crude oil in natural underground reservoirs at reservoir conditions.

Natural Gas Dry Production: Gross withdrawals of natural gas from reservoirs less gas used for reinjection into reservoirs for repressuring, gas which is flared or vented, gas lost in transmission, and shrinkage. Derived by subtracting shrinkage or extraction loss from marketed production. It represents the amount of natural gas that can be marketed and consumed as a gas.

Natural Gas Gross Production: Total withdrawals of natural gas from oil/gas and gas reservoirs.

Natural Gas Liquids (NGL): Those portions of reservoir gas that are liquefied at the surface in lease separators, field facilities, or natural gas processing plants. Natural gas liquids include natural gas plant liquids and lease condensate.

Natural Gas Marketed Production: Gross withdrawals of natural gas from reservoirs less gas used for reinjection into reservoirs for repressuring, gas that is flared and/or vented, and gas that is lost in transmission before the natural gas liquids have been extracted.

Natural Gas Plant Liquids (NGPL): Products obtained from processing natural gas at natural gas processing plants, including natural gasoline plants, cycling plants, and fractionators. Products obtained include ethane, liquefied petroleum gases, (propane, butane, propane-butane mixtures, and ethane-propane mixtures), isopentane, natural gasoline, unfractionated streams, plant condensate, and other minor quantities of finished products, such as motor gasoline, special naphthas, jet fuel, kerosene, and distillate fuel oil.

Natural Gasoline: A mixture of hydrocarbons, mostly pentanes and heavier, extracted from natural gas, that meets vapor pressure, end-point, and other specifications for natural gasoline set by the Gas Processors Association. Includes isopentane, which is a saturated branch-chain hydrocarbon, (C₅H₁₂), obtained by fractionation of natural gasoline or isomerization of normal pentane.

Net Electricity Consumption: Consumption of electricity computed as generation, plus imports, minus exports, minus transmission and distribution losses.

Net Electricity Generation: Gross generation less the electric energy consumed at the generating station for station use.

No. 1 Diesel Fuel: A light distillate fuel oil that has distillation temperatures of 550 degrees Fahrenheit at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 975. It is used in

high-speed diesel engines generally operated under frequent speed and load changes, such as those in city buses and similar vehicles. See **No. 1 Distillate**.

No. 2 Diesel Fuel: A fuel that has distillation temperatures of 500 degrees Fahrenheit at the 10-percent recovery point and 640 degrees Fahrenheit at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 975. It is used in high-speed diesel engines that are generally operated under uniform speed and load conditions, such as those in railroad locomotives, trucks, and automobiles. See **No. 2 Distillate**.

No. 4 Diesel Fuel: See **No. 4 Fuel**.

No. 1 Distillate: A light petroleum distillate that can be used as either a diesel fuel (see **No. 1 Diesel Fuel**) or a fuel oil (see **No. 1 Fuel Oil**).

No. 2 Distillate: A petroleum distillate that can be used either as a diesel fuel (see **No. 2 Diesel Fuel**) or a fuel oil (see **No. 2 Fuel Oil**).

No. 4 Fuel: A distillate fuel oil made by blending distillate fuel oil and residual fuel oil stocks. It conforms with ASTM Specification D 396 or Federal Specification VV-F-815C and is used extensively in industrial plants and in commercial burner installations that are not equipped with preheating facilities. It also includes No. 4 diesel fuel used for low- and medium-speed diesel engines and conforms to ASTM Specification D 975.

No. 1 Fuel Oil: A light distillate fuel oil that has distillation temperatures of 400 degrees Fahrenheit at the 10-percent recovery point and 550 degrees Fahrenheit at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 396. It is used primarily as fuel for portable outdoor stoves and portable outdoor heaters. See **No. 1 Distillate**.

No. 2 Fuel Oil (Heating Oil): A distillate fuel oil that has distillation temperatures of 400 degrees Fahrenheit at the 10-percent recovery point and 640 degrees Fahrenheit at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 396. It is used in atomizing-type burners for domestic heating or for moderate capacity commercial/industrial burner units. See **No. 2 Distillate**.

No. 4 Fuel Oil: See **No. 4 Fuel**.

Nonattainment Area: Any area that does not meet the national primary or secondary ambient air quality standard established by the U.S. Environmental Protection Agency for designated pollutants, such as carbon monoxide and ozone.

Nuclear Electric Power Generation: Electricity generated by nuclear reactors of various types such as heavy water, light water, and boiling water. Generation is reported on a net basis and excludes energy that is generally used by the electric power plant for its own operating purposes and not for commercial use.

Other Hydrocarbons: Materials received by a refinery and consumed as raw materials. Includes hydrogen, coal tar derivatives, Gilsonite, and natural gas received by the refinery for reforming into hydrogen. Natural gas to be used as fuel is excluded.

Oxygenated Gasoline: Finished motor gasoline, other than reformulated gasoline, having an oxygen content of 2.7 percent or higher by weight and required by the U.S. Environmental Protection Agency (EPA) to be sold in areas designated by EPA as carbon monoxide (CO) nonattainment areas. See **Nonattainment Area**. *Note:* Oxygenated gasoline excludes oxygenated fuels program reformulated gasoline (OPRG) and reformulated gasoline blendstock for oxygenate blending (RBOB). Data on gasohol that has at least 2.7 percent oxygen, by weight, and is intended for sale inside carbon monoxide nonattainment areas are included in data on oxygenated gasoline. Other data on gasohol are included in data on conventional gasoline.

Oxygenated Gasoline Including Gasohol: Finished motor gasoline, other than reformulated gasoline, having an oxygen content of 2.7 percent or higher by weight. Includes gasohol. *Note:* Oxygenated gasoline excludes oxygenated fuels program reformulated gasoline (OPRG) and reformulated gasoline blendstock for oxygenate blending (RBOB).

Oxygenates: Substances which, when added to gasoline, increase the amount of oxygen in that gasoline blend. Ethanol, Methyl Tertiary Butyl Ether (MTBE), Ethyl Tertiary Butyl Ether (ETBE), and methanol are common oxygenates.

Paraffin (Oil): A light-colored, wax-free oil obtained by pressing paraffin distillate.

Paraffin (Wax): The wax removed from paraffin distillates by chilling and pressing. When separating from solutions, it is a colorless, more or less translucent, crystalline mass, without odor and taste, slightly greasy to touch, and consisting of a mixture of solid hydrocarbons in which the paraffin series predominates.

Petrochemical Feedstocks: Products from petroleum refineries and natural gas liquids processing plants to be processed further at a petrochemical plant. Includes products primarily in the naphtha range, still gas (refinery gas), and liquefied gases for petrochemical use.

Petroleum: A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, refined petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

Petroleum Coke: See **Coke (Petroleum)**.

Petroleum Jelly: A semi-solid oily product produced from de-waxing lubricating oil basestocks.

Petroleum Products: Products obtained from the processing of crude oil, unfinished oils, natural gas liquids, and other miscellaneous hydrocarbon compounds. Includes aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, ethane, liquefied petroleum gases, petrochemical feedstocks, special naphthas, lubricants, paraffin wax, petroleum coke, asphalt and road oil, still gas, and other miscellaneous products.

Petroleum Stocks: Primary stocks of crude oil and petroleum products held in storage at (or in) leases, refineries, natural gas processing plants, pipelines, tankfarms, and bulk terminals that can store at least 50,000 barrels of petroleum products or that can receive petroleum products by tanker, barge, or pipeline. Crude oil that is in-transit by water from Alaska or that is stored on Federal leases or in the Strategic Petroleum Reserve is included. Primary stocks exclude stocks of foreign origin that are held in bonded warehouse storage.

Plant Condensate (Petroleum): Mixture of hydrocarbons, mostly pentanes and heavier hydrocarbons, recovered at natural gas liquids processing plants. Does not include field or lease condensate.

Primary Coal: All coal milled and, when necessary, washed and sorted.

Propane: A normally gaseous straight-chain hydrocarbon, (C₃H₈). It is a colorless paraffinic gas that boils at a temperature of -43.67 degrees Fahrenheit. It is extracted from natural gas or refinery gas streams. It includes all products covered by Gas Processors Association Specifications for commercial propane and HD-5 propane and ASTM Specification D 1835.

Proved Reserves of Crude Oil: Proved reserves of crude oil are the estimated quantities of all liquids defined as crude oil, which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions.

Proved Reserves of Natural Gas: Proved reserves of natural gas are the estimated quantities which analysis of

geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions.

Refinery Fuel: Crude oil and petroleum products consumed at the refinery for all purposes.

Refinery Losses and Gains (Petroleum): Processing gain and loss that takes place during the refining process itself. Excludes losses that do not take place during the refining process, e.g., spills, fire losses, and contamination during blending, transportation, or storage.

Refinery Processing Gain: The volumetric amount by which total refinery output is greater than input for a given period of time. This difference is due to the processing of crude oil into products that, in total, have a higher specific gravity than the crude oil processed.

Reformulated Gasoline: Finished motor gasoline formulated for use in motor vehicles, the composition and properties of which meet requirements of the reformulated gasoline regulations promulgated by the U.S. Environmental Protection Agency under Section 211 (k) of the Clean Air Act. *Note:* This category includes oxygenated fuels program reformulated gasoline (OPRG) but excludes reformulated gasoline blendstock for oxygenate blending (RBOB).

Reinjected (Natural Gas): The forcing of gas under pressure into an oil reservoir in an attempt to increase recovery.

Residual Fuel Oil: The heavier oils, known as No. 5 and No. 6 fuel oils, that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations. It conforms to ASTM Specifications D 396 and D 975 and Federal Specification VV-F-815C. No. 5, a residual fuel oil of medium viscosity, is also known as Navy Special and is defined in Military Specification MIL-F-859E, including Amendment 2 (NATO Symbol F-770). It is used in steam-powered vessels in government service and inshore power plants. No. 6 fuel oil includes Bunker C fuel oil and is used for the production of electric power, space heating, vessel bunkering, and various industrial purposes.

Road Oil: Any heavy petroleum oil, including residual asphaltic oil used as a dust palliative and surface treatment on roads and highways. It is generally produced in six grades from 0, the most liquid, to 5, the most viscous.

Secondary Coal: (e.g. coke, briquets) is derived from primary coal.

Short Ton (Coal): A unit of weight equal to 2,000 pounds.

Shrinkage (Natural Gas): The volume of natural gas that is transformed into liquid products during processing, primarily at natural gas liquids processing plants.

Special Naphthas: All finished products within the gasoline range that are used as paint thinners, cleaners, or solvents. These products are refined to a specified flash point and have a boiling range of 90 degrees to 220 degrees Fahrenheit. "Special Naphthas" include all commercial hexane and cleaning solvents conforming to ASTM Specification D 1836 and D 484, respectively. Naphthas to be blended or marketed as motor gasoline or aviation gasoline or that are to be used as petrochemical and synthetic natural gas (SNG) feedstocks are excluded.

Steam Coal: All nonmetallurgical coal.

Still Gas (Refinery Gas): Any form or mixture of gas produced in refineries by distillation, cracking, reforming, and other processes. The principal constituents are methane, ethane, ethylene, normal butane, butylene, propane, propylene, etc. Still gas is reported for petrochemical feedstock use and/or refinery fuel use. The conversion factor from gas to barrels is 6.000 million Btu per fuel oil equivalent barrel.

Subbituminous Coal: A coal whose properties range from those of lignite to those of bituminous coal and used primarily as fuel for steam-electric power generation. It may be dull, dark brown to black, soft and crumbly, at the lower end of the range, to bright, jet black, hard, and relatively strong, at the upper end. Subbituminous coal contains 20 to 30 percent inherent moisture by weight. The heat content of subbituminous coal ranges from 17 to 24 million Btu per ton on a moist, mineral-matter-free basis. The heat content of subbituminous coal consumed in the United States averages 17 to 18 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Sulfur: A yellowish nonmetallic element, sometimes known as "brimstone." It is present at various levels of concentration in many fossil fuels whose combustion releases sulfur compounds that are considered harmful to the environment. Some of the most commonly used fossil fuels are categorized according their sulfur content, with lower sulfur fuels usually selling at a higher price. *Note:* No. 2 distillate is currently reported as having either a 0.05 percent or lower sulfur level for on-highway vehicle use or a greater than 0.05 percent sulfur level for off-highway use, home heating oil, and commercial and industrial uses. Residual fuel oil, regardless of use, is classified as having either no more

than 1 percent sulfur or greater than 1 percent sulfur. Coal is also classified as being low-sulfur at concentrations of 1 percent or less or high-sulfur at concentrations greater than 1 percent.

Transmission and Distribution Loss: Electric energy lost due to the transmission and distribution of electricity. Much of the loss is thermal in nature.

Unfinished Oils: Includes all oils requiring further processing, except those requiring only mechanical blending.

U.S. Refiners' Acquisition Cost of Imported Crude Oil: The average price paid by United States (U.S.) refiners for imported, that is, non-U.S., crude oil booked into their refineries in accordance with accounting procedures generally accepted and consistently and historically applied by the refiners concerned. The refiners' acquisition cost of imported crude oil includes transportation and other fees.

Vented/Flared (Natural Gas): The release (venting) or burning (flaring) of associated gas as a means of disposal.

Watt: The electrical unit of power. The rate of energy transfer equivalent to one ampere flowing under a pressure of one volt at unity power factor.

Watt-hour (Wh): An electrical energy unit of measure equal to 1 watt of power supplied to, or taken from, an electric circuit steadily for 1 hour.

Wax: A solid or semi-solid material derived from petroleum distillates or residues by such treatments as chilling, precipitating with a solvent, or de-oiling. It is a light-colored, more-or-less translucent crystalline mass, slightly greasy to the touch, consisting of a mixture of solid hydrocarbons in which the paraffin series predominates. Includes all marketable wax whether crude scale or fully refined. The three grades included are microcrystalline, crystalline fully refined, and crystalline-other.

White Spirit: A highly refined distillate with a boiling point range of about 150 degrees to 200 degrees Centigrade. It is used as a paint solvent and for dry-cleaning purposes.