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Preface

The *International Energy Annual 1999* 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 sources reported in the *International Energy Annual 1999* include hydroelectric power and geothermal, solar, wind, and wood and waste electric power. Also included for the United States are geothermal, solar, and wood and waste energy 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.

Important Notes: (1) The Energy Information Administration (EIA) reviews its databases each year and important revisions are made to the time series of individual countries during this review. Therefore, data in the *International Energy Annual 1999* may have been substantially revised with respect to previous editions. (2) The methodologies used to impute the gross heat content of hydroelectric, nuclear electric, geothermal electric, and solar, wind, and wood and waste electric power are discussed in

the “Note” section at the bottom of Tables C7, C8, C9, and C10, respectively.

Although 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 of 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 Asia-Pacific Economic Cooperation forum, the International Energy Agency, the International Monetary Fund, the Latin American Energy Organization, the United Nations, 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

Electronic Access and Related International (Energy) Web Page

The *International Energy Annual 1999* (IEA99) is also available on EIA's Internet site at:

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

The IEA99 on EIA's Internet site includes text and tables in HTML and PDF formats and most of the tables are also available there as downloadable spreadsheets, many with data for all countries for all of the years 1980-1999. The entire IEA99 publication is also available in PDF format on the EIA FTP site at:

<http://www.eia.doe.gov/pub/pdf/international/021999.pdf>

The IEA99 will also be available on the EIA CD-ROM, *Energy InfoDisc*.

Important Note: All of the data contained in the IEA99, as well as additional international energy data, forecasts, and analyses, are available on the **International (Energy) Channel** 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://www.eia.doe.gov/listserv_signup.html** and select the first item, **Annual Statistics**, in the **International** section. Then select the **Join aies** button.)

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....

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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 1990 and 1999 include production in the United States of 2.3 and 2.9 quadrillion Btu, respectively, of renewable energy not used for electricity generation. This renewable energy production includes ethanol blended into motor gasoline and geothermal, solar, and wood and waste energy not used for electricity generation. Likewise, the data for total **consumption** of primary energy in 1990 and 1999 include consumption in the United States of 2.1 and 2.9 quadrillion Btu, respectively, of renewable energy not used for electricity generation and selected electricity imports. Included are geothermal, solar, and wood and waste energy not used for electricity generation, electricity imports from Mexico that are derived from geothermal energy, and net imports of electricity from nonrenewable sources.)

World Primary Energy Production Trends

Between 1990 and 1999, the world's total output of primary energy--petroleum, natural gas, coal, and electric power (hydro, nuclear, geothermal, solar, wind, and wood and waste)--increased at an average annual rate of 0.9 percent (Table 2.9). World production increased from 351 quadrillion Btu in 1990 to 380 quadrillion Btu in 1999.

In 1999, petroleum (crude oil and natural gas plant liquids) continued to be the world's most important primary energy source, accounting for 39.4 percent, or 150 quadrillion Btu, of world primary energy production

(Table 2.9). Between 1990 and 1999, petroleum production increased by 6.7 million barrels per day, or 10.2 percent, rising from 65.2 to 71.9 million barrels per day (Tables 2.2 and 2.3). The Middle East had the largest production gain, followed by Western Europe, and Central and South America. Their combined gains over the period from 1990 to 1999 were 8.6 million barrels per day. In the Eastern Europe and Former U.S.S.R. region, average daily production fell by 3.8 million barrels per day.

Dry natural gas ranked second as a primary energy source, accounting for 23.0 percent of world primary energy production in 1999 (Table 2.9). Production of dry natural gas was 84.7 trillion cubic feet, or 87 quadrillion Btu, in 1999 (Tables 2.1 and 2.9). Production increased by 11.1 trillion cubic feet from 73.6 trillion cubic feet in 1990, a gain of 15 percent

Coal ranked third as a primary energy source in 1999, accounting for 22.3 percent of world primary energy production (Table 2.9). World coal production totaled 4.7 billion short tons--85 quadrillion Btu--in 1999, but it was down by 12.1 percent from the 1990 level of 5.4 billion short tons (Tables 2.1 and 2.9).

Hydro, nuclear, and other (geothermal, solar, wind, and wood and waste) electric power generation ranked fourth, fifth, and seventh, respectively, as primary energy sources in 1999, accounting for 7.1, 6.6, and 0.7 percent, respectively, of world primary energy production (Table 2.9). Together they accounted for a combined total of 5.2 trillion kilowatthours--55 quadrillion Btu--in 1999 (Tables 2.1 and 2.9). Nuclear electric power generation increased significantly between 1990 and 1999, rising from 1.9 trillion kilowatthours to 2.4 trillion kilowatthours, a 25.8-percent increase. Geothermal, solar, wind, and wood and waste electric power generation also increased significantly over the same period, rising from 129 billion kilowatthours to 227 billion kilowatthours, a 76.3-percent increase. Hydroelectric power continued to represent the largest share of primary electric power generation contributing 2.6 trillion kilowatthours in 1999, up 20.3 percent from 2.2 trillion kilowatthours in 1990.

In 1999, United States production of 2.9 quadrillion Btu of renewable energy not used for electricity generation ranked sixth as a primary energy source, accounting for 0.8 percent of world primary energy production.

Major Energy Producers and Consumers

In 1999, 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 1999, supplying 47.9 percent of the world's total energy (Table F1). The next five leading producers of primary energy were the United Kingdom, Iran, Norway, India, and Mexico, and together they supplied an additional 13.1 percent of the world's total energy. The United States supplied 72.3 quadrillion Btu of primary energy, significantly more than the 41.5 quadrillion Btu produced by Russia or the 30.9 quadrillion Btu produced by China.

The United States, China, Russia, Japan, and Germany were the world's five largest consumers of primary energy in 1999, accounting for 49.9 percent of world energy consumption (Table E1). They were followed by Canada, India, France, the United Kingdom, and Brazil, which together accounted for an additional 14.0 percent of world energy consumption. The United States consumed 97.0 quadrillion Btu, more than three times as much as the 31.9 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 1990. In **North America**, the overall production of energy rose by 7.1 quadrillion Btu between 1990 and 1999 (Table F1). The supply of natural gas increased significantly, by 3.6 quadrillion Btu, while the production of nuclear electric power and coal increased by 1.6 quadrillion Btu and 1.1 quadrillion Btu, respectively (Tables F4, F7, and F5). These increases more than offset a 1.6-quadrillion-Btu decrease in crude oil production (Table F2). Energy consumption in North America increased by 15.6

quadrillion Btu between 1990 and 1999, the second largest increase for any region (Table E1). The largest North American increases occurred in the consumption of petroleum, 5.4 quadrillion Btu, natural gas, 4.0 quadrillion Btu, coal, 2.9 quadrillion Btu, and nuclear electric power, 1.6 quadrillion Btu (Tables E2, E3, E4 and E6).

Overall production of energy in the **Central and South America** region increased by 8.2 quadrillion Btu between 1990 and 1999, led by increases in crude oil production, 4.4 quadrillion Btu, hydroelectric power generation, 1.7 quadrillion Btu, and natural gas production, 1.4 quadrillion Btu (Tables F1, F2, F6, and F4). Energy consumption in the Central and South America region increased by 6.2 quadrillion Btu over the same period (Table E1). The largest increases occurred in the consumption of petroleum, 2.8 quadrillion Btu, hydroelectric power, 1.7 quadrillion Btu, and natural gas, 1.3 quadrillion Btu (Tables E2, E5, and E3).

In 1999, total energy production in **Western Europe** was 5.8 quadrillion Btu higher than in 1990 (Table F1). Gains between 1990 and 1999 were greatest for crude oil, 4.6 quadrillion Btu, natural gas, 2.9 quadrillion Btu, and nuclear electric power generation, 1.5 quadrillion Btu (Tables F2, F4, and F7). These increases more than offset a sharp, 4.8-quadrillion-Btu, drop in coal production (Table F5). Western European energy consumption increased by 6.6 quadrillion Btu between 1990 and 1999 (Table E1). The increase was led by natural gas, 4.9 quadrillion Btu, petroleum, 3.1 quadrillion Btu, and nuclear electric power, 1.5 quadrillion Btu, which together more than offset a 4.2 quadrillion Btu decrease in coal consumption (Tables E3, E2, E6, and E4).

Between 1990 and 1999, both energy production and energy consumption in the **Eastern Europe and Former U.S.S.R.** region declined by more than 22 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 22.9-quadrillion-Btu decline in energy production was concentrated in coal, 9.3 quadrillion Btu, crude oil, 8.2 quadrillion Btu, and natural gas, 5.3 quadrillion Btu (Tables F1, F5, F2, and F4). The 25.3-quadrillion-Btu decline in energy consumption included declines in petroleum, 10.1 quadrillion Btu, coal, 9.2 quadrillion Btu, and natural gas, 5.9 quadrillion Btu (Tables E1, E2, E4, and E3).

Since 1990, energy production in the **Middle East** increased by 12.1 quadrillion Btu, the second largest increase for any region (Table F1). The increase was

concentrated in crude oil, 8.5 quadrillion Btu, and natural gas, 3.2 quadrillion Btu (Tables F2 and F4). The increase in energy consumption in the Middle East between 1990 and 1999 was much smaller, only 5.3 quadrillion Btu (Table E1). The largest consumption increases were in natural gas, 2.9 quadrillion Btu, and petroleum, 2.2 quadrillion Btu (Tables E3 and E2).

Energy production in **Africa** increased by 5.2 quadrillion Btu between 1990 and 1999, led by increases in the production of crude oil, 1.8 quadrillion Btu, natural gas, 1.7 quadrillion Btu, and coal, 1.3 quadrillion Btu (Tables F1, F2, F4, and F5). Energy consumption in Africa grew more slowly over the same period, rising by only 2.4 quadrillion Btu, with petroleum consumption accounting for 1.0 quadrillion Btu of the increase, coal for 0.64 quadrillion Btu, and natural gas for 0.61 quadrillion Btu (Tables E1, E2, E4, and E3).

The largest regional increase in primary energy production between 1990 and 1999 occurred in the **Far East and Oceania** region, where production increased by 13.6 quadrillion Btu (Table F1). Coal production accounted for 4.3 quadrillion Btu, natural gas for 3.8 quadrillion Btu, nuclear electric power generation for 1.9 quadrillion Btu, crude oil for 1.8 quadrillion Btu, and hydroelectric power generation for 1.2 quadrillion Btu (Tables F5, F4, F7, F2, and F6). Consumption in this region increased by 24.9 quadrillion Btu over the same period, also the largest increase for any region (Table E1). 52 percent, or 12.8 quadrillion Btu, of this increase occurred in the consumption of petroleum (Table E2). At the same time, the consumption of natural gas increased by 4.5 quadrillion Btu, coal by 4.2 quadrillion Btu, nuclear electric power by 1.9 quadrillion Btu, and hydroelectric power by 1.2 quadrillion Btu (Tables E3, E4, E6, and E5).

Petroleum

Global production of petroleum (crude oil and natural gas plant liquids) increased by 6.7 million barrels per day between 1990 and 1999, an average annual rate of growth of 1.1 percent (Tables 2.2 and 2.3). Saudi Arabia, the United States, and Russia were the three largest producers of petroleum in 1999. Together, they produced 31.4 percent of the world's petroleum. Production from Iran and Mexico accounted for an additional 9.7 percent.

In 1999, the United States consumed 19.5 million barrels per day of petroleum—26 percent of world consumption (Table 1.2). Japan ranked a distant second in

consumption, with 5.6 million barrels per day, followed by China, Germany, and Russia.

Natural Gas

World production of dry natural gas increased by 11.1 trillion cubic feet, or at an average annual rate of 1.6 percent, over the period from 1990 to 1999 (Table 2.4). Russia was the leading producer in 1999 at 20.8 trillion cubic feet, followed by the United States at 18.6 trillion cubic feet. Together these two countries produced 47 percent of the world total. Canada ranked a distant third in production at 6.3 trillion cubic feet, followed by the United Kingdom and Algeria, with 3.5 and 2.9 trillion cubic feet, respectively. These three countries accounted for 15 percent of the world total.

In 1999, the United States, which was the leading consumer of dry natural gas at 21.7 trillion cubic feet, and Russia, which ranked second at 14.0 trillion cubic feet, together accounted for 42 percent of world consumption (Table 1.3). The United Kingdom ranked a distant third in consumption, with 3.3 trillion cubic feet, followed by Canada and Germany, at 3.1 and 3.0 trillion cubic feet, respectively.

Coal

Coal was the only primary energy source to experience a production decline between 1990 and 1999 (Table 2.1). Production decreased by 650 million short tons over the period. China was the leading producer in 1999 at 1.12 billion short tons—equivalent to 20.6 quadrillion Btu (Tables 2.5 and F5). The United States was the second leading producer in 1999 with 1.10 billion short tons—equivalent to 23.3 quadrillion Btu. India ranked a distant third at 328 million short tons—equivalent to 5.8 quadrillion Btu, followed by Australia, at 321 million short tons—equivalent to 6.2 quadrillion Btu, and Russia at 276 million short tons—equivalent to 4.3 quadrillion Btu. Together, these five countries accounted for 66 percent of world coal production in 1999 (Table 2.5).

China was also the largest consumer of coal in 1999, using 1.08 billion short tons, followed by the United States, which consumed 1.05 billion short tons, India, Russia, and Germany (Table 1.4). These five countries together accounted for 63 percent of world coal consumption.

Hydroelectric Power

The generation of hydroelectric power increased by 440 billion kilowatthours between 1990 and 1999, or at an average annual rate of 2.1 percent (Table 2.6). Canada, Brazil, the United States, China, and Russia, were the five largest producers of hydroelectric power in 1999. Their combined hydroelectric power generation accounted for 51 percent of the world total. Canada led the world with 340 billion kilowatthours or 3.5 quadrillion Btu (Tables 2.6 and F6). Brazil ranked second with 305.9 billion kilowatthours or 3.18 quadrillion Btu and the United States was a very close third with 305.6 billion kilowatthours or 3.16 quadrillion Btu. China was fourth with 223 billion kilowatthours or 2.3 quadrillion Btu, followed by Russia with 158 billion kilowatthours or 1.6 quadrillion Btu.

Nuclear Electric Power

The generation of nuclear electric power increased by 491 billion kilowatthours between 1990 and 1999, 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 1999 with 728 billion kilowatthours or 7.7 quadrillion Btu (Tables 2.7 and F7). France was second with 375 billion kilowatthours or 3.9 quadrillion Btu and Japan ranked third with 309 billion kilowatthours or 3.2 quadrillion Btu. In 1999, these three countries generated 59 percent of the world's nuclear electric power (Table 2.7).

Geothermal, Solar, Wind, and Wood and Waste Electric Power

The generation of geothermal, solar, wind, and wood and waste electric power increased by 98 billion kilowatthours between 1990 and 1999, or at an average annual rate of 6.5 percent (Table 2.8). The United States led the world in geothermal, solar, wind, and wood and waste electric power generation in 1999 with 83.0 billion kilowatthours. Japan was second with 24.7 billion kilowatthours, followed by the Germany with 15.0 billion kilowatthours, Brazil with 9.9 billion kilowatthours, and Finland with 9.5 billion kilowatthours. These five countries accounted for 62 percent of the world geothermal, solar, wind, and wood and waste electric power generation in 1999.

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 5.873 billion metric tons of carbon equivalent in 1990 to 6.144 billion metric tons in 1999, or by 4.6 percent (Table H1). (**Note: Carbon dioxide emissions are measured here in metric tons of carbon equivalent. Tons of carbon equivalent can be converted to tons of carbon dioxide gas by multiplying by 3.667.** One ton of carbon equivalent 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 1999, producing 51 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 France, and together they produced an additional 12 percent of the world total. In 1999, total United States carbon dioxide emissions from the consumption and flaring of fossil fuels were 1.520 billion metric tons of carbon equivalent, more than two and one-quarter times as much as the 669 million metric tons produced by China, while Russia produced 400 million metric tons.

In 1999, the consumption of petroleum was the world's primary source of carbon dioxide emissions from the consumption and flaring of fossil fuels, accounting for 44 percent of the total (Tables H2 and H1). Between 1990 and 1999 emissions from the consumption of petroleum increased by 230 million metric tons, or 9.3 percent, rising from 2.482 to 2.712 billion metric tons. The United States was the largest producer of carbon dioxide from the consumption of petroleum in 1999 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 1999, accounting for 35 percent of the total (Tables H4 and H1). World carbon dioxide emissions from the consumption of coal totaled 2.137 billion metric tons of carbon in 1999, down 6.0 percent from the 1990 level of 2.274 billion metric tons. The United States and China were the two largest producers of carbon dioxide from the consumption of coal in 1999 and together they accounted for 49 percent of the world total. India,

Russia, and Germany 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 1999 (Tables H3 and H1). Emissions from the consumption and flaring of natural gas increased from 1.117 billion metric tons of carbon in 1990 to 1.295 billion metric tons in 1999, or by 15.9 percent. The United States and Russia were the two largest producers of carbon dioxide from the consumption and flaring of natural gas in 1999 and together they accounted for 40 percent of the world total. The United Kingdom, Canada, and Germany accounted for an additional 11 percent.

Section 1

World Energy Consumption, 1990-1999

Table 1.1 World Consumption of Primary Energy by Selected Country Groups, 1990 - 1999

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Petroleum (thousand barrels per day)										
World Total	65,974	66,559	66,758	66,996	68,286	69,878	71,411	73,057	73,642	74,905
OECD ²	40,917	41,400	42,424	42,982	44,167	44,962	46,072	46,830	46,925	47,614
Non OECD.....	25,056	25,159	24,334	24,015	24,119	24,916	25,339	26,227	26,717	27,291
Other Groups:.....										
OECD Europe.....	13,368	13,827	14,073	14,140	14,226	14,756	14,964	15,155	15,457	15,270
OPEC ³	4,388	4,472	4,629	4,909	5,054	5,232	5,293	5,535	5,513	5,656
EU, ⁴	11,957	12,443	12,631	12,481	12,577	13,052	13,129	13,270	13,556	13,369
IEA ⁵	37,922	38,216	38,936	39,264	40,192	40,878	41,745	42,149	42,587	43,160
Natural Gas (trillion cubic feet)										
World Total	72.91	74.38	74.35	76.58	76.36	78.02	81.65	81.41	81.90	84.20
OECD ²	35.83	37.08	37.82	39.54	40.55	42.45	44.61	44.59	44.37	45.92
Non OECD.....	37.08	37.30	36.53	37.04	35.82	35.56	37.04	36.82	37.53	38.28
Other Groups:.....										
OECD Europe.....	11.07	11.83	11.73	12.50	12.70	13.63	14.81	14.59	15.00	15.65
OPEC ³	5.48	5.58	6.09	6.43	6.88	7.31	7.97	8.47	8.73	8.89
EU, ⁴	9.98	10.73	10.63	11.12	11.32	12.08	13.07	12.79	13.16	13.73
IEA ⁵	34.38	35.61	36.32	37.96	38.86	40.67	42.61	42.43	42.12	43.62
Coal (million short tons)										
World Total	5,287	5,028	4,981	5,030	5,068	5,185	5,238	5,169	5,009	4,740
OECD ²	2,410	2,291	2,231	2,305	2,286	2,295	2,339	2,379	2,383	2,352
Non OECD.....	2,877	2,737	2,750	2,725	2,782	2,890	2,899	2,790	2,626	2,389
Other Groups:.....										
OECD Europe.....	1,178	1,055	982	1,011	970	955	936	937	916	870
OPEC ³	11	10	11	12	14	14	19	17	19	15
EU, ⁴	891	765	705	654	622	606	605	575	564	544
IEA ⁵	2,157	2,036	1,989	2,056	2,042	2,046	2,108	2,123	2,140	2,110
Hydroelectric Power (billion kilowatthours)										
World Total	2,176.3	2,229.0	2,230.8	2,363.5	2,383.5	2,500.6	2,543.2	2,593.5	2,586.9	2,625.9
OECD ²	1,183.2	1,205.4	1,196.1	1,268.5	1,224.7	1,308.5	1,351.7	1,367.4	1,329.7	1,331.6
Non OECD.....	993.1	1,023.6	1,034.6	1,095.0	1,158.8	1,192.0	1,191.5	1,226.2	1,257.2	1,294.3
Other Groups:.....										
OECD Europe.....	437.3	435.4	463.6	482.2	482.8	488.0	469.0	485.5	502.1	506.0
OPEC ³	57.9	67.6	72.8	71.9	71.1	72.9	75.6	78.6	77.6	83.3
EU, ⁴	257.3	264.4	281.5	285.7	293.6	287.3	287.5	292.7	301.6	300.1
IEA ⁵	1,147.9	1,172.7	1,159.4	1,230.4	1,194.3	1,270.1	1,309.6	1,329.5	1,291.3	1,284.9
Nuclear Electric Power (billion kilowatthours)										
World Total	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,266.1	2,315.3	2,395.9
OECD 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	2,013.0	2,085.9
Non OECD.....	297.6	297.9	293.3	282.7	266.2	277.8	307.2	309.5	302.3	310.0
Other Groups:.....										
OECD Europe.....	716.1	740.4	753.6	797.9	796.8	813.5	851.6	860.9	861.8	871.8
OPEC ³	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU, ⁴	680.7	705.7	718.1	750.7	748.0	764.9	802.1	811.1	811.5	822.1
IEA ⁵	1,554.5	1,636.5	1,661.1	1,735.2	1,795.4	1,856.5	1,901.6	1,873.5	1,918.9	1,978.5

See footnotes at end of table.

Table 1.1 World Consumption of Primary Energy by Selected Country Groups, 1990 - 1999 (Continued)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Geothermal, Solar, Wind, Wood and Waste Electric Power (billion kilowatthours)										
World Total.....	129.0	138.0	155.2	163.3	173.1	177.3	186.1	196.5	207.9	227.4
OECD ²	114.2	122.8	138.4	146.7	154.2	157.6	163.4	170.1	176.8	193.5
Non OECD.....	14.8	15.2	16.8	16.6	18.9	19.7	22.7	26.4	31.0	34.0
Other Groups:.....										
OECD Europe.....	19.3	20.1	28.2	33.5	37.1	41.2	43.6	51.9	60.2	66.5
OEPC ³	1.1	1.0	1.0	1.0	1.8	2.1	2.2	2.5	3.7	3.9
EU, ⁴	17.9	18.5	26.7	31.7	34.8	38.5	40.6	48.5	56.2	61.9
IEA ⁵	108.8	116.9	132.3	140.5	148.3	151.6	157.2	164.0	170.2	186.4

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, Czech Republic, 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 1999 membership (as of December 31, 1999) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Data for the Czech Republic are included in the country groups OECD, OECD Europe, and IEA beginning in 1993, the year that the country came into existence. 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, 1990 - 1999
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	1,690	1,622	1,643	1,688	1,727	1,755	1,797	1,857	1,859	1,933
Mexico.....	1,679	1,695	1,723	1,710	1,795	1,724	1,763	1,872	1,935	1,975
United States.....	16,988	16,714	17,033	17,237	17,718	17,725	18,309	18,620	18,917	19,519
Other.....	6	6	5	4	4	4	4	4	4	5
Total.....	20,364	20,036	20,404	20,639	21,245	21,208	21,873	22,354	22,715	23,432
Central & South America										
Argentina.....	413	424	445	468	458	453	479	476	492	500
Bolivia.....	25	26	26	27	30	33	35	36	40	39
Brazil.....	1,339	1,346	1,369	1,429	1,511	1,596	1,718	1,823	1,915	1,950
Chile.....	134	144	151	168	179	197	217	228	239	244
Colombia.....	197	205	230	240	244	251	278	287	295	300
Costa Rica.....	19	20	25	27	28	31	30	31	35	34
Cuba.....	220	204	180	179	183	187	192	164	159	163
Dominican Republic.....	64	62	64	59	68	72	78	84	86	88
Ecuador.....	97	104	119	112	120	123	129	135	137	140
El Salvador.....	16	19	22	22	25	31	30	32	38	37
Guatemala.....	27	26	31	34	38	41	44	48	58	60
Honduras.....	18	17	18	18	20	23	25	25	29	30
Jamaica.....	46	47	51	52	55	60	62	66	67	69
Netherlands Antilles.....	67	64	63	63	66	69	69	74	71	73
Panama.....	27	33	41	40	44	43	47	49	56	58
Peru.....	121	113	119	126	132	143	153	171	168	170
Puerto Rico.....	140	176	156	162	165	162	156	153	160	164
Trinidad and Tobago.....	20	21	22	21	24	22	20	22	22	23
Uruguay.....	31	30	32	35	33	31	34	37	41	43
Venezuela.....	396	405	414	427	440	448	444	455	457	470
Virgin Islands, U.S.....	55	56	55	53	56	90	78	96	127	134
Other.....	118	113	115	124	129	142	136	152	166	160
Total.....	3,591	3,654	3,748	3,887	4,050	4,248	4,455	4,645	4,859	4,949
Western Europe										
Austria.....	217	235	228	231	235	234	232	243	248	260
Belgium.....	461	499	511	499	510	499	564	591	601	568
Denmark.....	191	194	193	198	210	225	238	235	229	223
Finland.....	225	227	222	212	220	175	193	221	212	217
France.....	1,818	1,935	1,926	1,875	1,833	1,896	1,935	1,955	2,031	2,027
Germany.....	--	2,828	2,843	2,900	2,879	2,875	2,911	2,903	2,916	2,822
Germany, East.....	282	--	--	--	--	--	--	--	--	--
Germany, West.....	2,382	--	--	--	--	--	--	--	--	--
Greece.....	315	320	331	339	349	350	368	374	392	385
Ireland.....	92	99	104	104	113	126	126	133	149	167
Italy.....	1,872	1,863	1,937	1,852	1,841	2,048	2,058	2,045	2,072	1,975
Luxembourg.....	33	39	39	39	39	37	38	40	42	45
Netherlands.....	735	756	766	760	760	790	771	808	812	838
Norway.....	191	184	183	186	183	196	216	227	228	224
Portugal.....	250	253	277	268	270	290	277	299	330	336
Spain.....	1,011	1,072	1,109	1,056	1,127	1,256	1,175	1,295	1,385	1,430
Sweden.....	321	323	342	332	353	406	398	328	371	360
Switzerland.....	274	284	287	277	281	257	275	284	272	272
Turkey.....	476	468	492	564	540	601	633	634	626	624
United Kingdom.....	1,752	1,801	1,803	1,815	1,837	1,845	1,845	1,799	1,765	1,717
Former Yugoslavia.....	317	251	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	35	23	20	19	18	18	21	22
Croatia.....	--	--	65	63	79	88	78	81	90	93
Macedonia, TFYR.....	--	--	19	21	18	18	29	21	23	24
Serbia and Montenegro.....	--	--	56	33	32	27	49	67	65	66
Slovenia.....	--	--	35	41	42	47	54	56	60	59
Other.....	32	31	38	41	42	42	43	68	45	47
Total.....	13,246	13,660	13,841	13,731	13,815	14,347	14,525	14,726	14,985	14,800

See footnotes at end of table.

Table 1.2 World Petroleum Consumption, 1990 - 1999 (Continued)
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	20	18	21	17	13	15	12	10	10	10
Bulgaria.....	193	121	130	117	126	131	119	107	103	108
Former Czechoslovakia.....	281	232	213	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	147	152	158	182	174	181	185
Slovakia.....	--	--	--	61	63	65	66	68	71	71
Hungary.....	179	161	171	166	168	160	148	150	164	157
Poland.....	278	275	297	304	309	318	365	398	412	420
Romania.....	382	277	250	248	221	244	257	270	250	235
Former U.S.S.R.....	8,392	8,350	--	--	--	--	--	--	--	--
Armenia.....	--	--	48	25	8	6	3	3	3	4
Azerbaijan.....	--	--	203	194	187	179	134	129	142	143
Belarus.....	--	--	375	289	241	228	206	186	190	190
Estonia.....	--	--	25	28	25	26	27	27	27	26
Georgia.....	--	--	27	16	7	8	19	21	26	25
Kazakhstan.....	--	--	404	341	304	281	256	210	201	204
Kyrgyzstan.....	--	--	33	19	9	12	12	10	14	14
Latvia.....	--	--	52	41	40	42	47	36	33	34
Lithuania.....	--	--	84	76	78	73	68	67	73	75
Moldova.....	--	--	57	40	22	22	17	20	15	16
Russia.....	--	--	4,423	3,750	3,179	2,976	2,619	2,562	2,449	2,396
Tajikistan.....	--	--	20	17	7	10	27	27	28	29
Turkmenistan.....	--	--	76	66	63	64	62	66	58	60
Ukraine.....	--	--	813	570	495	484	388	363	375	370
Uzbekistan.....	--	--	190	177	168	180	139	140	140	140
Total.....	9,725	9,434	7,910	6,710	5,885	5,681	5,173	5,045	4,968	4,912
Middle East										
Bahrain.....	20	21	21	20	21	23	24	25	26	27
Cyprus.....	32	32	38	38	43	43	42	43	46	46
Iran.....	1,003	1,075	1,083	1,108	1,130	1,140	1,119	1,222	1,177	1,200
Iraq.....	400	263	341	409	457	474	469	443	484	495
Israel.....	165	173	201	198	200	210	214	237	252	258
Jordan.....	66	63	73	72	82	85	92	88	96	95
Kuwait.....	85	45	79	111	132	140	139	144	172	180
Lebanon.....	33	53	55	67	76	82	85	97	100	100
Oman.....	39	39	40	39	40	42	47	49	51	52
Qatar.....	34	35	38	40	43	47	51	58	61	64
Saudi Arabia.....	977	1,019	1,039	1,088	1,109	1,168	1,197	1,204	1,237	1,260
Syria.....	205	178	185	209	224	226	229	240	245	250
United Arab Emirates.....	243	302	305	310	318	316	306	317	322	325
Yemen.....	76	78	83	69	66	68	68	70	71	72
Total.....	3,377	3,376	3,581	3,778	3,941	4,067	4,081	4,238	4,339	4,424

See footnotes at end of table.

Table 1.2 World Petroleum Consumption, 1990 - 1999 (Continued)
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Africa										
Algeria.....	194	208	214	222	230	228	220	225	206	212
Angola.....	24	25	26	25	25	27	25	30	32	33
Cameroon.....	24	25	25	21	24	25	23	28	25	26
Congo (Brazzaville).....	7	6	6	6	7	7	7	7	7	7
Congo (Kinshasa).....	20	22	24	25	26	24	25	26	25	25
Cote d'Ivoire (Ivory Coast).....	38	39	40	45	55	52	58	57	56	58
Egypt.....	465	456	444	450	448	458	501	531	572	585
Ethiopia.....	20	16	23	22	14	15	12	12	17	18
Gabon.....	15	16	16	15	18	19	21	19	17	20
Ghana.....	20	20	22	23	26	27	27	26	29	30
Kenya.....	42	37	41	42	44	46	48	44	51	52
Libya.....	155	166	145	160	166	172	177	187	175	180
Morocco.....	117	117	130	135	148	142	137	146	144	147
Nigeria.....	251	259	265	271	252	284	286	277	269	280
Senegal.....	17	16	19	19	23	25	25	23	25	26
South Africa.....	375	403	412	402	410	421	428	439	451	460
Sudan.....	25	36	33	32	28	26	26	27	31	30
Tunisia.....	63	68	71	74	75	70	73	78	81	83
Zimbabwe.....	21	23	21	22	23	25	28	30	31	33
Other.....	182	172	192	195	204	209	211	217	219	218
Total.....	2,076	2,131	2,169	2,207	2,243	2,303	2,359	2,432	2,463	2,523
Far East & Oceania										
Australia.....	711	706	712	756	790	834	801	819	831	852
Bangladesh.....	36	38	37	40	46	51	52	56	58	57
Brunei.....	7	10	7	9	11	11	13	16	14	16
Burma.....	15	16	16	17	19	18	20	25	30	28
China.....	2,296	2,499	2,662	2,959	3,161	3,363	3,610	3,916	4,106	4,320
Guam.....	13	14	17	23	32	24	22	25	20	22
Hong Kong.....	127	133	152	158	180	186	183	138	184	229
India.....	1,168	1,190	1,275	1,311	1,413	1,575	1,681	1,765	1,844	1,930
Indonesia.....	651	695	707	765	778	814	886	1,003	954	990
Japan.....	5,140	5,284	5,446	5,401	5,674	5,711	5,867	5,711	5,512	5,572
Korea, North.....	73	76	74	72	70	63	48	30	70	72
Korea, South.....	1,025	1,202	1,456	1,690	1,856	2,027	2,183	2,392	1,973	2,040
Malaysia.....	266	282	302	336	378	399	435	469	449	440
Mongolia.....	16	15	13	13	13	11	12	8	8	9
New Zealand.....	109	105	111	123	128	154	134	128	133	133
Pakistan.....	220	221	227	256	282	298	327	333	347	350
Papua New Guinea.....	16	15	15	15	15	15	15	15	15	16
Philippines.....	236	235	260	285	303	328	346	365	376	360
Singapore.....	363	389	420	469	503	512	541	620	599	592
Sri Lanka.....	35	34	37	41	45	48	53	60	61	63
Taiwan.....	542	545	557	616	659	737	780	775	808	825
Thailand.....	407	437	476	545	603	679	749	741	706	725
Vietnam.....	53	56	61	77	85	94	116	129	135	145
Other.....	71	71	66	67	68	69	72	74	78	79
Total.....	13,595	14,269	15,105	16,044	17,108	18,024	18,945	19,617	19,312	19,865
World Total.....	65,974	66,559	66,758	66,996	68,286	69,878	71,411	73,057	73,642	74,905

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, 1990 - 1999
(Billion Cubic Feet)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	2,378	2,400	2,596	2,736	2,824	2,791	3,000	2,981	2,868	3,095
Mexico.....	918	949	959	977	1,026	1,043	1,103	1,178	1,284	1,262
United States.....	18,716	19,035	19,544	20,279	20,708	21,581	21,966	21,959	21,262	21,703
Total.....	22,012	22,384	23,099	23,992	24,559	25,414	26,068	26,118	25,414	26,061
Central & South America										
Argentina.....	717	781	787	833	856	953	1,010	1,008	1,077	1,191
Barbados.....	1	1	1	1	1	1	1	1	1	1
Bolivia.....	30	26	32	30	35	43	37	47	31	31
Brazil.....	97	119	130	146	152	159	178	195	205	234
Chile.....	66	52	54	62	69	67	64	99	114	141
Colombia.....	151	155	151	157	162	161	167	211	221	183
Cuba.....	1	1	1	1	1	1	2	26	14	18
Ecuador.....	4	3	4	4	4	4	4	4	4	4
Peru.....	19	18	18	34	35	33	34	8	14	15
Trinidad and Tobago.....	177	201	194	218	250	268	303	328	328	339
Venezuela.....	761	793	763	815	876	890	961	994	1,110	1,091
Total.....	2,024	2,151	2,136	2,301	2,440	2,581	2,761	2,922	3,120	3,247
Western Europe										
Austria.....	215	228	224	235	242	262	281	271	279	285
Belgium.....	341	363	374	392	401	443	493	470	518	552
Denmark.....	73	82	87	98	108	127	148	168	172	180
Finland.....	95	100	104	108	119	123	129	127	145	145
France.....	997	1,131	1,146	1,158	1,157	1,183	1,314	1,300	1,313	1,346
Germany.....	--	2,776	2,739	2,830	2,965	3,172	3,163	3,012	3,029	3,035
Germany, East.....	357	--	--	--	--	--	--	--	--	--
Germany, West.....	2,312	--	--	--	--	--	--	--	--	--
Greece.....	4	4	4	3	1	1	1	7	30	53
Ireland.....	82	84	83	94	96	102	114	118	118	125
Italy.....	1,674	1,775	1,760	1,801	1,748	1,921	1,984	2,048	2,205	2,396
Luxembourg.....	17	18	19	20	20	22	25	25	25	26
Netherlands.....	1,535	1,715	1,669	1,714	1,654	1,701	1,874	1,763	1,752	1,704
Norway.....	80	78	131	90	93	101	102	128	127	155
Portugal.....	0	0	0	0	0	0	0	4	28	80
Spain.....	192	216	228	224	239	299	334	437	449	514
Sweden.....	23	24	27	30	30	30	31	31	30	32
Switzerland.....	70	79	83	87	86	95	102	99	102	106
Turkey.....	122	150	164	182	192	248	290	346	366	444
United Kingdom.....	2,059	2,218	2,170	2,412	2,542	2,690	3,182	3,013	3,072	3,259
Former Yugoslavia.....	248	247	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	18	14	15	87	5	5	7	7
Croatia.....	--	--	96	104	91	82	88	99	94	94
Macedonia, TFYR.....	--	--	9	10	0	0	0	0	1	1
Serbia and Montenegro.....	--	--	72	34	58	39	98	97	104	61
Slovenia.....	--	--	24	30	29	35	45	32	34	36
Total.....	10,496	11,288	11,231	11,671	11,886	12,761	13,805	13,600	13,999	14,635

See footnotes at end of table.

Table 1.3 World Dry Natural Gas Consumption, 1990 - 1999 (Continued)
(Billion Cubic Feet)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	9	5	4	1	1	1	1	1	1	1
Bulgaria.....	241	200	186	172	168	208	219	182	135	119
Former Czechoslovakia.....	532	504	411	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	259	238	285	328	333	333	337
Slovakia.....	--	--	--	175	205	273	265	256	251	249
Hungary.....	394	393	349	372	375	407	453	431	433	437
Poland.....	427	399	373	393	393	416	463	463	475	442
Romania.....	1,261	1,040	936	908	851	901	894	830	650	622
Former U.S.S.R.....	24,961	25,014	--	--	--	--	--	--	--	--
Armenia.....	--	--	66	49	57	57	64	46	49	46
Azerbaijan.....	--	--	523	388	332	318	328	323	197	212
Belarus.....	--	--	646	600	498	452	494	533	545	608
Estonia.....	--	--	53	21	23	26	29	37	36	35
Georgia.....	--	--	177	85	57	74	64	67	66	41
Kazakhstan.....	--	--	710	523	530	383	510	494	473	480
Kyrgyzstan.....	--	--	85	79	64	31	64	68	68	67
Latvia.....	--	--	57	28	25	39	35	46	46	46
Lithuania.....	--	--	141	85	81	99	92	102	113	76
Moldova.....	--	--	78	64	49	49	71	85	82	74
Russia.....	--	--	16,482	16,185	15,214	14,507	14,504	13,434	14,045	14,013
Tajikistan.....	--	--	67	49	57	29	43	40	40	41
Turkmenistan.....	--	--	141	145	148	170	170	162	155	198
Ukraine.....	--	--	3,503	3,871	3,327	2,970	2,935	2,832	2,606	2,755
Uzbekistan.....	--	--	1,095	1,541	1,229	1,349	1,434	1,455	1,409	1,423
Total.....	27,825	27,555	26,080	25,994	23,920	23,043	23,458	22,221	22,208	22,321
Middle East										
Bahrain.....	205	233	188	234	229	229	232	281	293	297
Iran.....	837	811	883	938	1,123	1,243	1,416	1,663	1,828	1,941
Iraq.....	77	39	101	90	112	112	114	108	104	112
Israel.....	1	1	1	1	1	1	1	1	1	(s)
Jordan.....	5	5	5	7	10	10	10	10	10	10
Kuwait.....	256	18	93	191	211	211	328	327	318	286
Oman.....	99	124	117	140	147	130	128	159	232	182
Qatar.....	276	328	401	477	477	477	484	513	522	562
Saudi Arabia.....	1,077	1,130	1,201	1,268	1,331	1,343	1,460	1,601	1,653	1,632
Syria.....	103	124	127	131	134	104	142	161	203	213
United Arab Emirates.....	663	790	902	798	765	875	959	1,024	1,073	1,110
Total.....	3,599	3,603	4,018	4,274	4,540	4,735	5,274	5,849	6,237	6,343
Africa										
Algeria.....	681	775	730	655	690	742	762	712	736	784
Angola.....	19	20	20	20	18	20	20	20	20	20
Cote d'Ivoire (Ivory Coast).....	0	0	0	0	0	1	19	21	28	47
Egypt.....	286	321	349	399	423	439	473	477	485	548
Equatorial Guinea.....	0	0	0	0	0	0	0	0	1	1
Gabon.....	3	4	4	4	4	4	4	4	4	4
Libya.....	175	175	174	168	173	171	184	192	192	183
Morocco.....	2	1	1	1	1	1	1	2	2	2
Mozambique.....	0	0	0	0	0	0	0	0	2	2
Nigeria.....	131	168	173	178	161	183	193	207	208	219
Senegal.....	0	0	0	1	1	2	2	1	1	1
South Africa.....	0	0	1	64	69	69	65	62	51	49
Tunisia.....	54	41	31	53	69	58	67	91	104	106
Total.....	1,351	1,505	1,483	1,542	1,610	1,689	1,790	1,788	1,836	1,967

See footnotes at end of table.

Table 1.3 World Dry Natural Gas Consumption, 1990 - 1999 (Continued)
(Billion Cubic Feet)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	67	11	11	11	11	7	8	8	8	8
Australia.....	625	584	604	630	661	710	719	718	753	763
Bangladesh.....	162	173	206	216	235	260	269	269	290	320
Brunei.....	46	15	35	29	25	34	28	31	27	37
Burma.....	38	36	36	39	51	58	57	53	62	61
China.....	508	526	533	558	589	601	663	749	784	854
Hong Kong.....	0	0	0	0	0	0	8	0	22	23
India.....	399	449	477	532	594	628	696	717	761	752
Indonesia.....	547	557	673	850	965	1,061	1,108	1,125	983	974
Japan.....	1,851	1,976	2,023	2,034	2,180	2,207	2,390	2,439	2,535	2,646
Korea, South.....	107	124	163	203	270	327	432	525	491	595
Malaysia.....	315	383	388	458	482	485	563	589	615	671
New Zealand.....	169	182	195	175	175	166	186	199	175	204
Pakistan.....	482	534	551	583	627	646	696	699	710	777
Papua New Guinea.....	0	0	2	3	2	4	5	4	4	4
Philippines.....	0	0	0	0	0	(s)	(s)	(s)	(s)	(s)
Singapore.....	0	0	39	53	53	53	53	53	53	53
Taiwan.....	80	105	115	111	141	151	157	187	219	220
Thailand.....	208	236	249	310	342	368	428	538	569	625
Vietnam.....	1	2	7	9	9	25	29	8	25	35
Total.....	5,605	5,894	6,306	6,803	7,409	7,790	8,496	8,912	9,083	9,622
World Total.....	72,912	74,380	74,352	76,576	76,365	78,016	81,652	81,409	81,896	84,196

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, 1990 - 1999
(Million Short Tons)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	54.95	56.01	47.94	54.19	58.12	58.53	59.12	62.02	66.18	63.40
Mexico.....	8.72	8.24	8.76	10.07	11.46	13.42	14.16	15.84	15.08	13.10
United States.2.....	895.48	887.62	907.65	944.08	951.46	962.04	1,005.57	1,029.23	1,040.12	1,045.16
Total.....	959.14	951.87	964.35	1,008.34	1,021.04	1,033.99	1,078.86	1,107.09	1,121.38	1,121.67
Central & South America										
Argentina.....	1.18	1.54	1.21	1.12	1.84	1.85	1.66	1.51	1.42	1.73
Brazil.....	16.97	19.58	18.76	18.98	18.91	19.57	20.15	19.78	27.79	27.23
Chile.....	4.14	3.30	2.93	2.98	3.54	3.89	5.83	7.36	5.73	6.94
Colombia.....	3.04	5.49	4.54	6.33	6.07	4.45	5.62	5.49	6.38	3.88
Costa Rica.....	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Cuba.....	0.24	0.16	0.09	0.11	0.13	0.11	0.02	0.05	0.05	0.02
Dominican Republic.....	0.02	0.21	0.20	0.24	0.07	0.09	0.11	0.12	0.30	0.26
Haiti.....	0.01	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jamaica.....	0.06	0.02	0.07	0.08	0.06	0.06	0.07	0.07	0.08	0.08
Panama.....	0.04	0.05	0.08	0.06	0.06	0.05	0.11	0.06	0.06	0.07
Paraguay.....	0.04	0.05	0.08	0.06	0.06	0.06	0.07	0.07	0.07	0.07
Peru.....	0.25	0.50	0.48	0.70	0.65	0.62	0.70	0.58	0.59	0.68
Puerto Rico.....	0.23	0.21	0.17	0.18	0.18	0.18	0.19	0.19	0.19	0.19
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.25	(s)	0.01	0.04	0.08	0.01	0.01	0.01	0.01	0.01
Virgin Islands, U.S.....	0.08	0.14	0.23	0.25	0.27	0.28	0.28	0.28	0.25	0.25
Other.....	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.06
Total.....	26.56	31.29	28.88	31.14	31.92	31.22	34.82	35.57	42.93	41.46
Western Europe										
Austria.....	8.45	7.77	7.01	6.14	5.53	6.47	6.59	6.94	5.75	5.97
Belgium.....	18.17	16.91	15.77	13.82	15.05	14.42	13.93	13.53	13.60	11.84
Denmark.....	11.19	14.95	12.22	13.16	14.47	12.08	16.59	12.32	10.31	8.79
Finland.....	6.86	6.98	6.08	7.20	8.68	7.51	8.81	8.20	6.22	6.20
France.....	35.29	36.55	32.39	25.47	25.20	27.32	28.41	24.65	28.71	25.96
Germany.....	--	402.16	358.99	334.98	302.74	297.52	295.81	280.01	268.60	258.12
Germany, East.....	315.20	--	--	--	--	--	--	--	--	--
Germany, West.....	212.42	--	--	--	--	--	--	--	--	--
Greece.....	58.95	58.55	62.20	62.45	65.51	64.43	65.72	66.15	68.28	68.45
Iceland.....	0.10	0.11	0.07	0.07	0.11	0.09	0.11	0.09	0.11	0.10
Ireland.....	3.66	3.58	3.25	3.25	3.03	3.02	3.34	3.23	3.22	2.67
Italy.....	22.96	23.41	20.37	17.73	18.71	19.97	18.32	18.43	19.26	19.18
Luxembourg.....	1.82	1.70	1.62	1.67	1.45	0.82	0.77	0.49	0.17	0.17
Malta.....	0.33	0.33	0.33	0.33	0.33	0.33	0.34	0.34	0.00	0.00
Netherlands.....	14.94	13.61	13.36	13.79	15.12	15.63	15.73	15.68	15.95	13.75
Norway.....	1.41	1.28	1.25	1.39	1.61	1.67	1.66	1.69	1.77	1.70
Portugal.....	4.84	4.83	5.13	5.49	5.81	6.25	5.99	6.05	5.50	6.72
Spain.....	52.58	52.23	51.61	48.73	47.30	47.73	41.97	45.15	44.87	48.21
Sweden.....	4.46	4.18	3.87	3.96	3.09	4.02	4.56	3.85	3.82	3.66
Switzerland.....	0.53	0.46	0.33	0.26	0.28	0.31	0.23	0.17	0.14	0.14
Turkey.....	59.98	63.55	64.66	60.46	65.57	67.27	73.24	80.06	86.29	83.70
United Kingdom.....	119.38	118.03	110.74	96.03	90.57	78.97	78.77	70.33	69.57	64.78
Former Yugoslavia.....	83.16	81.07	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	2.20	1.65	1.54	1.81	1.86	1.92	1.98	1.98
Croatia.....	--	--	0.66	0.85	0.57	0.30	0.43	0.49	0.40	0.42
Macedonia, TFYR.....	--	--	7.54	7.62	7.98	8.20	8.08	8.31	9.34	7.99
Serbia and Montenegro.....	--	--	44.62	41.82	42.88	44.83	43.11	45.42	48.56	36.24
Slovenia.....	--	--	6.51	6.18	5.59	5.81	5.54	6.20	5.61	5.29
Total.....	1,036.67	912.22	832.79	774.48	748.73	736.77	739.93	719.73	718.04	682.02

See footnotes at end of table.

Table 1.4 World Coal Consumption, 1990 - 1999 (Continued)
(Million Short Tons)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	2.34	1.31	0.85	0.62	0.19	0.18	0.11	0.08	0.05	0.05
Bulgaria.....	45.72	36.55	37.03	35.77	34.11	36.07	35.66	37.55	37.81	31.49
Former Czechoslovakia.....	119.08	110.84	101.36	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	82.13	78.35	77.43	77.23	78.68	77.29	58.62
Slovakia.....	--	--	--	15.81	13.43	13.95	13.22	12.38	11.53	7.66
Hungary.....	22.44	22.42	19.47	19.34	17.88	17.96	18.64	18.86	17.72	17.84
Poland.....	202.18	201.68	191.77	193.60	184.10	183.82	159.82	182.24	168.49	163.85
Romania.....	51.97	43.32	48.62	48.85	49.35	49.85	50.12	42.07	34.87	31.87
Former U.S.S.R.....	848.47	672.44	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.16	(s)	0.04	(s)	0.01	0.01	0.01	0.01
Azerbaijan.....	--	--	0.03	0.01	0.01	0.01	0.01	0.01	(s)	(s)
Belarus.....	--	--	2.05	1.77	1.32	1.24	1.23	0.89	0.80	0.80
Estonia.....	--	--	2.05	1.83	2.02	2.42	1.51	1.79	1.62	2.27
Georgia.....	--	--	0.48	0.35	0.31	0.28	0.20	0.15	0.02	0.02
Kazakhstan.....	--	--	94.16	87.16	88.69	79.78	62.60	54.27	41.96	39.50
Kyrgyzstan.....	--	--	2.73	2.44	2.24	1.68	1.33	0.79	1.40	1.22
Latvia.....	--	--	0.74	0.67	0.47	0.29	0.27	0.23	0.17	0.16
Lithuania.....	--	--	0.73	0.73	0.53	0.41	0.37	0.30	0.26	0.24
Moldova.....	--	--	2.96	2.57	2.52	1.50	1.30	0.72	0.65	0.64
Russia.....	--	--	374.59	361.09	316.46	295.51	317.36	289.96	255.52	268.30
Tajikistan.....	--	--	0.25	0.39	0.23	0.10	0.13	0.13	0.13	0.14
Turkmenistan.....	--	--	0.55	0.44	0.44	0.22	0.11	0.06	0.00	0.00
Ukraine.....	--	--	151.52	135.33	108.84	113.78	93.91	92.13	90.23	97.84
Uzbekistan.....	--	--	6.44	4.80	4.89	3.80	3.69	3.08	3.21	3.20
Total.....	1,292.20	1,088.55	1,038.51	995.71	906.42	880.27	838.85	816.36	743.74	725.72
Middle East										
Cyprus.....	0.12	0.02	0.03	0.03	0.03	0.02	0.01	0.02	0.03	0.03
Iran.....	1.88	1.72	1.45	1.28	1.76	1.55	1.68	1.98	1.78	1.84
Israel.....	4.10	4.48	5.52	6.24	6.61	7.24	8.64	9.53	10.23	10.23
Lebanon.....	0.00	0.00	0.00	0.12	0.12	0.20	0.23	0.23	0.22	0.22
Other.....	(s)	0.01	(s)	(s)	(s)	0.01	0.01	(s)	(s)	(s)
Total.....	6.10	6.22	6.99	7.67	8.53	9.03	10.56	11.76	12.27	12.32
Africa										
Algeria.....	1.21	1.18	1.00	0.96	0.84	1.06	0.67	0.61	0.85	0.73
Botswana.....	0.90	0.89	1.00	0.99	1.01	1.01	0.86	0.88	1.04	1.05
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.24	0.25	0.26	0.26	0.27	0.27	0.27	0.27	0.30	0.14
Egypt.....	1.60	1.29	1.25	1.63	1.72	1.18	1.75	1.94	2.04	2.50
Ghana.....	(s)	0.09	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.17	0.15	0.18	0.15	0.12	0.10	0.10	0.10	0.14	0.13
Libya.....	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Madagascar.....	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Malawi.....	0.06	0.07	0.07	0.07	0.08	0.08	0.10	0.09	0.08	0.08
Mauritania.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	0.00
Mauritius.....	0.08	0.07	0.07	0.06	0.04	0.07	0.07	0.07	0.07	0.07
Morocco.....	1.95	2.25	1.93	2.21	2.45	2.92	3.49	3.44	3.83	3.85
Mozambique.....	0.06	0.07	0.07	0.07	0.07	0.06	0.06	0.07	0.09	0.09
Niger.....	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.16	0.17
Nigeria.....	0.07	0.12	0.12	0.14	0.15	0.16	0.16	0.16	0.07	0.08
South Africa.....	139.08	143.64	149.07	152.79	160.47	162.27	164.69	173.39	167.80	162.98
Swaziland.....	0.18	0.14	0.11	0.06	0.20	0.19	0.14	0.16	0.30	0.32
Tanzania.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	(s)	(s)
Tunisia.....	0.12	0.12	0.13	0.13	0.12	0.11	0.12	0.12	0.10	0.00
Zambia.....	0.41	0.32	0.37	0.27	0.16	0.17	0.18	0.19	0.18	0.19
Zimbabwe.....	6.05	5.76	6.09	5.66	6.00	5.94	5.02	4.28	4.39	4.70
Total.....	152.41	156.64	161.92	165.68	173.93	175.82	177.91	186.00	181.46	177.12

See footnotes at end of table.

Table 1.4 World Coal Consumption, 1990 - 1999 (Continued)
(Million Short Tons)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	0.12	0.10	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)
Australia.....	103.72	108.08	113.57	109.17	109.96	112.38	120.44	126.83	139.75	142.29
Bangladesh.....	0.62	0.20	0.19	0.07	0.06	0.07	0.38	0.70	0.19	0.19
Bhutan.....	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.02
Burma.....	0.09	0.10	0.10	0.09	0.10	0.08	0.07	0.07	0.09	0.08
China.....	1,124.12	1,164.88	1,199.48	1,275.60	1,389.84	1,497.51	1,486.08	1,404.14	1,300.46	1,075.00
Fiji.....	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Hong Kong.....	10.38	9.27	11.55	13.33	9.61	10.33	8.24	7.07	8.60	7.05
India.....	241.80	252.17	273.67	286.12	291.40	307.83	327.36	336.68	333.38	348.44
Indonesia.....	7.18	6.88	8.24	9.51	11.56	11.53	16.27	14.59	16.19	12.00
Japan.....	125.07	128.23	126.31	128.79	133.41	139.89	143.42	147.36	144.07	149.48
Korea, North.....	101.85	105.08	107.31	111.61	110.45	109.32	108.27	101.11	95.69	87.56
Korea, South.....	41.88	45.42	41.82	44.53	48.70	51.02	56.67	57.79	59.75	65.14
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia.....	2.50	2.55	2.76	2.25	2.62	2.67	3.13	2.37	2.35	1.57
Mongolia.....	7.34	7.71	6.66	6.01	5.52	5.36	5.44	5.21	5.36	5.26
Nepal.....	0.03	0.09	0.12	0.08	0.14	0.14	0.14	0.14	0.13	0.37
New Caledonia.....	0.18	0.19	0.19	0.19	0.18	0.18	0.19	0.19	0.19	0.19
New Zealand.....	2.24	2.13	2.52	2.33	2.16	2.31	2.45	2.49	2.26	2.36
Pakistan.....	4.25	4.25	4.57	4.48	4.75	4.53	5.20	4.84	4.54	4.87
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	2.73	3.03	3.00	3.05	3.39	3.87	5.13	5.93	5.42	5.62
Singapore.....	0.04	0.02	0.03	0.03	0.06	0.05	(s)	(s)	(s)	0.00
Sri Lanka.....	(s)	(s)	(s)	(s)	(s)	0.01	(s)	(s)	(s)	(s)
Taiwan.....	18.88	20.62	24.12	26.65	28.14	28.83	33.36	39.91	40.73	44.91
Thailand.....	14.11	16.63	17.73	18.54	20.52	22.99	27.68	28.61	24.30	22.20
Vietnam.....	4.60	3.78	3.79	4.39	4.35	6.94	6.70	5.97	5.71	5.44
Total.....	1,813.78	1,881.45	1,947.78	2,046.88	2,176.97	2,317.88	2,356.67	2,292.07	2,189.23	1,980.07
World Total.....	5,286.87	5,028.24	4,981.23	5,029.91	5,067.53	5,184.98	5,237.61	5,168.57	5,009.04	4,740.37

¹ Preliminary.

² United States coal consumption is from Energy Information Administration, Annual Energy Review 1999, table 7.1.

--- 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, 1990 - 1999
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	293.9	305.3	313.2	320.3	326.4	332.0	352.4	347.2	328.6	340.3
Mexico.....	23.2	21.6	25.9	26.0	19.8	27.3	31.1	26.2	24.4	32.4
United States.2.....	298.4	304.2	272.7	301.2	284.6	334.2	375.5	376.3	338.9	324.2
Total.....	615.5	631.1	611.8	647.5	630.9	693.5	759.1	749.7	691.8	696.9
Central & South America										
Argentina.....	20.2	19.3	24.3	29.9	34.0	33.4	28.4	34.8	35.8	23.7
Bolivia.....	1.2	1.4	1.3	1.4	1.4	1.4	1.5	1.4	1.4	1.5
Brazil.....	204.6	215.6	221.1	232.7	240.3	251.4	263.1	276.2	288.5	305.9
Chile.....	11.9	13.0	16.6	17.0	16.8	18.2	16.7	18.2	15.0	13.3
Colombia.....	27.2	27.2	22.2	27.7	32.0	33.9	34.3	30.9	31.2	33.2
Costa Rica.....	3.3	3.6	3.5	3.9	3.9	3.5	3.8	4.8	4.7	4.8
Dominican Republic.....	0.4	0.6	1.9	1.5	1.6	1.7	1.3	1.3	1.4	0.9
Ecuador.....	4.9	5.0	4.9	5.8	6.6	5.2	6.2	6.4	6.5	7.1
El Salvador.....	1.4	0.8	1.0	1.2	1.2	1.2	1.1	1.2	1.2	1.5
Guatemala.....	2.1	2.1	1.8	1.9	2.0	1.9	2.3	2.1	2.1	2.3
Haiti.....	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.3	0.3
Honduras.....	2.1	2.1	2.2	2.2	2.3	2.1	2.1	1.4	1.9	1.8
Jamaica.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nicaragua.....	0.4	0.3	0.3	0.5	0.4	0.4	0.4	0.4	0.5	0.4
Panama.....	2.2	2.5	2.6	3.0	3.2	2.9	3.3	3.2	3.3	3.2
Paraguay.....	26.9	29.1	26.8	31.1	36.0	41.7	47.6	50.1	50.3	51.4
Peru.....	10.4	11.4	9.7	11.7	12.6	13.6	13.2	13.1	13.7	14.4
Puerto Rico.....	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Suriname.....	1.2	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.4
Uruguay.....	6.9	6.1	7.8	7.2	7.4	5.8	5.7	6.4	9.1	5.4
Venezuela.....	36.6	44.1	46.8	47.0	50.8	50.9	53.3	56.6	52.5	55.1
Other.....	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Total.....	364.8	386.3	397.0	427.9	454.6	471.5	486.6	510.8	521.4	528.5
Western Europe										
Austria.....	31.2	31.1	34.5	36.3	35.3	36.7	33.9	35.6	36.8	40.1
Belgium.....	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.3
Finland.....	10.8	13.1	15.0	13.3	11.7	12.8	11.7	12.1	14.9	12.7
France.....	52.8	56.3	67.2	63.1	76.5	70.6	64.5	61.6	61.4	71.6
Germany.....	--	14.7	17.2	17.7	19.7	21.6	21.7	17.2	17.0	19.1
Germany, East.....	1.4	--	--	--	--	--	--	--	--	--
Germany, West.....	15.8	--	--	--	--	--	--	--	--	--
Greece.....	1.8	3.1	2.2	2.3	2.6	3.5	4.3	3.8	3.7	4.5
Iceland.....	4.2	4.2	4.3	4.4	4.5	4.6	4.7	5.2	5.6	6.0
Ireland.....	0.7	0.7	0.8	0.8	0.9	0.7	0.7	0.7	0.9	0.8
Italy.....	31.3	41.8	41.8	41.0	44.2	37.4	41.6	41.2	40.8	44.8
Luxembourg.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
Norway.....	119.9	109.0	115.5	118.0	110.4	120.1	102.6	108.9	114.2	120.0
Portugal.....	9.1	9.0	4.6	8.5	10.6	8.3	14.6	13.0	12.9	7.2
Spain.....	25.2	27.0	18.7	24.1	27.9	22.9	39.4	34.4	33.7	23.9
Sweden.....	71.8	62.6	73.6	73.9	58.5	67.4	51.2	68.4	73.6	69.3
Switzerland.....	29.5	31.8	32.4	35.4	38.7	34.8	28.1	33.7	33.1	39.5
Turkey.....	22.9	22.5	26.3	33.6	30.3	35.2	40.1	39.4	41.8	34.3
United Kingdom.....	5.1	4.5	5.3	4.2	5.0	4.8	3.3	4.1	5.2	5.3
Former Yugoslavia.....	19.6	18.9	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	3.0	2.0	1.2	1.4	1.4	1.5	1.5	1.6
Croatia.....	--	--	4.3	4.3	4.9	5.2	7.2	5.2	5.4	6.5
Macedonia, TFYR.....	--	--	0.8	0.5	0.7	0.8	1.4	1.2	1.1	1.1
Serbia and Montenegro.....	--	--	11.2	10.0	11.0	11.1	11.4	12.0	12.1	10.3
Slovenia.....	--	--	3.4	3.0	3.3	3.2	3.6	3.0	3.4	3.7
Other.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total.....	453.4	450.8	482.6	497.0	498.6	503.7	488.0	502.9	519.8	523.1

See footnotes at end of table.

Table 1.5 World Net Hydroelectric Power Consumption, 1990 - 1999 (Continued)
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	2.8	3.5	3.2	3.3	3.7	4.2	5.6	4.9	4.8	5.1
Bulgaria.....	1.9	2.4	2.0	1.9	1.5	2.3	2.9	2.9	3.3	3.0
Former Czechoslovakia.....	3.9	3.1	3.6	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	1.4	1.4	2.0	1.9	1.7	1.4	1.7
Slovakia.....	--	--	--	3.9	4.6	5.2	4.5	4.3	4.5	4.1
Hungary.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Poland.....	3.3	3.4	3.5	3.5	3.7	3.8	3.9	3.8	4.3	4.2
Romania.....	10.9	14.1	11.6	12.6	12.9	16.5	15.6	17.3	18.7	17.7
Former U.S.S.R.....	230.7	232.7	--	--	--	--	--	--	--	--
Armenia.....	--	--	3.0	4.2	3.5	1.9	1.6	1.4	1.5	1.6
Azerbaijan.....	--	--	1.7	2.4	1.8	1.5	1.5	1.7	1.9	2.2
Georgia.....	--	--	6.5	7.0	4.7	5.3	6.0	6.0	6.3	6.4
Kazakhstan.....	--	--	6.8	7.6	9.1	8.2	7.3	6.4	6.1	5.6
Kyrgyzstan.....	--	--	9.2	9.0	11.6	11.0	12.1	10.8	9.8	12.1
Latvia.....	--	--	2.5	2.8	3.3	2.9	1.8	2.9	4.3	2.7
Lithuania.....	--	--	0.3	0.4	0.4	0.4	0.5	0.4	0.5	0.5
Moldova.....	--	--	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.3
Russia.....	--	--	170.9	172.1	175.2	175.5	153.8	156.8	157.9	157.9
Tajikistan.....	--	--	15.8	16.9	16.5	14.5	14.7	13.6	14.0	15.3
Ukraine.....	--	--	8.0	11.1	12.2	10.0	8.7	9.9	15.8	15.2
Uzbekistan.....	--	--	6.2	7.3	7.1	6.1	6.5	5.7	5.7	5.8
Other.....	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	253.6	259.3	255.3	267.9	273.6	271.8	249.4	251.2	261.3	261.7
Middle East										
Iran.....	6.0	7.0	9.4	9.7	7.4	7.2	7.3	6.8	6.9	7.1
Iraq.....	0.6	0.3	0.7	0.6	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.....	0.3	0.5	0.5	0.7	0.8	0.7	0.8	0.9	0.8	0.7
Syria.....	5.6	6.2	7.3	6.6	6.7	6.9	6.9	7.3	7.5	7.6
Total.....	12.5	14.0	18.0	17.7	15.5	15.4	15.6	15.7	15.8	16.0
Africa										
Algeria.....	0.1	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.2	0.2
Angola.....	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.0
Cameroon.....	2.6	2.6	2.6	2.6	2.7	2.7	2.8	3.1	3.2	3.4
Congo (Brazzaville).....	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
Congo (Kinshasa).....	5.6	5.2	6.0	5.7	5.4	6.0	6.1	5.8	5.5	5.2
Cote d'Ivoire (Ivory Coast).....	1.3	1.2	1.0	1.1	1.0	1.7	1.8	1.8	1.4	1.0
Egypt.....	9.9	8.5	8.5	10.4	10.6	10.7	11.4	11.9	12.1	15.1
Ethiopia.....	1.1	1.1	1.1	1.3	1.3	1.4	1.5	1.6	1.6	1.6
Gabon.....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Ghana.....	5.7	6.0	6.0	6.1	6.0	6.0	6.6	6.8	4.3	4.0
Guinea.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4
Kenya.....	2.5	2.7	2.8	3.0	3.0	3.1	3.2	3.3	3.2	3.0
Madagascar.....	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5
Malawi.....	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1.0
Mali.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Morocco.....	1.2	1.2	1.0	0.4	0.8	0.6	1.9	2.0	1.7	1.5
Mozambique.....	0.3	0.3	0.3	0.3	0.4	0.4	0.4	1.0	1.5	2.0
Nigeria.....	4.3	5.9	6.0	5.5	5.5	5.4	5.4	5.5	7.0	8.8
Reunion.....	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
South Africa.....	1.0	2.0	0.8	0.1	1.1	0.5	1.3	2.1	1.6	0.7
Sudan.....	0.9	1.0	1.1	1.1	1.1	1.0	1.1	1.0	1.0	1.0
Swaziland.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Tanzania.....	1.5	1.7	1.6	1.7	1.5	1.5	1.7	1.4	2.1	1.7
Uganda.....	0.8	0.8	1.0	1.0	1.0	1.0	1.1	1.2	1.2	1.3
Zambia.....	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.9	7.8	7.6
Zimbabwe.....	3.8	3.5	2.9	1.8	1.6	1.8	2.1	2.1	1.9	1.7
Other.....	0.5	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.8
Total.....	55.5	57.2	55.8	55.3	56.2	57.3	62.0	64.5	63.1	65.6

See footnotes at end of table.

Table 1.5 World Net Hydroelectric Power Consumption, 1990 - 1999 (Continued)
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	0.8	0.7	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3
Australia.....	14.0	15.7	15.2	16.5	16.2	15.7	15.4	16.6	15.6	16.0
Bangladesh.....	0.9	0.8	0.8	0.6	0.8	0.6	0.7	0.7	0.7	0.8
Bhutan.....	1.5	1.6	1.6	1.6	1.7	1.6	2.0	1.8	1.8	1.9
Burma.....	1.2	1.2	1.5	1.7	1.6	1.6	1.6	1.6	1.4	1.5
Cambodia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China.....	125.1	123.8	130.2	149.2	165.4	184.4	184.9	193.1	202.9	222.8
Fiji.....	0.4	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	0.2	0.2	0.2
India.....	70.9	72.0	69.2	69.8	81.9	72.0	68.4	74.0	75.5	80.8
Indonesia.....	10.1	10.0	9.7	8.8	6.8	8.6	8.9	9.0	10.5	11.5
Japan.....	88.4	96.5	81.7	94.6	66.6	81.3	79.7	88.9	91.6	85.0
Korea, North.....	28.7	31.4	23.8	23.8	23.3	22.8	22.3	20.8	19.7	18.7
Korea, South.....	4.6	3.5	3.1	4.2	2.3	2.7	2.4	2.8	4.1	4.1
Laos.....	0.8	0.9	0.9	0.9	1.1	1.0	1.2	1.2	0.9	0.8
Malaysia.....	3.9	4.4	4.3	4.8	6.5	6.2	5.1	3.8	4.8	5.0
Nepal.....	0.9	0.9	0.8	0.9	0.9	1.1	1.2	1.1	1.1	1.1
New Caledonia.....	0.5	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.3
New Zealand.....	23.1	22.9	20.4	23.1	25.6	27.0	25.7	23.6	24.1	23.3
Pakistan.....	16.8	18.1	18.5	20.9	19.2	22.6	23.0	20.6	21.8	22.7
Papua New Guinea.....	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.8
Philippines.....	6.0	5.1	4.2	4.9	5.9	6.1	6.9	6.0	5.0	7.6
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	3.1	3.1	2.9	3.8	4.0	4.4	3.2	3.4	3.9	4.2
Taiwan.....	8.2	5.5	8.3	6.8	8.8	8.3	8.6	8.9	9.9	8.8
Thailand.....	4.9	4.5	4.2	3.7	4.5	6.6	7.3	7.1	5.1	3.4
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	5.3	6.3	7.2	7.9	9.1	10.5	11.9	11.6	11.0	12.0
Total.....	420.9	430.3	410.3	450.2	454.1	487.3	482.4	498.7	513.7	534.1
World Total.....	2,176.3	2,229.0	2,230.8	2,363.5	2,383.5	2,500.6	2,543.2	2,593.5	2,586.9	2,625.9

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.

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, 1990 - 1999
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	69.2	80.7	76.6	90.1	102.4	93.0	88.1	77.9	67.7	69.8
Mexico.....	2.8	4.0	3.7	4.7	4.0	8.0	7.5	9.9	8.8	9.5
United States.....	577.0	612.6	618.8	610.4	640.5	673.4	674.7	628.6	673.7	728.2
Total.....	649.0	697.4	699.1	705.1	747.0	774.4	770.3	716.4	750.2	807.5
Central & South America										
Argentina.....	7.0	7.7	6.7	7.3	7.8	7.1	6.9	7.5	7.1	6.7
Brazil.....	1.9	1.4	1.7	0.4	0.1	2.4	2.3	3.0	3.1	3.8
Total.....	9.0	9.1	8.4	7.7	7.9	9.5	9.2	10.5	10.3	10.5
Western Europe										
Belgium.....	40.6	40.7	41.3	39.8	38.6	39.3	41.2	45.0	43.9	46.6
Finland.....	18.3	18.5	18.3	18.9	18.5	18.3	18.5	19.0	20.8	21.8
France.....	298.4	314.8	321.5	349.8	342.0	358.4	377.5	374.3	368.6	375.1
Germany.....	--	140.1	150.9	145.8	143.2	145.4	152.0	161.8	153.6	161.0
Germany, East.....	5.3	--	--	--	--	--	--	--	--	--
Germany, West.....	139.8	--	--	--	--	--	--	--	--	--
Netherlands.....	3.3	3.2	3.6	3.8	3.8	3.8	4.0	2.3	3.6	3.6
Spain.....	51.6	52.8	53.0	53.3	52.5	52.7	53.5	52.5	56.0	55.9
Sweden.....	64.8	72.9	60.4	58.3	69.5	66.4	69.6	66.7	69.9	66.6
Switzerland.....	22.4	21.7	22.3	22.2	23.1	23.7	23.9	24.0	24.5	23.7
United Kingdom.....	58.7	62.8	69.1	81.0	80.0	80.6	85.8	89.3	95.1	91.5
Former Yugoslavia.....	4.4	4.2	--	--	--	--	--	--	--	--
Slovenia.....	--	--	3.8	3.8	4.3	4.5	4.4	4.8	5.0	4.5
Total.....	707.5	731.6	744.1	776.6	775.4	793.0	830.3	839.9	841.0	850.2
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	13.5	12.4	11.0	13.3	14.6	16.4	17.8	16.4	15.5	14.5
Former Czechoslovakia.....	23.4	22.5	23.3	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	12.0	12.3	11.6	12.2	12.5	12.5	12.7
Slovakia.....	--	--	--	11.6	11.5	10.9	11.3	10.5	9.8	10.0
Hungary.....	13.0	13.0	13.3	13.1	13.3	13.3	13.5	13.3	13.3	13.4
Romania.....	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.1	4.9	4.8
Former U.S.S.R.....	201.3	201.5	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.0	0.0	0.0	0.0	2.1	1.4	1.4	2.1
Kazakhstan.....	--	--	0.5	0.4	0.4	0.1	0.1	0.3	0.1	0.1
Lithuania.....	--	--	13.9	12.3	7.3	10.6	12.7	10.9	12.9	9.9
Russia.....	--	--	113.6	113.2	92.9	94.3	103.3	104.5	98.3	110.9
Ukraine.....	--	--	70.1	71.4	65.4	67.0	76.0	75.4	70.6	67.3
Total.....	251.3	249.5	245.6	247.3	217.7	224.3	249.8	250.3	239.3	245.7
Africa										
South Africa.....	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6	13.6	12.8
Total.....	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6	13.6	12.8
Far East & Oceania										
China.....	0.0	0.0	0.5	2.5	13.5	12.4	13.6	11.4	13.5	14.1
India.....	5.6	5.2	6.0	5.9	4.7	6.5	7.4	10.5	10.6	11.5
Japan.....	192.2	202.8	212.1	236.8	255.7	276.7	287.1	306.1	315.7	308.7
Korea, South.....	50.2	53.5	53.7	55.2	55.7	63.7	70.2	73.2	85.2	97.9
Pakistan.....	0.4	0.4	0.5	0.4	0.6	0.5	0.3	0.4	0.4	0.1
Taiwan.....	31.6	33.5	32.5	33.0	33.5	33.9	36.3	34.8	35.4	36.9
Total.....	279.9	295.4	305.3	333.8	363.6	393.6	415.0	436.4	460.8	469.1
World Total.....	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,266.1	2,315.3	2,395.9

¹ Preliminary.

-- Not applicable.

(s) = Value less than 50 million kilowatthours.

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

Consumption 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 Geothermal, Solar, Wind, Wood and Waste Electric Power Consumption, 1990 - 1999
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	3.7	3.7	4.1	4.5	5.4	5.3	5.5	5.9	6.1	7.5
Mexico.....	4.9	5.2	5.5	5.6	5.3	5.4	5.4	5.2	5.4	5.3
United States.....	65.7	72.2	76.8	79.3	81.3	78.7	80.5	76.9	75.3	83.0
Total.....	74.2	81.1	86.5	89.4	92.0	89.3	91.4	88.0	86.7	95.8
Central & South America										
Argentina.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Bolivia.....	(s)	(s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Brazil.....	4.9	5.3	6.6	6.7	7.2	7.4	8.5	9.5	9.7	9.9
Chile.....	0.3	0.3	0.5	0.5	0.5	0.7	0.9	0.8	1.1	1.5
Colombia.....	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.6	0.7	0.7
Costa Rica.....	0.0	(s)	(s)	(s)	0.3	0.5	0.5	0.5	0.5	0.8
Cuba.....	1.1	1.0	1.0	0.7	0.7	0.5	0.7	0.7	0.7	0.7
Dominican Republic.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
El Salvador.....	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5
Guatemala.....	0.1	(s)	(s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haiti.....	(s)	(s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jamaica.....	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4
Nicaragua.....	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.4	0.4
Panama.....	0.1	0.1	0.1	0.1	(s)	(s)	(s)	(s)	(s)	(s)
Paraguay.....	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.0	(s)	0.1
Peru.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Trinidad and Tobago.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Uruguay.....	(s)	(s)	0.1	0.1	0.1	(s)	(s)	(s)	(s)	(s)
Total.....	8.1	8.3	9.9	9.7	10.5	11.0	12.7	13.7	14.5	15.5
Western Europe										
Austria.....	1.1	1.1	1.2	1.2	1.6	1.9	1.7	1.6	1.6	1.7
Belgium.....	0.6	0.8	0.9	0.9	0.9	1.0	1.0	0.9	1.0	1.0
Croatia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Denmark.....	0.7	0.8	1.1	1.5	1.8	2.0	2.3	3.1	4.1	4.4
Faroe Islands.....	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)	0.0	0.0
Finland.....	0.0	0.0	4.7	5.7	6.1	6.3	5.8	7.8	9.3	9.5
France.....	2.1	2.1	2.1	2.1	2.4	2.5	2.5	2.9	2.8	2.4
Germany.....	--	5.2	5.7	6.1	7.6	8.3	9.2	9.9	12.6	15.0
Germany, West.....	4.8	--	--	--	--	--	--	--	--	--
Greece.....	(s)	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3
Iceland.....	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.6	1.1
Ireland.....	0.0	0.0	(s)	(s)	(s)	(s)	(s)	0.1	0.2	0.3
Italy.....	3.2	3.2	3.8	4.0	3.8	4.0	4.5	5.3	6.1	7.0
Luxembourg.....	(s)	(s)	(s)	(s)	(s)	0.1	(s)	(s)	(s)	0.1
Netherlands.....	0.9	1.0	1.4	1.6	1.6	2.0	2.6	3.9	4.2	4.6
Norway.....	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Portugal.....	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2
Spain.....	0.7	0.7	0.7	0.8	1.0	1.5	1.8	2.8	3.5	3.8
Sweden.....	1.8	1.7	2.0	2.2	2.2	2.4	2.2	2.9	3.2	2.7
Switzerland.....	0.5	0.5	0.6	0.5	1.0	1.0	1.1	1.1	1.1	1.3
Turkey.....	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.4	0.3	0.3
United Kingdom.....	1.3	1.0	2.0	4.5	4.6	5.4	5.7	6.0	6.2	8.2
Total.....	19.0	19.7	27.9	32.9	36.4	40.4	42.6	50.5	58.6	64.9
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(s)
Czech Republic.....	--	--	--	0.3	0.4	0.4	0.7	0.9	1.0	1.0
Poland.....	0.2	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.6	0.6
Romania.....	(s)	0.0	0.1	0.1	0.0	(s)	0.0	(s)	(s)	(s)
Former U.S.S.R.....	(s)	(s)	--	--	--	--	--	--	--	--
Estonia.....	--	--	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	0.3	0.4	0.5	0.7	0.8	0.8	1.1	1.4	1.6	1.6

See footnotes at end of table.

Table 1.7 World Net Geothermal, Solar, Wind, Wood and Waste Electric Power Consumption, 1990 - 1999 (Cont.)
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Jordan.....	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0	0.0	0.0
Total.....	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0	0.0	0.0
Africa										
Ethiopia.....	0.1	0.1	0.1	0.1	0.1	0.1	(s)	0.0	0.0	0.0
Kenya.....	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4	0.3	0.3
Total.....	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3
Far East & Oceania										
Australia.....	0.6	0.6	2.6	2.7	2.7	2.7	3.0	3.1	3.2	3.3
India.....	(s)	(s)	(s)	0.1	0.2	0.1	0.8	0.9	1.0	1.4
Indonesia.....	1.1	1.0	1.0	1.0	1.8	2.1	2.2	2.5	3.7	3.9
Japan.....	17.6	18.3	18.4	18.5	19.7	21.8	22.7	24.4	23.8	24.7
Korea, South.....	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)
New Zealand.....	2.5	2.6	2.7	2.6	2.6	2.5	2.6	2.6	2.9	3.1
Philippines.....	5.2	5.5	5.4	5.4	6.0	5.8	6.2	6.9	8.5	8.3
Thailand.....	0.0	0.0	0.0	0.0	0.0	0.3	0.3	2.1	3.0	4.5
Total.....	27.0	28.1	30.2	30.3	33.1	35.4	37.8	42.5	46.1	49.2
World Total.....	129.0	137.9	155.2	163.3	173.1	177.3	186.1	196.5	207.9	227.4

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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Petroleum										
World Total	134.87	136.09	136.61	136.60	139.11	142.30	145.41	148.34	149.84	152.20
OECD ²	82.70	83.63	85.72	86.56	88.86	90.34	92.59	93.89	94.27	95.44
Non OECD.....	52.17	52.46	50.89	50.05	50.25	51.96	52.82	54.45	55.57	56.76
Other Groups:.....										
OECD Europe.....	27.66	28.66	29.16	29.21	29.36	30.45	30.86	31.24	31.88	31.50
OPEC ³	9.11	9.29	9.55	10.09	10.38	10.88	11.03	11.41	11.46	11.75
EU, ⁴	24.75	25.80	26.18	25.79	25.96	26.95	27.11	27.39	28.01	27.62
IEA ⁵	76.50	77.05	78.55	78.92	80.68	81.95	83.68	84.35	85.35	86.29
Natural Gas										
World Total	74.51	76.01	76.12	78.41	78.33	80.23	84.01	83.82	84.50	86.89
OECD ²	36.00	37.67	38.47	40.21	41.34	43.47	45.72	45.72	45.64	47.24
Non OECD.....	38.51	38.34	37.65	38.20	37.00	36.76	38.29	38.10	38.86	39.65
Other Groups:.....										
OECD Europe.....	10.64	11.58	11.51	12.33	12.54	13.71	14.95	14.80	15.24	16.04
OPEC ³	5.98	6.10	6.63	6.98	7.48	7.94	8.60	9.13	9.42	9.59
EU, ⁴	9.58	10.52	10.43	10.97	11.17	12.17	13.20	12.99	13.40	14.04
IEA ⁵	34.47	36.13	36.88	38.54	39.53	41.56	43.58	43.44	43.28	44.78
Coal										
World Total	89.96	86.54	86.62	87.11	87.44	89.40	90.41	92.12	89.26	84.77
OECD ²	41.74	40.64	39.44	40.99	40.58	40.67	41.54	43.49	43.37	42.92
Non OECD.....	48.23	45.90	47.18	46.12	46.86	48.73	48.88	48.63	45.89	41.85
Other Groups:.....										
OECD Europe.....	16.18	15.18	13.78	14.40	13.60	13.36	13.09	13.70	13.32	12.61
OPEC ³	0.26	0.24	0.26	0.30	0.36	0.36	0.46	0.40	0.44	0.34
EU, ⁴	12.32	11.23	10.00	9.71	9.11	9.03	8.90	8.86	8.75	8.40
IEA ⁵	37.77	36.60	35.52	36.78	36.44	36.63	37.72	39.05	39.19	38.74
Hydroelectric Power										
World Total	22.66	23.19	23.18	24.55	24.76	25.98	26.42	26.96	26.88	27.29
OECD ²	12.33	12.55	12.42	13.16	12.71	13.58	14.04	14.20	13.81	13.83
Non OECD.....	10.33	10.65	10.76	11.39	12.05	12.40	12.39	12.75	13.07	13.46
Other Groups:.....										
OECD Europe.....	4.57	4.53	4.82	5.02	5.02	5.07	4.88	5.05	5.22	5.26
OPEC ³	0.60	0.70	0.76	0.75	0.74	0.76	0.79	0.82	0.81	0.87
EU, ⁴	2.70	2.75	2.93	2.97	3.05	2.99	2.99	3.04	3.14	3.12
IEA ⁵	11.96	12.21	12.04	12.77	12.40	13.18	13.60	13.81	13.41	13.35
Nuclear Electric Power										
World Total	20.37	21.29	21.36	22.07	22.50	23.31	24.13	23.90	24.41	25.25
OECD ²	16.99	17.93	18.15	18.99	19.61	20.31	20.81	20.54	21.13	21.89
Non OECD.....	3.38	3.36	3.21	3.08	2.89	3.00	3.32	3.36	3.28	3.36
Other Groups:.....										
OECD Europe.....	7.53	7.76	7.91	8.42	8.40	8.52	8.93	9.02	9.05	9.14
OPEC ³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU, ⁴	7.14	7.40	7.55	7.91	7.87	8.01	8.41	8.50	8.52	8.62
IEA ⁵	16.46	17.35	17.57	18.39	19.02	19.59	20.03	19.71	20.19	20.82

See footnotes at end of table.

Table 1.8 World Consumption of Primary Energy by Selected Country Groups (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Geothermal, Solar, Wind, and Wood and Waste Electric Power										
World Total	1.72	1.82	2.00	2.09	2.21	2.24	2.36	2.47	2.63	2.83
OECD ²	1.48	1.58	1.75	1.84	1.91	1.93	2.01	2.08	2.16	2.33
Non OECD.....	0.23	0.24	0.26	0.25	0.29	0.30	0.34	0.39	0.47	0.50
Other Groups:.....										
OECD Europe.....	0.24	0.24	0.33	0.39	0.42	0.47	0.50	0.58	0.68	0.75
OPEC ³	0.02	0.02	0.02	0.02	0.04	0.04	0.05	0.05	0.08	0.08
EU, ⁴	0.22	0.23	0.31	0.37	0.40	0.44	0.46	0.54	0.63	0.69
IEA ⁵	1.37	1.46	1.62	1.71	1.79	1.81	1.89	1.96	2.03	2.19
Total Energy⁶										
World Total	346.18	346.89	347.90	352.76	356.36	365.60	374.91	379.77	379.69	381.88
OECD ²	193.49	196.09	198.00	203.73	207.06	212.48	218.93	222.14	222.64	226.36
Non OECD.....	152.68	150.80	149.90	149.03	149.30	153.12	155.98	157.62	157.05	155.51
Other Groups:.....										
OECD Europe.....	66.97	68.10	67.55	69.81	69.38	71.62	73.25	74.46	75.48	75.37
OPEC ³	15.96	16.35	17.21	18.12	18.98	19.97	20.92	21.81	22.20	22.63
EU, ⁴	56.96	58.08	57.59	57.94	57.74	59.77	61.05	61.42	62.59	62.73
IEA ⁵	180.82	182.93	184.28	189.12	191.94	196.93	202.75	204.54	205.75	208.91

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, Czech Republic, 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 geothermal, solar, and wood and waste 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 1999 membership (as of December 31, 1999) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Data for the Czech Republic are included in the country groups OECD, OECD Europe, and IEA beginning in 1993, the year that the country came into existence. 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, 1990-1999

Table 2.1 World Production of Primary Energy by Selected Country Groups, 1990 - 1999

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Petroleum (thousand barrels per day)²										
World Total.....	66,743	66,617	66,941	67,335	68,246	69,868	71,397	73,658	75,124	74,184
OECD ³	20,132	20,694	21,040	21,192	21,893	22,359	23,074	23,440	23,324	22,879
Non OECD.....	46,611	45,922	45,901	46,143	46,353	47,509	48,324	50,218	51,800	51,305
Other Groups:.....										
OECD Europe.....	4,645	4,874	5,272	5,486	6,214	6,630	7,046	7,029	6,996	7,068
OPEC ⁴	24,536	24,625	25,818	26,610	27,031	27,566	28,018	29,355	30,492	29,283
EU, ⁵	2,725	2,744	2,806	2,900	3,453	3,597	3,678	3,611	3,721	3,808
IEA ⁶	17,128	17,539	17,902	18,038	18,693	19,228	19,752	19,926	19,724	19,429
Natural Gas (trillion cubic feet)										
World Total.....	73.57	74.78	74.84	76.36	76.93	77.96	81.71	81.61	82.79	84.69
OECD ³	30.99	31.74	32.47	33.66	34.95	35.46	37.38	37.23	37.25	37.68
Non OECD.....	42.58	43.04	42.38	42.70	41.98	42.50	44.33	44.38	45.54	47.01
Other Groups:.....										
OECD Europe.....	7.47	8.07	8.15	8.59	8.70	9.02	10.36	9.97	9.87	10.13
OPEC ⁴	7.73	8.20	8.64	9.01	9.44	10.08	10.93	11.83	12.26	12.89
EU, ⁵	6.17	6.77	6.78	7.25	7.30	7.58	8.55	8.00	7.90	8.04
IEA ⁶	29.94	30.69	31.44	32.53	33.80	34.33	36.14	35.88	35.80	36.22
Coal (million short tons)										
World Total.....	5,386	5,056	5,049	4,952	5,026	5,161	5,165	5,184	5,006	4,737
OECD ³	2,417	2,256	2,199	2,182	2,227	2,223	2,231	2,292	2,293	2,238
Non OECD.....	2,969	2,800	2,850	2,770	2,799	2,938	2,934	2,892	2,713	2,498
Other Groups:.....										
OECD Europe.....	1,046	909	848	883	835	814	785	799	754	715
OPEC ⁴	15	19	29	36	40	52	62	68	76	81
EU, ⁵	736	608	555	501	454	435	428	409	383	369
IEA ⁶	2,153	2,001	1,960	1,945	1,988	1,986	2,022	2,054	2,079	2,032
Hydroelectric Power (billion kilowatthours)										
World Total.....	2,167.4	2,209.7	2,207.0	2,338.7	2,355.7	2,474.7	2,512.0	2,572.1	2,566.9	2,607.2
OECD ³	1,174.3	1,186.1	1,172.4	1,243.8	1,196.9	1,282.6	1,320.5	1,345.9	1,309.7	1,313.0
Non OECD.....	993.1	1,023.6	1,034.6	1,095.0	1,158.8	1,192.0	1,191.5	1,226.2	1,257.2	1,294.3
Other Groups:.....										
OECD Europe.....	437.3	435.4	463.6	482.2	482.8	488.0	469.0	485.5	502.1	506.0
OPEC ⁴	57.9	67.6	72.8	71.9	71.1	72.9	75.6	78.6	77.6	83.3
EU, ⁵	257.3	264.4	281.5	285.7	293.6	287.3	287.5	292.7	301.6	300.1
IEA ⁶	1,139.0	1,153.5	1,135.6	1,205.6	1,166.5	1,244.2	1,278.4	1,308.0	1,271.3	1,266.3
Nuclear Electric Power (billion kilowatthours)										
World Total.....	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,266.1	2,315.3	2,395.9
OECD ³	1,607.6	1,694.1	1,718.5	1,795.1	1,855.1	1,928.2	1,979.3	1,956.7	2,013.0	2,085.9
Non OECD.....	297.6	297.9	293.3	282.7	266.2	277.8	307.2	309.5	302.3	310.0
Other Groups:.....										
OECD Europe.....	716.1	740.4	753.6	797.9	796.8	813.5	851.6	860.9	861.8	871.8
OPEC ⁴	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU, ⁵	680.7	705.7	718.1	750.7	748.0	764.9	802.1	811.1	811.5	822.1
IEA ⁶	1,554.5	1,636.5	1,661.1	1,735.2	1,795.4	1,856.5	1,901.6	1,873.5	1,918.9	1,978.5

See footnotes at end of table.

Table 2.1 World Production of Primary Energy by Selected Country Groups, 1990 - 1999 (Continued)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Geothermal, Solar, Wind, Wood and Waste Electric Power (billion kilowatthours)										
World Total	129.0	138.0	155.2	163.3	173.1	177.3	186.1	196.5	207.9	227.4
OECD ³	114.2	122.8	138.4	146.7	154.2	157.6	163.4	170.1	176.8	193.5
Non OECD.....	14.8	15.2	16.8	16.6	18.9	19.7	22.7	26.4	31.0	34.0
Other Groups:.....										
OECD Europe.....	19.3	20.1	28.2	33.5	37.1	41.2	43.6	51.9	60.2	66.5
OPEC ⁴	1.1	1.0	1.0	1.0	1.8	2.1	2.2	2.5	3.7	3.9
EU, ⁵	17.9	18.5	26.7	31.7	34.8	38.5	40.6	48.5	56.2	61.9
IEA ⁶	108.8	116.9	132.3	140.5	148.3	151.6	157.2	164.0	170.2	186.4

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, Czech Republic, 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 1999 membership (as of December 31, 1999) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Data for the Czech Republic are included in the country groups OECD, OECD Europe, and IEA beginning in 1993, the year that the country came into existence. 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, 1990 - 1999
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada ²	1,553	1,548	1,605	1,679	1,746	1,805	1,837	1,922	1,981	1,907
Mexico.....	2,553	2,680	2,669	2,673	2,685	2,618	2,855	3,023	3,070	2,906
United States.....	7,355	7,417	7,171	6,847	6,662	6,560	6,465	6,452	6,252	5,881
Total.....	11,461	11,644	11,446	11,199	11,093	10,982	11,156	11,396	11,303	10,694
Central & South America										
Argentina.....	483	485	553	594	650	715	756	834	847	802
Bolivia.....	21	21	21	22	23	28	30	29	35	32
Brazil.....	631	630	626	643	671	695	795	841	969	1,132
Chile.....	20	17	15	14	12	11	9	7	8	8
Colombia.....	440	419	433	456	450	585	623	652	733	816
Cuba.....	14	14	16	20	24	26	30	30	31	38
Ecuador.....	285	299	321	344	365	392	396	388	375	373
Peru.....	129	115	116	126	128	130	120	118	116	106
Trinidad and Tobago.....	150	151	137	135	132	131	130	124	123	125
Venezuela.....	2,137	2,375	2,371	2,450	2,588	2,750	2,938	3,280	3,167	2,826
Other.....	9	9	11	13	16	18	21	21	32	35
Total.....	4,318	4,535	4,621	4,817	5,059	5,481	5,848	6,326	6,435	6,293
Western Europe										
Austria.....	22	26	23	22	21	23	21	19	21	18
Denmark.....	121	143	163	174	185	186	208	230	238	300
France.....	61	59	58	55	56	50	43	36	34	30
Germany.....	--	71	63	61	58	59	60	56	59	55
Germany, East.....	1	--	--	--	--	--	--	--	--	--
Germany, West.....	71	--	--	--	--	--	--	--	--	--
Greece.....	15	16	13	11	10	9	8	9	6	(s)
Italy.....	87	80	83	83	86	93	101	112	107	82
Netherlands.....	70	74	53	50	78	66	56	53	52	53
Norway.....	1,704	1,890	2,229	2,350	2,521	2,768	3,104	3,143	3,017	3,018
Spain.....	16	22	22	18	17	13	11	8	11	6
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	0	0	0	0
Turkey.....	73	88	84	76	72	67	67	68	65	59
United Kingdom.....	1,820	1,797	1,825	1,915	2,375	2,489	2,568	2,518	2,616	2,684
Former Yugoslavia.....	64	60	--	--	--	--	--	--	--	--
Croatia.....	--	--	36	36	39	32	30	29	31	25
Serbia and Montenegro.....	--	--	23	23	24	22	22	20	18	18
Slovenia.....	--	--	0	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4,125	4,326	4,676	4,873	5,543	5,878	6,299	6,300	6,275	6,349
Eastern Europe & Former U.S.S.R.										
Albania.....	30	19	11	11	12	10	10	9	6	6
Bulgaria.....	4	1	1	1	1	1	1	1	1	1
Former Czechoslovakia.....	2	3	2	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	2	2	3	4	3	4	4
Slovakia.....	--	--	--	1	1	1	2	2	1	1
Hungary.....	40	34	33	34	39	35	32	35	26	24
Poland.....	2	3	3	5	5	5	5	6	7	9
Romania.....	163	140	136	133	138	135	135	134	132	125
Former U.S.S.R.....	10,975	9,992	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	213	200	184	175	176	173	230	276
Belarus.....	--	--	40	40	40	38	36	36	36	37
Georgia.....	--	--	3	2	2	1	1	3	2	2
Kazakhstan.....	--	--	444	408	352	362	403	466	476	530
Kyrgyzstan.....	--	--	2	2	2	2	2	2	2	2
Lithuania.....	--	--	0	2	3	3	3	4	5	5
Russia.....	--	--	7,632	6,730	6,135	5,995	5,850	5,920	5,854	6,079
Tajikistan.....	--	--	1	1	(s)	1	(s)	1	(s)	(s)
Turkmenistan.....	--	--	98	79	77	70	76	89	110	139
Ukraine.....	--	--	72	66	64	65	66	58	57	76
Uzbekistan.....	--	--	36	47	75	115	115	112	116	102
Total.....	11,216	10,191	8,727	7,764	7,131	7,017	6,917	7,054	7,066	7,416

See footnotes at end of table.

Table 2.2 World Crude Oil Production, 1990 - 1999 (Continued)
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Bahrain.....	42	38	37	41	41	41	35	40	38	37
Iran.....	3,088	3,312	3,429	3,540	3,618	3,643	3,686	3,664	3,634	3,557
Iraq.....	2,040	305	425	512	553	560	579	1,155	2,150	2,508
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	1,175	190	1,058	1,852	2,025	2,057	2,062	2,007	2,085	1,898
Oman.....	685	700	740	776	810	851	883	904	900	887
Qatar.....	406	395	423	413	415	442	510	550	696	665
Saudi Arabia.....	6,410	8,115	8,332	8,198	8,120	8,231	8,218	8,362	8,389	7,833
Syria.....	388	492	481	554	560	575	582	561	553	538
United Arab Emirates.....	2,117	2,386	2,266	2,159	2,193	2,233	2,278	2,316	2,345	2,169
Yemen.....	193	197	182	220	335	345	340	362	388	409
Total.....	16,545	16,130	17,373	18,265	18,669	18,979	19,174	19,923	21,178	20,502
Africa										
Algeria.....	1,175	1,230	1,214	1,162	1,180	1,202	1,242	1,277	1,246	1,202
Angola.....	475	500	526	509	536	646	709	714	735	766
Benin.....	4	4	6	6	6	3	2	1	1	1
Cameroon.....	161	153	140	127	108	111	108	124	121	100
Congo (Brazzaville).....	165	156	174	181	180	188	201	253	265	270
Congo (Kinshasa).....	29	28	26	25	26	30	30	28	26	22
Cote d'Ivoire (Ivory Coast).....	2	2	2	1	7	8	16	19	20	15
Egypt.....	873	874	881	890	896	920	922	856	834	852
Equatorial Guinea.....	0	(s)	2	5	5	5	17	52	83	102
Gabon.....	270	294	298	313	329	365	368	370	352	340
Ghana.....	0	0	1	2	1	4	6	5	5	6
Libya.....	1,375	1,483	1,433	1,361	1,378	1,390	1,401	1,446	1,390	1,319
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	1,810	1,892	1,943	1,960	1,931	1,993	2,001	2,132	2,153	2,130
South Africa.....	0	0	0	0	0	0	0	0	18	25
Sudan.....	0	0	(s)	(s)	(s)	(s)	2	5	10	63
Tunisia.....	93	104	109	98	92	89	87	84	80	83
Total.....	6,432	6,721	6,755	6,638	6,674	6,954	7,112	7,368	7,340	7,296
Far East & Oceania										
Australia.....	575	545	535	503	536	562	570	588	544	539
Bangladesh.....	1	1	1	1	1	1	1	2	2	1
Brunei.....	150	161	165	165	167	163	155	160	157	182
Burma.....	13	15	14	14	14	10	8	9	11	9
China.....	2,774	2,835	2,845	2,890	2,939	2,990	3,131	3,200	3,198	3,195
India.....	660	615	561	534	590	703	651	675	661	653
Indonesia.....	1,462	1,592	1,504	1,511	1,510	1,503	1,547	1,520	1,518	1,472
Japan.....	11	15	17	12	11	11	12	10	9	8
Malaysia.....	619	646	653	640	645	682	695	700	720	693
New Zealand.....	40	41	38	41	39	32	37	58	47	42
Pakistan.....	62	62	61	60	55	57	55	57	55	53
Papua New Guinea.....	0	(s)	53	126	110	100	103	80	79	97
Philippines.....	5	3	8	9	6	3	2	1	1	1
Taiwan.....	3	2	2	1	1	1	1	1	1	1
Thailand.....	44	46	51	52	56	51	61	72	75	84
Vietnam.....	50	80	106	120	141	173	175	191	246	290
Total.....	6,468	6,660	6,615	6,680	6,822	7,043	7,205	7,323	7,324	7,319
World Total.....	60,566	60,207	60,213	60,236	60,991	62,335	63,711	65,690	66,921	65,870

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, 1990 - 1999
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	426	431	460	506	529	581	596	636	651	653
Mexico.....	428	457	454	459	461	447	423	388	424	439
United States.....	1,559	1,659	1,697	1,736	1,727	1,762	1,830	1,817	1,759	1,850
Total.....	2,413	2,548	2,611	2,701	2,717	2,789	2,849	2,841	2,834	2,942
Central & South America										
Argentina.....	27	30	30	35	44	42	44	48	50	48
Bolivia.....	5	5	7	7	7	6	7	8	9	10
Brazil.....	20	22	25	25	35	40	35	30	35	33
Chile.....	12	11	11	12	12	13	12	7	7	7
Colombia.....	8	6	6	5	5	8	8	9	8	8
Cuba.....	2	2	2	2	2	2	2	3	3	3
Ecuador.....	2	2	3	9	9	9	9	5	4	4
Peru.....	1	1	1	1	1	1	1	1	1	1
Trinidad and Tobago.....	0	3	5	(s)	(s)	(s)	(s)	(s)	1	1
Venezuela.....	114	117	113	143	146	149	150	143	145	170
Total.....	191	199	203	239	262	270	268	254	262	284
Western Europe										
Austria.....	1	1	1	1	1	1	1	1	1	1
France.....	11	10	13	13	13	12	12	10	5	7
Greece.....	2	1	1	1	1	1	1	1	1	1
Italy.....	1	1	1	1	1	1	1	1	1	1
Netherlands.....	14	10	13	16	25	21	25	24	27	27
Norway.....	78	94	95	100	103	137	138	139	131	121
Spain.....	11	11	9	6	4	4	0	0	0	0
United Kingdom.....	108	141	160	169	218	267	259	233	241	238
Former Yugoslavia.....	10	8	--	--	--	--	--	--	--	--
Croatia.....	--	--	6	7	7	8	6	7	7	7
Total.....	236	277	299	313	373	450	443	415	414	402
Eastern Europe & Former U.S.S.R.										
Former Czechoslovakia.....	(s)	(s)	(s)	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Hungary.....	15	13	13	11	11	11	10	15	17	17
Poland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Romania.....	8	8	7	4	4	6	7	6	7	7
Former U.S.S.R.....	425	420	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	9	8	8	7	6	7	7	7
Kazakhstan.....	--	--	86	82	63	52	54	55	50	74
Kyrgyzstan.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	230	220	200	180	185	195	220	231
Tajikistan.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	12	11	8	11	12	17	17	17
Ukraine.....	--	--	23	21	21	20	15	26	25	23
Uzbekistan.....	--	--	30	38	40	45	50	45	45	45
Total.....	448	441	411	395	355	332	339	367	388	421
Middle East										
Bahrain.....	5	5	7	12	13	10	10	11	10	10
Iran.....	35	50	50	55	55	60	60	70	75	75
Iraq.....	30	0	(s)	15	20	25	20	20	15	15
Kuwait.....	65	0	34	53	85	95	85	109	115	115
Oman.....	10	8	6	5	6	10	10	6	6	6
Qatar.....	40	50	55	55	50	55	50	70	85	111
Saudi Arabia.....	620	680	713	704	698	701	697	712	755	666
Syria.....	2	2	2	8	8	9	8	10	8	8
United Arab Emirates.....	135	146	144	146	150	160	160	160	170	160
Total.....	942	941	1,011	1,053	1,085	1,125	1,100	1,168	1,239	1,166

See footnotes at end of table.

Table 2.3 World Natural Gas Plant Liquids Production, 1990 - 1999 (Continued)
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Africa										
Algeria.....	130	140	140	145	140	145	150	160	155	190
Egypt.....	40	45	45	55	58	60	65	71	75	75
Libya.....	35	40	40	41	41	40	49	60	60	60
South Africa.....	0	0	2	11	11	11	11	11	11	10
Tunisia.....	5	5	5	4	4	1	1	1	1	1
Total.....	210	230	232	256	254	257	276	303	302	336
Far East & Oceania²										
Australia.....	63	61	56	55	56	52	62	71	70	72
Bangladesh.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	10	10	12	13	13	13	11	15	22	22
Burma.....	1	1	1	(s)	(s)	(s)	(s)	(s)	(s)	(s)
India.....	10	10	28	30	45	47	80	85	90	90
Indonesia.....	77	76	75	78	80	76	80	85	87	87
Japan.....	(s)	(s)	(s)	4	4	4	4	5	5	5
Malaysia.....	12	12	13	17	17	20	20	50	90	85
New Zealand.....	4	5	5	5	5	5	5	7	7	7
Pakistan.....	(s)	2	3	2	3	5	3	3	3	3
Taiwan.....	1	1	1	1	1	1	1	1	1	1
Thailand.....	13	13	14	15	22	37	35	50	60	61
Total.....	192	192	208	221	246	261	301	372	435	433
World Total.....	4,632	4,827	4,974	5,180	5,292	5,485	5,576	5,721	5,874	5,984

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, 1990 - 1999
(Trillion Cubic Feet)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	3.85	4.06	4.52	4.91	5.27	5.60	5.78	5.86	6.05	6.26
Mexico.....	0.90	0.90	0.88	0.95	0.97	0.96	1.06	1.17	1.27	1.29
United States.....	17.81	17.70	17.84	18.10	18.82	18.60	18.85	18.90	18.71	18.62
Total.....	22.56	22.65	23.24	23.95	25.06	25.16	25.70	25.92	26.02	26.17
Central & South America										
Argentina.....	0.63	0.70	0.71	0.76	0.79	0.88	0.94	0.97	1.04	1.22
Barbados.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	0.11	0.10	0.11	0.10	0.10	0.11	0.11	0.11	0.11	0.09
Brazil.....	0.10	0.12	0.13	0.15	0.15	0.16	0.18	0.19	0.20	0.22
Chile.....	0.07	0.05	0.06	0.06	0.07	0.07	0.06	0.08	0.07	0.07
Colombia.....	0.15	0.16	0.15	0.16	0.16	0.16	0.17	0.21	0.22	0.18
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.03	0.01	0.02
Ecuador.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Peru.....	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.01	0.01	0.01
Trinidad and Tobago.....	0.18	0.20	0.19	0.22	0.25	0.27	0.30	0.33	0.33	0.41
Venezuela.....	0.76	0.79	0.76	0.81	0.88	0.89	0.96	0.99	1.11	1.09
Total.....	2.01	2.15	2.14	2.30	2.44	2.58	2.76	2.92	3.12	3.32
Western Europe										
Austria.....	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06
Belgium.....	(s)	(s)	(s)	(s)	(s)	0.00	(s)	0.00	0.00	0.00
Denmark.....	0.11	0.14	0.15	0.16	0.17	0.19	0.23	0.27	0.27	0.28
France.....	0.10	0.11	0.11	0.12	0.12	0.12	0.10	0.09	0.08	0.07
Germany.....	--	0.67	0.68	0.68	0.70	0.74	0.80	0.79	0.77	0.82
Germany, East.....	0.14	--	--	--	--	--	--	--	--	--
Germany, West.....	0.58	--	--	--	--	--	--	--	--	--
Greece.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ireland.....	0.08	0.08	0.08	0.09	0.10	0.10	0.09	0.08	0.06	0.05
Italy.....	0.61	0.61	0.64	0.69	0.73	0.72	0.71	0.68	0.67	0.62
Netherlands.....	2.69	3.04	3.06	3.11	2.95	2.98	3.37	2.99	2.84	2.65
Norway.....	0.98	0.97	1.04	0.97	1.04	1.08	1.45	1.62	1.63	1.76
Spain.....	0.05	0.05	0.04	0.02	0.01	0.01	0.02	0.01	(s)	0.01
Switzerland.....	(s)	(s)	(s)	(s)	(s)	0.00	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	0.02	0.03
United Kingdom.....	1.75	2.01	1.96	2.31	2.47	2.67	3.18	3.03	3.14	3.49
Former Yugoslavia.....	0.09	0.09	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	(s)	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Croatia.....	--	--	0.06	0.07	0.06	0.07	0.06	0.06	0.06	0.05
Serbia and Montenegro.....	--	--	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.02
Slovenia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	7.24	7.83	7.92	8.33	8.44	8.80	10.09	9.71	9.64	9.90

See footnotes at end of table.

Table 2.4 World Dry Natural Gas Production, 1990 - 1999 (Continued)
(Trillion Cubic Feet)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Former Czechoslovakia.....	0.03	0.02	0.01	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	0.01	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	0.01
Hungary.....	0.17	0.18	0.18	0.18	0.17	0.17	0.16	0.15	0.14	0.12
Poland.....	0.15	0.15	0.15	0.18	0.17	0.18	0.18	0.18	0.18	0.18
Romania.....	1.00	0.88	0.78	0.75	0.69	0.68	0.63	0.61	0.52	0.50
Former U.S.S.R.....	28.78	28.62	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	0.28	0.24	0.23	0.23	0.24	0.21	0.20	0.21
Belarus.....	--	--	0.01	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	(s)	(s)
Kazakhstan.....	--	--	0.29	0.24	0.16	0.17	0.15	0.22	0.19	0.16
Kyrgyzstan.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	22.62	21.81	21.45	21.01	21.23	20.17	20.87	20.83
Tajikistan.....	--	--	(s)	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	2.02	2.29	1.26	1.14	1.31	0.90	0.47	0.79
Ukraine.....	--	--	0.74	0.68	0.64	0.62	0.64	0.64	0.64	0.63
Uzbekistan.....	--	--	1.51	1.59	1.67	1.70	1.70	1.74	1.94	1.96
Total.....	30.13	29.85	28.58	27.98	26.47	25.93	26.28	24.85	25.16	25.41
Middle East										
Bahrain.....	0.21	0.23	0.19	0.23	0.23	0.23	0.23	0.28	0.29	0.30
Iran.....	0.84	0.92	0.88	0.96	1.12	1.25	1.42	1.66	1.77	1.87
Iraq.....	0.15	0.04	0.10	0.09	0.11	0.11	0.11	0.11	0.10	0.11
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Kuwait.....	0.19	0.02	0.09	0.19	0.21	0.21	0.33	0.33	0.32	0.29
Oman.....	0.10	0.12	0.12	0.14	0.15	0.15	0.15	0.18	0.25	0.20
Qatar.....	0.28	0.33	0.40	0.48	0.48	0.48	0.48	0.61	0.69	0.85
Saudi Arabia.....	1.08	1.13	1.20	1.27	1.33	1.34	1.46	1.60	1.65	1.63
Syria.....	0.10	0.12	0.13	0.13	0.13	0.10	0.14	0.16	0.20	0.21
United Arab Emirates.....	0.78	0.92	1.02	0.94	0.91	1.11	1.19	1.28	1.31	1.34
Total.....	3.72	3.84	4.14	4.43	4.69	4.99	5.53	6.22	6.60	6.81
Africa										
Algeria.....	1.79	1.93	1.97	1.90	1.81	2.05	2.19	2.43	2.60	2.90
Angola.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	(s)	0.02	0.02	0.03	0.05
Egypt.....	0.29	0.32	0.35	0.40	0.42	0.44	0.47	0.48	0.49	0.55
Equatorial Guinea.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)
Gabon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	0.22	0.23	0.24	0.22	0.23	0.22	0.23	0.23	0.22	0.22
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mozambique.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)
Nigeria.....	0.13	0.17	0.17	0.18	0.16	0.18	0.19	0.21	0.21	0.25
Senegal.....	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
South Africa.....	0.00	0.00	(s)	0.06	0.07	0.07	0.07	0.06	0.05	0.05
Tunisia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.06	0.07	0.07
Total.....	2.46	2.69	2.77	2.81	2.72	3.01	3.23	3.52	3.70	4.10

See footnotes at end of table.

Table 2.4 World Dry Natural Gas Production, 1990 - 1999 (Continued)
(Trillion Cubic Feet)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	0.10	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Australia.....	0.72	0.75	0.80	0.86	0.93	1.03	1.06	1.06	1.10	1.10
Bangladesh.....	0.16	0.17	0.21	0.22	0.23	0.26	0.27	0.27	0.29	0.32
Brunei.....	0.32	0.28	0.29	0.29	0.30	0.33	0.33	0.32	0.32	0.33
Burma.....	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.05	0.06	0.06
China.....	0.51	0.53	0.53	0.56	0.59	0.60	0.67	0.75	0.78	0.85
India.....	0.40	0.45	0.48	0.53	0.59	0.63	0.70	0.72	0.76	0.75
Indonesia.....	1.53	1.72	1.79	1.97	2.21	2.24	2.35	2.37	2.27	2.34
Japan.....	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Malaysia.....	0.65	0.75	0.80	0.88	0.92	1.02	1.23	1.36	1.37	1.45
New Zealand.....	0.17	0.19	0.20	0.18	0.18	0.17	0.19	0.20	0.17	0.20
Pakistan.....	0.48	0.53	0.55	0.58	0.63	0.65	0.70	0.70	0.71	0.78
Papua New Guinea.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
Taiwan.....	0.08	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Thailand.....	0.21	0.24	0.25	0.31	0.34	0.37	0.43	0.54	0.57	0.63
Vietnam.....	(s)	(s)	0.01	0.01	0.01	0.03	0.03	0.01	0.02	0.04
Total.....	5.44	5.76	6.06	6.55	7.11	7.50	8.13	8.47	8.55	8.98
World Total.....	73.57	74.78	74.84	76.36	76.93	77.96	81.71	81.61	82.79	84.69

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, 1990 - 1999
(Million Short Tons)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	75.35	78.41	72.32	76.09	80.28	82.57	83.47	86.70	83.09	79.89
Mexico.....	8.59	7.80	7.24	7.84	10.07	10.26	11.14	11.48	12.38	11.00
United States.2.....	1,029.08	995.98	997.54	945.42	1,033.50	1,032.97	1,063.86	1,089.93	1,117.54	1,099.12
Total.....	1,113.01	1,082.19	1,077.11	1,029.35	1,123.85	1,125.80	1,158.47	1,188.11	1,213.00	1,190.01
Central & South America										
Argentina.....	0.31	0.32	0.22	0.18	0.38	0.34	0.34	0.28	0.32	0.37
Brazil.....	5.07	5.72	5.22	5.07	4.91	4.58	4.23	4.88	4.68	4.81
Chile.....	2.41	2.43	1.79	1.49	1.30	1.14	1.59	1.56	0.25	0.56
Colombia.....	22.56	22.04	24.15	23.39	24.98	28.37	33.14	35.93	37.20	36.16
Peru.....	0.11	0.07	0.10	0.11	0.08	0.16	0.06	0.02	0.02	0.02
Venezuela.....	2.41	2.40	2.70	4.21	4.72	4.48	4.58	6.39	8.27	8.32
Total.....	32.86	32.98	34.18	34.45	36.37	39.07	43.94	49.06	50.75	50.25
Western Europe										
Austria.....	2.70	2.29	1.95	1.86	1.26	1.43	1.22	1.25	1.26	1.28
Belgium.....	2.69	2.32	1.32	1.07	0.83	0.70	0.62	0.47	0.34	0.40
France.....	14.92	14.19	13.04	11.75	10.59	10.91	9.43	8.06	6.74	6.27
Germany.....	--	388.37	346.09	315.23	291.78	274.15	264.99	251.74	233.00	226.12
Germany, East.....	308.65	--	--	--	--	--	--	--	--	--
Germany, West.....	205.06	--	--	--	--	--	--	--	--	--
Greece.....	57.21	58.09	60.68	60.43	62.47	63.56	65.90	64.86	67.11	67.24
Ireland.....	0.03	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00
Italy.....	1.12	1.06	0.91	0.69	0.30	0.19	0.15	0.24	0.21	0.02
Norway.....	0.33	0.36	0.40	0.30	0.33	0.32	0.25	0.43	0.36	0.40
Portugal.....	0.31	0.30	0.24	0.22	0.16	0.00	0.00	0.00	0.00	0.00
Spain.....	39.63	37.00	36.90	34.81	32.67	31.28	30.75	29.16	28.74	26.75
Sweden.....	0.01	0.03	0.04	(s)	(s)	0.00	0.00	0.00	0.00	0.00
Turkey.....	52.28	50.83	56.69	53.53	59.93	60.63	62.09	66.03	74.30	74.08
United Kingdom.....	104.05	104.63	93.58	75.18	53.92	52.48	55.33	53.51	45.50	40.90
Former Yugoslavia.....	83.61	78.04	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	2.20	1.65	1.54	1.81	1.86	1.92	1.98	1.98
Croatia.....	--	--	0.00	0.13	0.11	0.09	0.07	0.05	0.06	0.02
Macedonia, TFYR.....	--	--	7.69	7.62	7.56	7.99	7.88	8.20	8.98	8.03
Serbia and Montenegro.....	--	--	44.21	41.26	42.27	44.10	42.38	44.82	48.07	36.10
Slovenia.....	--	--	6.12	5.64	5.35	5.38	5.25	5.64	5.53	5.29
Total.....	872.60	737.51	672.07	611.39	571.09	555.04	548.18	536.38	522.18	494.87
Eastern Europe & Former U.S.S.R.										
Albania.....	2.28	1.20	0.88	0.66	0.19	0.18	0.11	0.08	0.05	0.05
Bulgaria.....	39.01	31.26	33.25	31.79	31.60	33.89	33.72	32.75	34.14	28.70
Former Czechoslovakia.....	117.49	109.27	101.90	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	93.87	84.82	81.94	84.02	84.34	83.39	65.06
Slovakia.....	--	--	--	3.91	4.01	4.14	4.22	4.32	4.36	2.55
Hungary.....	19.65	18.89	17.45	16.11	15.55	16.08	16.74	17.18	16.15	15.98
Poland.....	237.08	230.86	218.44	218.43	220.35	220.17	193.08	221.52	196.81	190.40
Romania.....	42.09	35.72	42.30	43.82	44.70	45.33	46.15	37.27	29.38	27.58
Former U.S.S.R.....	881.84	701.66	--	--	--	--	--	--	--	--
Georgia.....	--	--	0.22	0.13	0.05	0.05	0.03	0.01	0.01	0.01
Kazakhstan.....	--	--	139.49	123.32	115.33	91.88	84.69	80.08	66.02	64.15
Kyrgyzstan.....	--	--	2.37	1.90	0.93	0.51	0.45	0.58	0.48	0.46
Moldova.....	--	--	0.29	0.20	0.12	0.04	0.04	0.04	0.03	0.04
Russia.....	--	--	405.85	364.03	312.72	296.35	304.04	289.65	256.71	276.31
Tajikistan.....	--	--	0.24	0.19	0.12	0.04	0.02	0.02	0.01	0.02
Ukraine.....	--	--	147.33	127.59	104.06	98.79	82.60	85.18	83.31	90.77
Uzbekistan.....	--	--	5.14	4.21	4.24	3.41	3.13	3.25	3.21	3.20
Total.....	1,339.45	1,128.86	1,115.14	1,030.16	938.78	892.80	853.04	856.25	774.07	765.29

See footnotes at end of table.

Table 2.5 World Coal Production, 1990 - 1999 (Continued)
(Million Short Tons)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Iran.....	1.21	1.09	1.07	1.07	1.43	1.25	1.33	1.33	1.02	1.07
Total.....	1.21	1.09	1.07	1.07	1.43	1.25	1.33	1.33	1.02	1.07
Africa										
Algeria.....	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02
Botswana.....	0.88	0.86	0.99	0.98	0.99	0.99	0.84	0.86	1.02	1.04
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.09	0.09	0.09	0.10	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	0.11	0.39	0.41	0.43
Malawi.....	0.04	0.06	0.05	0.06	0.06	0.06	0.08	0.07	0.06	0.06
Morocco.....	0.58	0.61	0.63	0.67	0.72	0.72	0.56	0.41	0.30	0.32
Mozambique.....	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.07	0.07
Niger.....	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.16	0.17
Nigeria.....	0.10	0.15	0.11	0.13	0.14	0.15	0.15	0.15	0.07	0.07
South Africa.....	193.18	196.43	202.88	207.47	215.84	227.31	227.48	246.38	247.56	248.13
Swaziland.....	0.18	0.14	0.11	0.06	0.20	0.19	0.14	0.16	0.30	0.32
Tanzania.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	(s)	(s)
Zambia.....	0.42	0.34	0.38	0.30	0.18	0.18	0.19	0.20	0.19	0.20
Zimbabwe.....	6.07	6.19	6.12	5.83	6.03	6.09	5.15	4.41	4.59	4.87
Total.....	201.77	205.13	211.63	215.84	224.52	236.06	235.07	253.41	254.83	255.81
Far East & Oceania										
Afghanistan.....	0.12	0.10	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)
Australia.....	225.78	235.93	248.96	247.58	248.46	266.55	272.44	292.08	313.67	320.59
Bhutan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Burma.....	0.08	0.08	0.08	0.08	0.08	0.07	0.06	0.05	0.08	0.08
China.....	1,190.36	1,198.66	1,228.58	1,303.53	1,403.50	1,536.97	1,514.68	1,460.84	1,337.45	1,118.11
India.....	233.39	252.74	270.25	281.23	279.69	297.77	314.85	326.06	322.17	327.98
Indonesia.....	11.61	15.59	25.49	30.39	34.19	45.66	55.48	60.20	66.49	71.21
Japan.....	11.31	9.58	8.62	7.94	8.05	6.96	6.80	4.38	4.08	4.07
Korea, North.....	99.21	102.51	104.72	109.13	108.03	106.92	105.71	98.52	93.60	85.45
Korea, South.....	18.98	16.60	13.19	10.41	8.20	6.31	5.46	4.97	4.81	4.63
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Malaysia.....	0.12	0.20	0.19	0.42	0.15	0.12	0.09	0.11	0.39	0.35
Mongolia.....	7.89	7.76	6.89	6.18	5.69	5.53	5.63	5.43	5.57	5.47
Nepal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
New Zealand.....	2.68	2.76	3.05	3.22	3.03	3.59	3.68	3.46	3.35	4.08
Pakistan.....	3.03	3.18	3.39	3.39	3.54	3.32	4.01	3.92	3.48	3.82
Philippines.....	1.37	1.39	1.83	1.74	1.60	1.47	1.22	1.20	1.27	1.33
Taiwan.....	0.52	0.44	0.37	0.36	0.31	0.26	0.16	0.11	0.09	0.10
Thailand.....	13.71	16.22	16.93	17.14	18.86	20.31	23.92	25.84	22.04	20.13
Vietnam.....	5.10	4.77	5.28	6.50	6.27	9.20	10.83	12.55	11.80	11.90
Total.....	1,825.27	1,868.54	1,937.85	2,029.26	2,129.68	2,311.03	2,325.03	2,299.74	2,190.35	1,979.32
World Total.....	5,386.18	5,056.28	5,049.04	4,951.53	5,025.71	5,161.04	5,165.06	5,184.28	5,006.20	4,736.62

¹ Preliminary.

² United States coal production is from Energy Information Administration, Annual Energy Review 1999, table 7.1.

--= 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, 1990 - 1999
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	293.9	305.3	313.2	320.3	326.4	332.0	352.4	347.2	328.6	340.3
Mexico.....	23.2	21.6	25.9	26.0	19.8	27.3	31.1	26.2	24.4	32.4
United States.2.....	289.5	285.0	248.9	276.5	256.8	308.3	344.4	354.9	318.9	305.6
Total.....	606.6	611.9	588.0	622.8	603.1	667.6	727.9	728.3	671.8	678.3
Central & South America										
Argentina.....	20.2	19.3	24.3	29.9	34.0	33.4	28.4	34.8	35.8	23.7
Bolivia.....	1.2	1.4	1.3	1.4	1.4	1.4	1.5	1.4	1.4	1.5
Brazil.....	204.6	215.6	221.1	232.7	240.3	251.4	263.1	276.2	288.5	305.9
Chile.....	11.9	13.0	16.6	17.0	16.8	18.2	16.7	18.2	15.0	13.3
Colombia.....	27.2	27.2	22.2	27.7	32.0	33.9	34.3	30.9	31.2	33.2
Costa Rica.....	3.3	3.6	3.5	3.9	3.9	3.5	3.8	4.8	4.7	4.8
Dominican Republic.....	0.4	0.6	1.9	1.5	1.6	1.7	1.3	1.3	1.4	0.9
Ecuador.....	4.9	5.0	4.9	5.8	6.6	5.2	6.2	6.4	6.5	7.1
El Salvador.....	1.4	0.8	1.0	1.2	1.2	1.2	1.1	1.2	1.2	1.5
Guatemala.....	2.1	2.1	1.8	1.9	2.0	1.9	2.3	2.1	2.1	2.3
Haiti.....	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.3	0.3
Honduras.....	2.1	2.1	2.2	2.2	2.3	2.1	2.1	1.4	1.9	1.8
Jamaica.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nicaragua.....	0.4	0.3	0.3	0.5	0.4	0.4	0.4	0.4	0.5	0.4
Panama.....	2.2	2.5	2.6	3.0	3.2	2.9	3.3	3.2	3.3	3.2
Paraguay.....	26.9	29.1	26.8	31.1	36.0	41.7	47.6	50.1	50.3	51.4
Peru.....	10.4	11.4	9.7	11.7	12.6	13.6	13.2	13.1	13.7	14.4
Puerto Rico.....	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Suriname.....	1.2	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.4
Uruguay.....	6.9	6.1	7.8	7.2	7.4	5.8	5.7	6.4	9.1	5.4
Venezuela.....	36.6	44.1	46.8	47.0	50.8	50.9	53.3	56.6	52.5	55.1
Other.....	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Total.....	364.8	386.3	397.0	427.9	454.6	471.5	486.6	510.8	521.4	528.5
Western Europe										
Austria.....	31.2	31.1	34.5	36.3	35.3	36.7	33.9	35.6	36.8	40.1
Belgium.....	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.3
Finland.....	10.8	13.1	15.0	13.3	11.7	12.8	11.7	12.1	14.9	12.7
France.....	52.8	56.3	67.2	63.1	76.5	70.6	64.5	61.6	61.4	71.6
Germany.....	--	14.7	17.2	17.7	19.7	21.6	21.7	17.2	17.0	19.1
Germany, East.....	1.4	--	--	--	--	--	--	--	--	--
Germany, West.....	15.8	--	--	--	--	--	--	--	--	--
Greece.....	1.8	3.1	2.2	2.3	2.6	3.5	4.3	3.8	3.7	4.5
Iceland.....	4.2	4.2	4.3	4.4	4.5	4.6	4.7	5.2	5.6	6.0
Ireland.....	0.7	0.7	0.8	0.8	0.9	0.7	0.7	0.7	0.9	0.8
Italy.....	31.3	41.8	41.8	41.0	44.2	37.4	41.6	41.2	40.8	44.8
Luxembourg.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
Norway.....	119.9	109.0	115.5	118.0	110.4	120.1	102.6	108.9	114.2	120.0
Portugal.....	9.1	9.0	4.6	8.5	10.6	8.3	14.6	13.0	12.9	7.2
Spain.....	25.2	27.0	18.7	24.1	27.9	22.9	39.4	34.4	33.7	23.9
Sweden.....	71.8	62.6	73.6	73.9	58.5	67.4	51.2	68.4	73.6	69.3
Switzerland.....	29.5	31.8	32.4	35.4	38.7	34.8	28.1	33.7	33.1	39.5
Turkey.....	22.9	22.5	26.3	33.6	30.3	35.2	40.1	39.4	41.8	34.3
United Kingdom.....	5.1	4.5	5.3	4.2	5.0	4.8	3.3	4.1	5.2	5.3
Former Yugoslavia.....	19.6	18.9	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	3.0	2.0	1.2	1.4	1.4	1.5	1.5	1.6
Croatia.....	--	--	4.3	4.3	4.9	5.2	7.2	5.2	5.4	6.5
Macedonia, TFYR.....	--	--	0.8	0.5	0.7	0.8	1.4	1.2	1.1	1.1
Serbia and Montenegro.....	--	--	11.2	10.0	11.0	11.1	11.4	12.0	12.1	10.3
Slovenia.....	--	--	3.4	3.0	3.3	3.2	3.6	3.0	3.4	3.7
Other.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total.....	453.4	450.8	482.6	497.0	498.6	503.7	488.0	502.9	519.8	523.1

See footnotes at end of table.

Table 2.6 World Net Hydroelectric Power Generation, 1990 - 1999 (Continued)
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	2.8	3.5	3.2	3.3	3.7	4.2	5.6	4.9	4.8	5.1
Bulgaria.....	1.9	2.4	2.0	1.9	1.5	2.3	2.9	2.9	3.3	3.0
Former Czechoslovakia.....	3.9	3.1	3.6	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	1.4	1.4	2.0	1.9	1.7	1.4	1.7
Slovakia.....	--	--	--	3.9	4.6	5.2	4.5	4.3	4.5	4.1
Hungary.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Poland.....	3.3	3.4	3.5	3.5	3.7	3.8	3.9	3.8	4.3	4.2
Romania.....	10.9	14.1	11.6	12.6	12.9	16.5	15.6	17.3	18.7	17.7
Former U.S.S.R.....	230.7	232.7	--	--	--	--	--	--	--	--
Armenia.....	--	--	3.0	4.2	3.5	1.9	1.6	1.4	1.5	1.6
Azerbaijan.....	--	--	1.7	2.4	1.8	1.5	1.5	1.7	1.9	2.2
Georgia.....	--	--	6.5	7.0	4.7	5.3	6.0	6.0	6.3	6.4
Kazakhstan.....	--	--	6.8	7.6	9.1	8.2	7.3	6.4	6.1	5.6
Kyrgyzstan.....	--	--	9.2	9.0	11.6	11.0	12.1	10.8	9.8	12.1
Latvia.....	--	--	2.5	2.8	3.3	2.9	1.8	2.9	4.3	2.7
Lithuania.....	--	--	0.3	0.4	0.4	0.4	0.5	0.4	0.5	0.5
Moldova.....	--	--	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.3
Russia.....	--	--	170.9	172.1	175.2	175.5	153.8	156.8	157.9	157.9
Tajikistan.....	--	--	15.8	16.9	16.5	14.5	14.7	13.6	14.0	15.3
Ukraine.....	--	--	8.0	11.1	12.2	10.0	8.7	9.9	15.8	15.2
Uzbekistan.....	--	--	6.2	7.3	7.1	6.1	6.5	5.7	5.7	5.8
Other.....	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	253.6	259.3	255.3	267.9	273.6	271.8	249.4	251.2	261.3	261.7
Middle East										
Iran.....	6.0	7.0	9.4	9.7	7.4	7.2	7.3	6.8	6.9	7.1
Iraq.....	0.6	0.3	0.7	0.6	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.....	0.3	0.5	0.5	0.7	0.8	0.7	0.8	0.9	0.8	0.7
Syria.....	5.6	6.2	7.3	6.6	6.7	6.9	6.9	7.3	7.5	7.6
Total.....	12.5	14.0	18.0	17.7	15.5	15.4	15.6	15.7	15.8	16.0
Africa										
Algeria.....	0.1	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.2	0.2
Angola.....	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.0
Cameroon.....	2.6	2.6	2.6	2.6	2.7	2.7	2.8	3.1	3.2	3.4
Congo (Brazzaville).....	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
Congo (Kinshasa).....	5.6	5.2	6.0	5.7	5.4	6.0	6.1	5.8	5.5	5.2
Cote d'Ivoire (Ivory Coast).....	1.3	1.2	1.0	1.1	1.0	1.7	1.8	1.8	1.4	1.0
Egypt.....	9.9	8.5	8.5	10.4	10.6	10.7	11.4	11.9	12.1	15.1
Ethiopia.....	1.1	1.1	1.1	1.3	1.3	1.4	1.5	1.6	1.6	1.6
Gabon.....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Ghana.....	5.7	6.0	6.0	6.1	6.0	6.0	6.6	6.8	4.3	4.0
Guinea.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4
Kenya.....	2.5	2.7	2.8	3.0	3.0	3.1	3.2	3.3	3.2	3.0
Madagascar.....	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5
Malawi.....	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1.0
Mali.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Morocco.....	1.2	1.2	1.0	0.4	0.8	0.6	1.9	2.0	1.7	1.5
Mozambique.....	0.3	0.3	0.3	0.3	0.4	0.4	0.4	1.0	1.5	2.0
Nigeria.....	4.3	5.9	6.0	5.5	5.5	5.4	5.4	5.5	7.0	8.8
Reunion.....	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
South Africa.....	1.0	2.0	0.8	0.1	1.1	0.5	1.3	2.1	1.6	0.7
Sudan.....	0.9	1.0	1.1	1.1	1.1	1.0	1.1	1.0	1.0	1.0
Swaziland.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Tanzania.....	1.5	1.7	1.6	1.7	1.5	1.5	1.7	1.4	2.1	1.7
Uganda.....	0.8	0.8	1.0	1.0	1.0	1.0	1.1	1.2	1.2	1.3
Zambia.....	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.9	7.8	7.6
Zimbabwe.....	3.8	3.5	2.9	1.8	1.6	1.8	2.1	2.1	1.9	1.7
Other.....	0.5	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.8
Total.....	55.5	57.2	55.8	55.3	56.2	57.3	62.0	64.5	63.1	65.6

See footnotes at end of table.

Table 2.6 World Net Hydroelectric Power Generation, 1990 - 1999 (Continued)
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	0.8	0.7	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3
Australia.....	14.0	15.7	15.2	16.5	16.2	15.7	15.4	16.6	15.6	16.0
Bangladesh.....	0.9	0.8	0.8	0.6	0.8	0.6	0.7	0.7	0.7	0.8
Bhutan.....	1.5	1.6	1.6	1.6	1.7	1.6	2.0	1.8	1.8	1.9
Burma.....	1.2	1.2	1.5	1.7	1.6	1.6	1.6	1.6	1.4	1.5
Cambodia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China.....	125.1	123.8	130.2	149.2	165.4	184.4	184.9	193.1	202.9	222.8
Fiji.....	0.4	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	0.2	0.2	0.2
India.....	70.9	72.0	69.2	69.8	81.9	72.0	68.4	74.0	75.5	80.8
Indonesia.....	10.1	10.0	9.7	8.8	6.8	8.6	8.9	9.0	10.5	11.5
Japan.....	88.4	96.5	81.7	94.6	66.6	81.3	79.7	88.9	91.6	85.0
Korea, North.....	28.7	31.4	23.8	23.8	23.3	22.8	22.3	20.8	19.7	18.7
Korea, South.....	4.6	3.5	3.1	4.2	2.3	2.7	2.4	2.8	4.1	4.1
Laos.....	0.8	0.9	0.9	0.9	1.1	1.0	1.2	1.2	0.9	0.8
Malaysia.....	3.9	4.4	4.3	4.8	6.5	6.2	5.1	3.8	4.8	5.0
Nepal.....	0.9	0.9	0.8	0.9	0.9	1.1	1.2	1.1	1.1	1.1
New Caledonia.....	0.5	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.3
New Zealand.....	23.1	22.9	20.4	23.1	25.6	27.0	25.7	23.6	24.1	23.3
Pakistan.....	16.8	18.1	18.5	20.9	19.2	22.6	23.0	20.6	21.8	22.7
Papua New Guinea.....	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.8
Philippines.....	6.0	5.1	4.2	4.9	5.9	6.1	6.9	6.0	5.0	7.6
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	3.1	3.1	2.9	3.8	4.0	4.4	3.2	3.4	3.9	4.2
Taiwan.....	8.2	5.5	8.3	6.8	8.8	8.3	8.6	8.9	9.9	8.8
Thailand.....	4.9	4.5	4.2	3.7	4.5	6.6	7.3	7.1	5.1	3.4
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	5.3	6.3	7.2	7.9	9.1	10.5	11.9	11.6	11.0	12.0
Total.....	420.9	430.3	410.3	450.2	454.1	487.3	482.4	498.7	513.7	534.1
World Total.....	2,167.4	2,209.7	2,207.0	2,338.7	2,355.7	2,474.7	2,512.0	2,572.1	2,566.9	2,607.2

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, 1990 - 1999
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	69.2	80.7	76.6	90.1	102.4	93.0	88.1	77.9	67.7	69.8
Mexico.....	2.8	4.0	3.7	4.7	4.0	8.0	7.5	9.9	8.8	9.5
United States.....	577.0	612.6	618.8	610.4	640.5	673.4	674.7	628.6	673.7	728.2
Total.....	649.0	697.4	699.1	705.1	747.0	774.4	770.3	716.4	750.2	807.5
Central & South America										
Argentina.....	7.0	7.7	6.7	7.3	7.8	7.1	6.9	7.5	7.1	6.7
Brazil.....	1.9	1.4	1.7	0.4	0.1	2.4	2.3	3.0	3.1	3.8
Total.....	9.0	9.1	8.4	7.7	7.9	9.5	9.2	10.5	10.3	10.5
Western Europe										
Belgium.....	40.6	40.7	41.3	39.8	38.6	39.3	41.2	45.0	43.9	46.6
Finland.....	18.3	18.5	18.3	18.9	18.5	18.3	18.5	19.0	20.8	21.8
France.....	298.4	314.8	321.5	349.8	342.0	358.4	377.5	374.3	368.6	375.1
Germany.....	--	140.1	150.9	145.8	143.2	145.4	152.0	161.8	153.6	161.0
Germany, East.....	5.3	--	--	--	--	--	--	--	--	--
Germany, West.....	139.8	--	--	--	--	--	--	--	--	--
Netherlands.....	3.3	3.2	3.6	3.8	3.8	3.8	4.0	2.3	3.6	3.6
Spain.....	51.6	52.8	53.0	53.3	52.5	52.7	53.5	52.5	56.0	55.9
Sweden.....	64.8	72.9	60.4	58.3	69.5	66.4	69.6	66.7	69.9	66.6
Switzerland.....	22.4	21.7	22.3	22.2	23.1	23.7	23.9	24.0	24.5	23.7
United Kingdom.....	58.7	62.8	69.1	81.0	80.0	80.6	85.8	89.3	95.1	91.5
Former Yugoslavia.....	4.4	4.2	--	--	--	--	--	--	--	--
Slovenia.....	--	--	3.8	3.8	4.3	4.5	4.4	4.8	5.0	4.5
Total.....	707.5	731.6	744.1	776.6	775.4	793.0	830.3	839.9	841.0	850.2
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	13.5	12.4	11.0	13.3	14.6	16.4	17.8	16.4	15.5	14.5
Former Czechoslovakia.....	23.4	22.5	23.3	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	12.0	12.3	11.6	12.2	12.5	12.5	12.7
Slovakia.....	--	--	--	11.6	11.5	10.9	11.3	10.5	9.8	10.0
Hungary.....	13.0	13.0	13.3	13.1	13.3	13.3	13.5	13.3	13.3	13.4
Romania.....	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.1	4.9	4.8
Former U.S.S.R.....	201.3	201.5	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.0	0.0	0.0	0.0	2.1	1.4	1.4	2.1
Kazakhstan.....	--	--	0.5	0.4	0.4	0.1	0.1	0.3	0.1	0.1
Lithuania.....	--	--	13.9	12.3	7.3	10.6	12.7	10.9	12.9	9.9
Russia.....	--	--	113.6	113.2	92.9	94.3	103.3	104.5	98.3	110.9
Ukraine.....	--	--	70.1	71.4	65.4	67.0	76.0	75.4	70.6	67.3
Total.....	251.3	249.5	245.6	247.3	217.7	224.3	249.8	250.3	239.3	245.7
Africa										
South Africa.....	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6	13.6	12.8
Total.....	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6	13.6	12.8
Far East & Oceania										
China.....	0.0	0.0	0.5	2.5	13.5	12.4	13.6	11.4	13.5	14.1
India.....	5.6	5.2	6.0	5.9	4.7	6.5	7.4	10.5	10.6	11.5
Japan.....	192.2	202.8	212.1	236.8	255.7	276.7	287.1	306.1	315.7	308.7
Korea, South.....	50.2	53.5	53.7	55.2	55.7	63.7	70.2	73.2	85.2	97.9
Pakistan.....	0.4	0.4	0.5	0.4	0.6	0.5	0.3	0.4	0.4	0.1
Taiwan.....	31.6	33.5	32.5	33.0	33.5	33.9	36.3	34.8	35.4	36.9
Total.....	279.9	295.4	305.3	333.8	363.6	393.6	415.0	436.4	460.8	469.1
World Total.....	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,266.1	2,315.3	2,395.9

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 Geothermal, Solar, Wind, Wood and Waste Electric Power Generation, 1990 - 1999
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	3.7	3.7	4.1	4.5	5.4	5.3	5.5	5.9	6.1	7.5
Mexico.....	4.9	5.2	5.5	5.6	5.3	5.4	5.4	5.2	5.4	5.3
United States.....	65.7	72.2	76.8	79.3	81.3	78.7	80.5	76.9	75.3	83.0
Total.....	74.2	81.1	86.5	89.4	92.0	89.3	91.4	88.0	86.7	95.8
Central & South America										
Argentina.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Bolivia.....	(s)	(s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Brazil.....	4.9	5.3	6.6	6.7	7.2	7.4	8.5	9.5	9.7	9.9
Chile.....	0.3	0.3	0.5	0.5	0.5	0.7	0.9	0.8	1.1	1.5
Colombia.....	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.6	0.7	0.7
Costa Rica.....	0.0	(s)	(s)	(s)	0.3	0.5	0.5	0.5	0.5	0.8
Cuba.....	1.1	1.0	1.0	0.7	0.7	0.5	0.7	0.7	0.7	0.7
Dominican Republic.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
El Salvador.....	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5
Guatemala.....	0.1	(s)	(s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haiti.....	(s)	(s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jamaica.....	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4
Nicaragua.....	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.4	0.4
Panama.....	0.1	0.1	0.1	0.1	(s)	(s)	(s)	(s)	(s)	(s)
Paraguay.....	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.0	(s)	0.1
Peru.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Trinidad and Tobago.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Uruguay.....	(s)	(s)	0.1	0.1	0.1	(s)	(s)	(s)	(s)	(s)
Total.....	8.1	8.3	9.9	9.7	10.5	11.0	12.7	13.7	14.5	15.5
Western Europe										
Austria.....	1.1	1.1	1.2	1.2	1.6	1.9	1.7	1.6	1.6	1.7
Belgium.....	0.6	0.8	0.9	0.9	0.9	1.0	1.0	0.9	1.0	1.0
Croatia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Denmark.....	0.7	0.8	1.1	1.5	1.8	2.0	2.3	3.1	4.1	4.4
Faroe Islands.....	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)	0.0	0.0
Finland.....	0.0	0.0	4.7	5.7	6.1	6.3	5.8	7.8	9.3	9.5
France.....	2.1	2.1	2.1	2.1	2.4	2.5	2.5	2.9	2.8	2.4
Germany.....	--	5.2	5.7	6.1	7.6	8.3	9.2	9.9	12.6	15.0
Germany, West.....	4.8	--	--	--	--	--	--	--	--	--
Greece.....	(s)	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3
Iceland.....	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.6	1.1
Ireland.....	0.0	0.0	(s)	(s)	(s)	(s)	(s)	0.1	0.2	0.3
Italy.....	3.2	3.2	3.8	4.0	3.8	4.0	4.5	5.3	6.1	7.0
Luxembourg.....	(s)	(s)	(s)	(s)	(s)	0.1	(s)	(s)	(s)	0.1
Netherlands.....	0.9	1.0	1.4	1.6	1.6	2.0	2.6	3.9	4.2	4.6
Norway.....	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Portugal.....	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2
Spain.....	0.7	0.7	0.7	0.8	1.0	1.5	1.8	2.8	3.5	3.8
Sweden.....	1.8	1.7	2.0	2.2	2.2	2.4	2.2	2.9	3.2	2.7
Switzerland.....	0.5	0.5	0.6	0.5	1.0	1.0	1.1	1.1	1.1	1.3
Turkey.....	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.4	0.3	0.3
United Kingdom.....	1.3	1.0	2.0	4.5	4.6	5.4	5.7	6.0	6.2	8.2
Total.....	19.0	19.7	27.9	32.9	36.4	40.4	42.6	50.5	58.6	64.9
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(s)
Czech Republic.....	--	--	--	0.3	0.4	0.4	0.7	0.9	1.0	1.0
Poland.....	0.2	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.6	0.6
Romania.....	(s)	0.0	0.1	0.1	0.0	(s)	0.0	(s)	(s)	(s)
Former U.S.S.R.....	(s)	(s)	--	--	--	--	--	--	--	--
Estonia.....	--	--	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	0.3	0.4	0.5	0.7	0.8	0.8	1.1	1.4	1.6	1.6

See footnotes at end of table.

Table 2.8 World Net Geothermal, Solar, Wind, Wood and Waste Electric Power Generation, 1990 - 1999 (Cont.)
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Jordan.....	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0	0.0	0.0
Total.....	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0	0.0	0.0
Africa										
Ethiopia.....	0.1	0.1	0.1	0.1	0.1	0.1	(s)	0.0	0.0	0.0
Kenya.....	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4	0.3	0.3
Total.....	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3
Far East & Oceania										
Australia.....	0.6	0.6	2.6	2.7	2.7	2.7	3.0	3.1	3.2	3.3
India.....	(s)	(s)	(s)	0.1	0.2	0.1	0.8	0.9	1.0	1.4
Indonesia.....	1.1	1.0	1.0	1.0	1.8	2.1	2.2	2.5	3.7	3.9
Japan.....	17.6	18.3	18.4	18.5	19.7	21.8	22.7	24.4	23.8	24.7
Korea, South.....	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)
New Zealand.....	2.5	2.6	2.7	2.6	2.6	2.5	2.6	2.6	2.9	3.1
Philippines.....	5.2	5.5	5.4	5.4	6.0	5.8	6.2	6.9	8.5	8.3
Thailand.....	0.0	0.0	0.0	0.0	0.0	0.3	0.3	2.1	3.0	4.5
Total.....	27.0	28.1	30.2	30.3	33.1	35.4	37.8	42.5	46.1	49.2
World Total.....	129.0	137.9	155.2	163.3	173.1	177.3	186.1	196.5	207.9	227.4

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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Petroleum²										
World Total	136.35	135.90	136.50	136.52	138.30	141.47	144.93	149.01	151.89	149.72
OECD ³	38.20	39.20	39.70	39.57	40.94	41.66	43.14	43.59	43.22	42.17
Non OECD.....	98.15	96.70	96.81	96.95	97.36	99.81	101.79	105.42	108.67	107.54
Other Groups:.....										
OECD Europe.....	9.00	9.47	10.26	10.67	12.18	13.00	13.90	13.83	13.77	13.92
OPEC ⁴	51.71	51.95	54.64	56.17	57.07	58.21	59.35	62.02	64.38	61.77
EU ⁵	5.10	5.15	5.23	5.41	6.56	6.85	7.04	6.89	7.12	7.30
IEA ⁶	32.03	32.71	33.22	33.09	34.43	35.32	36.29	36.44	35.91	35.20
Natural Gas										
World Total	75.91	76.68	76.89	78.40	79.16	80.23	84.06	84.01	85.39	87.31
OECD ³	31.44	32.17	33.01	34.17	35.67	36.13	38.13	37.96	38.11	38.47
Non OECD.....	44.46	44.51	43.88	44.22	43.50	44.10	45.93	46.05	47.27	48.84
Other Groups:.....										
OECD Europe.....	7.17	7.77	7.93	8.36	8.53	8.89	10.24	9.91	9.83	10.12
OPEC ⁴	8.52	9.05	9.52	9.90	10.36	11.06	11.87	12.84	13.32	14.00
EU ⁵	5.82	6.42	6.50	6.96	7.05	7.36	8.33	7.81	7.76	7.93
IEA ⁶	30.33	31.05	31.92	32.97	34.45	34.93	36.78	36.58	36.63	36.98
Coal										
World Total	91.87	87.11	87.87	85.19	86.76	89.24	89.24	92.51	89.36	84.90
OECD ³	41.96	39.92	39.11	38.13	39.51	39.38	39.66	41.70	41.52	40.66
Non OECD.....	49.92	47.19	48.77	47.05	47.25	49.86	49.58	50.81	47.84	44.24
Other Groups:.....										
OECD Europe.....	13.06	11.74	10.89	11.21	10.49	10.05	9.57	10.25	9.33	8.80
OPEC ⁴	0.38	0.47	0.72	0.87	0.99	1.29	1.50	1.61	1.80	1.91
EU ⁵	8.70	7.54	6.72	6.01	5.34	5.09	4.87	4.93	4.50	4.29
IEA ⁶	37.75	35.92	35.23	34.31	35.66	35.71	36.33	37.75	38.07	37.34
Hydroelectric Power										
World Total	22.57	22.99	22.94	24.30	24.48	25.71	26.10	26.73	26.68	27.10
OECD ³	12.24	12.35	12.18	12.91	12.43	13.31	13.71	13.98	13.60	13.64
Non OECD.....	10.33	10.65	10.76	11.39	12.05	12.40	12.39	12.75	13.07	13.46
Other Groups:.....										
OECD Europe.....	4.57	4.53	4.82	5.02	5.02	5.07	4.88	5.05	5.22	5.26
OPEC ⁴	0.60	0.70	0.76	0.75	0.74	0.76	0.79	0.82	0.81	0.87
EU ⁵	2.70	2.75	2.93	2.97	3.05	2.99	2.99	3.04	3.14	3.12
IEA ⁶	11.87	12.01	11.80	12.51	12.11	12.91	13.27	13.59	13.20	13.15
Nuclear Electric Power										
World Total	20.37	21.29	21.36	22.07	22.50	23.31	24.13	23.90	24.41	25.25
OECD ³	16.99	17.93	18.15	18.99	19.61	20.31	20.81	20.54	21.13	21.89
Non OECD.....	3.38	3.36	3.21	3.08	2.89	3.00	3.32	3.36	3.28	3.36
Other Groups:.....										
OECD Europe.....	7.53	7.76	7.91	8.42	8.40	8.52	8.93	9.02	9.05	9.14
OPEC ⁴	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU ⁵	7.14	7.40	7.55	7.91	7.87	8.01	8.41	8.50	8.52	8.62
IEA ⁶	16.46	17.35	17.57	18.39	19.02	19.59	20.03	19.71	20.19	20.82

See footnotes at end of table.

Table 2.9 World Production of Primary Energy by Selected Country Groups (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Geothermal, Solar, Wind, and Wood and Waste Electric Power										
World Total	1.72	1.82	2.00	2.09	2.21	2.24	2.36	2.47	2.63	2.83
OECD ³	1.48	1.58	1.75	1.84	1.91	1.93	2.01	2.08	2.16	2.33
Non OECD.....	0.23	0.24	0.26	0.25	0.29	0.30	0.34	0.39	0.47	0.50
Other Groups:.....										
OECD Europe.....	0.24	0.24	0.33	0.39	0.42	0.47	0.50	0.58	0.68	0.75
OPEC ⁴	0.02	0.02	0.02	0.02	0.04	0.04	0.05	0.05	0.08	0.08
EU, ⁵	0.22	0.23	0.31	0.37	0.40	0.44	0.46	0.54	0.63	0.69
IEA ⁶	1.37	1.46	1.62	1.71	1.79	1.81	1.89	1.96	2.03	2.19
Total Energy⁷										
World Total	351.04	347.99	349.88	350.82	355.78	364.70	373.38	381.11	382.85	380.05
OECD ³	144.57	145.35	146.21	147.87	152.44	155.23	160.02	162.33	162.25	162.10
Non OECD.....	206.47	202.64	203.67	202.95	203.35	209.47	213.36	218.79	220.60	217.95
Other Groups:.....										
OECD Europe.....	41.56	41.51	42.14	44.06	45.03	46.01	48.01	48.65	47.88	47.98
OPEC ⁴	61.24	62.20	65.65	67.72	69.19	71.37	73.55	77.34	80.38	78.62
EU, ⁵	29.68	29.49	29.24	29.63	30.26	30.73	32.09	31.73	31.67	31.94
IEA ⁶	132.07	132.70	133.68	135.24	139.82	142.77	147.15	148.49	148.53	148.63

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, Czech Republic, 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 geothermal, solar, and wood and waste 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 1999 membership (as of December 31, 1999) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Data for the Czech Republic are included in the country groups OECD, OECD Europe, and IEA beginning in 1993, the year that the country came into existence. 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, 1998
(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.....	2,694	783	185	1,170	715	1,859	9	2
Mexico.....	3,523	0	335	1,718	126	1,935	1	15
United States.....	9,278	8,706	2,002	110	835	18,917	256	429
Other.....	0	0	4	0	0	4	0	(s)
Total.....	15,494	9,488	2,526	2,998	1,675	22,715	266	447
Central & South America								
Argentina.....	902	25	32	333	110	492	5	6
Bahamas, The.....	0	0	61	0	38	25	9	3
Bolivia.....	43	0	3	(s)	4	40	0	0
Brazil.....	1,242	551	301	0	113	1,915	24	9
Chile.....	16	178	44	0	3	239	8	(s)
Colombia.....	743	1	29	431	54	295	(s)	4
Costa Rica.....	0	1	34	0	1	35	1	(s)
Cuba.....	34	18	110	0	0	159	2	(s)
Dominican Republic.....	1	46	39	0	0	86	0	0
Ecuador.....	380	0	34	247	35	137	7	0
El Salvador.....	0	19	24	0	4	38	0	0
Guatemala.....	24	17	44	24	(s)	58	0	2
Honduras.....	0	0	29	0	(s)	29	0	0
Jamaica.....	0	24	44	0	1	67	0	2
Netherlands Antilles.....	6	264	34	0	234	71	28	4
Nicaragua.....	0	17	6	0	1	23	0	0
Panama.....	1	45	24	0	15	56	18	1
Paraguay.....	0	3	21	0	(s)	25	0	(s)
Peru.....	119	93	27	43	30	168	(s)	1
Puerto Rico.....	0	28	139	0	17	160	2	1
Trinidad and Tobago.....	126	48	2	69	86	22	2	4
Uruguay.....	0	36	8	0	1	41	3	3
Venezuela.....	3,329	0	12	2,144	759	457	8	12
Virgin Islands, U.S.....	(s)	431	3	0	307	127	1	2
Other.....	9	16	81	8	5	93	(s)	15
Total.....	6,974	1,859	1,185	3,300	1,818	4,859	118	68
Western Europe								
Austria.....	23	168	99	1	33	248	0	0
Belgium.....	12	705	336	0	436	601	86	15
Bosnia and Herzegovina.....	0	0	21	0	0	21	0	0
Croatia.....	38	75	14	1	38	90	(s)	1
Denmark.....	242	98	138	175	65	229	12	16
Finland.....	0	230	80	0	102	212	4	2
France.....	83	1,828	348	0	321	2,031	39	9
Germany.....	133	2,233	956	28	302	2,916	27	11
Greece.....	10	372	80	0	70	392	49	16
Iceland.....	0	0	17	0	0	17	0	0
Ireland.....	1	67	105	0	24	149	1	2
Italy.....	171	1,732	540	2	461	2,072	34	20
Luxembourg.....	0	0	43	0	(s)	42	0	0
Macedonia, TFYR.....	0	16	5	0	1	23	0	0
Netherlands.....	113	1,157	915	6	1,301	812	185	45
Norway.....	3,152	43	67	2,883	270	228	9	9
Portugal.....	2	266	95	0	40	330	5	2
Serbia and Montenegro.....	18	40	6	0	0	65	0	1
Slovenia.....	(s)	12	53	0	5	60	0	0
Spain.....	25	1,195	338	0	183	1,385	89	24
Sweden.....	4	411	147	0	180	371	23	6
Switzerland.....	1	103	183	0	9	272	0	(s)
Turkey.....	69	478	129	0	42	626	2	1
United Kingdom.....	2,901	826	414	1,628	639	1,765	30	29
Other.....	0	0	28	0	0	28	14	3
Total.....	6,999	12,053	5,157	4,723	4,520	14,985	609	212

See footnotes at end of table.

Table 3.1 World Petroleum Supply and Disposition, 1998 (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
Eastern Europe & Former U.S.S.R.								
Albania.....	6	(s)	3	0	0	10	0	0
Bulgaria.....	1	111	13	0	26	103	4	1
Czech Republic.....	4	139	58	2	26	181	0	3
Hungary.....	43	125	35	(s)	39	164	0	4
Poland.....	7	315	102	0	30	412	12	2
Romania.....	138	120	51	0	70	250	1	1
Slovakia.....	1	107	6	0	46	71	0	0
Armenia.....	0	0	3	0	0	3	0	0
Azerbaijan.....	237	2	2	47	44	142	0	12
Belarus.....	36	209	9	8	56	190	0	0
Estonia.....	4	0	36	0	12	27	1	1
Georgia.....	2	0	26	1	1	26	0	0
Kazakhstan.....	526	41	17	360	20	201	0	7
Kyrgyzstan.....	2	1	11	0	(s)	14	0	0
Latvia.....	0	0	38	0	3	33	0	0
Lithuania.....	5	136	19	4	87	73	1	(s)
Moldova.....	0	0	15	0	0	15	0	0
Russia.....	6,074	110	80	2,694	1,039	2,449	230	65
Tajikistan.....	1	0	28	(s)	(s)	28	0	0
Turkmenistan.....	127	14	2	28	54	58	0	0
Ukraine.....	82	198	132	2	33	375	0	14
Uzbekistan.....	161	(s)	1	22	8	140	0	0
Total.....	7,458	1,626	689	3,168	1,594	4,968	250	109
Middle East								
Bahrain.....	49	211	0	0	234	26	1	1
Cyprus.....	0	22	23	0	0	46	1	6
Iran.....	3,721	0	134	2,512	205	1,177	11	2
Iraq.....	2,166	0	0	1,682	0	484	0	0
Israel.....	(s)	235	54	0	46	252	2	1
Jordan.....	(s)	71	23	0	0	96	(s)	6
Kuwait.....	2,204	0	(s)	1,190	836	172	9	3
Lebanon.....	0	0	100	0	0	100	0	4
Oman.....	906	0	5	835	28	51	5	1
Qatar.....	782	0	0	651	68	61	0	3
Saudi Arabia.....	9,159	0	0	7,079	835	1,237	105	155
Syria.....	561	0	23	315	33	245	0	2
United Arab Emirates.....	2,518	0	235	2,139	278	322	195	6
Yemen.....	388	0	3	294	28	71	1	1
Total.....	22,454	538	600	16,696	2,592	4,339	330	191

See footnotes at end of table.

Table 3.1 World Petroleum Supply and Disposition, 1998 (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.....	1,402	0	2	779	422	206	3	9
Angola.....	735	0	4	698	7	32	8	8
Cameroon.....	121	0	2	95	2	25	0	2
Congo (Brazzaville).....	265	0	7	257	0	7	1	0
Congo (Kinshasa).....	26	2	25	22	7	25	(s)	2
Cote d'Ivoire (Ivory Coast)...	21	44	6	9	6	56	1	(s)
Egypt.....	910	0	48	258	101	572	36	11
Ethiopia.....	0	0	18	0	0	17	0	(s)
Gabon.....	353	0	3	336	4	17	1	2
Ghana.....	5	15	16	0	5	29	0	1
Kenya.....	1	37	28	0	13	51	1	(s)
Libya.....	1,450	0	1	1,137	142	175	2	3
Morocco.....	1	120	25	0	7	144	0	2
Nigeria.....	2,158	0	45	1,921	2	269	5	2
Senegal.....	0	17	10	0	2	25	1	4
South Africa.....	199	321	20	14	68	451	47	4
Sudan.....	10	5	17	0	0	31	0	(s)
Tunisia.....	81	19	53	59	13	81	(s)	5
Zimbabwe.....	0	0	32	0	0	31	0	0
Other.....	84	54	165	84	3	219	8	20
Total.....	7,823	635	524	5,669	805	2,463	114	74
Far East & Oceania								
Australia.....	627	412	96	231	152	831	12	2
Bangladesh.....	2	22	36	0	0	58	1	0
Brunei.....	179	0	1	166	(s)	14	0	0
Burma.....	11	14	7	(s)	1	30	0	(s)
China.....	3,198	579	596	313	135	4,106	3	4
Guam.....	0	0	20	0	0	20	1	1
Hong Kong.....	0	0	350	0	166	184	30	74
India.....	755	774	438	47	30	1,844	7	11
Indonesia.....	1,602	181	148	738	228	954	6	16
Japan.....	80	4,293	1,190	0	132	5,512	101	4
Korea, North.....	0	38	28	0	(s)	70	0	0
Korea, South.....	70	2,244	482	0	803	1,973	91	36
Malaysia.....	811	41	191	404	169	449	7	1
Mongolia.....	0	0	8	0	0	8	0	0
New Zealand.....	56	91	26	34	5	133	5	2
Pakistan.....	59	81	213	5	2	347	(s)	3
Papua New Guinea.....	79	0	15	79	(s)	15	0	1
Philippines.....	2	321	72	0	19	376	1	13
Singapore.....	4	1,038	554	(s)	980	599	256	87
Sri Lanka.....	0	43	19	0	3	61	4	3
Taiwan.....	3	709	167	0	35	808	53	5
Thailand.....	136	680	43	21	100	706	13	2
Vietnam.....	246	0	137	241	0	135	0	0
Other.....	0	0	81	0	3	78	(s)	14
Total.....	7,922	11,562	4,917	2,278	2,962	19,312	589	278
World Total.....	75,124	37,761	15,599	38,831	15,966	73,642	2,276	1,381

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, 1998
(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.....	668	100	36	519	132	72	415	1,942	104
Mexico.....	499	57	2	296	469	372	132	1,827	70
United States.....	8,082	1,526	76	3,424	762	674	2,677	17,221	942
Other.....	0	0	0	0	0	0	0	0	0
Total.....	9,249	1,683	114	4,239	1,363	1,117	3,225	20,990	1,116
Central & South America									
Argentina.....	126	31	4	220	52	32	110	574	22
Bahamas, The.....	0	0	0	0	0	0	0	0	0
Bolivia.....	11	3	1	8	1	2	14	38	1
Brazil.....	337	65	1	506	298	118	319	1,645	63
Chile.....	48	11	6	70	31	12	22	201	8
Colombia.....	107	20	3	64	55	21	53	322	12
Costa Rica.....	(s)	0	(s)	(s)	(s)	(s)	(s)	1	(s)
Cuba.....	6	1	2	4	10	2	22	46	2
Dominican Republic.....	9	1	5	9	21	1	1	47	2
Ecuador.....	31	6	1	27	62	4	7	137	5
El Salvador.....	3	1	(s)	3	9	1	1	18	1
Guatemala.....	3	(s)	(s)	7	5	(s)	1	16	1
Honduras.....	0	0	0	0	0	0	0	0	0
Jamaica.....	5	1	2	6	10	(s)	1	23	1
Netherlands Antilles.....	34	20	2	57	99	3	56	271	10
Nicaragua.....	2	1	(s)	4	8	(s)	2	18	1
Panama.....	7	1	2	13	23	1	3	49	2
Paraguay.....	(s)	0	(s)	1	1	(s)	(s)	3	(s)
Peru.....	35	9	14	41	62	8	7	176	7
Puerto Rico.....	21	1	1	2	10	0	27	60	2
Trinidad and Tobago.....	21	8	(s)	23	47	3	4	105	4
Uruguay.....	8	1	1	12	11	3	(s)	36	1
Venezuela.....	454	81	3	276	214	26	120	1,173	45
Virgin Islands, U.S.....	168	40	1	113	73	5	53	453	18
Other.....	4	0	3	3	5	1	(s)	16	1
Total.....	1,439	300	51	1,468	1,107	243	823	5,431	210
Western Europe									
Austria.....	50	11	0	80	24	1	38	204	14
Belgium.....	149	45	3	254	142	22	170	785	31
Bosnia and Herzegovina.....	0	0	0	0	0	0	0	0	0
Croatia.....	27	2	(s)	31	27	6	19	113	4
Denmark.....	52	8	0	70	28	4	7	169	5
Finland.....	97	17	0	109	23	11	17	273	11
France.....	418	145	1	736	223	98	334	1,956	108
Germany.....	609	79	1	978	242	89	492	2,488	134
Greece.....	85	42	1	113	123	21	47	432	16
Iceland.....	0	0	0	0	0	0	0	0	0
Ireland.....	11	1	4	23	19	1	5	64	2
Italy.....	475	61	27	745	358	73	289	2,027	126
Luxembourg.....	0	0	0	0	0	0	0	0	0
Macedonia, TFYR.....	4	0	0	6	6	(s)	5	20	1
Netherlands.....	345	137	4	434	255	116	443	1,735	75
Norway.....	74	16	3	139	33	11	35	312	13
Portugal.....	65	23	1	89	65	13	40	296	17
Serbia and Montenegro.....	13	2	1	12	11	2	16	58	2
Slovenia.....	(s)	0	(s)	8	2	(s)	2	12	(s)
Spain.....	230	80	5	408	266	50	228	1,266	77
Sweden.....	100	2	0	153	105	9	60	431	9
Switzerland.....	28	9	(s)	43	13	8	7	108	5
Turkey.....	85	34	2	163	145	25	104	559	32
United Kingdom.....	634	171	75	571	238	64	226	1,980	137
Other.....	0	0	0	0	0	0	0	0	0
Total.....	3,552	886	128	5,165	2,349	624	2,584	15,287	820

See footnotes at end of table.

Table 3.2 World Output of Refined Petroleum Products, 1998 (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)	1	7	(s)
Bulgaria.....	22	4	0	40	26	3	27	121	5
Czech Republic.....	25	2	(s)	51	30	5	41	153	6
Hungary.....	34	4	(s)	53	25	10	48	174	7
Poland.....	78	6	(s)	115	90	8	54	350	13
Romania.....	75	2	2	83	39	10	57	267	10
Slovakia.....	21	1	1	39	24	1	28	115	4
Armenia.....	0	0	0	0	0	0	0	0	0
Azerbaijan.....	15	11	4	42	76	6	30	184	7
Belarus.....	46	16	2	64	85	5	15	232	9
Estonia.....	0	0	0	(s)	4	(s)	(s)	4	(s)
Georgia.....	(s)	0	(s)	(s)	(s)	(s)	(s)	1	(s)
Kazakhstan.....	40	4	5	51	58	2	28	189	7
Kyrgyzstan.....	0	0	0	(s)	(s)	(s)	3	3	(s)
Latvia.....	0	0	0	0	0	0	0	0	0
Lithuania.....	49	8	0	42	29	7	8	144	6
Moldova.....	0	0	0	0	0	0	0	0	0
Russia.....	606	200	1	922	1,079	158	550	3,516	135
Tajikistan.....	0	0	0	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	21	5	1	30	34	1	18	111	4
Ukraine.....	69	14	(s)	81	87	5	33	289	11
Uzbekistan.....	33	6	2	47	35	1	26	149	6
Total.....	1,136	285	19	1,662	1,721	220	968	6,010	231
Middle East									
Bahrain.....	17	25	22	87	57	1	54	264	10
Cyprus.....	3	(s)	(s)	8	8	1	1	22	1
Iran.....	211	14	29	407	385	52	149	1,248	48
Iraq.....	72	12	22	142	149	33	49	479	18
Israel.....	49	16	13	61	61	16	28	244	9
Jordan.....	12	5	4	19	24	4	7	75	3
Kuwait.....	48	41	141	252	207	5	192	885	34
Lebanon.....	0	0	0	0	0	0	0	0	0
Oman.....	14	3	(s)	17	39	1	2	76	3
Qatar.....	14	9	(s)	14	19	3	3	62	2
Saudi Arabia.....	286	78	68	478	505	42	260	1,717	66
Syria.....	32	4	4	84	101	10	16	251	17
United Arab Emirates.....	36	58	0	67	37	13	41	251	10
Yemen.....	24	7	2	16	29	1	13	93	4
Total.....	820	273	305	1,649	1,622	182	815	5,666	225

See footnotes at end of table.

Table 3.2 World Output of Refined Petroleum Products, 1998 (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.....	48	21	(s)	127	100	39	257	592	23
Angola.....	2	6	1	10	12	1	4	36	1
Cameroon.....	8	1	6	5	4	1	1	25	1
Congo (Brazzaville).....	0	0	0	0	0	0	0	0	0
Congo (Kinshasa).....	1	(s)	1	1	2	(s)	1	7	(s)
Cote d'Ivoire (Ivory Coast).....	15	3	10	9	14	2	3	56	2
Egypt.....	49	19	24	124	246	14	128	604	18
Ethiopia.....	0	0	0	0	0	0	0	0	0
Gabon.....	1	1	(s)	4	5	(s)	4	16	1
Ghana.....	4	1	2	4	4	(s)	4	19	1
Kenya.....	7	5	2	9	10	1	2	36	1
Libya.....	46	29	6	87	92	9	46	316	12
Morocco.....	10	6	2	46	37	8	15	122	5
Nigeria.....	50	6	17	50	32	2	46	203	8
Senegal.....	3	2	(s)	6	5	(s)	1	17	1
South Africa.....	185	34	20	151	66	10	24	491	19
Sudan.....	1	(s)	(s)	3	6	(s)	(s)	12	(s)
Tunisia.....	8	0	3	11	12	4	3	42	2
Zimbabwe.....	0	0	0	0	0	0	0	0	0
Other.....	13	2	4	14	16	2	6	57	2
Total.....	452	138	97	662	661	94	546	2,650	97
Far East & Oceania									
Australia.....	314	91	4	225	31	26	85	777	43
Bangladesh.....	4	(s)	6	4	1	(s)	5	22	1
Brunei.....	4	2	(s)	3	2	1	2	13	1
Burma.....	6	1	0	9	2	1	2	21	1
China.....	815	93	40	1,002	429	242	1,007	3,629	140
Guam.....	0	0	0	0	0	0	0	0	0
Hong Kong.....	0	0	0	0	0	0	0	0	0
India.....	123	44	134	511	292	66	284	1,453	56
Indonesia.....	188	20	146	275	237	21	83	968	37
Japan.....	951	179	478	1,255	739	152	692	4,446	225
Korea, North.....	17	0	4	17	7	(s)	1	46	2
Korea, South.....	208	175	171	637	576	75	458	2,300	92
Malaysia.....	57	42	6	119	65	58	60	406	16
Mongolia.....	0	0	0	0	0	0	0	0	0
New Zealand.....	37	18	(s)	36	9	0	10	110	6
Pakistan.....	23	13	10	33	38	2	16	135	5
Papua New Guinea.....	0	(s)	0	1	(s)	(s)	(s)	1	(s)
Philippines.....	53	12	12	101	116	14	35	343	13
Singapore.....	115	140	7	303	235	32	203	1,035	40
Sri Lanka.....	4	1	4	14	14	2	5	45	2
Taiwan.....	110	34	9	125	276	27	179	760	50
Thailand.....	149	61	2	283	144	72	30	741	29
Vietnam.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	1	(s)
Other.....	0	0	0	0	0	0	0	0	0
Total.....	3,179	926	1,033	4,952	3,214	791	3,156	17,252	757
World Total.....	19,827	4,491	1,748	19,797	12,036	3,271	12,117	73,287	3,456

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, 1998
(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.....	38	13	(s)	11	62	8	52	185
Mexico.....	143	0	0	20	91	77	4	335
United States.....	311	124	1	210	275	225	856	2,002
Other.....	1	(s)	(s)	2	(s)	(s)	(s)	4
Total.....	493	137	2	243	429	311	912	2,526
Central & South America								
Argentina.....	2	2	1	21	1	2	4	32
Bahamas, The.....	2	1	1	7	43	(s)	7	61
Bolivia.....	0	0	0	3	0	0	0	3
Brazil.....	1	17	0	107	1	87	88	301
Chile.....	7	5	0	13	3	16	0	44
Colombia.....	29	(s)	0	(s)	(s)	(s)	0	29
Costa Rica.....	11	3	0	14	4	2	1	34
Cuba.....	4	10	(s)	29	63	2	2	110
Dominican Republic.....	6	(s)	1	11	7	13	0	39
Ecuador.....	1	(s)	0	20	0	13	0	34
El Salvador.....	5	(s)	(s)	10	5	3	(s)	24
Guatemala.....	13	1	1	13	10	5	1	44
Honduras.....	7	1	1	14	5	1	(s)	29
Jamaica.....	6	4	(s)	6	27	2	(s)	44
Netherlands Antilles.....	7	1	0	6	13	1	5	34
Nicaragua.....	1	0	0	4	0	1	(s)	6
Panama.....	2	0	0	6	13	2	0	24
Paraguay.....	4	0	(s)	14	(s)	2	(s)	21
Peru.....	1	0	0	19	0	4	2	27
Puerto Rico.....	14	1	1	27	7	(s)	90	139
Trinidad and Tobago.....	0	(s)	0	1	0	0	(s)	2
Uruguay.....	0	0	0	6	1	1	(s)	8
Venezuela.....	0	0	0	0	0	0	12	12
Virgin Islands, U.S.....	0	0	0	0	2	0	1	3
Other.....	17	11	3	26	20	3	2	81
Total.....	139	57	9	378	225	161	216	1,185
Western Europe								
Austria.....	18	(s)	(s)	41	10	8	22	99
Belgium.....	33	8	2	121	50	14	107	336
Bosnia and Herzegovina....	3	1	0	6	2	0	9	21
Croatia.....	2	1	0	4	4	(s)	3	14
Denmark.....	24	15	0	49	16	(s)	34	138
Finland.....	3	2	13	22	17	18	6	80
France.....	33	5	1	130	26	41	111	348
Germany.....	200	64	1	395	50	30	216	956
Greece.....	4	1	0	52	7	0	16	80
Iceland.....	3	2	0	8	1	0	2	17
Ireland.....	20	9	7	35	30	3	(s)	105
Italy.....	23	0	0	16	250	55	195	540
Luxembourg.....	13	6	0	23	(s)	1	(s)	43
Macedonia, TFYR.....	1	(s)	0	1	1	1	1	5
Netherlands.....	126	11	11	175	124	216	253	915
Norway.....	11	5	1	10	18	6	17	67
Portugal.....	0	0	0	3	28	22	43	95
Serbia and Montenegro.....	5	0	0	0	2	0	0	6
Slovenia.....	20	(s)	0	26	2	2	3	53
Spain.....	18	8	0	99	40	37	135	338
Sweden.....	36	15	0	33	17	24	22	147
Switzerland.....	61	22	1	92	0	1	7	183
Turkey.....	22	(s)	0	4	14	76	13	129
United Kingdom.....	46	57	3	71	14	8	215	414
Other.....	2	1	(s)	5	18	1	1	28
Total.....	725	235	39	1,421	742	564	1,431	5,157

See footnotes at end of table.

Table 3.3 World Imports of Refined Petroleum Products, 1998 (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	(s)	3
Bulgaria.....	2	0	(s)	6	1	0	5	13
Czech Republic.....	20	2	1	19	7	3	7	58
Hungary.....	4	(s)	(s)	5	17	4	4	35
Poland.....	39	1	3	9	19	24	7	102
Romania.....	3	(s)	(s)	3	43	(s)	2	51
Slovakia.....	3	0	0	2	1	(s)	0	6
Armenia.....	1	(s)	(s)	1	1	(s)	(s)	3
Azerbaijan.....	(s)	0	(s)	1	0	(s)	0	2
Belarus.....	2	1	0	1	1	6	0	9
Estonia.....	8	(s)	0	12	12	(s)	2	36
Georgia.....	10	2	2	5	3	3	(s)	26
Kazakhstan.....	5	2	1	4	2	(s)	3	17
Kyrgyzstan.....	5	1	0	2	2	0	1	11
Latvia.....	10	1	(s)	8	14	1	2	38
Lithuania.....	3	(s)	0	2	12	1	2	19
Moldova.....	4	(s)	(s)	5	3	1	2	15
Russia.....	37	0	0	28	14	1	(s)	80
Tajikistan.....	23	(s)	0	2	1	(s)	3	28
Turkmenistan.....	0	0	0	0	0	2	0	2
Ukraine.....	10	(s)	0	25	49	42	6	132
Uzbekistan.....	0	1	0	0	0	0	1	1
Total.....	190	13	8	139	200	90	50	689
Middle East								
Bahrain.....	0	0	0	0	0	0	0	0
Cyprus.....	1	6	0	4	9	1	3	23
Iran.....	24	0	0	100	0	0	10	134
Iraq.....	0	0	0	0	0	0	0	0
Israel.....	(s)	2	4	1	40	0	7	54
Jordan.....	(s)	0	0	5	15	3	0	23
Kuwait.....	0	0	0	0	0	0	(s)	(s)
Lebanon.....	33	2	(s)	29	29	4	2	100
Oman.....	1	1	0	2	0	(s)	(s)	5
Qatar.....	0	0	0	0	0	0	0	0
Saudi Arabia.....	0	0	0	0	0	0	0	0
Syria.....	0	1	2	15	0	4	0	23
United Arab Emirates.....	0	0	0	2	233	0	0	235
Yemen.....	0	0	0	0	0	0	3	3
Total.....	59	12	6	158	326	13	25	600

See footnotes at end of table.

Table 3.3 World Imports of Refined Petroleum Products, 1998 (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	1	2	4
Cameroon.....	1	0	1	(s)	0	0	0	2
Congo (Brazzaville).....	1	(s)	1	1	1	(s)	2	7
Congo (Kinshasa).....	5	3	2	6	5	(s)	3	25
Cote d'Ivoire (Ivory Coast).....	2	0	0	0	3	1	(s)	6
Egypt.....	2	0	0	25	0	19	2	48
Ethiopia.....	3	1	4	6	2	(s)	1	18
Gabon.....	0	(s)	(s)	2	0	(s)	1	3
Ghana.....	6	(s)	1	5	0	2	1	16
Kenya.....	6	7	4	8	3	0	1	28
Libya.....	0	0	0	0	0	0	1	1
Morocco.....	0	0	0	0	0	25	0	25
Nigeria.....	27	0	5	7	5	(s)	0	45
Senegal.....	0	2	0	2	3	3	(s)	10
South Africa.....	14	1	1	1	2	0	2	20
Sudan.....	4	1	1	9	(s)	1	1	17
Tunisia.....	2	6	1	18	15	7	3	53
Zimbabwe.....	11	4	1	15	0	(s)	1	32
Other.....	38	13	13	56	25	4	17	165
Total.....	120	38	36	163	65	64	38	524
Far East & Oceania								
Australia.....	1	2	(s)	16	13	8	55	96
Bangladesh.....	2	1	4	23	4	0	2	36
Brunei.....	(s)	(s)	0	(s)	0	0	(s)	1
Burma.....	1	0	0	6	0	0	0	7
China.....	(s)	15	13	63	297	152	56	596
Guam.....	3	9	0	5	3	(s)	0	20
Hong Kong.....	8	57	0	207	74	4	0	350
India.....	1	2	116	241	14	63	2	438
Indonesia.....	10	4	18	90	25	0	0	148
Japan.....	15	43	20	22	21	558	510	1,190
Korea, North.....	17	0	1	5	5	0	0	28
Korea, South.....	1	3	14	6	35	135	288	482
Malaysia.....	71	2	(s)	30	76	8	2	191
Mongolia.....	4	0	1	3	1	0	(s)	8
New Zealand.....	14	2	0	1	0	0	9	26
Pakistan.....	3	0	1	101	107	1	0	213
Papua New Guinea.....	2	1	(s)	6	5	(s)	(s)	15
Philippines.....	10	2	2	19	19	17	2	72
Singapore.....	40	29	4	105	357	(s)	19	554
Sri Lanka.....	(s)	4	(s)	12	0	3	(s)	19
Taiwan.....	39	7	0	0	58	24	39	167
Thailand.....	1	(s)	0	12	11	(s)	19	43
Vietnam.....	27	5	6	63	26	8	3	137
Other.....	10	16	8	30	13	3	2	81
Total.....	282	205	209	1,065	1,163	985	1,009	4,917
World Total.....	2,008	697	309	3,567	3,150	2,187	3,681	15,599

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, 1998
(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.....	90	6	1	98	31	364	124	715
Mexico.....	79	3	0	8	1	4	30	126
United States.....	125	26	(s)	124	138	51	371	835
Other.....	0	0	0	0	0	0	0	0
Total.....	295	35	2	231	169	419	524	1,675
Central & South America								
Argentina.....	35	1	0	22	4	23	25	110
Bahamas, The.....	0	0	0	(s)	37	0	0	38
Bolivia.....	0	0	0	0	0	0	4	4
Brazil.....	28	0	0	37	41	0	7	113
Chile.....	1	1	0	1	0	1	(s)	3
Colombia.....	0	2	0	8	45	(s)	0	54
Costa Rica.....	0	(s)	0	(s)	0	0	0	1
Cuba.....	0	0	0	0	0	0	0	0
Dominican Republic.....	0	0	0	0	0	0	0	0
Ecuador.....	0	2	0	(s)	33	0	0	35
El Salvador.....	0	0	0	0	4	(s)	(s)	4
Guatemala.....	(s)	0	0	0	0	0	0	(s)
Honduras.....	0	0	0	(s)	(s)	(s)	0	(s)
Jamaica.....	0	0	0	(s)	1	0	0	1
Netherlands Antilles.....	39	20	0	53	74	2	46	234
Nicaragua.....	0	0	0	0	0	0	1	1
Panama.....	(s)	(s)	1	2	11	0	0	15
Paraguay.....	0	0	0	0	(s)	0	0	(s)
Peru.....	4	(s)	0	0	27	0	(s)	30
Puerto Rico.....	(s)	0	(s)	1	0	(s)	16	17
Trinidad and Tobago.....	13	7	0	19	45	1	1	86
Uruguay.....	0	1	(s)	0	0	0	(s)	1
Venezuela.....	250	76	1	182	169	60	23	759
Virgin Islands, U.S.....	119	26	0	88	48	(s)	26	307
Other.....	1	0	1	1	2	(s)	0	5
Total.....	490	135	3	414	539	87	150	1,818
Western Europe								
Austria.....	19	0	0	10	(s)	1	3	33
Belgium.....	124	19	(s)	125	62	13	93	436
Bosnia and Herzegovina..	0	0	0	0	0	0	0	0
Croatia.....	11	1	(s)	11	4	5	7	38
Denmark.....	27	2	0	13	19	2	1	65
Finland.....	52	6	1	35	(s)	1	7	102
France.....	88	34	(s)	37	51	33	77	321
Germany.....	70	1	1	79	84	15	52	302
Greece.....	15	18	0	6	3	5	23	70
Iceland.....	0	0	0	0	0	0	0	0
Ireland.....	(s)	0	(s)	2	19	(s)	3	24
Italy.....	65	15	5	227	91	7	50	461
Luxembourg.....	0	0	0	(s)	0	(s)	0	(s)
Macedonia, TFYR.....	1	(s)	0	(s)	0	0	(s)	1
Netherlands.....	245	74	6	427	171	51	327	1,301
Norway.....	44	5	0	77	25	87	33	270
Portugal.....	18	8	0	6	3	(s)	4	40
Serbia and Montenegro....	0	0	0	0	0	0	0	0
Slovenia.....	1	(s)	0	3	(s)	0	1	5
Spain.....	45	2	(s)	20	49	5	63	183
Sweden.....	44	(s)	(s)	65	53	6	11	180
Switzerland.....	0	0	0	0	7	2	(s)	9
Turkey.....	0	0	0	22	10	0	10	42
United Kingdom.....	184	18	6	127	103	125	76	639
Other.....	0	0	0	0	0	0	0	0
Total.....	1,050	203	19	1,291	755	360	842	4,520

See footnotes at end of table.

Table 3.4 World Exports of Refined Petroleum Products, 1998 (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	0	0
Bulgaria.....	6	(s)	0	18	2	0	(s)	26
Czech Republic.....	1	0	0	12	8	1	4	26
Hungary.....	8	1	0	18	0	1	11	39
Poland.....	0	1	0	(s)	28	(s)	1	30
Romania.....	35	(s)	0	29	(s)	(s)	5	70
Slovakia.....	10	1	(s)	21	14	(s)	(s)	46
Armenia.....	0	0	0	0	0	0	0	0
Azerbaijan.....	4	0	1	32	1	(s)	6	44
Belarus.....	13	5	1	26	11	0	0	56
Estonia.....	1	(s)	0	3	6	0	1	12
Georgia.....	(s)	0	0	0	(s)	0	0	1
Kazakhstan.....	1	(s)	(s)	4	15	(s)	(s)	20
Kyrgyzstan.....	(s)	(s)	0	(s)	0	0	(s)	(s)
Latvia.....	2	(s)	0	(s)	(s)	0	(s)	3
Lithuania.....	37	8	0	28	8	5	(s)	87
Moldova.....	0	0	0	0	0	0	0	0
Russia.....	65	0	0	499	398	51	25	1,039
Tajikistan.....	0	0	0	0	0	0	(s)	(s)
Turkmenistan.....	9	0	0	25	20	0	0	54
Ukraine.....	1	(s)	(s)	6	26	0	(s)	33
Uzbekistan.....	1	(s)	0	6	(s)	0	(s)	8
Total.....	196	15	2	728	538	59	55	1,594
Middle East								
Bahrain.....	10	26	21	83	56	6	32	234
Cyprus.....	0	0	0	0	0	0	0	0
Iran.....	0	0	0	0	199	(s)	6	205
Iraq.....	0	0	0	0	0	0	0	0
Israel.....	7	4	6	16	9	3	1	46
Jordan.....	0	0	0	0	0	0	0	0
Kuwait.....	6	30	140	238	98	96	227	836
Lebanon.....	0	0	0	0	0	0	0	0
Oman.....	0	0	0	1	27	0	0	28
Qatar.....	4	6	0	7	18	6	28	68
Saudi Arabia.....	164	26	63	130	322	9	121	835
Syria.....	10	0	0	0	20	0	3	33
United Arab Emirates.....	0	43	0	43	0	165	28	278
Yemen.....	0	5	0	1	18	0	3	28
Total.....	201	142	230	519	768	284	449	2,592

See footnotes at end of table.

Table 3.4 World Exports of Refined Petroleum Products, 1998 (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.....	1	15	0	61	89	191	64	422
Angola.....	0	2	0	0	3	0	3	7
Cameroon.....	1	0	1	1	1	0	0	2
Congo (Brazzaville).....	0	0	0	0	0	0	0	0
Congo (Kinshasa).....	1	(s)	1	1	1	(s)	1	7
Cote d'Ivoire (Ivory Coast)	2	1	(s)	1	1	0	0	6
Egypt.....	0	2	0	0	27	0	72	101
Ethiopia.....	0	0	0	0	0	0	0	0
Gabon.....	(s)	0	0	0	4	0	(s)	4
Ghana.....	2	0	0	0	3	(s)	0	5
Kenya.....	4	2	0	4	3	0	(s)	13
Libya.....	7	27	1	44	28	8	26	142
Morocco.....	0	0	0	0	0	0	7	7
Nigeria.....	0	0	0	0	0	2	0	2
Senegal.....	1	(s)	(s)	(s)	(s)	(s)	(s)	2
South Africa.....	11	3	3	46	4	0	2	68
Sudan.....	0	0	0	0	0	0	0	0
Tunisia.....	0	0	0	1	10	(s)	3	13
Zimbabwe.....	0	0	0	0	0	0	0	0
Other.....	1	(s)	(s)	1	1	0	(s)	3
Total.....	31	52	6	161	173	202	179	805
Far East & Oceania								
Australia.....	24	10	1	20	7	46	45	152
Bangladesh.....	0	0	0	0	0	0	0	0
Brunei.....	0	0	0	0	0	0	(s)	(s)
Burma.....	0	0	0	0	0	0	1	1
China.....	43	14	6	20	10	16	26	135
Guam.....	0	0	0	0	0	0	0	0
Hong Kong.....	2	3	0	107	52	(s)	0	166
India.....	0	0	0	5	4	1	20	30
Indonesia.....	4	10	0	1	133	56	25	228
Japan.....	14	5	2	50	45	2	14	132
Korea, North.....	0	0	0	0	(s)	0	0	(s)
Korea, South.....	43	117	19	299	165	29	131	803
Malaysia.....	3	7	5	22	53	23	57	169
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.....	(s)	0	0	1	3	0	15	19
Singapore.....	139	120	10	317	222	24	147	980
Sri Lanka.....	0	0	0	0	(s)	0	3	3
Taiwan.....	0	0	0	11	15	(s)	9	35
Thailand.....	30	4	(s)	38	3	15	9	100
Vietnam.....	0	0	0	0	0	0	0	0
Other.....	1	1	1	1	0	0	(s)	3
Total.....	301	292	44	894	715	214	503	2,962
World Total.....	2,564	875	307	4,237	3,657	1,626	2,701	15,966

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, 1998
(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.....	609	106	39	430	150	226	300	1,859
Mexico.....	513	52	1	277	733	290	69	1,935
United States.....	8,253	1,622	78	3,461	887	2,126	2,489	18,917
Other.....	1	(s)	(s)	2	(s)	(s)	(s)	4
Total.....	9,376	1,781	118	4,170	1,770	2,642	2,857	22,715
Central & South America								
Argentina.....	94	33	5	213	49	10	88	492
Bolivia.....	11	3	1	12	1	10	4	40
Brazil.....	311	48	1	583	258	211	503	1,915
Chile.....	54	14	6	80	38	28	19	239
Colombia.....	133	19	3	58	9	17	56	295
Costa Rica.....	12	2	(s)	14	4	2	1	35
Cuba.....	9	6	3	34	95	3	8	159
Dominican Republic.....	15	1	6	21	28	14	1	86
Ecuador.....	33	4	1	47	29	17	7	137
El Salvador.....	8	1	(s)	13	10	4	1	38
Guatemala.....	15	1	1	19	15	5	1	58
Honduras.....	7	1	1	14	6	1	(s)	29
Jamaica.....	10	5	2	11	36	2	1	67
Netherlands Antilles.....	2	1	2	10	38	2	15	71
Panama.....	9	(s)	(s)	16	25	3	3	56
Paraguay.....	5	0	(s)	16	1	2	(s)	25
Peru.....	26	9	15	59	36	13	9	168
Puerto Rico.....	33	1	2	25	16	(s)	83	160
Trinidad and Tobago.....	7	1	(s)	5	1	2	4	22
Uruguay.....	8	(s)	1	18	11	3	(s)	41
Venezuela.....	158	5	2	94	45	67	87	457
Virgin Islands, U.S.....	52	14	1	21	21	5	13	127
Other.....	27	12	4	43	45	5	4	141
Total.....	1,038	182	58	1,426	817	429	909	4,859
Western Europe								
Austria.....	49	12	(s)	110	31	5	41	248
Belgium.....	58	33	5	240	132	20	113	601
Bosnia and Herzegovina...	3	1	0	6	2	0	9	21
Croatia.....	17	2	(s)	25	29	1	16	90
Denmark.....	47	18	(s)	99	25	3	38	229
Finland.....	43	10	0	85	31	9	33	212
France.....	303	114	1	894	155	122	442	2,031
Germany.....	775	139	(s)	1,277	162	109	454	2,916
Greece.....	73	25	(s)	143	108	16	26	392
Iceland.....	3	2	0	8	1	(s)	2	17
Ireland.....	30	8	11	55	32	4	8	149
Italy.....	464	63	32	537	512	132	333	2,072
Luxembourg.....	13	6	(s)	22	(s)	1	(s)	42
Macedonia, TFYR.....	4	(s)	0	6	7	1	5	23
Netherlands.....	95	68	3	174	192	68	212	812
Norway.....	40	14	3	84	15	39	32	228
Portugal.....	47	14	1	84	82	33	69	330
Serbia and Montenegro....	18	2	1	12	13	2	16	65
Slovenia.....	19	(s)	(s)	32	3	2	3	60
Spain.....	209	82	1	462	240	82	309	1,385
Sweden.....	93	19	0	120	74	29	36	371
Switzerland.....	89	31	(s)	126	7	7	12	272
Turkey.....	103	33	2	138	144	100	106	626
United Kingdom.....	511	200	77	504	123	120	230	1,765
Other.....	2	1	(s)	5	18	1	1	28
Total.....	3,110	898	137	5,248	2,138	905	2,550	14,985

See footnotes at end of table.

Table 3.5 World Apparent Consumption of Refined Petroleum Products, 1998 (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)	1	10
Bulgaria.....	19	3	(s)	25	25	3	28	103
Czech Republic.....	42	4	1	55	27	8	43	181
Hungary.....	27	4	(s)	39	42	11	41	164
Poland.....	116	6	3	120	80	32	56	412
Romania.....	43	2	2	57	83	10	54	250
Slovakia.....	13	1	(s)	17	11	1	28	71
Armenia.....	1	(s)	(s)	1	1	(s)	(s)	3
Azerbaijan.....	10	11	4	11	78	6	23	142
Belarus.....	34	12	1	49	79	10	6	190
Estonia.....	7	(s)	0	9	10	(s)	1	27
Georgia.....	10	2	2	5	3	3	1	26
Kazakhstan.....	45	6	6	50	46	2	46	201
Kyrgyzstan.....	5	1	0	2	2	(s)	4	14
Latvia.....	8	1	(s)	8	13	1	2	33
Lithuania.....	15	1	0	15	32	4	7	73
Moldova.....	5	(s)	(s)	5	4	1	(s)	15
Russia.....	570	200	1	475	700	107	397	2,449
Tajikistan.....	23	(s)	0	2	1	(s)	3	28
Turkmenistan.....	12	5	1	5	14	3	18	58
Ukraine.....	77	14	(s)	100	109	48	26	375
Uzbekistan.....	32	6	2	41	35	1	23	140
Total.....	1,120	281	25	1,091	1,395	250	806	4,968
Middle East								
Bahrain.....	8	7	2	3	3	1	2	26
Cyprus.....	4	6	(s)	11	18	2	5	46
Iran.....	236	14	27	396	284	64	156	1,177
Iraq.....	72	12	22	142	149	38	49	484
Israel.....	47	12	11	54	87	13	27	252
Jordan.....	12	5	4	23	37	8	7	96
Kuwait.....	42	10	1	14	86	5	15	172
Lebanon.....	33	2	(s)	29	29	4	2	100
Oman.....	16	4	(s)	16	10	2	3	51
Qatar.....	10	4	(s)	7	(s)	38	1	61
Saudi Arabia.....	227	52	4	347	183	33	390	1,237
Syria.....	27	5	6	99	80	14	13	245
United Arab Emirates.....	39	15	0	26	226	3	14	322
Yemen.....	24	2	2	15	11	14	3	71
Total.....	798	150	80	1,182	1,204	239	685	4,339

See footnotes at end of table.

Table 3.5 World Apparent Consumption of Refined Petroleum Products, 1998 (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.....	45	6	(s)	68	11	52	24	206
Angola.....	2	5	1	10	10	2	3	32
Cameroon.....	7	1	6	8	1	1	1	25
Congo (Brazzaville).....	1	(s)	1	1	1	(s)	2	7
Congo (Kinshasa).....	5	3	2	6	6	(s)	2	25
Cote d'Ivoire (Ivory Coast).....	15	2	10	10	14	2	3	56
Egypt.....	50	9	24	150	219	61	60	572
Ethiopia.....	3	1	3	6	2	(s)	1	17
Gabon.....	1	2	1	6	1	1	6	17
Ghana.....	7	1	3	13	1	2	2	29
Kenya.....	9	9	7	13	9	1	3	51
Libya.....	39	2	4	43	65	(s)	21	175
Morocco.....	9	6	2	54	33	33	7	144
Nigeria.....	76	9	22	55	32	1	74	269
Senegal.....	2	4	(s)	8	7	3	1	25
South Africa.....	188	32	18	107	64	18	24	451
Sudan.....	5	1	1	15	7	1	1	31
Tunisia.....	8	7	4	31	16	11	5	81
Zimbabwe.....	10	4	1	15	0	(s)	1	31
Other.....	50	15	16	68	41	6	22	219
Total.....	534	119	126	688	536	196	264	2,463
Far East & Oceania								
Australia.....	308	83	2	218	34	79	107	831
Bangladesh.....	7	1	10	27	5	(s)	7	58
Brunei.....	4	2	(s)	3	2	1	2	14
Burma.....	7	1	(s)	17	2	(s)	1	30
China.....	773	94	47	1,069	713	375	1,035	4,106
Guam.....	3	9	0	5	3	(s)	0	20
Hong Kong.....	5	54	0	100	22	4	0	184
India.....	129	46	250	746	302	105	266	1,844
Indonesia.....	198	14	164	363	129	28	58	954
Japan.....	953	212	492	1,245	718	652	1,240	5,512
Korea, North.....	35	0	5	18	12	(s)	1	70
Korea, South.....	167	63	168	350	394	189	641	1,973
Malaysia.....	126	36	(s)	129	89	39	30	449
Mongolia.....	4	0	1	3	1	0	(s)	8
New Zealand.....	51	17	(s)	36	8	9	11	133
Pakistan.....	29	13	11	133	144	3	14	347
Papua New Guinea.....	2	1	(s)	6	5	(s)	(s)	15
Philippines.....	62	15	14	118	130	31	7	376
Singapore.....	17	49	1	90	369	8	64	599
Sri Lanka.....	4	5	4	26	14	5	2	61
Taiwan.....	155	44	3	93	261	49	203	808
Thailand.....	124	57	1	264	147	57	56	706
Vietnam.....	27	5	6	63	26	6	3	135
Other.....	10	15	7	29	13	3	2	78
Total.....	3,200	837	1,187	5,151	3,541	1,644	3,752	19,312
World Total.....	19,176	4,247	1,731	18,957	11,402	6,306	11,824	73,642

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, 2000

Region Country	Number of Refineries	Thousand Barrels per Day ¹			
		Crude Oil Distillation	Catalytic Cracking	Thermal Cracking	Reforming
North America					
Canada.....	22	1,912	411	137	340
Mexico.....	6	1,525	368	100	226
United States. ²	158	16,512	5,741	2,054	3,579
Total.....	186	19,949	6,520	2,290	4,145
Central & South America					
Argentina.....	11	662	179	46	56
Aruba.....	1	225	0	48	0
Bolivia.....	3	48	0	0	13
Brazil.....	13	1,783	424	9	24
Chile.....	3	205	46	21	16
Colombia.....	5	286	90	52	0
Costa Rica.....	1	15	0	7	1
Cuba.....	4	301	15	0	20
Dominican Republic.....	2	49	0	0	8
Ecuador.....	3	176	18	32	13
El Salvador.....	1	20	0	0	3
Guatemala.....	2	20	0	0	3
Jamaica.....	1	34	0	0	3
Martinique.....	1	16	0	0	3
Netherlands Antilles.....	1	320	50	80	20
Nicaragua.....	1	21	0	0	3
Panama.....	1	60	0	27	11
Paraguay.....	1	8	0	0	0
Peru.....	5	182	23	0	0
Puerto Rico.....	3	87	0	0	46
Suriname.....	1	7	0	3	0
Trinidad and Tobago.....	1	160	25	29	19
Uruguay.....	1	37	9	7	3
Venezuela.....	6	1,239	232	0	50
Virgin Islands, U.S.....	1	495	132	80	108
Total.....	73	6,456	1,243	440	423
Western Europe					
Austria.....	1	209	26	17	33
Belgium.....	5	719	113	63	103
Croatia.....	3	236	31	12	39
Denmark.....	2	135	0	53	22
Finland.....	2	200	45	35	43
France.....	14	1,902	352	154	265
Germany.....	17	2,275	340	223	398
Greece.....	4	383	63	46	52
Ireland.....	1	71	0	0	11
Italy.....	17	2,341	300	421	271
Macedonia, TFYR.....	1	51	0	0	11
Netherlands.....	6	1,188	104	121	172
Norway.....	3	358	54	48	49
Portugal.....	2	304	32	23	25
Serbia and Montenegro.....	2	167	21	0	22
Slovenia.....	1	14	0	0	0
Spain.....	10	1,316	182	151	197
Sweden.....	5	427	30	63	70
Switzerland.....	2	132	0	20	28
Turkey.....	6	691	38	24	65
United Kingdom.....	11	1,785	449	95	330
Total.....	115	14,902	2,181	1,570	2,202

See footnotes at end of table.

Table 3.6 World Crude Oil Refining Capacity, January 1, 2000 (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	115	23	21	4
Czech Republic.....	4	186	0	14	28
Hungary.....	3	232	24	14	30
Poland.....	7	382	46	0	39
Romania.....	10	499	98	32	64
Slovakia.....	1	115	0	0	22
Azerbaijan.....	2	442	71	0	24
Belarus.....	2	493	0	0	92
Georgia.....	2	109	0	0	10
Kazakhstan.....	3	427	38	30	59
Kyrgyzstan.....	1	10	0	0	0
Lithuania.....	1	263	44	30	26
Russia.....	43	6,673	381	423	856
Turkmenistan.....	2	237	15	0	33
Ukraine.....	6	1,148	69	17	100
Uzbekistan.....	3	222	0	10	23
Total.....	93	11,581	810	590	1,414
Middle East					
Bahrain.....	1	249	41	20	15
Cyprus.....	1	27	0	0	5
Iran.....	9	1,474	30	157	161
Iraq.....	8	348	0	0	44
Israel.....	2	220	50	66	27
Jordan.....	1	90	4	0	11
Kuwait.....	3	865	36	0	46
Lebanon.....	2	38	7	0	7
Oman.....	1	85	0	0	16
Qatar.....	1	58	0	0	12
Saudi Arabia.....	8	1,710	104	138	193
Syria.....	2	242	0	25	26
United Arab Emirates.....	4	429	19	0	14
Yemen.....	2	120	0	0	9
Total.....	45	5,953	291	406	584

See footnotes at end of table.

Table 3.6 World Crude Oil Refining Capacity, January 1, 2000 (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	70	0	0	9
Liberia.....	1	15	0	0	2
Libya.....	3	348	0	0	15
Madagascar.....	1	15	0	6	2
Morocco.....	2	157	6	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	467	303	75	115
Sudan.....	3	82	0	0	2
Tanzania.....	1	15	0	3	3
Tunisia.....	1	34	0	0	3
Zambia.....	1	25	0	0	6
Total.....	46	3,044	391	91	417
Far East & Oceania					
Australia.....	10	812	226	0	195
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.....	17	1,858	152	73	43
Indonesia.....	8	993	101	59	93
Japan.....	35	4,998	740	0	713
Korea, North.....	2	71	0	0	7
Korea, South.....	6	2,540	158	0	220
Malaysia.....	6	524	6	0	81
New Zealand.....	1	98	0	0	23
Pakistan.....	3	143	0	0	7
Philippines.....	4	401	24	20	62
Singapore.....	4	1,255	65	196	128
Sri Lanka.....	1	48	0	11	5
Taiwan.....	3	770	50	0	115
Thailand.....	4	713	78	17	88
Total.....	203	19,644	2,492	387	1,942
World Total.....	761	81,529	13,927	5,773	11,129

¹ Calendar day basis.

² United States data are as of January 1, 2000. 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, 1998
(Billion Cubic Feet)

Region Country	Gross Production	Vented, Flared	Reinjected	Marketed Production	Dry Gas Production
North America					
Canada.....	7,262	115	456	6,691	6,047
Mexico.....	1,540	274	0	1,266	1,266
United States.....	23,924	234	3,433	19,646	18,708
Total.....	32,726	623	3,889	27,603	26,021
Central & South America					
Argentina.....	1,364	44	150	1,170	1,045
Barbados.....	1	0	0	1	1
Bolivia.....	190	17	60	113	107
Brazil.....	381	71	68	242	205
Chile.....	108	4	31	74	70
Colombia.....	508	20	254	233	221
Cuba.....	21	4	0	17	14
Ecuador.....	38	28	6	4	4
Peru.....	33	6	12	14	14
Trinidad and Tobago.....	413	84	0	328	328
Venezuela.....	2,167	155	661	1,350	1,110
Total.....	5,223	433	1,242	3,548	3,120
Western Europe					
Austria.....	55	0	0	55	55
Croatia.....	55	0	0	55	55
Denmark.....	384	7	109	268	268
France.....	80	0	0	80	80
Germany.....	787	14	0	772	772
Greece.....	1	0	0	1	1
Ireland.....	62	0	0	62	62
Italy.....	671	0	0	671	671
Netherlands.....	2,845	5	0	2,841	2,841
Norway.....	2,624	16	872	1,735	1,632
Serbia and Montenegro.....	33	0	0	33	33
Slovenia.....	(s)	0	0	(s)	(s)
Spain.....	4	(s)	0	4	4
Turkey.....	24	4	0	20	20
United Kingdom.....	3,444	71	99	3,274	3,144
Total.....	11,069	117	1,081	9,872	9,638
Eastern Europe & Former U.S.S.R.					
Albania.....	2	0	1	1	1
Bulgaria.....	1	0	0	1	1
Czech Republic.....	8	0	0	8	8
Hungary.....	137	0	0	137	137
Poland.....	181	0	0	181	181
Romania.....	524	0	0	524	516
Slovakia.....	7	0	0	7	7
Azerbaijan.....	461	253	0	208	197
Belarus.....	8	0	0	8	8
Georgia.....	2	0	0	2	2
Kazakhstan.....	194	0	0	194	194
Kyrgyzstan.....	(s)	0	0	(s)	(s)
Russia.....	20,868	0	0	20,868	20,868
Tajikistan.....	2	0	0	2	2
Turkmenistan.....	466	0	0	466	466
Ukraine.....	639	0	0	639	639
Uzbekistan.....	1,935	0	0	1,935	1,935
Total.....	25,435	253	1	25,182	25,163

See footnotes at end of table.

Table 4.1 World Natural Gas Production, 1998 (Continued)
(Billion Cubic Feet)

Region Country	Gross Production	Vented, Flared	Reinjected	Marketed Production	Dry Gas Production
Middle East					
Bahrain.....	390	0	88	302	293
Iran.....	3,143	353	883	1,907	1,766
Iraq.....	141	28	0	148	104
Israel.....	1	0	0	1	1
Jordan.....	10	0	0	10	10
Kuwait.....	374	18	0	356	318
Oman.....	370	29	53	289	248
Qatar.....	925	0	136	789	691
Saudi Arabia.....	1,758	51	22	1,685	1,653
Syria.....	269	15	18	237	203
United Arab Emirates.....	1,730	53	253	1,424	1,309
Yemen.....	540	0	529	12	0
Total.....	9,651	546	1,980	7,160	6,596
Africa					
Algeria.....	5,299	245	2,259	2,796	2,604
Angola.....	233	145	62	26	20
Cameroon.....	73	73	0	0	0
Congo (Brazzaville).....	134	57	77	0	0
Cote d'Ivoire (Ivory Coast).....	28	0	0	28	28
Egypt.....	645	32	32	580	485
Equatorial Guinea.....	36	29	0	7	1
Gabon.....	91	63	21	7	4
Libya.....	445	65	135	246	225
Morocco.....	2	0	0	2	2
Mozambique.....	2	0	0	2	2
Nigeria.....	1,121	738	148	235	208
Senegal.....	1	0	0	1	1
South Africa.....	57	6	0	51	51
Tunisia.....	84	12	0	72	67
Total.....	8,252	1,465	2,734	4,053	3,699
Far East & Oceania					
Afghanistan.....	8	0	0	8	8
Australia.....	1,106	8	0	1,098	1,098
Bangladesh.....	290	0	0	290	290
Brunei.....	380	0	59	321	315
Burma.....	62	0	0	62	62
China.....	784	0	0	784	784
India.....	876	86	4	786	761
Indonesia.....	2,980	177	485	2,318	2,269
Japan.....	81	0	0	81	81
Malaysia.....	1,391	0	0	1,391	1,370
New Zealand.....	177	3	0	175	175
Pakistan.....	710	0	0	710	710
Papua New Guinea.....	4	0	(s)	4	4
Philippines.....	(s)	0	0	(s)	(s)
Taiwan.....	31	0	0	31	31
Thailand.....	616	0	0	616	569
Vietnam.....	39	14	0	25	25
Total.....	9,535	288	547	8,700	8,551
World Total.....	101,891	3,724	11,475	86,117	82,788

(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, 1998
(Billion Cubic Feet)

Region Country	Dry Gas Production	Imports ¹	Exports ¹	Apparent Consumption ²
North America				
Canada.....	6,047	28	3,149	2,868
Mexico.....	1,266	52	11	1,284
United States.....	18,708	3,152	159	21,262
Total.....	26,021	3,232	3,319	25,414
Central & South America				
Argentina.....	1,045	76	44	1,077
Barbados.....	1	0	0	1
Bolivia.....	107	0	76	31
Brazil.....	205	0	0	205
Chile.....	70	44	0	114
Colombia.....	221	0	0	221
Cuba.....	14	0	0	14
Ecuador.....	4	0	0	4
Peru.....	14	0	0	14
Trinidad and Tobago.....	328	0	0	328
Venezuela.....	1,110	0	0	1,110
Total.....	3,120	120	120	3,120
Western Europe				
Austria.....	55	220	1	279
Belgium.....	0	515	0	518
Bosnia and Herzegovina....	0	7	0	7
Croatia.....	55	39	0	94
Denmark.....	268	0	95	172
Finland.....	0	145	0	145
France.....	80	1,243	28	1,313
Germany.....	772	2,622	149	3,029
Greece.....	1	29	0	30
Ireland.....	62	56	0	118
Italy.....	671	1,506	2	2,205
Luxembourg.....	0	25	0	25
Macedonia, TFYR.....	0	1	0	1
Netherlands.....	2,841	255	1,373	1,752
Norway.....	1,632	0	1,504	127
Portugal.....	0	29	0	28
Serbia and Montenegro.....	33	71	0	104
Slovenia.....	(s)	33	0	34
Spain.....	4	466	0	449
Sweden.....	0	32	0	30
Switzerland.....	0	102	0	102
Turkey.....	20	349	0	366
United Kingdom.....	3,144	32	104	3,072
Total.....	9,638	7,776	3,257	13,999

See footnotes at end of table.

Table 4.2 World Dry Natural Gas Supply and Disposition, 1998 (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	134	0	135
Czech Republic.....	8	330	(s)	333
Hungary.....	137	308	(s)	433
Poland.....	181	281	1	475
Romania.....	516	134	0	650
Slovakia.....	7	244	0	251
Armenia.....	0	49	0	49
Azerbaijan.....	197	0	0	197
Belarus.....	8	537	0	545
Estonia.....	0	36	0	36
Georgia.....	2	64	0	66
Kazakhstan.....	194	360	81	473
Kyrgyzstan.....	(s)	67	0	68
Latvia.....	0	46	0	46
Lithuania.....	0	113	0	113
Moldova.....	0	82	0	82
Russia.....	20,868	318	7,141	14,045
Tajikistan.....	2	37	0	40
Turkmenistan.....	466	0	304	155
Ukraine.....	639	1,967	0	2,606
Uzbekistan.....	1,935	0	526	1,409
Total.....	25,163	5,107	8,053	22,208
Middle East				
Bahrain.....	293	0	0	293
Iran.....	1,766	62	0	1,828
Iraq.....	104	0	0	104
Israel.....	1	0	0	1
Jordan.....	10	0	0	10
Kuwait.....	318	0	0	318
Oman.....	248	0	16	232
Qatar.....	691	0	169	522
Saudi Arabia.....	1,653	0	0	1,653
Syria.....	203	0	0	203
United Arab Emirates.....	1,309	16	252	1,073
Total.....	6,596	78	437	6,237
Africa				
Algeria.....	2,604	0	1,868	736
Angola.....	20	0	0	20
Cote d'Ivoire (Ivory Coast).....	28	0	0	28
Egypt.....	485	0	0	485
Equatorial Guinea.....	1	0	0	1
Gabon.....	4	0	0	4
Libya.....	225	0	32	192
Morocco.....	2	0	0	2
Mozambique.....	2	0	0	2
Nigeria.....	208	0	0	208
Senegal.....	1	0	0	1
South Africa.....	51	0	0	51
Tunisia.....	67	37	0	104
Total.....	3,699	37	1,900	1,836

See footnotes at end of table.

Table 4.2 World Dry Natural Gas Supply and Disposition, 1998 (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.....	1,098	0	345	753
Bangladesh.....	290	0	0	290
Brunei.....	315	0	288	27
Burma.....	62	0	0	62
China.....	784	0	0	784
Hong Kong.....	0	22	0	22
India.....	761	0	0	761
Indonesia.....	2,269	0	1,286	983
Japan.....	81	2,437	0	2,535
Korea, South.....	0	489	0	491
Malaysia.....	1,370	0	755	615
New Zealand.....	175	0	0	175
Pakistan.....	710	0	0	710
Papua New Guinea.....	4	0	0	4
Philippines.....	(s)	0	0	(s)
Singapore.....	0	53	0	53
Taiwan.....	31	188	0	219
Thailand.....	569	0	0	569
Vietnam.....	25	0	0	25
Total.....	8,551	3,188	2,675	9,083
World Total.....	82,788	19,537	19,761	81,896

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, 1998
(Thousand Short Tons)

Region Country	Primary ¹			Secondary ²		
	Anthracite	Bituminous	Lignite	Metallurgical Coke	Anthracite and Bituminous Briquets	Lignite Briquets
North America						
Canada.....	0	70,092	12,997	3,464	0	0
Mexico.....	0	12,379	0	2,428	0	0
United States.....	5,251	1,026,517	85,767	20,041	0	0
Total.....	5,251	1,108,988	98,764	25,933	0	0
Central & South America						
Argentina.....	0	319	0	1,177	0	0
Brazil.....	0	4,682	0	9,071	0	0
Chile.....	0	254	0	573	0	0
Colombia.....	0	37,204	0	691	0	0
Cuba.....	0	0	0	18	0	0
Peru.....	23	(s)	0	0	0	0
Uruguay.....	0	0	0	(s)	0	0
Venezuela.....	0	8,267	0	0	0	0
Total.....	23	50,726	0	11,531	0	0
Western Europe						
Austria.....	0	0	1,257	1,761	62	0
Belgium.....	0	344	0	3,310	11	0
Bosnia and Herzegovina....	0	0	1,978	0	0	0
Croatia.....	0	62	0	0	0	0
Finland.....	0	0	0	1,005	0	0
France.....	487	5,438	812	6,063	214	0
Germany.....	4,497	45,476	183,022	11,380	204	6,174
Greece.....	0	0	67,113	0	0	85
Ireland.....	0	1	0	0	0	291
Italy.....	0	0	208	5,723	0	0
Macedonia, TFYR.....	0	0	8,978	0	0	0
Netherlands.....	0	0	0	3,127	0	0
Norway.....	0	362	0	0	0	0
Portugal.....	0	0	0	388	0	0
Serbia and Montenegro.....	0	116	47,951	0	0	0
Slovenia.....	0	912	4,623	0	0	0
Spain.....	6,263	11,732	10,748	2,900	0	0
Sweden.....	0	0	0	1,265	0	0
Turkey.....	0	2,424	71,875	3,369	0	2
United Kingdom.....	457	45,044	0	6,786	897	0
Total.....	11,705	111,909	398,565	47,079	1,388	6,552
Eastern Europe & Former U.S.S.R.						
Albania.....	0	0	54	0	0	0
Belarus.....	0	0	0	0	0	1,809
Bulgaria.....	29	4,080	30,033	957	0	1,270
Czech Republic.....	0	82,673	719	4,419	0	358
Hungary.....	0	896	15,253	1,065	0	166
Poland.....	321	127,245	69,247	10,744	0	69
Romania.....	0	2,015	27,365	3,452	0	0
Slovakia.....	0	0	4,355	1,670	0	0
Estonia.....	0	0	0	0	0	111
Georgia.....	0	11	0	0	0	0
Kazakhstan.....	0	64,131	1,890	935	0	0
Kyrgyzstan.....	0	293	183	0	0	0
Latvia.....	0	0	0	0	0	12
Lithuania.....	0	0	0	0	0	15
Moldova.....	0	33	0	0	0	0
Russia.....	16,535	153,274	86,901	21,795	636	304
Tajikistan.....	0	11	0	1	0	0
Ukraine.....	16,645	65,110	1,553	16,700	2,528	519
Uzbekistan.....	0	64	3,147	0	17	0
Total.....	33,529	499,838	240,700	61,738	3,180	4,635

See footnotes at end of table.

Table 5.1 World Coal Production, 1998 (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	168	0	0
Total.....	0	1,016	0	168	0	0
Africa						
Algeria.....	0	24	0	0	0	0
Botswana.....	0	1,023	0	0	0	0
Cameroon.....	0	1	0	0	0	0
Congo (Kinshasa).....	0	97	0	0	0	0
Egypt.....	0	408	0	2,056	0	0
Malawi.....	0	60	0	0	0	0
Morocco.....	297	0	0	0	0	0
Mozambique.....	0	66	0	0	0	0
Niger.....	0	160	0	0	0	0
Nigeria.....	0	65	0	0	0	0
South Africa.....	1,766	245,790	0	2,693	0	0
Swaziland.....	20	280	0	0	0	0
Tanzania.....	0	4	0	0	0	0
Zambia.....	0	186	0	35	0	0
Zimbabwe.....	0	4,588	0	595	0	0
Total.....	2,082	252,753	0	5,379	0	0
Far East & Oceania						
Afghanistan.....	0	1	0	0	0	0
Australia.....	0	241,361	72,312	5,212	0	606
Bhutan.....	0	1	0	0	0	0
Burma.....	0	54	23	0	0	0
China.....	252,909	1,024,531	60,008	142,188	10,180	0
India.....	0	296,632	25,541	14,074	0	289
Indonesia.....	0	66,493	(s)	0	0	4
Japan.....	65	4,011	0	42,332	64	0
Korea, North.....	46,117	47,481	0	3,366	0	0
Korea, South.....	4,807	0	0	15,156	1,323	0
Laos.....	0	1	0	0	0	0
Malaysia.....	0	386	0	0	0	0
Mongolia.....	0	464	5,110	0	0	0
Nepal.....	0	0	11	0	0	0
New Zealand.....	463	2,571	312	0	0	0
Pakistan.....	0	3,482	0	741	0	0
Philippines.....	0	1,271	3	0	0	0
Taiwan.....	0	87	0	5,039	0	0
Thailand.....	1	0	22,042	0	0	0
Vietnam.....	11,804	0	0	0	0	0
Total.....	316,165	1,688,827	185,362	228,108	11,567	899
World Total.....	368,756	3,714,056	923,391	379,935	16,135	12,087

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: United States primary coal production is from Energy Information Administration, Annual Energy Review 1999, table 7.2. Bituminous production is the sum of bituminous coal and subbituminous coal from table 7.2. Sources for other countries are listed at the end of this Section.

Table 5.2 World Anthracite Coal Production, 1990 - 1999
(Thousand Short Tons)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
United States. ²	3,506	3,445	3,483	4,322	4,646	4,711	4,768	4,692	5,251	5,165
Total	3,506	3,445	3,483	4,322	4,646	4,711	4,768	4,692	5,251	5,165
Central & South America										
Peru	22	12	89	34	24	19	23	24	23	23
Total	22	12	89	34	24	19	23	24	23	23
Western Europe										
Belgium	95	0	0	0	0	0	0	0	0	0
France	1,503	1,451	1,358	842	735	770	703	570	487	465
Germany	--	7,217	7,546	6,650	6,028	5,551	5,274	5,081	4,497	4,351
Germany, West	7,447	--	--	--	--	--	--	--	--	--
Spain	7,791	7,503	8,009	7,846	7,862	7,571	7,099	7,361	6,263	5,992
Turkey	0	0	0	0	0	0	0	0	0	0
United Kingdom	1,928	1,907	1,714	1,111	1,049	1,169	735	535	457	409
Total	18,764	18,078	18,628	16,448	15,674	15,061	13,810	13,546	11,705	11,217
Eastern Europe & Former U.S.S.R.										
Bulgaria	47	42	84	79	90	121	25	17	29	28
Poland	0	0	0	174	243	304	309	320	321	322
Former U.S.S.R.	69,005	61,399	--	--	--	--	--	--	--	--
Russia	--	--	27,836	25,207	22,384	21,667	21,104	20,217	16,535	14,330
Ukraine	--	--	31,010	26,466	22,141	19,728	17,097	18,550	16,645	19,676
Total	69,052	61,441	58,930	51,927	44,857	41,820	38,535	39,104	33,529	34,356
Africa										
Morocco	580	607	635	666	717	717	558	414	297	320
South Africa	4,037	2,964	5,364	5,183	4,721	4,255	3,894	4,020	1,766	1,766
Swaziland	66	51	41	21	75	71	53	22	20	21
Total	4,683	3,622	6,040	5,869	5,513	5,042	4,505	4,456	2,082	2,106
Far East & Oceania										
China	234,627	239,753	243,567	251,048	270,516	296,878	314,875	266,285	252,909	211,432
Japan	238	247	239	219	187	179	183	87	65	64
Korea, North	46,127	46,475	46,826	47,179	47,536	47,177	46,821	46,467	46,117	45,769
Korea, South	18,978	16,599	13,195	10,409	8,199	6,305	5,458	4,974	4,807	4,626
New Zealand	97	141	188	101	195	228	265	290	463	279
Thailand	21	24	24	18	13	6	6	1	1	1
Vietnam	5,100	4,772	5,282	6,503	6,272	9,204	10,828	12,553	11,804	11,905
Total	305,189	308,011	309,322	315,477	332,918	359,977	378,435	330,658	316,165	274,075
World Total	401,216	394,610	396,491	394,078	403,632	426,630	440,075	392,480	368,756	326,943

¹ Preliminary.

² United States anthracite coal production is from Energy Information Administration, Annual Energy Review 1999, table 7.2.

-- 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, 1990 - 1999
(Thousand Short Tons)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	64,981	68,506	61,270	65,015	68,497	70,732	71,507	73,859	70,092	67,035
Mexico.....	8,587	7,798	7,242	7,840	10,071	10,257	11,141	11,475	12,379	11,001
United States.2.....	937,480	906,025	904,000	851,553	940,777	941,763	971,032	998,899	1,026,517	1,009,601
Total.....	1,011,048	982,329	972,512	924,408	1,019,344	1,022,752	1,053,680	1,084,233	1,108,988	1,087,637
Central & South America										
Argentina.....	305	322	223	184	384	336	343	276	319	370
Brazil.....	5,065	5,719	5,215	5,065	4,905	4,579	4,226	4,879	4,682	4,812
Chile.....	2,406	2,434	1,792	1,494	1,303	1,144	1,594	1,560	254	560
Colombia.....	22,562	22,037	24,146	23,394	24,984	28,373	33,141	35,927	37,204	36,162
Peru.....	90	54	10	74	57	138	41	(s)	(s)	(s)
Venezuela.....	2,413	2,398	2,701	4,205	4,716	4,480	4,577	6,393	8,267	8,322
Total.....	32,842	32,964	34,087	34,416	36,349	39,051	43,922	49,034	50,726	50,227
Western Europe										
Belgium.....	2,598	2,323	1,319	1,070	830	702	617	471	344	401
France.....	10,842	10,575	9,939	9,068	8,204	8,594	7,845	6,359	5,438	5,190
Germany.....	--	72,970	71,989	64,091	57,491	56,126	53,322	51,371	45,476	43,987
Germany, West.....	79,019	--	--	--	--	--	--	--	--	--
Ireland.....	28	1	1	1	(s)	1	1	1	1	0
Italy.....	64	23	122	11	6	0	0	0	0	0
Norway.....	334	364	396	295	332	322	254	425	362	397
Portugal.....	310	298	244	217	162	0	0	0	0	0
Spain.....	13,791	12,381	12,595	12,256	12,281	11,827	13,063	12,473	11,732	11,022
Sweden.....	12	31	41	4	1	0	0	0	0	0
Turkey.....	3,330	3,198	3,354	3,169	3,128	2,478	2,691	2,771	2,424	2,412
United Kingdom.....	102,127	102,726	91,870	74,066	52,873	51,313	54,598	52,972	45,044	40,487
Former Yugoslavia.....	12,957	11,309	--	--	--	--	--	--	--	--
Croatia.....	--	--	0	115	106	83	71	54	62	17
Serbia and Montenegro.....	--	--	112	80	90	78	86	103	116	54
Slovenia.....	--	--	1,458	1,324	1,189	1,066	915	895	912	679
Total.....	225,412	216,197	193,442	165,769	136,692	132,589	133,463	127,894	111,909	104,645
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	4,194	3,408	3,695	3,769	3,478	3,513	3,373	3,929	4,080	3,439
Former Czechoslovakia.....	113,848	105,867	99,912	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	92,504	83,811	81,073	83,027	83,520	82,673	64,497
Hungary.....	2,191	2,029	1,426	1,048	1,136	944	972	941	896	737
Moldova.....	--	--	287	197	122	35	40	36	33	35
Poland.....	162,583	154,353	144,748	143,178	146,505	149,820	122,392	151,566	127,245	123,019
Romania.....	4,901	4,220	4,517	1,349	1,505	1,265	1,458	1,931	2,015	3,748
Former U.S.S.R.....	640,222	472,671	--	--	--	--	--	--	--	--
Georgia.....	--	--	220	132	49	47	25	6	11	11
Kazakhstan.....	--	--	134,913	118,172	110,023	87,761	80,733	77,354	64,131	62,550
Kyrgyzstan.....	--	--	1,146	811	442	202	151	356	293	282
Russia.....	--	--	238,209	214,510	185,299	179,897	183,535	175,488	153,274	163,102
Tajikistan.....	--	--	236	192	117	37	22	15	11	22
Ukraine.....	--	--	109,946	96,551	78,500	76,531	63,749	65,052	65,110	69,542
Uzbekistan.....	--	--	198	177	159	130	82	65	64	64
Total.....	927,940	742,549	739,456	672,592	611,145	581,255	539,559	560,260	499,838	491,048

See footnotes at end of table.

Table 5.3 World Bituminous Coal Production, 1990 - 1999 (Continued)
(Thousand Short Tons)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Iran.....	1,213	1,087	1,070	1,069	1,425	1,254	1,335	1,334	1,016	1,075
Total.....	1,213	1,087	1,070	1,069	1,425	1,254	1,335	1,334	1,016	1,075
Africa										
Algeria.....	11	17	17	22	22	24	24	25	24	24
Botswana.....	875	864	994	981	992	990	841	856	1,023	1,042
Cameroon.....	1	1	1	1	1	1	1	1	1	1
Congo (Kinshasa).....	86	88	94	101	104	105	105	103	97	98
Egypt.....	0	0	0	0	0	0	110	386	408	433
Malawi.....	44	59	54	55	57	60	77	70	60	64
Mozambique.....	44	46	44	44	44	42	44	44	66	71
Niger.....	190	190	187	190	190	191	191	192	160	170
Nigeria.....	99	152	110	132	143	154	154	154	65	69
South Africa.....	189,145	193,463	197,512	202,288	211,117	223,054	223,581	242,364	245,790	246,367
Swaziland.....	110	85	69	34	125	118	89	139	280	298
Tanzania.....	4	4	4	4	4	6	6	6	4	4
Zambia.....	416	344	385	295	177	175	186	197	186	197
Zimbabwe.....	6,067	6,191	6,116	5,826	6,029	6,095	5,152	4,415	4,588	4,868
Total.....	197,092	201,504	205,586	209,974	219,007	231,014	230,562	248,951	252,753	253,706
Far East & Oceania										
Afghanistan.....	116	104	9	8	7	6	3	2	1	1
Australia.....	175,085	181,489	193,048	195,060	194,723	210,602	213,228	227,975	241,361	248,031
Bhutan.....	2	2	2	2	2	2	2	2	1	1
Burma.....	34	40	37	35	40	42	34	32	54	53
China.....	905,582	909,539	932,908	989,315	1,066,032	1,169,920	1,139,691	1,131,534	1,024,531	856,508
India.....	217,839	235,134	252,820	262,910	258,371	273,362	290,007	300,655	296,632	302,441
Indonesia.....	11,610	15,590	25,487	30,390	34,185	45,660	55,482	60,195	66,493	71,212
Japan.....	11,068	9,335	8,379	7,717	7,867	6,785	6,614	4,289	4,011	4,004
Korea, North.....	53,081	56,040	57,894	61,949	60,491	59,747	58,891	52,056	47,481	39,686
Laos.....	1	1	1	1	1	1	1	1	1	1
Malaysia.....	122	198	194	415	148	123	91	110	386	353
Mongolia.....	656	645	572	514	473	460	468	451	464	455
New Zealand.....	2,401	2,428	2,666	2,929	2,554	3,146	3,175	2,913	2,571	3,524
Pakistan.....	3,033	3,183	3,388	3,389	3,543	3,318	4,010	3,917	3,482	3,815
Philippines.....	1,370	1,391	1,831	1,741	1,594	1,465	1,218	1,199	1,271	1,330
Taiwan.....	520	444	369	362	314	259	163	109	87	101
Total.....	1,382,520	1,415,564	1,479,603	1,556,737	1,630,345	1,774,897	1,773,078	1,785,441	1,688,827	1,531,517
World Total.....	3,778,066	3,592,194	3,625,756	3,564,965	3,654,307	3,782,813	3,775,600	3,857,148	3,714,056	3,519,854

¹ Preliminary.

² United States bituminous coal production is from Energy Information Administration, Annual Energy Review 1999, table 7.2. It is the sum of bituminous coal and subbituminous coal from table 7.2.

--= 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, 1990 - 1999
(Thousand Short Tons)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	10,369	9,899	11,053	11,074	11,779	11,838	11,964	12,845	12,997	12,852
United States. ²	88,090	86,514	90,062	89,549	88,081	86,500	88,056	86,341	85,767	84,354
Total.....	98,459	96,413	101,115	100,623	99,860	98,337	100,020	99,186	98,764	97,206
Western Europe										
Austria.....	2,698	2,294	1,952	1,864	1,256	1,430	1,221	1,246	1,257	1,279
France.....	2,572	2,167	1,739	1,843	1,655	1,544	880	1,135	812	617
Germany.....	--	308,182	266,552	244,494	228,263	212,477	206,396	195,285	183,022	177,783
Germany, East.....	308,647	--	--	--	--	--	--	--	--	--
Germany, West.....	118,597	--	--	--	--	--	--	--	--	--
Greece.....	57,206	58,086	60,683	60,425	62,470	63,561	65,897	64,864	67,113	67,241
Italy.....	1,054	1,036	787	683	294	190	151	238	208	21
Spain.....	18,048	17,111	16,291	14,713	12,524	11,879	10,587	9,329	10,748	9,736
Turkey.....	48,950	47,628	53,339	50,359	56,805	58,156	59,401	63,258	71,875	71,671
Former Yugoslavia.....	70,652	66,727	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	2,205	1,653	1,543	1,808	1,863	1,919	1,978	1,978
Croatia.....	--	--	0	12	8	8	2	0	0	0
Macedonia, TFYR.....	--	--	7,692	7,625	7,562	7,991	7,876	8,205	8,978	8,026
Serbia and Montenegro.....	--	--	44,096	41,182	42,184	44,025	42,292	44,713	47,951	36,046
Slovenia.....	--	--	4,666	4,321	4,161	4,318	4,340	4,745	4,623	4,612
Total.....	628,423	503,232	460,002	429,174	418,726	407,386	400,906	394,938	398,565	379,009
Eastern Europe & Former U.S.S.R.										
Albania.....	2,282	1,198	882	661	186	180	111	77	54	50
Bulgaria.....	34,771	27,812	29,470	27,944	28,031	30,257	30,317	28,801	30,033	25,235
Former Czechoslovakia.....	3,643	3,403	1,987	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	1,367	1,005	864	994	823	719	564
Slovakia.....	--	--	--	3,910	4,006	4,144	4,221	4,316	4,355	2,549
Hungary.....	17,463	16,859	16,024	15,063	14,418	15,137	15,772	16,243	15,253	15,246
Poland.....	74,499	76,507	73,692	75,073	73,601	70,049	70,377	69,632	69,247	67,064
Romania.....	37,189	31,502	37,778	42,469	43,191	44,063	44,694	35,335	27,365	23,836
Former U.S.S.R.....	172,609	167,585	--	--	--	--	--	--	--	--
Kazakhstan.....	--	--	4,577	5,147	5,307	4,123	3,958	2,726	1,890	1,604
Kyrgyzstan.....	--	--	1,225	1,086	493	309	301	220	183	175
Russia.....	--	--	139,808	124,316	105,041	94,781	99,405	93,943	86,901	98,877
Ukraine.....	--	--	6,370	4,572	3,417	2,531	1,749	1,583	1,553	1,553
Uzbekistan.....	--	--	4,939	4,029	4,080	3,285	3,046	3,183	3,147	3,133
Total.....	342,455	324,866	316,754	305,637	282,776	269,721	274,946	256,882	240,700	239,886
Far East & Oceania										
Australia.....	50,695	54,439	55,913	52,523	53,740	55,945	59,207	64,105	72,312	72,554
Burma.....	42	43	43	43	44	25	24	22	23	23
China.....	50,155	49,373	52,106	63,167	66,957	70,171	60,109	63,019	60,008	50,166
India.....	15,554	17,604	17,429	18,318	21,319	24,405	24,846	25,408	25,541	25,541
Indonesia.....	0	0	0	0	3	(s)	(s)	1	(s)	(s)
Mongolia.....	7,233	7,112	6,314	5,669	5,213	5,074	5,165	4,977	5,110	5,017
Nepal.....	12	13	11	12	13	13	13	13	11	10
New Zealand.....	177	191	197	194	278	213	236	256	312	281
Philippines.....	3	3	3	3	3	3	3	3	3	3
Thailand.....	13,692	16,192	16,904	17,119	18,844	20,305	23,910	25,837	22,042	20,130
Total.....	137,564	144,970	148,920	157,049	166,413	176,154	173,514	183,642	185,362	173,725
World Total.....	1,206,902	1,069,480	1,026,791	992,482	967,775	951,598	949,387	934,648	923,391	889,825

¹ Preliminary.

² United States lignite coal production is from Energy Information Administration, Annual Energy Review 1999, table 7.2.

-- 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 Central & South America. 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, 1998
(Trillion Btu)

Region Country	Production	Imports ¹	Exports ¹	Apparent Consumption ²
North America				
Canada.....	1,989	526	988	1,526
Mexico.....	211	68	(s)	275
United States ³	23,719	313	2,076	21,660
Total.....	25,918	907	3,064	23,461
Central & South America				
Argentina.....	7	39	5	38
Brazil.....	67	509	0	568
Chile.....	7	132	1	147
Colombia.....	914	0	797	157
Peru.....	1	17	0	16
Venezuela.....	228	0	201	(s)
Other.....	0	24	(s)	23
Total.....	1,223	720	1,003	950
Western Europe				
Austria.....	12	122	(s)	130
Belgium.....	8	402	35	365
Bosnia and Herzegovina.....	16	0	0	16
Croatia.....	1	8	(s)	10
Denmark.....	0	203	4	233
Finland.....	0	131	0	145
France.....	155	496	15	666
Germany.....	2,585	724	10	3,395
Greece.....	339	37	2	372
Italy.....	1	456	3	461
Luxembourg.....	0	4	0	4
Macedonia, TFYR.....	72	10	0	81
Netherlands.....	0	551	226	348
Norway.....	9	43	8	45
Portugal.....	0	131	2	128
Serbia and Montenegro.....	387	12	0	399
Slovenia.....	56	3	(s)	59
Spain.....	335	327	14	658
Sweden.....	0	92	2	94
Turkey.....	572	312	0	893
United Kingdom.....	1,065	617	32	1,675
Other.....	(s)	85	(s)	87
Total.....	5,614	4,768	354	10,263
Eastern Europe & Former U.S.S.R.				
Bulgaria.....	279	97	0	373
Czech Republic.....	961	44	113	901
Hungary.....	127	32	5	153
Poland.....	3,158	102	722	2,569
Romania.....	209	97	4	312
Slovakia.....	48	129	1	185
Belarus.....	0	18	0	18
Estonia.....	0	13	1	13
Kazakhstan.....	873	39	438	474
Kyrgyzstan.....	6	15	(s)	21
Latvia.....	0	3	0	3
Lithuania.....	0	6	(s)	6
Moldova.....	(s)	9	0	11
Russia.....	3,998	405	483	3,970
Tajikistan.....	(s)	2	0	2
Ukraine.....	1,614	215	49	1,781
Uzbekistan.....	43	(s)	(s)	43
Other.....	1	(s)	0	1
Total.....	11,318	1,229	1,815	10,834

See footnotes at end of table.

Table 5.5 World Coal Supply and Disposition, 1998 (Continued)
(Trillion Btu)

Region Country	Production	Imports ¹	Exports ¹	Apparent Consumption ²
Middle East				
Iran.....	24	18	(s)	41
Israel.....	0	251	0	242
Other.....	0	6	(s)	6
Total.....	24	275	0	289
Africa				
Algeria.....	1	16	0	20
Botswana.....	24	(s)	0	24
Congo (Kinshasa).....	2	5	0	7
Egypt.....	9	48	11	47
Kenya.....	0	3	0	3
Malawi.....	1	(s)	0	2
Mauritius.....	0	2	0	2
Morocco.....	6	88	0	94
Mozambique.....	1	(s)	0	2
Niger.....	4	0	0	4
Nigeria.....	2	(s)	0	2
South Africa.....	5,273	31	1,622	3,396
Swaziland.....	7	0	0	7
Tunisia.....	0	2	0	2
Zambia.....	4	0	(s)	4
Zimbabwe.....	112	(s)	5	107
Other.....	(s)	1	0	1
Total.....	5,447	198	1,639	3,723
Far East & Oceania				
Afghanistan.....	(s)	0	0	(s)
Australia.....	6,043	0	4,147	2,015
Bangladesh.....	0	4	0	4
Bhutan.....	(s)	1	(s)	(s)
Burma.....	1	(s)	0	2
China.....	24,595	33	1,025	23,781
Hong Kong.....	0	182	(s)	200
India.....	5,694	248	(s)	5,952
Indonesia.....	1,546	12	1,199	376
Japan.....	85	3,181	69	3,194
Korea, North.....	1,072	58	9	1,121
Korea, South.....	82	1,248	0	1,330
Malaysia.....	10	55	(s)	62
Mongolia.....	49	3	2	50
Nepal.....	(s)	3	0	3
New Caledonia.....	0	4	0	4
New Zealand.....	67	0	32	38
Pakistan.....	59	26	0	85
Philippines.....	23	81	0	101
Singapore.....	0	(s)	(s)	(s)
Taiwan.....	2	1,017	0	1,008
Thailand.....	242	43	0	290
Vietnam.....	250	1	75	121
Other.....	(s)	1	0	1
Total.....	39,819	6,200	6,559	39,738
World Total.....	89,363	14,297	14,434	89,258

¹ Includes coke.

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

³ United States coal production and apparent coal consumption are from Energy Information Administration, Annual Energy Review 1999, tables 1.2 and 1.3, respectively. Consumption is the sum of coal and coal coke net imports from table 1.3.

(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, 1990 - 1999
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	105.5	107.7	116.5	102.7	112.1	121.3	120.5	131.7	148.7	149.6
Mexico.....	85.7	89.7	88.7	93.1	110.5	104.2	110.4	124.8	134.2	135.3
United States.....	2,092.7	2,101.5	2,138.8	2,230.8	2,275.2	2,297.5	2,347.4	2,433.7	2,550.0	2,561.2
Other.....	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Total.....	2,284.6	2,299.6	2,344.7	2,427.3	2,498.6	2,523.8	2,579.1	2,691.1	2,833.8	2,846.9
Central & South America										
Argentina.....	20.9	25.0	26.4	25.7	24.6	31.0	36.8	34.0	37.5	46.5
Bahamas, The.....	0.9	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.5
Bolivia.....	0.9	0.9	1.1	1.1	1.1	1.6	1.7	1.7	2.0	2.1
Brazil.....	8.1	9.0	9.1	8.8	9.1	10.6	13.1	14.7	15.6	17.8
Chile.....	8.2	5.9	5.2	6.3	7.7	7.1	10.4	12.7	16.6	23.2
Colombia.....	8.1	8.9	10.6	9.8	8.8	10.3	7.9	12.9	13.6	9.7
Costa Rica.....	0.1	0.2	0.6	0.4	0.8	0.8	0.4	0.2	0.4	0.1
Cuba.....	12.9	11.0	9.5	9.0	10.0	11.1	11.7	12.5	12.5	13.5
Dominican Republic.....	3.1	3.1	3.4	4.0	4.2	4.4	5.2	5.6	5.7	6.4
Ecuador.....	1.3	1.8	2.1	1.5	1.5	3.1	2.8	3.0	3.2	3.0
Guadeloupe.....	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.1	1.2	1.3
Guatemala.....	0.2	0.3	0.6	0.7	0.7	0.7	0.6	0.6	1.0	1.5
Jamaica.....	2.2	1.9	2.0	3.3	4.2	5.1	5.3	5.5	5.7	6.0
Martinique.....	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.1
Nicaragua.....	0.6	0.6	0.8	0.7	0.9	1.0	1.1	1.1	1.6	1.6
Panama.....	0.5	0.9	1.0	1.0	1.2	1.1	1.0	1.4	1.2	1.2
Peru.....	2.7	2.4	3.0	2.7	1.8	3.6	3.6	4.3	4.4	4.4
Puerto Rico.....	14.1	14.5	15.2	15.3	16.5	17.6	17.6	17.6	17.0	16.5
Trinidad and Tobago.....	3.3	3.5	3.7	3.6	3.8	4.0	4.3	4.7	4.8	4.9
Venezuela.....	21.0	17.7	19.0	20.6	18.7	20.7	20.4	19.6	21.6	26.1
Virgin Islands, U.S.....	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other.....	4.2	5.2	5.3	5.4	5.5	6.5	7.1	8.0	8.4	8.4
Total.....	115.6	116.2	122.0	123.6	125.1	144.4	155.4	164.6	177.3	197.7
Western Europe										
Austria.....	16.8	18.4	15.1	13.7	15.4	17.0	18.1	18.4	17.6	17.5
Belgium.....	25.6	26.4	26.0	26.2	28.6	30.0	29.7	28.4	33.4	31.9
Denmark.....	23.6	33.4	28.1	30.7	36.6	33.4	49.2	39.8	35.9	33.5
Finland.....	22.8	23.8	22.0	26.0	32.3	29.8	35.7	33.9	31.2	31.7
France.....	45.8	58.2	48.8	33.9	33.2	37.8	42.3	38.5	52.9	48.2
Germany.....	--	351.1	335.7	329.6	331.9	334.9	344.6	335.8	347.0	336.3
Germany, East.....	97.3	--	--	--	--	--	--	--	--	--
Germany, West.....	261.6	--	--	--	--	--	--	--	--	--
Greece.....	31.0	30.7	32.9	33.7	35.5	35.5	35.7	37.0	39.9	41.6
Ireland.....	12.7	13.3	14.1	14.5	14.9	15.9	17.1	17.8	18.6	18.5
Italy.....	167.7	162.6	166.1	163.8	169.5	184.0	181.6	188.2	194.8	195.9
Malta.....	1.0	1.3	1.4	1.4	1.4	1.5	1.6	1.6	1.6	1.7
Netherlands.....	64.1	66.5	68.8	68.4	70.8	71.7	75.3	78.5	81.2	77.0
Portugal.....	18.0	19.4	23.5	21.1	19.4	23.3	18.4	19.7	24.2	33.3
Spain.....	67.2	67.6	77.0	70.4	72.5	81.6	72.2	92.6	93.2	114.1
Sweden.....	5.0	6.5	7.5	8.6	9.7	9.5	13.6	9.6	9.4	8.1
Switzerland.....	1.1	1.4	1.5	1.2	2.0	2.1	2.0	2.0	2.3	2.3
Turkey.....	32.3	35.2	38.3	37.4	44.8	47.6	51.0	59.6	64.6	77.0
United Kingdom.....	231.3	230.7	222.8	214.1	216.0	224.0	232.5	226.5	235.3	237.8
Former Yugoslavia.....	54.7	52.1	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	8.6	9.1	0.6	0.8	0.9	0.9	0.9	1.0
Croatia.....	--	--	4.3	4.7	3.1	3.4	3.1	4.1	5.1	4.5
Macedonia, TFYR.....	--	--	4.9	4.4	4.8	4.9	4.7	5.0	5.4	5.3
Serbia and Montenegro.....	--	--	23.6	22.0	22.0	24.4	25.0	26.5	26.7	24.1
Slovenia.....	--	--	4.4	4.2	4.1	4.3	4.0	4.5	4.7	4.3
Other.....	1.2	1.2	1.2	1.2	1.3	1.2	1.3	1.2	1.1	1.2
Total.....	1,181.0	1,199.9	1,176.6	1,140.4	1,170.8	1,218.6	1,259.7	1,269.9	1,327.1	1,346.7

See footnotes at end of table.

Table 6.1 World Net Conventional Thermal Electricity Generation, 1990 - 1999 (Continued)
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.3	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2
Bulgaria.....	24.1	21.9	20.7	20.8	20.1	20.9	20.4	20.8	20.2	18.7
Former Czechoslovakia.....	54.6	52.9	51.2	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	42.0	41.3	43.6	45.8	46.6	46.6	45.3
Slovakia.....	--	--	--	8.0	7.6	9.1	8.9	8.8	8.9	8.5
Hungary.....	13.7	15.1	16.5	17.8	18.1	18.6	19.5	19.9	21.7	21.3
Poland.....	125.0	123.4	121.4	122.5	123.7	127.0	130.9	130.6	130.2	129.6
Romania.....	49.7	39.7	39.9	40.1	39.6	40.0	41.6	32.2	27.5	26.5
Former U.S.S.R.....	1,204.1	1,173.0	--	--	--	--	--	--	--	--
Armenia.....	--	--	5.6	1.9	2.0	3.1	2.2	2.9	2.9	3.0
Azerbaijan.....	--	--	16.9	15.7	14.8	14.6	14.6	14.2	15.1	14.2
Belarus.....	--	--	35.3	31.3	29.5	23.4	22.3	24.5	23.8	24.9
Estonia.....	--	--	11.1	8.6	8.6	8.2	8.6	8.7	8.0	7.8
Georgia.....	--	--	4.7	2.9	2.0	1.5	1.1	1.1	1.6	1.6
Kazakhstan.....	--	--	71.3	65.6	53.8	54.8	48.6	42.8	40.4	38.6
Kyrgyzstan.....	--	--	2.5	2.1	1.1	1.2	1.4	1.3	0.8	0.9
Latvia.....	--	--	1.2	1.0	1.1	1.0	1.2	1.4	1.3	1.3
Lithuania.....	--	--	3.5	1.4	1.5	1.3	1.9	1.9	3.0	3.2
Moldova.....	--	--	10.3	9.3	7.5	5.4	5.4	4.6	4.2	3.9
Russia.....	--	--	679.6	627.9	540.4	546.0	547.8	533.2	530.1	529.2
Tajikistan.....	--	--	0.8	0.6	0.3	0.2	0.2	0.3	0.3	0.3
Turkmenistan.....	--	--	12.4	11.9	9.9	9.2	9.5	8.9	8.8	8.4
Ukraine.....	--	--	160.5	134.9	114.4	106.5	88.9	83.2	76.8	75.2
Uzbekistan.....	--	--	42.0	39.3	38.2	38.8	36.6	37.9	37.7	37.0
Total.....	1,471.5	1,426.2	1,307.6	1,205.6	1,075.4	1,074.5	1,057.4	1,025.9	1,010.0	999.5
Middle East										
Bahrain.....	3.3	3.3	3.7	4.0	4.3	4.3	4.7	4.7	5.4	6.2
Cyprus.....	1.9	2.0	2.3	2.4	2.5	2.3	2.4	2.5	2.8	3.0
Iran.....	49.8	53.6	55.5	62.2	70.1	73.0	78.5	85.4	90.6	96.0
Iraq.....	20.1	18.7	23.1	24.2	25.8	26.7	26.9	27.2	28.0	28.8
Israel.....	19.6	20.2	23.2	24.4	26.6	28.5	30.5	33.0	35.7	35.4
Jordan.....	3.4	3.5	4.1	4.5	4.8	5.3	5.7	5.9	6.3	6.6
Kuwait.....	19.4	10.1	15.8	19.0	21.4	22.3	23.9	25.1	28.2	31.6
Lebanon.....	1.1	2.3	2.9	3.8	4.1	4.3	5.8	7.2	7.1	7.1
Oman.....	5.0	5.2	4.8	5.5	5.8	6.1	6.4	6.9	7.7	8.6
Qatar.....	4.5	4.4	4.8	5.2	5.5	5.6	6.2	6.5	7.6	9.0
Saudi Arabia.....	64.9	69.2	74.0	82.2	91.0	100.7	106.6	113.1	116.5	120.0
Syria.....	5.6	5.6	4.9	5.6	7.9	7.9	9.3	9.9	10.1	10.3
United Arab Emirates.....	16.1	16.2	16.4	16.5	17.7	23.5	25.0	26.8	31.4	36.7
Yemen.....	1.6	1.7	1.8	1.9	2.0	2.2	2.2	2.4	2.4	2.4
Total.....	216.3	216.0	237.3	261.3	289.5	312.8	334.1	356.6	379.8	401.7
Africa										
Algeria.....	15.0	16.0	17.0	17.9	18.5	17.9	19.0	19.9	21.5	23.0
Angola.....	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Botswana.....	0.9	0.9	1.1	1.0	1.0	1.0	0.8	0.9	0.7	0.6
Cote d'Ivoire (Ivory Coast).....	0.9	0.6	0.6	1.0	1.2	1.2	1.4	2.0	2.5	3.1
Egypt.....	31.5	34.0	35.0	37.4	39.4	41.4	40.3	43.0	47.1	49.5
Libya.....	15.8	15.9	15.9	16.0	16.7	16.9	17.2	17.8	18.3	18.9
Mauritius.....	0.6	0.7	0.8	0.8	0.9	0.9	1.1	1.1	1.1	1.2
Morocco.....	7.9	7.5	8.2	8.9	9.5	11.5	10.4	11.1	11.6	12.2
Nigeria.....	7.7	7.7	8.2	8.4	9.4	8.4	8.9	9.2	9.5	9.9
Reunion.....	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Senegal.....	0.9	0.9	1.0	0.9	1.0	1.0	1.1	1.2	1.2	1.3
South Africa.....	146.6	147.8	147.1	155.9	160.0	164.2	173.9	181.1	176.5	173.3
Tunisia.....	5.2	5.3	5.7	5.9	6.3	6.8	7.4	7.9	8.5	9.1
Zimbabwe.....	5.6	5.4	4.8	5.6	4.7	5.6	4.9	4.9	4.4	4.0
Other.....	4.4	4.4	4.4	4.8	5.0	5.4	5.7	6.0	6.9	8.1
Total.....	243.7	248.0	250.8	265.6	274.7	283.5	293.0	307.1	311.0	315.3

See footnotes at end of table.

Table 6.1 World Net Conventional Thermal Electricity Generation, 1990 - 1999 (Continued)
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	0.3	0.3	0.2	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.....	131.8	132.3	135.2	137.9	141.8	147.7	151.8	156.0	167.8	172.4
Bangladesh.....	6.7	7.6	8.2	8.7	9.2	10.6	11.0	11.4	10.8	11.3
Bhutan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	1.2	1.3	1.3	1.5	1.6	1.8	2.0	2.3	2.4	2.4
Burma.....	1.2	1.4	1.4	1.6	1.9	2.3	2.2	2.6	2.9	3.3
Cambodia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China.....	465.2	519.3	585.3	644.0	701.2	756.1	805.3	863.4	880.2	936.5
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.....	27.2	29.9	32.8	33.8	25.1	26.2	26.7	27.2	29.5	27.7
India.....	198.9	223.1	240.7	263.6	279.3	317.2	336.1	355.8	337.2	361.0
Indonesia.....	35.3	37.8	38.7	34.5	40.9	42.3	52.5	59.5	58.6	63.2
Japan.....	524.0	533.2	545.8	517.2	580.4	568.0	577.2	577.7	571.3	599.9
Kiribati.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Korea, North.....	23.0	20.4	13.2	13.2	12.7	12.2	11.8	11.0	10.4	9.9
Korea, South.....	45.5	53.8	65.4	75.5	113.3	123.2	138.4	154.3	132.9	148.2
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	0.7	0.8	0.9	1.1	1.2	1.2	1.3	1.3	1.3	1.4
Malaysia.....	20.0	22.5	23.4	28.1	30.6	36.9	43.4	50.7	52.5	54.1
Maldives.....	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.1	0.1	0.1
Mongolia.....	3.1	3.0	2.8	2.4	2.6	2.5	2.5	2.5	2.5	2.7
Nauru.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nepal.....	(s)	(s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
New Caledonia.....	0.6	0.8	0.8	0.8	0.8	1.2	1.0	1.1	1.2	1.2
New Zealand.....	6.3	7.6	8.5	7.8	6.8	5.8	8.2	10.2	10.0	11.6
Niue.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Pakistan.....	19.2	21.0	24.8	25.5	28.9	28.4	31.3	35.6	37.3	39.3
Papua New Guinea.....	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.0
Philippines.....	13.2	13.0	13.2	13.2	17.1	19.9	21.8	25.0	26.0	24.9
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.1	0.1
Singapore.....	14.8	15.9	16.6	17.8	19.6	20.9	22.1	24.6	26.6	27.4
Solomon Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	(s)	0.2	0.3	0.2	0.3	0.3	1.2	1.6	1.7	1.8
Taiwan.....	43.6	51.9	56.1	65.9	72.0	71.0	75.1	83.1	91.7	93.9
Thailand.....	38.7	42.9	49.7	56.1	62.7	68.7	75.1	78.9	76.8	81.5
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.....	3.1	2.8	2.3	2.6	2.9	3.8	4.6	7.0	9.9	11.0
Total.....	1,626.8	1,745.8	1,870.6	1,956.1	2,156.0	2,271.5	2,405.6	2,546.0	2,544.9	2,689.8
World Total.....	7,139.5	7,251.6	7,309.8	7,379.8	7,590.0	7,828.9	8,084.5	8,361.2	8,583.9	8,797.7

¹ Preliminary.

--= 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, 1990 - 1999
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	438.3	444.4	450.3	454.7	464.2	474.8	486.6	487.7	484.7	497.5
Mexico.....	107.1	110.5	114.1	119.2	128.9	133.7	143.7	156.0	161.7	170.8
United States.....	2,816.7	2,873.0	2,885.1	2,988.4	3,075.5	3,162.4	3,246.7	3,288.7	3,399.6	3,235.9
Other.....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8
Total.....	3,362.7	3,428.7	3,450.2	3,562.9	3,669.4	3,771.6	3,877.7	3,933.2	4,046.8	3,905.0
Central & South America										
Argentina.....	45.7	49.6	56.7	60.5	63.1	68.7	70.6	76.1	82.8	77.1
Bolivia.....	2.0	2.2	2.3	2.3	2.4	2.9	2.9	2.9	3.2	3.4
Brazil.....	228.6	242.1	246.3	259.4	271.7	288.2	307.2	322.7	334.1	353.7
Chile.....	18.9	17.8	20.7	22.1	23.3	24.1	26.0	29.5	30.4	35.4
Colombia.....	33.4	34.0	31.2	35.5	38.5	41.9	40.0	41.5	42.3	40.5
Costa Rica.....	3.4	3.6	3.8	4.1	4.7	4.3	4.5	5.1	5.1	5.3
Cuba.....	13.2	11.3	9.9	9.0	10.0	10.9	11.6	12.4	12.4	13.4
Dominican Republic.....	3.3	3.4	5.0	5.2	5.5	5.8	6.0	6.5	6.7	6.8
Ecuador.....	5.8	6.3	6.5	6.8	7.5	7.7	8.4	8.7	9.0	9.4
El Salvador.....	1.9	1.8	1.9	2.3	2.7	2.8	2.4	3.1	3.1	3.6
Guatemala.....	2.2	2.3	2.3	2.4	2.5	2.4	2.6	2.4	2.8	3.3
Honduras.....	2.1	2.1	2.2	2.3	2.5	2.5	2.9	2.4	3.2	3.2
Jamaica.....	2.3	1.9	2.0	3.3	4.2	5.1	5.3	5.5	5.7	6.1
Nicaragua.....	1.5	1.4	1.4	1.4	1.5	1.6	1.7	1.9	2.4	2.3
Panama.....	2.7	3.3	3.6	3.9	4.2	3.9	4.0	4.2	4.2	4.0
Peru.....	12.3	12.9	11.9	13.5	13.5	16.1	15.7	16.3	16.9	17.6
Puerto Rico.....	13.4	13.8	14.4	14.5	15.6	16.6	16.7	16.7	16.1	15.6
Suriname.....	1.4	1.6	1.6	1.6	1.6	1.7	1.7	1.9	1.9	1.8
Trinidad and Tobago.....	3.1	3.3	3.5	3.3	3.6	3.8	4.0	4.4	4.5	4.6
Uruguay.....	5.6	4.6	4.8	5.1	5.4	5.8	6.0	6.4	6.6	5.9
Venezuela.....	53.6	57.2	60.8	62.5	64.3	66.5	68.4	70.8	68.9	75.5
Virgin Islands, U.S.....	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Other.....	5.5	5.9	6.2	6.9	7.0	7.7	7.7	8.5	9.5	10.1
Total.....	462.6	483.2	499.7	529.1	556.2	591.9	617.4	650.6	672.8	699.5
Western Europe										
Austria.....	45.2	47.9	47.8	47.0	47.9	49.2	50.8	51.0	51.9	53.2
Belgium.....	58.7	61.5	63.8	64.7	67.7	69.8	71.3	72.7	74.6	75.1
Denmark.....	29.4	29.9	30.9	31.2	30.9	32.2	32.5	32.7	32.9	32.9
Finland.....	59.0	58.8	64.1	67.1	70.4	69.5	70.5	75.4	80.2	81.6
France.....	325.8	348.3	354.8	356.0	359.2	366.6	383.9	378.5	394.1	398.8
Germany.....	--	474.8	468.4	465.2	469.6	479.3	485.4	485.6	492.4	495.2
Germany, East.....	97.7	--	--	--	--	--	--	--	--	--
Germany, West.....	391.4	--	--	--	--	--	--	--	--	--
Greece.....	31.2	32.0	33.4	34.3	35.9	37.2	38.7	40.4	42.3	43.3
Iceland.....	4.1	4.1	4.2	4.3	4.4	4.6	4.7	5.1	5.8	6.6
Ireland.....	12.5	13.1	13.8	14.2	14.8	15.4	16.4	17.3	18.5	18.4
Italy.....	222.4	228.2	232.1	233.7	239.9	247.1	249.2	257.0	265.5	272.4
Luxembourg.....	4.5	4.8	4.6	4.7	5.1	5.5	5.3	5.6	5.8	6.1
Netherlands.....	71.9	75.0	77.5	78.9	81.6	83.6	86.8	91.4	94.7	97.8
Norway.....	96.2	99.2	99.3	102.6	103.4	106.0	105.4	106.0	110.7	110.8
Portugal.....	25.9	27.2	28.3	28.5	29.7	31.2	32.7	34.3	35.8	37.9
Spain.....	134.0	137.1	139.6	139.4	145.1	152.0	156.3	166.5	176.7	189.6
Sweden.....	131.2	132.4	131.3	132.4	130.5	133.9	133.2	134.5	134.5	128.8
Switzerland.....	47.5	48.6	48.4	48.0	48.5	50.1	50.3	49.8	50.8	51.9
Turkey.....	50.6	54.0	60.0	65.8	69.4	76.6	84.9	94.6	102.2	105.7
United Kingdom.....	287.4	294.5	295.0	299.3	301.1	309.1	321.1	319.7	330.4	333.0
Former Yugoslavia.....	72.8	65.5	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	10.9	10.9	1.9	2.3	2.4	2.4	2.5	2.7
Croatia.....	--	--	10.9	10.7	11.1	11.5	12.1	12.7	14.1	13.6
Macedonia, TFYR.....	--	--	5.6	5.2	5.3	5.3	5.7	5.8	6.0	6.0
Serbia and Montenegro.....	--	--	33.6	29.7	30.7	33.0	33.7	35.8	36.0	33.0
Slovenia.....	--	--	8.9	8.8	11.1	9.4	9.5	9.8	10.4	10.0
Other.....	1.2	1.5	1.6	1.5	1.6	1.7	1.7	1.7	1.7	1.8
Total.....	2,200.7	2,238.4	2,268.6	2,284.1	2,316.7	2,382.0	2,444.4	2,486.4	2,570.8	2,606.2

See footnotes at end of table.

Table 6.2 World Total Net Electricity Consumption, 1990 - 1999 (Continued)
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	3.1	2.7	2.6	3.1	3.6	4.1	5.6	5.0	5.1	5.4
Bulgaria.....	40.5	36.3	33.9	33.6	33.5	36.7	37.7	33.8	32.6	33.2
Former Czechoslovakia.....	80.7	76.4	70.9	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	49.6	51.2	54.0	56.3	56.2	54.8	53.1
Slovakia.....	--	--	--	23.9	24.3	24.8	26.5	26.0	25.4	21.5
Hungary.....	36.3	33.7	31.2	31.4	31.5	32.3	33.0	33.2	33.4	33.5
Poland.....	118.5	115.7	112.3	115.1	116.2	119.3	122.6	123.2	122.1	120.0
Romania.....	65.8	55.2	52.1	51.0	49.6	52.9	54.8	51.0	48.0	44.8
Former U.S.S.R.....	1,488.4	1,475.3	--	--	--	--	--	--	--	--
Armenia.....	--	--	8.3	5.7	5.1	4.7	5.4	5.3	5.4	6.2
Azerbaijan.....	--	--	16.7	16.9	15.7	15.4	15.2	15.8	16.1	15.4
Belarus.....	--	--	39.3	35.2	31.4	29.4	28.9	30.6	29.7	27.6
Estonia.....	--	--	7.1	6.6	6.9	6.8	7.1	7.1	7.1	6.8
Georgia.....	--	--	11.3	9.9	7.1	7.0	6.7	6.7	7.3	7.1
Kazakhstan.....	--	--	86.2	83.4	64.9	64.3	57.2	49.5	47.2	44.1
Kyrgyzstan.....	--	--	8.8	9.3	9.4	12.6	10.6	9.7	9.3	10.2
Latvia.....	--	--	7.5	6.1	5.9	5.9	6.0	5.9	5.8	4.3
Lithuania.....	--	--	11.2	10.3	9.8	9.7	8.2	8.8	9.2	9.8
Moldova.....	--	--	9.8	6.9	7.8	7.2	6.9	6.6	6.2	5.8
Russia.....	--	--	879.9	830.6	731.5	739.1	729.2	719.2	713.3	728.2
Tajikistan.....	--	--	16.3	15.1	14.8	14.3	14.1	13.9	13.9	14.7
Turkmenistan.....	--	--	8.6	7.9	6.6	6.5	6.0	6.6	5.2	4.8
Ukraine.....	--	--	216.7	200.6	178.1	168.8	159.5	156.7	151.2	146.7
Uzbekistan.....	--	--	44.2	40.4	43.7	40.5	44.0	41.5	41.6	43.5
Total.....	1,833.3	1,795.3	1,674.8	1,592.5	1,448.6	1,456.1	1,441.5	1,412.2	1,389.8	1,386.8
Middle East										
Bahrain.....	3.1	3.1	3.4	3.7	4.0	4.0	4.4	4.4	5.0	5.8
Cyprus.....	1.7	1.8	2.1	2.3	2.3	2.2	2.3	2.4	2.6	2.7
Iran.....	51.9	56.4	60.4	66.9	72.0	74.6	79.8	85.8	90.7	95.8
Iraq.....	19.3	17.7	22.1	23.0	24.5	25.4	25.5	25.9	26.6	27.4
Israel.....	17.9	18.4	21.2	22.4	24.4	25.7	27.4	29.6	32.1	31.9
Jordan.....	3.2	3.4	4.0	4.3	4.6	5.5	5.6	5.9	6.3	6.6
Kuwait.....	18.0	9.4	14.7	17.6	19.9	20.7	22.3	23.4	26.2	29.4
Lebanon.....	1.7	2.7	3.3	4.2	4.7	5.0	6.8	8.1	8.0	7.9
Oman.....	4.7	4.8	4.5	5.1	5.4	5.6	5.9	6.4	7.2	8.0
Qatar.....	4.2	4.1	4.5	4.8	5.1	5.2	5.7	6.0	7.1	8.4
Saudi Arabia.....	60.4	64.4	68.8	76.4	84.6	93.7	99.1	105.2	108.4	111.6
Syria.....	10.4	11.0	11.4	11.4	13.7	13.7	15.1	16.0	16.4	16.7
United Arab Emirates.....	14.9	15.1	15.3	15.4	16.5	21.8	23.2	24.9	29.2	34.1
Yemen.....	1.5	1.6	1.7	1.8	1.9	2.1	2.0	2.2	2.2	2.2
Total.....	212.8	213.9	237.5	259.5	283.7	305.2	325.3	346.2	368.0	388.5
Africa										
Algeria.....	14.0	14.5	15.1	15.8	16.3	16.5	17.6	18.6	20.1	21.6
Angola.....	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.4
Cameroon.....	2.5	2.5	2.5	2.5	2.5	2.6	2.7	2.9	3.1	3.2
Congo (Kinshasa).....	5.0	4.7	5.4	4.1	4.1	5.5	5.9	5.7	4.8	4.6
Cote d'Ivoire (Ivory Coast).....	2.1	1.7	1.5	2.0	2.0	2.7	2.9	3.6	3.0	3.2
Egypt.....	38.5	39.6	40.5	44.4	46.6	48.4	48.1	51.0	55.1	60.2
Ghana.....	5.2	5.4	5.4	5.4	5.3	5.2	5.7	6.0	5.2	5.6
Kenya.....	2.9	3.1	3.1	3.4	3.5	3.6	3.8	4.0	4.1	4.1
Libya.....	14.7	14.8	14.8	14.9	15.6	15.7	16.0	16.6	17.0	17.6
Morocco.....	8.6	8.7	9.5	10.0	10.8	11.5	11.7	12.3	13.1	13.4
Nigeria.....	11.1	12.6	13.1	12.8	13.7	12.9	13.4	13.7	15.3	17.4
South Africa.....	143.8	146.1	144.6	149.4	156.2	160.9	168.3	175.6	175.8	172.4
Tunisia.....	4.8	5.0	5.4	5.5	5.9	6.5	7.1	7.6	8.1	8.7
Zambia.....	5.7	5.7	5.7	5.7	5.7	5.7	5.9	6.2	6.1	5.9
Zimbabwe.....	10.0	9.7	8.6	8.8	7.6	7.9	8.8	9.9	7.4	6.9
Other.....	16.3	17.2	17.7	19.4	19.7	20.3	21.7	22.3	21.0	20.6
Total.....	286.9	293.0	294.6	305.6	317.1	327.8	341.4	357.7	361.0	366.6

See footnotes at end of table.

Table 6.2 World Total Net Electricity Consumption, 1990 - 1999 (Continued)
(Billion Kilowatthours)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	1.0	1.0	0.8	0.7	0.8	0.7	0.6	0.6	0.5	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.....	136.1	138.2	142.3	146.1	149.5	154.5	158.4	163.3	173.5	178.3
Bangladesh.....	7.1	7.8	8.4	8.7	9.3	10.5	10.9	11.2	10.7	11.2
Bhutan.....	(s)	0.1	0.1	0.1	0.1	(s)	0.3	0.4	0.2	0.2
Brunei.....	1.1	1.2	1.2	1.4	1.5	1.7	1.9	2.1	2.2	2.3
Burma.....	2.2	2.4	2.7	3.0	3.2	3.6	3.5	4.0	4.1	4.5
Cambodia.....	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
China.....	550.9	600.9	670.6	744.1	816.2	880.9	926.0	985.2	1,012.7	1,084.1
Fiji.....	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
French Polynesia.....	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Guam.....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Hong Kong.....	23.5	24.7	25.6	27.3	25.4	28.8	31.9	32.6	33.9	32.2
India.....	257.1	280.6	295.1	316.9	341.9	369.7	385.4	411.7	395.9	424.0
Indonesia.....	43.2	45.4	46.0	41.2	46.0	49.2	59.1	66.0	67.6	73.2
Japan.....	764.6	791.3	797.9	806.4	857.9	881.4	899.0	927.3	932.3	947.0
Korea, North.....	48.1	48.2	34.3	34.3	33.4	32.5	31.6	29.5	28.0	26.6
Korea, South.....	93.4	103.0	113.6	125.4	159.4	176.3	196.3	214.2	206.8	232.8
Laos.....	0.3	0.2	0.2	0.3	0.5	0.3	0.4	0.4	0.3	0.2
Macau.....	0.8	0.9	1.0	1.1	1.2	1.5	1.4	1.4	1.4	1.4
Malaysia.....	22.3	24.9	25.8	30.6	34.5	40.1	45.1	50.8	53.2	54.9
Mongolia.....	3.1	2.9	2.7	2.3	2.5	2.7	2.7	2.7	2.6	2.8
Nepal.....	0.9	0.8	0.9	0.9	1.0	1.2	1.2	1.1	1.3	1.3
New Caledonia.....	1.0	1.0	1.0	1.0	1.1	1.5	1.4	1.5	1.5	1.4
New Zealand.....	29.7	30.8	29.4	31.2	32.6	32.9	34.0	33.9	34.4	35.3
Pakistan.....	33.8	36.8	40.7	43.5	45.3	47.9	50.8	52.7	55.4	57.7
Papua New Guinea.....	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7
Philippines.....	22.7	22.0	21.2	21.9	27.0	29.6	32.5	35.2	36.7	37.9
Samoa.....	(s)	(s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Singapore.....	13.7	14.8	15.5	16.5	18.1	19.4	20.5	22.9	24.7	25.5
Sri Lanka.....	2.9	3.1	2.9	3.7	4.0	4.4	4.1	4.7	5.2	5.6
Taiwan.....	77.5	84.6	90.2	98.3	106.2	105.3	111.6	118.0	127.4	129.9
Thailand.....	41.2	44.7	50.7	56.1	63.0	70.9	77.4	82.6	79.8	84.0
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.....	7.9	8.4	8.8	9.7	11.2	13.3	15.4	17.3	19.5	21.4
Other.....	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total.....	2,189.7	2,324.5	2,433.2	2,576.3	2,796.3	2,964.7	3,107.1	3,277.0	3,315.9	3,480.2
World Total.....	10,548.7	10,777.0	10,858.6	11,110.0	11,388.0	11,799.3	12,154.9	12,463.4	12,725.1	12,832.7

¹ Preliminary.

-- Not applicable.

(s) = Value less than 50 million kilowatthours.

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

Consumption 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, 1998
(Billion Kilowatthours)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
North America					
Canada.....	148.7	328.6	67.7	6.1	551.1
Mexico.....	134.2	24.4	8.8	5.4	172.8
United States.....	2,550.0	318.9	673.7	75.3	3,617.9
Other.....	0.8	0.0	0.0	0.0	0.8
Total.....	2,833.8	671.8	750.2	86.7	4,342.5
Central & South America					
Argentina.....	37.5	35.8	7.1	0.2	80.6
Bolivia.....	2.0	1.4	0.0	0.1	3.5
Brazil.....	15.6	288.5	3.1	9.7	316.9
Chile.....	16.6	15.0	0.0	1.1	32.7
Colombia.....	13.6	31.2	0.0	0.7	45.4
Costa Rica.....	0.4	4.7	0.0	0.5	5.6
Cuba.....	12.5	0.1	0.0	0.7	13.3
Dominican Republic.....	5.7	1.4	0.0	(s)	7.2
Ecuador.....	3.2	6.5	0.0	0.0	9.6
El Salvador.....	1.7	1.2	0.0	0.4	3.3
Guadeloupe.....	1.2	0.0	0.0	0.0	1.2
Guatemala.....	1.0	2.1	0.0	0.0	3.0
Honduras.....	1.5	1.9	0.0	0.0	3.4
Jamaica.....	5.7	0.1	0.0	0.4	6.1
Nicaragua.....	1.6	0.5	0.0	0.4	2.5
Panama.....	1.2	3.3	0.0	(s)	4.5
Paraguay.....	0.1	50.3	0.0	(s)	50.4
Peru.....	4.4	13.7	0.0	0.1	18.2
Puerto Rico.....	17.0	0.3	0.0	0.0	17.3
Suriname.....	0.5	1.5	0.0	0.0	2.0
Trinidad and Tobago.....	4.8	0.0	0.0	(s)	4.9
Uruguay.....	0.4	9.1	0.0	(s)	9.4
Venezuela.....	21.6	52.5	0.0	0.0	74.0
Virgin Islands, U.S.....	1.0	0.0	0.0	0.0	1.0
Other.....	6.8	0.4	0.0	0.0	7.2
Total.....	177.3	521.4	10.3	14.5	723.4
Western Europe					
Austria.....	17.6	36.8	0.0	1.6	56.0
Belgium.....	33.4	0.4	43.9	1.0	78.7
Bosnia and Herzegovina.....	0.9	1.5	0.0	0.0	2.5
Croatia.....	5.1	5.4	0.0	(s)	10.5
Denmark.....	35.9	(s)	0.0	4.1	40.0
Finland.....	31.2	14.9	20.8	9.3	76.2
France.....	52.9	61.4	368.6	2.8	485.7
Germany.....	347.0	17.0	153.6	12.6	530.2
Greece.....	39.9	3.7	0.0	0.2	43.7
Iceland.....	(s)	5.6	0.0	0.6	6.2
Ireland.....	18.6	0.9	0.0	0.2	19.8
Italy.....	194.8	40.8	0.0	6.1	241.7
Macedonia, TFYR.....	5.4	1.1	0.0	0.0	6.5
Malta.....	1.6	0.0	0.0	0.0	1.6
Netherlands.....	81.2	0.1	3.6	4.2	89.2
Norway.....	0.7	114.2	0.0	0.3	115.2
Portugal.....	24.2	12.9	0.0	1.1	38.2
Serbia and Montenegro.....	26.7	12.1	0.0	0.0	38.8
Slovenia.....	4.7	3.4	5.0	0.0	13.1
Spain.....	93.2	33.7	56.0	3.5	186.4
Sweden.....	9.4	73.6	69.9	3.2	156.1
Switzerland.....	2.3	33.1	24.5	1.1	61.1
Turkey.....	64.6	41.8	0.0	0.3	106.7
United Kingdom.....	235.3	5.2	95.1	6.2	341.9
Other.....	0.4	0.2	0.0	(s)	0.7
Total.....	1,327.1	519.8	841.0	58.6	2,746.6

See footnotes at end of table.

Table 6.3 World Net Electricity Generation by Type, 1998 (Continued)
(Billion Kilowatthours)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
Eastern Europe & Former U.S.S.R.					
Albania.....	0.2	4.8	0.0	0.0	5.0
Bulgaria.....	20.2	3.3	15.5	0.0	39.0
Czech Republic.....	46.6	1.4	12.5	1.0	61.5
Hungary.....	21.7	0.2	13.3	0.0	35.1
Poland.....	130.2	4.3	0.0	0.6	135.0
Romania.....	27.5	18.7	4.9	(s)	51.1
Slovakia.....	8.9	4.5	9.8	0.0	23.2
Armenia.....	2.9	1.5	1.4	0.0	5.8
Azerbaijan.....	15.1	1.9	0.0	0.0	17.0
Belarus.....	23.8	(s)	0.0	0.0	23.8
Estonia.....	8.0	(s)	0.0	(s)	8.0
Georgia.....	1.6	6.3	0.0	0.0	7.9
Kazakhstan.....	40.4	6.1	0.1	0.0	46.6
Kyrgyzstan.....	0.8	9.8	0.0	0.0	10.6
Latvia.....	1.3	4.3	0.0	0.0	5.6
Lithuania.....	3.0	0.5	12.9	0.0	16.3
Moldova.....	4.2	0.3	0.0	0.0	4.5
Russia.....	530.1	157.9	98.3	(s)	786.3
Tajikistan.....	0.3	14.0	0.0	0.0	14.3
Turkmenistan.....	8.8	(s)	0.0	0.0	8.9
Ukraine.....	76.8	15.8	70.6	0.0	163.2
Uzbekistan.....	37.7	5.7	0.0	0.0	43.4
Total.....	1,010.0	261.3	239.3	1.6	1,512.3
Middle East					
Bahrain.....	5.4	0.0	0.0	0.0	5.4
Cyprus.....	2.8	0.0	0.0	0.0	2.8
Iran.....	90.6	6.9	0.0	0.0	97.6
Iraq.....	28.0	0.6	0.0	0.0	28.6
Israel.....	35.7	(s)	0.0	0.0	35.7
Jordan.....	6.3	(s)	0.0	0.0	6.3
Kuwait.....	28.2	0.0	0.0	0.0	28.2
Lebanon.....	7.1	0.8	0.0	0.0	7.9
Oman.....	7.7	0.0	0.0	0.0	7.7
Qatar.....	7.6	0.0	0.0	0.0	7.6
Saudi Arabia.....	116.5	0.0	0.0	0.0	116.5
Syria.....	10.1	7.5	0.0	0.0	17.6
United Arab Emirates.....	31.4	0.0	0.0	0.0	31.4
Yemen.....	2.4	0.0	0.0	0.0	2.4
Total.....	379.8	15.8	0.0	0.0	395.6
Africa					
Algeria.....	21.5	0.2	0.0	0.0	21.7
Angola.....	0.5	1.4	0.0	0.0	1.9
Botswana.....	0.7	0.0	0.0	0.0	0.7
Cameroon.....	0.1	3.2	0.0	0.0	3.3
Congo (Kinshasa).....	0.1	5.5	0.0	0.0	5.6
Cote d'Ivoire (Ivory Coast).....	2.5	1.4	0.0	0.0	3.8
Egypt.....	47.1	12.1	0.0	0.0	59.2
Ethiopia.....	(s)	1.6	0.0	0.0	1.6
Ghana.....	0.7	4.3	0.0	0.0	5.0
Kenya.....	0.7	3.2	0.0	0.3	4.2
Libya.....	18.3	0.0	0.0	0.0	18.3
Morocco.....	11.6	1.7	0.0	0.0	13.4
Nigeria.....	9.5	7.0	0.0	0.0	16.5
Reunion.....	0.6	0.5	0.0	0.0	1.1
South Africa.....	176.5	1.6	13.6	0.0	191.7
Sudan.....	0.9	1.0	0.0	0.0	1.9
Tunisia.....	8.5	0.1	0.0	0.0	8.6
Zambia.....	(s)	7.8	0.0	0.0	7.8
Zimbabwe.....	4.4	1.9	0.0	0.0	6.4
Other.....	6.7	8.7	0.0	0.0	15.4
Total.....	311.0	63.1	13.6	0.3	388.0

See footnotes at end of table.

Table 6.3 World Net Electricity Generation by Type, 1998 (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.....	167.8	15.6	0.0	3.2	186.6
Bangladesh.....	10.8	0.7	0.0	0.0	11.5
Bhutan.....	(s)	1.8	0.0	0.0	1.8
Brunei.....	2.4	0.0	0.0	0.0	2.4
Burma.....	2.9	1.4	0.0	0.0	4.4
Cambodia.....	0.1	0.1	0.0	0.0	0.2
China.....	880.2	202.9	13.5	0.0	1,096.5
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	0.2	0.0	0.0	0.4
Guam.....	0.8	0.0	0.0	0.0	0.8
Hong Kong.....	29.5	0.0	0.0	0.0	29.5
India.....	337.2	75.5	10.6	1.0	424.3
Indonesia.....	58.6	10.5	0.0	3.7	72.7
Japan.....	571.3	91.6	315.7	23.8	1,002.4
Kiribati.....	(s)	0.0	0.0	0.0	(s)
Korea, North.....	10.4	19.7	0.0	0.0	30.1
Korea, South.....	132.9	4.1	85.2	(s)	222.3
Laos.....	(s)	0.9	0.0	0.0	1.0
Macau.....	1.3	0.0	0.0	0.0	1.3
Malaysia.....	52.5	4.8	0.0	0.0	57.3
Maldives.....	0.1	0.0	0.0	0.0	0.1
Mongolia.....	2.5	0.0	0.0	0.0	2.5
Nauru.....	(s)	0.0	0.0	0.0	(s)
Nepal.....	0.1	1.1	0.0	0.0	1.2
New Caledonia.....	1.2	0.4	0.0	0.0	1.6
New Zealand.....	10.0	24.1	0.0	2.9	37.0
Niue.....	(s)	0.0	0.0	0.0	(s)
Pakistan.....	37.3	21.8	0.4	0.0	59.6
Papua New Guinea.....	1.2	0.7	0.0	0.0	1.9
Philippines.....	26.0	5.0	0.0	8.5	39.4
Samoa.....	0.1	(s)	0.0	0.0	0.1
Singapore.....	26.6	0.0	0.0	0.0	26.6
Solomon Islands.....	(s)	0.0	0.0	0.0	(s)
Sri Lanka.....	1.7	3.9	0.0	0.0	5.5
Taiwan.....	91.7	9.9	35.4	0.0	137.0
Thailand.....	76.8	5.1	0.0	3.0	85.0
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.....	9.9	11.0	0.0	0.0	20.9
Total.....	2,544.9	513.7	460.8	46.1	3,565.4
World Total.....	8,583.9	2,566.9	2,315.3	207.9	13,673.9

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

² Geothermal and Other consists of geothermal, solar, wind, and wood and waste 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, 1999
(Million Kilowatts)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
North America					
Canada.....	32	67	11	(s)	110
Mexico.....	27	10	1	1	39
United States.....	562	98	97	18	776
Other.....	(s)	0	0	0	(s)
Total.....	621	175	109	19	924
Central & South America					
Argentina.....	13	9	1	0	23
Brazil.....	5	57	1	2	65
Chile.....	4	4	0	0	8
Colombia.....	5	8	0	0	13
Cuba.....	4	(s)	0	0	4
Paraguay.....	(s)	7	0	0	7
Peru.....	3	3	0	0	6
Puerto Rico.....	4	(s)	0	0	5
Venezuela.....	8	13	0	0	21
Other.....	13	7	0	(s)	20
Total.....	60	109	2	3	173
Western Europe					
Austria.....	6	8	0	(s)	14
Belgium.....	8	(s)	6	(s)	14
Croatia.....	2	2	0	0	4
Denmark.....	11	(s)	0	1	13
Finland.....	11	3	3	(s)	16
France.....	26	21	62	(s)	108
Germany.....	80	3	22	3	108
Greece.....	7	2	0	(s)	9
Ireland.....	4	(s)	0	(s)	4
Italy.....	52	13	0	1	66
Netherlands.....	13	(s)	(s)	(s)	14
Norway.....	(s)	27	0	(s)	28
Portugal.....	5	5	0	(s)	10
Serbia and Montenegro.....	8	4	0	0	12
Spain.....	25	12	7	1	45
Sweden.....	7	16	10	(s)	33
Switzerland.....	1	10	3	(s)	15
Turkey.....	13	10	0	(s)	23
United Kingdom.....	56	1	13	(s)	70
Other.....	5	4	1	(s)	9
Total.....	338	141	127	7	614
Eastern Europe & Former U.S.S.R.					
Bulgaria.....	7	2	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	22
Slovakia.....	3	2	2	0	8
Armenia.....	2	1	(s)	0	3
Azerbaijan.....	4	1	0	0	5
Belarus.....	7	(s)	0	0	7
Estonia.....	3	(s)	0	0	3
Georgia.....	2	3	0	0	4
Kazakhstan.....	15	2	(s)	0	17
Kyrgyzstan.....	1	3	0	0	4
Lithuania.....	3	(s)	3	0	6
Russia.....	139	44	21	(s)	204
Tajikistan.....	(s)	4	0	0	4
Turkmenistan.....	4	(s)	0	0	4
Ukraine.....	36	5	14	0	55
Uzbekistan.....	10	2	0	0	12
Other.....	2	3	0	0	5
Total.....	298	81	48	(s)	427

See footnotes at end of table.

Table 6.4 World Electricity Installed Capacity by Type, January 1, 1999 (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.....	28	2	0	0	30
Iraq.....	9	1	0	0	10
Israel.....	8	(s)	0	0	8
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.....	25	0	0	0	25
Syria.....	4	1	0	0	4
United Arab Emirates.....	6	0	0	0	6
Yemen.....	1	0	0	0	1
Total.....	95	4	0	0	99
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.....	11	3	0	0	13
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.....	36	1	2	0	38
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	0	5
Total.....	71	21	2	(s)	94
Far East & Oceania					
Australia.....	32	6	0	(s)	38
Bangladesh.....	3	(s)	0	0	3
Burma.....	1	(s)	0	0	1
China.....	210	65	2	0	277
Hong Kong.....	11	0	0	0	11
India.....	78	22	2	1	103
Indonesia.....	18	3	0	(s)	21
Japan.....	159	21	45	1	226
Korea, North.....	5	5	0	0	10
Korea, South.....	33	2	12	0	46
Malaysia.....	12	2	0	0	14
New Zealand.....	3	5	0	(s)	8
Pakistan.....	12	5	(s)	0	17
Philippines.....	8	2	0	2	12
Singapore.....	6	0	0	0	6
Sri Lanka.....	(s)	1	0	0	2
Taiwan.....	16	4	5	0	26
Thailand.....	15	3	0	(s)	18
Vietnam.....	2	3	0	0	5
Other.....	3	2	0	0	5
Total.....	625	153	67	4	849
World Total.....	2,110	683	354	33	3,180

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

² Geothermal and Other Capacity consists of geothermal, solar, wind, and wood and waste 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, 1990 -2000
(U.S. Dollars per Barrel)

Region	Country	Crude (API Gravity)	Sulfur Weight ¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
North America														
	Canada.....	Lloydminster (22)	2.2	14.98	19.27	11.38	15.95	11.58	16.44	18.24	24.44	13.36	7.90	28.13
	Mexico.....	Isthmus (33)	1.3	19.90	24.80	15.80	17.25	11.86	15.92	18.53	23.82	15.80	9.37	24.75
	Mexico.....	Maya (22)	3.4	17.05	20.00	10.75	12.50	9.01	13.77	15.79	19.33	10.81	6.38	20.20
	United States.....	West Texas Inter. (39)	0.3	21.70	27.20	18.70	19.75	14.20	17.60	19.80	25.50	17.80	11.50	26.30
	United States.....	U S Refiner Acquisition Cost of Imported Crude Oil	--	20.51	22.30	16.10	16.80	12.93	16.56	17.48	23.02	14.33	10.16	25.29
Central & South America														
	Colombia.....	Cano Limon (31)	0.5	20.15	24.95	15.73	16.58	11.72	16.02	18.49	23.94	15.65	9.05	25.08
	Ecuador.....	Oriente (30)	0.9	18.81	22.87	13.94	15.62	11.60	16.17	18.20	22.85	14.90	8.50	28.58
	Venezuela.....	Tia Juana Light(31)	1.2	24.69	28.62	19.67	17.97	12.97	16.57	18.52	26.62	15.93	9.45	24.85
	Venezuela.....	Bachaquero (24)	1.6	16.87	27.89	13.94	14.88	11.12	15.25	17.64	24.74	--	--	--
	Venezuela.....	Bachaquero (17)	2.4	15.00	24.45	10.45	12.75	9.25	14.10	15.70	20.45	--	--	--
Western Europe														
	Norway.....	Ekofisk Blend (42)	0.2	20.75	27.25	18.00	18.15	13.20	15.95	19.45	24.30	16.50	10.60	25.60
	United Kingdom.....	Brent Blend (38)	0.4	21.00	27.20	17.75	17.90	13.15	16.15	19.37	24.05	15.89	10.44	25.10
Eastern Europe & Former U.S.S.R.														
	Russia.....	Urals (33)	1.3	20.25	26.05	16.55	16.30	12.35	16.40	19.47	22.85	15.79	10.09	24.71
Middle East														
	Iran.....	Iranian Light (34)	1.4	18.20	23.65	15.50	16.70	12.40	16.18	17.73	22.63	14.93	9.83	24.63
	Iraq.....	Kirkuk Blend (35)	2.0	19.45	--	--	--	--	--	--	--	--	8.79	20.72 ²
	Kuwait.....	Kuwait Blend (31)	2.5	17.35	--	--	15.30	11.10	15.58	17.40	21.83	14.90	9.38	23.98
	Oman	Oman (34)	1.2	18.05	23.65	15.20	16.65	12.70	16.35	17.80	22.30	15.35	9.95	24.00
	Qatar.....	Dukhan (42)	1.3	18.30	24.40	16.05	17.35	13.53	16.93	18.22	23.24	15.78	10.50	24.39
	Saudi Arabia.....	Arabian Light (33)	1.8	18.40	24.00	15.90	16.80	12.40	16.63	18.20	22.98	15.50	10.03	24.78
	Saudi Arabia.....	Arabian Medium (29)	2.9	17.55	22.00	14.25	15.40	11.20	15.73	17.40	21.93	14.90	9.63	24.13
	Saudi Arabia.....	Arabian Heavy (27)	2.8	17.15	20.00	13.15	14.40	10.10	15.13	17.05	21.08	14.00	9.28	23.48
	United Arab Emirates..	Murban (41)	0.8	19.05	24.65	16.80	18.15	14.09	17.31	18.81	24.06	16.27	10.50	25.04
Africa														
	Algeria.....	Saharan Blend (44)	0.1	21.15	28.85	18.80	18.60	13.80	16.30	19.79	24.75	16.90	10.78	25.90
	Angola.....	Cabinda (32)	0.1	19.65	25.35	16.65	17.35	12.28	15.42	18.67	23.70	16.05	9.90	24.80
	Egypt.....	Suez Blend (32)	1.5	16.75	24.25	15.20	14.75	10.55	14.60	17.65	21.80	15.05	9.00	23.45
	Gabon.....	Mandji (31)	1.1	19.05	23.25	14.55	15.60	11.10	14.75	17.80	22.30	14.45	9.13	24.20
	Libya.....	Es Sider (37)	0.5	20.40	26.90	17.20	17.55	12.55	16.05	19.20	24.10	16.72	10.65	25.85
	Nigeria.....	Bonny Light (36)	0.1	21.20	27.80	18.20	18.50	13.50	16.15	19.70	24.65	16.50	10.60	25.55
	Nigeria.....	Forcados (31)	0.2	21.35	27.30	18.10	17.95	13.60	16.15	19.70	24.75	16.50	10.40	25.50
Far East & Oceania														
	Australia.....	Gippsland (42)	--	19.65	26.75	21.35	18.60	14.40	16.90	19.40	24.95	16.95	10.60	24.80
	Brunei.....	Seria Light (37)	0.1	20.20	27.25	21.15	19.40	15.60	18.05	20.85	24.80	--	--	--
	China.....	Daqing (33)	0.1	18.15	26.10	18.50	19.00	13.20	16.90	19.95	25.00	16.60	9.85	24.05
	Indonesia.....	Minas (34)	0.1	18.55	26.50	18.65	19.10	14.15	16.95	20.05	24.95	16.50	9.95	24.15
	Malaysia.....	Tapis Blend (44)	0.1	20.35	27.60	21.45	19.50	15.70	17.60	20.89	25.70	16.00	12.40	24.36

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/2000	2.04	1.68	--	--	--	36.67	24.95
Mexico.....	1/2000	1.92	1.59	0.47	--	0.93	--	--
United States.....	1/2000	1.47	1.36	1.26	1.07	0.63	36.33	22.55
Central & South America								
Argentina.....	1/2000	4.01	1.93	0.56	2.01	2.08	--	--
Barbados.....	1/2000	2.62	2.26	0.53	0.98	0.85	--	--
Bolivia.....	1/2000	2.65	1.78	1.20	1.03	0.66	--	--
Brazil.....	1/2000	2.94	1.22	0.65	1.14	1.64	--	--
Chile.....	1/2000	2.01	1.11	0.69	1.00	1.48	--	--
Colombia.....	1/2000	1.52	0.96	0.23	0.57	0.39	--	--
Costa Rica.....	1/2000	2.15	1.46	0.57	1.34	1.41	--	--
Cuba.....	1/2000	1.89	0.84	0.61	0.32	0.50	--	--
Dominican Republic.....	1/2000	2.00	1.04	0.39	1.10	0.37	--	--
Ecuador.....	1/2000	0.76	0.33	0.13	--	0.14	--	--
El Salvador.....	1/2000	2.03	1.13	0.58	0.89	0.71	--	--
Grenada.....	1/2000	2.03	1.54	--	1.14	2.03	--	--
Guatemala.....	1/2000	1.43	1.02	0.54	0.94	0.93	--	--
Guyana.....	1/2000	1.30	1.22	0.63	0.91	1.94	--	--
Haiti.....	1/2000	2.03	1.37	0.65	0.99	1.49	--	--
Honduras.....	1/2000	1.79	1.11	0.64	0.88	0.93	--	--
Jamaica.....	1/2000	1.96	1.75	0.69	1.65	1.35	--	--
Nicaragua.....	1/2000	2.11	1.70	0.41	1.46	1.10	--	--
Panama.....	1/2000	1.90	1.38	0.95	1.35	1.32	--	--
Paraguay.....	1/2000	1.57	0.77	0.59	0.99	1.05	--	--
Peru.....	1/2000	2.35	1.35	0.67	1.22	1.45	--	--
Suriname.....	1/2000	2.11	1.55	0.25	1.36	1.50	--	--
Trinidad and Tobago.....	1/2000	1.48	0.77	0.52	0.70	0.77	--	--
Uruguay.....	1/2000	3.63	1.65	0.57	1.66	1.43	--	--
Venezuela.....	1/2000	0.46	0.28	0.22	0.48	0.66	8.90	6.75
Western Europe								
Austria.....	1Q/2000	3.54	2.74	1.49	--	--	--	--
Belgium.....	1Q/2000	3.89	2.82	1.07	--	--	37.02	27.34
Denmark.....	1Q/2000	4.10	3.39	2.62	--	--	58.32	33.06
Finland.....	1Q/2000	4.17	3.06	1.39	--	--	47.97	35.16
France.....	1Q/2000	4.01	3.05	1.59	--	--	48.54	27.08
Germany.....	1Q/2000	3.78	2.90	1.30	--	--	46.94	24.47
Greece.....	1Q/2000	2.72	2.33	1.14	--	--	40.48	33.84
Ireland.....	1Q/2000	3.73	2.96	1.56	--	--	48.08	31.75
Italy.....	1Q/2000	3.86	3.18	3.06	--	--	106.96	33.31
Luxembourg.....	1Q/2000	3.00	2.39	1.11	--	--	41.67	25.94
Netherlands.....	1Q/2000	4.26	2.96	1.90	--	--	--	31.42
Norway.....	1Q/2000	4.88	4.46	2.44	--	--	82.38	56.60
Portugal.....	1Q/2000	3.13	2.05	--	--	--	--	29.91
Spain.....	1Q/2000	2.88	2.43	1.42	--	--	51.50	27.87
Sweden.....	1Q/2000	4.22	3.51	2.18	--	--	44.41	--
Switzerland.....	1Q/2000	3.16	3.19	1.03	--	--	36.95	26.99
Turkey.....	1Q/2000	3.75	2.80	2.95	--	--	--	31.74
United Kingdom.....	1Q/2000	5.13	4.77	1.13	--	--	39.81	30.09

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 Republic.....	1Q/2000	2.34	1.58	1.13	--	--	31.90	8.64
Hungary.....	1Q/2000	3.33	2.93	--	--	--	98.58	20.06
Kazakhstan.....	1999	1.00 ³	--	0.48	--	--	14.98	7.53
Poland.....	1Q/2000	2.79	2.18	1.37	--	--	39.45	16.89
Romania.....	1999	2.01	1.31	--	--	--	--	--
Russia.....	1999	0.94	0.54	--	--	--	--	--
Slovakia.....	1999	2.36	2.21	0.56	--	--	23.54	14.39
Middle East								
Iran.....	1999	0.81 ³	0.19	0.10	0.19	--	--	--
Kuwait.....	1999	0.06 ³	0.05	0.02	0.05	--	--	--
Qatar.....	1999	0.70 ³	0.62	--	0.42	--	--	--
Saudi Arabia.....	1999	0.81 ³	0.37	0.15	0.44	--	--	--
United Arab Emirates.....	1999	0.89 ³	0.61	0.58	0.68	--	--	--
Africa								
Algeria.....	1999	1.11 ³	0.65	0.56	0.24	--	--	--
Libya.....	1999	1.08 ³	0.90	0.10	0.59	--	--	--
Nigeria.....	1999	0.82 ³	0.78	0.29	0.70	--	--	--
South Africa.....	1998	1.51	1.31	--	--	--	--	--
Zimbabwe.....	8/2000	3.07	2.74	--	--	--	--	--
Far East & Oceania								
Australia.....	1Q/2000	2.04	1.93	--	--	--	--	--
China.....	5/2000	1.44	1.30	--	--	--	--	17.68
Hong Kong.....	1Q/2000	5.11	3.22	1.06	2.01	2.22	88.69	44.55
India.....	1999	2.48 ³	1.15	--	--	--	29.06	19.61
Indonesia.....	1999	0.48 ³	0.27	0.20	0.13	--	--	--
Japan.....	1Q/2000	3.65 ³	2.89	1.60	--	--	43.65	30.39
Korea, South.....	1Q/2000	4.09	1.95	1.73	--	--	--	40.04
New Zealand.....	1Q/2000	1.92	1.11	--	--	--	37.89	36.63
Taiwan.....	3/2000	2.50	1.76	0.73	1.87	0.94	--	--
Thailand.....	1999	--	0.83	1.10	--	--	--	22.99

¹Data are for the available time period that is closest to January 1, 2000. 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: Energy Information Administration, *Monthly Energy Review*, August 2000, and *Petroleum Marketing Monthly*, July 2000. International Energy Agency, *Energy Prices and Taxes*, 2nd Quarter 2000. Latin American Energy Organization, *Energy-Economic Information System*, various versions. Organization of Petroleum Exporting Countries, *Annual Statistical Bulletin 1999, 2000*. Census and Statistics Department, *Hong Kong Energy Statistics, First Quarter, 2000*. Taiwan Ministry of Economic Affairs, Energy Commission, *Energy Statistical Data Book*, 1999.

<http://dailynews.sina.com.cn/china/2000-05-05/87217.html> (data for China), May 5, 2000.

Section 8

Energy Reserves

Table 8.1 World Crude Oil and Natural Gas Reserves, January 1, 2000

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	63.5
Mexico.....	28.4	28.3	30.1	30.4
United States ¹	21.8	21.8	167.4	167.4
Total.....	55.1	55.6	261.3	261.3
Central & South America				
Argentina.....	2.8	2.6	24.2	24.3
Barbados.....	(s)	NA	(s)	NA
Bolivia.....	0.1	0.2	4.3	5.5
Brazil.....	7.4	8.1	8.0	8.2
Chile.....	0.2	0.1	3.5	3.2
Colombia.....	2.6	2.3	6.9	6.6
Cuba.....	0.3	0.3	0.6	0.3
Ecuador.....	2.1	3.0	3.7	3.9
Guatemala.....	0.5	NA	0.1	NA
Peru.....	0.4	4.1	9.0	8.8
Suriname.....	0.1	NA	0.0	NA
Trinidad and Tobago.....	0.6	0.7	19.8	21.4
Venezuela.....	72.6	47.1	142.5	145.8
Other.....	0.0	0.7	0.0	(s)
Total.....	89.5	69.2	222.7	227.9
Western Europe				
Austria.....	0.1	0.1	0.9	0.9
Croatia.....	0.1	0.1	1.2	1.2
Denmark.....	1.1	0.9	3.4	2.6
France.....	0.1	0.2	0.5	0.5
Germany.....	0.4	0.3	12.0	9.5
Greece.....	(s)	NA	(s)	NA
Ireland.....	0.0	NA	0.7	NA
Italy.....	0.6	0.6	8.1	7.4
Netherlands.....	0.1	0.1	62.5	59.8
Norway.....	10.8	10.0	41.4	42.9
Serbia and Montenegro.....	0.1	NA	1.7	NA
Spain.....	(s)	NA	0.1	NA
Turkey.....	0.3	0.3	0.3	0.3
United Kingdom.....	5.2	5.0	26.7	26.8
Other.....	0.0	0.1	0.0	0.8
Total.....	18.8	17.6	159.5	152.7
Eastern Europe & Former U.S.S.R.				
Albania.....	0.2	NA	0.1	NA
Bulgaria.....	(s)	(s)	0.2	(s)
Czech Republic.....	(s)	(s)	0.1	0.1
Slovakia.....	(s)	NA	0.5	NA
Hungary.....	0.1	0.1	2.9	1.1
Poland.....	0.1	0.1	5.1	5.7
Romania.....	1.4	1.2	13.2	4.0
Azerbaijan.....	1.2	NA	4.4	NA
Kazakhstan.....	5.4	6.4	65.0	70.6
Russia.....	48.6	52.7	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	4.2	0.8	161.1
Total.....	58.9	64.7	1,999.2	1,947.6

See footnotes at end of table.

Table 8.1 World Crude Oil and Natural Gas Reserves, January 1, 2000 (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.....	0.1	NA	3.9	NA
Iran.....	89.7	93.1	812.3	790.0
Iraq.....	112.5	100.0	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	5.7	28.4	29.3
Qatar.....	3.7	5.4	300.0	394.0
Saudi Arabia ²	263.5	261.4	204.5	208.0
Syria.....	2.5	2.3	8.5	8.4
United Arab Emirates.....	97.8	63.8	212.0	209.0
Yemen.....	4.0	2.1	16.9	17.0
Other.....	0.0	0.5	0.0	11.5
Total.....	675.6	629.2	1,749.2	1,836.2
Africa				
Algeria.....	9.2	13.0	159.7	159.7
Angola.....	5.4	8.5	1.6	3.8
Benin.....	(s)	NA	(s)	NA
Cameroon.....	0.4	0.6	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	NA	1.1	NA
Egypt.....	2.9	3.8	35.2	42.5
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	29.5	46.4	46.4
Madagascar.....	0.0	0.0	0.1	NA
Morocco.....	(s)	NA	(s)	NA
Mozambique.....	0.0	0.0	2.0	NA
Namibia.....	0.0	0.0	3.0	NA
Nigeria.....	22.5	24.5	124.0	126.0
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	0.2	3.0	3.0
Tanzania.....	0.0	0.0	1.0	NA
Tunisia.....	0.3	0.3	2.8	2.8
Other.....	0.0	1.9	0.0	13.8
Total.....	74.9	86.5	394.2	409.7

See footnotes at end of table.

Table 8.1 World Crude Oil and Natural Gas Reserves, January 1, 2000 (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	2.9	44.6	44.6
Bangladesh.....	0.1	NA	10.6	NA
Brunei.....	1.4	1.0	13.8	9.2
Burma.....	0.1	0.2	10.0	12.6
China.....	24.0	34.1	48.3	41.3
India.....	4.8	3.4	22.9	16.1
Indonesia.....	5.0	8.4	72.3	80.8
Japan.....	0.1	NA	1.4	NA
Malaysia.....	3.9	4.6	81.7	85.2
New Zealand.....	0.1	0.1	2.5	2.1
Pakistan.....	0.2	0.2	21.6	22.9
Papua New Guinea.....	0.3	0.8	5.4	17.3
Philippines.....	0.3	0.4	2.8	4.6
Taiwan.....	(s)	NA	2.7	NA
Thailand.....	0.3	0.3	12.5	11.1
Vietnam.....	0.6	1.8	6.8	6.0
Other.....	0.0	0.5	0.0	21.5
Total.....	44.0	58.7	363.5	375.4
World Total.....	1,016.8	981.4	5,149.6	5,210.8

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 3.9 billion barrels of crude oil and 160.1 trillion cubic feet of natural gas.

Sources: PennWell Publishing Co., Oil and Gas Journal, Vol 97, No. 51, (December 1999). Gulf Publishing Co., World Oil, Vol 221, No. 8, (August 2000). Energy Information Administration, U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1999 Annual Report, DOE/EIA-0216(99) (December 2000).

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	127,748	147,824	275,572
Total.....	133,666	152,948	286,614
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.....	566,637	521,965	1,088,602

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 Data Base (December 2000).

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 ³	Sri Lanka
China	Malaysia	Taiwan
Cook Islands	Maldives	Thailand
Fiji	Mongolia	Tonga
French Polynesia	Nauru	U.S. Pacific Islands ⁴
Guam	Nepal	Vanuatu
Hawaiian Trade Zone ¹	New Caledonia	Vietnam
Hong Kong ²	New Zealand	Wake Island

Organization for Economic Cooperation and Development (OECD)⁵

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.

⁴Under the Sino-Portuguese Joint Declaration on the Question of Macau signed in 1987, Macau reverted to Chinese control on December 20, 1999. 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.

⁵Membership is as of December 31, 1999.

International Energy Agency (IEA)¹

Australia	Germany, West	New Zealand
Austria	Greece	Norway
Belgium	Greenland	Portugal
Canada	Guam	Puerto Rico
Czech Republic	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.

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, 1999.

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

³Membership is as of December 31, 1999.

Appendix B

**World Population
and Gross Domestic
Product, 1990-1999**

Table B1 World Population, 1990 - 1999
(Millions)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 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.....	27.70	28.03	28.38	28.70	29.04	29.35	29.67	29.99	30.25	30.49
Greenland.....	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Mexico.....	82.59	84.07	84.90	86.61	88.40	90.20	92.16	93.94	95.68	97.22
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.....	249.46	252.15	255.03	257.78	260.33	262.80	265.23	267.78	270.25	272.69
Total.....	359.88	364.38	368.44	373.22	377.89	382.48	387.19	391.84	396.31	400.52
Central & South America										
Antigua and Barbuda.....	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Argentina.....	32.53	32.97	33.42	33.87	34.32	34.77	35.22	35.67	36.12	36.58
Aruba.....	0.07	0.07	0.07	0.07	0.08	0.08	0.09	0.09	0.09	0.09
Bahamas, The.....	0.26	0.26	0.26	0.27	0.27	0.28	0.28	0.29	0.30	0.30
Barbados.....	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.27	0.27
Belize.....	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.24	0.24
Bolivia.....	6.57	6.73	6.90	7.07	7.24	7.41	7.59	7.77	7.95	8.14
Brazil.....	144.72	147.07	149.36	151.57	153.73	155.82	157.87	159.64	161.79	163.95
Cayman Islands.....	0.27	0.28	0.29	0.30	0.32	0.33	0.35	0.36	0.38	0.35
Chile.....	13.10	13.32	13.54	13.77	13.99	14.20	14.42	14.62	14.82	15.02
Colombia.....	34.97	35.69	36.41	37.13	37.85	38.54	39.30	40.06	40.83	41.39
Costa Rica.....	3.00	3.07	3.14	3.20	3.27	3.33	3.40	3.46	3.53	3.59
Cuba.....	10.62	10.74	10.83	10.90	10.95	10.98	11.02	11.07	11.12	11.14
Dominica.....	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Dominican Republic.....	7.17	7.32	7.47	7.62	7.77	7.83	7.97	8.10	8.21	8.33
Ecuador.....	10.26	10.50	10.74	10.98	11.22	11.46	11.70	11.94	12.17	12.41
El Salvador.....	5.27	5.35	5.43	5.52	5.64	5.73	5.82	5.91	6.03	6.15
Falkland Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
French Guiana.....	0.12	0.12	0.13	0.13	0.14	0.15	0.15	0.16	0.17	0.17
Grenada.....	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.09	0.09	0.09
Guadeloupe.....	0.39	0.40	0.41	0.41	0.42	0.42	0.43	0.44	0.44	0.44
Guatemala.....	9.20	9.47	9.74	10.03	10.32	10.62	10.93	11.24	11.52	11.83
Guyana.....	0.80	0.80	0.81	0.82	0.82	0.83	0.84	0.85	0.85	0.86
Haiti.....	6.49	6.62	6.76	6.90	7.04	7.18	7.34	7.49	7.65	7.80
Honduras.....	4.76	4.92	5.08	5.25	5.42	5.60	5.79	5.98	6.18	6.39
Jamaica.....	2.47	2.49	2.51	2.53	2.55	2.57	2.60	2.62	2.64	2.66
Martinique.....	0.37	0.38	0.38	0.39	0.39	0.39	0.40	0.40	0.41	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	0.20	0.20	0.21	0.21	0.21	0.22
Nicaragua.....	3.87	4.00	4.13	4.26	4.40	4.51	4.61	4.71	4.81	4.94
Panama.....	2.40	2.44	2.49	2.53	2.58	2.63	2.67	2.72	2.76	2.81
Paraguay.....	4.22	4.33	4.45	4.57	4.70	4.83	4.96	5.09	5.22	5.36
Peru.....	21.57	22.00	22.45	22.74	23.13	23.53	23.95	24.37	24.80	25.23
Puerto Rico.....	3.53	3.55	3.58	3.62	3.65	3.69	3.73	3.77	3.81	3.92
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.....	0.13	0.13	0.14	0.14	0.14	0.14	0.14	0.15	0.15	0.15
Saint Vincent/Grenadines.....	0.11	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	0.41	0.41	0.42	0.41	0.42
Trinidad and Tobago.....	1.22	1.23	1.24	1.25	1.25	1.26	1.26	1.27	1.28	1.29
Turks and Caicos Islands.....	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Uruguay.....	3.11	3.13	3.15	3.17	3.20	3.22	3.24	3.27	3.29	3.31
Venezuela.....	19.50	19.97	20.44	20.91	21.38	21.84	22.31	22.78	23.24	23.71
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	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12
Total.....	354.51	360.89	367.32	373.51	379.78	385.80	392.03	397.96	404.22	410.42

See footnotes at end of table.

Table B1 World Population, 1990 - 1999 (Continued)
(Millions)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Western Europe										
Austria.....	7.73	7.81	7.91	7.99	8.03	8.05	8.06	8.07	8.08	8.18
Belgium.....	9.97	9.98	10.05	10.08	10.09	10.14	10.16	10.19	10.21	10.20
Denmark.....	5.14	5.15	5.17	5.19	5.20	5.23	5.26	5.28	5.30	5.32
Faroe Islands.....	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.05
Finland.....	4.99	5.01	5.04	5.07	5.09	5.11	5.12	5.14	5.15	5.17
France.....	56.73	57.05	57.37	57.65	57.90	58.14	58.37	58.61	58.85	59.10
Germany.....	--	79.98	80.57	81.19	81.42	81.66	81.90	82.06	82.02	82.09
Germany, East.....	16.25	--	--	--	--	--	--	--	--	--
Germany, West.....	63.23	--	--	--	--	--	--	--	--	--
Gibraltar.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Greece.....	10.16	10.25	10.32	10.38	10.43	10.45	10.48	10.50	10.52	10.63
Iceland.....	0.25	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.28
Ireland.....	3.52	3.53	3.55	3.57	3.59	3.60	3.63	3.66	3.70	3.75
Italy.....	56.74	56.80	56.86	57.05	57.20	57.30	57.33	57.37	57.44	57.52
Luxembourg.....	0.38	0.39	0.39	0.40	0.40	0.41	0.42	0.42	0.43	0.43
Malta.....	0.35	0.36	0.36	0.36	0.36	0.37	0.37	0.38	0.38	0.39
Netherlands.....	14.95	15.07	15.18	15.29	15.38	15.46	15.53	15.60	15.71	15.81
Norway.....	4.24	4.26	4.29	4.31	4.33	4.36	4.38	4.41	4.43	4.45
Portugal.....	9.87	9.87	9.86	9.88	9.90	9.92	9.93	9.94	9.97	9.98
Spain.....	38.85	38.92	39.01	39.09	39.15	39.21	39.27	39.32	39.37	39.42
Sweden.....	8.56	8.62	8.67	8.72	8.78	8.83	8.84	8.85	8.85	8.86
Switzerland.....	6.71	6.80	6.88	6.94	6.99	7.04	7.07	7.09	7.10	7.13
Turkey.....	56.47	57.06	57.93	58.81	59.71	60.61	61.53	62.47	63.45	64.39
United Kingdom.....	57.56	57.81	58.01	58.19	58.39	58.47	58.65	58.82	58.97	59.10
Former Yugoslavia.....	23.82	23.93	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	4.10	3.90	3.60	3.40	3.50	3.70	3.80	3.84
Croatia.....	--	--	4.71	4.69	4.72	4.70	4.66	4.67	4.67	4.68
Macedonia, TFYR.....	--	--	2.06	2.07	1.95	1.97	1.98	2.00	2.01	2.00
Serbia and Montenegro.....	--	--	10.45	10.48	10.52	10.55	10.58	10.60	10.62	10.66
Slovenia.....	--	--	2.00	1.99	1.99	1.99	1.99	1.99	1.98	1.99
Total.....	456.55	458.98	461.08	463.63	465.47	467.31	469.35	471.47	473.35	475.44
Eastern Europe & Former U.S.S.R.										
Albania.....	3.26	3.32	3.36	3.48	3.55	3.61	3.67	3.73	3.79	3.91
Bulgaria.....	8.97	8.91	8.87	8.49	8.45	8.40	8.36	8.31	8.25	8.22
Former Czechoslovakia.....	15.66	15.68	15.67	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	10.33	10.34	10.33	10.32	10.30	10.29	10.28
Slovakia.....	--	--	--	5.32	5.35	5.36	5.37	5.38	5.39	5.40
Hungary.....	10.36	10.35	10.32	10.29	10.26	10.23	10.19	10.15	10.11	10.07
Poland.....	38.12	38.24	38.37	38.46	38.54	38.59	38.62	38.65	38.67	38.65
Romania.....	23.21	23.19	22.79	22.76	22.73	22.68	22.61	22.55	22.51	22.46
Former U.S.S.R.....	290.10	292.05	--	--	--	--	--	--	--	--
Armenia.....	--	--	3.69	3.73	3.75	3.76	3.77	3.79	3.80	3.83
Azerbaijan.....	--	--	7.33	7.49	7.60	7.68	7.76	7.84	7.91	7.98
Belarus.....	--	--	10.31	10.36	10.31	10.28	10.25	10.22	10.19	10.16
Estonia.....	--	--	1.53	1.51	1.49	1.48	1.46	1.45	1.43	1.41
Georgia.....	--	--	5.45	5.44	5.43	5.42	5.41	5.43	5.44	5.43
Kazakhstan.....	--	--	16.52	16.48	16.30	16.07	15.58	15.33	15.07	14.94
Kyrgyzstan.....	--	--	4.49	4.52	4.54	4.59	4.66	4.72	4.80	4.87
Latvia.....	--	--	2.63	2.59	2.55	2.51	2.49	2.47	2.45	2.43
Lithuania.....	--	--	3.74	3.73	3.72	3.71	3.71	3.71	3.70	3.66
Moldova.....	--	--	4.36	4.35	4.36	4.35	4.35	4.36	4.36	4.38
Russia.....	--	--	148.31	148.15	147.97	148.14	147.74	147.10	146.54	147.20
Tajikistan.....	--	--	5.57	5.64	5.74	5.84	5.92	6.05	6.10	6.44
Turkmenistan.....	--	--	4.03	4.31	4.41	4.51	4.57	4.64	4.70	4.70
Ukraine.....	--	--	52.06	52.24	52.11	51.73	51.33	50.89	50.50	50.66
Uzbekistan.....	--	--	21.21	21.70	22.19	22.56	23.01	23.56	24.05	24.76
Total.....	389.68	391.74	390.60	391.37	391.69	391.83	391.15	390.63	390.05	391.84

See footnotes at end of table.

Table B1 World Population, 1990 - 1999 (Continued)
(Millions)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Bahrain.....	0.50	0.51	0.52	0.54	0.56	0.58	0.60	0.62	0.64	0.67
Cyprus.....	0.68	0.69	0.71	0.72	0.73	0.73	0.74	0.74	0.75	0.78
Iran.....	54.50	55.84	57.15	58.49	59.19	59.90	60.56	61.19	61.84	62.75
Iraq.....	18.08	18.51	18.90	19.26	19.65	20.09	20.61	21.18	21.80	22.45
Israel.....	4.66	4.95	5.12	5.26	5.40	5.54	5.70	5.83	5.97	6.10
Jordan.....	4.62	4.80	5.02	5.26	5.51	5.73	5.94	6.13	6.30	6.48
Kuwait.....	2.14	2.09	1.42	1.46	1.62	1.80	1.89	1.98	2.03	2.11
Lebanon.....	2.56	2.61	2.70	2.81	2.91	3.01	3.08	3.14	3.19	3.24
Oman.....	1.63	1.76	1.88	2.00	2.05	2.13	2.21	2.26	2.36	2.46
Qatar.....	0.49	0.51	0.53	0.56	0.59	0.61	0.63	0.65	0.67	0.70
Saudi Arabia.....	14.87	16.54	16.96	17.35	17.71	18.25	18.83	19.48	20.18	20.90
Syria.....	12.12	12.53	12.96	13.39	13.84	14.15	14.62	15.10	15.60	16.11
United Arab Emirates.....	1.92	1.98	2.04	2.10	2.16	2.31	2.44	2.58	2.72	2.88
Yemen.....	11.28	11.61	11.95	12.30	12.67	13.05	13.50	13.98	14.45	14.97
Total.....	130.05	134.93	137.86	141.50	144.59	147.88	151.35	154.86	158.50	162.60
Africa										
Algeria.....	25.02	25.64	26.27	26.89	27.50	28.06	28.57	29.05	29.80	30.77
Angola.....	9.74	10.23	10.41	10.58	10.67	10.82	11.19	11.57	11.92	12.48
Benin.....	4.74	4.89	4.98	5.08	5.24	5.41	5.59	5.83	6.04	6.16
Botswana.....	1.30	1.33	1.36	1.39	1.42	1.46	1.50	1.53	1.57	1.61
Burkina Faso.....	9.00	9.19	9.43	9.68	9.89	10.20	10.78	11.09	11.27	11.62
Burundi.....	5.46	5.62	5.74	5.81	5.90	5.98	6.09	6.19	6.30	6.48
Cameroon.....	11.68	11.81	12.14	12.48	12.83	13.28	13.55	13.92	14.31	14.69
Cape Verde.....	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.42
Central African Republic.....	3.01	3.04	3.08	3.15	3.22	3.29	3.35	3.41	3.48	3.55
Chad.....	5.69	5.82	5.96	6.10	6.21	6.71	6.90	7.09	7.27	7.46
Comoros.....	0.53	0.54	0.56	0.57	0.59	0.61	0.63	0.65	0.66	0.66
Congo (Brazzaville).....	2.23	2.30	2.37	2.44	2.52	2.59	2.67	2.75	2.81	2.86
Congo (Kinshasa).....	35.56	36.67	38.94	42.25	43.90	45.42	46.77	47.99	49.14	50.34
Cote d'Ivoire (Ivory Coast).....	11.72	12.19	12.67	13.18	13.70	14.23	14.78	15.30	15.68	15.94
Djibouti.....	0.52	0.54	0.55	0.57	0.59	0.60	0.61	0.62	0.62	0.63
Egypt.....	52.69	53.92	55.54	56.49	57.85	59.23	60.60	62.01	63.18	64.38
Equatorial Guinea.....	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.44
Eritrea.....	--	--	--	--	3.22	3.32	3.43	3.59	3.71	3.90
Ethiopia.....	51.69	53.38	55.12	56.90	54.94	55.65	56.37	58.12	59.88	61.67
Gabon.....	0.93	0.96	0.99	1.02	1.05	1.08	1.11	1.14	1.19	1.39
Gambia, The.....	0.92	0.96	0.99	1.03	1.07	1.11	1.15	1.19	1.23	1.27
Ghana.....	15.13	15.61	16.11	16.63	17.14	17.65	18.15	18.66	19.16	19.68
Guinea.....	5.75	6.05	6.40	6.66	6.94	7.15	7.28	7.33	7.34	7.36
Guinea-Bissau.....	0.97	0.99	1.02	1.04	1.06	1.09	1.11	1.14	1.16	1.19
Kenya.....	25.03	25.91	26.98	28.11	29.29	30.52	31.80	33.14	33.78	34.41
Lesotho.....	1.73	1.76	1.80	1.84	1.88	1.93	1.97	2.02	2.06	2.11
Liberia.....	2.46	2.52	2.58	2.64	2.70	2.76	2.81	2.88	2.93	2.99
Libya.....	4.15	4.33	4.51	4.70	4.90	5.21	5.59	5.78	5.98	6.10
Madagascar.....	12.50	12.99	13.50	13.95	14.41	14.87	15.35	15.85	16.30	16.70
Malawi.....	8.29	8.56	8.82	9.13	9.46	9.79	10.14	10.44	10.72	11.00
Mali.....	8.53	8.82	9.13	9.48	9.71	9.94	10.19	10.44	10.69	10.96
Mauritania.....	2.00	2.04	2.11	2.15	2.21	2.28	2.35	2.46	2.53	2.60
Mauritius.....	1.03	1.04	1.05	1.06	1.08	1.09	1.13	1.15	1.16	1.17
Morocco.....	24.18	24.65	25.12	25.58	25.93	26.39	26.85	27.31	27.78	28.24
Mozambique.....	14.15	14.47	14.80	15.13	15.47	15.82	16.18	16.54	16.92	17.30
Namibia.....	1.35	1.39	1.42	1.46	1.50	1.54	1.58	1.61	1.66	1.70
Niger.....	7.73	7.99	8.26	8.56	8.85	9.15	9.45	9.76	10.08	10.40
Nigeria.....	87.03	89.36	91.72	94.11	96.52	98.95	101.41	103.90	106.41	108.95
Reunion.....	0.60	0.61	0.62	0.63	0.64	0.65	0.66	0.67	0.68	0.72
Rwanda.....	7.18	6.67	6.20	5.68	5.30	5.18	5.40	5.88	6.60	7.24
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	0.13	0.14	0.14	0.14	0.14
Senegal.....	7.30	7.50	7.70	7.91	8.13	8.57	8.80	9.04	9.28	9.52
Seychelles.....	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08
Sierra Leone.....	3.99	4.04	4.06	4.08	4.12	4.19	4.29	4.42	4.57	4.72
Somalia.....	8.68	8.78	8.86	8.95	9.08	9.25	9.47	9.82	10.24	10.60
South Africa.....	37.07	38.01	38.82	39.63	40.44	41.24	42.39	43.34	44.13	44.90
Sudan.....	25.75	26.53	27.32	28.13	28.95	29.71	30.29	30.90	31.81	32.47

Table B1 World Population, 1990 - 1999 (Continued)
(Millions)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Swaziland.....	0.77	0.80	0.83	0.85	0.88	0.91	0.94	0.97	0.98	0.99
Tanzania.....	25.63	26.36	27.30	28.25	29.17	30.34	30.80	31.51	32.26	32.79
Togo.....	3.51	3.62	3.73	3.84	3.93	4.06	4.17	4.28	4.40	4.51
Tunisia.....	8.15	8.32	8.48	8.66	8.81	8.96	9.09	9.21	9.33	9.46
Uganda.....	16.46	16.90	17.34	17.88	18.41	19.26	19.85	20.44	21.03	21.62
Western Sahara.....	0.23	0.24	0.25	0.26	0.27	0.28	0.28	0.28	0.29	0.30
Zambia.....	7.07	7.39	7.60	7.80	8.00	8.19	8.39	8.59	8.78	9.05
Zimbabwe.....	9.96	10.16	10.36	10.78	11.15	11.53	11.91	12.29	12.68	13.08
Total.....	617.68	634.34	652.83	672.12	689.61	708.50	726.75	746.15	764.85	783.78
Far East & Oceania										
Afghanistan.....	16.12	16.43	16.79	17.32	18.47	19.66	20.88	22.13	23.11	24.50
American Samoa.....	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.07
Australia.....	17.06	17.28	17.49	17.67	17.85	18.07	18.31	18.52	18.73	18.97
Bangladesh.....	108.12	109.88	112.71	114.84	116.49	118.23	120.07	122.01	124.77	126.95
Bhutan.....	1.54	1.57	1.58	1.60	1.61	1.64	1.81	1.86	2.00	2.06
Brunei.....	0.25	0.26	0.27	0.28	0.28	0.29	0.30	0.31	0.31	0.34
Burma.....	41.35	41.55	42.33	43.12	43.92	44.80	45.92	46.40	47.18	47.77
Cambodia.....	8.57	8.81	9.05	9.31	9.57	9.84	10.27	10.52	11.44	11.95
China.....	1,155.30	1,170.10	1,183.60	1,196.40	1,208.80	1,220.52	1,232.46	1,244.20	1,256.50	1,268.90
Cook Islands.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Fiji.....	0.73	0.74	0.75	0.77	0.78	0.80	0.78	0.79	0.80	0.81
French Polynesia.....	0.20	0.20	0.21	0.21	0.21	0.22	0.22	0.23	0.23	0.25
Guam.....	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.15	0.15
Hong Kong.....	5.70	5.75	5.80	5.90	6.04	6.16	6.31	6.50	6.69	6.84
India.....	834.70	851.66	867.82	886.25	903.94	921.99	939.54	955.22	970.93	986.61
Indonesia.....	180.48	182.94	186.04	189.13	192.22	195.28	198.34	201.39	204.42	209.26
Japan.....	123.48	123.96	124.42	124.83	125.18	125.47	125.76	126.07	126.41	126.51
Kiribati.....	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.09
Korea, North.....	20.46	20.80	21.15	21.51	21.87	22.24	22.61	22.98	23.20	22.69
Korea, South.....	42.87	43.30	43.75	44.19	44.64	45.09	45.54	45.99	46.43	46.86
Laos.....	4.15	4.27	4.40	4.52	4.65	4.77	4.90	5.03	5.16	5.30
Macau.....	0.33	0.35	0.37	0.38	0.40	0.41	0.42	0.42	0.43	0.45
Malaysia.....	17.76	18.33	18.76	19.56	20.11	20.67	21.17	21.66	22.18	22.71
Maldives.....	0.22	0.22	0.23	0.24	0.25	0.25	0.26	0.27	0.27	0.28
Mongolia.....	2.12	2.17	2.20	2.23	2.27	2.30	2.34	2.37	2.40	2.62
Nauru.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nepal.....	18.11	18.68	19.06	19.39	19.86	20.34	20.83	21.33	21.84	22.37
New Caledonia.....	0.17	0.17	0.18	0.18	0.19	0.19	0.20	0.20	0.20	0.20
New Zealand.....	3.36	3.48	3.51	3.55	3.60	3.66	3.71	3.76	3.79	3.81
Niue.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Pakistan.....	112.40	115.77	119.23	122.79	126.47	130.25	134.15	138.16	141.58	144.81
Papua New Guinea.....	3.70	3.77	3.85	3.92	4.00	4.07	4.16	4.21	4.31	4.40
Philippines.....	61.48	63.69	65.34	66.98	68.62	70.27	71.90	73.53	75.15	76.50
Samoa.....	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17
Singapore.....	3.02	3.09	3.18	3.26	3.36	3.47	3.61	3.74	3.87	3.99
Solomon Islands.....	0.32	0.33	0.34	0.35	0.37	0.38	0.39	0.40	0.42	0.43
Sri Lanka.....	17.02	17.27	17.43	17.65	17.89	18.14	18.32	18.55	18.77	18.94
Taiwan.....	20.40	20.61	20.80	21.00	21.18	21.36	21.53	21.74	21.93	22.09
Thailand.....	55.84	56.57	57.29	58.01	58.71	59.40	60.00	60.60	61.20	61.81
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.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Vanuatu.....	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.18	0.19
Vietnam.....	66.23	67.77	69.41	71.03	72.51	73.96	75.36	76.39	77.56	78.77
Wake Island.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	--
Total.....	2,944.26	2,992.49	3,040.07	3,089.11	3,137.06	3,184.97	3,233.15	3,278.29	3,325.00	3,371.57
World Total.....	5,252.61	5,337.76	5,418.19	5,504.44	5,586.09	5,668.77	5,750.96	5,831.19	5,912.28	5,996.17

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, 1990 - 1999
(Billions of 1990 U.S. Dollars)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Bermuda.....	--	--	--	--	--	--	--	--	--	--
Canada.....	581.2	570.4	575.5	588.7	616.6	633.6	644.4	669.9	690.6	719.6
Greenland.....	--	--	--	--	--	--	--	--	--	--
Mexico.....	262.7	273.8	283.7	289.2	302.0	283.4	298.0	318.4	333.6	345.7
Saint Pierre and Miquelon.....	--	--	--	--	--	--	--	--	--	--
United States.....	5,803.2	5,775.9	5,952.1	6,110.1	6,356.7	6,526.4	6,759.4	7,059.0	7,367.2	7,678.7
Central & South America										
Antigua and Barbuda.....	0.3	0.4	0.4	0.4	0.5	0.4	0.5	--	--	--
Argentina.....	124.8	137.8	152.1	161.6	171.0	166.2	175.4	189.6	196.9	191.0
Aruba.....	--	--	--	--	--	--	--	--	--	--
Bahamas, The.....	3.1	2.9	2.7	2.6	2.7	2.7	--	--	--	--
Barbados.....	1.7	1.6	1.5	1.6	1.6	1.7	1.7	1.8	--	--
Belize.....	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6
Bolivia.....	4.9	5.1	5.2	5.4	5.7	5.9	6.2	6.5	6.9	6.9
Brazil.....	465.0	469.8	467.2	490.2	518.9	540.9	555.2	575.2	574.5	579.2
Cayman Islands.....	--	--	--	--	--	--	--	--	--	--
Chile.....	30.4	32.7	36.7	39.3	41.6	46.0	49.4	53.1	54.8	54.2
Colombia.....	40.3	41.1	42.7	45.0	47.7	50.1	51.2	52.9	53.2	50.5
Costa Rica.....	5.7	5.8	6.3	6.7	7.0	7.2	7.1	7.4	7.9	8.5
Cuba.....	--	--	--	--	--	--	--	--	--	--
Dominica.....	0.2	0.2	0.2	0.2	--	--	--	--	--	--
Dominican Republic.....	7.1	7.1	7.7	7.9	8.3	8.7	10.0	10.8	11.6	12.6
Ecuador.....	9.9	10.4	10.8	11.0	11.5	11.7	12.1	12.4	12.4	11.5
El Salvador.....	5.3	5.5	5.9	6.4	6.8	7.2	7.3	7.6	7.9	8.1
French Guiana.....	--	--	--	--	--	--	--	--	--	--
Grenada.....	0.2	0.2	0.2	--	--	--	--	--	--	--
Guadeloupe.....	--	--	--	--	--	--	--	--	--	--
Guatemala.....	7.7	7.9	8.3	8.6	9.0	9.4	9.7	10.1	10.7	11.0
Guyana.....	0.4	0.4	0.5	0.5	--	--	--	--	--	--
Haiti.....	2.8	2.9	2.5	2.5	2.3	2.4	2.4	2.5	2.5	2.6
Honduras.....	3.0	3.1	3.3	3.5	3.5	3.6	3.8	3.9	4.1	4.0
Jamaica.....	4.2	4.3	4.3	4.4	4.5	4.5	4.4	4.3	4.3	--
Martinique.....	--	--	--	--	--	--	--	--	--	--
Montserrat.....	--	--	--	--	--	--	--	--	--	--
Netherlands Antilles.....	--	--	--	--	--	--	--	--	--	--
Nicaragua.....	11.1	11.1	11.1	11.1	11.5	11.9	12.5	13.1	13.9	14.6
Panama.....	5.4	5.8	6.3	6.6	6.8	6.9	7.1	7.5	7.8	8.0
Paraguay.....	5.3	5.4	5.5	5.7	5.9	6.2	6.3	6.4	6.4	6.4
Peru.....	33.0	33.9	33.4	35.5	40.2	43.1	44.2	49.1	49.2	51.1
Puerto Rico.....	--	--	--	--	--	--	--	--	--	--
Saint Kitts and Nevis.....	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	--	--
Saint Lucia.....	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	--	--
Saint Vincent/Grenadines.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	--	--	--
Suriname.....	1.7	1.8	1.9	1.8	1.7	--	--	--	--	--
Trinidad and Tobago.....	5.1	5.2	5.1	5.0	5.2	5.3	5.5	5.7	5.9	--
Turks and Caicos Islands.....	--	--	--	--	--	--	--	--	--	--
Uruguay.....	9.3	9.7	10.5	10.7	11.5	11.3	12.0	12.5	13.1	12.6
Venezuela.....	48.5	53.2	56.4	56.5	54.9	57.4	57.3	60.9	60.9	56.5
Virgin Islands, British.....	--	--	--	--	--	--	--	--	--	--
Virgin Islands, U.S.....	--	--	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table B2 World Gross Domestic Product at Market Exchange Rates, 1990 - 1999 (Continued)

(Billions of 1990 U.S. Dollars)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Western Europe										
Austria.....	159.5	165.0	167.2	168.0	172.0	174.9	178.4	182.9	188.8	192.6
Belgium.....	196.8	200.8	204.0	201.0	207.0	212.4	214.3	221.8	227.9	233.1
Denmark.....	133.3	134.8	135.7	135.7	143.1	147.0	150.7	155.4	159.4	161.9
Finland.....	136.8	128.2	124.0	122.6	127.4	132.3	137.5	146.2	153.6	159.0
France.....	1,215.8	1,228.8	1,245.5	1,233.6	1,256.1	1,278.3	1,292.9	1,318.5	1,363.2	1,400.5
Germany.....	--	1,704.5	1,734.8	1,714.7	1,762.0	1,784.6	1,807.7	1,849.8	1,896.8	1,920.7
Germany, East.....	--	--	--	--	--	--	--	--	--	--
Germany, West.....	1,503.6	--	--	--	--	--	--	--	--	--
Greece.....	82.9	85.5	86.1	84.7	86.4	88.2	90.3	93.2	96.5	99.8
Iceland.....	6.2	6.3	6.1	6.2	6.4	6.5	6.8	7.1	7.5	7.9
Ireland.....	47.3	48.3	49.8	51.1	54.1	59.2	63.7	70.5	77.0	83.8
Italy.....	1,102.4	1,117.8	1,126.3	1,116.4	1,141.0	1,174.4	1,187.1	1,208.7	1,227.2	1,244.6
Luxembourg.....	10.4	11.0	11.5	12.5	13.0	13.5	13.9	14.4	--	--
Malta.....	2.3	2.5	2.6	2.7	2.8	3.0	3.1	3.2	3.3	3.5
Netherlands.....	295.4	302.1	308.2	310.6	320.6	327.8	337.7	350.5	363.4	376.1
Norway.....	115.5	119.1	122.9	126.3	133.2	138.4	145.1	151.3	154.5	155.8
Portugal.....	69.0	70.7	72.0	71.0	72.8	74.9	77.3	80.0	82.8	85.3
Spain.....	492.0	503.1	506.6	500.5	512.1	525.9	538.6	557.2	578.8	600.4
Sweden.....	229.7	227.1	223.9	218.9	227.9	236.3	238.9	243.7	251.0	260.5
Switzerland.....	228.4	226.6	226.3	225.2	226.4	227.5	228.3	232.1	236.9	240.9
Turkey.....	150.7	152.1	161.2	174.2	164.6	176.5	188.8	203.1	209.3	198.8
United Kingdom.....	989.6	974.8	975.3	997.8	1,041.7	1,070.8	1,098.3	1,136.9	1,161.3	1,185.4
Former Yugoslavia.....	--	--	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	--	--	--	--	--	--
Croatia.....	--	--	--	--	--	--	--	--	--	--
Macedonia, TFYR.....	--	--	--	--	2.8	2.7	2.8	2.8	2.9	3.0
Serbia and Montenegro.....	--	--	--	--	--	--	--	--	--	--
Slovenia.....	--	--	6.5	6.3	6.7	6.9	7.1	7.4	7.7	8.1
Eastern Europe & Former U.S.S.R.										
Albania.....	--	--	--	--	2.1	2.3	2.5	2.4	2.5	2.7
Bulgaria.....	13.5	11.9	11.0	10.8	11.0	11.2	10.0	9.3	9.6	9.9
Former Czechoslovakia.....	68.3	58.5	--	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	40.4	41.5	44.1	45.9	46.0	44.9	44.8
Slovakia.....	--	--	--	13.4	14.1	15.1	16.1	17.1	17.9	18.2
Hungary.....	43.8	38.5	37.4	37.2	38.2	38.8	39.3	41.1	43.2	45.1
Poland.....	97.3	90.5	93.0	96.5	101.5	108.6	115.2	123.0	128.9	134.2
Romania.....	38.2	33.3	30.4	30.8	31.9	34.1	35.5	33.2	30.8	29.8
Former U.S.S.R.....	948.1	891.4	--	--	--	--	--	--	--	--
Armenia.....	--	--	3.9	3.6	3.8	4.0	4.3	4.4	4.7	4.9
Azerbaijan.....	--	--	7.5	5.8	4.6	4.1	4.1	4.4	4.8	5.2
Belarus.....	--	--	30.5	28.2	24.6	22.1	22.7	25.3	27.4	28.3
Estonia.....	--	--	5.7	5.2	5.1	5.3	5.5	6.1	6.4	6.3
Georgia.....	--	--	5.8	3.8	3.4	3.5	3.8	4.3	4.4	4.5
Kazakhstan.....	--	--	33.6	30.5	26.7	24.5	24.6	25.0	24.6	25.0
Kyrgyzstan.....	--	--	4.3	3.7	3.0	2.8	3.0	3.3	3.4	3.5
Latvia.....	--	--	7.0	6.0	6.0	5.9	6.1	6.7	6.9	6.9
Lithuania.....	--	--	7.2	6.0	5.4	5.6	5.9	6.3	6.6	6.3
Moldova.....	--	--	5.9	5.8	4.0	4.0	3.7	3.8	3.6	3.4
Russia.....	--	--	493.8	450.6	393.5	377.6	364.3	367.3	349.7	360.6
Tajikistan.....	--	--	3.0	2.5	2.0	1.8	1.5	1.5	1.6	1.6
Turkmenistan.....	--	--	5.0	4.5	3.7	3.4	3.1	2.3	2.4	2.8
Ukraine.....	--	--	128.1	109.9	84.7	74.4	66.9	64.9	63.6	63.5
Uzbekistan.....	--	--	20.0	19.5	18.5	18.3	18.7	19.6	20.5	21.4

See footnotes at end of table.

Table B2 World Gross Domestic Product at Market Exchange Rates, 1990 - 1999 (Continued)

(Billions of 1990 U.S. Dollars)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Bahrain.....	4.2	4.4	4.5	5.1	5.2	5.4	5.5	5.7	5.7	5.8
Cyprus.....	5.6	5.6	6.2	6.2	6.6	7.0	7.1	7.3	7.6	8.0
Iran.....	538.1	595.4	631.7	645.0	650.7	649.9	693.5	708.7	721.4	739.5
Iraq.....	--	--	--	--	--	--	--	--	--	--
Israel.....	52.2	55.8	59.4	61.3	65.5	70.1	73.4	75.5	77.2	78.7
Jordan.....	4.0	4.1	4.8	5.0	5.4	5.8	5.8	5.9	6.0	6.1
Kuwait.....	18.5	10.0	18.9	23.8	24.1	24.0	25.9	25.4	22.7	23.2
Lebanon.....	--	--	--	--	--	--	5.2	5.5	5.6	5.6
Oman.....	11.7	12.8	13.5	14.7	15.5	16.0	17.0	17.1	15.1	15.6
Qatar.....	7.4	7.3	7.9	7.5	7.8	8.5	9.3	9.4	9.4	9.8
Saudi Arabia.....	104.7	113.5	116.6	115.9	116.5	117.0	118.6	120.9	119.5	121.0
Syria.....	23.9	25.6	28.3	30.0	32.0	34.3	36.0	35.9	35.4	35.4
United Arab Emirates.....	33.7	33.7	34.6	34.1	34.9	37.3	41.0	41.4	39.3	43.1
Yemen.....	10.3	10.3	10.8	10.5	10.1	10.9	11.2	12.1	12.8	13.3
Africa										
Algeria.....	59.9	60.7	61.7	60.3	59.8	62.1	64.6	68.1	71.6	74.0
Angola.....	10.3	10.3	9.8	7.5	7.6	8.4	9.4	10.1	--	--
Benin.....	1.8	1.8	1.9	2.0	2.1	2.2	--	--	--	--
Botswana.....	3.3	3.8	4.1	4.1	4.2	4.4	4.7	5.0	5.3	5.5
Burkina Faso.....	2.9	3.2	3.3	3.3	3.3	3.4	3.6	3.8	4.0	4.1
Burundi.....	1.1	1.2	1.2	1.1	1.1	1.0	0.9	0.9	1.0	--
Cameroon.....	12.2	11.8	11.4	11.1	10.8	11.1	11.7	12.6	13.2	13.8
Cape Verde.....	--	--	--	--	--	--	--	--	--	--
Central African Republic.....	--	1.4	1.3	1.3	1.7	2.0	1.9	2.1	2.3	--
Chad.....	--	--	1.3	1.1	1.7	1.9	2.1	--	--	--
Comoros.....	--	--	--	--	--	--	--	--	--	--
Congo (Brazzaville).....	--	--	3.7	3.6	3.4	3.5	--	--	--	--
Congo (Kinshasa).....	9.3	8.2	7.3	6.4	6.1	6.2	6.1	5.8	--	--
Cote d'Ivoire (Ivory Coast).....	10.8	10.8	10.8	10.8	11.0	11.8	12.7	13.7	14.5	14.7
Djibouti.....	--	--	--	--	--	--	--	--	--	--
Egypt.....	62.0	62.7	65.4	67.3	70.0	75.0	76.6	81.2	85.7	90.7
Equatorial Guinea.....	--	--	--	--	--	--	--	--	--	--
Eritrea.....	--	--	--	--	--	--	--	--	--	--
Ethiopia.....	8.1	7.6	7.0	7.8	7.9	8.4	9.3	9.8	9.8	9.9
Gabon.....	5.5	5.8	5.6	5.9	5.0	5.2	5.3	5.4	5.5	5.6
Gambia, The.....	0.3	0.3	0.3	0.3	0.3	0.3	--	--	--	--
Ghana.....	6.2	6.2	6.4	6.4	6.6	6.9	7.0	7.9	8.3	8.6
Guinea.....	--	--	--	--	--	--	--	--	--	--
Guinea-Bissau.....	0.2	0.2	0.2	0.3	--	--	--	--	--	--
Kenya.....	8.5	8.7	8.6	8.6	8.8	9.2	9.6	9.9	10.1	10.2
Lesotho.....	0.6	0.6	0.7	0.7	0.8	0.8	1.0	1.0	1.0	1.0
Liberia.....	--	--	--	--	--	--	--	--	--	--
Libya.....	28.6	28.1	24.8	19.9	17.6	17.3	18.1	17.8	17.5	17.8
Madagascar.....	3.1	2.9	2.9	3.0	3.0	3.0	3.1	3.2	3.3	3.5
Malawi.....	1.9	2.0	1.8	2.0	1.8	2.0	2.2	2.3	2.4	2.5
Mali.....	2.4	2.4	--	--	--	--	--	--	--	--
Mauritania.....	--	--	--	--	--	--	--	--	--	--
Mauritius.....	2.6	2.8	2.9	3.1	3.2	3.4	3.5	3.7	4.0	4.1
Morocco.....	26.0	27.6	26.5	26.2	29.0	27.0	30.3	29.6	31.1	31.4
Mozambique.....	1.4	1.5	1.4	1.7	1.8	--	--	--	--	--
Namibia.....	2.3	2.6	2.8	2.8	2.9	3.1	3.2	3.2	3.3	3.4
Niger.....	--	2.5	2.5	2.5	2.4	2.5	2.5	2.5	2.8	--
Nigeria.....	32.4	34.0	35.0	35.8	35.5	36.4	38.7	40.2	41.1	42.3
Reunion.....	--	--	--	--	--	--	--	--	--	--
Rwanda.....	2.6	2.6	2.6	2.2	1.1	1.5	1.7	1.9	2.1	2.3
Sao Tome and Principe.....	--	--	--	--	--	--	--	--	--	--
Senegal.....	--	--	--	5.4	5.6	5.9	6.2	6.5	6.9	--
Seychelles.....	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	--
Sierra Leone.....	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4
Somalia.....	--	--	--	--	--	--	--	--	--	--
South Africa.....	112.1	110.9	108.5	109.9	113.5	117.0	121.8	124.9	125.7	127.3
Sudan.....	--	--	--	--	--	--	--	--	--	--
Swaziland.....	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1

Table B2 World Gross Domestic Product at Market Exchange Rates, 1990 - 1999 (Continued)
(Billions of 1990 U.S. Dollars)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Tanzania.....	3.9	4.4	4.5	4.5	4.5	4.7	4.9	5.1	4.9	5.1
Togo.....	1.4	--	--	--	--	--	--	--	--	--
Tunisia.....	12.3	12.8	13.8	14.1	14.6	14.9	15.9	16.8	17.7	18.7
Uganda.....	3.5	3.9	4.1	4.4	4.9	5.4	5.7	6.0	6.3	6.7
Western Sahara.....	--	--	--	--	--	--	--	--	--	--
Zambia.....	3.3	3.2	3.2	3.4	3.3	3.2	3.5	3.6	3.5	3.6
Zimbabwe.....	8.7	9.2	8.4	8.5	9.1	9.1	9.8	10.0	10.1	10.3
Far East & Oceania										
Afghanistan.....	--	--	--	--	--	--	--	--	--	--
Australia.....	308.1	304.7	312.0	323.8	340.6	353.7	369.1	384.2	402.8	420.7
Bangladesh.....	21.3	22.1	23.0	24.0	25.0	26.2	27.6	29.2	30.8	32.4
Bhutan.....	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	--
Brunei.....	--	--	--	--	--	--	--	--	--	--
Burma.....	24.0	23.8	26.1	27.7	29.8	31.8	33.9	35.5	37.5	39.6
Cambodia.....	--	--	--	--	--	--	--	--	--	--
China.....	388.8	424.3	483.9	547.4	616.5	675.3	737.5	800.2	862.6	923.8
Fiji.....	1.2	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.3	--
French Polynesia.....	--	--	--	--	--	--	--	--	--	--
Guam.....	--	--	--	--	--	--	--	--	--	--
Hong Kong.....	74.8	78.6	83.4	88.6	93.5	97.0	101.4	106.4	101.0	104.0
India.....	298.3	299.6	315.9	331.1	356.2	384.9	413.2	433.8	453.7	481.4
Indonesia.....	115.9	124.0	132.0	140.5	151.1	163.5	176.3	185.0	160.3	160.6
Japan.....	2,967.1	3,080.3	3,112.1	3,121.1	3,143.2	3,186.7	3,353.8	3,406.3	3,319.3	3,328.3
Korea, North.....	--	--	--	--	--	--	--	--	--	--
Korea, South.....	253.7	277.1	292.1	308.2	333.6	363.4	387.9	407.3	383.6	424.4
Laos.....	0.9	0.9	1.0	1.0	1.1	1.2	1.3	1.3	1.4	--
Macau.....	--	--	--	--	--	--	--	--	--	--
Malaysia.....	42.8	46.9	51.0	56.1	61.2	67.3	76.1	81.7	75.7	80.0
Maldives.....	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Mongolia.....	1.9	1.7	1.5	1.5	1.5	1.6	1.6	1.7	1.8	--
Nepal.....	3.5	3.7	3.9	4.1	4.4	4.5	4.8	4.9	5.1	5.4
New Caledonia.....	--	--	--	--	--	--	--	--	--	--
New Zealand.....	43.1	42.6	43.1	45.8	48.3	50.1	51.4	52.4	51.0	53.8
Pakistan.....	39.4	41.6	44.8	45.7	47.5	49.9	52.0	53.7	56.3	58.1
Papua New Guinea.....	2.9	3.2	3.7	4.2	--	--	--	--	--	--
Philippines.....	44.3	44.1	44.2	45.2	47.2	49.4	52.2	54.9	54.6	56.4
Singapore.....	36.8	39.5	41.9	46.2	51.4	55.7	61.0	65.8	66.8	70.1
Sri Lanka.....	8.0	8.4	8.8	9.4	9.9	10.4	10.8	11.5	12.1	12.6
Taiwan.....	160.1	172.2	183.9	195.5	208.2	220.8	233.3	249.1	261.1	274.9
Thailand.....	85.6	92.6	100.1	108.5	118.2	128.7	136.4	134.1	120.5	125.5
Tonga.....	0.1	0.1	0.1	0.1	0.1	--	--	--	--	--
Vanuatu.....	0.2	0.2	0.2	0.2	0.2	0.2	--	--	--	--
Vietnam.....	--	--	--	--	--	--	13.7	14.9	15.8	16.4

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 1997-1998, and Energy Balances of Non-OECD Countries 1997-1998. The World Bank, World Tables 1995. WEFA Group, Eurasia Economic Outlook, Third Quarter 2000; Middle East and Africa Economic Outlook, Third Quarter 2000; World Economic Outlook, Third Quarter 2000; Latin America Economic Outlook, Third Quarter 2000; Asia Economic Outlook, Third Quarter 2000; and World Economic Service 1980-1999 Historical Data, May 2000. Plan Econ, Review and Outlook for Eastern Europe, July 2000.

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	1.10231136 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, 1990 - 1999

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
North America										
Canada.....	7.186	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.....	7.120	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.....	7.056	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.....	7.080	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.....	6.890	6.890	6.890	6.890	6.890	6.890	6.890	6.890	6.890	6.890
Western Europe										
Austria.....	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200
Denmark.....	7.405	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	7.330
Germany, East.....	7.340	--	--	--	--	--	--	--	--	--
Germany, West.....	7.247	--	--	--	--	--	--	--	--	--
Greece.....	7.231	7.231	7.231	7.231	7.231	7.231	7.231	7.231	7.231	7.231
Italy.....	7.300	7.300	7.300	7.300	7.300	7.300	7.300	7.300	7.300	7.300
Netherlands.....	7.239	7.239	7.239	7.239	7.239	7.239	7.239	7.239	7.239	7.239
Norway.....	7.644	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.....	6.623	6.623	6.623	6.623	6.623	6.623	6.623	6.623	6.623	6.623
Turkey.....	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200
United Kingdom.....	7.523	7.523	7.523	7.523	7.523	7.523	7.523	7.523	7.523	7.523
Former Yugoslavia.....	7.418	7.418	--	--	--	--	--	--	--	--
Croatia.....	--	--	7.418	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	7.418
Slovenia.....	--	--	--	7.418	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	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	6.780	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	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	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	7.270	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	7.270
Georgia.....	--	--	7.270	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	7.270
Kazakhstan.....	--	--	7.270	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	7.270
Russia.....	--	--	7.270	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	7.270
Turkmenistan.....	--	--	7.270	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	7.270
Uzbekistan.....	--	--	7.270	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, 1990 - 1999 (Continued)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Middle East										
Bahrain.....	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320
Iran.....	7.350	7.350	7.350	7.350	7.350	7.350	7.350	7.350	7.350	7.350
Iraq.....	7.430	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.....	7.250	7.250	7.250	7.250	7.250	7.250	7.250	7.250	7.250	7.250
Oman.....	7.330	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.....	7.323	7.323	7.323	7.323	7.323	7.323	7.323	7.323	7.323	7.323
Syria.....	7.290	7.290	7.290	7.290	7.290	7.290	7.290	7.290	7.290	7.290
United Arab Emirates.....	7.596	7.596	7.596	7.596	7.596	7.596	7.596	7.596	7.596	7.596
Yemen.....	7.631	7.631	7.631	7.631	7.631	7.631	7.631	7.631	7.631	7.631
Africa										
Algeria.....	8.130	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	7.410	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	7.260	7.260	7.260
Equatorial Guinea.....	--	8.077	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	7.285
Libya.....	7.580	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	7.500	7.500	7.500
South Africa.....	--	--	--	--	--	--	--	--	7.720	7.720
Sudan.....	--	--	7.452	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.....	7.868	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	7.300	7.300	7.300
India.....	7.440	7.440	7.440	7.440	7.440	7.440	7.440	7.330	7.330	7.330
Indonesia.....	7.360	7.360	7.360	7.360	7.360	7.360	7.360	7.360	7.360	7.360
Japan.....	7.357	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.....	7.321	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	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, 1990 - 1999
(Thousand Btu per Barrel)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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	5,926
Germany, East.....	5,874	--	--	--	--	--	--	--	--	--
Germany, West.....	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	--	--	--	--	--	--	--	--
Croatia.....	--	--	5,823	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	5,823
Slovenia.....	--	--	--	5,823	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	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	6,211	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	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	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	5,880	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	5,880
Georgia.....	--	--	5,880	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	5,880
Kyrgyzstan.....	--	--	5,880	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	5,880
Russia.....	--	--	5,880	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	5,880
Turkmenistan.....	--	--	5,880	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	5,880
Uzbekistan.....	--	--	5,880	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, 1990 - 1999 (Continued)
(Thousand Btu per Barrel)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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.....	5,725	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	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	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	5,657
Sudan.....	--	--	5,084	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	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, 1990 - 1999
(Thousand Btu per Barrel)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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.....	3,822	3,807	3,804	3,801	3,794	3,796	3,777	3,762	3,769	3,744
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	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	--	--	--	--	--	--	--	--
Croatia.....	--	--	4,349	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	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	4,645	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	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	4,150	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	4,150
Kyrgyzstan.....	--	--	4,150	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	4,150
Tajikistan.....	--	--	4,150	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	4,150
Ukraine.....	--	--	4,150	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	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, 1990 - 1999 (Continued)
(Thousand Btu per Barrel)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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	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, 1990 - 1999
(Btu per Cubic Foot)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
North America										
Canada.....	1,014	1,015	1,017	1,017	1,035	1,021	1,021	1,023	1,026	1,023
Mexico.....	1,111	1,116	1,110	1,110	1,111	1,111	1,135	1,068	1,062	1,044
United States.....	1,031	1,030	1,030	1,027	1,028	1,027	1,027	1,026	1,031	1,027
Central & South America										
Argentina.....	1,026	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045
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.....	1,175	1,175	1,174	1,040	1,040	1,040	1,040	1,040	1,040	1,040
Chile.....	1,000	1,000	1,000	1,000	1,000	1,000	1,050	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	1,060	1,060	1,063	1,063	1,063	1,063	1,063	1,063	1,063
Belgium.....	1,006	1,142	989	1,194	1,154	--	1,065	--	--	--
Denmark.....	1,089	1,092	1,091	1,093	1,099	1,098	1,098	1,105	1,116	1,117
France.....	1,099	1,101	1,102	1,052	1,052	1,040	1,032	1,027	1,014	1,014
Germany.....	--	893	893	895	895	895	895	895	895	895
Germany, East.....	390	--	--	--	--	--	--	--	--	--
Germany, West.....	888	--	--	--	--	--	--	--	--	--
Greece.....	1,402	1,469	1,444	1,433	1,563	1,535	1,521	1,522	1,524	1,570
Ireland.....	1,009	1,010	1,010	1,009	1,009	1,011	1,011	1,008	1,008	1,008
Italy.....	1,013	1,013	1,013	1,001	1,001	1,001	1,020	1,023	1,023	1,023
Netherlands.....	894	894	894	894	894	894	894	894	894	894
Norway.....	1,091	1,088	1,093	1,099	1,113	1,121	1,111	1,106	1,086	1,080
Spain.....	1,140	1,140	1,140	1,157	1,156	1,141	1,141	1,142	1,140	1,142
Switzerland.....	939	1,074	984	1,207	1,074	--	--	--	--	--
Turkey.....	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,029	1,028	1,028
United Kingdom.....	1,029	1,002	1,040	1,038	1,043	1,053	1,053	1,053	1,061	1,060
Former Yugoslavia.....	1,061	1,061	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	992	--	--	992	--	--	--	--
Croatia.....	--	--	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Serbia and Montenegro.....	--	--	1,061	1,061	1,061	1,061	1,061	1,061	1,061	1,061
Slovenia.....	--	--	959	959	959	959	960	960	960	960

See footnotes at end of table.

Table C5 Gross Heat Content of Dry Natural Gas, 1990 - 1999 (Continued)
(Btu per Cubic Foot)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Eastern Europe & Former U.S.S.R.										
Albania.....	1,047	1,044	1,044	1,044	1,044	1,044	1,044	1,044	1,044	1,044
Bulgaria.....	943	990	990	990	990	990	990	990	990	990
Former Czechoslovakia.....	1,006	974	974	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	987	954	973	963	944	927	942
Slovakia.....	--	--	--	971	971	971	971	971	971	971
Hungary.....	975	965	948	962	966	968	963	960	955	963
Poland.....	725	758	760	791	791	781	782	784	792	779
Romania.....	1,070	1,009	1,009	999	999	999	999	999	999	999
Former U.S.S.R.....	1,026	1,012	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	1,012	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	1,037
Georgia.....	--	--	1,047	--	--	--	--	--	1,047	1,047
Kazakhstan.....	--	--	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Kyrgyzstan.....	--	--	1,033	1,035	1,035	1,035	1,035	1,035	1,035	1,035
Russia.....	--	--	1,008	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	1,018
Turkmenistan.....	--	--	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Ukraine.....	--	--	1,033	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	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.....	1,056	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	1,127	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
Cote d'Ivoire (Ivory Coast).....	--	--	--	--	--	1,047	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
Equatorial Guinea.....	--	--	--	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
Mozambique.....	--	--	--	--	--	--	--	--	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	899
South Africa.....	--	--	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Tunisia.....	1,236	1,236	1,236	1,174	1,174	1,174	1,174	1,174	1,174	1,174

See footnotes at end of table.

Table C5 Gross Heat Content of Dry Natural Gas, 1990 - 1999 (Continued)
(Btu per Cubic Foot)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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.....	1,045	1,044	1,063	1,065	1,063	1,067	1,062	1,067	1,068	1,064
Bangladesh.....	941	941	941	989	989	989	989	989	989	989
Brunei.....	1,214	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154
Burma.....	1,047	1,014	1,014	1,054	1,054	1,054	1,054	1,054	1,054	1,054
China.....	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,163	1,163
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	1,090	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
Malaysia.....	1,043	1,043	1,043	1,053	1,053	1,053	1,053	1,053	1,053	1,053
New Zealand.....	1,009	996	1,001	1,007	1,013	1,017	1,032	1,041	1,047	1,038
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	1,047
Philippines.....	--	--	--	--	--	977	977	977	977	977
Taiwan.....	1,047	1,000	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	977	977	977	977
Vietnam.....	1,026	1,026	1,026	1,036	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, 1990 - 1999
(Thousand Btu per Short Ton)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
North America										
Canada.....	22,543	22,670	22,414	22,485	22,747	22,957	22,957	24,042	23,933	23,874
Mexico.....	19,352	19,352	19,352	19,352	15,644	15,958	16,321	17,492	17,012	17,012
United States.....	21,822	21,681	21,682	21,418	21,394	21,326	21,322	21,296	21,224	21,224
Central & South America										
Argentina.....	19,438	19,438	22,300	22,300	22,300	22,300	22,300	22,300	22,300	22,300
Brazil.....	17,459	17,459	16,000	16,000	16,000	14,746	14,746	14,287	14,287	14,287
Chile.....	24,845	24,845	24,847	24,847	24,847	24,442	24,442	25,664	25,664	25,664
Colombia.....	23,405	23,405	23,405	23,405	21,296	21,296	21,296	24,568	24,568	24,568
Peru.....	19,435	19,435	19,435	19,435	19,435	19,435	19,435	26,458	26,458	26,458
Venezuela.....	24,403	24,403	23,917	23,917	23,917	23,917	23,917	27,592	27,592	27,592
Western Europe										
Austria.....	10,493	10,493	9,372	9,373	9,370	9,370	9,370	9,839	9,929	9,929
Belgium.....	17,229	17,054	17,054	17,054	15,184	17,257	15,997	19,428	22,417	22,417
France.....	22,060	22,331	22,535	22,273	22,109	22,714	23,163	22,897	23,071	23,263
Germany.....	--	10,205	10,544	10,690	10,992	11,006	10,532	11,208	11,096	11,085
Germany, East.....	7,640	--	--	--	--	--	--	--	--	--
Germany, West.....	13,230	--	--	--	--	--	--	--	--	--
Greece.....	5,444	5,444	4,479	4,940	4,705	4,686	4,330	4,951	5,046	5,046
Ireland.....	24,768	24,768	23,414	23,604	22,469	22,469	22,469	24,564	25,131	--
Italy.....	9,774	9,297	10,819	9,216	8,608	8,348	4,172	4,381	4,381	4,381
Norway.....	24,172	24,172	24,168	24,168	24,161	24,161	24,161	25,369	25,369	25,369
Portugal.....	12,477	12,477	12,477	12,477	12,477	--	--	--	--	--
Spain.....	13,482	13,423	13,429	13,393	13,704	11,539	11,640	12,181	11,651	11,747
Sweden.....	20,642	20,642	23,404	23,404	23,404	--	--	--	--	--
Turkey.....	8,563	8,556	8,557	8,747	7,848	7,658	7,620	8,102	7,704	7,704
United Kingdom.....	22,687	22,687	20,860	20,849	20,828	21,728	21,645	22,984	23,411	23,411
Former Yugoslavia.....	10,564	10,425	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	7,958	7,958	7,958	7,646	7,646	8,013	8,013	8,013
Croatia.....	--	--	--	27,664	28,085	22,675	23,522	22,678	22,678	22,678
Macedonia, TFYR.....	--	--	7,936	7,936	7,936	7,936	7,936	8,013	8,013	8,013
Serbia and Montenegro.....	--	--	7,989	7,981	7,984	5,275	8,452	8,043	8,045	8,033
Slovenia.....	--	--	9,995	9,923	9,679	11,054	10,846	10,115	10,194	9,713
Eastern Europe & Former U.S.S.R.										
Albania.....	8,463	8,463	8,463	8,463	8,463	8,463	8,463	8,886	8,886	8,886
Bulgaria.....	8,486	8,514	8,086	8,214	8,073	7,755	8,093	8,185	8,182	8,189
Former Czechoslovakia.....	20,663	20,662	20,783	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	11,666	11,722	11,737	12,270	11,520	11,525	11,525
Slovakia.....	--	--	--	10,712	10,712	10,540	10,540	11,067	11,067	11,067
Hungary.....	8,854	8,844	8,877	7,816	7,808	7,528	7,604	7,998	7,855	7,822
Poland.....	15,747	15,506	16,111	16,036	16,166	15,462	15,833	16,526	16,047	16,042
Romania.....	7,868	7,882	6,737	6,901	6,944	6,882	7,137	6,964	7,102	7,653
Former U.S.S.R.....	15,507	15,180	--	--	--	--	--	--	--	--
Georgia.....	--	--	16,840	16,840	16,840	15,976	15,976	13,229	13,229	13,229
Kazakhstan.....	--	--	16,561	16,663	12,602	12,603	13,888	13,229	13,229	13,229
Kyrgyzstan.....	--	--	12,451	11,977	12,361	12,523	13,888	13,229	13,229	13,229
Moldova.....	--	--	16,840	16,840	16,840	16,840	13,888	13,229	13,229	13,229
Russia.....	--	--	15,670	15,686	15,719	15,794	16,393	15,624	15,574	15,505
Tajikistan.....	--	--	15,976	15,976	15,976	15,976	15,976	16,774	16,774	16,774
Ukraine.....	--	--	17,489	17,517	17,556	20,856	20,320	19,372	19,371	19,381
Uzbekistan.....	--	--	12,729	12,741	12,725	12,728	12,687	13,300	13,300	13,300

See footnotes at end of table.

Table C6 Gross Heat Content of Coal, 1990 - 1999 (Continued)
(Thousand Btu per Short Ton)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Middle East										
Iran.....	26,232	26,232	26,232	26,232	26,232	25,200	24,403	23,245	23,245	23,245
Africa										
Algeria.....	24,403	24,403	24,403	24,403	24,403	25,200	25,200	23,245	23,245	23,245
Botswana.....	22,000	22,000	22,000	22,000	22,000	25,200	24,403	23,245	23,245	23,245
Cameroon.....	18,000	18,000	18,000	18,000	18,000	18,000	18,000	23,245	23,245	23,245
Congo (Kinshasa).....	23,927	23,927	23,927	23,927	23,927	25,200	24,403	22,776	22,776	22,776
Egypt.....	--	--	--	--	--	--	24,403	23,245	23,245	23,245
Malawi.....	22,000	21,500	21,500	21,500	21,500	25,200	24,403	24,403	24,403	24,403
Morocco.....	30,103	30,103	30,103	30,103	30,103	25,200	22,221	21,166	21,166	21,166
Mozambique.....	24,403	24,403	24,403	24,403	24,403	25,200	24,403	22,565	22,565	22,565
Niger.....	25,200	25,200	25,200	25,200	25,200	25,200	24,403	23,245	23,245	23,245
Nigeria.....	24,403	24,403	24,403	24,403	24,403	25,200	24,403	23,245	23,245	23,245
South Africa.....	20,438	20,401	20,473	20,464	20,444	20,424	20,414	21,302	21,302	21,302
Swaziland.....	23,386	23,386	23,386	23,386	23,386	23,387	24,403	23,245	23,245	23,245
Tanzania.....	24,403	24,403	24,403	24,403	24,403	25,200	23,245	23,245	23,245	23,245
Zambia.....	23,411	23,411	24,244	25,308	25,308	21,246	23,415	22,304	22,304	22,304
Zimbabwe.....	24,403	24,403	24,403	24,403	24,403	24,403	24,403	24,371	24,371	24,371
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.....	17,574	17,498	17,540	17,782	18,374	18,485	18,386	19,543	19,266	19,326
Bhutan.....	17,500	17,500	17,500	18,500	18,500	25,200	24,403	23,245	23,245	23,245
Burma.....	15,334	15,840	15,606	15,537	15,924	18,691	18,033	16,843	18,539	18,471
China.....	18,101	18,109	18,100	17,973	17,978	17,103	17,103	18,409	18,389	18,389
India.....	16,762	16,727	17,050	17,042	16,907	19,855	18,177	17,680	17,674	17,680
Indonesia.....	24,403	24,403	24,403	24,403	24,402	25,199	24,403	23,245	23,245	23,245
Japan.....	21,095	21,100	21,102	21,102	19,834	19,834	19,834	20,826	20,826	20,826
Korea, North.....	11,346	11,063	10,912	10,550	10,738	10,767	10,808	10,963	11,453	12,450
Korea, South.....	16,203	16,203	16,200	16,200	16,200	16,199	16,199	17,009	17,009	17,009
Laos.....	22,500	22,500	22,500	22,500	22,500	25,200	24,403	24,403	24,403	24,403
Malaysia.....	24,403	24,403	24,403	24,403	24,403	25,200	27,776	26,458	26,458	26,458
Mongolia.....	10,206	10,206	9,237	9,237	9,238	9,720	9,305	8,862	8,865	8,864
Nepal.....	8,000	8,000	8,000	8,000	8,000	8,000	7,936	7,559	7,559	7,559
New Zealand.....	22,554	22,551	22,558	22,556	21,459	20,548	20,703	19,580	19,957	19,667
Pakistan.....	19,443	19,443	19,443	19,443	19,443	19,124	17,753	16,910	16,910	16,910
Philippines.....	20,204	20,204	20,206	20,206	20,205	17,003	19,016	18,113	18,116	18,117
Taiwan.....	24,602	24,602	23,500	22,324	22,324	25,200	24,403	23,434	23,434	23,434
Thailand.....	9,912	9,911	9,415	9,418	9,412	15,843	11,510	10,962	10,962	10,961
Vietnam.....	24,403	24,403	24,403	29,308	29,308	25,200	19,816	21,166	21,166	21,166

--= 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 Hydroelectric Power, 1990 - 1999
(Btu per Kilowatthour)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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.....	10,402	10,436	10,342	10,309	10,316	10,312	10,340	10,357	10,346	10,346
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	10,400
Germany, East.....	10,400	--	--	--	--	--	--	--	--	--
Germany, West.....	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	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	10,400	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	10,400
Macedonia, TFYR.....	--	--	10,400	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	10,400
Slovenia.....	--	--	10,400	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 Hydroelectric Power, 1990 - 1999 (Continued)
(Btu per Kilowatthour)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	10,400	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	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	--	--	--	--	--	--	--	--
Armenia.....	--	--	10,400	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	10,400
Georgia.....	--	--	10,400	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	10,400
Kyrgyzstan.....	--	--	10,400	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	10,400
Lithuania.....	--	--	10,400	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	10,400
Russia.....	--	--	10,400	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	10,400
Ukraine.....	--	--	10,400	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	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
Guinea.....	10,424	10,424	10,424	10,424	10,424	10,424	10,424	10,424	10,424	10,424
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
Mozambique.....	10,339	10,339	10,339	10,339	10,339	10,339	10,339	10,339	10,339	10,339
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
Swaziland.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
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 Hydroelectric Power, 1990 - 1999 (Continued)
(Btu per Kilowatthour)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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, 1990 - 1999
(Btu per Kilowatthour)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
North America										
Canada.....	11,478	11,478	11,440	11,376	11,376	11,356	11,356	11,356	11,292	11,292
Mexico.....	10,295	10,065	10,065	10,065	10,065	10,065	10,065	10,065	10,065	10,065
United States.....	10,680	10,740	10,678	10,682	10,676	10,658	10,623	10,623	10,623	10,623
Central & South America										
Argentina.....	11,809	11,809	11,809	11,809	11,809	11,705	11,705	11,705	11,705	11,705
Brazil.....	10,258	10,246	10,246	10,246	10,246	10,216	10,216	10,216	10,216	10,216
Western Europe										
Belgium.....	10,378	10,373	10,373	10,373	10,373	10,354	10,354	10,354	10,354	10,354
Finland.....	10,365	10,278	10,278	10,278	10,278	10,208	10,208	10,208	10,208	10,208
France.....	10,413	10,405	10,399	10,396	10,355	10,355	10,349	10,349	10,349	10,349
Germany.....	--	10,205	10,205	10,205	10,205	10,061	10,061	10,061	10,061	10,061
Germany, East.....	11,278	--	--	--	--	--	--	--	--	--
Germany, West.....	10,437	--	--	--	--	--	--	--	--	--
Netherlands.....	10,548	10,485	10,485	10,485	10,485	10,485	10,485	9,721	9,721	9,721
Spain.....	10,151	10,151	10,151	10,151	10,151	10,151	10,151	10,151	10,151	10,151
Sweden.....	10,001	10,090	10,090	10,090	10,090	10,079	10,079	10,079	10,079	10,079
Switzerland.....	10,632	10,540	10,540	10,540	10,540	10,273	10,273	10,273	10,273	10,273
United Kingdom.....	11,892	12,461	12,461	12,424	12,552	12,446	12,446	12,446	12,446	12,446
Former Yugoslavia.....	11,373	10,035	--	--	--	--	--	--	--	--
Slovenia.....	--	--	10,035	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	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	12,099	12,099	11,373	11,373	11,373	11,373	11,373
Slovakia.....	--	--	--	12,318	12,318	11,818	11,818	11,818	11,875	11,875
Hungary.....	11,373	10,065	10,065	10,065	10,065	10,065	10,065	10,065	10,065	10,065
Romania.....	--	--	--	--	--	--	11,930	11,930	11,930	11,930
Former U.S.S.R.....	11,463	11,469	--	--	--	--	--	--	--	--
Armenia.....	--	--	--	--	--	--	11,725	11,725	11,725	11,725
Kazakhstan.....	--	--	11,373	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	10,663
Russia.....	--	--	11,038	11,030	11,030	11,030	11,030	11,030	11,030	11,030
Ukraine.....	--	--	10,911	10,911	10,911	10,903	10,903	10,920	10,920	10,920
Africa										
South Africa.....	10,308	10,035	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	10,159
India.....	11,671	11,844	11,906	11,957	11,957	11,998	11,998	11,998	11,998	11,998
Japan.....	10,273	10,250	10,250	10,234	10,226	10,236	10,223	10,217	10,217	10,217
Korea, South.....	10,088	10,088	10,088	10,088	10,035	10,035	9,991	9,955	9,975	9,975
Pakistan.....	10,797	10,797	10,797	10,797	10,797	10,797	10,797	10,797	10,797	10,797
Taiwan.....	10,227	9,876	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, 1990 - 1999
(Btu per Kilowatthour)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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	20,997	20,914	20,914	20,914	20,914	20,960	20,960	21,017	21,017
Central & South America										
Costa Rica.....	--	--	--	--	21,020	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	--	--	--	--	--	--	--	--	--
Former U.S.S.R.....	21,020	21,020	--	--	--	--	--	--	--	--
Russia.....	--	--	21,020	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	--	--	--
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
Thailand.....	--	--	--	--	--	--	--	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 Solar, Wind, and Wood and Waste Electric Power, 1990 - 1999
(Btu per Kilowatthour)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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
United States.....	10,402	10,436	10,342	10,309	10,316	10,312	10,340	10,357	10,346	10,346
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
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
Croatia.....	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Denmark.....	10,345	10,345	10,345	10,345	10,345	10,345	10,345	10,345	10,345	10,345
Faroe Islands.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Finland.....	--	--	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	10,400
Germany, West.....	10,400	--	--	--	--	--	--	--	--	--
Greece.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Ireland.....	--	--	10,398	10,400	10,400	10,400	10,400	10,400	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
Turkey.....	--	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.										
Bulgaria.....	--	--	--	--	--	--	--	--	--	10,400
Czech Republic.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Estonia.....	--	--	--	--	--	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

See footnotes at end of table.

Table C10 Gross Heat Content of Solar, Wind, and Wood and Waste Electric Power, 1990 - 1999 (Continued)
(Btu per Kilowatthour)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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	10,401
New Zealand.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Thailand.....	--	--	--	--	--	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 solar, wind, and wood and waste. Therefore, estimates of the prevailing annual average heat content for fossil-fueled, steam-electric power plants are used to evaluate the heat content for solar, wind, and wood and waste power.

Sources: See sources at the end of Section 6.

Appendix D

Oil and Gas Market Chronology: 1999

Oil and Gas Market Chronology: 1999

The following chronology lists international events of potential significance for world oil and natural gas markets in 1999. Sources include: *Dow Jones (DJ)*, *The Asian Wall Street Journal (Asian WSJ)*, *The Los Angeles Times (LAT)*, *The New York Times (NYT)*, *USA Today (USA)*, *The Washington Post (WP)*, *The Wall Street Journal (WSJ)*, and *The Washington Times (WT)*.

(Note: For monthly chronologies for 1996-2000 and annual highlights for 1970-2000, see the Chronologies section of our International (Energy) Web Page at (<http://www.eia.doe.gov/emeu/international/chronolo.html>).

- Jan. 1** British Petroleum Company and Amoco Corporation complete their \$53 billion merger. Chicago-based Amoco is the United States' fifth-largest oil company with roughly 9,300 gasoline stations. London-based British Petroleum, the world's third largest oil company, sells its products through a network of about 17,900 stations. (DJ)
- Jan. 4** Iraq and Jordan renew an agreement that will provide Jordan with Iraqi crude oil and refined petroleum products. Jordan's 1998 imports of Iraqi crude oil and refined petroleum products, including fuel oil and diesel, were estimated to have averaged about 100,000 barrels per day. This figure is expected to increase by 5 to 7 percent in 1999. (DJ)
- Jan. 5** Azerbaijan's state oil company SOCAR reports that it just exceeded its oil production target for 1998, while registering a shortfall in planned natural gas output. According to SOCAR, oil output in 1998 was about 180,000 barrels per day. Gas output reached nearly 198 billion cubic feet, 21 billion cubic feet below the planned figure. (DJ)
- Jan. 6** Turkmenistan and Ukraine sign an agreement in Moscow that will allow the transit of about 705 billion cubic feet of Turkmen gas to Ukraine in 1999. (DJ)
- Jan. 7** Several of Kuwait's opposition legislators demand that any future oil contracts with foreign companies conform to the country's constitution. The legislators are not opposed to the recent proposals to allow foreign investment in the operational aspect of Kuwait's upstream oil sector, but they want to make sure there is no violation of Kuwait's constitution, which bans the foreign ownership of national resources. (DJ)
- Jan. 8** A new pipeline carrying crude oil from Azerbaijan's Caspian Sea fields across Georgia to the Black Sea port of Supsa begins operations. The new pipeline is expected to carry 50,000 barrels per day of oil in 1999 and marks another key development for the Caspian fields, which hold large reserves but have lacked an adequate pipeline system for exports. (DJ)
- Jan. 9** Russia's Khabarovsk regional administration grants Exxon Neftegaz Limited the rights to construct a natural gas pipeline from the Sakhalin region in Siberia through Khabarovsk and on to China, according to Russia's Itar-Tass news agency. (DJ)
- Jan. 11** Iraq rejects a proposal by Saudi Arabia to ease United Nations trade sanctions imposed on Iraq for its 1990 invasion of Kuwait. The initiative would recommend that Iraq be allowed to buy and sell all goods, except military equipment or materials that could be used for military purposes. (DJ)
- Jan. 11** The Organization of Petroleum Exporting Countries (OPEC) releases figures showing that the December 1998 average price for the reference basket of seven crude oils used by OPEC as a gauge of world oil prices was the second lowest since July 1986. The December average was \$9.69 per barrel, down from \$11.19 per barrel in November 1998, and just a few cents above the July 1986 record low of \$9.04 per barrel. (DJ)
- Jan. 13** As many oil-producing countries try to cut excess global production, Iraq announces plans to raise its oil output to 3 million barrels per day from its current 2.5 million barrels per day, and then to 3.5 million barrels per day within two years. Faleh al-Khayat, the Iraqi Oil Ministry's Director-General of Planning, says that the increases are contingent upon receiving spare parts for the country's ailing oil industry, which has been under United Nations trade sanctions for more than eight years. (WT)

- Jan. 13** A British oil worker kidnapped by Yemeni tribesmen is released unharmed. John Brooke was kidnapped by armed men from the Daham tribe who were demanding the release of a tribe member arrested three months ago on a murder charge. Brooke was taken at an oilfield run by the American Halliburton oil company in the Marib province, 105 miles southeast of the Yemeni capital of Sanaa. (DJ)
- Jan. 14** Santa Fe Energy agrees to acquire Snyder Oil for about \$450 million in stock in a deal combining the two mid-size independent oil companies into what would be called Santa Fe Snyder Corporation. The new company will have one-third of its oil and natural gas reserves overseas and two-thirds in the United States. Oil will represent about 60 percent of the total reserves. (DJ)
- Jan. 15** The United States proposes allowing Iraq to sell unlimited amounts of oil - but only if the proceeds go to buy food and other humanitarian supplies for the Iraqi people. The United Nations Security Council barred Iraq from freely exporting oil, its most valuable commodity, after its invasion of Kuwait in 1990. Concerned that sanctions were creating devastating hardships for Iraq's 22 million people, the Council agreed in 1995 to let Iraq sell limited amounts of oil to pay for humanitarian supplies. (USA)
- Jan. 18** More than 300 oil company officials attend a presentation by Brazilian petroleum regulators discussing the first oil and natural gas exploration blocks to be opened to foreign investors. Brazil is in the process of opening up to 92 percent of its sedimentary basins to companies other than Petrobras, the country's state-owned oil company. Twenty-seven blocks will be part of the first round of competitive bidding, which is to occur in 1999. (DJ)
- Jan. 25** Jordan's King Hussein appoints his eldest son, Abdullah, as his future successor. Hussein, who is suffering from cancer, passed over his brother Hassan, who had been Crown Prince for more than three decades. Abdullah, 36, is a career army officer. (DJ)
- Jan. 25** Iranian President Mohammad Khatami approves a plan to restructure Iran's Oil Ministry. The plan focuses on decentralization of control by separating policy making from executive affairs, according to the official Islamic Republic News Agency. (DJ)
- Jan. 31** According to U.S. officials, over the month of January, a series of almost daily U.S. missile air strikes on Iraq's air defenses has had a "grave impact" on President Saddam Hussein's ability to challenge allied enforcement of the no-fly zones over northern and southern Iraq. (DJ)
- Feb. 1** In southern Nigeria, a clash between Nigerian youths demanding work at a Shell oil terminal and Nigerian soldiers trying to break up the protest results in approximately 19 casualties. Shell temporarily shuts down the oil terminal as a result. The terminal handles more than 40 percent of Nigeria's crude oil exports. Protests against Shell were first reported in the early 1990s. Nigerians have demanded employment in oil industry projects and development projects in their villages, and also compensation for use of their land, oil spills and other environmental damage. The number of protests has increased in recent years due to greater awareness of and discontent with the unequal distribution of wealth in the oil-based economy. (DJ)
- Feb. 2** Arco Oriente Inc., a unit of U.S. Atlantic Richfield Company (ARCO) in Ecuador, temporarily halts operations in the Pastaza province, after about 1,200 residents in the area seize the company's oil installation. After several hours, the residents are forced to leave the company's compound by the Ecuadorian Army. The residents seized the installation in an effort to disburse around \$4 million to finish construction of a road linking the cities of Puyo and Banos in Pastaza. The remote eastern jungle region contains about 200 million barrels of oil reserves. (DJ)
- Feb. 3** A senior Iraqi oil minister says Iraq boosted its oil exports via its pipeline through Turkey by 107 percent in 1998. The pipeline links northern Iraqi oil fields like Kirkuk with the Turkish terminal of Ceyhan on the Mediterranean. Under the U.N.-approved "oil-for-food" program, which allows Iraq to sell up to \$5.2 billion of oil every six months, Iraq must pump the largest portion of its exports through Turkey. (DJ)
- Feb. 4** Italy's ENI SpA and Russia's RAO Gazprom, the world's largest natural gas producer, agree to build a natural gas pipeline from Russia to Turkey at a cost of nearly \$3 billion. Each project partner will hold a 50 percent stake in the project. The proposed pipeline, called the Blue Stream project, is expensive by industry standards partly because it would run at great depth under the waters of the Black Sea. (Asian WSJ)
- Feb. 7** Jordan's King Hussein dies at the age of 63 from non-Hodgkins lymphoma. Hussein, who served as King of Jordan since May 2, 1953, had only a few days earlier appointed his eldest son, Abdullah, as his successor. Abdullah, 36, is a

career army officer. Although containing almost no oil or gas resources of its own, Jordan is important to world oil markets because of its strategic location bordering Iraq, Saudi Arabia, Israel and Syria. Jordan also is an important trading partner of Iraq. (DJ)

- Feb. 10** U.S. Energy Secretary Bill Richardson visits Saudi Arabia to discuss potential U.S. investment in the Kingdom's oil and gas sectors. Following his visit, Richardson says the Saudis are primarily interested in foreign investment in the natural gas sector and in the oil refining and marketing sectors, rather than in the upstream crude oil sector. Secretary Richardson's visit comes several months after a September 1998 meeting between several U.S. oil companies, Saudi Crown Prince Abdullah and Saudi Oil Minister Ali Naimi, in which Abdullah requested proposals from the companies on the development of Saudi oil reserves. (DJ) (USA) (WSJ)
- Feb. 11** Bangladesh and the United States sign three agreements aimed at helping Bangladesh reorganize its energy sector to avoid power shortages and to improve the extraction and sale of natural gas. The two sides will work together to assess Bangladesh's energy resources and to prepare a comprehensive energy policy. The United States and Bangladesh also will examine U.S. foreign investment options in Bangladesh's energy sector. (WP)
- Feb. 12** The U.S. government announces plans to purchase 28 million barrels of crude oil for placement in the federal Strategic Petroleum Reserve (SPR). The government announcement is aimed at helping small U.S. oil companies, which have been hurt due to the low oil price environment since late 1997. (DJ) (USA)
- Feb. 15** Turkmenistan awards a \$2.4 billion natural gas pipeline project to an American consortium including Amoco Corporation, and a new pipeline joint venture called PSG International, which is owned by affiliates of Bechtel Enterprises Inc. and General Electric Company's GE Capital Corporation. The consortium will construct a natural gas pipeline from fields in eastern Turkmenistan across the Caspian Sea through Azerbaijan and Georgia to the Erzurum in eastern Turkey. Issues the pipeline consortium will face include Turkmenistan's territorial dispute with Azerbaijan, and a determination by littoral states (those states touching the Caspian's shore) namely--Turkmenistan, Azerbaijan, Kazakhstan, Russia, and Iran-- on whether the Caspian Sea is a sea or a lake. The outcome of these issues will impact conflicting territorial claims, including the ownership of oil fields and fishing rights. (WSJ)
- Feb. 18** Iraq announces that its section of a joint oil pipeline with Syria is almost ready. The pipeline links Iraqi oil fields located near the northern city of Kirkuk to Syria's Mediterranean terminal at Banias. A spur off of the main pipeline leads to the Lebanese port at Tripoli. In August 1998, Iraq and Syria signed an agreement to reopen the pipeline, which has been closed for more than 16 years. The pipeline was originally designed to handle 1.4 million barrels per day, but Iraqi oil officials believe that a lack of storage capacity and pumps will enable Iraq to reach an initial export rate of only around 400,000 barrels per day. Under existing sanctions, Iraq needs to obtain special permission from the United Nations to export oil through Syria. (DJ)
- Feb. 22** Kuwait Petroleum Corporation (KPC) confirms a new find of sweet (i.e. low sulfur) oil in the Kra al-Marow oilfield, located northwest of Kuwait City. According to KPC, preliminary results from the new field indicate a test production rate of 1,800 barrels per day. Kra al-Marow, according to KPC, could be as large as Burgan, Kuwait's largest oil field. (DJ)
- Feb. 22** Colombia's Cano Limon oil pipeline returns to normal operations after being shut down in a terrorist attack the previous week. The Cano Limon, with capacity to pump 175,000 barrels of oil per day, is a frequent target of leftist rebels who oppose foreign investment in the country's mineral resources. This marks the fourteenth such attack in 1999. (DJ)
- Feb. 28** Turkish officials report that a U.S. bombing attack on Iraq damages communications at an oil-pumping facility in northern Iraq. Crude oil flows are temporarily disrupted on the line, which runs from Kirkuk in Iraq to Ceyhan in Turkey. (DJ) (NYT)
- Mar. 4** Alliance Pipeline L.P., a consortium of Canadian and U.S. pipeline companies, starts construction of a high-pressure natural gas pipeline system that will stretch from northeastern British Columbia and northwestern Alberta across Saskatchewan to the Chicago area. The pipeline will be approximately 1,445 miles long, 42 inches in diameter, and have a natural gas capacity of 1.3 billion cubic feet per day. The pipeline is expected to begin service in the second half of 2000. The consortium includes affiliates of Coastal Corporation, Duke Energy, Enbridge, Fort Chicago Energy Partners L.P., Williams Companies, Unocal, and Westcoast Energy. (DJ)
- Mar. 6** Sheik Isa bin Salman Al Khalifa, Emir of Bahrain since 1961, passes away unexpectedly, and his son, Sheik Hamad bin Isa Al Khalifa, is named as successor. Upon taking office, Sheikh Hamad pledges to follow his late father's pro-

Western policies. Although Bahrain has minimal oil and natural gas reserves, it is strategically located in the heart of the Persian Gulf. (DJ)

- Mar. 6** U.S. Secretary of Defense William Cohen and Saudi Arabia's King Fahd meet and reiterate their countries' commitments to maintaining friendly relations. Saudi Arabia, with one-quarter of the world's proven oil reserves, is an important source of crude oil imports for the United States, supplying 1.4 million barrels per day, or nearly 16 percent, of U.S. crude oil imports in the first 10 months of 1998. Secretary Cohen also holds talks with Saudi officials regarding the continuing U.S.-Iraqi air battle in the no-fly zone over Iraq. (DJ)
- Mar. 10** Reliant Energy, a large international energy services company based in Houston, agrees to spend \$2.4 billion over the next seven years to acquire approximately 60 percent of NV Energieproductiebedrijf UNA, one of the biggest power companies in the Netherlands. The transaction still must receive Dutch regulatory approval. The Netherlands, along with the rest of the European Community, is scheduled to begin opening up its electricity market to competition in 2007. The decision marks Reliant's first entry into the European electricity market. (WSJ)
- Mar. 15** Consortium members of Nigeria LNG Limited (NLNG), including Nigeria National Petroleum Corporation, Shell Gas BV, Elf Cleag Limited, and Agip International BV, confirm that a third liquefied natural gas (LNG) production train with a capacity of 2.9 million metric tons per year will be built, increasing NLNG's overall LNG processing capacity to 4.3 million metric tons per year. The third train is scheduled for completion by 2003, and more than 70 percent of the LNG already has been sold under a long-term (21-year) contract to Spanish gas supply company Enagas. NLNG's first two LNG trains are expected to come on line in the summer of 1999. (DJ)
- Mar. 16** El Paso Energy agrees to buy rival Sonat, for \$3.9 billion in stock and \$1.9 billion in assumed debt, creating the largest interstate natural gas pipeline company in the United States. The new company will be responsible for almost 25 percent of all natural gas transportation in the United States. (NYT) (WP)
- Mar. 20** After three years of negotiations, Enron Corporation, one of the world's largest energy companies, and the Qatari government cancel plans to build a \$4 billion liquefied natural gas (LNG) facility. Enron originally intended to ship about two million metric tons per year of Qatari LNG to India to fuel the Dabhol power plant and to sell the facility's remaining annual production to India and the Middle East. According to an Enron spokesman, the company has lined up other fuel suppliers for the Dabhol power plant, making the Qatar project less critical. Also, other suppliers have begun selling LNG in the Middle East and to India, making it more difficult for Enron to sell excess gas from the Qatar plant. (NYT)
- Mar. 23** In an effort to raise oil prices, which fell sharply in late 1997 and stayed low through 1998 and into early 1999, OPEC and non-OPEC countries agree to cut oil output by a combined 2.104 million barrels per day, effective April 1, 1999, for one year. OPEC members have pledged to cut 1.716 million barrels per day, while several non-OPEC countries have pledged total reductions of 388,000 barrels per day. During 1998, due mainly to low oil prices, OPEC crude oil export revenues fell 30 percent (to \$100 billion) from the previous year. (DJ) (NYT)
- Mar. 24** Scientists at the Atlantic Richfield Company (Arco) announce the development of a new transportation fuel that emits less pollution than regular diesel fuel. In preliminary testing, the new fuel, called EC Diesel, emitted 15 percent less particulates and 5 percent less nitrogen oxide without reducing fuel economy, according to Arco. Further testing of the new fuel is to take place in California during the month of April. Arco began testing the new fuel in anticipation of additional regulatory policies in California requiring further reduction in fuel emissions. (LAT) (NYT)
- Mar. 31** Arco agrees to be acquired by BP Amoco PLC for \$26.6 billion in stock. If approved, the merger will create the largest oil producer in the United States and one of the largest energy companies in the world. The deal marks the fourth largest oil company merger since the onset of low oil prices in late 1997. (DJ) (WSJ)
- Apr. 3** The Iraqi port of Mina al-Bakr, export terminal for roughly half of all Iraqi oil exports under the United Nations "oil-for-food" program, is reopened, following allied air strikes on Basra, in southern Iraq, the previous day. The attacks struck a communications facility and a radio relay station, which is used, in part, as one of three relay stations controlling the flow of crude oil from Iraq's southern oil fields to the port of Mina al-Bakr. (DJ)
- Apr. 5** Following the arrival in the Netherlands of two Libyan suspects in the 1988 bombing of Pan American Flight 103 that killed 270 people, United Nations sanctions against Libya are suspended. The sanctions, imposed on March 31, 1992, initially included a ban on the sale of equipment for refining and transporting oil, but excluded oil production

equipment. Sanctions were then expanded on November 11, 1993, to include a freeze on Libya's overseas assets, excluding revenue from oil, natural gas, or agricultural products. (DJ)

- Apr. 9** Saga Petroleum SA, a Norwegian company, announces that its oil interests in Angola are up for sale. A Saga spokesman said that the company will concentrate on developing low-cost oil reserves in Libya and possibly Iran, as opposed to more expensive deepwater acreage off Angola. (DJ)
- Apr. 12** The U.S. Deputy Ambassador to the United Nations, Peter Burleigh, becomes the first U.S. official to publicly reject a proposal that would allow direct foreign investment in Iraq's oil sector. The proposal was an attempt to allow Iraq to generate oil revenues closer to the target of \$5.26 billion every 180 days under the United Nations "oil-for-food" program. So far, Iraq has not come close to the target ceiling since it was raised last year. However, Burleigh says that, if recent oil price increases of \$5 to \$6 per barrel are sustained, Iraq could "get to the \$5.2 billion level for 6 months" by the end of the year. This would eliminate the need to enact "deep structural" changes in the "oil-for-food" program, according to Burleigh. (DJ)
- Apr. 15** A consortium of British Gas and Royal Dutch/Shell bought a controlling 53 percent stake in Cia. De Gas de Sao Paulo (Comgas), Brazil's largest natural gas distributor, for \$1 billion, more than double the Brazilian government's minimum asking price. The British Gas - Royal Dutch/Shell consortium beat out a rival bid from a consortium led by Enron Corporation and Italy's Agip. The privatization of Comgas is the first state asset sale since Brazil devalued its currency in January. (WSJ)
- Apr. 15** The U.S. Department of Energy (DOE) announces that it will begin taking oil deliveries within the next few days under its plan to add 28 million barrels of oil to the U.S. Government's Strategic Petroleum Reserve (SPR) from federal oil royalty payments. In Phase 1 of the plan, the SPR is expected to acquire about 43,000 barrels per day over the next 3 months from oil companies operating in the Gulf of Mexico. Although about 50 percent of the oil supplied in Phase 1 will be imported, domestic producers would still benefit from the entire acquisition since the oil market is international and fungible, according to a DOE official. Under Phase 2 of the program, the DOE expects to acquire about 100,000 barrels per day of royalty oil over a 6-month period. (DJ)
- Apr. 17** An oil pipeline that transports oil from Baku, Azerbaijan, to Supsa, Georgia, is officially opened. This is the second pipeline dedicated to exporting Caspian Sea oil, but the first built since the Soviet Union disbanded in 1991. The other Caspian Sea oil pipeline, which runs through the Russian breakaway republic of Chechnya to the Russian port of Novorossisk, is often shut down. The new pipeline to Georgia has a capacity of 100,000 barrels per day. (DJ)
- Apr. 20** The European Union follows the United Nations in suspending sanctions against Libya that prevented the supply of certain oil export and aviation-related goods and services (see April 5 item above). (DJ)
- Apr. 23** The United Nations temporarily waives the requirement under the Iraq "oil-for-food" program that more than half of Iraqi oil exports must go through the pipeline to Turkey. As Iraq's oil production has increased, capacity through the Iraq/Turkey pipeline has not kept pace. Designed to handle up to 1.1 million barrels per day, the pipeline's capacity is now only about 900,000 barrels per day due to needed repair work. It is currently unclear as to when repair work on the second Iraqi oil pipeline into Turkey might allow it to become operational. So far, only about 45 percent of Iraqi oil exports are going through the pipeline into Turkey. (DJ)
- Apr. 24** The chief executive officer of Total, a major French oil company, meets with the Crown Prince of Saudi Arabia to discuss the possibility of future oil investments in Saudi Arabia. This follows separate meetings between either the Crown Prince or the Saudi Arabian oil minister with the chief executives of Exxon, Mobil, Marathon, and Conoco earlier in the month. All of these meetings are a result of an invitation last September by the Crown Prince for oil executives to submit proposals on areas of investment in the Saudi oil and natural gas sectors. However, Saudi Arabia has stated that it is mainly interested in downstream oil and gas joint ventures, ruling out upstream oil development at this time, since Saudi Arabia feels it is self-sufficient in this aspect of the industry. (DJ)
- Apr. 24** The Kuwaiti oil minister announces that within the next 2 months, Kuwait is expecting to invite foreign oil companies to submit proposals for developing its northern oil fields. This would mark the first opening of the upstream sector in Kuwait since its oil industry was nationalized in the 1960s. However, the Kuwaiti oil minister made it clear that any foreign participation would be carried out in accordance with Kuwait's constitution, which bars foreign ownership of Kuwaiti natural resources. Total reserves of the fields being opened for development amount to 16 billion barrels. Kuwait hopes to increase production capacity from these fields to 1.3 million barrels per day from the current level of 590,000 barrels per day. (DJ)

- Apr. 26** The European Union passes a ban of fuel shipments from its member countries to Yugoslavia as a means of putting economic pressure on Yugoslav President Slobodan Milosevic. The ban on shipments of crude oil and refined petroleum products is to begin on May 1. It does not include a blockade on shipments from non-European Union members, an issue that is under study by the North Atlantic Treaty Organization. (DJ)
- Apr. 27** Azerbaijan's state-owned oil company Socar, signs 3 oil and natural gas production sharing agreements totaling an estimated \$10 billion with Exxon, Mobil, and privately-held Moncrief Oil International. Exxon's agreement with Socar to develop the offshore Zafar/Mashal exploration block will amount to a total investment of \$5 billion. Mobil's agreement to develop an offshore exploration block containing the Savalan, Dalga, Lerik-Deniz, and Janub prospects is worth about \$4.5 billion. The agreement between Socar and Texas-based Moncrief is for an onshore block in the Lower Kura River Valley and accounts for the remainder of the investment. (DJ)
- Apr. 28** The U.S. Department of Treasury's Office of Foreign Asset Control (OFAC) notifies Mobil that it has turned down Mobil's request for a license to swap crude oil it produces in Turkmenistan in exchange for Iranian oil. Mobil had hoped to be allowed to ship oil produced in Turkmenistan to northern Iranian oil refineries, while Iran, in turn, would provide Iranian oil from Iran's Persian Gulf export terminals to Mobil for shipment to global markets as payment. OFAC is responsible for enforcing U.S. unilateral sanctions against foreign countries. As a result of OFAC's denial of a swap arrangement with Iran, Mobil will have to continue exporting its Turkmenistan oil production across the Caspian Sea by barge to Azerbaijan, where it is then carried by rail or pipeline to Black Sea ports. (DJ) (WP)
- Apr. 29** Spain's Repsol announces a bid to acquire the 85.01 percent of Argentina's YPF that it does not already own. If the deal goes through, it would create the world's eighth largest energy group, with annual revenues of more than \$26 billion. Repsol is offering a 25.4 percent premium over YPF's closing price, which would amount to about \$13.44 billion if all of YPF's shareholders take the offer. Repsol said the deal would only go through if it could obtain at least a controlling share (more than 50 percent) of the company. In January, Repsol paid the Argentine government \$2.01 billion for a 14.99 percent share of YPF. Repsol is prepared to pay in cash, a requirement under YPF's company statutes for any buyer of 15 percent of more of YPF. (DJ)
- Apr. 30** Under new rules instituted by Ecuador's government, state-run Petroecuador will be allowed to have private partners, either foreign or domestic, in order to increase oil production. The rules state that the partnership contracts will have 20-year terms and be awarded to the companies or consortiums that offer the most participation for Petroecuador. As a result of the new rules, Ecuador is expecting investments of between \$1 billion and \$2 billion over the next four years. (DJ)
- May 1** A European Union (EU) ban on oil shipments to Yugoslavia takes effect in an effort to deny Yugoslav forces access to fuel. The ban calls on EU member nations to cease shipping oil to Yugoslavia. In addition, U.S. President Clinton signs an executive order imposing a U.S. embargo on trade with Serbia, that exempts the Yugoslav republic of Montenegro. A broader blockade of Yugoslavia by NATO is still being discussed. (DJ)
- May 1** U.S. President Clinton unveils a plan to apply the same standard for tailpipe emissions to cars, light-duty trucks, and most sport utility vehicles (SUVs). Based on current nitrogen oxides (NO_x) emission levels, the proposed plan would result in a 77 percent reduction for cars and a 95 percent reduction for light-duty trucks and SUVs. The new standards would be phased in during the 2004 to 2007 model years. At the same time, the Environmental Protection Agency (EPA) proposes a rule that would require refiners to reduce gasoline sulfur content from a current average of nearly 330 parts per million (ppm) to 30 ppm. The new sulfur standard is being proposed in conjunction with the new tailpipe emission proposal since sulfur impedes catalytic converter efficiency, thus making it more difficult to reduce tailpipe emissions without reducing sulfur content in gasoline. Oil industry representatives have vowed to protest the proposed rule, claiming that it will cost refiners \$3 billion to \$6 billion. The EPA estimates that the cost of compliance for both the automobile and oil industries will be between \$3.4 billion and \$4.4 billion. (DJ)
- May 4** Japan signs a contract to lend \$1 billion to the Korean Peninsula Energy Development Organization, which is building two light-water nuclear reactors in North Korea as part of a 1994 agreement between the United States and North Korea. The money was delayed for several months as Japan was considering whether to continue funding some of the project after North Korea fired a missile through Japanese air space in 1998. (WP)
- May 5** General Abdulsalami Abubakar, Nigeria's current leader, signs a new constitution designed to ensure a smooth transition from military rule to civilian rule when President-elect Olusegun Obasanjo assumes office on May 29. *Dow Jones* reported that General Abubakar hinted that the constitution would encourage decentralization of the federal

- government. Nigeria has been governed by the military for all but 10 of the nearly 40 years since it became independent. (DJ)
- May 6** South Korea's Ministry of Commerce, Industry, and Energy reports that the country's energy consumption in the first quarter of 1999 rose by 11.4 percent compared to the same period in 1998. Oil consumption rose 11.5 percent over the same period, averaging 2.17 million barrels per day. The Ministry reported that the increase in oil consumption was a result of improving consumer confidence in the South Korean economy. (DJ)
- May 9** Elf Aquitaine, a major French oil company, submits a proposal to the Saudi Arabian government to set up a new natural gas and electricity project worth over \$1 billion. Elf is proposing to develop a natural gas field in central Saudi Arabia, and then to use the gas to fuel a new 1,500-megawatt electric power plant to be located near the gas field. This is the first firm proposal submitted to the Saudi Arabian government since Saudi Crown Prince Abdullah's recent invitation to major energy companies to invest in Saudi Arabia's oil and gas sectors. (DJ)
- May 10** The Board of Argentine oil company YPF unanimously approved a \$13.4 billion offer from Repsol, a Spanish company. Repsol, which already owns 14.99 percent of YPF, made an all cash offer to purchase the remaining 85.01 percent last month. The Board recommended to all shareholders to accept the Repsol offer. Two Argentine provinces, which own about five percent of YPF's shares, remain concerned about Repsol's intentions for their regions. (WSJ)
- May 10** Norsk Hydro, one of Norway's state-owned oil companies, offers to buy out privately owned Norwegian oil and gas exploration company, Saga Petroleum for more than \$2.2 billion. Saga's board of directors will consider the offer before making a recommendation to their shareholders. (WSJ) (DJ)
- May 11** The Independent Petroleum Association of America (IPAA) votes to be "an interested party" to a petition before the U.S. International Trade Commission to investigate "dumping" of crude oil into the United States by Mexico, Venezuela, Iraq, and Kuwait. By being an "interested party", the IPAA will be able to file briefs in the case, without being the initiator of the petition, according to IPAA vice chairman Jerry Jordan. The petition will be filed on May 28 by a group called "Save Domestic Oil", which is led by Oklahoma Basic Energy Corporation and Continental Resources, another Oklahoma-based company. (USA) (DJ)
- May 12** The Caspian Pipeline Consortium (CPC) begins construction of a 981-mile pipeline that will carry crude oil from the Caspian Sea to the Russian port of Novorossisk for export to foreign markets. The pipeline's planned capacity is about 1.3 million barrels per day, and the CPC is expecting to load the first tanker in mid-2001. (DJ)
- May 13** Saudi Arabia notifies U.S. crude oil customers that state oil company Saudi Aramco will cut term-contracted volumes of crude delivered to them in June by 20 percent to 25 percent. Saudi Aramco had earlier notified European crude oil customers of cuts in volume averaging 35 percent, with cuts for Asian customers averaging 17 percent. (DJ)
- May 13** The U.S. special envoy for Caspian Sea energy issues, Ambassador Richard Morningstar, delivers a U.S. proposal to President Niyazov of Turkmenistan on the sharing of Caspian energy resources between Turkmenistan and Azerbaijan. The proposal was developed by a panel of U.S. advisors to the Turkmen-Azerbaijani commission on determining the sea boundary delineation between the two states. The same proposal was delivered to the government of Azerbaijan on May 12. Contents of the U.S. proposal are not made public. (DJ)
- May 17** The Environmental Protection Agency (EPA) states that it will not change its "Tier Two Plan" to cut gasoline sulfur content and tailpipe emissions, in response to a recent appellate court ruling that the EPA had overstepped its mandate in implementing some provisions of the Clean Air Act. Beginning in 2004, the Tier Two Plan would require refiners to cut gasoline sulfur content to an average of 30 parts per million, down more than 90 percent from the current national average. (DJ)
- May 18** Acting Russian Fuel and Energy Minister Sergei Generalov states that Russia plans to maintain cuts in oil exports made in the first quarter of 1999 in support of efforts by the Organization of Petroleum Exporting Countries to raise oil prices. Russia had cut exports by 100,000 barrels per day. (DJ)
- May 18** Ecuador's Energy Minister, Rene Ortiz, announces plans to privatize all of Ecuador's downstream operations, including the sale of four refineries. State oil company Petroecuador currently operates the refineries. (DJ)

- May 20** China announces it is speeding up plans for the construction of a crude oil pipeline linking oil deposits in Kazakhstan to refineries in north and central China. The pipeline is now planned for completion in 2007. China National Petroleum Corporation has a stake in Kazakhstan's Uzen oilfield near the Caspian Sea. (DJ)
- May 21** The United Nations Security Council, in a unanimous vote, extends the "oil-for-food" program, under which Iraqi oil sales finance imports of food and medicine, for another six-month period. The resolution renews the program under its current terms, but promises a review of the program's \$5.26 billion cap on exports if Iraq reaches the ceiling. (DJ)
- May 21** Venezuelan President Hugo Chavez states that a sharp increase in oil prices is not desirable. "If the price of a Venezuelan oil basket hovers around \$13 to \$14 per barrel, I will be happy," Chavez says. (DJ)
- May 24** Iraqi oil officials state that, despite a lack of spare parts, Iraq is capable of boosting output from its northern oil fields to 1.2 million barrels per day during the proposed sixth phase of the "oil-for-food" deal with the United Nations, from around 0.8 million barrels per day in the fifth phase. (DJ)
- May 25** Russian Prime Minister Sergei Stepashin signs a government decree doubling the tariff on oil exports to 5 euros (EUR) per metric ton. Earlier this year, the Russian government set out a schedule of tariffs based on export prices for Russian oil. The EUR 5 per ton tariff takes effect when the price of Russian oil rises above \$12 a barrel. (DJ)
- May 27** Exxon and Mobil shareholders approve an \$81.2 billion merger, in which Exxon will issue 1.32 shares for each share of Mobil's approximately 780.2 million shares outstanding. The merger still must receive regulatory approval from the U.S. government and the European Union. The chairmen of both companies state that they expect regulatory approvals to be obtained by the end of the third quarter of 1999. (DJ)
- June 1** Sudan starts pumping oil through its pipeline linking the Heglig oil field in Western Kordofan province to Port Sudan on the Red Sea. The pipeline has a capacity of 250,000 barrels per day, and was financed by a consortium of Chinese, Malaysian, Canadian, and Sudanese firms. (DJ)
- June 2** Texaco terminates negotiations on the potential acquisition of the company by Chevron. Texaco states that Chevron's final proposal is "unacceptable" for reasons of complexity, feasibility, risk, and price. The talks had taken place as part of an overall trend toward consolidation among the major oil companies. (WSJ)
- June 6** China National Petroleum Corporation (CNPC) announces plans to lay off 75,000 workers at five of its major refineries in northern China, reducing employment by 30 percent overall and 50 percent among managerial and administrative staff. The layoffs are part of CNPC's plan to make the refineries profitable by the end of 1999. (DJ)
- June 7** Indonesia holds its first-ever free elections. While there were minor irregularities, foreign election observers considered the elections generally free and fair. Forty-eight parties fielded candidates for the Parliament. Early returns show that no party will have a majority, so a coalition government will have to be formed. (DJ)
- June 9** A team of United Nations experts visits Iraq for talks with Iraqi Oil Ministry officials on purchases of equipment and supplies to repair Iraq's oil infrastructure. Iraq is allowed to spend up to \$300 million on oil infrastructure repairs under the "oil-for-food" program's current six-month cycle. (DJ)
- June 10** BP Amoco announces its intention to sell several of its Canadian oilfields, accounting for about 30 percent of the company's overall production in Canada. The sales are to be completed in the third and fourth quarters of 1999, and resulted from a strategic review by the company of its properties worldwide to prioritize the demand for investment capital. (DJ)
- June 12** Security forces in Chechnya, a breakaway province of Russia, take control of the main oil pipeline from Baku, Azerbaijan, to the Russian Black Sea port of Novorossisk. The action follows attacks on the pipeline by renegade Chechen fighters. (DJ)
- June 14** The main Venezuelan oil workers union, Fedepetrol, states that it will not strike in the immediate future, as talks continue with Petroleos de Venezuela on its demands for wage increases. Venezuelan President Hugo Chavez had intervened in the negotiations, offering merit-based raises of between 3 percent and 6 percent to workers. (DJ)

- June 16** Brazil begins a two-day auction of 27 oil exploration blocks. The auction effectively ends the monopoly of the state-owned oil firm Petrobras over exploration and production in Brazil. Most of the blocks offered are deepwater offshore blocks, for which Brazil needs to raise foreign capital to speed development. (WSJ)
- June 18** Texaco shuts down six oil platforms off the coast of Nigeria, cutting off a total of 50,000 barrels per day of production. Two of the platforms had been boarded by protesters in boats. Shell also is experiencing disruptions in Nigeria as a result of widespread civil unrest in the Niger Delta region. (DJ)
- June 24** Spain's Repsol announces the success of its buyout offer for YPF of Argentina. Repsol paid \$13.5 billion for the outstanding 85 percent of YPF shares. (DJ)
- June 24** Citing a lack of funds, the Jordanian government announces that it has shelved plans for construction of an oil pipeline from Iraq to Jordan. Jordan currently relies on a fleet of trucks to transport approximately 90,000 barrels per day of crude oil and refined petroleum products from Iraq. (DJ)
- June 25** The Yugoslav state-run petroleum company states that it can't provide enough petroleum products to satisfy demand due to damage from NATO air strikes that has not yet been repaired. Direct losses from the air campaign are estimated at \$1.1 billion, mostly damage to refinery and storage facilities at Novi Sad and Pancevo. (DJ)
- June 26** Petroleum Development Oman, Limited announces the discovery of new oil deposits in commercial quantities in southern Oman. The new find is described as the most significant find in Oman in the last five years. (DJ)
- June 28** Russian oil firm Transneft announces that it will begin moving crude oil from Baku in Azerbaijan to the Russian Black Sea port of Novorossisk by rail, temporarily bypassing the troubled pipeline through the province of Chechnya. (DJ)
- June 29** Brazil's Petrobras and Venezuela's Petroleos de Venezuela sign a letter of intent on forging a strategic alliance between the two firms. The agreement's stated aim is to be "the starting point to establish the economic viability of a joint company, which will be called Petroamerica." (DJ)
- June 30** The Independent Petroleum Association of America issued a statement declaring its intention to join as an "interested party" in the anti-dumping complaint filed by Save Domestic Oil, Incorporated. The complaint accuses Saudi Arabia, Iraq, Mexico, and Venezuela of dumping cheap oil on the U.S. market from the second quarter of 1998 through the first quarter of 1999. (DJ)
- July 3** The Gulf Cooperation Council decides, at a meeting of foreign ministers, to establish a joint panel to represent the United Arab Emirates (UAE) in its territorial dispute with Iran over the islands of Abu Musa and the Tunbs. The move comes in response to tensions between Saudi Arabia and the UAE over Saudi Arabia's improving ties with Iran. (DJ)
- July 5** The Franco-Belgian oil company Total Fina makes a hostile takeover bid for the French oil firm Elf Aquitaine. Elf Aquitaine shareholders are offered a 4-for-3 swap of Elf Aquitaine shares for Total Fina shares, for a total value of \$43 billion. While Elf Aquitaine was privatized in 1994, the deal would still require the approval of the French government, which retains a "golden share" in Elf Aquitaine permitting it to block a takeover. (DJ) (NYT) (WP)
- July 6** Ehud Barak is sworn in as Prime Minister of Israel after a vote in the Knesset approving his government. Barak has promised to accelerate peace negotiations with Syria, Lebanon, and the Palestinians, which are considered a key factor in promoting stability in the Middle East. (DJ)
- July 7** The United Kingdom restores full diplomatic relations with Libya. Ties were severed between the two governments in 1984, after the killing of a British policewoman by a shot fired from the Libyan embassy. Meanwhile, the United States again restates its opposition to the immediate permanent lifting of United Nations sanctions against Libya. The air travel and arms embargoes were suspended on April 5, 1999, after Libya handed over two suspects in the 1989 Lockerbie bombing for trial in the Netherlands. (DJ)
- July 7** Phillips Petroleum announces the discovery of oil and gas in its Bohai Bay block 11/05 off the coast of southern China. The company intends to drill five more test wells in the near future, in addition to the two initial wells, which are capable of producing 3,000 to 5,000 barrels per day of crude oil. Phillips expects the drilling costs to be low, as water and reservoir depths are shallow. Analysts have estimated the reserves at 150 million barrels, but see it as a more significant development, as it may suggest that other, larger oil-bearing structures exist under the Bohai Bay. The

- China National Offshore Oil Company holds an option to buy a 51 percent interest in any development of the field. (DJ)
- July 7** The Nigerian government announces the cancellation of 16 crude oil prospecting licenses, following an investigation by a panel probing awards of contracts by the previous military government. The canceled licenses were held by Nigerian firms, although some of the firms had foreign technical partners. Earlier in July, the Nigerian National Petroleum Corporation had revoked contracts previously awarded to foreign firms for crude oil lifting and refinery maintenance. The cancellations are effective in September 1999, at which time the government will conduct a review of the contracts. (DJ)
- July 9** Shell declares *force majeure* on all outstanding loadings of Bonny Light and Forcados crude oil from its facilities in Nigeria. The statement cites disruptions due to civil unrest by local residents demanding that the Niger Delta region receive a greater share of Nigeria's oil proceeds. (DJ)
- July 9** The United Nations Security Council issues a statement on Libya's handover of the two suspects wanted in the 1989 bombing of a Pan Am airliner over Lockerbie, Scotland, welcoming "significant progress" in Libyan compliance with earlier resolutions, but calling on Libya to "implement further" the remaining provisions of the resolutions dealing with compensation for the victims' families and cooperation with court proceedings in The Hague. The statement is issued after a resolution proposed by Namibia to lift the air travel and arms embargoes permanently was dropped under the threat of a United States veto. United Nations sanctions were suspended shortly after Libya handed over the two suspects. (DJ)
- July 11** Iran nominates its member of OPEC's Board of Governors, Hossein Ardebili, for the position of OPEC Secretary General. Ardebili ran unsuccessfully for Secretary General in 1994. Iran also states its support for the holding of an OPEC summit meeting in Caracas in 2000. (DJ)
- July 12** The United Nations Compensation Commission, charged with assessing Iraq's liability for damages resulting from the August 1990 invasion of Kuwait, issues a judgement of liability for \$2.8 billion dollars to oil companies and oilfield service providers whose operations were disrupted. The largest share, \$2.2 billion, is to go to the Kuwaiti Oil Company. American firms that are owed payments include Saudi Arabian Texaco, a subsidiary of Texaco, National-Oilwell, OGE Drilling Company, and the Halliburton Company. (DJ)
- July 12** BP Amoco reports a major natural gas find at Shah Deniz in Caspian Sea waters off Azerbaijan. The find could complicate plans to export natural gas from Turkmenistan to Turkey and Europe, if sufficient reserves are available without the expense of building an undersea pipeline across the Caspian. (DJ) (WSJ)
- July 12** President Mohammad Khatami of Iran calls for an end to student demonstrations in Tehran, which have entered their sixth day amid increasing violence. Reformist elements in Iran fear that the demonstrations will be used by hard liners to derail reform. (WSJ)
- July 13** Schlumberger announces that it has agreed to spin off its offshore drilling operation, Sedco Forex, and merge it with Transocean Offshore, in a deal which will create the world's largest offshore drilling company. The merged company will be called Transocean Sedco Forex. Both companies said the spinoff was in response to the increasing costs and technological demands of offshore drilling, which is taking place in deeper waters than in previous years. (NYT)
- July 15** BP Amoco and Mobil announce the discovery of new crude oil reserves of approximately one billion barrels at the Crazy Horse deepwater field south of Louisiana in the Gulf of Mexico. BP Amoco is the operator, and holds 75 percent equity, with the remaining 25 percent held by Mobil. (DJ)
- July 15** Over 300 independent operators of Shell gas stations in Texas file suit against Shell Oil Company, accusing the firm along with refining companies Motiva Enterprises and Equilon Enterprises of using their dominant position in the marketplace to prevent independent operators from making a profit. According to the independent operators, Shell engaged in price discrimination, charging independent operators more than is charged to company-owned stations. A similar, but much smaller, lawsuit in Michigan resulted in a \$2.4 million judgement against Sun Oil Company in favor of two independent dealers in December 1998. (DJ)
- July 16** BP Amoco announces that it intends to sell some \$10 billion worth of assets and spend as much as \$26 billion as part of a broad three-year initiative to finish the integration of British Petroleum and Amoco. Included in the sales will be \$3 billion worth of refining assets, with the Alliance Refinery in Louisiana the first to be sold. (WSJ) (NYT)

- July 18** Elf Aquitaine launches a takeover bid for Total Fina, offering 190 euros (the European Union common currency) and three shares of Elf Aquitaine for every five shares of Total Fina. The offer follows by two weeks a hostile takeover bid for Elf Aquitaine by Total Fina, which is awaiting approval by French securities regulators. (DJ)
- July 23** Russia raises the export duty on crude oil by 5 euros per ton. The action comes amid a rash of petroleum product shortages in various regions of Russia, due largely to the rise in world crude oil prices, which makes it more lucrative for Russian oil companies to export their crude oil rather than refine and distribute petroleum products in Russia. (DJ)
- July 26** Venezuelan President Hugo Chavez' "Patriotic Pole" coalition sweeps elections for the new constitutional assembly, giving coalition members 119 of the 128 seats contested. The assembly is scheduled to convene in August 1999, and will have six months in which to draft a new constitution. (DJ)
- July 27** An advisory panel of the Environmental Protection Agency (EPA) releases a report urging a substantial reduction in the use of methyl-tertiary-butyl-ether (MTBE) as an air-pollution fighting fuel additive, due to concerns about pollution of groundwater by MTBE. MTBE is the major oxygenate which refiners began adding to gasoline as lead-based additives were phased out in the 1970's. (WSJ)
- July 28** Italy's ENI announces that it has reached final agreements to invest \$5.5 billion in oil and gas development in Libya. The projects to be funded will include a 372-mile pipeline that will carry Libyan natural gas to consumers in Sicily. (WSJ)
- Aug. 4** The Russian Fuel and Energy Ministry orders Russian oil companies to sell all of their gasoline on the domestic market for the month of August 1999, due to domestic shortages. Russian refiners are also required to supply at least 70 percent of their diesel and fuel oil output to domestic customers during August. (DJ)
- Aug. 4** Mexico and Venezuela ratify the San Jose oil agreement, which provides for sales of crude oil to 11 Central American and Caribbean countries at discounted prices. When market prices for crude oil are below \$15 per barrel, recipient states pay the market price. If prices rise above \$15 per barrel, the excess is rebated to the beneficiaries as credits for imports of other products from the two oil-producing states. (DJ)
- Aug. 5** Canadian Natural Resources and Penn West Petroleum make agreements for the purchase of British Petroleum-Amoco (BP Amoco) oil and gas production assets in Canada. Canadian Natural Resources will acquire the Bonnyville, Wabasca, and Nipisi properties for \$1.06 billion, while Penn West Petroleum will acquire the Drayton Valley and Hoosier fields for \$540 million. (DJ) (WSJ)
- Aug. 6** The New York Mercantile Exchange (Nymex) makes an offer for the purchase of up to 70 percent of London's International Petroleum Exchange (IPE). A similar offer from a group of energy companies failed to win the required 75 percent approval of IPE's members last month. (DJ)
- Aug. 9** The United States Department of Commerce dismisses a petition filed by Save Domestic Oil, Inc. under anti-dumping statutes. The petition alleged that Saudi Arabia, Venezuela, Mexico, and Iraq had sold crude oil to the United States at artificially low prices. The decision was based on the Department of Commerce's determination that "opposition to the petitions exceeded support." Majority support is defined as petitioner representation of at least 25 percent of the domestic industry and support from at least 50 percent of the industry expressing an opinion. Support from a majority in the affected industry is necessary under the law for Commerce to commence a formal investigation of an anti-dumping complaint. (DJ) (WP) (NYT)
- Aug. 10** British Petroleum-Amoco (BP Amoco) announces that it will have laid off 14,500 employees by the end of 1999 as part of its drive to cut costs. BP Amoco expects merger-related cost savings of \$4 billion by 2001. (DJ)
- Aug. 11** Chevron and Royal Dutch Shell sign an agreement with Benin, Togo, Ghana, and Nigeria to develop the West Africa Gas Pipeline. The \$400 million project is scheduled for completion in 2002. (WSJ)
- Aug. 13** Texaco announces that it has shut in 50,000 barrels per day of production in Nigeria in response to civil unrest in the Niger Delta, which has prevented the company from delivering supplies to five of its offshore platforms. (DJ)
- Aug. 13** The board of directors of Norway's state-owned oil firm Statoil formally recommends to the Oil Ministry that the firm be partially privatized. (DJ)

- Aug. 16** United States Secretary of Energy Bill Richardson holds talks with Turkish President Suleiman Demirel on proposed oil and gas pipelines that would cross Turkish territory and terminate at the Turkish port of Ceyhan. (DJ)
- Aug. 17** A major earthquake hits northwest Turkey, with its epicenter near the state-owned Tupras refinery. The resulting fire at the refinery causes damage that is expected to keep the 252,000-barrel-per-day facility idle for approximately 4 months. (DJ)
- Aug. 18** Venezuela's Supreme Court rules in favor of several foreign oil companies in a longstanding dispute. At issue was the constitutionality of contract clauses involving exemptions from local taxes, arbitration of disputes, and subcontracting exploration projects. The clauses were challenged on constitutional grounds by current oil minister Ali Rodriguez, when he was serving as a senator in 1995, following the decision of a previous government to open Venezuela's oil sector to foreign investment. (DJ)
- Aug. 18** French securities regulators extend the closing date for Elf Aquitaine's hostile takeover bid for TotalFina, in response to delays as a result of litigation over the regulators' earlier approval of the Elf Aquitaine offer. Elf Aquitaine and TotalFina are both currently engaged in competing hostile takeover bids for each other. (DJ)
- Aug. 19** United States Secretary of Energy Bill Richardson visits Turkmenistan for talks on a proposed pipeline to carry Turkmen gas across the Caspian Sea, Azerbaijan, and Georgia to Turkey. (DJ)
- Aug. 20** Indonesia's Minister of Mines and Energy, Kuntoro Mangkusubroto, announces that Indonesia's state oil firm, Pertamina, will have two years to restructure itself into an independent company. For five years afterward, Pertamina will have exclusive rights to production in certain designated zones. The change in policy is expected to open the Indonesian oil sector to increased competition. Pertamina has been shaken by a recent audit report from Price Waterhouse that found the company lost \$6.1 billion between 1996 and 1998 due to poor management practices. (DJ)
- Aug. 23** Alaska Governor Tony Knowles gives a speech outlining the State of Alaska's terms for approving the proposed merger between British Petroleum-Amoco (BP Amoco) and Atlantic Richfield Company (ARCO), stressing that continued competition should be a priority. Governor Knowles' administration has been concerned that the merger will have a negative effect on the State's economy. The two companies combined account for 72 percent of Alaska's oil revenue. (DJ)
- Aug. 24** Negotiators for the governments of Turkey and Azerbaijan begin two days of meetings in Washington on financing for the proposed oil export pipeline from Baku in Azerbaijan to Ceyhan on the Mediterranean coast of Turkey. The two delegations were to meet with the Overseas Private Investment Corporation (OPIC), the Export-Import Bank (Eximbank), and the World Bank. (DJ)
- Aug. 27** The Russian oil ministry announces that the export duty for crude oil will be doubled, effective October 1, 1999, to 10 Euros (EUR) per metric ton. The move follows a shortage of petroleum products on the domestic Russian market. (DJ)
- Aug. 28** Oil ministers from Mexico, Saudi Arabia, and Venezuela announce in a joint statement that they will continue to adhere to the oil production cuts which were agreed to in March 1999, and which are scheduled to remain in effect through March 2000. (DJ)
- Aug. 31** Venezuelan President Hugo Chavez names Hector Ciavaldini as the new president of the state-owned oil monopoly, Petroleos de Venezuela. Ciavaldini replaces Roberto Mandini, who abruptly resigned the previous day. Mandini's resignation reportedly came as a result of policy disagreements with the Chavez administration, which has reversed the previous government's policy of investing in increased oil production capacity in order to secure greater market share. (DJ)
- Sep. 1** China National Petroleum Corporation announces plans to inaugurate a holding company, which will seek to have its shares listed on the New York Stock Exchange. An initial public offering of its stock is expected to attract \$10 billion. (DJ)
- Sep. 7** Indonesia's minister of energy and mines Kuntoro Mangkusubroto states that Indonesia intends to abrogate the treaty with Australia on joint development of oil and gas resources in the Timor Gap, between East Timor and the north coast of Australia. The issue of revenue sharing with Australia will be left for the new East Timorese government. (DJ)

- Sep. 7** Lawyers representing Save Domestic Oil, Inc. file an appeal with the Court of International Trade in New York, seeking a reversal of the Department of Commerce dismissal of their anti-dumping complaint against four foreign oil producing countries. Save Domestic Oil is taking issue with the method used by the Department of Commerce to determine whether the petition had sufficient industry support to begin an investigation. (DJ)
- Sep. 10** Chevron agrees to pay \$95 million to settle allegations that it systematically underpaid royalties for crude oil produced from federal government lands. The settlement stemmed from a suit brought by two industry whistleblowers under the False Claims Act against a total of 18 firms which produce crude oil from federal lands. (DJ)
- Sep. 10** Creditors of the Russian oil company Sidanco agree to liquidate the company, dealing a blow to BP Amoco's efforts to keep Sidanco, in which it owns a 10 percent stake, united. BP Amoco alleges that the procedure used to make the decision to liquidate Sidanco was influenced by manipulation of the register of creditors by Sidanco's Russian rivals. (DJ) (WSJ) (NYT)
- Sep. 14** French oil companies Total Fina and Elf Aquitaine agree to merge, after a lengthy takeover battle, in a deal which will form the world's fourth largest oil company. The deal will give Elf Aquitaine shareholders 19 shares of Total Fina for every 13 shares of Elf Aquitaine. According to Total Fina's management, the merger will result in annual cost savings for the combined firm of \$1.56 billion. (WP) (WSJ)
- Sep. 18** Russian forces begin air and artillery attacks against suspected guerrilla bases and infrastructure targets, including the Grozny refinery complex, in the breakaway region of Chechnya. The strikes come in the wake of a series of attacks by militants operating from Chechnya on the neighboring Russian region of Dagestan. Chechnya is along the route of the Baku-Novorossisk crude oil pipeline, which has been closed during most of 1999 due to attacks. (DJ)
- Sep. 20** Texaco announces the lifting of the state of *force majeure* it had declared August 13th on liftings of crude oil from the company's operations in Nigeria. Production had been shut in due to civil unrest in neighboring communities. (DJ)
- Sep. 21** Brazil's state oil company, Petroleo Brasileiro S.A., announces the discovery of crude oil reserves in the Santos Basin estimated at between 600 million and 700 million barrels. The Santos Basin is located offshore from Rio de Janeiro state. (DJ)
- Sep. 21** Senator Charles Schumer sends a letter to President Clinton and Secretary of Energy Bill Richardson requesting them to authorize the sale of crude oil from the Strategic Petroleum Reserve in response to rising oil prices. Senator Schumer's letter coincided with the ministerial meeting of the Organization of Petroleum Exporting Countries in Vienna. (DJ)
- Sep. 22** The Organization of Petroleum Exporting Countries (OPEC), at a meeting of its member states' oil ministers, decides to maintain current production cuts until March 2000, despite the fact the crude oil prices have doubled since early 1999. In another development, OPEC announces that its current Secretary General, Nigerian Rilwanu Lukman, will stay in office until March 2000. The announcement follows a vigorously contested race to succeed Lukman in the post, in which OPEC's three largest members, Saudi Arabia, Iran, and Iraq, had fielded candidates. (DJ)
- Sep. 23** British Petroleum Exploration (Alaska), a subsidiary of BP Amoco, pleads guilty to a felony charge of illegally dumping hazardous waste on Alaska's North Slope. The company agreed to a \$22 million settlement to resolve the charges. (DJ)
- Sep. 23** In a joint statement, the foreign ministers of the five permanent members of the United Nations Security Council pledge to continue to work toward a consensus on a new policy toward Iraq. All five permanent members have accepted that on-site weapons inspections must resume in Iraq, though there is still disagreement over how much cooperation Iraq would have to give international inspectors before economic sanctions could be lifted. (DJ)
- Sep. 23** The Senate approves a proposal to block the Clinton administration from increasing royalties on oil and gas from federal lands. The Department of the Interior has proposed a rule change that would tie royalties to market prices for crude oil. (WP) (NYT)
- Sep. 24** China National Petroleum Corporation (CNPC) and Royal Dutch Shell sign a contract for the joint exploration and development of natural gas resources in northwest China's Ordos Basin. The \$3-billion contract includes the development of the Changbei Block, where CNPC has found natural gas reserves estimated at 2.5 trillion cubic feet. Shell, as the operator, will cover the investment required to develop the field. (DJ)

- Sep. 24** Italian Prime Minister Massimo D'Alema says he will evaluate the possibility of the Italian state-owned oil company ENI SpA merging with Total Fina and Elf Aquitaine once the latter two firms' merger is completed. (DJ)
- Sep. 28** Iranian Oil Minister Bijan Zanganeh announces that the National Iranian Oil Company has discovered a new oilfield, Azadegan, with 26 billion barrels of crude oil in Khuzestan province. The discovery is the largest new find in Iran in the last three decades. Zanganeh expects the field to produce between 300,000 and 400,000 barrels per day of crude oil three to four years after development begins next year. (DJ)
- Oct. 4** The United Nations Security Council agrees to raise the monetary ceiling on Iraqi oil sales to \$8.3 billion from \$5.26 billion, guaranteeing the continuation of Iraqi production until the November 20 end date for the current six-month extension of the "oil-for-food" program. The move is a one time adjustment, and does not bind the Security Council to continue a higher ceiling if the program is renewed for another six month term. The increase reflects the difference between previous monetary ceilings and actual Iraqi sales during previous phases of the program. (DJ)
- Oct. 6** Exxon announces the commencement of production at the Balder field located in the Norwegian zone of the North Sea. The field is expected to reach a peak output of 100,000 barrels per day. (DJ)
- Oct. 7** Brazilian state oil company Petrobras announces that it has broken off negotiations with Exxon for the development of the Albacora Leste offshore field. Petrobras is considering asking one of the other consortium partners to take over Exxon's stake and become the operator at the field, which is estimated to hold 600 million barrels of crude oil. (DJ)
- Oct. 8** A spokesman for the Norwegian Oil and Energy Ministry announces that the Norwegian government is seeking to increase the country's crude oil production in 2000 by 20 percent, to roughly 3.5 million barrels per day. According to the spokesman, if Norway were to decide to extend its 200,000-barrel-per-day production cut undertaken in support of the Organization of Petroleum Exporting Countries' (OPEC) March 1999 agreement, it would be subtracted from the new baseline amount of 3.5 million barrels per day. (DJ)
- Oct. 8** Rem Vyakhirev, the chief executive of Russia's Gazprom, the world's largest producer and exporter of natural gas, announces his intention to attempt to forge a natural gas cartel in response to low prices in the European market. Other major exporters of natural gas to European countries include Algeria, the Netherlands, and Norway. (WSJ)
- Oct. 10** Two major Japanese downstream oil firms, Cosmo Oil and Nippon Mitsubishi Oil, announce a strategic alliance. While the move is short of a merger, it is expected to result in cost reductions for both firms by eliminating duplicate operations. The action follows a period of low refining margins and excess refinery capacity in the Japanese oil industry. (DJ)
- Oct. 10** The French government announces its intention to retain its "golden share" in the merged Total Fina-Elf Aquitaine. The "golden share" allows the French government the right to block any merger plans or takeover attempt involving the company. (DJ)
- Oct. 11** The Venezuelan newspaper *El Nacional* reports that the final draft of the new Venezuelan constitution includes a provision prohibiting privatization of the state-owned oil firm Petroleos de Venezuela (PdVSA). A referendum on the proposed new constitution is scheduled to take place before the end of 1999. (DJ)
- Oct. 13** Pakistan's military stages a coup, led by General Pervez Musharraf. According to a statement from Atlantic Richfield, the largest producer of oil in Pakistan, their operations are not expected to be affected. (DJ)
- Oct. 13** U.S. House and Senate conferees agree on a six-month moratorium on increases in oil royalty payments from firms lifting oil from federally owned land. The moratorium has been opposed by the Clinton administration. (DJ)
- Oct. 19** BP Amoco announces its decision to take the lead in promoting the construction of an oil export pipeline from Baku on the Caspian Sea to the Turkish Mediterranean port of Ceyhan. The company's support is seen as crucial, as it holds the largest stake in the Azerbaijan International Operating Company (AIOC), a consortium of foreign oil firms which will develop Azerbaijani reserves. (WSJ)
- Oct. 20** Saudi Oil Minister Ali Naimi says the Saudi government is still evaluating proposals submitted by foreign oil companies for investment in Saudi Arabia. He stresses the need to consider projects which "compliment the domestic industry, not replace it," such as petrochemical plants. (DJ)

- Oct. 20** The Colombian government announces new measures to preserve the country's oil production level into the future. Companies holding concessions will be allowed to return unused portions of blocks back to the government, in exchange for an increased share of production in the portion they retain. The government also intends to solicit bids from foreign firms for some blocks currently operated by state-owned Ecopetrol. (DJ)
- Oct. 25** The Federal Trade Commission approves the \$6 billion merger between Sonat and El Paso Energy, which will create the largest natural gas pipeline company in the United States. The merged firm will be required to divest assets in some local markets to preserve competition. (DJ)
- Oct. 28** The United Nations Security Council shelve a proposal to allow Iraq to double the amount, currently \$300 million, it is allowed to spend under the "oil-for-food" program on spare parts for its oil industry. The issue of funding for repairs and improvements to Iraq's upstream oil infrastructure will now be considered when the next six-month renewal of the "oil-for-food" program is considered. (NYT)
- Oct. 28** China National Petroleum Corporation (CNPC) announces the formation of a holding company, for which it intends to sell shares in an initial public offering (IPO) on the New York and Hong Kong stock exchanges to be scheduled in either January or February 2000. Earlier in the month, the China National Offshore Oil Corporation (CNOOC) had announced the postponement of a similar IPO due to adverse market conditions. (DJ)
- Oct. 29** Oklahoma Secretary of Energy Carl Michael Smith sends a letter to U.S. Secretary of Energy Bill Richardson urging him to resist calls for a sale of crude oil from the Strategic Petroleum Reserve (SPR). Smith argues that a sale of SPR oil would damage the recovery of U.S. domestic oil producers in the wake of low oil prices in 1998 and early 1999. (DJ)
- Oct. 31** Isramco, an Israeli oil and gas exploration company, reports a discovery of natural gas in commercial quantities from an offshore test well in the Mediterranean. Previously, exploration in Israel had not discovered oil or gas in commercial quantities. (DJ)
- Nov. 1** The Russian government sells a 9 percent stake in Russia's largest oil company, Lukoil, to a Cyprus-based firm, Reforma Investment. The Russian government had previously held a 27 percent stake in Lukoil. (WSJ)
- Nov. 1** Atlantic Richfield and Triton Energy conclude a \$5 billion agreement with the state-run oil companies of Thailand and Malaysia to sell natural gas from blocks jointly held by the two firms in the Gulf of Thailand. Deliveries of 390 million cubic feet per day are set to begin in 2002. (WSJ)
- Nov. 4** China and Germany sign a memorandum of understanding for the construction of a \$2.7 billion petrochemical complex in China. The project will be a joint venture between China's state-owned petroleum firm Sinopec and BASF of Germany. The deal was signed during a visit to China by German Prime Minister Gerhard Schroeder. (DJ)
- Nov. 6** China National Petroleum Corporation (CNPC) announces that it will be undertaking a reorganization of its corporate structure. The company's exploration, production, gas, refining, and petrochemical units will be transferred to a holding company. Its technical services and overseas operations units will remain outside the holding company. CNPC officials intend to offer shares in the holding company on the New York Stock Exchange in January or February 2000. (DJ)
- Nov. 10** Alberto Calderon is appointed to head the Colombian state petroleum company, Ecopetrol, after the resignation of its previous president Carlos Rodado. (DJ)
- Nov. 14** Royal Dutch Shell signs an \$800 million development contract with the National Iranian Oil Company (NIOC) for two offshore fields in the Iranian sector of the Persian Gulf. The contract calls for an expansion in production at the Soroush field to 150,000 barrels per day and at the Nowruz field to 90,000 barrels per day. Under the "buy back" contract, Royal Dutch Shell will not have an ownership interest in the fields, but will recoup its investment plus a fixed rate of return. The move raises the possibility of United States sanctions under the Iran-Libya Sanctions Act (ILSA), which prohibits investment of more than \$40 million per year by foreign companies in Iran's oil industry. (DJ)
- Nov. 15** The United States and China conclude an agreement on Chinese entry into the World Trade Organization (WTO). Under the agreement, China will make a limited opening of its internal petroleum products market to foreign competition, allowing foreign firms to open 30 retail gas stations every three years after China's accession to the WTO. China also will abolish the existing oil import quota system in phases over four years. (DJ)

- Nov. 17** California governor Gray Davis announces a lawsuit by the State of California against the federal government in an attempt to block extensions of offshore oil leases that eventually could expand oil production off the central California coast. California is demanding the right to scrutinize each of the 36 blocks prior to any federal government action. The move comes four days after the Department of the Interior unveiled a plan that allows oil companies to move forward with exploration in the areas. (LAT)
- Nov. 18** The heads of state of Turkey, Azerbaijan, and Georgia sign an agreement to build a pipeline for the export of crude oil from the Caspian Basin. The 1,080-mile pipeline will begin at the Azerbaijani capital, Baku, and run through Georgia and Turkey to the Turkish port of Ceyhan. The project is expected to cost \$2.4 billion, and the government of Turkey has offered guarantees that the cost of the Turkish segment of the pipeline will not exceed \$1.4 billion. The signing ceremony took place during a visit to Istanbul by U.S. President Clinton for a summit of the Organization for Cooperation and Security in Europe (OSCE). (WP) (NYT)
- Nov. 20** Iraq announces its rejection of the United Nations Security Council's two-week extension of the "oil-for-food" program, under which Iraq is permitted to make limited oil exports. The rejection produces a cutoff in Iraqi oil exports, which Iraq said was ordered to protest the failure of the Security Council to grant a six-month extension. Many analysts see the Iraqi move as coming at a particularly inopportune time for oil consumers, as world oil stocks have been falling in recent months. (DJ) (NYT) (WSJ)
- Nov. 25** The National Iranian Oil Company (NIOC) defers loadings of approximately 18 million barrels of crude oil exports scheduled for late November and early December, resulting in delays of as much as 11 days for some buyers. The deferment comes in response to an order from Iranian Oil Minister Bijan Zanganeh for strict control of exports to ensure compliance with Iran's OPEC production quota. (DJ)
- Nov. 27** Iraqi Oil Minister Amer Mohammed Rashid states that Iraq is willing to accept a six-month extension of the United Nations "oil-for-food" program. He also urges other OPEC members not to raise output in response to Iraq's temporary halt in crude oil exports. (DJ)
- Nov. 30** A spokesman for the Chinese Foreign Ministry states that if the dispute among several Asian countries over the potentially hydrocarbon-rich Spratly Islands cannot be resolved, China would consider the idea of joint development of the Islands with other claimants. However, the spokesman also reiterated China's claim to the islands. (DJ)
- Nov. 30** The Federal Trade Commission (FTC) grants approval for the proposed merger between oil giants Exxon and Mobil. The \$80 billion merger was approved by the FTC after the firms agreed to the largest divestiture of assets ever involved in a merger. The companies will sell over 2,400 retail outlets, mostly in the Northeast, Texas, and California, and a refinery in California. (DJ)
- Dec. 2** Independent refiner Tosco agrees to buy 1,740 gasoline stations from Exxon and Mobil in the Northeastern United States. The \$840 million sale was one of the measures the Federal Trade Commission required to preserve adequate competition in the wake of the Exxon-Mobil merger. (WSJ)
- Dec. 2** BP Amoco wins approval from the State of Alaska for its planned takeover of Atlantic Richfield (ARCO). The Federal Trade Commission is still considering the matter. (DJ)
- Dec. 4** Iraq's Minister of Petroleum, Amer Rashid Mohammed, states Iraq's rejection of a one-week extension of the United Nations "oil-for-food" program approved by the Security Council a few hours earlier. (DJ)
- Dec. 10** The California Air Resources Board approves a regulatory change that will halve the amount of sulfur allowed in gasoline sold in California from 30 parts per million to 15 parts per million, starting in 2003. The California limit would be half the national limit under a new rule proposed by the Environmental Protection Agency. The current federal sulfur limit for gasoline is 330 parts per million. (WSJ)
- Dec. 10** The United Nations Security Council passes a resolution extending the "oil-for-food" program by six months, under terms identical to the previous six-month phase. Iraq had previously stated a willingness to resume oil exports if a six-month extension were to be granted. (DJ)
- Dec. 14** Adrian Lajous, the director of Mexico's state-owned oil company Petroleos Mexicanos (Pemex), resigns. The move comes in the wake of delays and large cost overruns in the \$10.5 billion Cantarell project, which seeks to increase Mexico's oil production capacity. (WSJ)

- Dec. 15** Chevron, BP Amoco, and Conoco agree to pay a total of \$153 million to settle allegations that they underpaid royalties for oil produced on federal lands. The issue stems from a 1996 lawsuit filed by two former Atlantic Richfield executives. (WSJ)
- Dec. 16** Exxon Mobil announces that it intends to cut 14,000 jobs, 13 percent of its work force, in a round of layoffs stemming from its recent merger, as part of an effort to increase cost savings to \$3.8 billion per year by 2002. (NYT) (WSJ)
- Dec. 17** Turkmenistan signs a gas sales agreement with the Russian natural gas company Gazprom. Turkmenistan agrees to accept more than fifty percent of the value of its payments from Gazprom in Russian foodstuffs and consumer goods, rather than cash. (DJ)
- Dec. 17** The United Nations Security Council passes a resolution on returning weapons inspectors to Iraq. Under the resolution, sanctions could be suspended if Iraq were to cooperate with the inspectors over a period of nine months. Iraq has stated that it does not accept the resolution. (DJ)
- Dec. 21** The Export-Import Bank drops a proposed \$500 million loan to Russia's Tyumen Oil after Secretary of State Madeleine Albright exercises her statutory authority to block the transaction. The loan had been controversial in part because of Tyumen Oil's dispute with BP Amoco over the bankruptcy of Russian oil firm Sidanco, in which BP Amoco owns a major stake. BP Amoco and Tyumen Oil later settled the dispute on December 23. (DJ)
- Dec. 21** The government of Kazakhstan signs an agreement with four foreign firms, including Texaco, for the construction of a pipeline from Bolshoy-Chagan to Atyrau, which will link into the export pipeline being developed by the Caspian Pipeline Consortium (CPC). The initial capacity of the pipeline will be 150,000 barrels per day, beginning in 2002. (DJ)
- Dec. 21** President Clinton announces the publication of final rules on sulfur content in gasoline and environmental standards for light trucks and sport utility vehicles. The new sulfur content standard of 30 parts per million will become effective in 2004. Trucks and sport utility vehicles will be under the same emissions standards as automobiles by 2009. (WP)
- Dec. 23** Amid concerns over possible consumer hoarding of petroleum products in response to fears of supply disruptions caused by the "Y2K Bug," Secretary of Energy Bill Richardson advises drivers that they do not need to fill up their gasoline tanks or otherwise hoard fuel during the rollover to the year 2000, as there is no reason to believe there will be major disruptions that would affect the availability of fuels in the United States. (DJ)
- Dec. 24** South Korea's Hyundai and Samsung sign a memorandum of understanding paving the way for the merger of their petrochemical business units. The merger comes as part of South Korea's drive to ease overcapacity in several key industries, including petrochemicals. (DJ)
- Dec. 26** Iraqi officials state that Iraq intends to export the same amount of oil during the recently begun seventh phase of the "oil-for-food" program as it had during the previous phase. Iraq's exports during the sixth phase averaged 2.1 to 2.2 million barrels per day. The country had suspended exports on November 24 to protest short extensions of the previous phase of the program, and had restarted exports in mid-December. (WSJ)
- Dec. 28** BP Amoco announces that it is withdrawing from a project to develop natural gas deposits in Ukraine, which BP Amoco said it had determined were below the minimum scale in which the company was willing to invest. BP Amoco's action will open the exploration blocks in central and eastern Ukraine to other firms, but is seen as a major blow to Ukraine's hopes of becoming less dependent on gas imports, due to the loss of BP Amoco's advanced deep-drilling technology. (NYT)
- Dec. 31** The Panama Canal Zone reverts to Panamanian sovereignty at noon, after nearly a century of American control. More than a half-million barrels of crude oil and petroleum products transit the Canal each day. (DJ)
- Dec. 31** After nearly two years of construction, Exxon Mobil completes the Sable Offshore Energy Project, a \$2 billion project to bring natural gas from fields offshore Nova Scotia to the northeastern United States. The fields are estimated to contain 3.5 trillion cubic feet of natural gas. (DJ)
- Dec. 31** Russian President Boris Yeltsin makes a surprise announcement that he is resigning immediately. Vladimir Putin becomes Acting President, and presidential elections will be held within 90 days, with a date to be set by the State Duma. Russia is the largest exporter of energy in the world. (DJ)

Appendix E

**World Energy
Consumption (Btu),
1990-1999**

Table E1 World Primary Energy Consumption (Btu), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	10.92	10.90	10.92	11.44	11.75	11.76	12.19	12.32	12.11	12.52
Mexico.....	4.98	5.02	5.12	5.14	5.30	5.34	5.56	5.76	6.05	6.14
United States.....	84.19	84.06	85.51	87.31	89.23	90.94	93.91	94.32	94.57	97.05
Other.....	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	100.10	99.99	101.57	103.91	106.30	108.04	111.68	112.41	112.74	115.72
Central & South America										
Argentina.....	1.90	2.00	2.12	2.28	2.32	2.40	2.47	2.57	2.73	2.71
Brazil.....	5.65	5.90	5.95	6.21	6.55	6.87	7.37	7.74	8.24	8.51
Chile.....	0.56	0.56	0.60	0.65	0.69	0.75	0.83	0.96	0.92	0.97
Colombia.....	0.89	0.97	0.94	1.07	1.10	1.11	1.19	1.23	1.28	1.22
Cuba.....	0.50	0.46	0.41	0.40	0.41	0.42	0.43	0.39	0.37	0.39
Venezuela.....	2.08	2.21	2.22	2.29	2.42	2.47	2.57	2.66	2.77	2.80
Other.....	2.54	2.64	2.72	2.84	3.03	3.23	3.29	3.46	3.70	3.77
Total.....	14.13	14.74	14.96	15.75	16.52	17.25	18.15	19.02	20.01	20.37
Western Europe										
Austria.....	1.17	1.21	1.20	1.23	1.23	1.27	1.29	1.33	1.34	1.39
Belgium.....	2.16	2.27	2.25	2.25	2.31	2.36	2.55	2.63	2.67	2.61
Denmark.....	0.82	0.83	0.82	0.85	0.84	0.88	0.88	0.91	0.90	0.89
Finland.....	1.13	1.14	1.18	1.20	1.22	1.12	1.14	1.27	1.29	1.31
France.....	8.81	9.39	9.41	9.37	9.28	9.54	9.92	9.87	10.17	10.26
Germany.....	--	14.21	13.98	14.06	13.75	14.32	14.30	14.24	14.18	13.98
Germany, East.....	3.33	--	--	--	--	--	--	--	--	--
Germany, West.....	11.48	--	--	--	--	--	--	--	--	--
Greece.....	1.05	1.07	1.04	1.09	1.11	1.12	1.15	1.22	1.29	1.28
Ireland.....	0.37	0.39	0.40	0.40	0.42	0.45	0.47	0.49	0.53	0.56
Italy.....	6.96	7.18	7.22	7.05	6.97	7.56	7.64	7.72	7.97	8.04
Netherlands.....	3.37	3.56	3.53	3.60	3.58	3.70	3.82	3.83	3.81	3.85
Norway.....	1.58	1.59	1.65	1.65	1.66	1.73	1.74	1.81	1.86	1.89
Portugal.....	0.75	0.75	0.76	0.78	0.82	0.85	0.88	0.94	0.99	1.02
Spain.....	3.94	4.15	4.12	4.04	4.22	4.48	4.39	4.76	5.04	5.23
Sweden.....	2.17	2.17	2.17	2.18	2.16	2.34	2.28	2.18	2.28	2.20
Switzerland.....	1.17	1.21	1.21	1.19	1.20	1.17	1.21	1.23	1.21	1.23
Turkey.....	1.97	2.08	2.10	2.33	2.23	2.47	2.74	2.96	3.02	2.95
United Kingdom.....	9.29	9.60	9.33	9.65	9.64	9.61	10.16	9.87	9.94	9.92
Former Yugoslavia.....	2.13	1.87	--	--	--	--	--	--	--	--
Croatia.....	--	--	0.33	0.33	0.36	0.37	0.37	0.38	0.40	0.41
Serbia and Montenegro.....	--	--	0.69	0.55	0.60	0.46	0.70	0.75	0.77	0.61
Other.....	0.30	0.31	0.81	0.80	0.79	0.86	0.84	0.88	0.85	0.87
Total.....	63.94	64.96	64.19	64.61	64.39	66.66	68.49	69.24	70.53	70.50
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	1.30	1.01	1.00	0.93	0.92	0.99	1.01	0.96	0.89	0.84
Former Czechoslovakia.....	3.98	3.61	3.23	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	1.57	1.58	1.65	1.78	1.77	1.75	1.54
Slovakia.....	--	--	--	0.75	0.76	0.82	0.83	0.81	0.79	0.70
Hungary.....	1.26	1.18	1.06	1.05	1.05	1.05	1.08	1.06	1.07	1.07
Poland.....	3.95	3.88	3.87	4.00	3.84	3.69	3.55	4.11	3.87	3.84
Romania.....	2.88	2.24	2.06	1.99	1.88	2.02	2.06	2.03	1.75	1.64
Former U.S.S.R.....	60.69	57.46	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	0.97	0.83	0.75	0.72	0.64	0.63	0.53	0.55
Belarus.....	--	--	1.57	1.34	1.10	1.06	1.07	1.07	1.07	1.10
Kazakhstan.....	--	--	3.37	2.79	2.25	2.04	1.99	1.70	1.50	1.46
Lithuania.....	--	--	0.44	0.37	0.36	0.37	0.32	0.33	0.36	0.32
Russia.....	--	--	34.87	32.66	29.62	28.21	27.89	26.01	25.80	26.01
Turkmenistan.....	--	--	0.29	0.27	0.27	0.29	0.28	0.29	0.25	0.30
Ukraine.....	--	--	8.89	8.58	7.31	7.27	6.68	6.42	6.18	6.43
Uzbekistan.....	--	--	1.66	2.04	1.76	1.85	1.91	1.88	1.84	1.88
Other.....	0.11	0.09	1.82	1.38	1.19	1.18	1.28	1.23	1.24	1.22
Total.....	74.16	69.47	65.09	60.56	54.63	53.21	52.36	50.30	48.89	48.90

See footnotes at end of table.

Table E1 World Primary Energy Consumption (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Bahrain.....	0.26	0.29	0.24	0.29	0.28	0.29	0.29	0.35	0.36	0.37
Iran.....	3.11	3.24	3.35	3.47	3.66	3.81	3.95	4.44	4.50	4.67
Iraq.....	0.92	0.60	0.84	0.96	1.08	1.13	1.12	1.03	1.13	1.16
Israel.....	0.45	0.48	0.54	0.60	0.62	0.61	0.65	0.70	0.76	0.78
Kuwait.....	0.45	0.11	0.26	0.43	0.50	0.52	0.64	0.67	0.70	0.68
Oman.....	0.18	0.21	0.20	0.23	0.24	0.22	0.23	0.27	0.35	0.30
Qatar.....	0.35	0.41	0.49	0.57	0.57	0.58	0.59	0.64	0.65	0.70
Saudi Arabia.....	3.15	3.28	3.39	3.52	3.64	3.85	4.05	4.08	4.32	4.34
Syria.....	0.59	0.56	0.59	0.64	0.68	0.65	0.70	0.74	0.79	0.81
United Arab Emirates.....	1.23	1.49	1.55	1.48	1.49	1.60	1.67	1.79	1.84	1.88
Yemen.....	0.16	0.17	0.17	0.14	0.14	0.14	0.14	0.15	0.14	0.14
Other.....	0.29	0.33	0.36	0.39	0.45	0.47	0.49	0.52	0.54	0.54
Total.....	11.12	11.16	11.98	12.72	13.34	13.89	14.55	15.37	16.08	16.37
Africa										
Algeria.....	1.22	1.35	1.30	1.22	1.28	1.34	1.31	1.26	1.25	1.31
Angola.....	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.10
Egypt.....	1.44	1.43	1.43	1.51	1.55	1.58	1.73	1.80	1.88	2.02
Gabon.....	0.04	0.04	0.05	0.04	0.05	0.05	0.06	0.06	0.05	0.05
Libya.....	0.51	0.53	0.49	0.51	0.53	0.54	0.57	0.59	0.57	0.58
Morocco.....	0.31	0.32	0.33	0.36	0.40	0.37	0.39	0.40	0.41	0.41
Nigeria.....	0.70	0.77	0.78	0.80	0.74	0.83	0.85	0.85	0.85	0.90
South Africa.....	3.36	3.52	3.79	3.87	4.07	4.10	4.15	4.54	4.49	4.39
Zimbabwe.....	0.24	0.23	0.24	0.22	0.23	0.23	0.23	0.22	0.21	0.22
Other.....	1.44	1.44	1.51	1.54	1.63	1.63	1.70	1.76	1.78	1.79
Total.....	9.34	9.74	10.01	10.17	10.58	10.76	11.07	11.59	11.60	11.77
Far East & Oceania										
Australia.....	3.67	3.70	3.86	3.93	3.96	4.12	4.19	4.52	4.64	4.74
Bangladesh.....	0.25	0.26	0.29	0.31	0.34	0.37	0.39	0.40	0.42	0.45
Brunei.....	0.07	0.04	0.05	0.05	0.05	0.06	0.06	0.07	0.06	0.08
China.....	27.01	28.26	29.31	31.36	34.04	35.18	35.50	36.72	35.31	31.88
Hong Kong.....	0.48	0.46	0.50	0.55	0.59	0.64	0.67	0.50	0.68	0.74
India.....	7.78	8.06	8.71	9.10	9.59	11.00	11.13	11.41	11.63	12.18
Indonesia.....	2.26	2.36	2.54	2.87	3.06	3.28	3.58	3.80	3.62	3.60
Japan.....	17.93	18.89	19.15	19.42	20.18	20.83	21.48	21.75	21.48	21.71
Korea, North.....	1.64	1.68	1.61	1.61	1.60	1.58	1.54	1.42	1.47	1.46
Korea, South.....	3.66	4.17	4.65	5.38	5.89	6.43	6.98	7.63	6.86	7.35
Malaysia.....	0.98	1.09	1.14	1.29	1.43	1.47	1.64	1.66	1.68	1.70
New Zealand.....	0.73	0.73	0.74	0.77	0.80	0.86	0.82	0.80	0.79	0.81
Pakistan.....	1.18	1.25	1.29	1.41	1.50	1.58	1.70	1.68	1.73	1.81
Philippines.....	0.73	0.73	0.77	0.84	0.90	0.96	1.02	1.09	1.12	1.11
Singapore.....	0.80	0.86	0.97	1.08	1.16	1.18	1.25	1.42	1.38	1.36
Taiwan.....	2.04	2.09	2.21	2.43	2.61	2.86	3.06	3.25	3.37	3.52
Thailand.....	1.25	1.37	1.47	1.68	1.87	2.25	2.44	2.53	2.40	2.47
Vietnam.....	0.28	0.28	0.30	0.38	0.41	0.51	0.53	0.52	0.54	0.58
Other.....	0.62	0.57	0.55	0.58	0.63	0.64	0.64	0.66	0.69	0.70
Total.....	73.38	76.83	80.10	85.04	90.61	95.78	98.62	101.84	99.86	98.24
World Total.....	346.18	346.89	347.90	352.76	356.36	365.60	374.91	379.77	379.69	381.88

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, geothermal, solar, wind, and wood and waste electric power, as reported in Tables E2-E7. Primary energy consumption for the United States also includes:

(1) the consumption of geothermal, solar, and wood and waste 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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	3.39	3.24	3.28	3.33	3.40	3.45	3.53	3.66	3.68	3.80
Mexico.....	3.44	3.45	3.47	3.44	3.62	3.47	3.56	3.70	3.95	4.03
United States.....	33.55	32.85	33.53	33.84	34.67	34.55	35.76	36.27	36.93	37.96
Other.....	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	40.39	39.55	40.30	40.62	41.71	41.49	42.86	43.63	44.57	45.80
Central & South America										
Argentina.....	0.84	0.84	0.90	0.97	0.92	0.91	0.97	0.98	1.03	1.04
Bolivia.....	0.05	0.05	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.07
Brazil.....	2.71	2.73	2.77	2.88	3.10	3.24	3.52	3.72	3.91	3.98
Chile.....	0.27	0.29	0.30	0.34	0.36	0.40	0.44	0.47	0.48	0.49
Colombia.....	0.39	0.41	0.46	0.48	0.48	0.50	0.55	0.57	0.59	0.60
Costa Rica.....	0.04	0.04	0.05	0.06	0.06	0.07	0.06	0.06	0.07	0.07
Cuba.....	0.48	0.44	0.39	0.39	0.40	0.41	0.42	0.36	0.35	0.36
Dominican Republic.....	0.13	0.13	0.14	0.12	0.14	0.15	0.16	0.17	0.18	0.18
Ecuador.....	0.20	0.21	0.24	0.22	0.24	0.25	0.26	0.27	0.28	0.28
El Salvador.....	0.03	0.04	0.05	0.05	0.05	0.06	0.06	0.07	0.08	0.08
Guatemala.....	0.05	0.05	0.06	0.07	0.08	0.08	0.09	0.10	0.12	0.12
Honduras.....	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06
Jamaica.....	0.10	0.10	0.11	0.11	0.12	0.13	0.13	0.14	0.14	0.15
Netherlands Antilles.....	0.15	0.14	0.14	0.14	0.14	0.15	0.15	0.16	0.16	0.16
Panama.....	0.06	0.07	0.09	0.09	0.09	0.09	0.10	0.10	0.12	0.12
Peru.....	0.25	0.23	0.25	0.26	0.27	0.30	0.32	0.34	0.35	0.35
Puerto Rico.....	0.29	0.37	0.33	0.34	0.35	0.34	0.33	0.32	0.34	0.34
Trinidad and Tobago.....	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.05	0.04	0.05
Uruguay.....	0.07	0.06	0.07	0.07	0.07	0.06	0.07	0.08	0.09	0.09
Venezuela.....	0.79	0.81	0.83	0.83	0.85	0.88	0.88	0.89	0.91	0.93
Virgin Islands, U.S.....	0.11	0.11	0.12	0.11	0.11	0.18	0.16	0.19	0.26	0.27
Other.....	0.25	0.24	0.24	0.26	0.27	0.30	0.28	0.31	0.35	0.34
Total.....	7.34	7.46	7.65	7.92	8.26	8.66	9.11	9.47	9.97	10.15
Western Europe										
Austria.....	0.45	0.49	0.48	0.48	0.49	0.49	0.48	0.51	0.52	0.54
Belgium.....	0.97	1.06	1.08	1.05	1.08	1.05	1.19	1.25	1.27	1.20
Denmark.....	0.40	0.41	0.40	0.41	0.44	0.47	0.50	0.49	0.48	0.47
Finland.....	0.47	0.48	0.46	0.44	0.46	0.36	0.40	0.46	0.44	0.45
France.....	3.73	3.99	3.96	3.85	3.77	3.90	4.00	4.04	4.19	4.18
Germany.....	--	5.85	5.87	5.97	5.92	5.92	5.98	5.96	5.99	5.79
Germany, East.....	0.58	--	--	--	--	--	--	--	--	--
Germany, West.....	4.90	--	--	--	--	--	--	--	--	--
Greece.....	0.67	0.68	0.70	0.72	0.74	0.74	0.77	0.79	0.82	0.81
Ireland.....	0.19	0.21	0.22	0.22	0.24	0.26	0.26	0.28	0.31	0.35
Italy.....	3.94	3.92	4.08	3.87	3.84	4.28	4.28	4.26	4.30	4.10
Luxembourg.....	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09
Netherlands.....	1.52	1.57	1.59	1.58	1.59	1.65	1.61	1.68	1.69	1.75
Norway.....	0.38	0.37	0.37	0.37	0.37	0.39	0.43	0.45	0.45	0.45
Portugal.....	0.52	0.53	0.58	0.55	0.56	0.60	0.57	0.61	0.68	0.69
Spain.....	2.09	2.21	2.29	2.18	2.33	2.60	2.43	2.69	2.88	2.98
Sweden.....	0.65	0.66	0.70	0.68	0.72	0.84	0.82	0.67	0.76	0.74
Switzerland.....	0.56	0.58	0.59	0.57	0.58	0.53	0.56	0.58	0.55	0.55
Turkey.....	0.98	0.97	1.02	1.16	1.11	1.23	1.30	1.29	1.27	1.26
United Kingdom.....	3.59	3.68	3.67	3.70	3.72	3.72	3.72	3.64	3.58	3.47
Former Yugoslavia.....	0.67	0.53	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	0.07	0.05	0.04	0.04	0.04	0.04	0.04	0.05
Croatia.....	--	--	0.14	0.13	0.17	0.19	0.17	0.17	0.19	0.20
Macedonia, TFYR.....	--	--	0.04	0.05	0.04	0.04	0.06	0.04	0.05	0.05
Serbia and Montenegro.....	--	--	0.12	0.07	0.07	0.06	0.11	0.14	0.13	0.14
Slovenia.....	--	--	0.07	0.09	0.09	0.10	0.11	0.11	0.12	0.12
Other.....	0.07	0.07	0.09	0.09	0.09	0.09	0.09	0.15	0.10	0.10
Total.....	27.42	28.32	28.69	28.37	28.51	29.61	29.97	30.38	30.92	30.54

See footnotes at end of table.

Table E2 World Petroleum Consumption (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.04	0.04	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.02
Bulgaria.....	0.41	0.26	0.28	0.25	0.27	0.28	0.25	0.23	0.22	0.23
Former Czechoslovakia.....	0.60	0.49	0.45	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	0.31	0.32	0.33	0.38	0.36	0.37	0.38
Slovakia.....	--	--	--	0.13	0.14	0.14	0.14	0.14	0.15	0.15
Hungary.....	0.37	0.34	0.36	0.35	0.36	0.33	0.31	0.31	0.34	0.33
Poland.....	0.58	0.57	0.62	0.62	0.63	0.65	0.75	0.81	0.85	0.86
Romania.....	0.82	0.60	0.53	0.53	0.47	0.52	0.55	0.58	0.53	0.50
Former U.S.S.R.....	17.48	17.45	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.10	0.05	0.02	0.01	0.01	0.01	0.01	0.01
Azerbaijan.....	--	--	0.43	0.41	0.39	0.38	0.28	0.28	0.31	0.31
Belarus.....	--	--	0.79	0.62	0.51	0.49	0.44	0.41	0.40	0.40
Estonia.....	--	--	0.05	0.06	0.05	0.05	0.06	0.06	0.06	0.06
Georgia.....	--	--	0.06	0.03	0.02	0.02	0.04	0.04	0.05	0.05
Kazakhstan.....	--	--	0.85	0.71	0.63	0.59	0.53	0.44	0.42	0.43
Kyrgyzstan.....	--	--	0.07	0.04	0.02	0.02	0.03	0.02	0.03	0.03
Latvia.....	--	--	0.11	0.09	0.08	0.09	0.10	0.08	0.07	0.07
Lithuania.....	--	--	0.18	0.16	0.17	0.16	0.14	0.14	0.16	0.16
Moldova.....	--	--	0.12	0.09	0.05	0.05	0.04	0.04	0.03	0.03
Russia.....	--	--	9.32	7.86	6.66	6.25	5.52	5.37	5.13	5.02
Tajikistan.....	--	--	0.04	0.04	0.01	0.02	0.05	0.05	0.06	0.06
Turkmenistan.....	--	--	0.16	0.14	0.13	0.13	0.13	0.14	0.12	0.12
Ukraine.....	--	--	1.74	1.22	1.06	1.01	0.80	0.74	0.77	0.76
Uzbekistan.....	--	--	0.40	0.37	0.35	0.38	0.30	0.30	0.29	0.30
Total.....	20.32	19.75	16.72	14.13	12.37	11.93	10.85	10.57	10.39	10.27
Middle East										
Bahrain.....	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.06
Cyprus.....	0.07	0.07	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10
Iran.....	2.11	2.27	2.28	2.34	2.36	2.39	2.34	2.57	2.46	2.51
Iraq.....	0.83	0.56	0.73	0.86	0.95	1.00	1.00	0.91	1.01	1.04
Israel.....	0.35	0.37	0.43	0.42	0.42	0.44	0.45	0.49	0.53	0.54
Jordan.....	0.14	0.13	0.15	0.15	0.17	0.18	0.19	0.19	0.20	0.20
Kuwait.....	0.18	0.09	0.17	0.23	0.28	0.30	0.30	0.33	0.37	0.38
Lebanon.....	0.07	0.11	0.11	0.14	0.16	0.17	0.18	0.20	0.21	0.21
Oman.....	0.08	0.08	0.08	0.08	0.08	0.09	0.10	0.10	0.11	0.11
Qatar.....	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.10	0.10	0.11
Saudi Arabia.....	2.02	2.09	2.13	2.19	2.24	2.45	2.52	2.40	2.59	2.63
Syria.....	0.43	0.37	0.39	0.44	0.48	0.48	0.49	0.51	0.52	0.53
United Arab Emirates.....	0.53	0.67	0.60	0.65	0.69	0.69	0.66	0.72	0.71	0.72
Yemen.....	0.16	0.17	0.17	0.14	0.14	0.14	0.14	0.15	0.14	0.14
Total.....	7.08	7.09	7.44	7.84	8.18	8.55	8.60	8.81	9.09	9.27

See footnotes at end of table.

Table E2 World Petroleum Consumption (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Africa										
Algeria.....	0.38	0.41	0.42	0.43	0.45	0.44	0.43	0.44	0.40	0.41
Angola.....	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.06	0.07	0.07
Cameroon.....	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.06	0.05	0.05
Congo (Brazzaville).....	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.01	0.01
Congo (Kinshasa).....	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05
Cote d'Ivoire (Ivory Coast).....	0.08	0.08	0.09	0.09	0.11	0.11	0.12	0.12	0.12	0.12
Egypt.....	0.99	0.97	0.94	0.95	0.96	0.98	1.07	1.13	1.20	1.23
Ethiopia.....	0.04	0.03	0.05	0.05	0.03	0.03	0.02	0.02	0.04	0.04
Gabon.....	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.04	0.04
Ghana.....	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.05	0.06	0.06
Kenya.....	0.09	0.08	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11
Libya.....	0.33	0.35	0.31	0.34	0.35	0.36	0.38	0.39	0.37	0.38
Morocco.....	0.24	0.24	0.27	0.28	0.30	0.29	0.28	0.29	0.29	0.30
Nigeria.....	0.51	0.53	0.54	0.55	0.52	0.58	0.59	0.58	0.56	0.58
Senegal.....	0.04	0.03	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05
South Africa.....	0.63	0.69	0.85	0.83	0.84	0.86	0.88	0.90	0.92	0.94
Sudan.....	0.05	0.08	0.07	0.07	0.06	0.06	0.06	0.06	0.07	0.06
Tunisia.....	0.13	0.14	0.15	0.15	0.15	0.14	0.15	0.16	0.16	0.17
Zimbabwe.....	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.07
Other.....	0.38	0.37	0.40	0.41	0.46	0.44	0.44	0.45	0.46	0.45
Total.....	4.17	4.29	4.50	4.56	4.69	4.77	4.90	5.04	5.08	5.20
Far East & Oceania										
Australia.....	1.42	1.42	1.43	1.50	1.57	1.66	1.59	1.63	1.65	1.69
Bangladesh.....	0.08	0.08	0.08	0.09	0.10	0.11	0.11	0.12	0.12	0.12
Brunei.....	0.01	0.02	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Burma.....	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.06	0.06
China.....	4.85	5.29	5.57	6.19	6.57	6.98	7.44	8.10	8.44	8.88
Guam.....	0.03	0.03	0.04	0.05	0.07	0.05	0.04	0.05	0.04	0.05
Hong Kong.....	0.27	0.28	0.32	0.33	0.38	0.39	0.39	0.26	0.39	0.48
India.....	2.44	2.49	2.66	2.73	2.94	3.27	3.48	3.66	3.86	4.04
Indonesia.....	1.36	1.45	1.48	1.59	1.61	1.70	1.84	2.09	1.98	2.06
Japan.....	10.44	10.76	11.10	10.95	11.56	11.63	11.92	11.59	11.18	11.30
Korea, North.....	0.15	0.16	0.15	0.15	0.14	0.13	0.10	0.06	0.14	0.15
Korea, South.....	2.15	2.53	3.05	3.54	3.88	4.23	4.57	5.00	4.09	4.23
Malaysia.....	0.55	0.58	0.62	0.70	0.79	0.83	0.91	0.94	0.92	0.90
Mongolia.....	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
New Zealand.....	0.22	0.21	0.22	0.25	0.26	0.31	0.27	0.26	0.27	0.27
Pakistan.....	0.47	0.47	0.49	0.55	0.61	0.64	0.71	0.72	0.75	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.....	0.50	0.50	0.55	0.60	0.64	0.69	0.72	0.77	0.79	0.75
Singapore.....	0.80	0.85	0.93	1.03	1.11	1.13	1.20	1.36	1.32	1.31
Sri Lanka.....	0.07	0.07	0.08	0.09	0.09	0.10	0.11	0.12	0.13	0.13
Taiwan.....	1.14	1.15	1.17	1.30	1.39	1.56	1.64	1.63	1.69	1.73
Thailand.....	0.84	0.91	1.00	1.14	1.26	1.42	1.56	1.54	1.46	1.50
Vietnam.....	0.11	0.12	0.13	0.16	0.18	0.20	0.24	0.27	0.28	0.30
Other.....	0.15	0.15	0.14	0.14	0.14	0.14	0.15	0.15	0.16	0.17
Total.....	28.15	29.64	31.31	33.17	35.39	37.30	39.12	40.45	39.81	40.96
World Total.....	134.87	136.09	136.61	136.60	139.11	142.30	145.41	148.34	149.84	152.20

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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	2.41	2.44	2.64	2.78	2.92	2.85	3.06	3.05	2.94	3.17
Mexico.....	1.02	1.06	1.06	1.08	1.14	1.16	1.23	1.26	1.36	1.32
United States.....	19.30	19.61	20.13	20.83	21.29	22.16	22.56	22.53	21.92	22.29
Total.....	22.73	23.10	23.83	24.69	25.35	26.17	26.85	26.84	26.23	26.77
Central & South America										
Argentina.....	0.74	0.82	0.82	0.87	0.89	1.00	1.06	1.05	1.13	1.24
Barbados.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.03	0.03
Brazil.....	0.11	0.14	0.15	0.15	0.16	0.17	0.19	0.20	0.21	0.24
Chile.....	0.07	0.05	0.05	0.06	0.07	0.07	0.07	0.10	0.12	0.15
Colombia.....	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.20	0.21	0.17
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.03	0.01	0.02
Ecuador.....	0.01	(s)	(s)	(s)	(s)	0.01	0.01	(s)	(s)	(s)
Peru.....	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.01	0.01	0.01
Trinidad and Tobago.....	0.18	0.21	0.20	0.23	0.26	0.28	0.32	0.34	0.34	0.35
Venezuela.....	0.91	0.95	0.91	0.97	1.04	1.06	1.14	1.18	1.32	1.30
Total.....	2.20	2.36	2.34	2.50	2.65	2.80	3.00	3.17	3.39	3.53
Western Europe										
Austria.....	0.23	0.24	0.24	0.25	0.26	0.28	0.30	0.29	0.30	0.30
Belgium.....	0.36	0.39	0.40	0.42	0.43	0.47	0.52	0.50	0.55	0.59
Denmark.....	0.08	0.09	0.09	0.11	0.12	0.14	0.16	0.19	0.19	0.20
Finland.....	0.10	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.15	0.15
France.....	1.09	1.23	1.25	1.26	1.25	1.27	1.41	1.40	1.43	1.48
Germany.....	--	2.48	2.45	2.53	2.65	3.06	3.06	2.93	2.95	2.97
Germany, East.....	0.14	--	--	--	--	--	--	--	--	--
Germany, West.....	2.05	--	--	--	--	--	--	--	--	--
Greece.....	0.01	0.01	0.01	(s)	(s)	(s)	(s)	0.01	0.03	0.05
Ireland.....	0.08	0.08	0.08	0.10	0.10	0.10	0.12	0.12	0.12	0.13
Italy.....	1.72	1.83	1.81	1.85	1.79	1.97	2.03	2.09	2.26	2.45
Luxembourg.....	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Netherlands.....	1.37	1.53	1.49	1.53	1.48	1.52	1.68	1.58	1.57	1.52
Norway.....	0.09	0.08	0.14	0.10	0.10	0.11	0.11	0.14	0.14	0.17
Portugal.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	0.03	0.09
Spain.....	0.22	0.25	0.26	0.26	0.27	0.34	0.38	0.50	0.51	0.59
Sweden.....	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Switzerland.....	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.10	0.10	0.11
Turkey.....	0.13	0.15	0.17	0.19	0.20	0.26	0.31	0.37	0.39	0.48
United Kingdom.....	2.08	2.24	2.20	2.51	2.65	2.83	3.35	3.20	3.26	3.46
Former Yugoslavia.....	0.26	0.26	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	0.02	0.01	0.01	0.09	(s)	(s)	0.01	0.01
Croatia.....	--	--	0.10	0.11	0.10	0.09	0.09	0.10	0.10	0.10
Macedonia, TFYR.....	--	--	0.01	0.01	0.00	0.00	0.00	0.00	(s)	(s)
Serbia and Montenegro.....	--	--	0.08	0.04	0.06	0.04	0.10	0.10	0.11	0.06
Slovenia.....	--	--	0.02	0.03	0.03	0.03	0.04	0.03	0.03	0.03
Total.....	10.12	11.10	11.05	11.54	11.75	12.88	13.98	13.84	14.28	14.99

See footnotes at end of table.

Table E3 World Dry Natural Gas Consumption (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	0.23	0.20	0.18	0.17	0.17	0.21	0.22	0.18	0.13	0.12
Former Czechoslovakia.....	0.54	0.49	0.40	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	0.26	0.24	0.29	0.33	0.34	0.34	0.34
Slovakia.....	--	--	--	0.18	0.21	0.27	0.27	0.26	0.25	0.25
Hungary.....	0.39	0.39	0.34	0.37	0.37	0.40	0.45	0.43	0.43	0.44
Poland.....	0.39	0.35	0.34	0.36	0.37	0.39	0.43	0.43	0.44	0.48
Romania.....	1.35	1.05	0.94	0.91	0.85	0.90	0.89	0.83	0.65	0.62
Former U.S.S.R.....	25.61	25.31	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.07	0.05	0.06	0.06	0.06	0.05	0.05	0.05
Azerbaijan.....	--	--	0.53	0.39	0.34	0.32	0.33	0.33	0.20	0.21
Belarus.....	--	--	0.67	0.62	0.52	0.47	0.51	0.55	0.57	0.63
Estonia.....	--	--	0.05	0.02	0.02	0.03	0.03	0.04	0.04	0.04
Georgia.....	--	--	0.18	0.09	0.06	0.08	0.07	0.07	0.07	0.04
Kazakhstan.....	--	--	0.74	0.55	0.55	0.40	0.53	0.52	0.50	0.50
Kyrgyzstan.....	--	--	0.09	0.08	0.07	0.03	0.07	0.07	0.07	0.07
Latvia.....	--	--	0.06	0.03	0.02	0.04	0.04	0.05	0.05	0.05
Lithuania.....	--	--	0.14	0.09	0.08	0.10	0.09	0.10	0.11	0.08
Moldova.....	--	--	0.08	0.07	0.05	0.05	0.08	0.09	0.09	0.08
Russia.....	--	--	16.61	16.31	15.34	14.62	14.62	13.54	14.16	14.13
Tajikistan.....	--	--	0.07	0.05	0.06	0.03	0.04	0.04	0.04	0.04
Turkmenistan.....	--	--	0.15	0.15	0.16	0.18	0.18	0.17	0.16	0.21
Ukraine.....	--	--	3.62	4.01	3.44	3.07	3.04	2.93	2.70	2.85
Uzbekistan.....	--	--	1.11	1.56	1.25	1.37	1.46	1.48	1.43	1.44
Total.....	28.51	27.80	26.39	26.32	24.21	23.31	23.74	22.49	22.47	22.66
Middle East										
Bahrain.....	0.21	0.24	0.20	0.24	0.24	0.24	0.24	0.29	0.31	0.31
Iran.....	0.88	0.86	0.93	0.99	1.19	1.31	1.50	1.76	1.93	2.05
Iraq.....	0.08	0.04	0.11	0.09	0.12	0.12	0.12	0.11	0.11	0.12
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Kuwait.....	0.27	0.02	0.10	0.20	0.22	0.22	0.34	0.34	0.33	0.30
Oman.....	0.10	0.13	0.12	0.15	0.15	0.14	0.13	0.17	0.24	0.19
Qatar.....	0.29	0.34	0.42	0.50	0.50	0.50	0.51	0.54	0.55	0.59
Saudi Arabia.....	1.13	1.18	1.26	1.33	1.39	1.41	1.53	1.68	1.73	1.71
Syria.....	0.10	0.12	0.12	0.13	0.13	0.10	0.14	0.15	0.20	0.21
United Arab Emirates.....	0.69	0.83	0.94	0.84	0.80	0.92	1.00	1.07	1.12	1.16
Total.....	3.77	3.77	4.20	4.47	4.75	4.96	5.52	6.13	6.53	6.64
Africa										
Algeria.....	0.80	0.91	0.86	0.77	0.81	0.88	0.86	0.80	0.83	0.88
Angola.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	(s)	0.02	0.02	0.03	0.05
Egypt.....	0.30	0.34	0.37	0.42	0.44	0.46	0.50	0.50	0.51	0.57
Equatorial Guinea.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)
Gabon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	0.18	0.18	0.18	0.18	0.18	0.18	0.19	0.20	0.20	0.19
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mozambique.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)
Nigeria.....	0.14	0.18	0.18	0.19	0.17	0.19	0.20	0.22	0.22	0.23
Senegal.....	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
South Africa.....	0.00	0.00	(s)	0.07	0.07	0.07	0.07	0.06	0.05	0.05
Tunisia.....	0.07	0.05	0.04	0.06	0.08	0.07	0.08	0.10	0.12	0.12
Total.....	1.52	1.69	1.66	1.71	1.78	1.87	1.94	1.94	1.99	2.13

See footnotes at end of table.

Table E3 World Dry Natural Gas Consumption (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	0.07	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Australia.....	0.65	0.61	0.63	0.66	0.69	0.74	0.75	0.74	0.78	0.78
Bangladesh.....	0.15	0.16	0.19	0.21	0.23	0.26	0.27	0.27	0.29	0.32
Brunei.....	0.06	0.02	0.04	0.03	0.03	0.04	0.03	0.04	0.03	0.04
Burma.....	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.06
China.....	0.58	0.61	0.61	0.64	0.68	0.69	0.76	0.86	0.91	0.99
Hong Kong.....	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.02
India.....	0.46	0.52	0.55	0.61	0.68	0.72	0.80	0.83	0.88	0.87
Indonesia.....	0.60	0.61	0.74	0.93	1.05	1.16	1.21	1.23	1.07	1.06
Japan.....	1.69	2.07	2.12	2.13	2.28	2.31	2.50	2.55	2.65	2.76
Korea, South.....	0.12	0.14	0.18	0.23	0.30	0.37	0.48	0.59	0.55	0.67
Malaysia.....	0.33	0.40	0.40	0.48	0.51	0.51	0.59	0.62	0.65	0.71
New Zealand.....	0.17	0.18	0.20	0.18	0.18	0.17	0.19	0.21	0.18	0.21
Pakistan.....	0.45	0.50	0.51	0.54	0.59	0.60	0.65	0.65	0.66	0.73
Papua New Guinea.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
Singapore.....	0.00	0.00	0.04	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Taiwan.....	0.08	0.11	0.11	0.11	0.14	0.15	0.16	0.19	0.22	0.22
Thailand.....	0.21	0.24	0.25	0.31	0.34	0.37	0.42	0.53	0.56	0.61
Vietnam.....	(s)	(s)	0.01	0.01	0.01	0.03	0.03	0.01	0.03	0.04
Total.....	5.67	6.20	6.64	7.18	7.83	8.24	8.98	9.42	9.61	10.16
World Total.....	74.51	76.01	76.12	78.41	78.33	80.23	84.01	83.82	84.50	86.89

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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	1.24	1.27	1.07	1.21	1.27	1.29	1.30	1.43	1.53	1.46
Mexico.....	0.17	0.16	0.18	0.20	0.19	0.24	0.26	0.31	0.28	0.24
United States.2.....	19.11	18.78	19.19	19.80	20.02	20.08	20.96	21.49	21.66	21.76
Total.....	20.52	20.21	20.44	21.21	21.47	21.61	22.52	23.23	23.46	23.45
Central & South America										
Argentina.....	0.02	0.03	0.03	0.02	0.04	0.04	0.04	0.04	0.04	0.04
Brazil.....	0.37	0.43	0.39	0.40	0.38	0.39	0.40	0.40	0.57	0.55
Chile.....	0.10	0.08	0.07	0.07	0.08	0.09	0.14	0.19	0.15	0.18
Colombia.....	0.07	0.13	0.11	0.15	0.13	0.10	0.12	0.14	0.16	0.10
Costa Rica.....	(s)	(s)	0.00	0.00	0.00	0.00	0.00	(s)	(s)	0.00
Cuba.....	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Dominican Republic.....	(s)	0.01	0.01	0.01	(s)	(s)	(s)	(s)	0.01	0.01
Haiti.....	(s)	(s)	(s)	0.00	0.00	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	0.02	0.02	0.01	0.02	0.02	0.02	0.02
Puerto Rico.....	0.01	0.01	(s)	0.01	0.01	0.01	(s)	(s)	(s)	(s)
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Virgin Islands, U.S.....	(s)	(s)	0.01	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.....	0.60	0.71	0.63	0.68	0.67	0.65	0.73	0.80	0.95	0.91
Western Europe										
Austria.....	0.16	0.13	0.11	0.12	0.11	0.13	0.13	0.15	0.13	0.13
Belgium.....	0.43	0.41	0.33	0.33	0.36	0.37	0.35	0.36	0.37	0.32
Denmark.....	0.26	0.34	0.27	0.30	0.31	0.26	0.35	0.27	0.23	0.20
Finland.....	0.15	0.15	0.13	0.17	0.20	0.17	0.20	0.20	0.14	0.14
France.....	0.79	0.83	0.70	0.59	0.56	0.61	0.63	0.57	0.67	0.60
Germany.....	--	4.25	3.94	3.81	3.40	3.52	3.46	3.47	3.40	3.25
Germany, East.....	2.52	--	--	--	--	--	--	--	--	--
Germany, West.....	2.83	--	--	--	--	--	--	--	--	--
Greece.....	0.35	0.35	0.30	0.34	0.34	0.33	0.32	0.36	0.37	0.37
Iceland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ireland.....	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.07
Italy.....	0.56	0.57	0.45	0.42	0.42	0.46	0.42	0.44	0.46	0.46
Luxembourg.....	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.01	(s)	(s)
Malta.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Netherlands.....	0.35	0.32	0.30	0.33	0.34	0.36	0.36	0.37	0.35	0.30
Norway.....	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.05	0.04
Portugal.....	0.12	0.12	0.11	0.12	0.13	0.14	0.14	0.15	0.13	0.16
Spain.....	0.85	0.87	0.82	0.78	0.76	0.71	0.59	0.68	0.66	0.75
Sweden.....	0.10	0.09	0.08	0.10	0.07	0.09	0.11	0.09	0.09	0.09
Switzerland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)
Turkey.....	0.62	0.72	0.64	0.63	0.61	0.62	0.72	0.86	0.89	0.83
United Kingdom.....	2.72	2.67	2.34	2.18	1.99	1.78	1.75	1.65	1.67	1.56
Former Yugoslavia.....	0.94	0.88	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02
Croatia.....	--	--	0.01	0.02	0.01	(s)	0.01	0.01	0.01	0.01
Macedonia, TFYR.....	--	--	0.06	0.06	0.07	0.07	0.07	0.07	0.08	0.07
Serbia and Montenegro.....	--	--	0.36	0.34	0.35	0.25	0.38	0.38	0.40	0.29
Slovenia.....	--	--	0.07	0.06	0.06	0.06	0.07	0.07	0.06	0.05
Total.....	13.95	12.89	11.21	10.89	10.27	10.11	10.21	10.32	10.26	9.72

See footnotes at end of table.

Table E4 World Coal Consumption (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.03	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	0.45	0.36	0.37	0.34	0.31	0.31	0.33	0.38	0.37	0.31
Former Czechoslovakia.....	2.47	2.29	2.07	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	0.85	0.86	0.86	0.91	0.92	0.90	0.68
Slovakia.....	--	--	--	0.23	0.20	0.21	0.20	0.20	0.18	0.14
Hungary.....	0.22	0.24	0.19	0.17	0.16	0.15	0.16	0.16	0.15	0.16
Poland.....	2.95	2.95	2.91	3.00	2.82	2.64	2.36	2.84	2.57	2.50
Romania.....	0.49	0.40	0.42	0.40	0.41	0.42	0.43	0.38	0.31	0.29
Former U.S.S.R.....	13.24	10.17	--	--	--	--	--	--	--	--
Armenia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Azerbaijan.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Belarus.....	--	--	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02
Estonia.....	--	--	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.02
Georgia.....	--	--	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)
Kazakhstan.....	--	--	1.56	1.29	0.90	0.90	0.79	0.63	0.47	0.44
Kyrgyzstan.....	--	--	0.05	0.03	0.04	0.03	0.02	0.01	0.02	0.02
Latvia.....	--	--	0.02	0.01	0.01	0.01	0.01	(s)	(s)	(s)
Lithuania.....	--	--	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Moldova.....	--	--	0.08	0.05	0.05	0.03	0.02	0.01	0.01	0.01
Russia.....	--	--	6.07	5.64	4.99	4.67	5.22	4.52	3.97	4.15
Tajikistan.....	--	--	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	0.01	0.01	0.01	0.01	(s)	(s)	0.00	0.00
Ukraine.....	--	--	2.74	2.47	1.97	2.37	1.95	1.81	1.78	1.93
Uzbekistan.....	--	--	0.09	0.06	0.06	0.05	0.05	0.04	0.04	0.04
Total.....	19.85	16.42	16.69	14.68	12.88	12.73	12.50	11.96	10.83	10.70
Middle East										
Cyprus.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Iran.....	0.05	0.04	0.04	0.03	0.05	0.04	0.04	0.05	0.04	0.04
Israel.....	0.10	0.11	0.11	0.18	0.19	0.18	0.21	0.23	0.24	0.24
Other.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Total.....	0.15	0.15	0.15	0.22	0.24	0.23	0.26	0.28	0.29	0.29
Africa										
Algeria.....	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.01	0.02	0.02
Botswana.....	0.02	0.02	0.02	0.02	0.02	0.03	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	(s)
Egypt.....	0.04	0.03	0.03	0.04	0.04	0.03	0.04	0.04	0.05	0.06
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)	0.00
Mauritius.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Morocco.....	0.05	0.06	0.04	0.07	0.07	0.07	0.09	0.08	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.....	2.65	2.74	2.86	2.93	3.08	3.08	3.13	3.50	3.40	3.28
Swaziland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Tunisia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00
Zambia.....	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Zimbabwe.....	0.15	0.14	0.15	0.14	0.15	0.15	0.12	0.10	0.11	0.11
Total.....	2.98	3.06	3.17	3.25	3.41	3.41	3.46	3.81	3.72	3.62

See footnotes at end of table.

Table E4 World Coal Consumption (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	1.44	1.49	1.62	1.58	1.51	1.53	1.66	1.95	2.02	2.06
Bangladesh.....	0.02	0.01	(s)	(s)	(s)	(s)	0.01	0.01	(s)	(s)
Bhutan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Burma.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
China.....	20.26	21.05	21.71	22.91	24.96	25.51	25.31	25.72	23.78	19.62
Fiji.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Hong Kong.....	0.23	0.21	0.23	0.26	0.19	0.20	0.20	0.16	0.20	0.16
India.....	4.08	4.23	4.69	4.95	5.04	6.17	6.02	6.01	5.95	6.27
Indonesia.....	0.17	0.16	0.20	0.23	0.28	0.29	0.40	0.34	0.38	0.28
Japan.....	2.71	2.77	2.70	2.72	2.81	2.95	3.02	3.27	3.19	3.31
Korea, North.....	1.19	1.20	1.20	1.21	1.22	1.21	1.21	1.14	1.12	1.11
Korea, South.....	0.83	0.93	0.84	1.01	1.12	1.17	1.20	1.29	1.33	1.43
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia.....	0.06	0.06	0.06	0.06	0.07	0.07	0.09	0.06	0.06	0.04
Mongolia.....	0.08	0.08	0.06	0.06	0.05	0.06	0.05	0.05	0.05	0.05
Nepal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
New Caledonia.....	(s)	(s)	(s)	0.01	0.01	0.01	(s)	(s)	(s)	(s)
New Zealand.....	0.05	0.05	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03
Pakistan.....	0.08	0.08	0.09	0.09	0.10	0.09	0.10	0.09	0.09	0.09
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.06	0.06	0.06	0.08	0.08	0.08	0.10	0.11	0.10	0.10
Singapore.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00
Sri Lanka.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Taiwan.....	0.40	0.45	0.51	0.63	0.66	0.73	0.81	0.99	1.01	1.11
Thailand.....	0.14	0.17	0.18	0.19	0.21	0.38	0.38	0.36	0.29	0.26
Vietnam.....	0.11	0.09	0.09	0.13	0.13	0.17	0.13	0.13	0.12	0.12
Total.....	31.92	33.10	34.34	36.17	38.49	40.67	40.74	41.73	39.74	36.09
World Total.....	89.96	86.54	86.62	87.11	87.44	89.40	90.41	92.12	89.26	84.77

¹ Preliminary.

² United States coal consumption is from Energy Information Administration, Annual Energy Review 1999, table 1.3. It is the sum of coal and coal coke net imports from table 1.3.

-- 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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	3.06	3.17	3.26	3.33	3.40	3.45	3.67	3.61	3.42	3.54
Mexico.....	0.24	0.23	0.27	0.27	0.21	0.28	0.32	0.27	0.25	0.34
United States.2.....	3.10	3.18	2.82	3.10	2.94	3.45	3.88	3.90	3.51	3.35
Total.....	6.40	6.57	6.35	6.71	6.54	7.18	7.87	7.78	7.18	7.23
Central & South America										
Argentina.....	0.21	0.20	0.25	0.31	0.35	0.35	0.30	0.36	0.37	0.25
Bolivia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02
Brazil.....	2.13	2.24	2.30	2.42	2.50	2.61	2.74	2.87	3.00	3.18
Chile.....	0.12	0.14	0.17	0.18	0.17	0.19	0.17	0.19	0.16	0.14
Colombia.....	0.28	0.28	0.23	0.29	0.33	0.35	0.36	0.32	0.32	0.35
Costa Rica.....	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05
Dominican Republic.....	(s)	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Ecuador.....	0.05	0.05	0.05	0.06	0.07	0.05	0.06	0.07	0.07	0.07
El Salvador.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
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	0.01	0.02	0.02
Jamaica.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nicaragua.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	(s)
Panama.....	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Paraguay.....	0.28	0.30	0.28	0.32	0.37	0.43	0.49	0.52	0.52	0.54
Peru.....	0.11	0.12	0.10	0.12	0.13	0.14	0.14	0.14	0.14	0.15
Puerto Rico.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Suriname.....	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.01
Uruguay.....	0.07	0.06	0.08	0.08	0.08	0.06	0.06	0.07	0.09	0.06
Venezuela.....	0.38	0.46	0.49	0.49	0.53	0.53	0.55	0.59	0.55	0.57
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	3.79	4.02	4.13	4.45	4.73	4.90	5.06	5.31	5.42	5.50
Western Europe										
Austria.....	0.32	0.32	0.36	0.38	0.37	0.38	0.35	0.37	0.38	0.42
Belgium.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Finland.....	0.11	0.14	0.16	0.14	0.12	0.13	0.12	0.13	0.15	0.13
France.....	0.55	0.59	0.70	0.66	0.80	0.73	0.67	0.64	0.64	0.74
Germany.....	--	0.15	0.18	0.18	0.21	0.22	0.23	0.18	0.18	0.20
Germany, East.....	0.01	--	--	--	--	--	--	--	--	--
Germany, West.....	0.19	--	--	--	--	--	--	--	--	--
Greece.....	0.02	0.03	0.02	0.02	0.03	0.04	0.04	0.04	0.04	0.05
Iceland.....	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.06	0.06
Ireland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Italy.....	0.33	0.43	0.43	0.43	0.46	0.39	0.43	0.43	0.42	0.47
Luxembourg.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Norway.....	1.25	1.13	1.20	1.23	1.15	1.25	1.07	1.13	1.19	1.25
Portugal.....	0.09	0.09	0.05	0.09	0.11	0.09	0.15	0.13	0.13	0.07
Spain.....	0.26	0.28	0.19	0.25	0.29	0.24	0.41	0.36	0.35	0.25
Sweden.....	0.75	0.65	0.77	0.77	0.61	0.70	0.53	0.71	0.77	0.72
Switzerland.....	0.31	0.33	0.34	0.37	0.40	0.36	0.29	0.35	0.34	0.41
Turkey.....	0.24	0.23	0.27	0.35	0.31	0.37	0.42	0.41	0.43	0.36
United Kingdom.....	0.05	0.05	0.06	0.04	0.05	0.05	0.03	0.04	0.05	0.06
Former Yugoslavia.....	0.20	0.20	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	0.03	0.02	0.01	0.01	0.02	0.02	0.02	0.02
Croatia.....	--	--	0.04	0.04	0.05	0.05	0.07	0.05	0.06	0.07
Macedonia, TFYR.....	--	--	0.01	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	0.11
Slovenia.....	--	--	0.04	0.03	0.03	0.03	0.04	0.03	0.04	0.04
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4.74	4.69	5.02	5.17	5.19	5.24	5.08	5.23	5.41	5.44

See footnotes at end of table.

Table E5 World Net Hydroelectric Power Consumption (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.03	0.04	0.03	0.03	0.04	0.04	0.06	0.05	0.05	0.05
Bulgaria.....	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Former Czechoslovakia.....	0.04	0.03	0.04	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	0.01	0.02	0.02	0.02	0.02	0.01	0.02
Slovakia.....	--	--	--	0.04	0.05	0.05	0.05	0.04	0.05	0.04
Hungary.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Poland.....	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Romania.....	0.11	0.15	0.12	0.13	0.13	0.17	0.16	0.18	0.19	0.18
Former U.S.S.R.....	2.40	2.42	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.03	0.04	0.04	0.02	0.02	0.01	0.02	0.02
Azerbaijan.....	--	--	0.02	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	0.07	0.07
Kazakhstan.....	--	--	0.07	0.08	0.09	0.09	0.08	0.07	0.06	0.06
Kyrgyzstan.....	--	--	0.10	0.09	0.12	0.11	0.13	0.11	0.10	0.13
Latvia.....	--	--	0.03	0.03	0.03	0.03	0.02	0.03	0.04	0.03
Lithuania.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	0.01	(s)
Moldova.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	1.78	1.79	1.82	1.83	1.60	1.63	1.64	1.64
Tajikistan.....	--	--	0.16	0.18	0.17	0.15	0.15	0.14	0.15	0.16
Ukraine.....	--	--	0.08	0.12	0.13	0.10	0.09	0.10	0.16	0.16
Uzbekistan.....	--	--	0.06	0.08	0.07	0.06	0.07	0.06	0.06	0.06
Other.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	2.64	2.70	2.65	2.79	2.85	2.83	2.59	2.61	2.72	2.72
Middle East										
Iran.....	0.06	0.07	0.10	0.10	0.08	0.07	0.08	0.07	0.07	0.07
Iraq.....	0.01	(s)	0.01	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.....	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Syria.....	0.06	0.06	0.08	0.07	0.07	0.07	0.07	0.08	0.08	0.08
Total.....	0.13	0.15	0.19	0.18	0.16	0.16	0.16	0.16	0.16	0.17
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	0.04
Congo (Brazzaville).....	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05
Cote d'Ivoire (Ivory Coast).....	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01
Egypt.....	0.10	0.09	0.09	0.11	0.11	0.11	0.12	0.12	0.13	0.16
Ethiopia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Gabon.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ghana.....	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.04	0.04
Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Madagascar.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	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	(s)	0.01	0.01	0.02	0.02	0.02	0.02
Mozambique.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.02	0.02
Nigeria.....	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.09
Reunion.....	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
South Africa.....	0.01	0.02	0.01	(s)	0.01	0.01	0.01	0.01	0.02	0.01
Sudan.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Swaziland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Tanzania.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Uganda.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Zambia.....	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Zimbabwe.....	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Other.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.58	0.59	0.58	0.58	0.58	0.60	0.65	0.67	0.66	0.68

See footnotes at end of table.

Table E5 World Net Hydroelectric Power Consumption (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	0.15	0.16	0.16	0.17	0.17	0.16	0.16	0.17	0.16	0.17
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	0.02	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.....	1.30	1.29	1.35	1.55	1.72	1.92	1.92	2.01	2.11	2.32
Fiji.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
French Polynesia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
India.....	0.74	0.75	0.72	0.73	0.85	0.75	0.71	0.77	0.78	0.84
Indonesia.....	0.11	0.10	0.10	0.09	0.07	0.09	0.09	0.09	0.11	0.12
Japan.....	0.92	1.00	0.85	0.98	0.69	0.85	0.83	0.92	0.95	0.88
Korea, North.....	0.30	0.33	0.25	0.25	0.24	0.24	0.23	0.22	0.21	0.19
Korea, South.....	0.05	0.04	0.03	0.04	0.02	0.03	0.02	0.03	0.04	0.04
Laos.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Malaysia.....	0.04	0.05	0.04	0.05	0.07	0.06	0.05	0.04	0.05	0.05
Nepal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
New Caledonia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
New Zealand.....	0.24	0.24	0.21	0.24	0.27	0.28	0.27	0.25	0.25	0.24
Pakistan.....	0.17	0.19	0.19	0.22	0.20	0.24	0.24	0.21	0.23	0.24
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Philippines.....	0.06	0.05	0.04	0.05	0.06	0.06	0.07	0.06	0.05	0.08
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	0.03	0.03	0.03	0.04	0.04	0.05	0.03	0.04	0.04	0.04
Taiwan.....	0.09	0.06	0.09	0.07	0.09	0.09	0.09	0.09	0.10	0.09
Thailand.....	0.05	0.05	0.04	0.04	0.05	0.07	0.08	0.07	0.05	0.04
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	0.06	0.07	0.07	0.08	0.09	0.11	0.12	0.12	0.11	0.12
Total.....	4.38	4.47	4.27	4.68	4.72	5.07	5.02	5.19	5.34	5.55
World Total.....	22.66	23.19	23.18	24.55	24.76	25.98	26.42	26.96	26.88	27.29

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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	0.79	0.93	0.88	1.02	1.17	1.06	1.00	0.88	0.76	0.79
Mexico.....	0.03	0.04	0.04	0.05	0.04	0.08	0.08	0.10	0.09	0.10
United States.....	6.16	6.58	6.61	6.52	6.84	7.18	7.17	6.68	7.16	7.74
Total.....	6.99	7.55	7.52	7.59	8.04	8.31	8.24	7.66	8.01	8.62
Central & South America										
Argentina.....	0.08	0.09	0.08	0.09	0.09	0.08	0.08	0.09	0.08	0.08
Brazil.....	0.02	0.01	0.02	(s)	(s)	0.02	0.02	0.03	0.03	0.04
Total.....	0.10	0.10	0.10	0.09	0.09	0.11	0.10	0.12	0.12	0.12
Western Europe										
Belgium.....	0.42	0.42	0.43	0.41	0.40	0.41	0.43	0.47	0.45	0.48
Finland.....	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.21	0.22
France.....	3.11	3.28	3.34	3.64	3.54	3.71	3.91	3.87	3.81	3.88
Germany.....	--	1.43	1.54	1.49	1.46	1.46	1.53	1.63	1.54	1.62
Germany, East.....	0.06	--	--	--	--	--	--	--	--	--
Germany, West.....	1.46	--	--	--	--	--	--	--	--	--
Netherlands.....	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.02	0.04	0.04
Spain.....	0.52	0.54	0.54	0.54	0.53	0.53	0.54	0.53	0.57	0.57
Sweden.....	0.65	0.74	0.61	0.59	0.70	0.67	0.70	0.67	0.70	0.67
Switzerland.....	0.24	0.23	0.23	0.23	0.24	0.24	0.25	0.25	0.25	0.24
United Kingdom.....	0.70	0.78	0.86	1.01	1.00	1.00	1.07	1.11	1.18	1.14
Former Yugoslavia.....	0.05	0.04	--	--	--	--	--	--	--	--
Slovenia.....	--	--	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.04
Total.....	7.43	7.67	7.82	8.18	8.16	8.30	8.69	8.80	8.82	8.91
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.15	0.14	0.12	0.15	0.16	0.18	0.20	0.18	0.17	0.16
Former Czechoslovakia.....	0.29	0.28	0.29	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	0.15	0.15	0.13	0.14	0.14	0.14	0.14
Slovakia.....	--	--	--	0.14	0.14	0.13	0.13	0.12	0.12	0.12
Hungary.....	0.15	0.13	0.13	0.13	0.13	0.13	0.14	0.13	0.13	0.13
Romania.....	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.06	0.06
Former U.S.S.R.....	2.31	2.31	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02
Kazakhstan.....	--	--	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lithuania.....	--	--	0.15	0.13	0.08	0.11	0.14	0.12	0.14	0.11
Russia.....	--	--	1.25	1.25	1.02	1.04	1.14	1.15	1.08	1.22
Ukraine.....	--	--	0.76	0.78	0.71	0.73	0.83	0.82	0.77	0.74
Total.....	2.89	2.86	2.71	2.73	2.41	2.46	2.74	2.75	2.63	2.70
Africa										
South Africa.....	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13	0.14	0.13
Total.....	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13	0.14	0.13
Far East & Oceania										
China.....	0.00	0.00	0.01	0.03	0.14	0.13	0.14	0.12	0.14	0.14
India.....	0.07	0.06	0.07	0.07	0.06	0.08	0.09	0.13	0.13	0.14
Japan.....	1.97	2.08	2.17	2.42	2.61	2.83	2.93	3.13	3.23	3.15
Korea, South.....	0.51	0.54	0.54	0.56	0.56	0.64	0.70	0.73	0.85	0.98
Pakistan.....	(s)	(s)	0.01	(s)	0.01	0.01	(s)	(s)	(s)	(s)
Taiwan.....	0.32	0.33	0.32	0.33	0.33	0.34	0.36	0.34	0.35	0.36
Total.....	2.87	3.01	3.12	3.41	3.70	4.02	4.23	4.45	4.69	4.78
World Total.....	20.37	21.29	21.36	22.07	22.50	23.31	24.13	23.90	24.41	25.25

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 Geothermal, Solar, Wind, Wood and Waste Electric Power Consumption(Btu), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	0.04	0.04	0.04	0.05	0.06	0.05	0.06	0.06	0.06	0.08
Mexico.....	0.10	0.11	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11
United States.....	0.85	0.92	0.97	1.00	1.02	0.96	0.99	0.95	0.94	1.01
Total.....	0.99	1.07	1.13	1.16	1.18	1.13	1.16	1.12	1.11	1.20
Central & South America										
Argentina.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brazil.....	0.05	0.05	0.07	0.07	0.07	0.08	0.09	0.10	0.10	0.10
Chile.....	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Colombia.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Costa Rica.....	0.00	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.02
Cuba.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Dominican Republic.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
El Salvador.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Guatemala.....	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Haiti.....	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	(s)
Panama.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Paraguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	(s)	(s)
Peru.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Trinidad and Tobago.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	0.09	0.09	0.11	0.11	0.12	0.13	0.14	0.15	0.16	0.18
Western Europe										
Austria.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Belgium.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Croatia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Denmark.....	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.04	0.05
Faroe Islands.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	0.00	0.00
Finland.....	0.00	0.00	0.05	0.06	0.06	0.07	0.06	0.08	0.10	0.10
France.....	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03
Germany.....	--	0.05	0.06	0.06	0.08	0.09	0.10	0.10	0.13	0.16
Germany, West.....	0.05	--	--	--	--	--	--	--	--	--
Greece.....	(s)	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Iceland.....	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Ireland.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	0.07	0.07	0.07	0.08	0.07	0.08	0.08	0.09	0.11	0.12
Luxembourg.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Netherlands.....	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.04	0.05
Norway.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
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	0.02	0.02	0.03	0.04	0.04
Sweden.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
Switzerland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Turkey.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
United Kingdom.....	0.01	0.01	0.02	0.05	0.05	0.06	0.06	0.06	0.06	0.09
Total.....	0.23	0.24	0.33	0.38	0.42	0.46	0.49	0.57	0.66	0.73
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)
Czech Republic.....	--	--	--	(s)	(s)	(s)	0.01	0.01	0.01	0.01
Poland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01
Romania.....	(s)	0.00	(s)	(s)	0.00	(s)	0.00	(s)	(s)	(s)
Former U.S.S.R.....	(s)	(s)	--	--	--	--	--	--	--	--
Estonia.....	--	--	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02

See footnotes at end of table.

Table E7 World Net Geothermal, Solar, Wind, Wood and Waste Electric Power Consumption(Btu), 1990 - 1999(Cont
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Jordan.....	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00
Total.....	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00
Africa										
Ethiopia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00
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	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
India.....	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01
Indonesia.....	0.02	0.02	0.02	0.02	0.04	0.04	0.05	0.05	0.08	0.08
Japan.....	0.20	0.21	0.21	0.21	0.23	0.26	0.27	0.29	0.28	0.29
Korea, South.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
New Zealand.....	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06
Philippines.....	0.11	0.11	0.11	0.11	0.13	0.12	0.13	0.14	0.18	0.17
Thailand.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	0.02	0.03	0.05
Total.....	0.39	0.40	0.42	0.42	0.47	0.50	0.54	0.60	0.67	0.70
World Total.....	1.72	1.82	2.00	2.09	2.21	2.24	2.36	2.47	2.63	2.83

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),
1990-1999**

Table F1 World Primary Energy Production (Btu), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	13.40	13.94	14.48	15.40	16.36	16.85	17.31	17.63	17.58	17.71
Mexico.....	7.71	8.01	8.01	8.11	8.10	8.04	8.74	9.07	9.31	9.03
United States.....	70.85	70.51	70.06	68.36	70.83	71.29	72.58	72.53	72.55	72.28
Total.....	91.96	92.47	92.55	91.88	95.29	96.17	98.64	99.23	99.44	99.02
Central & South America										
Argentina.....	2.04	2.14	2.33	2.54	2.76	2.98	3.09	3.36	3.48	3.43
Bolivia.....	0.17	0.17	0.18	0.17	0.18	0.20	0.20	0.20	0.21	0.18
Brazil.....	3.79	3.94	4.01	4.15	4.31	4.51	4.87	5.14	5.56	6.11
Chile.....	0.31	0.30	0.33	0.33	0.33	0.33	0.33	0.34	0.28	0.27
Colombia.....	1.93	1.87	1.90	1.99	2.01	2.41	2.61	2.85	3.07	3.21
Ecuador.....	0.68	0.71	0.76	0.83	0.88	0.93	0.95	0.93	0.90	0.90
Paraguay.....	0.28	0.30	0.28	0.32	0.37	0.43	0.50	0.52	0.52	0.54
Peru.....	0.41	0.38	0.37	0.43	0.44	0.45	0.43	0.40	0.41	0.39
Trinidad and Tobago.....	0.52	0.55	0.51	0.53	0.55	0.57	0.60	0.62	0.61	0.71
Venezuela.....	6.31	6.96	6.96	7.27	7.70	8.08	8.64	9.51	9.41	8.69
Other.....	0.31	0.30	0.34	0.35	0.38	0.37	0.39	0.43	0.48	0.47
Total.....	16.74	17.63	17.98	18.92	19.93	21.27	22.59	24.29	24.92	24.91
Western Europe										
Austria.....	0.46	0.47	0.50	0.51	0.49	0.52	0.49	0.50	0.52	0.55
Belgium.....	0.48	0.47	0.46	0.44	0.43	0.43	0.45	0.49	0.48	0.50
Denmark.....	0.38	0.46	0.51	0.55	0.59	0.61	0.70	0.81	0.83	0.98
Finland.....	0.30	0.33	0.39	0.39	0.37	0.38	0.37	0.40	0.46	0.45
France.....	4.27	4.47	4.63	4.84	4.87	4.97	5.04	4.91	4.80	4.94
Germany.....	--	6.35	6.17	5.84	5.71	5.58	5.49	5.56	5.26	5.34
Germany, East.....	2.49	--	--	--	--	--	--	--	--	--
Germany, West.....	5.08	--	--	--	--	--	--	--	--	--
Greece.....	0.37	0.39	0.33	0.35	0.35	0.36	0.35	0.39	0.40	0.39
Italy.....	1.22	1.31	1.36	1.39	1.46	1.40	1.47	1.47	1.46	1.40
Netherlands.....	2.63	2.95	2.93	2.98	2.91	2.91	3.25	2.89	2.78	2.61
Norway.....	5.94	6.23	7.09	7.28	7.65	8.36	9.29	9.61	9.37	9.55
Spain.....	1.43	1.44	1.34	1.34	1.33	1.20	1.37	1.30	1.32	1.19
Sweden.....	1.41	1.41	1.40	1.38	1.33	1.40	1.26	1.41	1.50	1.42
Switzerland.....	0.55	0.56	0.58	0.61	0.66	0.62	0.55	0.61	0.61	0.67
Turkey.....	0.85	0.87	0.95	0.99	0.95	0.99	1.05	1.11	1.17	1.09
United Kingdom.....	8.96	9.26	9.07	9.40	10.19	10.76	11.58	11.35	11.64	12.01
Former Yugoslavia.....	1.39	1.29	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	0.05	0.03	0.03	0.06	0.03	0.03	0.03	0.03
Croatia.....	--	--	0.20	0.21	0.22	0.21	0.22	0.19	0.19	0.19
Serbia and Montenegro.....	--	--	0.55	0.52	0.53	0.43	0.55	0.55	0.59	0.46
Other.....	0.25	0.25	0.41	0.45	0.48	0.47	0.54	0.52	0.52	0.45
Total.....	38.46	38.49	38.90	39.52	40.55	41.66	44.04	44.10	43.93	44.22
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.51	0.43	0.41	0.43	0.43	0.47	0.50	0.48	0.49	0.43
Former Czechoslovakia.....	2.79	2.59	2.46	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	1.27	1.18	1.13	1.21	1.16	1.14	0.94
Slovakia.....	--	--	--	0.24	0.25	0.24	0.24	0.23	0.22	0.20
Hungary.....	0.61	0.57	0.56	0.53	0.53	0.52	0.51	0.53	0.48	0.46
Poland.....	3.88	3.74	3.68	3.70	3.75	3.60	3.25	3.86	3.37	3.26
Romania.....	1.87	1.62	1.49	1.47	1.43	1.46	1.43	1.41	1.27	1.23
Former U.S.S.R.....	72.11	66.43	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	0.77	0.71	0.65	0.64	0.64	0.61	0.72	0.84
Kazakhstan.....	--	--	3.77	3.39	2.57	2.28	2.36	2.44	2.24	2.33
Lithuania.....	--	--	0.15	0.14	0.09	0.12	0.15	0.13	0.15	0.12
Russia.....	--	--	48.96	45.51	42.85	41.86	42.00	40.64	40.66	41.54
Tajikistan.....	--	--	0.17	0.18	0.18	0.15	0.16	0.14	0.15	0.16
Turkmenistan.....	--	--	2.34	2.58	1.49	1.36	1.55	1.16	0.75	1.15
Ukraine.....	--	--	4.38	4.00	3.50	3.71	3.43	3.40	3.37	3.50
Uzbekistan.....	--	--	1.79	1.90	2.04	2.14	2.15	2.18	2.38	2.38
Other.....	0.13	0.09	0.44	0.45	0.43	0.40	0.44	0.42	0.42	0.44
Total.....	81.89	75.48	71.37	66.49	61.38	60.09	60.02	58.78	57.81	58.98

See footnotes at end of table.

Table F1 World Primary Energy Production (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Bahrain.....	0.31	0.33	0.29	0.35	0.35	0.34	0.33	0.40	0.40	0.41
Iran.....	7.67	8.27	8.53	8.83	9.16	9.35	9.65	9.84	9.89	9.84
Iraq.....	4.54	0.69	1.02	1.21	1.33	1.35	1.39	2.60	4.71	5.48
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	2.83	0.43	2.44	4.28	4.73	4.81	4.94	4.85	5.02	4.58
Oman.....	1.59	1.64	1.72	1.82	1.90	1.99	2.07	2.13	2.20	2.12
Qatar.....	1.20	1.25	1.39	1.45	1.44	1.51	1.66	1.90	2.31	2.44
Saudi Arabia.....	15.92	19.75	20.39	20.11	20.00	20.25	20.39	20.82	21.00	19.64
Syria.....	1.03	1.29	1.29	1.45	1.47	1.48	1.53	1.51	1.53	1.51
United Arab Emirates.....	5.51	6.24	6.11	5.78	5.84	6.14	6.34	6.50	6.61	6.25
Yemen.....	0.40	0.41	0.38	0.46	0.70	0.72	0.71	0.76	0.81	0.85
Other.....	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Total.....	41.02	40.31	43.57	45.76	46.94	47.97	49.03	51.33	54.49	53.13
Africa										
Algeria.....	4.73	5.04	5.06	4.87	4.79	5.13	5.28	5.63	5.75	6.06
Angola.....	1.04	1.10	1.16	1.12	1.17	1.41	1.55	1.55	1.60	1.66
Cameroon.....	0.38	0.36	0.33	0.30	0.26	0.27	0.26	0.30	0.30	0.25
Congo (Brazzaville).....	0.35	0.33	0.37	0.39	0.38	0.40	0.43	0.54	0.56	0.57
Congo (Kinshasa).....	0.12	0.12	0.12	0.12	0.11	0.13	0.13	0.12	0.12	0.10
Egypt.....	2.36	2.40	2.44	2.55	2.59	2.67	2.73	2.61	2.58	2.72
Gabon.....	0.59	0.64	0.65	0.68	0.72	0.80	0.81	0.81	0.77	0.74
Libya.....	3.18	3.43	3.34	3.17	3.21	3.23	3.28	3.39	3.26	3.10
Nigeria.....	4.07	4.30	4.43	4.45	4.37	4.53	4.57	4.85	4.91	4.92
South Africa.....	4.05	4.12	4.26	4.41	4.61	4.85	4.86	5.48	5.54	5.54
Tunisia.....	0.22	0.23	0.25	0.23	0.21	0.20	0.22	0.25	0.25	0.25
Zambia.....	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.09	0.08	0.08
Zimbabwe.....	0.19	0.19	0.18	0.16	0.16	0.17	0.15	0.13	0.13	0.14
Other.....	0.26	0.27	0.27	0.28	0.30	0.31	0.40	0.48	0.55	0.69
Total.....	21.63	22.61	22.96	22.81	22.98	24.18	24.74	26.23	26.40	26.83
Far East & Oceania										
Australia.....	6.14	6.29	6.59	6.63	6.93	7.45	7.59	8.35	8.63	8.78
Bangladesh.....	0.16	0.17	0.20	0.22	0.24	0.27	0.27	0.28	0.30	0.33
Brunei.....	0.72	0.68	0.70	0.71	0.72	0.75	0.73	0.74	0.74	0.81
Burma.....	0.08	0.09	0.09	0.09	0.10	0.10	0.10	0.09	0.11	0.10
China.....	29.38	29.68	30.33	31.85	34.07	35.44	35.48	36.75	34.62	30.87
India.....	6.57	6.86	7.17	7.37	7.63	9.01	8.83	9.05	9.03	9.17
Indonesia.....	5.27	5.85	5.99	6.29	6.63	6.98	7.43	7.44	7.51	7.63
Japan.....	3.44	3.61	3.54	3.90	3.81	4.19	4.29	4.55	4.66	4.53
Korea, North.....	1.42	1.46	1.39	1.40	1.40	1.39	1.37	1.30	1.28	1.26
Korea, South.....	0.86	0.84	0.79	0.77	0.72	0.77	0.82	0.84	0.98	1.10
Malaysia.....	2.03	2.19	2.26	2.35	2.41	2.59	2.83	3.01	3.15	3.17
Mongolia.....	0.08	0.08	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05
New Zealand.....	0.61	0.62	0.61	0.63	0.65	0.64	0.67	0.70	0.66	0.68
Pakistan.....	0.82	0.89	0.91	0.96	0.98	1.04	1.09	1.06	1.07	1.14
Papua New Guinea.....	(s)	0.01	0.12	0.27	0.23	0.21	0.22	0.17	0.17	0.21
Philippines.....	0.21	0.20	0.21	0.22	0.23	0.22	0.23	0.23	0.26	0.28
Taiwan.....	0.51	0.44	0.45	0.44	0.47	0.47	0.49	0.48	0.49	0.49
Thailand.....	0.52	0.57	0.59	0.65	0.73	0.94	0.97	1.15	1.15	1.20
Vietnam.....	0.29	0.36	0.45	0.55	0.60	0.75	0.76	0.81	0.93	1.05
Other.....	0.20	0.10	0.09	0.10	0.11	0.11	0.10	0.10	0.10	0.10
Total.....	59.33	60.99	62.55	65.45	68.72	73.36	74.31	77.14	75.87	72.96
World Total.....	351.04	347.99	349.88	350.82	355.78	364.70	373.38	381.11	382.85	380.05

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, geothermal, solar, wind, and wood and waste electric power generation.

Primary energy production for the United States also includes the production of geothermal, solar, and wood and waste 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), 1990 - 1999

 (Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada ²	3.29	3.28	3.41	3.56	3.70	3.83	3.91	4.08	4.20	4.04
Mexico.....	5.60	5.88	5.87	5.86	5.89	5.74	6.28	6.63	6.74	6.37
United States.....	15.57	15.70	15.22	14.49	14.10	13.89	13.72	13.66	13.24	12.45
Total.....	24.47	24.86	24.51	23.92	23.70	23.46	23.91	24.37	24.17	22.87
Central & South America										
Argentina.....	1.06	1.06	1.21	1.30	1.42	1.56	1.66	1.82	1.85	1.75
Bolivia.....	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.06	0.07	0.07
Brazil.....	1.36	1.36	1.35	1.39	1.45	1.50	1.72	1.82	2.09	2.44
Chile.....	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Colombia.....	0.97	0.92	0.95	1.00	0.99	1.29	1.37	1.43	1.61	1.79
Cuba.....	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.07	0.07	0.09
Ecuador.....	0.62	0.65	0.70	0.75	0.80	0.86	0.87	0.85	0.82	0.81
Peru.....	0.27	0.24	0.25	0.27	0.27	0.28	0.26	0.25	0.25	0.23
Trinidad and Tobago.....	0.33	0.33	0.30	0.30	0.29	0.29	0.29	0.27	0.27	0.27
Venezuela.....	4.79	5.32	5.32	5.49	5.80	6.16	6.60	7.34	7.09	6.33
Other.....	0.02	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.07	0.08
Total.....	9.53	10.02	10.24	10.64	11.18	12.11	12.95	13.98	14.21	13.88
Western Europe										
Austria.....	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.05	0.04
Denmark.....	0.25	0.30	0.34	0.36	0.38	0.39	0.43	0.48	0.49	0.62
France.....	0.13	0.13	0.12	0.12	0.12	0.11	0.09	0.08	0.07	0.07
Germany.....	--	0.15	0.14	0.13	0.13	0.13	0.13	0.12	0.13	0.12
Germany, East.....	(s)	--	--	--	--	--	--	--	--	--
Germany, West.....	0.15	--	--	--	--	--	--	--	--	--
Greece.....	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.01	(s)
Italy.....	0.20	0.18	0.19	0.19	0.19	0.21	0.23	0.25	0.24	0.18
Netherlands.....	0.16	0.17	0.12	0.11	0.18	0.15	0.13	0.12	0.12	0.12
Norway.....	3.50	3.88	4.59	4.82	5.17	5.68	6.39	6.45	6.19	6.19
Spain.....	0.03	0.05	0.05	0.04	0.03	0.03	0.02	0.02	0.02	0.01
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00
Turkey.....	0.16	0.19	0.18	0.17	0.16	0.15	0.15	0.15	0.14	0.13
United Kingdom.....	3.85	3.81	3.88	4.06	5.03	5.27	5.45	5.33	5.54	5.68
Former Yugoslavia.....	0.14	0.13	--	--	--	--	--	--	--	--
Croatia.....	--	--	0.08	0.08	0.08	0.07	0.06	0.06	0.07	0.05
Serbia and Montenegro.....	--	--	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04
Slovenia.....	--	--	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	8.65	9.06	9.80	10.19	11.60	12.29	13.19	13.15	13.11	13.26
Eastern Europe & Former U.S.S.R.										
Albania.....	0.07	0.04	0.02	0.03	0.03	0.02	0.02	0.02	0.01	0.01
Bulgaria.....	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Former Czechoslovakia.....	0.01	0.01	0.01	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Slovakia.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Hungary.....	0.09	0.08	0.08	0.08	0.09	0.08	0.07	0.08	0.06	0.06
Poland.....	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Romania.....	0.34	0.30	0.29	0.28	0.29	0.28	0.29	0.28	0.28	0.26
Former U.S.S.R.....	23.55	21.44	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	0.46	0.43	0.39	0.38	0.38	0.37	0.49	0.59
Belarus.....	--	--	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08
Georgia.....	--	--	0.01	(s)	(s)	(s)	(s)	0.01	(s)	(s)
Kazakhstan.....	--	--	0.96	0.88	0.76	0.78	0.87	1.00	1.02	1.14
Kyrgyzstan.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lithuania.....	--	--	0.00	(s)	0.01	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	13.05
Tajikistan.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	0.21	0.17	0.17	0.15	0.16	0.19	0.24	0.30
Ukraine.....	--	--	0.15	0.14	0.14	0.14	0.14	0.12	0.12	0.16
Uzbekistan.....	--	--	0.08	0.10	0.16	0.25	0.25	0.24	0.25	0.22
Total.....	24.08	21.88	18.78	16.66	15.31	15.06	14.89	15.14	15.17	15.92

See footnotes at end of table.

Table F2 World Crude Oil Production (Btu), 1990 - 1999 (Continued)

 (Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Bahrain.....	0.09	0.08	0.08	0.09	0.09	0.09	0.08	0.09	0.08	0.08
Iran.....	6.64	7.12	7.39	7.61	7.78	7.83	7.94	7.87	7.81	7.64
Iraq.....	4.33	0.65	0.91	1.09	1.17	1.19	1.23	2.45	4.57	5.33
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	2.54	0.41	2.29	4.00	4.38	4.45	4.47	4.34	4.51	4.10
Oman.....	1.47	1.50	1.59	1.66	1.74	1.82	1.90	1.94	1.93	1.90
Qatar.....	0.86	0.83	0.89	0.87	0.88	0.93	1.08	1.16	1.47	1.40
Saudi Arabia.....	13.83	17.51	18.02	17.68	17.52	17.76	17.78	18.04	18.10	16.90
Syria.....	0.87	1.11	1.08	1.25	1.26	1.29	1.31	1.26	1.24	1.21
United Arab Emirates.....	4.47	5.04	4.80	4.56	4.63	4.72	4.82	4.89	4.95	4.58
Yemen.....	0.40	0.41	0.38	0.46	0.70	0.72	0.71	0.76	0.81	0.85
Total.....	35.50	34.65	37.44	39.27	40.13	40.80	41.32	42.80	45.46	44.00
Africa										
Algeria.....	2.38	2.49	2.47	2.36	2.39	2.44	2.53	2.59	2.53	2.44
Angola.....	1.01	1.06	1.12	1.08	1.14	1.37	1.51	1.52	1.56	1.63
Benin.....	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)
Cameroon.....	0.35	0.33	0.31	0.28	0.23	0.24	0.24	0.27	0.26	0.22
Congo (Brazzaville).....	0.35	0.33	0.37	0.38	0.38	0.40	0.43	0.53	0.56	0.57
Congo (Kinshasa).....	0.06	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.05
Cote d'Ivoire (Ivory Coast).....	(s)	(s)	(s)	(s)	0.01	0.02	0.03	0.04	0.04	0.03
Egypt.....	1.89	1.89	1.91	1.92	1.94	1.99	2.00	1.85	1.80	1.84
Equatorial Guinea.....	0.00	(s)	(s)	0.01	0.01	0.01	0.03	0.10	0.17	0.20
Gabon.....	0.58	0.63	0.64	0.67	0.71	0.78	0.79	0.80	0.76	0.73
Ghana.....	0.00	0.00	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Libya.....	2.90	3.13	3.03	2.87	2.90	2.93	2.96	3.05	2.93	2.78
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	3.88	4.06	4.18	4.21	4.14	4.28	4.31	4.58	4.62	4.57
South Africa.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
Sudan.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	0.01	0.02	0.12
Tunisia.....	0.19	0.22	0.23	0.20	0.19	0.18	0.18	0.17	0.17	0.17
Total.....	13.61	14.22	14.33	14.05	14.12	14.72	15.09	15.59	15.52	15.42
Far East & Oceania										
Australia.....	1.17	1.11	1.09	1.02	1.09	1.14	1.16	1.20	1.11	1.10
Bangladesh.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	0.32	0.35	0.35	0.35	0.36	0.35	0.33	0.34	0.34	0.39
Burma.....	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
China.....	5.95	6.08	6.12	6.20	6.31	6.42	6.74	6.87	6.86	6.86
India.....	1.38	1.29	1.18	1.12	1.23	1.47	1.37	1.41	1.38	1.36
Indonesia.....	3.06	3.34	3.16	3.17	3.16	3.15	3.25	3.18	3.18	3.08
Japan.....	0.02	0.03	0.04	0.03	0.02	0.02	0.03	0.02	0.02	0.02
Malaysia.....	1.29	1.34	1.36	1.33	1.34	1.42	1.45	1.46	1.50	1.44
New Zealand.....	0.08	0.08	0.08	0.08	0.08	0.06	0.07	0.11	0.09	0.08
Pakistan.....	0.13	0.13	0.13	0.13	0.12	0.12	0.12	0.12	0.12	0.11
Papua New Guinea.....	0.00	(s)	0.11	0.26	0.23	0.20	0.21	0.16	0.16	0.20
Philippines.....	0.01	0.01	0.02	0.02	0.01	0.01	(s)	(s)	(s)	(s)
Taiwan.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Thailand.....	0.10	0.11	0.12	0.12	0.13	0.12	0.14	0.17	0.17	0.19
Vietnam.....	0.11	0.18	0.23	0.26	0.31	0.38	0.39	0.42	0.54	0.64
Total.....	13.67	14.08	14.02	14.12	14.43	14.89	15.28	15.49	15.50	15.50
World Total.....	129.50	128.77	129.13	128.86	130.46	133.32	136.64	140.52	143.15	140.84

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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	0.62	0.63	0.67	0.74	0.77	0.84	0.87	0.92	0.95	0.95
Mexico.....	0.57	0.60	0.60	0.61	0.61	0.59	0.56	0.51	0.56	0.58
United States.....	2.17	2.31	2.36	2.41	2.39	2.44	2.53	2.50	2.42	2.53
Total.....	3.36	3.54	3.63	3.75	3.77	3.87	3.96	3.93	3.93	4.06
Central & South America										
Argentina.....	0.04	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.07	0.07
Bolivia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Brazil.....	0.03	0.03	0.04	0.04	0.05	0.06	0.05	0.05	0.05	0.05
Chile.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	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)	0.01	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	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.17	0.18	0.17	0.22	0.22	0.23	0.23	0.22	0.22	0.26
Total.....	0.29	0.30	0.31	0.36	0.39	0.41	0.40	0.38	0.39	0.43
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	0.01	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	0.03	0.04	0.03	0.04	0.04	0.04	0.04
Norway.....	0.12	0.15	0.15	0.16	0.16	0.22	0.22	0.22	0.21	0.19
Spain.....	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
United Kingdom.....	0.18	0.23	0.26	0.28	0.36	0.44	0.43	0.38	0.39	0.39
Former Yugoslavia.....	0.02	0.01	--	--	--	--	--	--	--	--
Croatia.....	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.38	0.45	0.48	0.51	0.60	0.73	0.72	0.67	0.67	0.65
Eastern Europe & Former U.S.S.R.										
Former Czechoslovakia.....	(s)	(s)	(s)	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Hungary.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03
Poland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Romania.....	0.01	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	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	0.01	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	0.11
Kyrgyzstan.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	0.35	0.33	0.30	0.27	0.28	0.30	0.33	0.35
Tajikistan.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	0.02	0.02	0.01	0.02	0.02	0.03	0.03	0.03
Ukraine.....	--	--	0.03	0.03	0.03	0.03	0.02	0.04	0.04	0.03
Uzbekistan.....	--	--	0.05	0.06	0.06	0.07	0.08	0.07	0.07	0.07
Total.....	0.68	0.67	0.63	0.60	0.54	0.51	0.52	0.56	0.59	0.64
Middle East										
Bahrain.....	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Iran.....	0.06	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.12	0.12
Iraq.....	0.05	0.00	(s)	0.02	0.03	0.04	0.03	0.03	0.02	0.02
Kuwait.....	0.10	0.00	0.05	0.08	0.13	0.15	0.13	0.17	0.18	0.18
Oman.....	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01
Qatar.....	0.06	0.07	0.08	0.08	0.07	0.08	0.07	0.10	0.12	0.15
Saudi Arabia.....	0.97	1.06	1.11	1.10	1.09	1.09	1.09	1.11	1.18	1.04
Syria.....	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.02	0.01	0.01
United Arab Emirates.....	0.22	0.24	0.24	0.24	0.25	0.26	0.27	0.26	0.28	0.26
Total.....	1.47	1.47	1.58	1.65	1.70	1.76	1.72	1.82	1.93	1.81

See footnotes at end of table.

Table F3 World Natural Gas Plant Liquids Production (Btu), 1990 - 1999 (Continued)

(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Africa										
Algeria.....	0.24	0.26	0.26	0.27	0.26	0.27	0.28	0.30	0.29	0.35
Egypt.....	0.07	0.08	0.08	0.10	0.10	0.11	0.12	0.13	0.14	0.14
Libya.....	0.06	0.06	0.06	0.07	0.07	0.06	0.08	0.10	0.10	0.10
South Africa.....	0.00	0.00	(s)	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Tunisia.....	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)
Total.....	0.38	0.41	0.42	0.46	0.45	0.46	0.49	0.54	0.54	0.60
Far East & Oceania²										
Australia.....	0.10	0.10	0.09	0.09	0.09	0.08	0.10	0.11	0.11	0.11
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	0.04	0.04
Burma.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
India.....	0.02	0.02	0.05	0.05	0.08	0.08	0.13	0.14	0.15	0.15
Indonesia.....	0.11	0.11	0.11	0.12	0.12	0.11	0.12	0.13	0.13	0.13
Japan.....	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Malaysia.....	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.08	0.14	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)	0.01	(s)	(s)	0.01	0.01
Taiwan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Thailand.....	0.02	0.02	0.02	0.02	0.03	0.06	0.06	0.08	0.10	0.10
Total.....	0.30	0.30	0.32	0.35	0.39	0.41	0.48	0.59	0.69	0.69
World Total.....	6.85	7.13	7.38	7.67	7.84	8.14	8.30	8.49	8.74	8.87

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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	3.90	4.12	4.60	4.99	5.45	5.72	5.90	5.99	6.20	6.40
Mexico.....	1.00	1.00	0.98	1.05	1.08	1.06	1.21	1.25	1.34	1.34
United States.....	18.36	18.23	18.38	18.58	19.35	19.10	19.36	19.39	19.29	19.13
Total.....	23.27	23.35	23.95	24.63	25.88	25.88	26.47	26.63	26.84	26.87
Central & South America										
Argentina.....	0.65	0.74	0.74	0.79	0.82	0.92	0.98	1.01	1.09	1.28
Barbados.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	0.11	0.10	0.11	0.10	0.10	0.11	0.11	0.11	0.11	0.09
Brazil.....	0.11	0.14	0.15	0.15	0.16	0.17	0.19	0.20	0.21	0.23
Chile.....	0.07	0.05	0.06	0.06	0.07	0.07	0.07	0.08	0.07	0.07
Colombia.....	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.20	0.21	0.17
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.03	0.01	0.02
Ecuador.....	0.01	(s)	(s)	(s)	(s)	0.01	0.01	(s)	(s)	(s)
Peru.....	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.01	0.01	0.01
Trinidad and Tobago.....	0.18	0.21	0.20	0.23	0.26	0.28	0.32	0.34	0.34	0.43
Venezuela.....	0.91	0.95	0.91	0.97	1.04	1.06	1.14	1.18	1.32	1.30
Total.....	2.19	2.35	2.34	2.49	2.65	2.80	3.00	3.17	3.39	3.60
Western Europe										
Austria.....	0.05	0.05	0.05	0.06	0.05	0.06	0.06	0.05	0.06	0.07
Belgium.....	(s)	(s)	(s)	(s)	(s)	0.00	(s)	0.00	0.00	0.00
Denmark.....	0.12	0.15	0.16	0.17	0.19	0.21	0.25	0.30	0.30	0.31
France.....	0.11	0.13	0.12	0.13	0.13	0.12	0.11	0.09	0.08	0.07
Germany.....	--	0.60	0.61	0.61	0.63	0.67	0.72	0.71	0.69	0.74
Germany, East.....	0.05	--	--	--	--	--	--	--	--	--
Germany, West.....	0.51	--	--	--	--	--	--	--	--	--
Greece.....	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ireland.....	0.08	0.08	0.08	0.10	0.10	0.10	0.10	0.08	0.06	0.05
Italy.....	0.62	0.62	0.65	0.69	0.73	0.72	0.72	0.70	0.69	0.63
Netherlands.....	2.41	2.72	2.73	2.78	2.64	2.66	3.01	2.67	2.54	2.37
Norway.....	1.06	1.05	1.14	1.06	1.16	1.21	1.61	1.79	1.77	1.90
Spain.....	0.06	0.05	0.05	0.03	0.01	0.02	0.02	0.01	(s)	0.01
Switzerland.....	(s)	(s)	(s)	(s)	(s)	0.00	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	0.02	0.03
United Kingdom.....	1.80	2.01	2.04	2.40	2.57	2.81	3.34	3.19	3.34	3.70
Former Yugoslavia.....	0.10	0.10	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	(s)	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Croatia.....	--	--	0.07	0.08	0.07	0.07	0.07	0.06	0.06	0.06
Serbia and Montenegro.....	--	--	0.03	0.04	0.03	0.03	0.03	0.03	0.04	0.03
Slovenia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	7.00	7.58	7.75	8.15	8.31	8.71	10.03	9.70	9.65	9.94

See footnotes at end of table.

Table F4 World Dry Natural Gas Production (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Former Czechoslovakia.....	0.03	0.02	0.01	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	0.01	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	0.01
Hungary.....	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.15	0.13	0.12
Poland.....	0.11	0.12	0.11	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Romania.....	1.07	0.88	0.78	0.75	0.69	0.68	0.63	0.61	0.52	0.50
Former U.S.S.R.....	29.53	28.97	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	0.28	0.24	0.23	0.23	0.24	0.21	0.20	0.21
Belarus.....	--	--	0.01	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	(s)	(s)
Kazakhstan.....	--	--	0.30	0.25	0.17	0.18	0.16	0.23	0.20	0.17
Kyrgyzstan.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	22.80	21.99	21.62	21.17	21.40	20.33	21.03	20.99
Tajikistan.....	--	--	(s)	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	2.11	2.40	1.32	1.19	1.37	0.94	0.49	0.82
Ukraine.....	--	--	0.76	0.70	0.66	0.64	0.66	0.66	0.66	0.65
Uzbekistan.....	--	--	1.53	1.61	1.69	1.72	1.72	1.76	1.96	1.99
Total.....	30.91	30.16	28.88	28.28	26.72	26.17	26.52	25.07	25.37	25.63
Middle East										
Bahrain.....	0.21	0.24	0.20	0.24	0.24	0.24	0.24	0.29	0.31	0.31
Iran.....	0.88	0.97	0.93	1.01	1.19	1.32	1.50	1.75	1.86	1.97
Iraq.....	0.15	0.04	0.11	0.09	0.12	0.12	0.12	0.11	0.11	0.12
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Kuwait.....	0.19	0.02	0.10	0.20	0.22	0.22	0.34	0.34	0.33	0.30
Oman.....	0.10	0.13	0.12	0.15	0.16	0.15	0.15	0.18	0.26	0.21
Qatar.....	0.29	0.34	0.42	0.50	0.50	0.50	0.51	0.64	0.72	0.89
Saudi Arabia.....	1.13	1.18	1.26	1.33	1.39	1.41	1.53	1.68	1.73	1.71
Syria.....	0.10	0.12	0.12	0.13	0.13	0.10	0.14	0.15	0.20	0.21
United Arab Emirates.....	0.82	0.96	1.07	0.98	0.95	1.16	1.25	1.34	1.37	1.41
Total.....	3.89	4.01	4.33	4.64	4.91	5.22	5.79	6.52	6.90	7.13
Africa										
Algeria.....	2.11	2.28	2.33	2.24	2.13	2.42	2.47	2.74	2.94	3.26
Angola.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	(s)	0.02	0.02	0.03	0.05
Egypt.....	0.30	0.34	0.37	0.42	0.44	0.46	0.50	0.50	0.51	0.57
Equatorial Guinea.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)
Gabon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	0.23	0.24	0.25	0.24	0.24	0.23	0.24	0.24	0.24	0.23
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mozambique.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)
Nigeria.....	0.14	0.18	0.18	0.19	0.17	0.19	0.20	0.22	0.22	0.26
Senegal.....	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
South Africa.....	0.00	0.00	(s)	0.07	0.07	0.07	0.07	0.06	0.05	0.05
Tunisia.....	0.01	0.01	0.02	0.02	0.01	0.01	0.03	0.07	0.08	0.08
Total.....	2.81	3.07	3.17	3.19	3.09	3.42	3.56	3.88	4.09	4.53

See footnotes at end of table.

Table F4 World Dry Natural Gas Production (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	0.11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Australia.....	0.76	0.79	0.86	0.92	0.99	1.10	1.13	1.13	1.17	1.17
Bangladesh.....	0.15	0.16	0.19	0.21	0.23	0.26	0.26	0.27	0.29	0.32
Brunei.....	0.39	0.32	0.33	0.34	0.34	0.38	0.38	0.37	0.36	0.39
Burma.....	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.06
China.....	0.58	0.61	0.61	0.64	0.68	0.69	0.77	0.86	0.91	0.99
India.....	0.46	0.52	0.55	0.61	0.68	0.72	0.80	0.83	0.88	0.87
Indonesia.....	1.68	1.90	1.97	2.15	2.41	2.44	2.57	2.58	2.47	2.56
Japan.....	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Malaysia.....	0.68	0.78	0.83	0.93	0.97	1.07	1.30	1.43	1.44	1.53
New Zealand.....	0.17	0.19	0.20	0.18	0.18	0.17	0.19	0.21	0.18	0.21
Pakistan.....	0.45	0.50	0.51	0.54	0.59	0.60	0.65	0.65	0.66	0.73
Papua New Guinea.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
Taiwan.....	0.08	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Thailand.....	0.21	0.24	0.25	0.31	0.34	0.37	0.42	0.53	0.56	0.61
Vietnam.....	(s)	(s)	0.01	0.01	0.01	0.03	0.03	0.01	0.03	0.04
Total.....	5.84	6.15	6.48	7.01	7.61	8.03	8.69	9.05	9.15	9.60
World Total.....	75.91	76.68	76.89	78.40	79.16	80.23	84.06	84.01	85.39	87.31

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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	1.70	1.78	1.62	1.71	1.83	1.90	1.92	2.08	1.99	1.91
Mexico.....	0.17	0.15	0.14	0.15	0.16	0.16	0.18	0.20	0.21	0.19
United States.2.....	22.46	21.59	21.63	20.25	22.11	22.03	22.68	23.21	23.72	23.33
Total.....	24.32	23.52	23.39	22.11	24.09	24.09	24.78	25.50	25.92	25.42
Central & South America										
Argentina.....	0.01	0.01	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Brazil.....	0.09	0.10	0.08	0.08	0.08	0.07	0.06	0.07	0.07	0.07
Chile.....	0.06	0.06	0.04	0.04	0.03	0.03	0.04	0.04	0.01	0.01
Colombia.....	0.53	0.52	0.57	0.55	0.53	0.60	0.71	0.88	0.91	0.89
Peru.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.06	0.06	0.06	0.10	0.11	0.11	0.11	0.18	0.23	0.23
Total.....	0.74	0.74	0.76	0.77	0.77	0.82	0.93	1.18	1.22	1.21
Western Europe										
Austria.....	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Belgium.....	0.05	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
France.....	0.33	0.32	0.29	0.26	0.23	0.25	0.22	0.18	0.16	0.15
Germany.....	--	3.96	3.65	3.37	3.21	3.02	2.79	2.82	2.59	2.51
Germany, East.....	2.36	--	--	--	--	--	--	--	--	--
Germany, West.....	2.71	--	--	--	--	--	--	--	--	--
Greece.....	0.31	0.32	0.27	0.30	0.29	0.30	0.29	0.32	0.34	0.34
Ireland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00
Italy.....	0.01	0.01	0.01	0.01	(s)	(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)	0.00	0.00	0.00	0.00	0.00
Spain.....	0.53	0.50	0.50	0.47	0.45	0.36	0.36	0.36	0.33	0.31
Sweden.....	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00
Turkey.....	0.45	0.43	0.49	0.47	0.47	0.46	0.47	0.53	0.57	0.57
United Kingdom.....	2.36	2.37	1.95	1.57	1.12	1.14	1.20	1.23	1.07	0.96
Former Yugoslavia.....	0.88	0.81	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02
Croatia.....	--	--	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macedonia, TFYR.....	--	--	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.06
Serbia and Montenegro.....	--	--	0.35	0.33	0.34	0.23	0.36	0.36	0.39	0.29
Slovenia.....	--	--	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.05
Total.....	10.04	8.80	7.70	6.95	6.28	5.93	5.85	5.98	5.61	5.29
Eastern Europe & Former U.S.S.R.										
Albania.....	0.02	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	0.33	0.27	0.27	0.26	0.26	0.26	0.27	0.27	0.28	0.24
Former Czechoslovakia.....	2.43	2.26	2.12	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	1.10	0.99	0.96	1.03	0.97	0.96	0.75
Slovakia.....	--	--	--	0.04	0.04	0.04	0.04	0.05	0.05	0.03
Hungary.....	0.17	0.17	0.15	0.13	0.12	0.12	0.13	0.14	0.13	0.13
Poland.....	3.73	3.58	3.52	3.50	3.56	3.40	3.06	3.66	3.16	3.05
Romania.....	0.33	0.28	0.28	0.30	0.31	0.31	0.33	0.26	0.21	0.21
Former U.S.S.R.....	13.67	10.65	--	--	--	--	--	--	--	--
Georgia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kazakhstan.....	--	--	2.31	2.05	1.45	1.16	1.18	1.06	0.87	0.85
Kyrgyzstan.....	--	--	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Moldova.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	6.36	5.71	4.92	4.68	4.98	4.53	4.00	4.28
Tajikistan.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ukraine.....	--	--	2.58	2.24	1.83	2.06	1.68	1.65	1.61	1.76
Uzbekistan.....	--	--	0.07	0.05	0.05	0.04	0.04	0.04	0.04	0.04
Total.....	20.69	17.21	17.71	15.42	13.55	13.06	12.75	12.63	11.32	11.35

See footnotes at end of table.

Table F5 World Coal Production (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Iran.....	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.02	0.02
Total.....	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	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	(s)	0.01	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	0.01	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.....	3.95	4.01	4.15	4.25	4.41	4.64	4.64	5.25	5.27	5.29
Swaziland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Zambia.....	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Zimbabwe.....	0.15	0.15	0.15	0.14	0.15	0.15	0.13	0.11	0.11	0.12
Total.....	4.16	4.22	4.37	4.45	4.63	4.86	4.83	5.42	5.45	5.47
Far East & Oceania										
Afghanistan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	3.97	4.13	4.37	4.40	4.57	4.93	5.01	5.71	6.04	6.20
Bhutan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Burma.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
China.....	21.55	21.71	22.24	23.43	25.23	26.29	25.91	26.89	24.59	20.56
India.....	3.91	4.23	4.61	4.79	4.73	5.91	5.72	5.76	5.69	5.80
Indonesia.....	0.28	0.38	0.62	0.74	0.83	1.15	1.35	1.40	1.55	1.66
Japan.....	0.24	0.20	0.18	0.17	0.16	0.14	0.13	0.09	0.08	0.08
Korea, North.....	1.13	1.13	1.14	1.15	1.16	1.15	1.14	1.08	1.07	1.06
Korea, South.....	0.31	0.27	0.21	0.17	0.13	0.10	0.09	0.08	0.08	0.08
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Malaysia.....	(s)	(s)	(s)	0.01	(s)	(s)	(s)	(s)	0.01	0.01
Mongolia.....	0.08	0.08	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05
Nepal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
New Zealand.....	0.06	0.06	0.07	0.07	0.06	0.07	0.08	0.07	0.07	0.08
Pakistan.....	0.06	0.06	0.07	0.07	0.07	0.06	0.07	0.07	0.06	0.06
Philippines.....	0.03	0.03	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.02
Taiwan.....	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)
Thailand.....	0.14	0.16	0.16	0.16	0.18	0.32	0.28	0.28	0.24	0.22
Vietnam.....	0.12	0.12	0.13	0.19	0.18	0.23	0.21	0.27	0.25	0.25
Total.....	31.89	32.58	33.91	35.46	37.40	40.45	40.08	41.78	39.82	36.14
World Total.....	91.87	87.11	87.87	85.19	86.76	89.24	89.24	92.51	89.36	84.90

¹ Preliminary.

² United States coal production is from Energy Information Administration, Annual Energy Review 1999, table 1.2.

--= 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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	3.06	3.17	3.26	3.33	3.40	3.45	3.67	3.61	3.42	3.54
Mexico.....	0.24	0.23	0.27	0.27	0.21	0.28	0.32	0.27	0.25	0.34
United States.2.....	3.01	2.97	2.57	2.85	2.65	3.18	3.56	3.68	3.30	3.16
Total.....	6.31	6.37	6.10	6.45	6.25	6.92	7.55	7.56	6.97	7.04
Central & South America										
Argentina.....	0.21	0.20	0.25	0.31	0.35	0.35	0.30	0.36	0.37	0.25
Bolivia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02
Brazil.....	2.13	2.24	2.30	2.42	2.50	2.61	2.74	2.87	3.00	3.18
Chile.....	0.12	0.14	0.17	0.18	0.17	0.19	0.17	0.19	0.16	0.14
Colombia.....	0.28	0.28	0.23	0.29	0.33	0.35	0.36	0.32	0.32	0.35
Costa Rica.....	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05
Dominican Republic.....	(s)	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Ecuador.....	0.05	0.05	0.05	0.06	0.07	0.05	0.06	0.07	0.07	0.07
El Salvador.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
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	0.01	0.02	0.02
Jamaica.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nicaragua.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	(s)
Panama.....	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Paraguay.....	0.28	0.30	0.28	0.32	0.37	0.43	0.49	0.52	0.52	0.54
Peru.....	0.11	0.12	0.10	0.12	0.13	0.14	0.14	0.14	0.14	0.15
Puerto Rico.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Suriname.....	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.01
Uruguay.....	0.07	0.06	0.08	0.08	0.08	0.06	0.06	0.07	0.09	0.06
Venezuela.....	0.38	0.46	0.49	0.49	0.53	0.53	0.55	0.59	0.55	0.57
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	3.79	4.02	4.13	4.45	4.73	4.90	5.06	5.31	5.42	5.50
Western Europe										
Austria.....	0.32	0.32	0.36	0.38	0.37	0.38	0.35	0.37	0.38	0.42
Belgium.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Finland.....	0.11	0.14	0.16	0.14	0.12	0.13	0.12	0.13	0.15	0.13
France.....	0.55	0.59	0.70	0.66	0.80	0.73	0.67	0.64	0.64	0.74
Germany.....	--	0.15	0.18	0.18	0.21	0.22	0.23	0.18	0.18	0.20
Germany, East.....	0.01	--	--	--	--	--	--	--	--	--
Germany, West.....	0.19	--	--	--	--	--	--	--	--	--
Greece.....	0.02	0.03	0.02	0.02	0.03	0.04	0.04	0.04	0.04	0.05
Iceland.....	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.06	0.06
Ireland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Italy.....	0.33	0.43	0.43	0.43	0.46	0.39	0.43	0.43	0.42	0.47
Luxembourg.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Norway.....	1.25	1.13	1.20	1.23	1.15	1.25	1.07	1.13	1.19	1.25
Portugal.....	0.09	0.09	0.05	0.09	0.11	0.09	0.15	0.13	0.13	0.07
Spain.....	0.26	0.28	0.19	0.25	0.29	0.24	0.41	0.36	0.35	0.25
Sweden.....	0.75	0.65	0.77	0.77	0.61	0.70	0.53	0.71	0.77	0.72
Switzerland.....	0.31	0.33	0.34	0.37	0.40	0.36	0.29	0.35	0.34	0.41
Turkey.....	0.24	0.23	0.27	0.35	0.31	0.37	0.42	0.41	0.43	0.36
United Kingdom.....	0.05	0.05	0.06	0.04	0.05	0.05	0.03	0.04	0.05	0.06
Former Yugoslavia.....	0.20	0.20	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	0.03	0.02	0.01	0.01	0.02	0.02	0.02	0.02
Croatia.....	--	--	0.04	0.04	0.05	0.05	0.07	0.05	0.06	0.07
Macedonia, TFYR.....	--	--	0.01	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	0.11
Slovenia.....	--	--	0.04	0.03	0.03	0.03	0.04	0.03	0.04	0.04
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4.74	4.69	5.02	5.17	5.19	5.24	5.08	5.23	5.41	5.44

See footnotes at end of table.

Table F6 World Net Hydroelectric Power Generation (Btu), 1990 - 1999 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.03	0.04	0.03	0.03	0.04	0.04	0.06	0.05	0.05	0.05
Bulgaria.....	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Former Czechoslovakia.....	0.04	0.03	0.04	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	0.01	0.02	0.02	0.02	0.02	0.01	0.02
Slovakia.....	--	--	--	0.04	0.05	0.05	0.05	0.04	0.05	0.04
Hungary.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Poland.....	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Romania.....	0.11	0.15	0.12	0.13	0.13	0.17	0.16	0.18	0.19	0.18
Former U.S.S.R.....	2.40	2.42	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.03	0.04	0.04	0.02	0.02	0.01	0.02	0.02
Azerbaijan.....	--	--	0.02	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	0.07	0.07
Kazakhstan.....	--	--	0.07	0.08	0.09	0.09	0.08	0.07	0.06	0.06
Kyrgyzstan.....	--	--	0.10	0.09	0.12	0.11	0.13	0.11	0.10	0.13
Latvia.....	--	--	0.03	0.03	0.03	0.03	0.02	0.03	0.04	0.03
Lithuania.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	0.01	(s)
Moldova.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	1.78	1.79	1.82	1.83	1.60	1.63	1.64	1.64
Tajikistan.....	--	--	0.16	0.18	0.17	0.15	0.15	0.14	0.15	0.16
Ukraine.....	--	--	0.08	0.12	0.13	0.10	0.09	0.10	0.16	0.16
Uzbekistan.....	--	--	0.06	0.08	0.07	0.06	0.07	0.06	0.06	0.06
Other.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	2.64	2.70	2.65	2.79	2.85	2.83	2.59	2.61	2.72	2.72
Middle East										
Iran.....	0.06	0.07	0.10	0.10	0.08	0.07	0.08	0.07	0.07	0.07
Iraq.....	0.01	(s)	0.01	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.....	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Syria.....	0.06	0.06	0.08	0.07	0.07	0.07	0.07	0.08	0.08	0.08
Total.....	0.13	0.15	0.19	0.18	0.16	0.16	0.16	0.16	0.16	0.17
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	0.04
Congo (Brazzaville).....	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05
Cote d'Ivoire (Ivory Coast).....	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01
Egypt.....	0.10	0.09	0.09	0.11	0.11	0.11	0.12	0.12	0.13	0.16
Ethiopia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Gabon.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ghana.....	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.04	0.04
Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Madagascar.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	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	(s)	0.01	0.01	0.02	0.02	0.02	0.02
Mozambique.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.02	0.02
Nigeria.....	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.09
Reunion.....	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
South Africa.....	0.01	0.02	0.01	(s)	0.01	0.01	0.01	0.01	0.02	0.01
Sudan.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Swaziland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Tanzania.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Uganda.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Zambia.....	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Zimbabwe.....	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Other.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.58	0.59	0.58	0.58	0.58	0.60	0.65	0.67	0.66	0.68

See footnotes at end of table.

Table F6 World Net Hydroelectric Power Generation (Btu), 1990 - 1999 (Continued)

(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	0.15	0.16	0.16	0.17	0.17	0.16	0.16	0.17	0.16	0.17
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	0.02	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.....	1.30	1.29	1.35	1.55	1.72	1.92	1.92	2.01	2.11	2.32
Fiji.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
French Polynesia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
India.....	0.74	0.75	0.72	0.73	0.85	0.75	0.71	0.77	0.78	0.84
Indonesia.....	0.11	0.10	0.10	0.09	0.07	0.09	0.09	0.09	0.11	0.12
Japan.....	0.92	1.00	0.85	0.98	0.69	0.85	0.83	0.92	0.95	0.88
Korea, North.....	0.30	0.33	0.25	0.25	0.24	0.24	0.23	0.22	0.21	0.19
Korea, South.....	0.05	0.04	0.03	0.04	0.02	0.03	0.02	0.03	0.04	0.04
Laos.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Malaysia.....	0.04	0.05	0.04	0.05	0.07	0.06	0.05	0.04	0.05	0.05
Nepal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
New Caledonia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
New Zealand.....	0.24	0.24	0.21	0.24	0.27	0.28	0.27	0.25	0.25	0.24
Pakistan.....	0.17	0.19	0.19	0.22	0.20	0.24	0.24	0.21	0.23	0.24
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Philippines.....	0.06	0.05	0.04	0.05	0.06	0.06	0.07	0.06	0.05	0.08
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	0.03	0.03	0.03	0.04	0.04	0.05	0.03	0.04	0.04	0.04
Taiwan.....	0.09	0.06	0.09	0.07	0.09	0.09	0.09	0.09	0.10	0.09
Thailand.....	0.05	0.05	0.04	0.04	0.05	0.07	0.08	0.07	0.05	0.04
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	0.06	0.07	0.07	0.08	0.09	0.11	0.12	0.12	0.11	0.12
Total.....	4.38	4.47	4.27	4.68	4.72	5.07	5.02	5.19	5.34	5.55
World Total.....	22.57	22.99	22.94	24.30	24.48	25.71	26.10	26.73	26.68	27.10

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), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	0.79	0.93	0.88	1.02	1.17	1.06	1.00	0.88	0.76	0.79
Mexico.....	0.03	0.04	0.04	0.05	0.04	0.08	0.08	0.10	0.09	0.10
United States.....	6.16	6.58	6.61	6.52	6.84	7.18	7.17	6.68	7.16	7.74
Total.....	6.99	7.55	7.52	7.59	8.04	8.31	8.24	7.66	8.01	8.62
Central & South America										
Argentina.....	0.08	0.09	0.08	0.09	0.09	0.08	0.08	0.09	0.08	0.08
Brazil.....	0.02	0.01	0.02	(s)	(s)	0.02	0.02	0.03	0.03	0.04
Total.....	0.10	0.10	0.10	0.09	0.09	0.11	0.10	0.12	0.12	0.12
Western Europe										
Belgium.....	0.42	0.42	0.43	0.41	0.40	0.41	0.43	0.47	0.45	0.48
Finland.....	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.21	0.22
France.....	3.11	3.28	3.34	3.64	3.54	3.71	3.91	3.87	3.81	3.88
Germany.....	--	1.43	1.54	1.49	1.46	1.46	1.53	1.63	1.54	1.62
Germany, East.....	0.06	--	--	--	--	--	--	--	--	--
Germany, West.....	1.46	--	--	--	--	--	--	--	--	--
Netherlands.....	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.02	0.04	0.04
Spain.....	0.52	0.54	0.54	0.54	0.53	0.53	0.54	0.53	0.57	0.57
Sweden.....	0.65	0.74	0.61	0.59	0.70	0.67	0.70	0.67	0.70	0.67
Switzerland.....	0.24	0.23	0.23	0.23	0.24	0.24	0.25	0.25	0.25	0.24
United Kingdom.....	0.70	0.78	0.86	1.01	1.00	1.00	1.07	1.11	1.18	1.14
Former Yugoslavia.....	0.05	0.04	--	--	--	--	--	--	--	--
Slovenia.....	--	--	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.04
Total.....	7.43	7.67	7.82	8.18	8.16	8.30	8.69	8.80	8.82	8.91
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.15	0.14	0.12	0.15	0.16	0.18	0.20	0.18	0.17	0.16
Former Czechoslovakia.....	0.29	0.28	0.29	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	0.15	0.15	0.13	0.14	0.14	0.14	0.14
Slovakia.....	--	--	--	0.14	0.14	0.13	0.13	0.12	0.12	0.12
Hungary.....	0.15	0.13	0.13	0.13	0.13	0.13	0.14	0.13	0.13	0.13
Romania.....	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.06	0.06
Former U.S.S.R.....	2.31	2.31	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02
Kazakhstan.....	--	--	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lithuania.....	--	--	0.15	0.13	0.08	0.11	0.14	0.12	0.14	0.11
Russia.....	--	--	1.25	1.25	1.02	1.04	1.14	1.15	1.08	1.22
Ukraine.....	--	--	0.76	0.78	0.71	0.73	0.83	0.82	0.77	0.74
Total.....	2.89	2.86	2.71	2.73	2.41	2.46	2.74	2.75	2.63	2.70
Africa										
South Africa.....	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13	0.14	0.13
Total.....	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13	0.14	0.13
Far East & Oceania										
China.....	0.00	0.00	0.01	0.03	0.14	0.13	0.14	0.12	0.14	0.14
India.....	0.07	0.06	0.07	0.07	0.06	0.08	0.09	0.13	0.13	0.14
Japan.....	1.97	2.08	2.17	2.42	2.61	2.83	2.93	3.13	3.23	3.15
Korea, South.....	0.51	0.54	0.54	0.56	0.56	0.64	0.70	0.73	0.85	0.98
Pakistan.....	(s)	(s)	0.01	(s)	0.01	0.01	(s)	(s)	(s)	(s)
Taiwan.....	0.32	0.33	0.32	0.33	0.33	0.34	0.36	0.34	0.35	0.36
Total.....	2.87	3.01	3.12	3.41	3.70	4.02	4.23	4.45	4.69	4.78
World Total.....	20.37	21.29	21.36	22.07	22.50	23.31	24.13	23.90	24.41	25.25

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 Geothermal, Solar, Wind, Wood and Waste Electric Power Generation (Btu), 1990 - 1999
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	0.04	0.04	0.04	0.05	0.06	0.05	0.06	0.06	0.06	0.08
Mexico.....	0.10	0.11	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11
United States.....	0.85	0.92	0.97	1.00	1.02	0.96	0.99	0.95	0.94	1.01
Total.....	0.99	1.07	1.13	1.16	1.18	1.13	1.16	1.12	1.11	1.20
Central & South America										
Argentina.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brazil.....	0.05	0.05	0.07	0.07	0.07	0.08	0.09	0.10	0.10	0.10
Chile.....	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Colombia.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Costa Rica.....	0.00	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.02
Cuba.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Dominican Republic.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
El Salvador.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Guatemala.....	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Haiti.....	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	(s)
Panama.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Paraguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	(s)	(s)
Peru.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Trinidad and Tobago.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	0.09	0.09	0.11	0.11	0.12	0.13	0.14	0.15	0.16	0.18
Western Europe										
Austria.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Belgium.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Croatia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Denmark.....	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.04	0.05
Faroe Islands.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	0.00	0.00
Finland.....	0.00	0.00	0.05	0.06	0.06	0.07	0.06	0.08	0.10	0.10
France.....	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03
Germany.....	--	0.05	0.06	0.06	0.08	0.09	0.10	0.10	0.13	0.16
Germany, West.....	0.05	--	--	--	--	--	--	--	--	--
Greece.....	(s)	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Iceland.....	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Ireland.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	0.07	0.07	0.07	0.08	0.07	0.08	0.08	0.09	0.11	0.12
Luxembourg.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Netherlands.....	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.04	0.05
Norway.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
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	0.02	0.02	0.03	0.04	0.04
Sweden.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
Switzerland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Turkey.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
United Kingdom.....	0.01	0.01	0.02	0.05	0.05	0.06	0.06	0.06	0.06	0.09
Total.....	0.23	0.24	0.33	0.38	0.42	0.46	0.49	0.57	0.66	0.73
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)
Czech Republic.....	--	--	--	(s)	(s)	(s)	0.01	0.01	0.01	0.01
Poland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01
Romania.....	(s)	0.00	(s)	(s)	0.00	(s)	0.00	(s)	(s)	(s)
Former U.S.S.R.....	(s)	(s)	--	--	--	--	--	--	--	--
Estonia.....	--	--	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02

See footnotes at end of table.

Table F8 World Net Geothermal, Solar, Wind, Wood and Waste Electric Power Generation (Btu), 1990 - 1999 (Cont.)
(Quadrillion (10¹⁵) Btu)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Jordan.....	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00
Total.....	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00
Africa										
Ethiopia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00
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	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
India.....	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01
Indonesia.....	0.02	0.02	0.02	0.02	0.04	0.04	0.05	0.05	0.08	0.08
Japan.....	0.20	0.21	0.21	0.21	0.23	0.26	0.27	0.29	0.28	0.29
Korea, South.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
New Zealand.....	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06
Philippines.....	0.11	0.11	0.11	0.11	0.13	0.12	0.13	0.14	0.18	0.17
Thailand.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	0.02	0.03	0.05
Total.....	0.39	0.40	0.42	0.42	0.47	0.50	0.54	0.60	0.67	0.70
World Total.....	1.72	1.82	2.00	2.09	2.21	2.24	2.36	2.47	2.63	2.83

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, 1990 - 1999
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	1,979	1,979	2,065	2,186	2,275	2,386	2,432	2,558	2,632	2,560
Mexico.....	2,981	3,137	3,123	3,132	3,146	3,064	3,278	3,411	3,495	3,345
United States.....	8,994	9,168	8,996	8,836	8,645	8,626	8,607	8,611	8,392	8,107
Total.....	13,955	14,284	14,185	14,154	14,066	14,076	14,318	14,580	14,519	14,012
Central & South America										
Argentina.....	510	515	583	629	694	757	800	882	897	850
Barbados.....	1	1	1	1	1	1	1	1	2	2
Bolivia.....	26	26	28	29	30	34	37	37	43	43
Brazil.....	790	808	793	806	858	890	1,001	1,068	1,229	1,391
Chile.....	32	28	26	26	24	23	21	14	15	15
Colombia.....	448	425	439	461	455	593	631	661	741	824
Cuba.....	16	16	18	22	26	28	32	33	34	41
Ecuador.....	287	301	324	353	374	401	405	393	379	377
Guatemala.....	4	4	5	7	8	10	13	16	24	23
Peru.....	130	116	117	127	129	131	121	119	117	107
Suriname.....	4	4	5	5	6	7	7	5	7	10
Trinidad and Tobago.....	150	154	142	135	132	131	130	124	123	125
Venezuela.....	2,251	2,492	2,484	2,593	2,734	2,899	3,088	3,423	3,312	2,996
Total.....	4,649	4,890	4,967	5,195	5,472	5,906	6,287	6,777	6,922	6,803
Western Europe										
Austria.....	23	27	24	22	22	24	22	20	21	19
Denmark.....	121	143	163	174	185	186	208	230	238	300
France.....	72	69	70	68	69	62	55	46	40	37
Germany.....	--	95	85	81	79	78	78	75	77	76
Germany, East.....	1	--	--	--	--	--	--	--	--	--
Germany, West.....	104	--	--	--	--	--	--	--	--	--
Greece.....	17	17	14	12	11	10	9	10	7	1
Italy.....	89	82	86	86	89	97	105	114	110	86
Netherlands.....	84	84	67	67	103	87	81	77	79	80
Norway.....	1,782	1,984	2,324	2,450	2,624	2,905	3,242	3,282	3,149	3,139
Spain.....	27	33	31	24	21	17	11	8	11	6
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	0	0	0	0
Turkey.....	73	88	84	76	72	67	67	68	65	59
United Kingdom.....	1,928	1,938	1,986	2,084	2,593	2,756	2,827	2,751	2,856	2,922
Former Yugoslavia.....	74	68	--	--	--	--	--	--	--	--
Croatia.....	--	--	42	43	46	40	36	37	38	32
Serbia and Montenegro.....	--	--	23	23	24	22	22	20	18	18
Total.....	4,395	4,629	4,999	5,210	5,938	6,350	6,764	6,736	6,710	6,775
Eastern Europe & Former U.S.S.R.										
Albania.....	30	19	11	11	12	10	10	9	6	6
Bulgaria.....	4	1	1	1	1	1	1	1	1	1
Former Czechoslovakia.....	2	3	2	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	2	3	3	4	3	4	4
Slovakia.....	--	--	--	1	1	1	2	2	1	1
Hungary.....	55	47	46	45	50	46	42	50	43	41
Poland.....	2	3	3	5	5	5	5	6	7	9
Romania.....	171	148	143	137	142	141	142	141	138	132
Former U.S.S.R.....	11,400	10,412	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	222	208	192	182	182	180	237	283
Belarus.....	--	--	40	40	40	38	36	36	36	37
Estonia.....	--	--	0	0	0	0	0	7	4	4
Georgia.....	--	--	3	2	2	1	1	3	2	2
Kazakhstan.....	--	--	530	490	415	414	457	521	526	604
Kyrgyzstan.....	--	--	2	2	2	2	2	2	2	2
Lithuania.....	--	--	0	2	3	3	3	4	5	5
Russia.....	--	--	7,862	6,950	6,335	6,175	6,035	6,115	6,074	6,310
Tajikistan.....	--	--	1	1	1	1	1	1	1	(s)
Turkmenistan.....	--	--	110	90	85	81	88	106	127	156
Ukraine.....	--	--	95	87	85	85	81	85	82	98
Uzbekistan.....	--	--	66	85	115	160	165	157	161	147
Total.....	11,664	10,633	9,137	8,159	7,487	7,349	7,256	7,428	7,458	7,842

See footnotes at end of table.

Table G1 World Production of Crude Oil, NGPL, and Other Liquids, 1990 - 1999 (Continued)
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Bahrain.....	47	43	44	53	54	51	45	52	48	47
Iran.....	3,123	3,362	3,479	3,595	3,673	3,703	3,746	3,734	3,709	3,632
Iraq.....	2,070	305	425	527	573	585	599	1,175	2,165	2,523
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	1,240	190	1,092	1,905	2,110	2,152	2,147	2,116	2,200	2,013
Oman.....	695	708	746	781	816	861	893	910	906	893
Qatar.....	446	445	478	468	465	497	560	620	781	776
Saudi Arabia.....	7,030	8,795	9,045	8,902	8,818	8,933	8,915	9,074	9,144	8,499
Syria.....	390	494	483	562	568	584	590	571	561	546
United Arab Emirates.....	2,252	2,532	2,410	2,305	2,343	2,393	2,438	2,476	2,515	2,329
Yemen.....	193	197	182	220	335	345	340	362	388	409
Total.....	17,487	17,071	18,384	19,318	19,754	20,104	20,273	21,091	22,417	21,667
Africa										
Algeria.....	1,305	1,370	1,354	1,307	1,320	1,347	1,392	1,437	1,401	1,392
Angola.....	475	500	526	509	536	646	709	714	735	766
Benin.....	4	4	6	6	6	3	2	1	1	1
Cameroon.....	161	153	140	127	108	111	108	124	121	100
Congo (Brazzaville).....	165	156	174	181	180	188	201	253	265	270
Congo (Kinshasa).....	29	28	26	25	26	30	30	28	26	22
Cote d'Ivoire (Ivory Coast).....	2	2	2	1	7	8	16	19	20	15
Egypt.....	913	919	926	945	954	980	987	927	909	927
Equatorial Guinea.....	0	(s)	2	5	5	5	17	52	83	102
Gabon.....	270	294	298	313	329	365	368	370	352	340
Ghana.....	0	0	1	2	1	4	6	5	5	6
Libya.....	1,410	1,523	1,473	1,402	1,419	1,430	1,450	1,506	1,450	1,379
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	1,810	1,892	1,943	1,960	1,931	1,993	2,001	2,132	2,153	2,130
South Africa.....	70	70	129	183	183	192	195	196	199	210
Sudan.....	0	0	(s)	(s)	(s)	(s)	2	5	10	63
Tunisia.....	98	109	114	102	96	90	88	85	81	84
Total.....	6,712	7,021	7,113	7,067	7,100	7,392	7,572	7,856	7,812	7,807
Far East & Oceania										
Australia.....	638	606	591	558	592	614	632	659	614	611
Bangladesh.....	1	1	1	1	2	1	2	2	2	2
Brunei.....	160	171	177	178	180	176	166	175	179	204
Burma.....	14	16	15	14	14	10	8	9	11	10
China.....	2,774	2,835	2,845	2,890	2,939	2,990	3,131	3,200	3,198	3,195
India.....	670	625	589	564	635	750	731	760	751	743
Indonesia.....	1,539	1,668	1,579	1,589	1,590	1,579	1,627	1,605	1,605	1,559
Japan.....	14	18	20	19	18	18	18	17	17	16
Malaysia.....	631	658	666	657	662	702	715	750	810	778
New Zealand.....	56	56	55	58	55	45	45	66	55	50
Pakistan.....	62	64	64	63	58	62	58	60	58	56
Papua New Guinea.....	0	(s)	53	126	110	100	103	80	79	97
Philippines.....	5	3	8	9	6	3	2	1	1	1
Taiwan.....	4	3	3	2	2	2	2	2	1	1
Thailand.....	57	59	65	67	78	89	96	122	135	145
Vietnam.....	50	80	106	120	141	173	175	191	246	290
Total.....	6,675	6,863	6,838	6,916	7,081	7,315	7,513	7,699	7,763	7,756
World Total.....	65,537	65,390	65,625	66,018	66,899	68,492	69,983	72,168	73,600	72,663

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, 1990 - 1999
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	2,025	2,032	2,125	2,241	2,328	2,448	2,494	2,623	2,694	2,621
Mexico.....	3,009	3,165	3,151	3,160	3,174	3,092	3,306	3,439	3,523	3,373
United States.....	9,677	9,883	9,768	9,602	9,413	9,400	9,445	9,461	9,278	8,993
Total.....	14,712	15,080	15,045	15,003	14,915	14,940	15,245	15,523	15,494	14,988
Central & South America										
Argentina.....	515	520	588	634	699	762	805	887	902	855
Barbados.....	1	1	1	1	1	1	1	1	2	2
Bolivia.....	26	26	28	29	30	34	37	37	43	43
Brazil.....	803	821	806	819	871	903	1,014	1,081	1,242	1,404
Chile.....	33	29	27	27	25	24	22	15	16	16
Colombia.....	450	427	441	463	457	595	633	663	743	826
Cuba.....	16	16	18	22	26	28	32	33	34	41
Dominican Republic.....	1	1	1	1	1	1	1	1	1	1
Ecuador.....	288	302	325	354	375	402	406	394	380	378
Guatemala.....	4	4	5	7	8	10	13	16	24	23
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	118	119	129	131	133	123	121	119	109
Suriname.....	4	4	5	5	6	7	7	5	7	10
Trinidad and Tobago.....	153	157	145	138	135	134	133	127	126	128
Venezuela.....	2,268	2,509	2,501	2,610	2,751	2,916	3,105	3,440	3,329	3,013
Virgin Islands, U.S.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4,702	4,942	5,019	5,247	5,524	5,958	6,339	6,830	6,974	6,855
Western Europe										
Austria.....	25	29	26	24	24	26	24	22	23	21
Belgium.....	12	12	12	12	12	12	12	12	12	12
Denmark.....	125	147	167	178	189	190	212	234	242	304
France.....	115	113	112	111	112	105	98	89	83	80
Germany.....	--	141	132	137	135	134	134	131	133	132
Germany, East.....	1	--	--	--	--	--	--	--	--	--
Germany, West.....	151	--	--	--	--	--	--	--	--	--
Greece.....	20	20	17	15	14	13	12	13	10	4
Ireland.....	1	1	1	1	1	1	1	1	1	1
Italy.....	133	124	155	147	150	158	166	175	171	147
Netherlands.....	118	118	101	101	137	121	115	111	113	114
Norway.....	1,785	1,987	2,327	2,453	2,627	2,908	3,245	3,285	3,152	3,142
Portugal.....	2	2	2	2	2	2	2	2	2	2
Spain.....	41	47	45	38	35	31	25	22	25	20
Sweden.....	4	4	4	4	4	4	4	4	4	4
Switzerland.....	1	1	1	1	1	1	1	1	1	1
Turkey.....	77	92	88	80	76	71	71	72	69	63
United Kingdom.....	1,977	1,986	2,032	2,129	2,638	2,801	2,872	2,796	2,901	2,967
Former Yugoslavia.....	74	68	--	--	--	--	--	--	--	--
Croatia.....	--	--	42	43	46	40	36	37	38	32
Serbia and Montenegro.....	--	--	23	23	24	22	22	20	18	18
Slovenia.....	--	--	0	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4,662	4,893	5,287	5,499	6,227	6,639	7,053	7,025	6,999	7,064

See footnotes at end of table.

Table G2 World Production of Crude Oil, NGPL, Other Liquids, and Refinery Processing Gain, 1990 - 1999 (Cont.)
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	30	19	11	11	12	10	10	9	6	6
Bulgaria.....	4	1	1	1	1	1	1	1	1	1
Former Czechoslovakia.....	2	3	2	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	2	3	3	4	3	4	4
Slovakia.....	--	--	--	1	1	1	2	2	1	1
Hungary.....	55	47	46	45	50	46	42	50	43	41
Poland.....	2	3	3	5	5	5	5	6	7	9
Romania.....	171	148	143	137	142	141	142	141	138	132
Former U.S.S.R.....	11,400	10,412	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	222	208	192	182	182	180	237	283
Belarus.....	--	--	40	40	40	38	36	36	36	37
Estonia.....	--	--	0	0	0	0	0	7	4	4
Georgia.....	--	--	3	2	2	1	1	3	2	2
Kazakhstan.....	--	--	530	490	415	414	457	521	526	604
Kyrgyzstan.....	--	--	2	2	2	2	2	2	2	2
Lithuania.....	--	--	0	2	3	3	3	4	5	5
Russia.....	--	--	7,862	6,950	6,335	6,175	6,035	6,115	6,074	6,310
Tajikistan.....	--	--	1	1	1	1	1	1	1	(s)
Turkmenistan.....	--	--	110	90	85	81	88	106	127	156
Ukraine.....	--	--	95	87	85	85	81	85	82	98
Uzbekistan.....	--	--	66	85	115	160	165	157	161	147
Total.....	11,664	10,633	9,137	8,159	7,487	7,349	7,256	7,428	7,458	7,842
Middle East										
Bahrain.....	48	44	45	54	55	52	46	53	49	48
Iran.....	3,135	3,374	3,491	3,607	3,685	3,715	3,758	3,746	3,721	3,644
Iraq.....	2,074	305	426	528	574	586	600	1,176	2,166	2,524
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	1,245	190	1,096	1,909	2,114	2,156	2,151	2,120	2,204	2,017
Oman.....	695	708	746	781	816	861	893	910	906	893
Qatar.....	447	446	479	469	466	498	561	621	782	777
Saudi Arabia.....	7,045	8,810	9,060	8,917	8,833	8,948	8,930	9,089	9,159	8,514
Syria.....	390	494	483	562	568	584	590	571	561	546
United Arab Emirates.....	2,255	2,535	2,413	2,308	2,346	2,396	2,441	2,479	2,518	2,332
Yemen.....	193	197	182	220	335	345	340	362	388	409
Total.....	17,528	17,103	18,421	19,355	19,791	20,141	20,310	21,128	22,454	21,704
Africa										
Algeria.....	1,306	1,371	1,355	1,308	1,321	1,348	1,393	1,438	1,402	1,393
Angola.....	475	500	526	509	536	646	709	714	735	766
Benin.....	4	4	6	6	6	3	2	1	1	1
Cameroon.....	161	153	140	127	108	111	108	124	121	100
Congo (Brazzaville).....	165	156	174	181	180	188	201	253	265	270
Congo (Kinshasa).....	29	28	26	25	26	30	30	28	26	22
Cote d'Ivoire (Ivory Coast).....	3	3	3	2	8	9	17	20	21	16
Egypt.....	914	920	927	946	955	981	988	928	910	928
Equatorial Guinea.....	0	(s)	2	5	5	5	17	52	83	102
Gabon.....	271	295	299	314	330	366	369	371	353	341
Ghana.....	0	0	1	2	1	4	6	5	5	6
Kenya.....	1	1	1	1	1	1	1	1	1	1
Libya.....	1,410	1,523	1,473	1,402	1,419	1,430	1,450	1,506	1,450	1,379
Morocco.....	1	1	1	1	1	1	1	1	1	1
Nigeria.....	1,815	1,897	1,948	1,965	1,936	1,998	2,006	2,137	2,158	2,135
South Africa.....	70	70	129	183	183	192	195	196	199	210
Sudan.....	0	0	(s)	(s)	(s)	(s)	2	5	10	63
Tunisia.....	98	109	114	102	96	90	88	85	81	84
Total.....	6,723	7,032	7,124	7,078	7,111	7,403	7,583	7,867	7,823	7,818

See footnotes at end of table.

Table G2 World Production of Crude Oil, NGPL, Other Liquids, and Refinery Processing Gain, 1990 - 1999 (Cont.)
(Thousand Barrels per Day)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Australia.....	651	619	604	572	606	627	645	672	627	624
Bangladesh.....	1	1	1	1	2	1	2	2	2	2
Brunei.....	160	171	177	178	180	176	166	175	179	204
Burma.....	14	16	15	14	14	10	8	9	11	10
China.....	2,774	2,835	2,845	2,890	2,939	2,990	3,131	3,200	3,198	3,195
India.....	674	629	593	568	639	754	735	764	755	747
Indonesia.....	1,536	1,665	1,576	1,586	1,587	1,576	1,624	1,602	1,602	1,556
Japan.....	74	76	79	82	81	81	81	80	80	79
Korea, South.....	-8	-13	-17	-11	21	34	10	70	70	67
Malaysia.....	632	659	667	658	663	703	716	751	811	779
New Zealand.....	57	57	56	59	56	47	46	67	56	51
Pakistan.....	63	65	65	64	59	63	59	61	59	57
Papua New Guinea.....	0	(s)	53	126	110	100	103	80	79	97
Philippines.....	6	4	9	10	7	4	3	2	2	2
Singapore.....	4	4	4	4	4	4	4	4	4	4
Taiwan.....	6	5	5	4	4	4	4	4	3	3
Thailand.....	58	60	66	68	79	90	97	123	136	146
Vietnam.....	50	80	106	120	141	173	175	191	246	290
Total.....	6,752	6,934	6,906	6,993	7,190	7,437	7,611	7,857	7,922	7,913
World Total.....	66,743	66,617	66,941	67,335	68,246	69,868	71,397	73,658	75,124	74,184

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, 1998
(Thousand Barrels per Day)

Region Country	Refinery Processing Gain	Other Liquids
North America		
Canada.....	62	0
Mexico.....	28	0
United States.....	886	381
Total.....	976	381
Central & South America		
Argentina.....	5	0
Brazil.....	13	225
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	225
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
Eastern Europe & Former U.S.S.R.		
Estonia.....	0	4
Total.....	0	4
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

See footnotes at end of table.

Table G3 World Oil Supply From Refinery Processing Gain and Other Liquids, 1998 (Continued)
(Thousand Barrels per Day)

Region Country	Refinery Processing Gain	Other Liquids
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	170
Total.....	11	170
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.....	159	4
World Total.....	1,524	805

(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,
1990-1999**

Table H1 World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1990 - 1999
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	127.53	125.29	124.10	129.92	134.92	134.93	139.00	145.23	147.69	150.90
Mexico.....	84.04	84.28	86.41	85.00	89.96	87.60	92.58	95.89	104.56	100.56
United States.....	1,354.81	1,342.00	1,366.00	1,393.42	1,417.93	1,430.18	1,480.82	1,502.46	1,504.15	1,519.89
Other.....	0.25	0.22	0.18	0.18	0.17	0.16	0.16	0.16	0.16	0.18
Total.....	1,566.63	1,551.79	1,576.70	1,608.51	1,642.99	1,652.87	1,712.56	1,743.74	1,756.56	1,771.54
Central & South America										
Argentina.....	28.41	29.99	30.53	33.10	32.21	33.24	35.11	35.34	37.43	39.49
Brazil.....	62.61	64.60	64.80	66.51	70.80	73.69	76.14	79.99	87.89	88.90
Chile.....	8.63	8.24	8.50	9.05	9.93	10.85	12.55	14.86	14.44	15.79
Colombia.....	11.25	12.97	13.54	14.89	14.55	14.27	15.60	17.08	18.26	16.44
Cuba.....	9.69	8.94	7.86	7.99	7.87	8.30	8.13	7.58	7.30	7.53
Venezuela.....	30.06	30.53	30.52	31.21	32.72	33.67	35.98	36.94	37.92	37.94
Other.....	40.96	42.20	44.61	47.16	48.92	52.72	52.63	55.81	59.62	60.62
Total.....	191.60	197.48	200.35	209.90	217.00	226.74	236.13	247.60	262.87	266.71
Western Europe										
Austria.....	15.33	16.37	15.20	15.71	15.56	15.89	16.48	17.30	17.17	17.61
Belgium.....	33.99	35.17	33.91	33.65	34.80	35.44	36.99	38.40	39.81	37.90
Denmark.....	15.29	17.46	16.62	15.96	17.49	18.80	19.75	20.49	17.11	16.52
Finland.....	14.41	14.09	13.38	14.18	15.55	12.17	13.92	15.24	13.37	12.95
France.....	102.19	107.76	103.93	99.96	97.00	100.69	104.91	103.82	109.62	108.59
Germany.....	--	249.05	240.98	240.88	230.04	238.73	239.70	237.77	236.92	229.93
Germany, East.....	78.61	--	--	--	--	--	--	--	--	--
Germany, West.....	192.75	--	--	--	--	--	--	--	--	--
Greece.....	22.24	22.32	21.83	22.80	23.28	22.99	23.40	24.62	26.26	26.21
Ireland.....	7.06	7.32	7.57	7.62	7.89	8.54	8.78	9.14	9.87	10.49
Italy.....	112.23	113.58	113.58	109.78	107.74	118.45	116.20	117.90	121.66	121.28
Netherlands.....	57.64	59.50	58.50	60.05	60.05	60.88	62.26	65.63	65.57	64.35
Norway.....	9.33	8.86	9.66	9.23	9.62	10.00	10.66	11.60	11.55	11.89
Portugal.....	12.09	12.16	12.97	12.52	12.61	13.53	12.79	14.20	15.53	17.21
Spain.....	61.86	64.31	65.51	62.42	64.31	66.93	63.36	73.22	76.62	81.55
Sweden.....	14.87	14.58	14.85	15.03	15.28	17.49	17.56	14.64	16.42	15.97
Switzerland.....	12.09	12.50	12.56	12.16	12.35	11.52	12.34	12.57	12.06	12.12
Turkey.....	35.19	37.59	36.89	39.15	37.87	41.18	45.43	49.79	50.35	49.96
United Kingdom.....	163.66	166.30	156.56	157.50	155.41	152.73	159.38	153.90	154.73	152.39
Former Yugoslavia.....	40.86	36.50	--	--	--	--	--	--	--	--
Croatia.....	--	--	4.44	4.70	4.81	4.95	4.71	5.03	5.38	5.49
Serbia and Montenegro.....	--	--	12.60	10.88	11.31	8.25	13.16	13.72	14.33	10.94
Other.....	4.57	4.68	12.92	13.01	12.25	13.32	12.93	12.73	12.75	12.48
Total.....	1,006.24	1,000.09	964.44	957.19	945.21	972.49	994.71	1,011.71	1,027.08	1,015.82
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	23.05	17.33	17.61	16.13	15.72	15.85	16.32	16.13	15.25	13.52
Former Czechoslovakia.....	79.97	72.90	65.32	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	30.89	30.62	31.78	33.69	34.00	33.87	28.50
Slovakia.....	--	--	--	10.97	10.71	11.57	11.95	11.15	10.52	9.24
Hungary.....	18.41	18.11	16.55	16.86	16.38	15.79	15.84	15.88	16.30	16.20
Poland.....	89.27	88.76	88.93	92.12	87.20	82.99	78.06	91.29	85.37	84.54
Romania.....	47.69	36.74	34.63	33.95	31.81	33.47	34.11	32.59	27.24	25.67
Former U.S.S.R.....	1,037.47	957.22	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	16.10	13.66	12.47	12.08	10.37	10.24	12.50	12.71
Belarus.....	--	--	25.35	22.34	18.04	16.86	16.44	15.92	16.29	17.21
Kazakhstan.....	--	--	66.02	54.02	42.91	39.82	37.77	31.92	27.41	26.56
Lithuania.....	--	--	6.23	4.79	4.99	4.78	4.39	4.43	4.88	4.40
Russia.....	--	--	573.50	535.63	477.28	444.31	444.19	407.52	397.85	400.09
Turkmenistan.....	--	--	5.25	5.17	4.94	5.02	4.97	5.25	4.71	5.42
Ukraine.....	--	--	155.71	144.83	120.58	123.72	108.10	102.00	98.34	104.30
Uzbekistan.....	--	--	25.96	31.41	26.45	28.36	27.93	27.92	27.50	27.72
Other.....	1.64	1.17	25.62	17.55	13.77	12.64	13.96	13.25	13.36	12.89
Total.....	1,297.51	1,192.23	1,122.79	1,030.33	913.87	879.05	858.09	819.50	791.39	788.95

See footnotes at end of table.

Table H1 World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1990 - 1999 (Cont.)
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Middle East										
Bahrain.....	3.87	4.31	3.67	4.34	4.29	4.35	4.36	5.24	5.41	5.52
Iran.....	55.67	62.35	63.97	65.27	68.03	70.80	70.75	81.37	81.37	84.32
Iraq.....	18.97	11.61	15.65	18.44	20.77	20.82	20.68	18.85	21.02	21.66
Israel.....	9.43	9.75	11.21	12.71	13.12	13.25	12.92	15.00	16.00	16.24
Kuwait.....	7.68	9.81	4.93	7.61	8.83	9.32	11.21	11.33	12.40	12.27
Oman.....	3.39	3.86	3.66	4.01	4.09	3.83	3.95	4.86	5.93	5.48
Qatar.....	5.19	6.16	7.08	8.16	8.29	8.39	8.57	9.10	9.30	9.96
Saudi Arabia.....	58.52	63.49	64.36	65.47	67.08	69.44	71.41	71.53	73.91	73.93
Syria.....	10.08	9.05	9.59	10.75	11.19	10.78	11.37	12.01	12.70	13.02
United Arab Emirates.....	21.48	25.70	27.67	25.99	25.55	27.32	28.08	30.34	31.55	32.19
Yemen.....	3.11	3.20	3.29	2.77	2.67	2.71	2.69	2.84	2.50	2.52
Other.....	5.42	6.21	6.85	7.51	8.47	8.80	9.23	9.64	10.22	10.17
Total.....	202.81	215.50	221.92	233.04	242.38	249.80	255.22	272.13	282.29	287.28
Africa										
Algeria.....	22.89	23.72	22.81	22.75	23.27	23.96	23.15	21.88	22.69	23.42
Angola.....	1.95	2.04	2.03	2.10	2.00	3.30	3.30	3.53	3.68	3.78
Egypt.....	25.54	25.99	25.69	26.28	27.10	26.82	29.51	30.70	31.68	33.49
Gabon.....	1.56	1.56	1.64	1.63	1.62	1.67	1.75	1.65	1.56	1.67
Libya.....	11.47	11.30	9.80	10.05	10.32	10.61	11.16	11.69	11.27	11.33
Morocco.....	5.85	6.06	6.08	6.93	7.45	7.09	7.27	7.37	7.49	7.61
Nigeria.....	22.48	24.18	25.55	26.36	26.02	27.26	28.01	25.44	24.22	23.77
South Africa.....	80.88	84.13	87.75	90.12	94.05	94.24	95.82	104.57	102.05	99.45
Zimbabwe.....	4.47	4.36	4.48	4.26	4.54	4.55	4.16	3.78	3.87	4.14
Other.....	21.07	20.72	22.17	25.09	25.99	25.76	26.39	27.14	28.41	28.82
Total.....	198.15	204.07	208.00	215.57	222.37	225.27	230.52	237.75	236.92	237.47
Far East & Oceania										
Australia.....	72.37	72.97	76.53	77.06	77.10	79.67	81.51	89.49	92.14	93.90
Bangladesh.....	4.05	4.03	4.47	4.78	5.25	5.86	6.20	6.47	6.60	6.97
Brunei.....	1.24	0.77	0.99	1.00	0.96	0.95	0.94	1.14	0.98	1.22
China.....	616.89	645.78	667.90	711.86	768.01	787.62	794.41	808.09	765.43	668.73
Hong Kong.....	10.66	11.33	11.95	12.76	11.93	12.49	12.20	8.78	11.99	13.29
India.....	155.66	161.50	175.97	185.73	189.98	223.73	223.68	228.06	232.24	243.28
Indonesia.....	41.43	43.20	47.50	53.72	55.64	58.59	65.21	69.23	65.46	64.34
Japan.....	269.17	279.80	285.97	283.36	298.64	297.75	301.11	308.31	299.90	306.65
Korea, North.....	35.60	35.93	36.07	36.16	36.26	35.78	34.99	33.24	33.55	33.43
Korea, South.....	60.67	69.82	73.74	86.40	95.96	102.88	107.13	116.85	101.20	107.49
Malaysia.....	17.73	19.17	19.85	22.75	24.20	24.20	27.37	27.51	28.15	28.15
New Zealand.....	7.81	7.71	8.42	8.47	8.56	9.42	8.86	8.79	8.56	8.85
Pakistan.....	18.30	18.46	18.94	21.11	22.98	23.71	26.01	25.86	26.76	27.94
Philippines.....	11.30	11.39	12.47	13.69	14.36	15.63	16.27	17.77	17.85	17.22
Singapore.....	16.11	17.07	19.03	21.60	22.78	22.43	24.32	24.79	25.75	25.48
Taiwan.....	32.00	33.64	35.40	42.57	43.78	49.12	53.35	57.84	59.77	63.01
Thailand.....	22.96	25.45	27.42	31.51	34.91	42.58	45.91	46.53	43.66	44.57
Vietnam.....	5.30	4.88	5.19	7.26	7.55	9.24	9.05	8.95	9.42	9.78
Other.....	10.61	9.91	9.34	9.79	10.42	10.30	10.61	10.90	11.29	11.54
Total.....	1,409.85	1,472.80	1,537.14	1,631.59	1,729.27	1,811.97	1,849.14	1,898.59	1,840.69	1,775.85
World Total.....	5,872.81	5,833.96	5,831.35	5,886.13	5,913.09	6,018.18	6,136.37	6,231.02	6,197.79	6,143.62

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 equivalent can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon equivalent = 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, 1990 - 1999
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	60.58	57.32	58.00	58.51	60.03	60.47	61.38	64.47	65.60	67.72
Mexico.....	65.12	65.08	66.67	63.68	67.98	63.74	66.01	66.31	74.04	75.57
United States.....	590.44	576.10	586.68	587.71	600.31	596.29	618.69	624.61	634.88	649.74
Other.....	0.25	0.22	0.18	0.18	0.17	0.16	0.16	0.16	0.16	0.18
Total.....	716.39	698.72	711.54	710.08	728.50	720.66	746.25	755.54	774.69	793.22
Central & South America										
Argentina.....	15.97	16.26	16.96	18.86	17.26	16.84	17.24	18.25	19.71	20.01
Bolivia.....	0.89	0.91	0.94	0.93	1.04	1.18	1.18	1.21	1.36	1.31
Brazil.....	51.07	51.23	52.01	53.95	58.53	61.07	62.63	66.32	69.55	70.82
Chile.....	5.08	5.44	5.68	6.35	6.80	7.56	8.14	8.59	8.99	9.17
Colombia.....	7.39	7.64	8.64	9.02	9.08	9.58	10.20	10.69	11.17	11.37
Costa Rica.....	0.75	0.79	0.99	1.09	1.09	1.27	1.20	1.21	1.35	1.32
Cuba.....	9.51	8.81	7.78	7.89	7.76	8.21	8.09	7.07	7.00	7.20
Dominican Republic.....	2.50	2.41	2.66	2.34	2.63	2.92	3.07	3.24	3.32	3.39
Ecuador.....	3.69	3.94	4.55	4.20	4.48	4.61	4.69	4.89	5.12	5.22
El Salvador.....	0.65	0.75	0.87	0.88	0.98	1.25	1.18	1.26	1.48	1.45
Guatemala.....	1.03	0.97	1.17	1.31	1.47	1.64	1.71	1.88	2.30	2.37
Honduras.....	0.74	0.72	0.73	0.73	0.81	0.94	1.05	1.03	1.18	1.22
Jamaica.....	2.02	2.10	2.27	2.31	2.36	2.65	2.66	2.80	2.91	3.01
Netherlands Antilles.....	2.69	2.53	2.58	2.82	2.60	3.08	3.08	3.25	3.17	3.25
Panama.....	1.08	1.36	1.76	1.71	1.80	1.75	2.03	2.08	2.38	2.46
Peru.....	4.92	4.54	4.83	5.07	5.35	5.78	5.99	6.70	6.53	6.62
Puerto Rico.....	5.31	6.31	6.16	6.78	6.69	6.06	5.34	5.45	5.77	5.90
Trinidad and Tobago.....	0.70	0.73	0.84	0.84	0.86	0.82	0.77	0.84	0.79	0.84
Uruguay.....	1.28	1.20	1.29	1.41	1.25	1.26	1.34	1.41	1.63	1.69
Venezuela.....	14.91	14.98	15.46	15.34	15.90	16.39	15.92	16.22	16.39	16.85
Virgin Islands, U.S.....	1.85	2.00	2.03	2.25	2.06	3.45	2.96	3.57	4.90	5.18
Other.....	4.79	4.60	4.69	5.10	5.36	5.86	5.73	6.21	6.81	6.56
Total.....	138.83	140.23	144.87	151.18	156.16	164.15	166.17	174.18	183.82	187.20
Western Europe										
Austria.....	8.43	9.15	8.85	9.01	9.09	8.86	8.85	9.35	9.59	10.03
Belgium.....	18.10	19.53	19.98	19.53	19.76	19.33	20.68	22.12	22.71	21.47
Denmark.....	7.78	7.93	7.85	8.04	8.62	9.13	9.66	9.45	9.21	8.95
Finland.....	8.92	8.92	8.76	8.21	8.49	6.54	7.52	8.41	7.96	8.16
France.....	66.68	69.26	68.66	67.27	65.05	67.01	68.90	69.32	72.33	72.14
Germany.....	--	104.51	105.12	106.81	104.61	104.16	106.65	106.65	107.25	103.77
Germany, East.....	10.63	--	--	--	--	--	--	--	--	--
Germany, West.....	91.88	--	--	--	--	--	--	--	--	--
Greece.....	13.12	13.27	13.70	14.03	14.43	14.37	15.06	15.32	16.07	15.79
Ireland.....	3.66	3.96	4.18	4.18	4.57	5.13	5.12	5.37	6.09	6.82
Italy.....	73.69	73.18	76.34	72.73	71.74	77.98	76.47	77.21	78.06	74.39
Luxembourg.....	1.35	1.57	1.59	1.60	1.58	1.48	1.52	1.59	1.65	1.78
Netherlands.....	26.99	27.80	28.39	28.33	28.38	28.62	28.13	30.12	30.21	31.19
Norway.....	6.84	6.59	6.61	6.72	6.87	7.06	7.70	8.18	8.10	7.97
Portugal.....	9.07	9.23	10.24	9.47	9.37	9.81	9.52	10.38	11.94	12.14
Spain.....	37.05	38.53	40.85	38.73	41.03	43.93	42.76	48.68	52.58	54.28
Sweden.....	11.98	11.87	12.57	12.21	13.05	14.56	14.76	11.73	13.70	13.29
Switzerland.....	10.71	11.07	11.23	10.79	10.99	9.96	10.73	11.04	10.50	10.50
Turkey.....	17.35	16.94	17.94	20.27	19.40	21.51	22.50	22.41	21.79	21.70
United Kingdom.....	65.97	66.59	66.62	66.06	66.07	66.61	66.40	65.88	65.17	62.72
Former Yugoslavia.....	13.01	10.11	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	1.44	0.92	0.83	0.80	0.49	0.55	0.65	0.69
Croatia.....	--	--	2.67	2.71	3.16	3.64	3.13	3.24	3.71	3.83
Macedonia, TFYR.....	--	--	0.76	0.89	0.75	0.75	1.23	0.86	0.93	0.98
Serbia and Montenegro.....	--	--	1.99	1.36	1.17	1.09	1.76	2.38	2.29	2.34
Slovenia.....	--	--	1.38	1.64	1.62	1.80	2.07	2.20	2.36	2.33
Other.....	1.38	1.33	1.67	1.83	1.83	1.84	1.89	1.98	1.96	2.04
Total.....	504.59	511.34	519.39	513.31	512.43	525.97	533.50	544.41	556.78	549.29

See footnotes at end of table.

Table H2 World Carbon Dioxide Emissions from the Consumption of Petroleum, 1990 - 1999 (Continued)
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.86	0.72	0.85	0.70	0.53	0.60	0.47	0.41	0.38	0.39
Bulgaria.....	8.23	5.16	5.51	4.97	5.38	5.06	4.83	3.97	3.81	4.00
Former Czechoslovakia.....	11.24	9.30	8.31	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	6.21	6.09	6.40	6.59	6.43	6.80	6.96
Slovakia.....	--	--	--	2.62	2.50	2.55	2.68	2.28	2.37	2.38
Hungary.....	6.96	6.30	6.75	7.03	6.82	6.00	5.20	5.55	6.20	5.92
Poland.....	10.50	10.64	11.61	12.18	11.84	11.86	13.14	14.30	15.14	15.42
Romania.....	15.57	11.32	10.35	10.48	8.98	9.73	10.15	10.94	9.97	9.37
Former U.S.S.R.....	333.95	330.21	--	--	--	--	--	--	--	--
Armenia.....	--	--	2.13	1.06	0.34	0.24	0.13	0.13	0.15	0.17
Azerbaijan.....	--	--	7.99	8.00	7.63	7.45	5.58	5.53	6.19	6.21
Belarus.....	--	--	14.74	12.40	10.02	9.37	8.46	7.47	7.71	7.70
Estonia.....	--	--	1.08	1.20	1.09	1.03	1.16	1.17	1.17	1.11
Georgia.....	--	--	1.16	0.67	0.31	0.33	0.72	0.78	0.97	0.93
Kazakhstan.....	--	--	16.53	13.95	12.40	11.39	10.23	8.66	8.37	8.49
Kyrgyzstan.....	--	--	1.32	0.78	0.36	0.46	0.49	0.42	0.56	0.57
Latvia.....	--	--	2.21	1.69	1.68	1.78	2.03	1.55	1.41	1.43
Lithuania.....	--	--	3.52	3.32	3.40	3.16	2.85	2.77	3.08	3.15
Moldova.....	--	--	2.49	1.80	0.96	0.92	0.71	0.80	0.62	0.64
Russia.....	--	--	175.45	153.75	126.65	115.57	101.82	98.36	93.77	91.73
Tajikistan.....	--	--	0.82	0.68	0.29	0.44	1.00	1.00	1.07	1.09
Turkmenistan.....	--	--	2.77	2.67	2.38	2.30	2.36	2.78	2.37	2.44
Ukraine.....	--	--	34.27	24.49	21.03	19.65	15.19	13.98	14.65	14.47
Uzbekistan.....	--	--	7.74	7.26	6.83	7.36	5.76	5.59	5.79	5.81
Total.....	387.32	373.65	317.59	277.91	237.50	223.65	201.56	194.88	192.55	190.38
Middle East										
Bahrain.....	0.78	0.80	0.84	0.82	0.84	0.89	0.86	1.00	0.99	1.04
Cyprus.....	1.34	1.35	1.61	1.62	1.84	1.81	1.81	1.81	1.96	1.96
Iran.....	41.11	43.48	44.00	45.83	45.38	45.13	42.28	49.43	47.55	48.50
Iraq.....	15.56	10.67	14.08	17.06	19.06	19.11	18.93	16.98	19.05	19.50
Israel.....	6.69	7.06	8.15	8.37	8.19	8.34	8.04	9.27	9.73	9.98
Jordan.....	2.71	2.55	2.95	2.98	3.28	3.41	3.70	3.53	3.88	3.83
Kuwait.....	3.47	1.85	3.28	4.48	5.40	5.89	6.01	6.14	7.36	7.71
Lebanon.....	1.27	2.24	2.20	2.70	3.10	3.28	3.43	4.01	4.08	4.09
Oman.....	1.54	1.56	1.59	1.60	1.65	1.76	1.92	1.99	2.04	2.08
Qatar.....	1.02	1.03	1.03	0.98	1.10	1.20	1.27	1.36	1.42	1.50
Saudi Arabia.....	39.70	39.96	40.45	41.45	41.94	42.88	43.22	46.90	48.27	49.18
Syria.....	8.42	7.10	7.39	8.76	9.15	9.13	9.19	9.57	9.70	9.88
United Arab Emirates.....	10.89	13.54	13.65	13.72	13.82	13.94	13.43	14.15	14.62	14.75
Yemen.....	3.11	3.20	3.29	2.77	2.67	2.71	2.69	2.84	2.50	2.52
Total.....	137.61	136.37	144.52	153.11	157.41	159.48	156.79	169.00	173.17	176.52

See footnotes at end of table.

Table H2 World Carbon Dioxide Emissions from the Consumption of Petroleum, 1990 - 1999 (Continued)
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Africa										
Algeria.....	6.82	7.28	7.51	7.16	7.08	6.70	6.66	6.25	6.53	6.72
Angola.....	1.03	1.08	1.10	1.09	1.07	1.14	1.07	1.25	1.33	1.35
Cameroon.....	0.92	0.93	0.95	0.83	0.87	0.92	0.81	1.04	0.90	0.94
Congo (Brazzaville).....	0.27	0.24	0.23	0.26	0.28	0.29	0.27	0.27	0.26	0.28
Congo (Kinshasa).....	0.82	0.88	1.00	1.05	1.06	1.00	1.01	1.09	1.03	1.03
Cote d'Ivoire (Ivory Coast).....	1.57	1.63	1.68	1.87	2.22	2.11	2.39	2.33	2.29	2.35
Egypt.....	19.61	19.18	18.59	18.75	19.30	19.09	20.87	21.97	22.84	23.36
Ethiopia.....	0.82	0.67	0.98	0.90	0.59	0.64	0.46	0.46	0.70	0.74
Gabon.....	0.64	0.63	0.65	0.64	0.69	0.74	0.81	0.71	0.63	0.74
Ghana.....	0.81	0.80	0.92	0.95	1.04	1.07	1.05	1.03	1.12	1.15
Kenya.....	1.71	1.50	1.66	1.70	1.81	1.87	1.96	1.82	2.09	2.12
Libya.....	6.34	6.83	6.10	6.65	6.82	7.14	7.48	7.87	7.46	7.69
Morocco.....	4.46	4.46	4.94	5.23	5.58	5.20	5.01	5.23	5.10	5.20
Nigeria.....	10.00	10.33	10.50	10.79	10.14	11.38	11.44	11.01	10.66	11.10
Senegal.....	0.70	0.64	0.79	0.80	0.95	1.02	1.03	0.95	0.99	1.04
South Africa.....	14.93	15.96	16.43	16.11	16.25	16.52	16.85	16.39	16.73	17.07
Sudan.....	1.05	1.52	1.38	1.33	1.17	1.08	1.07	1.11	1.28	1.22
Tunisia.....	2.50	2.71	2.81	2.93	2.92	2.68	2.78	2.91	3.04	3.12
Zimbabwe.....	0.81	0.89	0.80	0.89	0.90	0.98	1.12	1.19	1.22	1.30
Other.....	7.42	7.05	7.73	7.98	8.19	8.37	8.55	8.56	8.62	8.63
Total.....	83.25	85.19	86.75	87.92	88.93	89.94	92.70	93.44	94.81	97.15
Far East & Oceania										
Australia.....	26.72	26.57	26.74	27.94	29.27	30.54	29.02	29.62	29.91	30.65
Bangladesh.....	1.47	1.56	1.56	1.68	1.88	2.12	2.18	2.30	2.38	2.33
Brunei.....	0.26	0.38	0.27	0.37	0.38	0.39	0.48	0.62	0.53	0.61
Burma.....	0.62	0.64	0.68	0.71	0.77	0.75	0.81	1.03	1.22	1.14
China.....	94.11	102.32	107.42	121.16	124.94	132.16	142.32	146.47	151.83	159.75
Guam.....	0.50	0.57	0.68	0.90	1.29	0.97	0.87	0.99	0.82	0.90
Hong Kong.....	5.23	5.46	6.25	6.51	7.47	7.68	7.56	5.14	7.14	8.88
India.....	45.02	45.70	48.78	52.40	53.72	58.51	61.04	65.17	70.09	73.34
Indonesia.....	26.02	27.62	28.68	31.21	30.84	32.12	35.35	40.58	38.09	39.51
Japan.....	178.65	182.20	189.49	186.05	197.09	192.35	190.98	191.04	183.37	185.36
Korea, North.....	3.04	3.18	3.06	2.96	2.87	2.60	1.97	1.99	2.82	2.91
Korea, South.....	37.63	44.40	49.99	57.82	63.50	68.61	70.29	76.29	60.10	62.13
Malaysia.....	10.70	11.15	11.68	13.62	14.38	15.18	16.70	17.01	17.27	16.93
Mongolia.....	0.62	0.58	0.53	0.51	0.52	0.46	0.48	0.32	0.32	0.36
New Zealand.....	4.07	3.89	4.18	4.59	4.78	5.79	5.01	4.73	4.90	4.92
Pakistan.....	9.17	9.19	9.31	10.97	12.10	12.75	14.11	14.26	15.11	15.24
Papua New Guinea.....	0.67	0.67	0.66	0.66	0.65	0.65	0.65	0.66	0.66	0.69
Philippines.....	9.82	9.77	10.88	11.76	12.35	13.52	13.74	14.98	15.30	14.64
Singapore.....	16.08	17.05	18.43	20.77	21.94	21.60	23.53	23.99	24.96	24.68
Sri Lanka.....	1.38	1.41	1.49	1.71	1.80	1.92	2.17	2.41	2.44	2.51
Taiwan.....	20.82	21.08	21.06	25.47	25.42	28.95	30.84	30.63	31.60	32.27
Thailand.....	16.18	17.55	19.25	22.12	24.43	27.38	30.17	29.66	28.14	28.92
Vietnam.....	2.18	2.30	2.53	3.20	3.52	3.91	4.79	5.20	5.52	5.91
Other.....	2.90	2.91	2.69	2.73	2.75	2.80	2.95	3.00	3.17	3.21
Total.....	513.87	538.12	566.27	607.85	638.63	663.71	687.99	708.10	697.69	717.79
World Total.....	2,481.85	2,483.63	2,490.94	2,501.37	2,519.56	2,547.56	2,584.96	2,639.56	2,673.49	2,711.55

¹ Preliminary.

--= Not applicable.

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

Tons of carbon equivalent can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon equivalent = 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, 1990 - 1999
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	35.84	36.31	39.29	41.22	43.26	42.24	45.26	45.12	43.95	46.78
Mexico.....	14.67	15.25	15.32	16.39	17.18	17.84	20.19	21.75	23.54	18.97
United States.....	279.55	284.88	293.25	303.61	309.92	323.61	329.57	330.53	319.26	320.89
Total.....	330.06	336.44	347.87	361.22	370.35	383.69	395.02	397.40	386.75	386.65
Central & South America										
Argentina.....	11.87	12.98	12.93	13.67	14.00	15.43	16.92	16.13	16.83	18.37
Barbados.....	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.02	0.02
Bolivia.....	0.49	0.43	0.75	0.91	1.17	0.86	0.76	0.91	0.67	0.62
Brazil.....	2.38	2.56	3.01	2.69	2.81	2.92	3.42	3.71	4.05	4.63
Chile.....	1.04	0.84	1.11	0.93	1.05	1.01	1.02	1.54	1.77	2.17
Colombia.....	2.11	2.16	2.26	2.19	2.26	2.35	2.45	3.04	3.21	2.71
Cuba.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.47	0.26	0.32
Ecuador.....	0.42	0.39	0.43	0.39	0.39	0.60	0.60	0.56	0.56	0.56
Peru.....	0.39	0.31	0.34	0.56	0.57	0.54	0.56	0.28	0.27	0.27
Trinidad and Tobago.....	4.30	4.39	3.89	4.47	5.05	5.33	5.80	6.14	6.13	6.30
Venezuela.....	15.00	15.55	15.06	15.85	16.77	17.28	20.05	20.71	21.52	21.08
Total.....	38.03	39.65	39.81	41.70	44.10	46.35	51.60	53.50	55.30	57.06
Western Europe										
Austria.....	3.32	3.48	3.42	3.60	3.71	4.01	4.31	4.15	4.26	4.36
Belgium.....	5.22	5.54	5.71	6.00	6.13	6.78	7.55	7.21	7.94	8.47
Denmark.....	1.20	1.41	1.48	1.65	1.81	2.09	2.44	2.80	2.85	3.10
Finland.....	1.39	1.46	1.52	1.57	1.74	1.80	1.88	1.85	2.12	2.12
France.....	15.66	17.74	17.94	18.08	17.99	18.36	20.27	20.10	20.59	21.38
Germany.....	--	35.97	35.41	36.64	38.57	44.28	44.32	42.43	42.65	42.69
Germany, East.....	2.00	--	--	--	--	--	--	--	--	--
Germany, West.....	29.56	--	--	--	--	--	--	--	--	--
Greece.....	0.08	0.09	0.08	0.06	0.03	0.03	0.03	0.11	0.46	0.77
Ireland.....	1.19	1.22	1.21	1.37	1.39	1.48	1.68	1.76	1.78	1.90
Italy.....	24.80	26.35	26.10	26.63	25.72	28.34	29.25	30.16	32.47	35.29
Luxembourg.....	0.27	0.28	0.30	0.31	0.31	0.35	0.39	0.40	0.40	0.42
Netherlands.....	19.81	22.12	21.53	22.10	21.37	21.98	24.22	22.75	22.61	21.93
Norway.....	1.55	1.41	2.30	1.60	1.68	1.86	1.86	2.26	2.22	2.75
Portugal.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.44	1.23
Spain.....	3.18	3.58	3.77	3.70	3.93	4.90	5.49	7.18	7.37	8.43
Sweden.....	0.33	0.34	0.39	0.43	0.42	0.43	0.44	0.45	0.43	0.46
Switzerland.....	1.04	1.16	1.22	1.28	1.26	1.39	1.51	1.46	1.50	1.55
Turkey.....	1.82	2.22	2.43	2.71	2.88	3.71	4.47	5.34	5.66	6.84
United Kingdom.....	30.00	33.46	31.65	37.28	39.76	41.96	49.50	47.04	47.93	50.84
Former Yugoslavia.....	3.79	3.77	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	0.25	0.20	0.21	1.24	0.07	0.07	0.10	0.10
Croatia.....	--	--	1.45	1.56	1.37	1.24	1.33	1.49	1.42	1.42
Macedonia, TFYR.....	--	--	0.14	0.16	0.00	0.00	0.00	0.00	0.01	0.02
Serbia and Montenegro.....	--	--	1.09	0.52	0.88	0.60	1.50	1.48	1.59	0.93
Slovenia.....	--	--	0.34	0.41	0.40	0.48	0.62	0.44	0.46	0.50
Total.....	146.21	161.60	159.74	167.86	171.59	187.31	203.13	200.97	207.25	217.50

See footnotes at end of table.

Table H3 World Carbon Dioxide Emissions from the Consumption and Flaring of Natural Gas, 1990 - 1999 (Cont.)
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.14	0.08	0.05	0.02	0.04	0.02	0.02	0.01	0.02	0.01
Bulgaria.....	3.27	2.85	2.65	2.45	2.40	2.97	3.12	2.59	1.92	1.70
Former Czechoslovakia.....	7.71	7.07	5.76	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	3.76	3.47	4.16	4.79	4.85	4.85	4.92
Slovakia.....	--	--	--	2.53	2.95	3.94	3.83	3.69	3.62	3.60
Hungary.....	5.64	5.61	4.92	5.30	5.36	5.83	6.50	6.17	6.20	6.28
Poland.....	5.61	5.03	4.93	5.17	5.30	5.54	6.23	6.25	6.39	6.87
Romania.....	19.43	15.11	13.60	13.08	12.25	12.97	12.87	11.95	9.36	8.95
Former U.S.S.R.....	370.28	370.23	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.96	0.72	0.82	0.82	0.93	0.67	0.72	0.66
Azerbaijan.....	--	--	8.09	5.66	4.84	4.63	4.79	4.71	6.31	6.49
Belarus.....	--	--	9.64	8.95	7.43	6.75	7.38	7.96	8.14	9.07
Estonia.....	--	--	0.76	0.31	0.33	0.38	0.42	0.54	0.53	0.51
Georgia.....	--	--	2.66	1.28	0.85	1.12	0.96	1.01	0.99	0.62
Kazakhstan.....	--	--	10.70	7.88	7.99	5.78	7.69	7.45	7.13	7.24
Kyrgyzstan.....	--	--	1.26	1.18	0.95	0.46	0.96	1.01	1.01	1.01
Latvia.....	--	--	0.82	0.41	0.36	0.56	0.51	0.66	0.66	0.66
Lithuania.....	--	--	2.05	1.23	1.18	1.44	1.34	1.49	1.64	1.10
Moldova.....	--	--	1.19	0.97	0.76	0.76	1.08	1.30	1.25	1.14
Russia.....	--	--	244.47	239.04	224.48	210.54	210.49	194.96	203.83	203.37
Tajikistan.....	--	--	0.98	0.72	0.83	0.42	0.64	0.59	0.58	0.61
Turkmenistan.....	--	--	2.13	2.18	2.24	2.56	2.56	2.45	2.34	2.98
Ukraine.....	--	--	52.10	57.68	49.57	44.26	43.73	42.21	38.84	41.05
Uzbekistan.....	--	--	16.00	22.52	17.96	19.71	20.95	21.26	20.59	20.80
Total.....	412.08	405.97	385.73	383.05	352.32	335.61	341.75	323.78	326.91	329.62
Middle East										
Bahrain.....	3.09	3.51	2.83	3.52	3.45	3.45	3.50	4.24	4.41	4.48
Iran.....	13.42	17.83	19.08	18.59	21.53	24.71	27.45	30.80	32.79	34.76
Iraq.....	3.41	0.94	1.57	1.38	1.71	1.71	1.75	1.87	1.97	2.16
Israel.....	0.02	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Jordan.....	0.07	0.07	0.08	0.11	0.15	0.15	0.14	0.15	0.15	0.15
Kuwait.....	4.21	7.96	1.64	3.13	3.43	3.43	5.20	5.19	5.04	4.55
Oman.....	1.84	2.31	2.07	2.41	2.44	2.07	2.04	2.87	3.89	3.40
Qatar.....	4.16	5.13	6.04	7.19	7.19	7.19	7.29	7.74	7.87	8.46
Saudi Arabia.....	18.82	23.53	23.91	24.03	25.13	26.56	28.19	24.63	25.63	24.75
Syria.....	1.66	1.95	2.20	1.99	2.04	1.64	2.18	2.43	3.00	3.14
United Arab Emirates.....	10.58	12.16	14.01	12.28	11.73	13.38	14.65	16.19	16.92	17.44
Total.....	61.29	75.40	73.46	74.64	78.82	84.30	92.39	96.13	101.70	103.31
Africa										
Algeria.....	15.31	15.69	14.64	14.89	15.57	16.58	16.05	15.26	15.65	16.28
Angola.....	0.92	0.96	0.94	1.00	0.94	2.15	2.23	2.28	2.35	2.43
Cameroon.....	0.00	0.00	0.00	1.08	1.23	1.20	1.03	1.03	1.03	1.03
Congo (Brazzaville).....	0.04	0.00	0.00	0.65	0.65	0.65	0.65	0.81	0.79	0.70
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	0.02	0.29	0.32	0.43	0.71
Egypt.....	4.90	6.01	6.39	6.66	6.98	7.19	7.68	7.71	7.77	8.72
Equatorial Guinea.....	0.00	0.00	0.00	0.25	0.25	0.25	0.39	0.40	0.42	0.46
Gabon.....	0.92	0.93	0.99	0.99	0.94	0.94	0.94	0.94	0.94	0.94
Libya.....	5.13	4.47	3.70	3.39	3.49	3.47	3.68	3.82	3.81	3.64
Morocco.....	0.03	0.02	0.01	0.02	0.02	0.01	0.01	0.03	0.03	0.03
Mozambique.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03
Nigeria.....	12.43	13.78	14.97	15.48	15.78	15.78	16.47	14.34	13.52	12.66
Senegal.....	0.00	0.00	0.00	0.01	0.02	0.02	0.03	0.02	0.02	0.02
South Africa.....	0.00	0.00	0.02	0.96	1.04	1.04	0.98	0.96	0.85	0.82
Tunisia.....	0.96	0.73	0.56	1.09	1.33	1.14	1.29	1.69	1.90	1.94
Total.....	40.64	42.58	42.21	46.47	48.24	50.44	51.71	49.59	49.54	50.41

See footnotes at end of table.

Table H3 World Carbon Dioxide Emissions from the Consumption and Flaring of Natural Gas, 1990 - 1999 (Cont.)
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	1.10	0.24	0.17	0.16	0.16	0.11	0.12	0.12	0.12	0.12
Australia.....	9.51	8.91	9.20	9.57	9.98	10.71	10.91	10.78	11.39	11.26
Bangladesh.....	2.19	2.34	2.79	3.07	3.34	3.71	3.84	3.84	4.12	4.55
Brunei.....	0.98	0.39	0.72	0.63	0.58	0.57	0.46	0.52	0.45	0.61
Burma.....	0.60	0.56	0.53	0.59	0.77	0.88	0.86	0.81	0.94	0.92
China.....	8.42	8.72	8.84	9.25	9.76	9.97	10.98	12.41	13.12	14.30
Hong Kong.....	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.33	0.34
India.....	9.35	10.55	10.56	10.18	10.93	11.85	12.87	13.22	13.94	13.79
Indonesia.....	11.13	11.47	13.87	16.72	17.73	19.24	19.98	20.20	18.01	17.90
Japan.....	24.30	29.76	30.47	30.63	32.83	33.24	35.99	36.74	38.14	39.80
Korea, South.....	1.72	2.00	2.62	3.27	4.35	5.26	6.96	8.46	7.91	9.58
Malaysia.....	5.64	6.59	6.55	7.72	8.18	7.35	8.53	8.94	9.32	10.18
New Zealand.....	2.48	2.64	2.85	2.54	2.60	2.45	2.80	3.02	2.68	3.05
Pakistan.....	7.03	7.18	7.41	7.84	8.43	8.69	9.36	9.39	9.55	10.45
Papua New Guinea.....	0.00	0.00	0.03	0.04	0.03	0.05	0.07	0.06	0.06	0.06
Philippines.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
Singapore.....	0.00	0.00	0.58	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Taiwan.....	1.21	1.51	1.65	1.60	2.02	2.17	2.26	2.69	3.15	3.17
Thailand.....	2.99	3.40	3.59	4.47	4.92	5.29	6.03	7.57	8.00	8.80
Vietnam.....	0.02	0.04	0.11	0.51	0.51	0.51	0.59	0.25	0.57	0.70
Total.....	88.69	96.28	102.54	109.59	117.91	122.83	133.53	139.80	142.59	150.39
World Total.....	1,117.00	1,157.93	1,151.36	1,184.53	1,183.33	1,210.52	1,269.13	1,261.18	1,270.05	1,294.94

¹ Preliminary.

-- Not applicable.

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

Tons of carbon equivalent can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon equivalent = 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, 1990 - 1999
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
North America										
Canada.....	31.12	31.67	26.81	30.19	31.64	32.22	32.37	35.64	38.14	36.40
Mexico.....	4.25	3.95	4.41	4.92	4.80	6.02	6.38	7.84	6.98	6.01
United States.....	484.82	481.02	486.07	502.11	507.70	510.29	532.56	547.32	550.00	549.26
Total.....	520.18	516.63	517.29	537.21	544.14	548.52	571.30	590.80	595.12	591.67
Central & South America										
Argentina.....	0.56	0.75	0.64	0.56	0.95	0.97	0.95	0.96	0.90	1.11
Brazil.....	9.16	10.81	9.78	9.87	9.45	9.71	10.09	9.96	14.29	13.45
Chile.....	2.51	1.96	1.71	1.77	2.08	2.27	3.40	4.72	3.68	4.44
Colombia.....	1.75	3.17	2.64	3.68	3.20	2.35	2.95	3.36	3.89	2.36
Costa Rica.....	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Cuba.....	0.16	0.11	0.06	0.08	0.09	0.07	0.01	0.04	0.03	0.01
Dominican Republic.....	0.01	0.14	0.13	0.16	0.04	0.05	0.07	0.07	0.17	0.15
Haiti.....	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jamaica.....	0.04	0.04	0.03	0.03	0.04	0.04	0.04	0.04	0.05	0.05
Panama.....	0.02	0.03	0.04	0.04	0.04	0.04	0.07	0.04	0.04	0.04
Peru.....	0.15	0.32	0.31	0.44	0.41	0.38	0.43	0.40	0.40	0.47
Puerto Rico.....	0.14	0.13	0.10	0.13	0.13	0.13	0.11	0.11	0.11	0.11
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.15	(s)	(s)	0.03	0.05	(s)	(s)	0.01	0.01	0.01
Virgin Islands, U.S.....	0.05	0.09	0.15	0.18	0.20	0.17	0.17	0.16	0.14	0.14
Other.....	0.03	0.04	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.10
Total.....	14.74	17.61	15.68	17.02	16.74	16.24	18.36	19.91	23.75	22.44
Western Europe										
Austria.....	3.58	3.74	2.93	3.10	2.76	3.02	3.32	3.80	3.32	3.22
Belgium.....	10.67	10.09	8.22	8.12	8.90	9.33	8.75	9.07	9.17	7.96
Denmark.....	6.31	8.13	7.28	6.27	7.06	7.57	7.65	8.25	5.06	4.46
Finland.....	4.10	3.71	3.11	4.40	5.31	3.83	4.52	4.98	3.29	2.67
France.....	19.84	20.76	17.33	14.60	13.96	15.32	15.74	14.39	16.71	15.08
Germany.....	--	108.57	100.45	97.43	86.86	90.29	88.74	88.70	87.02	83.47
Germany, East.....	65.98	--	--	--	--	--	--	--	--	--
Germany, West.....	71.31	--	--	--	--	--	--	--	--	--
Greece.....	9.04	8.96	8.04	8.71	8.82	8.59	8.31	9.19	9.73	9.64
Iceland.....	0.07	0.07	0.05	0.05	0.07	0.06	0.07	0.06	0.07	0.06
Ireland.....	2.20	2.14	2.18	2.08	1.94	1.93	1.98	2.01	2.00	1.77
Italy.....	13.74	14.05	11.14	10.42	10.28	12.14	10.47	10.53	11.13	11.60
Luxembourg.....	1.31	1.23	1.13	1.30	1.05	0.58	0.54	0.36	0.11	0.11
Malta.....	0.20	0.20	0.16	0.18	0.18	0.18	0.21	0.20	0.00	0.00
Netherlands.....	10.85	9.58	8.58	9.62	10.30	10.28	9.90	12.76	12.76	11.23
Norway.....	0.94	0.85	0.74	0.91	1.06	1.09	1.10	1.16	1.22	1.17
Portugal.....	3.02	2.92	2.73	3.05	3.24	3.72	3.27	3.77	3.16	3.84
Spain.....	21.62	22.20	20.89	19.99	19.36	18.09	15.12	17.37	16.67	18.84
Sweden.....	2.57	2.37	1.89	2.40	1.81	2.51	2.36	2.46	2.29	2.22
Switzerland.....	0.34	0.27	0.10	0.09	0.10	0.17	0.10	0.08	0.07	0.06
Turkey.....	16.01	18.44	16.51	16.17	15.59	15.96	18.47	22.04	22.91	21.42
United Kingdom.....	67.70	66.24	58.29	54.16	49.58	44.17	43.47	40.97	41.63	38.83
Former Yugoslavia.....	24.05	22.62	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	0.43	0.32	0.32	0.36	0.37	0.40	0.41	0.41
Croatia.....	--	--	0.32	0.43	0.28	0.07	0.24	0.30	0.25	0.25
Macedonia, TFYR.....	--	--	1.62	1.63	1.68	1.74	1.72	1.79	2.11	1.70
Serbia and Montenegro.....	--	--	9.51	9.01	9.26	6.57	9.91	9.85	10.45	7.67
Slovenia.....	--	--	1.67	1.58	1.44	1.66	1.75	1.83	1.51	1.33
Total.....	355.44	327.15	285.30	276.01	261.20	259.21	258.08	266.33	263.05	249.03

See footnotes at end of table.

Table H4 World Carbon Dioxide Emissions from the Consumption of Coal, 1990 - 1999 (Continued)
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.65	0.38	0.21	0.15	0.04	0.04	0.02	0.02	0.01	0.01
Bulgaria.....	11.55	9.32	9.45	8.71	7.95	7.82	8.38	9.57	9.52	7.83
Former Czechoslovakia.....	61.02	56.53	51.25	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	20.92	21.06	21.22	22.32	22.72	22.21	16.62
Slovakia.....	--	--	--	5.82	5.26	5.08	5.44	5.17	4.54	3.26
Hungary.....	5.81	6.20	4.88	4.52	4.20	3.97	4.14	4.16	3.89	4.00
Poland.....	73.16	73.08	72.39	74.77	70.07	65.59	58.69	70.74	63.84	62.25
Romania.....	12.69	10.32	10.68	10.39	10.58	10.78	11.09	9.70	7.92	7.35
Former U.S.S.R.....	333.24	256.78	--	--	--	--	--	--	--	--
Armenia.....	--	--	0.10	(s)	0.02	(s)	(s)	(s)	(s)	(s)
Azerbaijan.....	--	--	0.02	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Belarus.....	--	--	0.97	0.99	0.60	0.75	0.60	0.50	0.44	0.44
Estonia.....	--	--	0.46	0.34	0.44	0.47	0.35	0.38	0.34	0.47
Georgia.....	--	--	0.26	0.17	0.16	0.14	0.09	0.06	0.01	0.01
Kazakhstan.....	--	--	38.80	32.19	22.52	22.65	19.85	15.80	11.90	10.83
Kyrgyzstan.....	--	--	1.24	0.86	0.98	0.77	0.54	0.28	0.54	0.47
Latvia.....	--	--	0.58	0.31	0.26	0.17	0.11	0.11	0.07	0.07
Lithuania.....	--	--	0.66	0.24	0.41	0.18	0.20	0.17	0.16	0.14
Moldova.....	--	--	1.87	1.33	1.27	0.66	0.57	0.30	0.27	0.26
Russia.....	--	--	153.58	142.83	126.16	118.19	131.88	114.20	100.24	104.99
Tajikistan.....	--	--	0.15	0.19	0.10	0.05	0.06	0.06	0.05	0.06
Turkmenistan.....	--	--	0.36	0.32	0.32	0.16	0.05	0.03	0.00	0.00
Ukraine.....	--	--	69.33	62.67	49.98	59.81	49.18	45.82	44.86	48.78
Uzbekistan.....	--	--	2.22	1.63	1.66	1.29	1.22	1.07	1.11	1.11
Total.....	498.11	412.61	419.46	369.37	324.04	319.79	314.79	300.84	271.93	268.96
Middle East										
Cyprus.....	0.05	(s)	0.01	0.03	0.02	0.02	0.01	0.02	0.01	0.01
Iran.....	1.14	1.04	0.89	0.86	1.12	0.97	1.02	1.14	1.03	1.06
Israel.....	2.73	2.68	3.04	4.32	4.92	4.90	4.88	5.71	6.25	6.25
Other.....	(s)	0.01	(s)	0.08	0.08	0.13	0.14	0.13	0.13	0.13
Total.....	3.92	3.73	3.95	5.29	6.15	6.02	6.04	7.00	7.42	7.45
Africa										
Algeria.....	0.76	0.75	0.67	0.70	0.61	0.68	0.44	0.37	0.51	0.42
Botswana.....	0.49	0.48	0.55	0.54	0.55	0.63	0.52	0.51	0.60	0.61
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.16	0.17	0.17	0.18	0.19	0.18	0.19	0.18	0.20	0.08
Egypt.....	1.02	0.81	0.72	0.87	0.83	0.54	0.95	1.02	1.07	1.41
Ghana.....	(s)	0.07	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.11	0.09	0.11	0.11	0.09	0.07	0.06	0.06	0.08	0.08
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.....	0.04	0.04	0.04	0.04	0.04	0.05	0.06	0.05	0.05	0.05
Mauritania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00
Mauritius.....	0.05	0.04	0.04	0.05	0.03	0.04	0.04	0.04	0.04	0.04
Morocco.....	1.36	1.58	1.13	1.69	1.86	1.88	2.25	2.11	2.36	2.38
Mozambique.....	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
Niger.....	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.09	0.10
Nigeria.....	0.04	0.07	0.07	0.09	0.09	0.10	0.10	0.10	0.04	0.00
South Africa.....	65.95	68.17	71.30	73.05	76.76	76.68	77.99	87.23	84.47	81.55
Swaziland.....	0.11	0.08	0.07	0.03	0.12	0.11	0.09	0.09	0.17	0.19
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Tunisia.....	0.09	0.09	0.10	0.11	0.10	0.08	0.09	0.09	0.07	0.00
Zambia.....	0.24	0.19	0.22	0.17	0.10	0.09	0.10	0.10	0.10	0.10
Zimbabwe.....	3.66	3.47	3.68	3.37	3.64	3.58	3.04	2.58	2.65	2.84
Total.....	74.26	76.30	79.04	81.19	85.20	84.89	86.10	94.71	92.58	89.91

See footnotes at end of table.

Table H4 World Carbon Dioxide Emissions from the Consumption of Coal, 1990 - 1999 (Continued)
(Million Metric Tons of Carbon Equivalent)

Region Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 ¹
Far East & Oceania										
Afghanistan.....	0.06	0.06	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	36.14	37.48	40.59	39.54	37.85	38.42	41.58	49.09	50.84	51.99
Bangladesh.....	0.39	0.13	0.11	0.03	0.03	0.03	0.18	0.33	0.09	0.09
Bhutan.....	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Burma.....	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.05	0.04
China.....	514.36	534.75	551.64	581.44	633.31	645.49	641.10	649.21	600.47	494.67
Fiji.....	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Hong Kong.....	5.44	5.87	5.70	6.25	4.47	4.81	4.53	3.64	4.53	4.07
India.....	101.29	105.26	116.63	123.15	125.34	153.38	149.77	149.68	148.22	156.15
Indonesia.....	4.28	4.11	4.95	5.78	7.07	7.23	9.89	8.46	9.36	6.94
Japan.....	66.21	67.84	66.01	66.68	68.72	72.16	74.13	80.53	78.40	81.48
Korea, North.....	32.57	32.75	33.01	33.19	33.40	33.19	33.02	31.25	30.74	30.52
Korea, South.....	21.31	23.42	21.13	25.31	28.11	29.01	29.87	32.10	33.18	35.78
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia.....	1.39	1.44	1.62	1.41	1.65	1.67	2.15	1.57	1.56	1.04
Mongolia.....	1.97	2.07	1.65	1.50	1.38	1.42	1.38	1.25	1.28	1.26
Nepal.....	0.01	0.05	0.07	0.05	0.10	0.08	0.08	0.08	0.07	0.20
New Caledonia.....	0.09	0.10	0.10	0.14	0.13	0.13	0.11	0.11	0.11	0.11
New Zealand.....	1.26	1.18	1.39	1.34	1.18	1.18	1.06	1.04	0.97	0.88
Pakistan.....	2.10	2.09	2.22	2.31	2.45	2.27	2.53	2.21	2.11	2.25
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	1.47	1.62	1.59	1.93	2.01	2.11	2.53	2.78	2.55	2.58
Singapore.....	0.03	0.02	0.02	0.03	0.04	0.04	(s)	(s)	(s)	0.00
Sri Lanka.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Taiwan.....	9.97	11.05	12.69	15.50	16.33	18.00	20.25	24.52	25.02	27.57
Thailand.....	3.78	4.50	4.58	4.92	5.56	9.91	9.72	9.31	7.52	6.85
Vietnam.....	3.09	2.54	2.55	3.55	3.52	4.82	3.66	3.49	3.34	3.17
Total.....	807.29	838.39	868.33	914.14	972.73	1,025.43	1,027.62	1,050.69	1,000.40	907.67
World Total.....	2,273.96	2,192.41	2,189.05	2,200.24	2,210.20	2,260.09	2,282.28	2,330.29	2,254.26	2,137.14

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

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

Glossary

Glossary

Acid Rain: Also called acid precipitation or acid deposition, acid rain is precipitation containing harmful amounts of nitric and sulfuric acids formed primarily by nitrogen oxides and sulfur oxides released into the atmosphere when fossil fuels are burned. It can be wet precipitation (rain, snow, or fog) or dry precipitation (absorbed gaseous and particulate matter, aerosol particles, or dust). Acid rain has a pH below 5.6. Normal rain has a pH of 5.6, which is slightly acidic. The term pH is a measure of acidity or alkalinity and ranges from 0 to 14. A pH measurement of 7 is regarded as neutral. Measurements below 7 indicate increased acidity, while those above 7 indicate increased alkalinity.

Acquisition (Foreign Crude Oil): All transfers of ownership of foreign crude oil to a firm, irrespective of the terms of that transfer. Acquisitions thus include all purchases and exchange receipts as well as any and all foreign crude acquired under reciprocal buy-sell agreements or acquired as a result of a buy-back or other preferential agreement with a host government.

Agglomerating Character: Agglomeration describes the caking properties of coal. Agglomerating character is determined by examination and testing of the residue when a small powdered sample is heated to 950 degrees Centigrade under specified conditions. If the sample is "agglomerating," the residue will be coherent, show swelling or cell structure, and be capable of supporting a 500-gram weight without pulverizing.

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, $\text{CH}_3-(\text{CH}_2)_n-\text{OH}$. Included are methanol, ethanol, and tertiary butyl alcohol).

Alternating Current: An electric current that reverses its direction at regularly recurring intervals, usually 50 or 60 times per second.

Ampere: The unit of measurement of electrical current produced in a circuit of 1 volt acting through a resistance of 1 ohm.

Anaerobic Decomposition: The breakdown of molecules into simpler molecules or atoms by microorganisms that can survive in the partial or complete absence of oxygen.

Anthracite: 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 U.S. 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.

Anthracite Briquets: See **Coal Briquets**.

Anthropogenic: Made or generated by a human or caused by human activity. The term is used in the context of global climate change to refer to gaseous emissions that are the result of human activities.

API: The American Petroleum Institute, a trade association.

API Gravity: An arbitrary scale expressing the gravity or density of liquid petroleum products, as established by the American Petroleum Institute (API). The measuring scale is calibrated in terms of degrees API. The higher the API gravity, the lighter the compound. Light crude oils generally exceed 38 degrees API and heavy crude oils are commonly labeled as all crude oils with an API gravity of 22 degrees or below. Intermediate crude oils fall in the range of 22 degrees to 38 degrees API gravity.

Apparent Consumption (Coal): As used here, a calculated amount equal to primary coal production plus imports of coal and coke, minus exports of coal and coke minus changes in stocks of coal and coke. *Notes:* 1) For the United States, coal consumption data are reported by major end-use sector and do not have to be calculated; 2) A net withdrawal from stocks increases consumption and a net addition to stocks decreases consumption.

Apparent Consumption (Natural Gas): As used here, a calculated amount equal to dry natural gas production, plus imports of natural gas, minus exports of natural gas, minus changes in natural gas stocks. *Note:* A net withdrawal from stocks increases consumption and a net addition to stocks decreases consumption.

Apparent Consumption (Petroleum): As used here, a calculated amount that includes domestic inland consumption, refinery fuel and loss, and international bunker fuels. Also included, where available, are liquefied petroleum gases sold directly from natural gas processing plants for fuel or chemical uses.

Apparent Consumption of Refined Petroleum Products: See **Apparent Consumption (Petroleum)**.

Ash: Impurities consisting of silica, iron, alumina, and other incombustible matter that are contained in coal. Ash increases the weight of coal, adds to the cost of handling, and can affect the burning characteristics. Ash content is measured as a percent by weight of coal on an as-received basis (i.e., containing both inherent moisture and mineral matter) or a dry (moisture-free) basis.

Asphalt: A dark brown-to-black cement-like material containing bitumens as the predominant constituent obtained by petroleum processing; used primarily for road construction. It includes crude asphalt as well as the following finished products: cements, fluxes, the asphalt content of emulsions (exclusive of water), and petroleum distillates blended with asphalt to make cutback asphalts. *Note:* The conversion factor for asphalt is 5.5 barrels per short ton.

Asphalt (Refined): See **Asphalt**.

Associated-Dissolved Natural Gas: Natural gas that occurs in crude oil reservoirs either as free gas (associated) or as a gas in solution with crude oil (dissolved gas). See **Natural Gas**.

Associated Gas: See **Associated-Dissolved Natural Gas** and **Natural Gas**.

Associated Natural Gas: See **Associated-Dissolved Natural Gas** and **Natural Gas**.

ASTM: The American Society for Testing and Materials, a trade association.

Atmospheric Crude Oil Distillation Unit: See **Distillation Unit (Atmospheric)**.

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. See **Jet Fuel**; **Kerosene-Type Jet Fuel**; and **Naphtha-Type Jet Fuel**.

Aviation Gasoline Blending Components: Naphthas that are used for blending or compounding gasoline into finished aviation gasoline (e.g., straight-run gasoline, alkylate, and reformate). Excluded are oxygenates (alcohols, ethers), butane, and pentanes plus.

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

Barrels per Calendar Day: The amount of input that a distillation facility can process under usual operating conditions. The amount is expressed in terms of capacity during a 24-hour period and reduces the maximum processing capability of all units at the facility under continuous operation (see **Barrels per Stream Day**) to account for the following limitations that may delay, interrupt, or slow down production:

1. the capability of downstream processing units to absorb the output of crude oil processing facilities of a given refinery. No reduction is necessary for intermediate streams that are distributed to other than downstream facilities as part of refinery's normal operation;
2. the types and grades of inputs to be processed;
3. the types and grades of products expected to be manufactured;
4. the environmental constraints associated with refinery operations;
5. the reduction of capacity for scheduled downtime due to such conditions as routine inspection, maintenance, repairs, and turnaround; and
6. the reduction of capacity for unscheduled downtime due to such conditions as mechanical problems, repairs, and slowdowns.

Barrels per Stream Day: The maximum number of barrels of input that a distillation facility can process within a 24-hour period when running at full capacity under optimal crude and product slate conditions with no allowance for downtime.

Biodiesel: A renewable fuel synthesized from soybeans, other oil crops, or animal tallow that can substitute for petroleum diesel fuel.

Biofuels: Liquid fuels and blending components produced from biomass (plant) feedstocks, used primarily for transportation.

Biogas: A medium Btu gas containing methane and carbon dioxide, produced from the anaerobic decomposition of organic material in a landfill. Also called biomass gas.

Biogenic: Produced by the actions of living organisms.

Biomass: Organic nonfossil material of biological origin constituting a renewable energy resource. Included in **Wood and Waste**.

Biomass Gas: See **Biogas**.

Biosphere: The portion of the Earth and its atmosphere that can support life. The part of the global carbon cycle that includes living organisms and biogenic organic matter.

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 Briquets: See **Coal Briquets**.

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 U.S. 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 U.S. averages 24 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Black Liquor: A byproduct of the paper production process that can be used as a source of energy.

Boiler: A device for generating steam for power, processing, or heating purposes; or for producing hot water for heating purposes or hot water supply. Heat from an external combustion source is transmitted to a fluid contained within the tubes in the boiler shell. This

fluid is delivered to an end-use at a desired pressure, temperature, and quality.

Briquetting Plant: A facility where coal is converted into coal briquets. See **Coal Briquets**.

British Thermal Unit (Btu): See **Btu (British Thermal Unit)**.

Btu (British Thermal Unit): A standard unit for measuring the quantity of heat energy equal to 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. The Btu is a convenient measure by which to compare the energy content of various fuels. See **Heat Content of a Quantity of Fuel, Gross** and **Heat Content of a Quantity of Fuel, Net**.

Bunker Fuel: Fuel supplied to ships and aircraft, both domestic and foreign, consisting primarily of residual and distillate fuel oil for ships and kerosene-type jet fuel for aircraft. The term "international bunker fuels" is used to denote the consumption of fuel for international transport activities. *Notes:* 1) For the purposes of greenhouse gas emissions inventories, data on emissions from combustion of international bunker fuels are subtracted from national emissions totals. However, because it was often difficult to separate out international bunker fuels, this adjustment was not made in estimating the carbon dioxide emissions that appear here. 2) Historically, bunker fuels have meant only ship fuel. See **Vessel Bunkering**.

Bunkers: See **Bunker Fuel**.

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

Butylene: An olefinic hydrocarbon (C₄H₈) recovered from refinery processes.

Carbon Budget: The balance of the exchanges (incomes) and losses) of carbon between carbon sinks (e.g., atmosphere and biosphere) in the carbon cycle. See **Carbon Cycle** and **Carbon Sink**.

Carbon Cycle: All carbon sinks and exchanges of carbon from one sink to another by various chemical, physical, geological, and biological processes. See **Carbon Sink** and **Carbon Budget**.

Carbon Dioxide (CO₂): A colorless, odorless, non-poisonous gas that is a normal part of the Earth's atmosphere. Carbon dioxide is a product of fossil-fuel

combustion as well as other processes. It is considered a greenhouse gas as it traps heat (infrared energy) radiated by the Earth into the atmosphere and thereby contributes to the potential for global warming. Other greenhouse gases are measured in relation to the global warming potential (GWP) of carbon dioxide, which by international scientific convention is assigned a value of one (1). See **Global Warming Potential (GWP)** and **Greenhouse Gases**.

Carbon Dioxide Equivalent: The amount of carbon dioxide by weight emitted into the atmosphere that would produce the same estimated radiative forcing as a given weight of another radiatively active gas. Carbon dioxide equivalents are computed by multiplying the weight of the gas being measured (for example, methane) by its estimated global warming potential (which is 21 for methane). "Carbon equivalent units" are defined as carbon dioxide equivalents multiplied by the carbon content of carbon dioxide (i.e., 12/44).

Carbon Intensity: The amount of carbon by weight emitted per unit of energy consumed. A common measure of carbon intensity is weight of carbon per British thermal unit (Btu) of energy. When there is only one fossil fuel under consideration, the carbon intensity and the emissions coefficient are the same thing. When there are several fuels, carbon intensity is based on their combined emissions coefficients weighted by their energy consumption levels. See **Emissions Coefficient** and **Carbon Output Rate**.

Carbon Output Rate: The amount of carbon by weight per kilowatt-hour of electricity produced.

Carbon Sequestration: The fixation of atmospheric carbon dioxide in a carbon sink through biological or physical processes.

Carbon Sink: A reservoir that absorbs or takes up released carbon from another part of the carbon cycle. The four sinks, which are regions of the Earth within which carbon behaves in a systematic manner, are the atmosphere, terrestrial biosphere (usually including freshwater systems), oceans, and sediments (including fossil fuels).

Catalytic Cracking: The refining process of breaking down the larger, heavier, and more complex hydrocarbon molecules into simpler and lighter molecules. Catalytic cracking is accomplished by the use of a catalytic agent and is an effective process for increasing the yield of gasoline from crude oil. Catalytic cracking processes fresh feeds and recycled feeds.

Catalytic Reforming: A refining process using controlled heat and pressure with catalysts to rearrange certain hydrocarbon molecules, thereby converting

paraffinic and naphthenic type hydrocarbons (e.g., low-octane gasoline boiling range fractions) into petrochemical feedstocks and higher octane stocks suitable for blending into finished gasoline.

C.I.F. (Cost, Insurance and Freight): A sales transaction in which the seller pays for the transportation and insurance of the goods up to the port of destination specified by the buyer.

Circuit: A conductor or a system of conductors through which electric current flows.

Climate: The average course or condition of the weather over a period of years as exhibited by temperature, humidity, wind velocity, and precipitation.

Climate Change: A term used to refer to all forms of climatic inconsistency, but especially to significant change from one prevailing climatic condition to another. In some cases, "climate change" has been used synonymously with the term "global warming"; scientists, however, tend to use the term in a wider sense inclusive of natural changes in climate as well as climatic cooling.

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. See **Coal Rank**.

Coalbed: A bed or stratum of coal. Also called a coal seam.

Coalbed Methane: Methane produced from coalbeds in the same way that natural gas is produced from other strata. See **Methane**.

Coal Briquets: Anthracite, bituminous, and lignite briquets are 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.

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

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

Coal Rank: The classification of coals according to their degree of progressive alteration from lignite to anthracite. In the U.S., 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 this period.

Cogeneration: The production of electrical energy and another form of useful energy (such as heat or steam) through the sequential use of energy.

Cogenerator: A generating facility that produces electricity and another form of useful thermal energy (such as heat or steam) used for industrial, commercial, heating, or cooling purposes. See **Electric Utility** and **Nonutility Power Producer**.

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 barrel.

Coke Oven Gas: The gaseous portion of volatile substances driven off in the coking process after other coal chemicals are removed.

Coke Plant: A plant where coal is carbonized in slot or beehive ovens for the manufacture of coke.

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

Combined Cycle: An electric generating technology in which electricity is produced from otherwise lost waste heat exiting from one or more gas (combustion) turbines. The exiting heat is routed to a conventional boiler or to a heat recovery steam generator for utilization by a steam turbine in the production of electricity. Such designs increase the efficiency of the electric generating unit.

Combined Cycle Unit: An electric generating unit that consists of one or more combustion turbines and one or more boilers with a portion of the required energy input to the boiler(s) provided by the exhaust gas of the combustion turbine(s).

Combined Pumped-Storage Electric Power Plant: A pumped-storage hydroelectric power plant that uses both pumped water and natural stream flow to produce electricity. See **Pumped-Storage Hydroelectric Power Plant** and **Pure Pumped-Storage Hydroelectric Power Plant**.

Combustion: Chemical oxidation accompanied by the generation of light and heat.

Completion: Installation of permanent equipment for the production of oil or gas. If a well is equipped to produce only oil or gas from one zone or reservoir, the definition of a well (classified as an oil well or gas well) and the definition of a completion are identical. However, if a well is equipped to produce oil and/or gas separately from more than one reservoir, a well is not synonymous with a completion. See **Well**.

Conference of the Parties (COP): The collection of nations that have ratified the Framework Convention on Climate Change (FCCC). The primary role of the COP is to keep implementation of the FCCC under review and make the decisions necessary for its effective implementation. See **Framework Convention on Climate Change (FCCC)**.

Consumption: See **Energy Consumption**.

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

Conventional Mill (Uranium): A facility engineered and built principally for processing of uranium ore materials mined from the earth and the recovery, by chemical treatment in the mill's circuits, of uranium and/or other valued coproduct components from the processed one.

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 measurement system into corresponding values of another measurement system. (Thermal conversion factors or heat contents or heat values can be used to

translate physical units of measure for various fuels into Btu equivalents.) *Note:* For specific conversion factors, see EIA data products.

COP: See **Conference of the Parties (COP)**.

Cost, Insurance and Freight: See **C.I.F. (Cost, Insurance and Freight)**.

Cracking: The refining process of breaking down the larger, heavier, and more complex hydrocarbon molecules into simpler and lighter molecules. See **Catalytic Cracking** and **Thermal Cracking**.

Crude Oil: A mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Depending upon the characteristics of the crude stream, it may also include:

1. Small amounts of hydrocarbons that exist in gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casinghead) gas in lease separators and are subsequently commingled with the crude stream without being separately measured. Lease condensate recovered as a liquid from natural gas wells in lease or field separation facilities and later mixed into the crude stream is also included;
2. Small amounts of nonhydrocarbons produced with the oil, such as sulfur and various metals;
3. Drip gases, and liquid hydrocarbons produced from tar sands, Gilsonite, and oil shale.

Liquids produced at natural gas processing plants are excluded. Crude oil is refined to produce a wide array of petroleum products, including heating oils; gasoline, diesel, and jet fuels; lubricants; asphalt; ethane, propane, and butane; and many other products used for their energy or chemical content.

Crude Oil (including Lease Condensate): See **Crude Oil**.

Crude Oil Landed Cost: The dollar-per-barrel price of crude oil at the port of discharge. Included are the charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. Not included are charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage charges).

Crude Oil Less Lease Condensate: A mixture of hydrocarbons that exists in liquid phase in natural

underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Such hydrocarbons as lease condensate and natural gasoline recovered as liquids from natural gas wells in lease or field separation facilities and later mixed into the crude stream are excluded. Depending upon the characteristics of the crude stream, crude oil may also include:

1. Small amounts of hydrocarbons that exist in gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casinghead) gas in lease separators and are subsequently commingled with the crude stream without being separately measured;
2. Small amounts of nonhydrocarbons produced with the oil, such as sulfur and various metals.

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.

Cubic Foot (cf), Natural Gas: The amount of natural gas contained at standard temperature and pressure (60 degrees Fahrenheit and 14.73 pounds standard per square inch) in a cube whose edges are one foot long.

Cull Wood: Wood logs, chips, or wood products that are burned.

Current (Electric): A flow of electrons in an electrical conductor. The strength or rate of movement of the electricity is measured in amperes.

Cycling: The practice of producing natural gas for the extraction of natural gas liquids, returning the dry residue to the producing reservoir to maintain reservoir pressure and increase the ultimate recovery of natural gas liquids.

Cycling Plants: See **Natural Gas Processing Plants**.

Czechoslovakia: State that split into two separate states—Czech Republic and Slovakia—on January 1, 1993.

Delayed Coking: A process by which heavier crude oil fractions can be thermally decomposed under conditions of elevated temperature and pressure to produce a mixture of lighter oils and petroleum coke.

Demand: See **Energy Demand**.

Demand (Electric): See **Electricity Demand**.

Development Well: A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.

Direct Current: An electric current that flows in a constant direction. The magnitude of the current does not vary or has a slight variation.

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.

1. **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**).
 - a. **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**.
 - b. **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**.
2. **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**).
 - a. **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**.

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

b. **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**.

3. **No. 4 Fuel:** A distillate fuel oil made by blending distillate fuel oil and residual fuel oil stocks. It conforms to 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.

Distillation Unit (Atmospheric): The primary distillation unit that processes crude oil (including mixtures of other hydrocarbons) at approximately atmospheric conditions. It includes a pipe still for vaporizing the crude oil and a fractionation tower for separating the vaporized hydrocarbon components in the crude oil into fractions with different boiling ranges. This is done by continuously vaporizing and condensing the components to separate higher boiling point material. The selected boiling ranges are set by the processing

scheme, the properties of the crude oil, and the product specifications.

Distribution: The delivery of electricity to retail customers.

Distribution System: The portion of an electric system that is dedicated to delivering electric energy to an end user.

Domestic Inland Consumption (Petroleum): The sum of all refined petroleum products supplied for domestic use (excludes international bunker fuels). Consumption is calculated product-by-product by adding production, imports, and crude oil burned directly, and then subtracting exports and changes in primary stocks. *Note:* A net withdrawal from primary stocks increases consumption and a net addition to primary stocks decreases consumption.

Dry (Coal) Basis: Coal quality data calculated to a theoretical basis in which no moisture is associated with the sample. This basis is determined by measuring the weight loss of a sample when its inherent moisture is driven off under controlled conditions of low temperature air-drying followed by heating to just above the boiling point of water (104 to 110 degrees centigrade).

Dry Gas: See **Dry Natural Gas**.

Dry Hole: An exploratory or development well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well.

Dry Natural Gas: Natural gas which remains after: 1) the liquefiable hydrocarbon portion has been removed from the gas stream (i.e., gas after lease, field, and/or plant separation); and 2) any volumes of nonhydrocarbon gases have been removed where they occur in sufficient quantity to render the gas unmarketable. *Note:* Dry natural gas is also known as consumer-grade natural gas. The parameters for measurement are cubic feet at 60 degrees Fahrenheit and 14.73 pounds per square inch absolute. See **Natural Gas**.

Dry Natural Gas Production: The process of producing consumer-grade natural gas. Natural gas withdrawn from reservoirs is reduced by volumes used at the production (lease) site and by processing losses. Volumes used at the production site include (1) the volume returned to reservoirs in **cycling**, repressuring of oil reservoirs, and conservation operations; and (2) gas vented and flared. Processing losses include (1) nonhydrocarbon gases (e.g., water vapor, carbon dioxide, helium, hydrogen sulfide, and nitrogen) removed from the gas stream; and (2) gas converted to liquid form, such as lease condensate and plant liquids. Volumes of

dry gas withdrawn from gas storage reservoirs are not considered part of production. Dry natural gas production equals marketed production less extraction loss.

Dry Production: See **Dry Natural Gas Production**.

Electrical Generating Capacity: See **Generator Capacity**.

Electricity: A form of energy characterized by the presence and motion of elementary charged particles generated by friction, induction, or chemical change.

Electricity Capacity: The maximum load of electric power, commonly expressed in megawatts (MW), by which generators, turbines, transformers, transmission circuits, stations, or systems are rated.

Electricity Demand: The rate at which energy is delivered to loads and scheduling points by generation, transmission, and distribution facilities.

Electricity Generation: The process of producing electric energy or the amount of electric energy produced by transforming other forms of energy, commonly expressed in kilowatthours (kWh) or megawatthours (MWh).

Electricity Generation, Gross: See **Gross Generation**.

Electricity Generation, Net: See **Net Generation**.

Electricity Installed Capacity: See **Generator Nameplate Capacity (Installed)**.

Electric Plant (Physical): See **Electric Power Plant**.

Electric Power: The rate at which electric energy is transferred. Electric power is measured by capacity and commonly expressed in **megawatts** (MW).

Electric Power Plant: A facility containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

Electric System: Physically connected generation, transmission, and distribution facilities operated as an integrated unit under one central management, or operating supervision.

Electric Utility: A corporation, person, agency, authority, or other legal entity or instrumentality that owns and/or operates facilities for the generation, transmission, distribution, or sale of electric energy for use primarily by the public. Utilities provide electricity within a designated franchised service area and file

forms listed in the Code of Federal Regulations, Title 18, Part 141. *Note:* Facilities that qualify as cogenerators or small power producers under the Public Utility Regulatory Policies Act (PURPA) are not considered electric utilities. See **Nonutility Power Producer**.

Emissions: Anthropogenic releases of gases to the atmosphere. In the context of global climate change, they consist of radiatively important greenhouse gases (e.g., the release of carbon dioxide during fuel combustion). See **Greenhouse Gases**.

Emissions Coefficient: A unique value for scaling emissions to activity data in terms of a standard rate of emissions per unit of activity (e.g., pounds of carbon dioxide emitted per British thermal unit (Btu) of fossil fuel consumed.)

Energy: The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units.

Energy Consumption: The use of energy as a source of heat or power or as a raw material input to a manufacturing process.

Energy Demand: The requirement for energy use as an input to provide products and/or services.

Energy Loss: See **Power Loss**.

Energy Production: See production terms associated with specific energy types.

Energy Reserves: Estimated quantities of energy sources that are demonstrated to exist with reasonable certainty on the basis of geologic and engineering data (proved reserves) or that can reasonably be expected to exist on the basis of geologic evidence that supports projections from proved reserves (probable/indicated reserves). Knowledge of the location, quantity, and grade of probable/indicated reserves is generally incomplete or much less certain than it is for proved energy reserves. *Note:* This term is equivalent to "Demonstrated Reserves" as defined in the resource/reserve classification contained in the U.S. Geological Survey Circular 831, 1980. Demonstrated reserves include measured and indicated reserves but exclude inferred reserves.

Energy Source: Any substance or natural phenomenon that can be consumed or transformed to supply heat or power. Included are petroleum, coal, natural gas, nuclear, wood and waste, electricity, wind, sunlight, geothermal, and water movement. An equivalent term is fuel.

Energy Supply: Energy made available for future disposition. Supply can be considered and measured from the point of view of the energy provider or the receiver.

Enriched Uranium: Uranium in which the ^{235}U isotope concentration has been increased to greater than the 0.711 percent ^{235}U (by weight) present in natural uranium.

Enrichment Services: See **Separative Work Units**.

ETBE: See **Ethyl Tertiary Butyl Ether (ETBE)**.

Ethane: A normally gaseous straight-chain hydrocarbon, (C_2H_6). 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.

Ether: A generic term applied to a group of organic chemical compounds composed of carbon, hydrogen, and oxygen, characterized by an oxygen atom attached to two carbon atoms (e.g., methyl tertiary butyl ether).

Ethylene: A colorless, flammable, gaseous, olefinic hydrocarbon recovered from natural gas and petroleum. Ethylene is used as a petrochemical feedstock for numerous chemical applications and the production of consumer goods.

Ethyl Tertiary Butyl Ether (ETBE): A colorless, flammable, oxygenated hydrocarbon blend stock. See **Oxygenates**.

EU: See **European Union (EU)**.

European Union (EU): Current members are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal,, Spain, Sweden, and United Kingdom. *Note:* Data for Faroe Islands are included in the EU-related data reported here..

Exploratory Well: A hole drilled: a) to find and produce oil or gas in an unproved area; b) to find a new reservoir in a field previously found to be producing oil or gas from another reservoir; or c) to extend the limit of a known oil or gas reservoir.

Exports (U.S.): Shipments of goods from within the 50 States and the District of Columbia to U.S. possessions

and territories or to any foreign country. See **United States (U.S.)**.

Extraction Loss: The reduction in volume of natural gas due to the removal of natural gas liquid constituents, such as ethane, propane, and butane, at natural gas processing plants.

Fabricated Fuel: Fuel assemblies composed of an array of fuel rods loaded with pellets of enriched uranium dioxide.

Fahrenheit: A temperature scale on which the boiling point of water is at 212 degrees above zero on the scale and the freezing point is at 32 degrees above zero at standard atmospheric pressure.

F.A.S. Value (Free Alongside Ship Value): The value of a commodity at the port of exportation, generally including the purchase price, plus all charges incurred in placing the commodity alongside the carrier at the port of exportation in the country of exportation.

FCCC: See **Framework Convention on Climate Change (FCCC)**.

Field Separation Facility: A surface installation designed to recover lease condensate from a produced natural gas stream usually originating from more than one lease and managed by the operator of one or more these leases.

Fixed Carbon: The nonvolatile matter in coal minus the ash. Fixed carbon is the solid residue other than ash obtained by prescribed methods of destructive distillation of a coal. Fixed carbon is the part of the total carbon that remains when coal is heated in a closed vessel until all volatile matter is driven off.

Flared: Gas burned in flares on the base site or at gas processing plants.

Flared Natural Gas: See **Flared**.

Flexicoking: A thermal cracking process that converts heavy hydrocarbons such as crude oil, tar sands bitumen, and distillation residues into light hydrocarbons. Feedstocks can be any hydrocarbons, including those containing high concentrations of sulfur and metals.

Fluid Coking: A thermal cracking process utilizing the fluidized-solids technique to remove carbon (coke) for continuous conversion of heavy, low-grade, oils into lighter products.

F.O.B. (Free On Board): A sales transaction in which the seller makes the product available for pick up at a specified port or terminal at a specified price and the

buyer pays for the subsequent transportation and insurance.

Former Czechoslovakia: See **Czechoslovakia**.

Former U.S.S.R.: See **U.S.S.R.**

Former Yugoslavia: See **Socialist Federal Republic of Yugoslavia**.

Fossil Fuel: Any naturally occurring organic fuel originating in the Earth's crust, such as petroleum, coal, and natural gas.

Fossil Fueled Steam-Electric Power Plant: An electricity generation plant in which the prime mover is a turbine rotated by high-pressure steam produced in a boiler by heat from burning fossil fuels.

Fossil-Fuel Electric Generation: Electric generation in which the prime mover is a turbine rotated by high-pressure steam produced in a boiler by heat from burning fossil fuels.

Fractionation: The process by which saturated hydrocarbons are removed from natural gas and separated into distinct products, or "fractions," such as propane, butane, and ethane.

Framework Convention on Climate Change (FCCC): An agreement opened for signature at the "Earth Summit" in Rio de Janeiro, Brazil, on June 4, 1992, which has the goal of stabilizing greenhouse gas concentrations in the atmosphere at a level that would prevent significant anthropogenically forced climate change. See **Climate Change**.

Free On Board: See **F.O.B. (Free On Board)**.

Fuel: An equivalent term is energy source. See also **Fossil Fuel**.

Fuel Cells: One or more cells capable of generating an electrical current by converting the chemical energy of a fuel directly into electrical energy. Fuel cells differ from conventional electrical cells in that the active materials such as fuel and oxygen are not contained within the cell but are supplied from outside.

Fuel Ethanol: An anhydrous, denatured aliphatic alcohol (C₂H₅OH) intended for motor gasoline blending. See **Oxygenates**.

Fuelwood: See **Wood Energy**.

Futures Market: A trade center for quoting prices on contracts for the delivery of a specified quantity of a commodity at a specified time and place in the future.

Gas (Electric): A fuel burned under boilers and by internal combustion engines for electric generation. These include natural gas, manufactured gas, and waste gas.

Gas Condensate Well: A gas well that produces from a gas reservoir containing considerable quantities of liquid hydrocarbons in the pentane and heavier range generally described as “condensate.” See **Lease Condensate**.

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 **Motor Gasoline (Finished)** and **Oxygenated Gasoline**.

Gas Oil: European and Asian designation for No. 2 heating oil and No. 2 diesel fuel.

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

Gasoline Blending: See **Motor Gasoline Blending**.

Gasoline Grades: The classification of gasoline by octane ratings. Each type of gasoline (conventional, oxygenated, and reformulated) is classified by three grades - Regular, Midgrade, and Premium. *Note:* Gasoline sales are reported by grade in accordance with their classification at the time of sale. In general, automotive octane requirements are lower at high altitudes. Therefore, in some areas of the U.S., such as the Rocky Mountain States, the octane ratings for the gasoline grades may be 2 or more octane points lower.

1. **Regular Gasoline:** Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 85 and less than 88. *Note:* Octane requirements may vary by altitude. See **Gasoline Grades**.
2. **Midgrade Gasoline:** Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 88 and less than or equal to 90. *Note:* Octane requirements may vary by altitude. See **Gasoline Grades**.
3. **Premium Gasoline:** Gasoline having an antiknock index, i.e., octane rating, greater than 90. *Note:* Octane requirements may vary by altitude. See **Gasoline Grades**.

Gas to Liquids (GTLs): A process that combines the carbon and hydrogen elements in natural gas molecules

to make synthetic liquid petroleum products, such as diesel fuel.

Gas-Turbine Electric Power Plant: A plant in which the prime mover is a gas turbine. A gas turbine typically consists of an axial-flow air compressor and one or more combustion chambers where liquid or gaseous fuel is burned. The hot gases expand to drive the generator and then are used to run the compressor.

Gas Well: A well completed for the production of natural gas from one or more gas zones or reservoirs. (Wells producing both crude oil and natural gas are classified as oil wells.)

GDP: See **Gross Domestic Product (GDP)**.

Generating Facility: An existing or planned location or site at which prime movers, electric generators, and/or equipment for converting mechanical, chemical, and/or nuclear energy into electric energy are situated or will be situated.

Generating Unit: Any combination of physically connected generator(s), reactor(s), boiler(s), combustion turbine(s), or other prime mover(s) operated together to produce electric power.

Generation (Electricity): See **Electricity Generation**.

Generator: A machine that converts mechanical energy into electrical energy.

Generator Capacity: The maximum output, commonly expressed in megawatts (MW), that generating equipment can supply to system load, adjusted for ambient conditions.

Generator Nameplate Capacity (Installed): The maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer. Installed generator nameplate capacity is commonly expressed in megawatts (MW) and is usually indicated on a nameplate physically attached to the generator.

Geothermal: Pertaining to heat within the Earth.

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.

Geothermal Energy: Hot water or steam extracted from geothermal reservoirs in the Earth's crust. Water or steam extracted from geothermal reservoirs can be used for geothermal heat pumps, water heating, or electricity generation.

Geothermal Plant: A plant in which the prime mover is a steam turbine. The turbine is driven either by steam produced from hot water or by natural steam that derives its energy from heat found in rocks or fluids at various depths beneath the surface of the Earth. The fluids are extracted by drilling and /or pumping.

Giga: One billion (10^9).

Gigawatt (GW): One billion (10^9) watts. See **Watt**.

Gigawatthour (GWh): One billion (10^9) watthours. See **Watthour**.

Gilsonite: Trademark name for uintaite (or uintahite), a black, brilliantly lustrous natural variety of asphalt, found in parts of Utah and western Colorado.

Global Climate Change: See **Climate Change**.

Global Warming: An increase in the near surface temperature of the Earth. Global warming has occurred in the distant past as the result of natural influences, but the term is today most often used to refer to the warming predicted to occur as a result of increased anthropogenic emissions of greenhouse gases. See **Climate Change**.

Global Warming Potential (GWP): An index used to compare the relative radiative forcing of different gases without directly calculating the changes in atmospheric concentrations. GWPs are calculated as the ration of the radiative forcing that would result from the emission of one kilogram of a greenhouse gas to that from the emission of one kilogram of carbon dioxide over a fixed period of time, such as 100 years.

Greenhouse Effect: The result of water vapor, carbon dioxide, and other gases trapping radiant (infrared) energy, thereby keeping the Earth's surface warmer than it would otherwise be. Greenhouse gases within the lower levels of the atmosphere trap this radiation, which would otherwise escape into space, and subsequent re-radiation of some of this energy back to the Earth maintains higher surface temperatures than would occur if the gases were absent. See **Greenhouse Gases**.

Greenhouse Gases: Those gases, such as water vapor, carbon dioxide, nitrous oxide, methane, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride, that are transparent to solar (short-wave) radiation but opaque to long-wave radiation, thus preventing long-wave radiant energy from leaving the atmosphere. The net effect is a trapping of

absorbed radiation and a tendency to warm the planet's surface.

Grid: The layout of an electrical distribution system.

Gross Domestic Product (GDP): The total value of goods and services produced by labor and property located in a country. As long as the labor and property are located in the country, the supplier (that is, the workers and for property, the owners) may be either residents of that country or residents of foreign countries.

Gross Electricity Generation: See **Gross Generation**.

Gross Generation: The total amount of electric energy produced by generating units and measured at the generating terminal in kilowatthours (kWh) or megawatthours (MWh).

Gross Heat Content of a Quantity of Fuel: See **Heat Content of a Quantity of Fuel, Gross**.

Gross Input to Atmospheric Crude Oil Distillation Units: Total input to atmospheric crude oil distillation units. Includes all crude oil, lease condensate, natural gas plant liquids, unfinished oils, liquefied refinery gases, slop oils, and other liquid hydrocarbons produced from tar sands, Gilsonite, and oil shale. See **Distillation Unit (Atmospheric)**.

Gross Production, Natural Gas: See **Gross Withdrawals, Natural Gas**.

Gross Withdrawals, Natural Gas: Full well-stream volume of produced natural gas, including all natural gas plant liquids and all nonhydrocarbon gases, but excluding lease condensate.

GW: See **Gigawatt**.

GWh: See **Gigawatthour**.

Heap Leach Solutions: The separation, or dissolving-out, from mined rock of the soluble uranium constituents by the natural action of percolating a prepared chemical solution through mounded (heaped) rock material. The mounded material usually contains low grade mineralized material and/or waste rock produced from openpit or underground mines. The solutions are collected after percolation is completed and processed to recover the valued component.

Heat Content of a Quantity of Fuel, Gross: The total amount of heat released when a fuel is burned. Coal, crude oil, and natural gas all include chemical compounds of carbon and hydrogen. When those fuels are burned, the carbon and hydrogen combine with oxygen in the air to produce carbon dioxide and water.

Some of the energy released in burning goes into transforming the water into steam and is usually lost. The amount of heat spent in transforming the water into steam is counted as part of gross heat content but is not counted as part of net heat content. Gross heat content is also referred to as the higher heating value. Btu conversion factors typically used by the Energy Information Administration represent gross heat content.

Heat Content of a Quantity of Fuel, Net: The amount of usable heat energy released when a fuel is burned under conditions similar to those in which it is normally used. Net heat content is also referred to as the lower heating value. Btu conversion factors typically used by the Energy Information Administration represent gross heat content.

Heating Value: See **Heat Content of a Quantity of Fuel, Gross** and **Heat Content of a Quantity of Fuel, Net**.

HFCs: See **Hydrofluorocarbons**.

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

High-Temperature Collector: See **Solar Thermal Collector, High-Temperature**.

Hydrocarbon: An organic chemical compound of hydrogen and carbon in either gaseous, liquid, or solid phase. The molecular structure of hydrocarbon compounds varies from the simplest (e.g., methane, a constituent of natural gas) to the very heavy and very complex.

Hydroelectric Power: The production of electricity from the kinetic energy of falling water..

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.

Hydroelectric Power Plant: A plant in which the turbine generators are driven by falling water.

Hydroelectric Pumped Storage: Hydroelectricity that is generated during peak loads by using water previously pumped into an elevated storage reservoir during off-peak periods when excess generating capacity is available to do so. When additional generating capacity is needed, the water can be released from the reservoir

through a conduit to turbine generators located in a power plant at a lower level.

Hydrofluorocarbons (HFCs): A group of man-made chemicals composed of one or two carbon atoms and varying numbers of hydrogen and fluorine atoms. Most HFCs have 100-year Global Warming Potentials in the thousands.

Hydrogen: A colorless, odorless, highly flammable gaseous element. It is the lightest of all gases and the most abundant element in the universe, occurring chiefly in combination with oxygen in water and also in acids, bases, alcohols, petroleum, and other hydrocarbons.

IEA: See **International Energy Agency (IEA)**.

Imports (U.S.): Receipts of goods into the 50 States and the District of Columbia from U.S. possessions and territories or from any foreign country. See **United States (U.S.)**.

Improved Recovery: Extraction of crude oil or natural gas by any method other than those that rely primarily on natural reservoir pressure, gas lift, or a system of pumps.

Independent Power Producer: A corporation, person, agency, authority, or other legal entity or instrumentality which is a wholesale electricity producer that operates within the franchised service territory of a host electric utility and is usually authorized to sell at market-based rates. Unlike traditional electric utilities, independent power producers do not possess transmission facilities, unless authorized by law, nor do they sell electricity in the retail market. Independent power producers are considered to be nonutility power producers. See **Electric Utility** and **Nonutility Power Producer**.

Indicated Recoverable Reserves, Coal: See **Probable (Indicated) Reserves, Coal**.

In Situ Leach Mining (ISL): The recovery, by chemical leaching, of the valuable components of an orebody without physical extraction of the ore from the ground. Also referred to as "solution mining."

Intergovernmental Panel on Climate Change (IPCC): A panel established jointly in 1988 by the World Meteorological Organization and the United Nations Environment Program to assess the scientific information relating to climate change and to formulate realistic response strategies.

Internal Combustion Electric Power Plant: A plant in which the prime mover is an internal combustion engine. An internal combustion engine has one or more cylinders in which the process of combustion takes place, converting energy released from the rapid burning of a

fuel-air mixture into mechanical energy. Diesel or gas-fired engines are the principal types used in electric plants. The plant is usually operated during periods of high demand for electricity.

International Bunker Fuels: See **Bunker Fuels**.

International Energy Agency (IEA): Current members are: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. *Note:* Data for Faroe Islands, Greenland, Guam, the former Hawaiian Trade Zone, Puerto Rico, and the U.S. Virgin Islands (usually listed here as Virgin Islands, U.S.) are included in the IEA-related data reported here.

Isopentane: A saturated branched-chain hydrocarbon (C₅H₁₂) obtained by fractionation of natural gasoline or isomerization of normal pentane.

Jet Fuel: A refined petroleum product used in jet aircraft engines. It includes kerosene-type jet fuel and naphtha-type jet fuel.

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 ergs 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 (10³) watts. See **Watt**.

Kilowatthour (kWh): One thousand (10³) watthours. See **Watthour**.

kW: See **Kilowatt (kW)**.

kWh: See **Kilowatthour (kWh)**.

Kyoto Protocol: The result of negotiations at the third Conference of the Parties (COP-3) in Kyoto, Japan, in December 1997. The Kyoto Protocol sets binding greenhouse gas emissions targets for countries that sign and ratify the agreement. The gases covered under the Protocol include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride.

Landed Cost (Crude Oil): See **Crude Oil Landed Cost**.

Lease Condensate: A mixture consisting primarily of pentanes and heavier hydrocarbons which is recovered as a liquid from natural gas in lease separation facilities. This category excludes natural gas plant liquids, such as butane and propane, which are recovered at downstream natural gas processing plants or facilities.

Lease Separation Facility (Lease Separator): A facility installed at the surface for the purpose of (a) separating gases from produced crude oil and water at the temperature and pressure conditions set by the separator and/or (b) separating gases from that portion of the produced natural gas stream that liquefies at the temperature and pressure conditions set by the separator.

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

Lignite Briquets: See **Coal Briquets**.

Liquefied Natural Gas (LNG): Natural gas (primarily methane) that has been 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): A group of hydrogen-based gases derived from crude oil refining or natural gas fractionation. They include ethane, ethylene, propane, propylene, normal butane, butylene, isobutane, and isobutylene. For convenience of transportation, these gases are liquefied through pressurization.

Liquefied Refinery Gases (LRG): Liquefied petroleum gases 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.

Liquid Collector: A medium-temperature solar thermal collector, employed predominately in water heating, which uses pumped liquid as the heat transfer mechanism. See **Solar Thermal Collector, Medium-Temperature**.

LNG: See **Liquefied Natural Gas (LNG)**.

Load (Electric): The amount of electric power delivered or required at any specific point or points on an electric system. The requirement originates at the energy-consuming equipment of the consumers.

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.

Low-Temperature Collector: See **Solar Thermal Collector, Low-Temperature**.

LPG: See **Liquefied Petroleum Gases**.

LRG: See **Liquefied Refinery Gases**.

Lubricants: Substances used to reduce friction between bearing surfaces, or incorporated into other materials used as processing aids in the manufacture of other products, or used as carriers of other materials. Petroleum lubricants may be produced either from distillates or residues. Lubricants include all grades of lubricating oils, from spindle oil to cylinder oil to those used in greases.

Manufactured Gas: A gas obtained by destructive distillation of coal, or by thermal decomposition of oil, or by the reaction of steam passing through a bed of heated coal or coke. Examples are coal gases, coke oven gases, producer gas, blast furnace gas, blue (water) gas, and carbureted water gas

Market-Based Pricing: Prices of electric power or other forms of energy determined in an open market system of supply and demand under which prices are set solely by agreements as to what buyers will pay and sellers will accept. Such prices could recover less or more than full

costs, depending upon what the buyer and seller see as their relevant opportunities and risks.

Marketed Production, Natural Gas: Gross withdrawals of natural gas from reservoirs less gas used for reinjection into reservoirs for repressuring, gas that is vented and flared, and nonhydrocarbon gases removed in treating or processing operations.

Measured Recoverable Reserves, Coal: See **Proved (Measured) Reserves, Coal** and **Proved Recoverable Reserves, Coal**.

Medium-Temperature Collector: See **Solar Thermal Collector, Medium-Temperature**.

Megawatt (MW): One million (10^6) watts. See **Watt**.

Megawatthour (MWh): One million (10^6) watthours. See **Watthour**.

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. See **Coke (Coal)**.

Methane: A colorless, flammable, odorless hydrocarbon gas (CH_4) that is the major component of natural gas. It is also an important source of hydrogen in various industrial processes. Methane has a 100-year Global Warming Potential of 21.

Methanol: A light alcohol that can be used for motor gasoline blending. See **Oxygenates**.

Methyl Tertiary Butyl Ether (MTBE): A colorless, flammable, liquid oxygenated hydrocarbon containing 18.15 percent oxygen. See **Oxygenates**.

Metric Ton: A unit of weight equal to 2,204.6 pounds.

Midgrade Gasoline: Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 88 and less than or equal to 90. *Note:* Octane requirements may vary by altitude. See **Gasoline Grades**.

Milling of Uranium: The processing of uranium from ore mined by conventional methods, such as underground or openpit, to separate the uranium from the undesired material in the ore.

Million Btu: One million (10⁶) British thermal units (Btu). See **British Thermal Unit (Btu)**.

Mineral-Matter-Free Basis: Mineral matter in coal is the parent material in coal from which ash is derived. It comes from minerals present in the original plant materials that formed the coal or from extraneous sources such as sediments and precipitates from mineralized water. Mineral matter in coal cannot be analytically determined and is commonly calculated using data on ash and ash-forming constituents. Coal analyses are calculated to the mineral-matter-free basis by adjusting formulas used in calculations in order to deduct the weight of mineral matter from the total coal.

Moist (Coal) Basis: "Moist" coal contains its natural inherent or bed moisture, but does not include water adhering to the surface. Coal analyses expressed on a moist basis are performed or adjusted so as to describe the data when the coal contains only that moisture which exists in the bed in its natural state of deposition, and when the coal has not lost any moisture due to drying.

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 degrees to 158 degrees Fahrenheit at the 10 percent recovery point to 365 degrees 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.

1. **Conventional Gasoline:** 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. See **Motor Gasoline (Finished)**.
2. **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 CO nonattainment areas are included in data on oxygenated gasoline. Other data on gasohol are included in data on conventional gasoline. See **Motor Gasoline (Finished)**.

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

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 or 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 (alcohols, ethers), butane, and pentanes plus. *Note:* Oxygenates are reported as individual components and are included in the total for other hydrocarbons, hydrogen, and oxygenates.

Motor Gasoline, Conventional: See **Conventional Gasoline**.

Motor Gasoline Grades: See **Gasoline Grades**.

Motor Gasoline, Oxygenated: See **Oxygenated Gasoline**.

Motor Gasoline, Reformulated: See **Reformulated Gasoline**.

MTBE: See **Methyl Tertiary Butyl Ether**.

Municipal Solid Waste: Residential solid waste and some nonhazardous commercial, institutional, and industrial wastes.

MW: See **Megawatt (MW)**.

MWh: See **Megawatthour (MWh)**.

Naphtha: A generic term applied to a petroleum fraction with an approximate boiling range between 122 degrees and 400 degrees Fahrenheit.

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 gaseous mixture of hydrocarbon compounds, the primary one being methane. *Note:* The Energy Information Administration measures wet natural gas and its two sources of production, associated-dissolved natural gas and nonassociated natural gas, and dry natural gas, which is produced from wet natural gas.

1. **Wet Natural Gas:** A mixture of hydrocarbon compounds and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in porous rock formations at reservoir conditions. The principal hydrocarbons normally contained in the mixture are methane, ethane, propane, butane, and pentane. Typical nonhydrocarbon gases that may be present in reservoir natural gas are water vapor, carbon dioxide, hydrogen sulfide, nitrogen, and trace amounts of helium. Under reservoir conditions, natural gas and its associated liquefiable portions occur either in a single gaseous phase in the reservoir or in solution with crude oil and are not distinguishable at the time as separate substances. *Note:* The Securities and Exchange Commission and the Financial Accounting Standards Board refer to this product as natural gas.

- a. **Associated-Dissolved Natural Gas:** Natural gas that occurs in crude oil reservoirs either as free gas (associated) or as a gas in solution with crude oil (dissolved gas). See **Natural Gas**.

- b. **Nonassociated Natural Gas:** Natural gas that is not in contact with significant quantities of crude oil in the reservoir. See **Natural Gas**.

2. **Dry Natural Gas:** Natural gas which remains after: 1) the liquefiable hydrocarbon portion has been removed from the gas stream (i.e., gas after lease, field, and/or plant separation); and 2) any volumes of nonhydrocarbon gases have been removed where they occur in sufficient quantity to render the gas unmarketable. *Note:* Dry natural gas is also known as consumer-grade natural gas. The parameters for measurement are cubic feet at 60 degrees Fahrenheit and 14.73 pounds per square inch absolute. See **Natural Gas**.

Natural Gas, "Dry": See **Dry Natural Gas**.

Natural Gas, Dry Production: See **Dry Natural Gas**.

Natural Gas Dry Production: Gross withdrawals of natural gas from reservoirs less gas used for reinjection into reservoirs for repressuring, gas that 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: See **Gross Withdrawals, Natural Gas**.

Natural Gas Gross Withdrawals: See **Gross Withdrawals, Natural Gas**.

Natural Gas Hydrates: Solid, crystalline, wax-like substances composed of water, methane, and usually a small amount of other gases, with the gases being trapped in the interstices of a water-ice lattice. They form beneath permafrost and on the ocean floor under conditions of moderately high pressure and at temperatures near the freezing point of water.

Natural Gas Liquids (NGL): A general term for all liquid products separated from natural gas in gas processing or cycling plants. They include natural gas plant liquids and lease condensate.

Natural Gas Marketed Production: See **Marketed Production, Natural Gas**.

Natural Gas, Pipeline Quality: See **Pipeline Quality Natural Gas**.

Natural Gas Plant Liquids (NGPL): Those hydrocarbons in natural gas that are separated as liquids at downstream natural gas processing plants or at fractionating and cycling plants. Data on lease condensate are excluded. Products obtained include liquefied petroleum gases and pentanes plus.

Natural Gas Processing Plants: Facilities designed to recover natural gas liquids from a stream of natural gas that may or may not have passed through lease separators and/or field separation facilities. These facilities also control the quality of natural gas to be marketed. Cycling plants are classified as natural gas processing plants.

Natural Gas Production: See **Dry Natural Gas Production**.

Natural Gas, Wet: See **Wet Natural Gas**.

Natural Gasoline: A term used in the gas processing industry to refer to a mixture of liquid hydrocarbons (mostly pentanes and heavier hydrocarbons) extracted from natural gas. It includes isopentane.

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

Net Electricity Generation: See **Net Generation**.

Net Electric Power Generation: See **Net Generation**.

Net Generation: The amount of gross generation less the electrical energy consumed at the generating station(s) for station service or auxiliaries. *Note:* Electricity required for pumping at pumped-storage plants is regarded as electricity for station service and is deducted from gross generation.

Net Heat Content of a Quantity of Fuel: See **Heat Content of a Quantity of Fuel, Net**.

NGL: See **Natural Gas Liquids**.

NGPL: See **Natural Gas Plant Liquids**.

Nitrogen Oxides (NO_x): Compounds of nitrogen and oxygen produced by the combustion of fossil fuels.

Nitrous Oxide (N₂O): A colorless gas, naturally occurring in the atmosphere. Nitrous oxide has a 100-year Global Warming Potential of 310.

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 to 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**.

NO_x: See **Nitrogen Oxides**.

Nonassociated Natural Gas: Natural gas that is not in contact with significant quantities of crude oil in the reservoir. See **natural gas**.

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.

Nonconventional Plant (Uranium): A facility engineered and built principally for processing of uraniferous solutions that are produced during in situ leach mining, from heap leaching, or in the manufacture of other commodities, and the recovery, by chemical treatment in the plant's circuits, of uranium from the processed solutions.

Nonhydrocarbon Gases: Typical nonhydrocarbon gases that may be present in reservoir natural gas such as water vapor, carbon dioxide, hydrogen sulfide, nitrogen, and trace amounts of helium.

Nonutility: See **Nonutility Power Producer**.

Nonutility Power Producer: A corporation, person, agency, authority, or other legal entity or instrumentality that owns or operates facilities for electric generation and is not an electric utility. Nonutility power producers include qualifying cogenerators, qualifying small power producers, and other nonutility generators (including independent power producers). Nonutility power producers are without a designated franchised service area and do not file forms listed in the Code of Federal Regulations, Title 18, Part 141. See **Electric Utility**.

Normal Butane: See **Butane**.

Nuclear Electric Power: Electricity generated by an electric power plant whose turbines are driven by steam produced by the heat from the fission of nuclear fuel in a reactor.

Nuclear Fuel: Fissionable materials that have been enriched to such a composition that, when placed in a nuclear reactor, they will support a self-sustaining fission chain reaction, producing heat in a controlled manner for process use.

Nuclear Power: See **Nuclear Electric Power**.

Nuclear Power Generation: See **Nuclear Electric Power**.

Nuclear Power Plant: A single-unit or multi-unit facility in which heat produced in one or more reactors by the fissioning of nuclear fuel is used to drive one or more steam turbines.

Nuclear Reactor: An apparatus in which a nuclear fission chain reaction can be initiated, controlled, and sustained at a specific rate. A reactor includes fuel (fissionable material), moderating material to control the rate of fission, a heavy-walled pressure vessel to house reactor components, shielding to protect personnel, a system to conduct heat away from the reactor, and instrumentation for monitoring and controlling the reactor's systems.

Octane: A flammable liquid hydrocarbon found in petroleum. Used as a standard to measure the anti-knock properties of motor fuel.

Octane Rating: A number used to indicate gasoline's antiknock performance in motor vehicle engines. The two recognized laboratory engine test methods for determining the antiknock rating, i.e., octane rating, of gasolines are the Research method and the Motor method. In the U.S., to provide a single number as guidance to the consumer, the antiknock index $(R+M)/2$, which is the average of the Research and Motor octane numbers, was developed.

OECD: See **Organization for Economic Cooperation and Development (OECD)**.

OECD Europe: See **Organization for Economic Cooperation and Development, Europe (OECD Europe)**.

Off Peak: Period of relatively low system demand. These periods often occur in daily, weekly, and seasonal patterns

Ohm: The unit of measurement of electrical resistance. The resistance of a circuit in which a potential difference of 1 volt produces a current of 1 ampere.

Oil: See **Crude Oil**.

Oil Reservoir: An underground pool of liquid consisting of hydrocarbons, sulfur, oxygen, and nitrogen trapped within a geological formation and protected from evaporation by the overlying mineral strata.

Oil Shale: A sedimentary rock containing kerogen, a solid organic material.

Oil Well: A well completed for the production of crude oil from one or more oil zones or reservoirs. Wells producing both crude oil and natural gas are classified as oil wells.

Oil Well (Casinghead) Gas: Associated and dissolved gas produced along with crude oil from oil completions.

OPEC: See **Organization of Petroleum Exporting Countries (OPEC)**.

Operable Nuclear Unit (Foreign): A foreign nuclear generating unit that has generated electricity for a grid.

Operable Nuclear Unit (U.S.): A U.S. nuclear generating unit that has completed low-power testing and has been issued a full-power operating license by the Nuclear Regulatory Commission.

Operable Unit (Electric): A unit available to provide electric power to the **grid**.

Organization for Economic Cooperation and Development (OECD): Current members are Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, South Korea (usually listed here as Korea, South), Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. *Note:* Data for Faroe Islands, Greenland, Guam, the former Hawaiian Trade Zone, Puerto Rico, and the U.S. Virgin Islands (usually listed here as Virgin Islands, U.S.) are included in the OECD-related data reported here.

Organization for Economic Cooperation and Development, Europe (OECD Europe): Includes Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, and United Kingdom. Data for Faroe Islands are included in the OECD Europe-related data reported here.

Organization of Petroleum Exporting Countries (OPEC): Current members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. (Ecuador withdrew from OPEC on December 31, 1992 and Gabon withdrew on December 31, 1994.)

Other Hydrocarbons (Petroleum): 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.

Oxidize: To chemically transform a substance by combining it with oxygen.

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 CO nonattainment areas are included in data on oxygenated gasoline. Other data on gasohol are included in data on conventional gasoline. See **Motor Gasoline (Finished)**.

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.

Passive Solar Heating: A solar heating system that uses no external mechanical power, such as pumps or blowers, to move the collected solar heat.

Peak Load: The maximum load during a specified period of time.

Pentanes Plus: A mixture of hydrocarbons, mostly pentanes and heavier, extracted from natural gas. Includes isopentane, natural gasoline, and plant condensate.

Perfluorocarbons (PFCs): A group of man-made chemicals composed of one or two carbon atoms and four to six fluorine atoms, containing no chlorine. PFCs have no commercial uses and are emitted as a byproduct of aluminum smelting and semiconductor manufacturing. PFCs have very high 100-year Global Warming Potentials and are very long-lived in the atmosphere.

Petrochemical Feedstock: Feedstock derived from petroleum, used principally for the manufacture of chemicals, synthetic rubber, and a variety of plastics. The categories reported are naphthas (endpoint less than 401 degrees Fahrenheit) and other oils (endpoint equal to or greater than 401 degrees Fahrenheit)

Petroleum: A broadly defined class of liquid hydrocarbon mixtures. Included are crude oil, lease condensate, unfinished oils, refined products obtained from the processing of crude oil, and natural gas plant liquids. Nonhydrocarbon compounds blended into

finished petroleum products, such as additives and detergents, are included after blending has been completed.

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

Petroleum Consumption: See **Apparent Consumption (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 (including lease condensate), natural gas, and other hydrocarbon compounds. Petroleum products include unfinished oils, liquefied petroleum gases, pentanes plus, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt, 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.

PFCs: See **Perfluorocarbons**.

Photovoltaic Cell: An electronic device consisting of layers of semiconductor materials fabricated to form a junction (adjacent layers of materials with different electronic characteristics) and electrical contacts and being capable of converting incident light directly into electricity (direct current).

Photovoltaic Energy: Direct-current electricity generated from sunlight through solid-state semiconductor devices that have no moving parts.

Photovoltaic Module: An integrated assembly of interconnected photovoltaic cells designed to deliver a selected level of working voltage and current at its output terminals, packaged for protection against environmental degradation, and suited for incorporation in photovoltaic power systems. The electricity produced is used primarily in applications requiring remote power, such as radio communication, cathodic protection, and navigational aids. See **Photovoltaic Cell**.

Pipeline Quality Natural Gas: A mixture of hydrocarbon compounds existing in the gaseous phase with sufficient energy content, generally above 900 British thermal units, and a small enough share of impurities for transport through commercial gas pipelines and sale to end-users.

Plant: A term commonly used either as a synonym for an industrial establishment or an electricity generation facility or to refer to a particular process within an establishment.

Plant (Electric): A facility at which are located prime movers, electric generators, and auxiliary equipment for converting mechanical chemical, and/or nuclear energy into electric energy. A plant may contain more than one type of prime mover.

Plant Condensate: One of the natural gas liquids, mostly pentanes and heavier hydrocarbons, recovered and separated as liquids at gas inlet separators or scrubbers in natural gas processing plants. Does not include lease condensate.

Power (Electric): See **Electric Power**.

Power Loss: The difference between electricity input and output as a result of an energy transfer between two points.

Premium Gasoline: Gasoline having an antiknock index, i.e., octane rating, greater than 90. *Note:* Octane requirements may vary by altitude. See **Gasoline Grades**.

Preparation Plant: A mining facility at which coal is crushed, screened, and mechanically cleaned.

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

Prime Mover: The engine, turbine, water wheel, or similar machine that drives an electric generator; or, for reporting purposes, a device that converts energy to electricity directly (e.g., photovoltaic solar and fuel cell(s)).

Probable Energy Reserves: Estimated quantities of energy sources that, on the basis of geologic evidence that supports projections from proved reserves, can reasonably be expected to exist and be recoverable under existing economic and operating conditions. Site information is insufficient to establish with confidence the location, quality, and grades of the energy source. *Note:* This term is equivalent to "Indicated Reserves" as defined in the resource/reserve classification contained in the U.S. Geological Survey Circular 831, 1980.

Measured and indicated reserves, when combined, constitute demonstrated reserves. See **Energy Reserves**.

Probable (Indicated) Reserves, Coal: Reserves or resources for which tonnage and grade are computed partly from specific measurements, samples, or production data and partly from projection for a reasonable distance on the basis of geological evidence. The sites available are too widely or otherwise inappropriately spaced to permit the mineral bodies to be outlined completely or the grade established throughout. See **Probable Energy Reserves**.

Processing Gain: See **Refinery Processing Gain (Petroleum)**.

Processing Loss: See **Refinery Processing Loss (Petroleum)**.

Processing of Uranium: The recovery of uranium from solutions produced by nonconventional mining methods, i.e., in situ leach mining (ISL), a byproduct of copper or phosphate mining, or heap leaching.

Processing Plant (Natural Gas): See **Natural Gas Processing Plant**.

Production: See production terms associated with specific energy types.

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.

Propylene: An olefinic hydrocarbon (C₃H₆) recovered from refinery and petrochemical processes.

Proved Energy Reserves: Estimated quantities of energy sources that analysis of geologic and engineering data demonstrates with reasonable certainty are recoverable under existing economic and operating conditions. The location, quantity, and grade of the energy source are usually considered to be well established in such reserves. *Note:* This term is equivalent to "Measured Reserves" as defined in the resource/reserve classification contained in the U.S. Geological Survey Circular 831, 1980. Measured and indicated reserves, when combined, constitute demonstrated reserves. See also **Energy Reserves**.

Proved Recoverable Reserves, Coal: Defined by the World Energy Council as 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. It approximates the U.S. term proved (measured) reserves, coal. See **Proved (Measured) Reserves, Coal**.

Proved (Measured) Reserves, Coal: Reserves or resources for which tonnage is computed from dimensions revealed in outcrops, trenches, workings, and drill holes and for which the grade is computed from the results of detailed sampling. The sites for inspection, sampling, and measurement are spaced so closely and the geologic character is so well defined that size, shape, and mineral content are well established. The computed tonnage and grade are judged to be accurate within limits that are stated, and no such limit is judged to be different from the computed tonnage or grade by more than 20 percent. See **Proved Energy Reserves**.

Proved Reserves, Crude Oil: The estimated quantities of all liquids defined as crude oil that 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, Natural Gas: The estimated quantities of natural gas that analysis of geological and engineering data demonstrates with reasonable certainty to be recoverable in future years from known oil and gas reservoirs under existing economic and operating conditions.

Public Utility Regulatory Policies Act of 1978: See **PURPA**.

Pulpwood: Roundwood, whole-tree chips, or wood residues.

Pumped Storage: See **Hydroelectric Pumped Storage**.

Pumped-Storage Hydroelectric Power Plant: A plant that usually generates electric energy during peak-load periods by using water previously pumped into an elevated storage reservoir during off-peak periods when excess generating capacity is available to do so. When additional generating capacity is needed, the water can be released from the reservoir through a conduit to turbine generators located in a power plant at a lower level. See **Pure Pumped-Storage Hydroelectric Power Plant** and **Combined Pumped-Storage Electric Power Plant**.

Pure Pumped-Storage Hydroelectric Power Plant: A plant that produces power only from water that has previously been pumped to an upper reservoir.

PURPA: The Public Utility Regulatory Policies Act of 1978, passed by the U.S. Congress. This statute requires States to implement utility conservation programs and

create special markets for cogenerators and small producers who meet certain standards, including the requirement that States set the prices and quantities of power the utilities must buy from such facilities.

Quadrillion Btu: One quadrillion (10^{15}) British thermal units (Btu). See **British Thermal Unit (Btu)**.

Radiative Forcing: A change in average net radiation at the top of the troposphere (known as the tropopause) because of a change in either incoming solar or exiting infrared radiation. A positive radiative forcing tends on average to warm the Earth's surface; a negative radiative forcing on average tends to cool the Earth's surface. Greenhouse gases, when emitted into the atmosphere, trap infrared energy radiated from the Earth's surface and therefore tend to produce positive radiative forcing. See **Greenhouse Gases**.

Radiatively Active Gases: Gases that absorb incoming solar radiation or outgoing infrared radiation, affecting the vertical temperature profile of the atmosphere. See **Radiative Forcing**.

Recoverable Coal: See **Proved Recoverable Reserves, Coal** and **Proved (Measured) Reserves, Coal**.

Recoverable Reserves of Coal: See **Proved Recoverable Reserves, Coal** and **Proved (Measured) Reserves, Coal**.

Refiner Acquisition Cost of Crude Oil: The cost of crude oil to the refiner, including transportation and other fees. The composite cost is the weighted average of domestic and imported crude oil costs. See **U.S. Refiner Acquisition Cost of Imported Crude Oil**. *Note:* The refiner acquisition cost does not include the cost of crude oil purchased for the Strategic Petroleum Reserve (SPR).

Refinery (Petroleum): An installation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas plant liquids, other hydrocarbons, and alcohol.

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

Refinery Gain (Petroleum): See **Refinery Losses and Gains**.

Refinery Gas: See **Still Gas (Refinery Gas)**.

Refinery Input (Petroleum): The raw materials and intermediate materials processed at refineries to produce finished petroleum products. They include crude oil, products of natural gas processing plants, unfinished oils, other hydrocarbons and alcohol, motor gasoline and

aviation blending components, and finished petroleum products.

Refinery Loss (Petroleum): See **Refinery Losses and Gains (Petroleum)**.

Refinery Losses and Gains (Petroleum): Refinery processing gains and refinery processing losses that take 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 Output (Petroleum): The total amount of petroleum products produced at a refinery. Includes petroleum consumed by the refinery.

Refinery Processing Gain (Petroleum): The amount by which the total volume of refinery output is greater than the total volume of refinery input for a given period of time. The processing gain arises when crude oil and other hydrocarbons are processed into petroleum products that are, on average, less dense than the input.

Refinery Processing Loss (Petroleum): The amount by which the total volume of refinery output is less than the total volume of refinery input for a given period of time. The processing loss arises when crude oil and other hydrocarbons are processed into petroleum products that are, on average, more dense than the input.

Reforming, Catalytic: See **Catalytic Reforming**.

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

Regular Gasoline: Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 85 and less than 88. *Note:* Octane requirements may vary by altitude. See **Gasoline Grades**.

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

Renewable Energy Resources: Energy resources that are naturally replenishing but flow-limited. They are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Renewable energy resources include: biomass, hydro,

geothermal, solar, wind, ocean thermal, wave action, and tidal action.

Repressuring: The injection of a pressurized fluid (such as air, gas, or water) into oil or gas reservoir formations to effect greater ultimate recovery.

Reserves, Coal: Quantities of unextracted coal that comprise the demonstrated base for future production, including both proved and probable reserves. See **Proved Energy Reserves; Probable Energy Reserves; Energy Reserves; Proved (Measured) Reserves, Coal; and Probable (Indicated) Reserves, Coal.**

Reservoir: A porous and permeable underground formation containing an individual and separate natural accumulation of producible hydrocarbons (crude oil and/or natural gas) which is confined by impermeable rock or water barriers and is characterized by a single natural pressure system.

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.

Rotary Rig: A machine used for drilling wells that employs a rotating tube attached to a bit for boring holes through rock.

Roundwood: Logs, bolts, and other round timber generated from the harvesting of trees.

Secondary Coal: Solid fuels manufactured from primary coal, including coke (coal) or metallurgical coke and coal briquets.

Separative Work Units (SWU): The standard measure of uranium enrichment services.

Sequestration: See **Carbon Sequestration.**

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 processing plants.

Sludge: A dense, slushy, liquid-to semi fluid-product that accumulates as an end result of an industrial or technological process designed to purify a substance. Industrial sludges are produced from the processing of energy-related raw materials, chemical products, water, mined ores, sewage, and other natural and man-made products. Sludges can also form from natural processes, such as the runoff produced by rainfall, and accumulate on the bottom of bogs, streams, lakes, and tidelands.

Small Power Producer (SPP): Under the Public Utility Regulatory Policies Act (PURPA), a small power production facility (or small power producer) generates electricity using renewable energy (wood, waste, conventional hydroelectric, wind, solar, and geothermal) as a primary energy source. Fossil fuels can be used, but renewable resources must provide at least 75 percent of the total energy input. See **Nonutility Power Producer.**

SO₂: See **Sulfur Dioxide.**

Socialist Federal Republic of Yugoslavia: State that dissolved into five separate states--Bosnia and Herzegovina; Croatia; Macedonia, The Former Yugoslav Republic of; Serbia and Montenegro; and Slovenia--beginning on June 25, 1991.

Solar Collector: See **Solar Thermal Collector.**

Solar Energy: The radiant energy of the sun that can be converted into other forms of energy, such as heat or electricity. Electricity produced from solar energy heats a medium that powers an electricity-generating device.

Solar Thermal Collector: A device designed to receive solar radiation and convert it to thermal energy. Normally, a solar thermal collector includes a frame, glazing, and an absorber, together with appropriate insulation. The heat collected by the solar thermal collector may be used immediately or stored for later use. Solar thermal collectors are used for space heating; domestic hot water heating; and heating swimming pools, hot tubs, or spas.

Solar Thermal Collector, High-Temperature: A solar thermal collector designed to operate at a temperature of 180 degrees Fahrenheit or higher.

Solar Thermal Collector, Low-Temperature: Metallic or nonmetallic solar thermal collectors that generally operate at temperatures below 110 degrees Fahrenheit

and use pumped liquid or air as the heat transfer medium. They usually contain no glazing and no insulation, and they are often made of plastic or rubber, although some are made of metal.

Solar Thermal Collector, Medium-Temperature:

Solar thermal collectors designed to operate in the temperature range of 140 degrees to 180 degrees Fahrenheit, but that can also operate at a temperature as low as 110 degrees Fahrenheit. The collector typically consists of a metal frame, metal absorption panels with integral flow channels (attached tubing for liquid collectors or integral ducting for air collectors), and glazing and insulation on the sides and back.

Solar Thermal Collector, Special: An evacuated tube collector or a concentrating (focusing) collector. Special collectors operate in the temperature range from just above ambient temperature (low concentration for pool heating) to several hundred degrees Fahrenheit (high concentration for air conditioning and specialized industrial processes).

Solar Thermal Energy: See **Solar Energy**.

Special Naphthas: All finished products within the naphtha range that are used as paint thinners, cleaners, or solvents. These products are refined to a specified flash point. Special naphthas include all commercial hexane and cleaning solvents conforming to ASTM Specifications 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.

Special Solar Thermal Collector: See **Solar Thermal Collector, Special**.

Spent Liquor: The liquid residue left after an industrial process; can be a component of waste materials used as fuel.

Spot Price: The price for a one-time open market transaction for immediate delivery of a specific quantity of product at a specific location where the commodity is purchased "on the spot" at current market rates.

Spot-Market Price: See **Spot Price**.

SPR: See **Strategic Petroleum Reserve (SPR)**.

Steam Coal: All nonmetallurgical coal.

Steam-Electric Power Plant (Conventional): A plant in which the prime mover is a steam turbine. The steam used to drive the turbine is produced in a boiler where fossil fuels are burned.

Still Gas (Refinery Gas): Any form or mixture of gases produced in refineries by distillation, cracking, reforming, and other processes. The principal constituents are methane, ethane, ethylene, normal butane, butylene, propane, and propylene. Still gas is primarily used as a refinery fuel and as a petrochemical feedstock.

Stocks: Supplies of fuel or other energy source(s) stored for future use. Stocks are reported as of the end of the reporting period.

Strategic Petroleum Reserve (SPR): Petroleum stocks maintained by the U.S. Federal government for use during periods of major supply interruption.

Stripper Well: A well that produces 60 million cubic feet of gas per day or less for period of three consecutive months while producing at its maximum flow rate.

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 U.S. 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.

Sulfur Dioxide (SO₂): A toxic, irritating, colorless gas soluble in water, alcohol, and ether. Used as a chemical intermediate, in paper pulping and ore refining, and as a solvent

Sulfur Hexafluoride (SF₆): A colorless gas soluble in alcohol and ether, and slightly less soluble in water. It is

used as a dielectric in electronics. It possesses the highest 100-year Global Warming Potential (23,900) of any gas.

Sulfur Oxides (SO_x): Compounds containing sulfur and oxygen, such as sulfur dioxide (SO₂) and sulfur trioxide (SO₃).

Supply: See **Energy Supply**.

Surface Mine (Coal): A coal-producing mine that is usually within a few hundred feet of the surface. Earth and rock above or around the coal (overburden) is removed to expose the coalbed, which is then mined with surface excavation equipment such as draglines, power shovels, bulldozers, loaders, and augers. It may also be known as an area, contour, open-pit, strip, or auger mine.

Synthetic Natural Gas (SNG): A manufactured product chemically similar in most respects to natural gas, resulting from the conversion or reforming of petroleum hydrocarbons or from coal gasification. It may easily be substituted for, or interchanged with, pipeline quality natural gas.

System (Electric): See **Electric System**.

SWU: See **Separative Units**.

Tall Oil: The oily mixture of rosin acids, fatty acids, and other materials obtained by acid treatment of the alkaline liquors from the digesting (pulping) of pine wood.

Tanker and Barge: Vessels that transport crude oil or petroleum products.

Tar Sands: Naturally occurring bitumen-impregnated sands that yield mixtures of liquid hydrocarbon and that require further processing other than mechanical blending before becoming finished petroleum products.

Therm: One hundred thousand (10⁵) British thermal units.

Thermal Cracking: A refining process in which heat and pressure are used to break down, rearrange, or combine hydrocarbon molecules. Thermal cracking includes gas oil visbreaking, fluid coking, delayed coking, and other thermal cracking processes (e.g., flexicoking).

Transmission: The movement or transfer of electric energy over an interconnected group of lines and associated equipment between points of supply and points at which it is transformed for delivery to consumers, or is delivered to other electric systems.

Transmission is considered to end when the energy is transformed for distribution to the consumer.

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

Transmission System (Electric): An interconnected group of electric transmission lines and associated equipment for moving or transferring electric energy in bulk between points of supply and points at which it is transformed for delivery over the distribution system lines to consumers, or is delivered to other electric systems.

Troposphere: The inner layer of the atmosphere below about 15 kilometers, within which there is normally a steady decrease of temperature with increasing altitude. Nearly all clouds form and weather conditions manifest themselves within this region. Its thermal structure is caused primarily by the heating of the Earth's surface by solar radiation, followed by heat transfer through turbulent mixing and convection.

Turbine: A machine for generating rotary mechanical power from the energy of a stream of fluid (such as water, steam, or hot gas). Turbines convert the kinetic energy of fluids to mechanical energy through the principles of impulse and reaction, or a mixture of the two.

Underground Mine (Coal): A mine where coal is produced by tunneling into the earth to the coalbed, which is then mined with underground mining equipment such as cutting machines and continuous, longwall, and shortwall mining machines. Underground mines are classified according to the type of opening used to reach the coal, i.e., drift (level tunnel), slope (inclined tunnel), or shaft (vertical tunnel).

Unfinished Oils: All oils requiring further processing, except those requiring only mechanical blending. In most cases, these are produced by partial refining or are purchased in an unfinished state for conversion to finished products by further refining.

United States (U.S.): Unless otherwise noted, United States in this publication means the 50 States and the District of Columbia. *Note:* The United States has varying degrees of jurisdiction over a number of territories and other political entities outside the 50 States and the District of Columbia, including Puerto Rico, the U.S. Virgin Islands (usually listed here as Virgin Islands, U.S.), Guam, American Samoa, Johnston Atoll, Midway Islands, Wake Island, and the Northern Mariana Islands. EIA data programs may include data from some or all of these areas in U.S. totals. For these

programs, data products will contain notes explaining the extent of geographic coverage included under the term "United States." See **Exports (U.S.)** and **Imports (U.S.)**.

Uranium: A heavy, naturally radioactive, metallic element (atomic number 92). Its two principally occurring isotopes are uranium-235 (^{235}U) and uranium-238 (^{238}U). The isotope ^{235}U is indispensable to the nuclear industry because it is the only isotope existing in nature to any appreciable extent that is fissionable by thermal neutrons. The isotope ^{238}U is also important because it absorbs neutrons to produce a radioactive isotope that subsequently decays to plutonium-239 (^{239}Pu), an isotope of plutonium that is also fissionable by thermal neutrons.

Uranium Concentrate: A yellow or brown powder obtained by the milling of uranium ore, processing of in situ leach mining solutions, or as a byproduct of phosphoric acid production. See **In Situ Leach Mining (ISL)**.

Uranium Milling: See **Milling of Uranium**.

Uranium Ore: Rock containing uranium mineralization in concentrations (typically 1 to 4 pounds of U_3O_8 per ton or 0.05 to 0.20 percent U_3O_8) that can be mined economically.

Uranium Oxide: Uranium concentrate or yellowcake. Abbreviated as U_3O_8 . See **Yellowcake**.

U.S.: See **United States (U.S.)**.

U.S. Refiner Acquisition Cost of Imported Crude Oil: The average price paid by 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 refiner acquisition cost of imported crude oil includes transportation and other fees paid by the refiner. See **Refiner Acquisition Cost of Crude Oil and Imports (U.S.)**.

U.S.S.R.: The Union of Soviet Socialist Republics (or Soviet Union) consisted of 15 constituent republics: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Ukraine, and Uzbekistan. As a political entity, the U.S.S.R. disbanded on December 26, 1991.

Utility: See **Electric Utility**.

Vented: Gas released into the air on the base site or at processing plants.

Vented, Flared (Natural Gas): A means of disposing of associated gas by venting (releasing) or flaring (burning).

Vented Natural Gas: See **Vented**.

Vessel: A ship used to transport crude oil, petroleum products, or natural gas products. Vessel categories are as follows: Ultra Large Crude Carrier (ULCC), Very Large Crude Carrier (VLCC), Other Tanker, and Specialty Ship (LPG/LNG). See **Tanker and Barge**.

Vessel Bunkering (U.S.): Includes sales for the fueling of commercial or private boats, such as pleasure craft, fishing boats, tugboats, and ocean-going vessels, including vessels operated by oil companies. Excluded are volumes sold to the U.S. Armed Forces.

Visbreaking: A thermal cracking process in which heavy atmospheric or vacuum-still bottoms are cracked at moderate temperatures to increase production of distillate products and reduce viscosity of the distillation residues.

Volatile Matter (Coal): Those products, exclusive of moisture, given off by a material as gas or vapor. Volatile matter is determined by heating the coal to 950 degrees Centigrade under carefully controlled conditions and measuring the weight loss, excluding weight of moisture driven off at 105 degrees Centigrade.

Waste: Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw.

Waste Energy: Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw used as fuel

Water Vapor: Water in a vaporous form, especially when below boiling temperature and diffused (e.g., in the atmosphere).

Watt (W): The unit of electrical power equal to one ampere under a pressure of one volt. A Watt is equal to 1/746 horsepower.

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

Waxes: Solid or semi-solid materials derived from petroleum distillates or residues by such treatments as chilling, precipitating with a solvent, or de-oiling. Waxes are light-colored, more-or-less translucent

crystalline masses, slightly greasy to the touch, consisting of a mixture of solid hydrocarbons in which the paraffin series predominates. Included are all marketable waxes, whether crude scale or fully refined. The three grades included are microcrystalline, crystalline fully refined, and crystalline-other. Waxes are used primarily as industrial coatings for surface protection.

Well: A hole drilled in the Earth for the purpose of (1) finding or producing crude oil or natural gas; or (2) producing services related to the production of crude oil or natural gas. See also **completion, development well, dry hole, exploratory well, gas well, and oil well.**

Wellhead: The top of, or a structure built over, a well.

Wet Natural Gas: A mixture of hydrocarbon compounds and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in porous rock formations at reservoir conditions. The principal hydrocarbons normally contained in the mixture are methane, ethane, propane, butane, and pentane. Typical nonhydrocarbon gases that may be present in reservoir natural gas are water vapor, carbon dioxide, hydrogen sulfide, nitrogen, and trace amounts of helium. Under reservoir conditions, natural gas and its associated liquefiable portions occur either in a single gaseous phase in the reservoir or in solution with crude oil and are not distinguishable at the time as separate substances. *Note:* The Securities and Exchange Commission and the Financial Accounting Standards Board refer to this product as natural gas.

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.

Wind Energy: The kinetic energy of wind converted into mechanical energy by wind turbines (i.e., blades rotating from the hub) that drive generators to produce electricity.

Wood: Wood, wood waste, black liquor, red liquor, spent sulfite liquor, pitch, wood sludge, peat, railroad ties, and utility poles.

Wood and Waste: See **Waste** and **Wood.**

Wood Energy: Wood and wood products used as fuel, including wood waste, black liquor, red liquor, spent sulfite liquor, pitch, wood sludge, peat, railroad ties, and utility poles.

Wood Pellets: Fuel manufactured from finely ground wood fiber and used in pellet stoves.

Wood Sludge: See **Sludge.**

Yellowcake: A natural uranium concentrate that takes its name from its color and texture. Yellowcake typically contains 70 to 90 percent U_3O_8 by weight. It is used as feedstock for uranium fuel enrichment and fuel pellet fabrication. See **Uranium Concentrate, Uranium Oxide, Enriched Uranium** and **Fabricated Fuel.**