

# Monthly Energy Review

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April 1994



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# Monthly Energy Review

April 1994

**Energy Information Administration**  
Office of Energy Markets and End Use  
U.S. Department of Energy  
Washington, DC 20585

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# Highlights:

## Energy Use and Carbon Emissions: Some International Comparisons

The 27 member nations of the Organization for Economic Cooperation and Development (OECD), with 16 percent of the world's population, accounted for 52 percent of global energy consumption and 48 percent of global energy-related carbon emissions in 1992. However, energy consumption and related carbon emissions grew faster in non-OECD nations than in the OECD nations from 1970 through 1992.

*Energy Use and Carbon Emissions: Some International Comparisons* examines these and other energy-use patterns in the context of growing concern about the effect of energy-related carbon emissions on global climate. The report, compiled by the Energy Information Administration (EIA) at congressional request, presents in three sections an overview of global energy use and carbon emissions from 1970 through 1992.<sup>1</sup> Section 1 compares differences in energy use and carbon emissions between OECD and non-OECD countries. Section 2 examines energy use and carbon emissions in the Group of Seven (G-7) nations (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States).<sup>2</sup> Section 3 discusses sectoral energy-use patterns within the G-7 nations. An appendix presents data sources and notes.

<sup>1</sup>The report draws on data from the World Bank, the OECD, the International Energy Agency, and other sources, in addition to EIA databases. Although the report focuses on the period from 1970 through 1992, not all data were available for this interval. The report's text and figures thus display slight variations in reporting periods.

<sup>2</sup>A supplement to the report is planned that will perform a similar review of selected non-OECD nations.

### The OECD and Non-OECD Nations

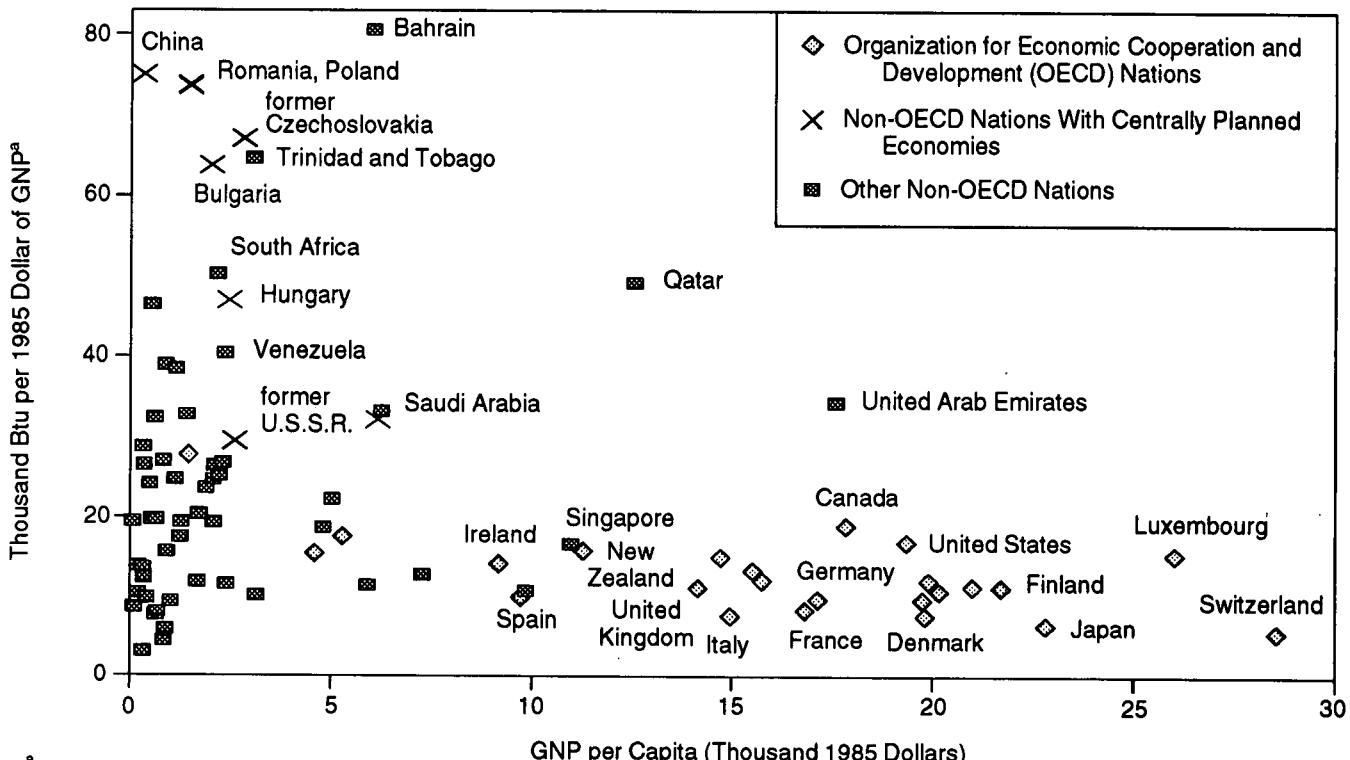
A central issue highlighted by the report's data is the possible evolution of patterns of energy use (and therefore carbon emissions) in the non-OECD countries toward patterns resembling those of the OECD members. The report compares energy intensity, expressed as energy consumption per 1985 dollar of gross national product (GNP),<sup>3</sup> with economic output, expressed as GNP per capita, among 83 nations in 1990. Three distinct country groupings emerge (Figure 1). OECD nations tended to show relatively high per-capita incomes and low energy intensities (low levels of energy consumption per dollar of GNP). Non-OECD nations with centrally planned economies<sup>4</sup> showed the opposite pattern of low per-capita incomes and high energy intensities. The high energy intensities of those nations resulted mostly from government policies that artificially suppressed energy prices. The remaining non-OECD nations displayed both low per-capita incomes and low energy intensities.

Even given the OECD nations' lower energy intensities (energy consumption per dollar of economic output), the evolution of

<sup>3</sup>In this section, all GNP- and GDP-related statistics are expressed in terms of 1985 constant dollars, calculated on a standard exchange-rate basis.

<sup>4</sup>Here, the centrally planned economies include only Albania, Bulgaria, China, the former Czechoslovakia, Poland, Romania, the former U.S.S.R., and the former Yugoslavia.

**Figure 1. Energy Intensity Versus Per-Capita Gross National Product for 83 Countries, 1990**



<sup>a</sup>GNP=Gross national product.

Source: Energy Information Administration, *Energy Use and Carbon Emissions: Some International Comparisons*, DOE/EIA-0579(94) (Washington, DC, March 1994), p. 19.

the non-OECD nations' economies toward OECD levels of affluence could have profound implications for global energy consumption and related carbon emissions. If non-OECD countries had consumed fossil fuels and emitted carbon at the same per-capita rates in 1990 as did OECD countries, world fossil-fuel consumption would have been three times higher and world carbon emissions would have been more than twice as high.

Driven primarily by rising economic output and population growth, energy consumption and carbon emissions rose in both OECD and non-OECD nations from 1970 through 1992 (Figures 2 and 3). In the OECD nations, average gross domestic product (GDP) increased faster than energy consumption as a result of economy-wide energy efficiency improvements, reductions in energy intensity in some sectors, and structural shifts in the economy away from manufacturing to services. From 1970 through 1990, OECD energy consumption per unit of economic output fell from 22.0 thousand Btu per 1985 dollar to 16.5 thousand Btu per 1985 dollar. In contrast, energy consumption in non-OECD nations grew faster than GDP, partly as a result of electrification, industrialization, and growth in private vehicle ownership. Consequently, non-OECD energy consumption per dollar of GDP increased slightly during the period. In both groups of countries, carbon emissions grew more slowly than energy consumption and GDP, primarily due to increased use of nuclear electric power and, in the developing countries, switching from coal to natural gas.

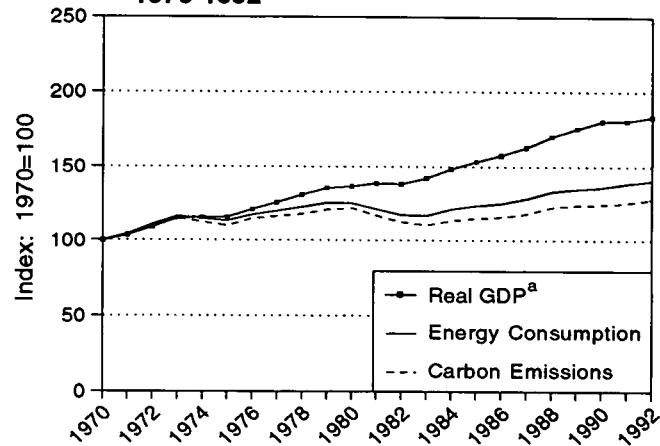
Worldwide annual energy consumption grew 66 percent during the 1970-through-1992 period, from 208 quadrillion Btu to 344 quadrillion Btu, while annual carbon emissions rose from approximately 4 billion tons to nearly 6 billion tons. The OECD share of energy consumption declined during the period, from 61 percent to 52 percent. The OECD share of global carbon emissions fell from 57 percent in 1970 to 48 percent in 1992. (The non-OECD share, as the complement of the OECD share, rose from 43 percent to 52 percent.) The decline in the OECD share was due primarily to more rapid growth in non-OECD carbon emissions, which rose 82 percent, from 1.7 billion metric tons to 3.1 billion metric tons during the period (Figure 4), compared with 28 percent for OECD nations.

Shifting fuel mixes helped prevent global carbon emissions from growing as rapidly as energy consumption. In OECD nations, heavier use of nuclear electric power raised the energy share of non-carbon fuels from 7 percent in 1970 to 17 percent in 1991. In non-OECD nations, the energy share of non-carbon fuels (mostly nuclear electric power) rose from 4 percent in 1970 to 9 percent in 1991, while reliance on coal diminished in favor of greater use of natural gas, which emits less carbon per Btu.

## The G-7 Nations

The world price of crude oil rose dramatically during the 1970's, from less than \$8 per barrel (1985 constant dollars) in 1970 to nearly \$45 per barrel in 1980. Although crude oil prices subsequently collapsed and remained relatively low, the price shocks triggered a trend toward lower energy intensities in the OECD nations, including the G-7 nations. The price shocks also affected the relative shares of total

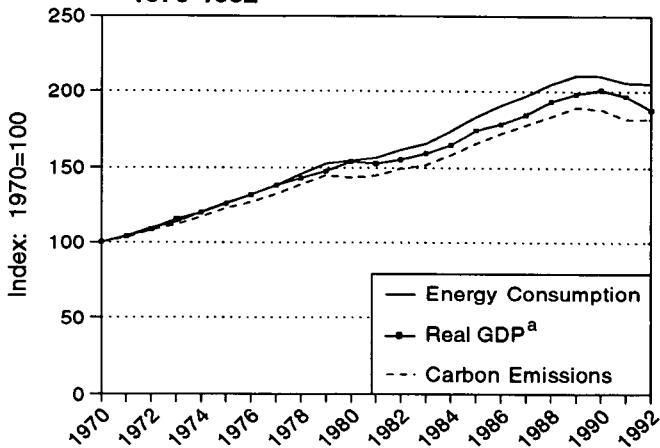
**Figure 2. OECD Economic Output, Energy Consumption, and Carbon Emissions, 1970-1992**



<sup>a</sup>GDP=Gross domestic product.

Source: Energy Information Administration, *Energy Use and Carbon Emissions: Some International Comparisons*, DOE/EIA-0579(94) (Washington, DC, March 1994), p. 11.

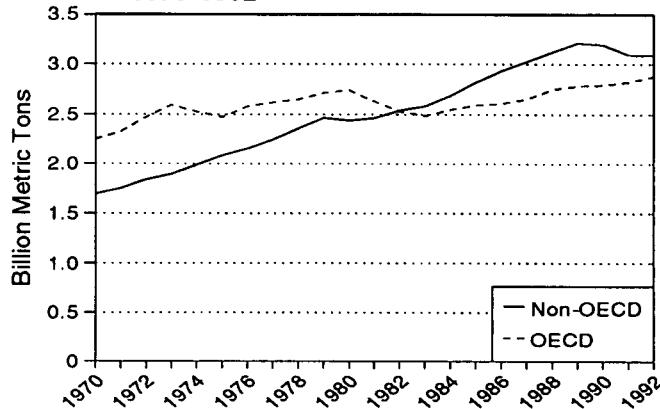
**Figure 3. Non-OECD Economic Output, Energy Consumption, and Carbon Emissions, 1970-1992**



<sup>a</sup>GDP=Gross domestic product.

Source: Energy Information Administration, *Energy Use and Carbon Emissions: Some International Comparisons*, DOE/EIA-0579(94) (Washington, DC, March 1994), p. 11.

**Figure 4. Energy-Related Carbon Emissions in OECD and Non-OECD Nations, 1970-1992**



Source: Energy Information Administration, *Energy Use and Carbon Emissions: Some International Comparisons*, DOE/EIA-0579(94) (Washington, DC, March 1994), p. 14.

# The G-7 Nations<sup>5</sup> by Sector, 1970, 1980, and 1990

## The Industrial Share Was Lower in 1990 Than in 1970

In every G-7 nation, the industrial sector's share of total energy consumption was lower in 1990 than in 1970, although Canada's industrial energy consumption rose from 41 percent of the national total to 47 percent in 1980 before falling to 39 percent in 1990.

Industrial sector carbon emissions also fell throughout the G-7 group, from 921 million metric tons in 1970 to 875 million metric tons in 1990. As a share of G-7 total carbon emissions, G-7 industrial sector carbon emissions fell from 48 percent in 1970 to 38 percent in 1990. In 1990, U.S. industrial carbon emissions accounted for 33 percent of the U.S. total, the lowest share in the G-7.

## The U.S. Transportation Sector's Share Was the Highest in the G-7

Transportation-sector energy consumption rose in every G-7 nation from 1970 through 1990, as did transportation's share of every national total except Canada's. The combined total of energy consumed by the G-7 national transportation sectors increased 57 percent from 1970 through 1990. This rapid increase drove average transportation sector shares of national energy totals up from 21 percent in 1970 to 25 percent in 1990. The United States' high rates of vehicle ownership and vehicle miles traveled gave its transportation sector the highest share of total national energy consumption among the G-7 nations in 1990.

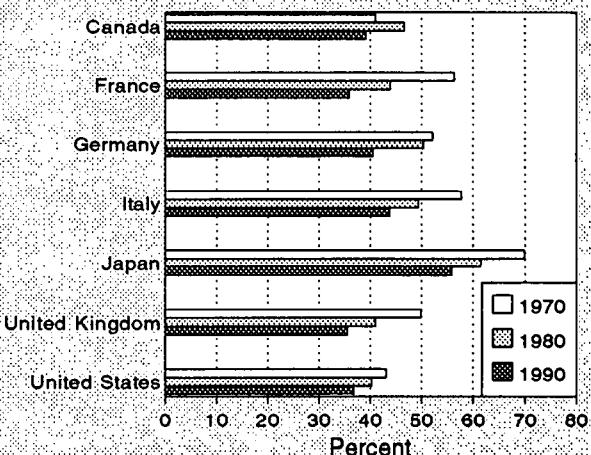
The G-7 transportation sector's carbon emissions also increased during the period. Average G-7 transportation-sector shares of total carbon emissions rose from 21 percent in 1970 to 30 percent in 1990.

## The Residential and Commercial Sector Share Rose by Nearly One-Half

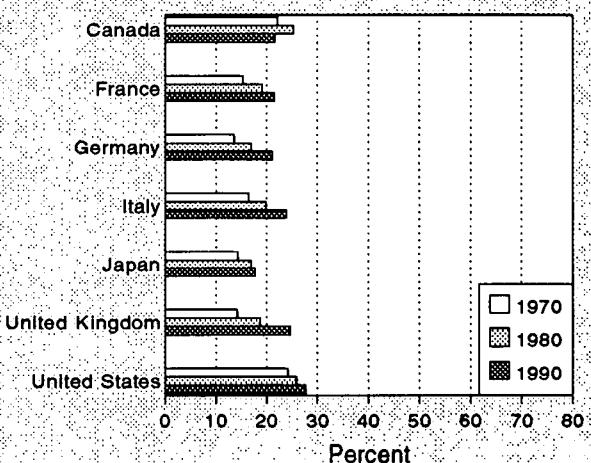
Energy consumption in the G-7 nations' residential and commercial sector was 46 percent higher in 1990 than in 1970; it nearly tripled in Japan and doubled in France. The sector's share of national energy consumption totals was higher in all G-7 nations in 1990 than in 1970; the sector's total share of aggregate G-7 energy consumption rose from 31 percent to 35 percent.

The G-7 residential and commercial sector's carbon emissions increased 21 percent from 1970 through 1990. Increases in energy consumption in the U.S. and Japanese residential and commercial sectors accounted for most of the increase.

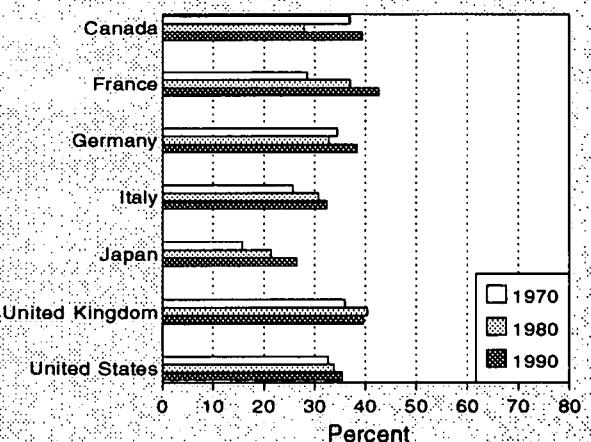
**Figure 5a. Industrial Share**



**Figure 5b. Transportation Share**



**Figure 5c. Residential and Commercial Share**



Note: Graphs show sectoral shares of each nation's total end-use energy consumption.

Source: Energy Information Administration, *Energy Use and Carbon Emissions: Some International Comparisons*, DOE/EIA-0579(94) (Washington, DC, March 1994), pp. 32, 37, and 43.

<sup>5</sup>The Group of Seven (G-7) nations are Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

energy consumption accounted for by different energy sources. For example, petroleum's share of G-7 total energy consumption fell from 52 percent in 1970 to 43 percent in 1992, while the combined share of nuclear electric and hydroelectric power rose from 6 percent to 16 percent. The shares of natural gas and coal remained nearly constant during the period.

Energy intensity among the G-7 nations fell significantly from 1970 through 1991 (Figure 6). Their average energy intensity declined 27 percent to 14.1 thousand Btu per 1985 dollar.<sup>6</sup> Relative to the other countries, Germany's energy intensity fell the most, from 16.5 thousand Btu per 1985 dollar to 11.1 thousand Btu per 1985 dollar (a 33-percent decline), while France's energy intensity fell the least, from 13.0 thousand Btu per 1985 dollar to 11.6 thousand Btu (a decline of 11 percent). U.S. energy intensity dropped 27 percent, from 24.6 thousand Btu per 1985 dollar to 18.0 thousand Btu per 1985 dollar. Expressed another way, U.S. real GDP increased 66 percent from 1970 through 1991, while energy consumption rose only 21 percent. Throughout the period, Canada and the United States remained highest and second highest, respectively, in energy use per dollar of output, with the remaining G-7 nations at significantly lower levels.

<sup>6</sup>In this section, all GDP-related statistics are expressed in terms of 1985 constant dollars, calculated on the basis of purchasing power parity, which is defined as the rate of currency conversion that will buy the same set of goods and services in different countries.

In spite of falling energy use per dollar of economic output among the G-7 nations, per-capita energy consumption increased in all G-7 countries, except the United States, during the 1970-through-1992 period. U.S. per-capita energy consumption declined 5.4 percent from 1970 through 1986, then rose 4.6 percent from 1986 through 1992, for a net decline of about 1 percent. Canada and the United States consistently used the most energy per capita among the G-7 nations during the period.

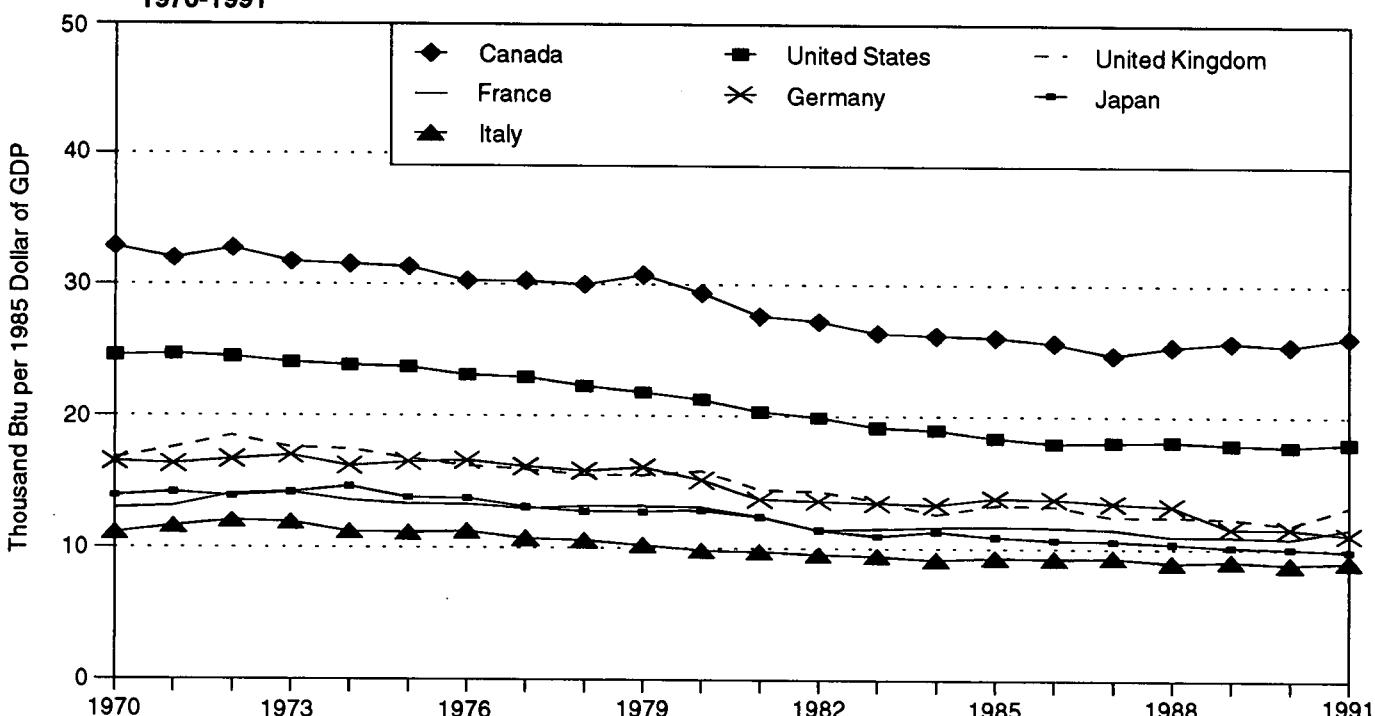
The G-7 nations' energy-related emissions of carbon grew 19 percent from 1970 through 1992, to 2.4 billion metric tons. G-7 carbon emissions in 1992 accounted for 84 percent of OECD energy-related carbon emissions. U.S. emissions consistently accounted for about one-half the G-7 total.

On average, per-capita energy-related emissions of carbon in the G-7 nations did not change significantly during the period. However, increasing reliance on nuclear electric power in France and Germany led to a significant decline in per-capita carbon emissions in those countries. After rising slowly during the 1970's, average per-capita carbon emissions in the G-7 group fell sharply following the crude oil crisis of 1979, but then leveled off or resumed rising as crude oil prices declined in the mid-1980's.

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**Figure 6. Energy Consumption per 1985 Dollar of GDP in the G-7 Nations, 1970-1991**



Source: Energy Information Administration, *Energy Use and Carbon Emissions: Some International Comparisons*, DOE/EIA-0579(94) (Washington, DC, March 1994) p. 27.

*Energy Use and Carbon Emissions: Some International Comparisons*  
 may be obtained by using the order form in the back of this publication.

# Section 1. Energy Overview

Energy production during January 1994 totaled 5.6 quadrillion Btu, a 2.2-percent decrease from the level of production during January 1993. Petroleum production decreased 3.7 percent, coal production dropped 2.7 percent, and natural gas production increased 3.2 percent. All other forms of energy production combined were down 8.8 percent from the level of production during January 1993.

Energy consumption during January 1994 totaled 8.4 quadrillion Btu, 9.0 percent above the level of consumption during January 1993. Natural gas

consumption increased 14.2 percent, petroleum consumption rose 9.8 percent, and coal consumption was up 9.6 percent. Consumption of all other forms of energy combined decreased 7.5 percent from the level 1 year earlier.

Net imports of energy during January 1994 totaled 1.4 quadrillion Btu, 8.9 percent above the level of net imports 1 year earlier. Net imports of petroleum increased 2.0 percent, and net imports of natural gas were up 16.6 percent. Net exports of coal fell 31.8 percent from the level in January 1993.

**Table 1.1 Energy Summary for January 1994**  
(Quadrillion Btu)

	January				
	1994	1994 Daily Rate	1993	1993 Daily Rate	Percent Change <sup>a</sup>
<b>Production<sup>b</sup></b> .....	5.613	0.181	5.740	0.185	-2.2
Coal .....	1.698	.055	1.745	.056	-2.7
Natural Gas (Dry) .....	1.683	.054	1.630	.053	3.2
Petroleum <sup>c</sup> .....	1.409	.045	1.464	.047	-3.7
Other <sup>d</sup> .....	.822	.027	.901	.029	-8.8
<b>Consumption<sup>b</sup></b> .....	8.375	.270	7.681	.248	9.0
Coal .....	1.832	.059	1.672	.054	9.6
Natural Gas <sup>e</sup> .....	2.695	.087	2.359	.076	14.2
Petroleum .....	2.990	.096	2.722	.088	9.8
Other <sup>f</sup> .....	.858	.028	.928	.030	-7.5
<b>Net Imports</b> .....	1.412	.048	1.296	.042	8.9
Coal <sup>g</sup> .....	-.110	-.004	-.162	-.005	-31.8
Natural Gas .....	.212	.007	.182	.006	16.6
Petroleum <sup>h</sup> .....	1.274	.041	1.249	.040	2.0
Other <sup>i</sup> .....	.036	.001	.027	.001	34.8

<sup>a</sup> Based on daily rates prior to rounding.

<sup>b</sup> Due to a lack of consistent historical data, some renewable energy sources are not included. For example, in 1991, 3.3 quadrillion Btu of renewable energy consumed by U.S. electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu of renewable energy used by other sectors is not included.

<sup>c</sup> Includes crude oil, lease condensate, and natural gas plant liquids.

<sup>d</sup> "Other" is hydroelectric and nuclear electric power, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy; and net imports of electricity and coal coke.

<sup>e</sup> Includes supplemental gaseous fuels.

<sup>f</sup> "Other" is hydroelectric and nuclear electric power; electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy; and net imports of electricity and coal coke.

<sup>g</sup> Minus sign indicates exports are greater than imports.

<sup>h</sup> Includes crude oil, lease condensate, petroleum products, pentanes plus, unfinished oils, gasoline blending components, and imports of crude oil for the Strategic Petroleum Reserve.

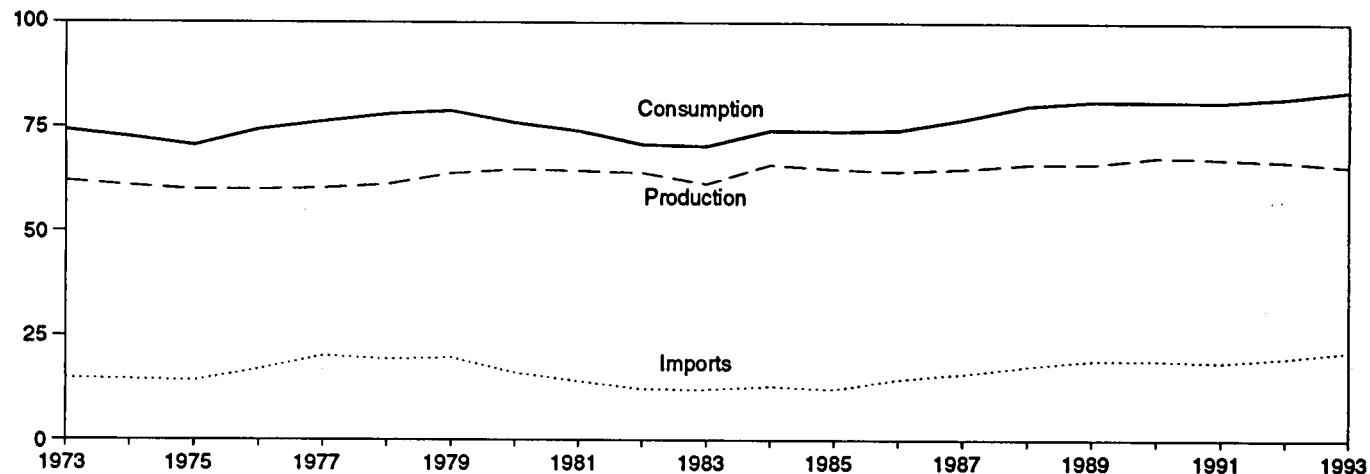
<sup>i</sup> "Other" is net imports of electricity and coal coke.

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

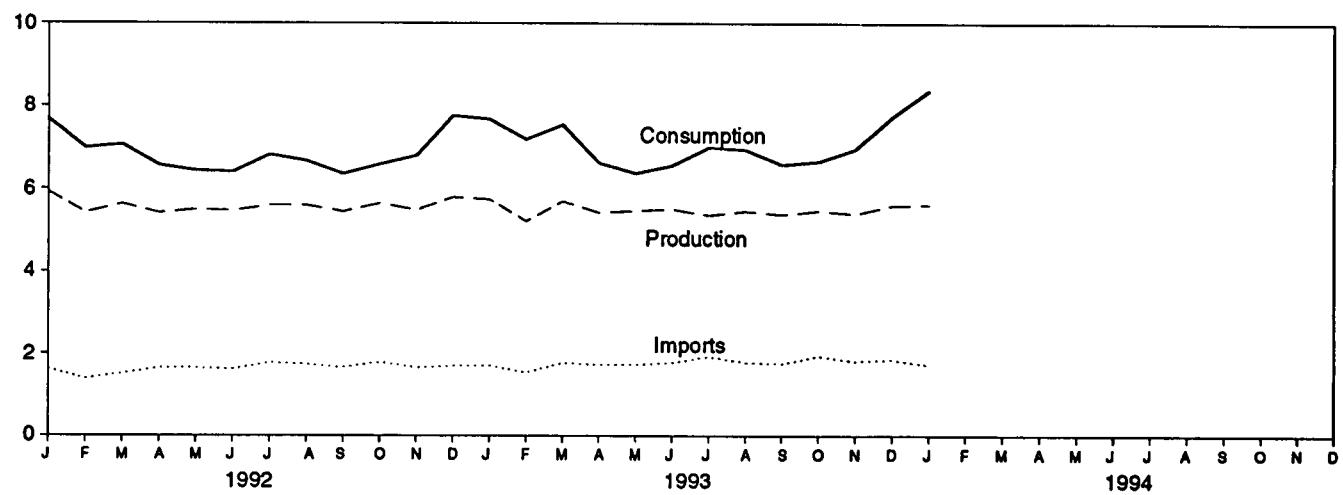
Sources: Tables 1.3, 1.4, and 1.5.

## **Figure 1.1 Energy Overview** (Quadrillion Btu)

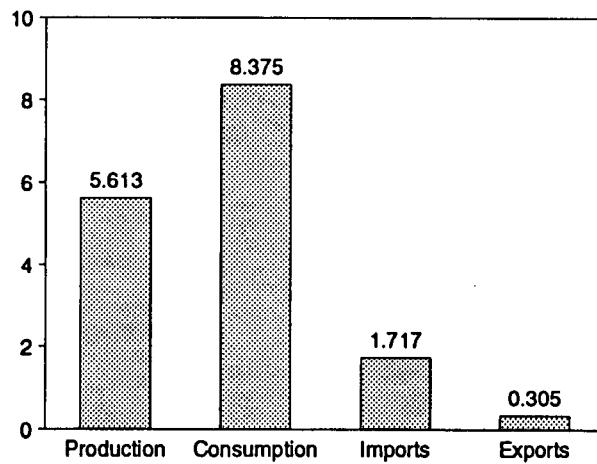
### Consumption, Production, and Imports, 1973-1993



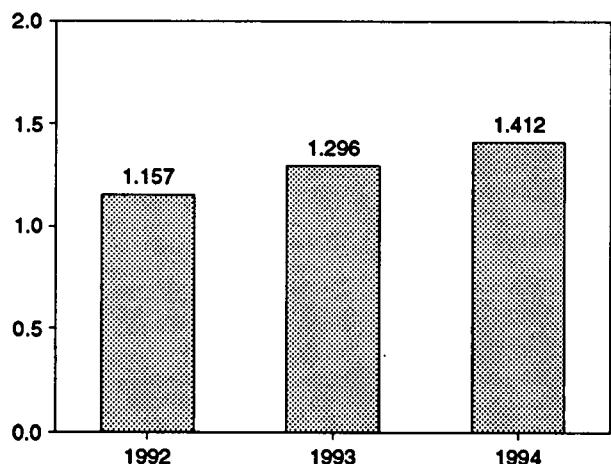
### Consumption, Production, and Imports, Monthly



### Overview, January 1994



### Net Imports, January



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

Source: Table 1.2.

**Table 1.2 Energy Overview**  
 (Quadrillion Btu)

	Production <sup>a</sup>	Consumption <sup>a,b</sup>	Imports	Exports	Net Imports
1973 Total .....	62,060	74,282	14,731	2,051	12,680
1974 Total .....	60,835	72,543	14,413	2,223	12,190
1975 Total .....	59,860	70,546	14,111	2,359	11,752
1976 Total .....	59,892	74,362	16,837	2,188	14,648
1977 Total .....	60,219	76,288	20,090	2,071	18,019
1978 Total .....	61,103	78,089	19,254	1,931	17,323
1979 Total .....	63,801	78,898	19,818	2,870	18,748
1980 Total .....	64,761	75,955	15,971	3,723	12,247
1981 Total .....	64,421	73,990	13,975	4,329	9,648
1982 Total .....	63,962	70,848	12,092	4,633	7,460
1983 Total .....	61,279	70,524	12,027	3,717	8,310
1984 Total .....	65,962	74,144	12,767	3,804	8,983
1985 Total .....	64,871	73,981	12,103	4,231	7,872
1986 Total .....	64,350	74,297	14,438	4,055	10,382
1987 Total .....	64,952	76,894	15,764	3,853	11,911
1988 Total .....	66,105	80,218	17,564	4,415	13,149
1989 Total .....	66,129	81,325	18,947	4,765	14,181
1990 Total .....	67,853	81,265	18,987	4,910	14,077
1991 Total .....	67,484	81,116	18,577	5,220	13,357
1992 January .....	5,919	7,678	1,615	.458	1.157
February .....	5,415	6,989	1,377	.372	1.005
March .....	5,630	7,070	1,500	.416	1.084
April .....	5,407	6,565	1,639	.413	1.226
May .....	5,491	6,435	1,641	.434	1.207
June .....	5,461	6,403	1,609	.426	1.183
July .....	5,587	6,822	1,770	.441	1.329
August .....	5,594	6,673	1,727	.367	1.360
September .....	5,439	6,356	1,654	.417	1.237
October .....	5,640	6,590	1,781	.383	1.399
November .....	5,479	6,798	1,650	.428	1.221
December .....	5,792	7,765	1,688	.462	1.226
Total .....	66,853	82,144	19,650	5,017	14,633
1993 January .....	R 5,740	R 7,681	1,694	.398	1.296
February .....	R 5,211	R 7,199	1,529	.362	1.167
March .....	R 5,691	R 7,553	1,762	.347	1.415
April .....	R 5,419	R 6,621	1,718	.343	1.375
May .....	R 5,462	R 6,381	1,721	.382	1.339
June .....	R 5,502	R 6,563	1,766	.405	1.361
July .....	R 5,355	R 7,004	1,913	.373	1.541
August .....	R 5,455	R 6,951	1,778	.315	1.463
September .....	5,371	R 6,586	1,744	.336	1.408
October .....	R 5,463	R 6,656	1,926	.343	1.582
November .....	R 5,386	R 6,959	1,805	.316	1.489
December .....	R 5,589	R 7,742	R 1,845	.391	R 1,455
Total .....	R 65,644	R 83,896	R 21,201	4,309	R 18,892
1994 January .....	5,613	8,375	1,717	.305	1.412

<sup>a</sup> Due to a lack of consistent historical data, some renewable energy sources are not included. For example, in 1991, 3.3 quadrillion Btu of renewable energy consumed by U.S. electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu of renewable energy used by other sectors is not included.

<sup>b</sup> The sum of domestic energy production and net imports of energy does not equal domestic energy consumption. The difference is attributed to stock changes; losses and gains in conversion, transportation, and distribution; the addition of blending compounds; shipments of anthracite to U.S. Armed Forces in Europe; and adjustments to account for discrepancies between reporting systems.

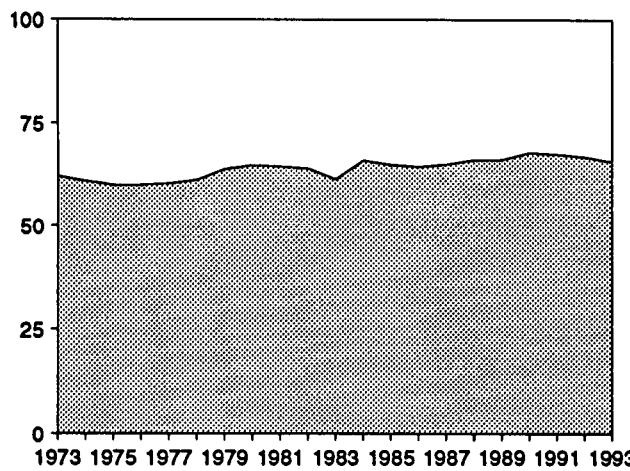
R=Revised data.

Notes: • For definitions, see Notes 1 through 4 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

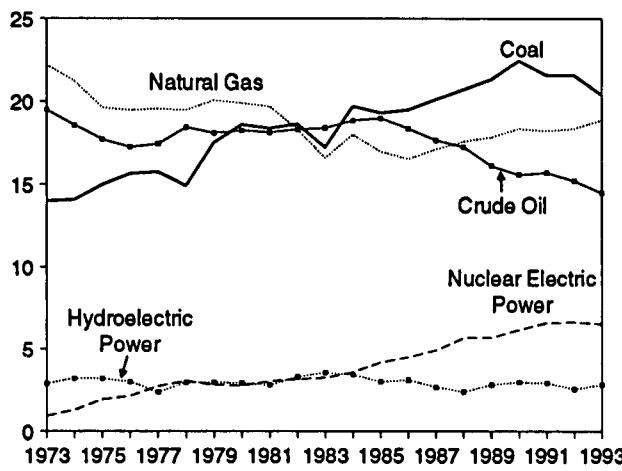
Sources: • Production: Table 1.3. • Consumption: Table 1.4. • Imports and Exports: Tables 3.1b, 4.2, 6.1, A2-A8, and Section 2, "Energy Consumption Notes and Sources," Notes 8 and 9. • Net Imports: Table 1.5.

**Figure 1.2 Energy Production  
(Quadrillion Btu)**

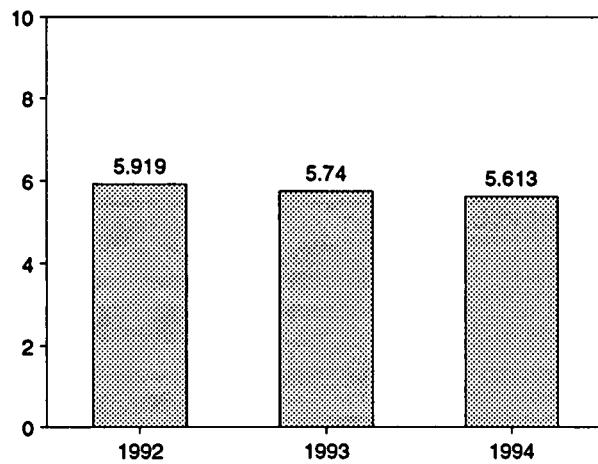
## Total Production, 1973-1993



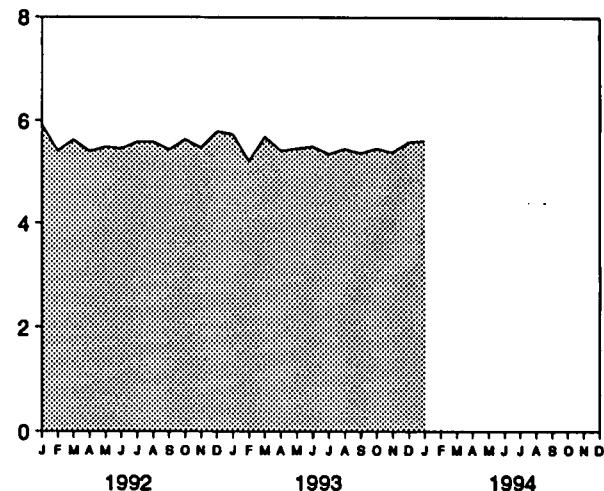
## Production by Major Sources, 1973-1993



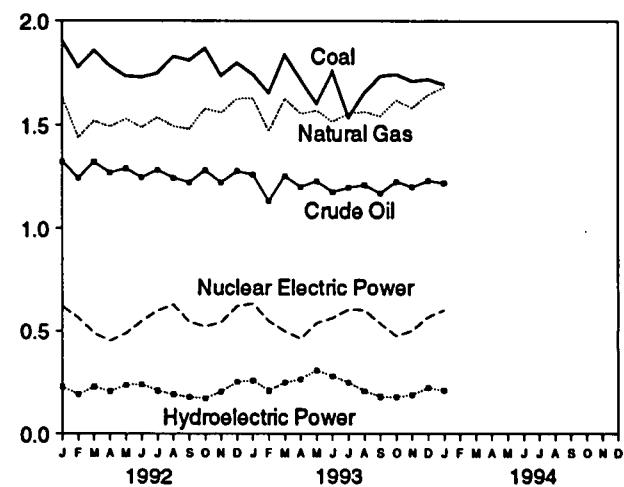
### Total Production, January



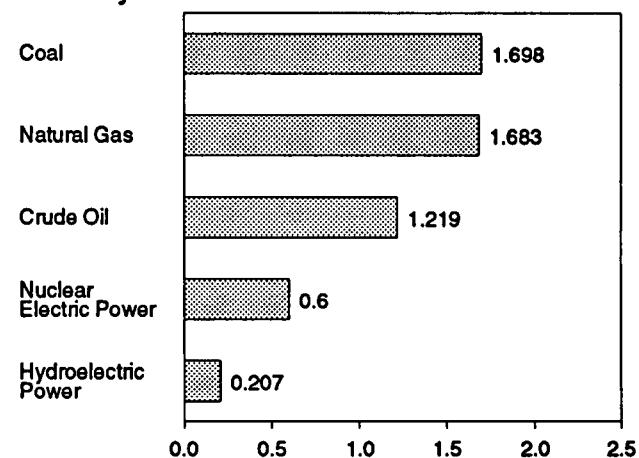
## Total Production, Monthly



## Production by Major Sources, Monthly



## **Production by Major Sources, January 1994**



**Note:** Because vertical scales differ, graphs should not be compared.  
**Source:** Table 1.3.

**Table 1.3 Energy Production by Source**  
 (Quadrillion Btu)

	Coal	Natural Gas (Dry)	Crude Oil <sup>a</sup>	Natural Gas Plant Liquids	Nuclear Electric Power	Hydro-electric Power <sup>b</sup>	Geothermal Energy	Other <sup>c</sup>	Total <sup>d</sup>
1973 Total .....	13,993	22,187	19,493	2,569	0.910	2,861	0.043	0.003	62,060
1974 Total .....	14,074	21,210	18,575	2,471	1.272	3,177	.053	.003	60,835
1975 Total .....	14,990	19,640	17,729	2,374	1.900	3,155	.070	.002	59,860
1976 Total .....	15,654	19,480	17,262	2,327	2.111	2,976	.078	.003	59,892
1977 Total .....	15,755	19,585	17,454	2,327	2,702	2,333	.077	.005	60,219
1978 Total .....	14,910	19,485	18,434	2,245	3,024	2,937	.064	.003	61,103
1979 Total .....	17,539	20,076	18,104	2,286	2,776	2,931	.084	.005	63,801
1980 Total .....	18,597	19,908	18,249	2,254	2,739	2,900	.110	.005	64,761
1981 Total .....	18,376	19,699	18,146	2,307	3,008	2,758	.123	.004	64,421
1982 Total .....	18,630	18,319	18,309	2,191	3,131	3,268	.105	.003	63,962
1983 Total .....	17,246	16,593	18,392	2,184	3,203	3,527	.129	.004	61,279
1984 Total .....	19,719	18,008	18,848	2,274	3,553	3,386	.165	.009	65,982
1985 Total .....	19,325	16,980	18,992	2,241	4,140	2,970	.168	.015	64,871
1986 Total .....	19,510	16,541	18,376	2,149	4,471	3,071	.219	.012	64,350
1987 Total .....	20,142	17,138	17,675	2,215	4,906	2,635	.229	.016	64,952
1988 Total .....	20,737	17,599	17,279	2,260	5,661	2,334	.217	.017	66,105
1989 Total .....	21,345	17,847	16,117	2,158	5,677	2,767	.197	.020	66,129
1990 Total .....	22,456	18,362	15,571	2,175	6,161	2,928	.181	.021	67,853
1991 Total .....	21,594	18,229	15,701	2,306	6,579	2,885	.170	.021	67,484
1992 January .....	1,904	1,633	1,323	.199	.618	.225	.015	.002	5,919
February .....	1,778	1,440	1,243	.187	.564	.188	.013	.002	5,415
March .....	1,859	1,519	1,321	.200	.489	.225	.015	.002	5,630
April .....	1,785	1,491	1,269	.193	.451	.203	.014	.001	5,407
May .....	1,737	1,529	1,289	.200	.487	.233	.014	.002	5,491
June .....	1,732	1,488	1,247	.194	.547	.237	.014	.002	5,481
July .....	1,750	1,536	1,282	.198	.598	.206	.014	.002	5,587
August .....	1,830	1,495	1,245	.193	.626	.189	.014	.002	5,594
September .....	1,811	1,481	1,223	.189	.544	.176	.013	.002	5,439
October .....	1,869	1,579	1,281	.203	.521	.171	.014	.002	5,640
November .....	1,739	1,559	1,222	.200	.542	.201	.014	.002	5,479
December .....	1,799	1,626	1,277	.206	.620	.248	.014	.002	5,792
Total .....	21,593	18,375	15,223	2,363	6,607	2,501	.170	.022	66,853
1993 January .....	R 1,745	R 1,630	1,260	.204	.631	.255	.014	.002	R 5,740
February .....	R 1,656	R 1,470	1,130	.187	.548	.208	.013	.002	R 5,211
March .....	R 1,838	1,627	1,254	.212	.498	.246	.014	.002	R 5,691
April .....	R 1,720	R 1,556	1,200	.204	.481	.262	.014	.002	R 5,419
May .....	1,603	R 1,571	1,229	.203	.538	.306	.012	.001	R 5,462
June .....	R 1,759	R 1,516	1,176	.198	.562	.277	.012	.001	R 5,502
July .....	1,537	R 1,555	1,196	.203	.603	.248	.013	.001	R 5,355
August .....	1,656	R 1,564	1,210	.204	.600	.205	.014	.002	R 5,455
September .....	1,737	1,543	1,168	.196	.534	.178	.013	.002	5,371
October .....	R 1,746	1,619	1,226	.208	.474	.176	.013	.002	R 5,463
November .....	R 1,713	R 1,582	1,199	.191	.500	.187	.013	.002	R 5,386
December .....	R 1,722	R 1,646	1,230	.189	.567	.220	.013	.002	R 5,589
Total .....	R 20,430	R 18,880	14,476	2,398	6,517	R 2,763	.159	.021	R 65,644
1994 January .....	1,698	1,683	1,219	.191	.600	.207	.013	.002	5,613

<sup>a</sup> Includes lease condensate.

<sup>b</sup> Electric utility and industrial generation.

<sup>c</sup> "Other" production is electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.

<sup>d</sup> Due to a lack of consistent historical data, some renewable energy sources are not included. For example, in 1991, 3.3 quadrillion Btu of renewable energy consumed by U.S. electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu of renewable energy used by other sectors is not included.

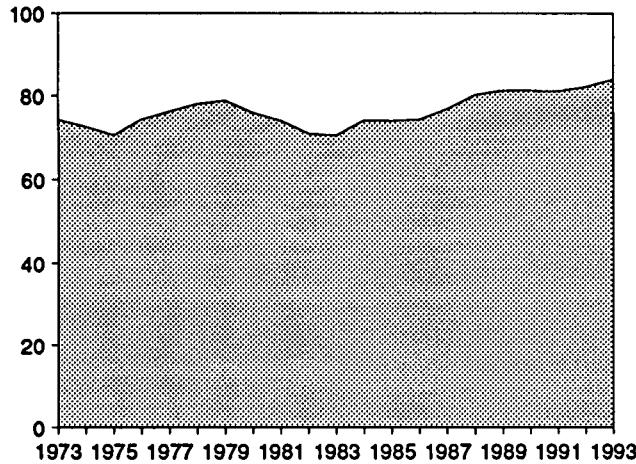
R=Revised data.

Notes: • See Note 1 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

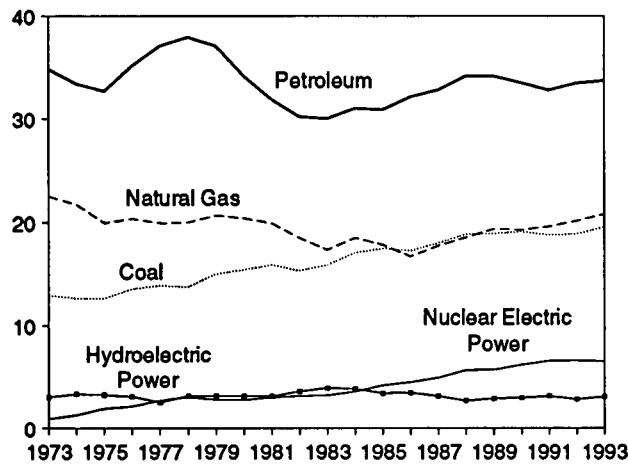
Sources: • Coal: Tables 6.1 and A5-A7. • Natural Gas (Dry): Tables 4.1 and A4. • Crude Oil and Natural Gas Plant Liquids: Tables 3.1a and A2. • Nuclear Electric Power: Tables 7.1 and A8. • Hydroelectric Power: Table 7.1; Section 2, "Energy Consumption Notes and Sources," Note 8; and Table A8. • Geothermal Energy and Other: Section 2, "Energy Consumption Notes and Sources," Note 7, and Table A8.

**Figure 1.3 Energy Consumption  
(Quadrillion Btu)**

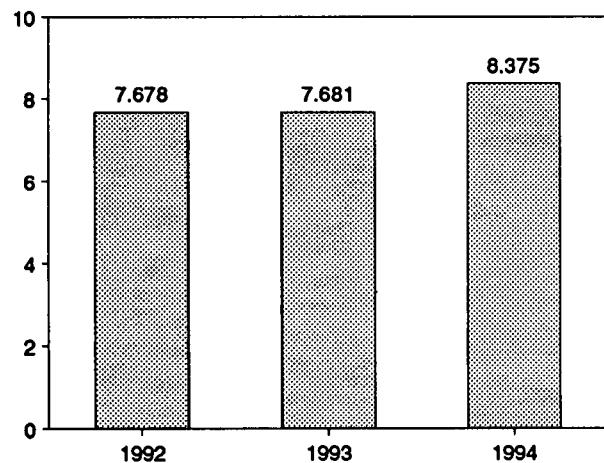
## Total Consumption, 1973-1993



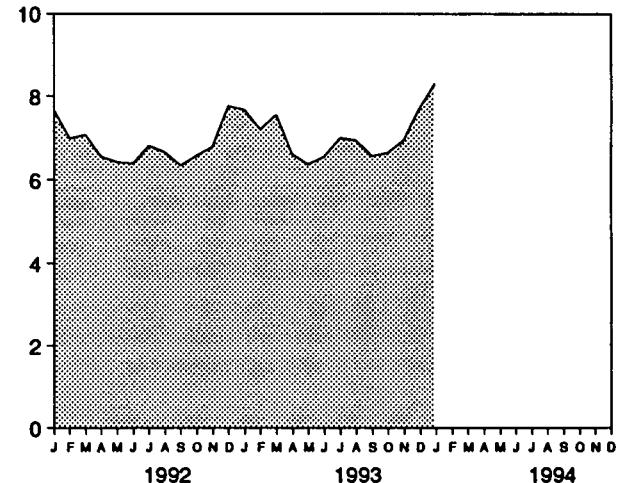
### Consumption by Major Sources, 1973-1993



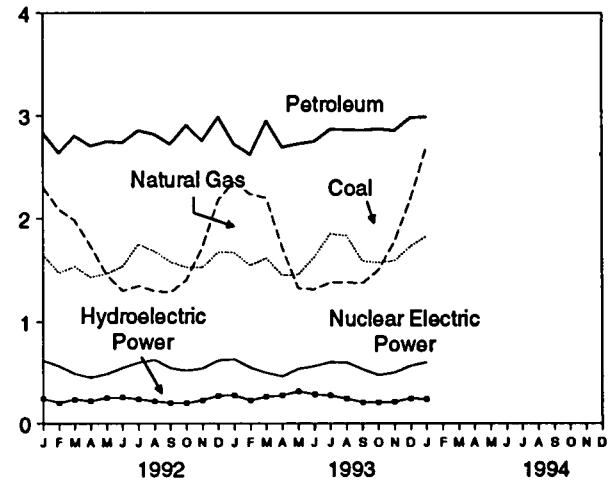
## Total Consumption, January



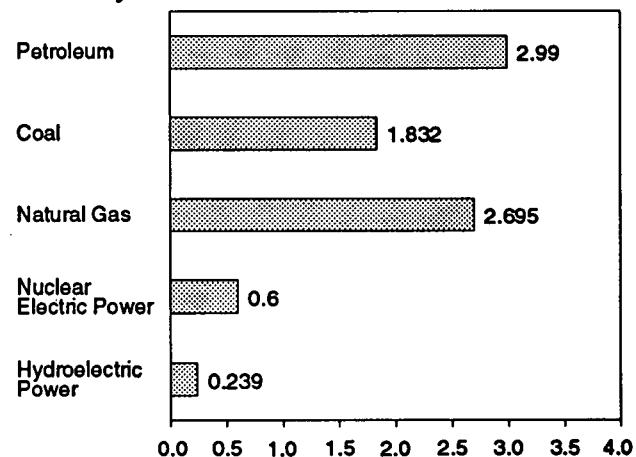
### Total Consumption, Monthly



## Consumption by Major Sources, Monthly



## Consumption by Major Sources, January 1994



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

Source: Table 1.4.

**Table 1.4 Energy Consumption by Source**  
(Quadrillion Btu)

	Coal	Natural Gas <sup>a</sup>	Petroleum	Nuclear Electric Power	Hydro-electric Power <sup>b</sup>	Geothermal Energy	Other <sup>c</sup>	Total <sup>d</sup>
1973 Total .....	12,971	22,512	34,840	0.910	3,010	0.043	-0.004	74,282
1974 Total .....	12,663	21,732	33,455	1.272	3,309	.053	.059	72,543
1975 Total .....	12,663	19,948	32,731	1.900	3,219	.070	.016	70,546
1976 Total .....	13,584	20,345	35,175	2.111	3,066	.078	.003	74,362
1977 Total .....	13,922	19,931	37,122	2.702	2,515	.077	.020	76,288
1978 Total .....	13,765	20,000	37,965	3.024	3,141	.064	.128	78,089
1979 Total .....	15,039	20,666	37,123	2.776	3,141	.084	.068	78,898
1980 Total .....	15,423	20,394	34,202	2.739	3,118	.110	-.031	75,955
1981 Total .....	15,907	19,928	31,931	3,008	3,105	.123	-.012	73,990
1982 Total .....	15,322	18,505	30,231	3,131	3,572	.105	-.018	70,848
1983 Total .....	15,894	17,357	30,054	3,203	3,899	.129	-.012	70,524
1984 Total .....	17,071	18,507	31,051	3,553	3,800	.165	-.002	74,144
1985 Total .....	17,478	17,834	30,922	4,149	3,398	.198	.001	73,081
1986 Total .....	17,261	16,708	32,196	4,471	3,446	.219	-.004	74,297
1987 Total .....	18,008	17,744	32,865	4,906	3,117	.229	.024	76,894
1988 Total .....	18,846	18,552	34,222	5,661	2,662	.217	.057	80,218
1989 Total .....	18,925	19,384	34,211	5,677	2,881	.187	.051	81,325
1990 Total .....	19,101	19,286	33,553	6,161	2,946	.181	.026	81,265
1991 Total .....	18,770	19,606	32,845	6,579	3,115	.170	.030	81,116
1992 January .....	1,653	2,306	2,836	.618	.245	.015	.006	7,678
February .....	1,477	2,091	2,635	.564	.205	.013	.004	6,989
March .....	1,535	1,984	2,805	.489	.237	.015	.005	7,070
April .....	1,434	1,735	2,705	.451	.222	.014	.005	6,565
May .....	1,468	1,460	2,748	.487	.255	.014	.002	6,435
June .....	1,539	1,302	2,739	.547	.257	.014	.005	6,403
July .....	1,756	1,351	2,858	.598	.241	.014	.003	6,822
August .....	1,686	1,302	2,822	.626	.220	.014	.003	6,673
September .....	1,583	1,286	2,723	.544	.204	.013	.003	6,356
October .....	1,531	1,409	2,909	.521	.202	.014	.004	6,590
November .....	1,529	1,722	2,757	.542	.230	.014	.003	6,798
December .....	1,678	2,182	2,989	.620	.275	.014	.007	7,765
Total .....	18,868	20,131	33,527	6,607	2,793	.170	.049	82,144
1993 January .....	R 1,672	R 2,359	2,722	.631	.278	.014	.006	R 7,681
February .....	R 1,550	R 2,237	2,621	.548	.228	.013	.001	R 7,199
March .....	R 1,620	R 2,201	2,951	.498	.265	.014	.005	R 7,553
April .....	R 1,453	R 1,719	2,692	.461	.278	.014	.004	R 6,621
May .....	R 1,459	R 1,327	2,726	.538	.316	.012	.004	R 6,381
June .....	R 1,631	R 1,316	2,749	.562	R 288	.012	.004	R 6,563
July .....	R 1,854	R 1,385	2,870	.603	R 276	.013	.001	R 7,004
August .....	R 1,837	R 1,386	2,865	.600	.246	.014	.004	R 6,951
September .....	R 1,592	R 1,377	2,859	.534	R 211	.013	.001	R 6,586
October .....	R 1,578	R 1,504	2,874	.474	.209	.013	.003	R 6,656
November .....	R 1,595	R 1,779	2,855	.500	.214	.013	.002	R 6,959
December .....	R 1,733	R 2,192	2,984	.567	.249	.013	.004	R 7,742
Total .....	R 19,575	R 20,781	33,768	6,517	R 3,059	.159	.038	R 83,896
1994 January .....	1,832	2,695	2,990	.600	.239	.013	.006	8,375

<sup>a</sup> Includes supplemental gaseous fuels.

<sup>b</sup> Electric utility and industrial generation and net imports of electricity.

<sup>c</sup> 'Other' consumption is net imports of coal coke and electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.

<sup>d</sup> Due to a lack of consistent historical data, some renewable energy sources are not included. For example, in 1991, 3.3 quadrillion Btu of renewable energy consumed by U.S. electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu of renewable energy used by other sectors is not included.

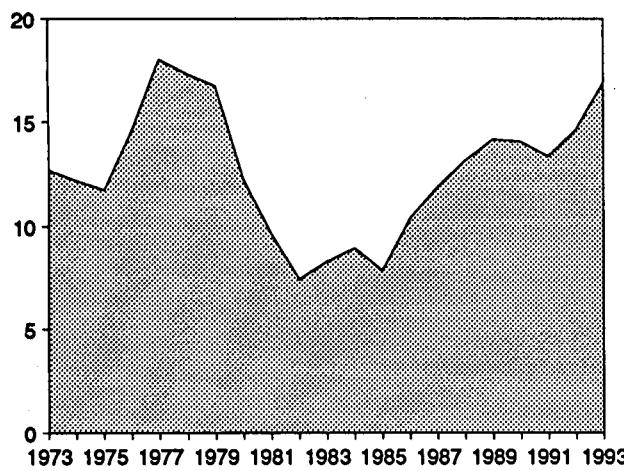
R=Revised data.

Notes: • See Note 2 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

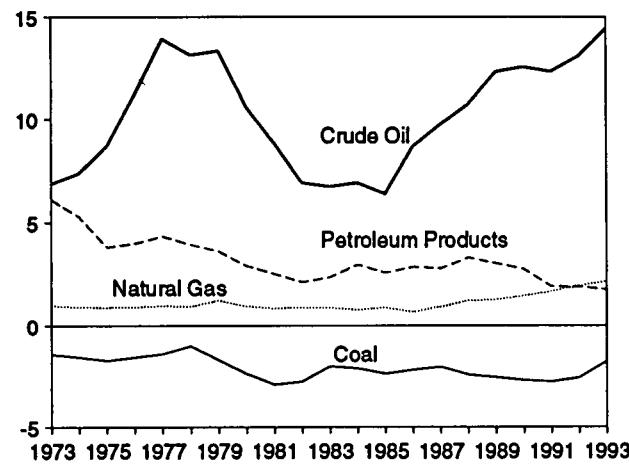
Sources: • Coal: Tables 6.1 and A5-A7. • Natural Gas: Tables 4.2 and A4. • Petroleum: Tables 3.1a and A3. • Nuclear Electric Power: Tables 7.1 and A8. • Hydroelectric Power: Table 7.1; Section 2, "Energy Consumption Notes and Sources," Note 8; and Table A8. • Geothermal Energy and Other: Section 2, "Energy Consumption Notes and Sources," Note 7, and Table A8.

**Figure 1.4 Energy Net Imports**  
(Quadrillion Btu, Except as Noted)

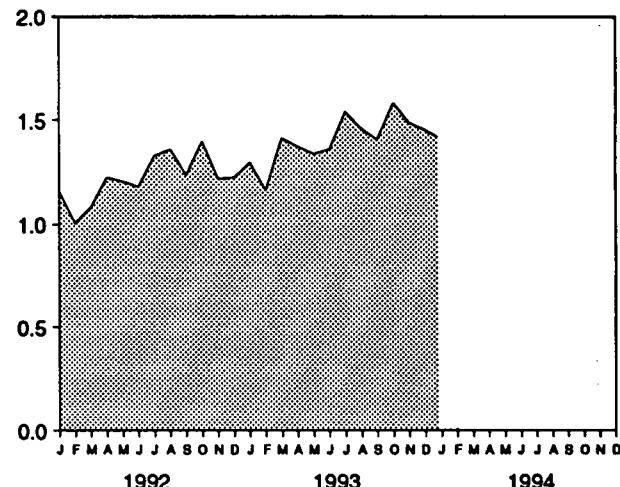
## Total Net Imports, 1973-1993



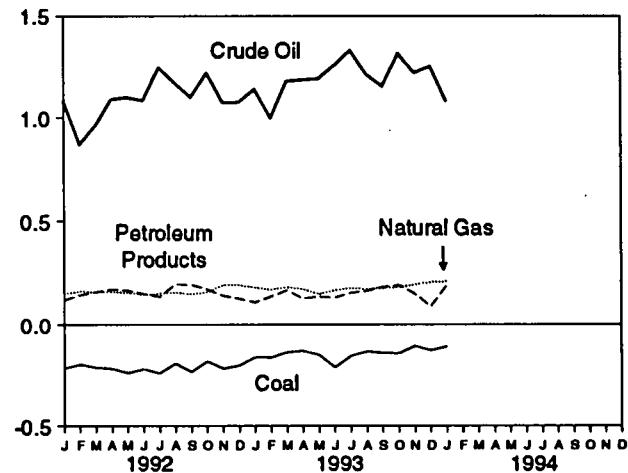
### **Net Imports by Major Sources, 1973-1993**



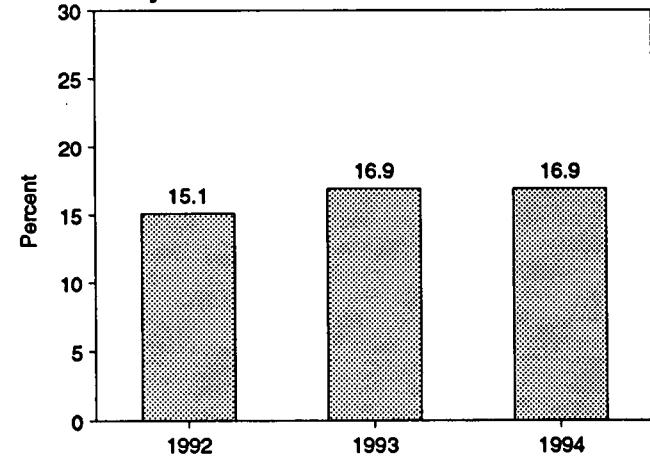
### **Net Imports by Major Sources, January 1994**



### Net Imports by Major Sources, Monthly



## Net Imports as Share of Consumption, January



**Note:** Because vertical scales differ, graphs should not be compared.  
**Sources:** Tables 1, 4 and 1, 5.

**Table 1.5 Energy Net Imports by Source**  
 (Quadrillion Btu)

	Coal	Natural Gas	Crude Oil <sup>a</sup>	Petroleum Products <sup>b</sup>	Electricity <sup>c</sup>	Coal Coke	Total
1973 Total .....	-1.422	0.981	6.883	6.097	0.148	-0.007	12.680
1974 Total .....	-1.568	.907	7.389	5.273	.133	.056	12.190
1975 Total .....	-1.738	.904	8.708	3.800	.064	.014	11.762
1976 Total .....	-1.567	.922	11.221	3.982	.089	(s)	14.848
1977 Total .....	-1.401	.981	13.921	4.321	.182	.015	18.019
1978 Total .....	-1.004	.941	13.125	3.932	.204	.125	17.323
1979 Total .....	-1.702	1.243	13.328	3.603	.211	.063	16.746
1980 Total .....	-2.391	.857	10.586	2.912	.217	-.035	12.247
1981 Total .....	-2.918	.857	8.854	2.522	.347	-.016	9.846
1982 Total .....	-2.768	.898	6.917	2.128	.306	-.022	7.480
1983 Total .....	-2.013	.885	6.731	2.351	.372	-.016	8.310
1984 Total .....	-2.119	.792	6.918	2.970	.414	-.011	8.963
1985 Total .....	-2.389	.896	6.381	2.570	.428	-.013	7.872
1986 Total .....	-2.193	.686	8.676	2.855	.375	-.017	10.382
1987 Total .....	-2.049	.937	8.748	2.784	.483	.009	11.911
1988 Total .....	-2.448	1.221	10.698	3.308	.326	.040	13.149
1989 Total .....	-2.566	1.278	12.296	3.029	.113	.030	14.181
1990 Total .....	-2.705	1.464	12.536	2.757	.020	.005	14.077
1991 Total .....	-2.769	1.666	12.308	1.912	.231	.009	13.357
1992 January .....	-.218	.150	1.078	.122	.021	.004	1.157
February .....	-.198	.163	.873	.146	.018	.003	1.005
March .....	-.214	.160	.963	.160	.012	.003	1.084
April .....	-.219	.160	1.090	.173	.018	.003	1.226
May .....	-.240	.157	1.099	.168	.022	.001	1.207
June .....	-.221	.146	1.084	.152	.020	.003	1.183
July .....	-.241	.153	1.245	.137	.035	.001	1.329
August .....	-.194	.158	1.168	.197	.031	.001	1.360
September .....	-.235	.149	1.099	.195	.028	.001	1.237
October .....	-.183	.159	1.217	.173	.031	.002	1.399
November .....	-.219	.194	1.074	.142	.029	.001	1.221
December .....	-.204	.193	1.076	.129	.027	.005	1.226
Total .....	-2.587	1.941	13.065	1.885	.282	.027	14.633
1993 January .....	-.162	.182	1.138	.111	E .023	.004	1.296
February .....	-.164	.172	.999	.139	E .022	(s)	1.167
March .....	-.137	.184	1.177	.169	E .019	.003	1.415
April .....	-.131	.175	1.184	.129	E .016	.002	1.375
May .....	-.151	.150	1.189	.139	E .011	.002	1.339
June .....	-.213	.170	1.256	.134	E .011	.003	1.361
July .....	-.156	.180	1.329	.157	E .031	(s)	1.541
August .....	-.134	.176	1.211	.166	E .041	.002	1.463
September .....	-.141	.180	1.153	.185	E .033	-.001	1.408
October .....	-.143	.183	1.314	.194	E .033	.001	1.582
November .....	-.107	.197	1.219	.153	E .027	(s)	1.489
December .....	-.128	R .208	1.251	.092	E .029	.002	R 1.455
Total .....	-1.767	R 2.156	14.420	1.769	E .296	.017	R 16.892
1994 January .....	-.110	.212	1.081	.193	E .032	.004	1.412

<sup>a</sup> Crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.

<sup>b</sup> Petroleum products, unfinished oils, pentanes plus, and gasoline blending components.

<sup>c</sup> Assumed to be hydroelectricity and estimated at the average input heat rate for fossil-fuel steam-electric power plant generation, which has ranged from 10.2 thousand Btu to 10.5 thousand Btu per kilowatthour since 1973. Actual heat rates applied in converting kilowatthours to Btu are listed by year in Table A8.

R=Revised data. E=Estimate. (s)=Less than +0.5 trillion Btu and greater

than -0.5 trillion Btu.

Notes: • See Notes 3 and 4 at end of section. • Net imports equal imports minus exports. Minus sign indicates exports are greater than imports.

• Geographic coverage is the 50 States and the District of Columbia.

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

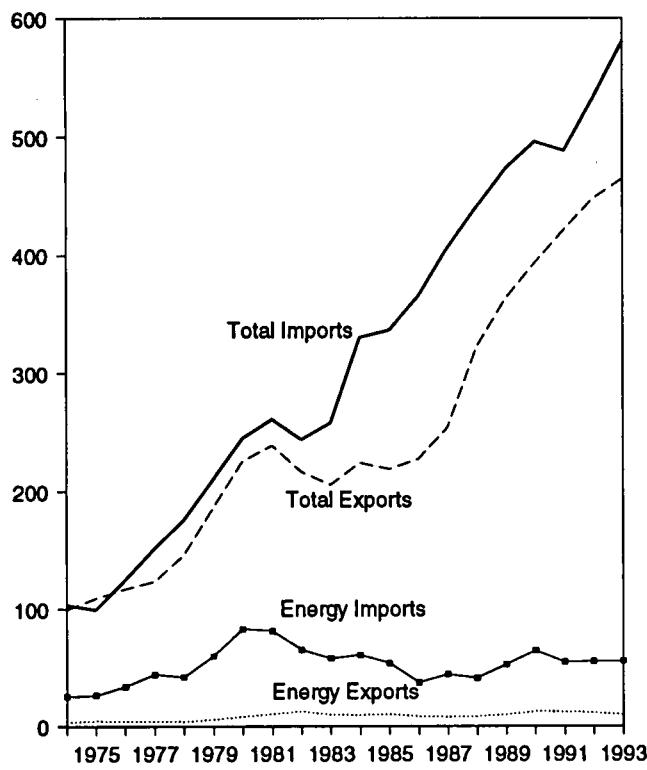
Sources: • Coal: Tables 6.1 and A5-A7. • Natural Gas: Tables 4.2

and A4. • Crude Oil and Petroleum Products: Tables 3.1b and A2.

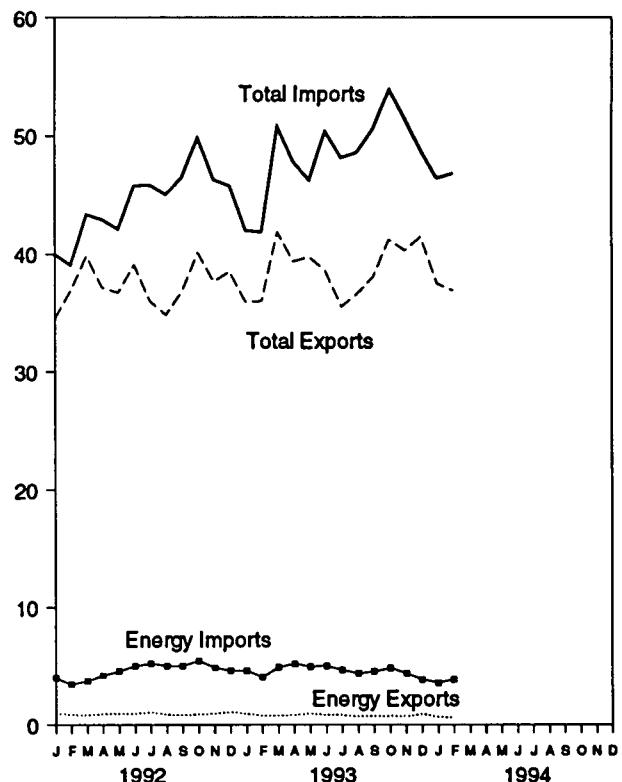
• Electricity: Section 2, "Energy Consumption Notes and Sources," Note 8, and Table A8. • Coal Coke: Section 2, "Energy Consumption Notes and Sources," Note 9, and Table A7.

**Figure 1.5 Merchandise Trade Value**  
(Billion Dollars)

Imports and Exports, 1974-1993



Imports and Exports, Monthly



**Table 1.6 Merchandise Trade Value**  
(Million Dollars)

	Petroleum			Energy			Non-Energy Balance	Total Merchandise		
	Exports	Imports	Balance	Exports	Imports	Balance		Exports	Imports	Balance
1974 Total .....	792	24,668	-23,876	3,444	25,454	-22,010	18,126	99,437	103,321	-3,884
1975 Total .....	907	25,197	-24,289	4,470	26,476	-22,006	31,557	108,856	99,305	9,551
1976 Total .....	998	32,226	-31,228	4,226	33,996	-29,770	21,950	116,794	124,614	-7,820
1977 Total .....	1,276	42,368	-41,093	4,184	44,537	-40,354	12,001	123,182	151,534	-28,353
1978 Total .....	1,561	39,526	-37,965	3,881	42,096	-38,215	8,010	145,847	176,052	-30,205
1979 Total .....	1,914	56,715	-54,801	5,621	59,998	-54,377	30,455	186,363	210,285	-23,922
1980 Total .....	2,833	78,637	-75,803	7,982	82,924	-74,942	55,246	225,566	245,262	-19,696
1981 Total .....	3,698	78,659	-72,963	10,279	81,360	-71,081	48,814	238,715	260,982	-22,287
1982 Total .....	5,947	60,458	-54,511	12,729	65,409	-52,680	25,170	216,442	243,952	-27,510
1983 Total .....	4,557	53,217	-48,659	9,500	57,952	-48,452	-3,957	205,639	258,048	-52,409
1984 Total .....	4,470	56,924	-52,454	9,311	60,980	-51,669	-55,033	223,976	330,678	-106,703
1985 Total .....	4,707	50,475	-45,768	9,971	53,917	-43,946	-73,765	218,815	338,526	-117,712
1986 Total .....	3,640	35,142	-31,503	8,115	37,310	-29,195	-108,084	227,159	365,438	-138,279
1987 Total .....	3,922	42,285	-38,363	7,713	44,220	-36,506	-115,613	254,122	406,241	-152,119
1988 Total .....	3,693	38,787	-35,094	8,235	41,042	-32,806	-85,720	322,426	440,952	-118,526
1989 Total .....	5,021	49,704	-44,683	9,869	52,779	-42,910	-66,490	363,812	473,211	-109,399
1990 Total .....	6,901	61,583	-54,682	12,233	64,661	-52,428	-50,068	393,592	496,088	-102,496
1991 Total .....	6,954	51,350	-44,396	12,081	54,629	-42,548	-24,175	421,730	488,453	-66,723
1992 January .....	602	3,683	-3,082	1,007	4,016	-3,009	-2,461	34,514	39,984	-5,470
February .....	454	3,165	-2,711	879	3,452	-2,573	396	36,898	39,075	-2,178
March .....	419	3,477	-3,058	831	3,762	-2,931	-596	39,817	43,344	-3,527
April .....	511	3,931	-3,420	932	4,215	-3,283	-2,489	37,154	42,925	-5,772
May .....	535	4,274	-3,738	968	4,573	-3,605	-1,804	36,737	42,146	-5,409
June .....	548	4,713	-4,165	958	5,007	-4,049	-2,669	39,094	45,812	-6,718
July .....	654	4,912	-4,258	1,067	5,222	-4,155	-5,738	35,979	45,872	-9,893
August .....	503	4,702	-4,199	867	5,034	-4,167	-6,051	34,838	45,055	-10,218
September .....	428	4,680	-4,252	839	5,026	-4,187	-5,506	36,811	46,503	-9,693
October .....	506	5,047	-4,541	874	5,456	-4,582	-5,124	40,115	49,820	-9,706
November .....	550	4,462	-3,912	940	4,873	-3,933	-4,711	37,670	48,314	-8,844
December .....	700	4,172	-3,471	1,093	4,621	-3,529	-3,747	38,537	45,813	-7,276
Total .....	6,412	51,217	-44,805	11,254	55,256	-44,002	-40,500	448,164	532,665	-84,501
1993 January .....	617	4,254	-3,637	936	4,642	-3,706	-2,407	35,922	42,035	-6,113
February .....	467	3,699	-3,232	789	4,070	-3,281	-2,625	36,004	41,909	-5,905
March .....	488	4,492	-4,004	768	4,910	-4,142	-4,745	41,895	50,781	-8,886
April .....	583	4,845	-4,262	835	5,191	-4,357	-4,072	39,374	47,802	-8,428
May .....	647	4,614	-3,967	944	4,969	-4,024	-2,518	39,751	46,293	-6,542
June .....	439	4,707	-4,269	826	5,023	-4,197	-7,552	38,616	50,365	-11,749
July .....	514	4,320	-3,806	818	4,679	-3,862	-8,747	35,529	48,138	-12,609
August .....	444	4,031	-3,587	703	4,404	-3,700	-8,249	36,624	48,573	-11,949
September .....	436	4,171	-3,735	723	4,549	-3,826	-8,690	38,052	50,567	-12,516
October .....	467	4,450	-3,983	759	4,854	-4,094	-8,543	41,230	53,867	-12,638
November .....	478	3,990	-3,512	716	4,418	-3,702	-7,418	40,312	51,432	-11,120
December .....	654	3,443	-2,790	918	3,875	-2,956	R-4,327	41,466	48,748	R-7,283
Total .....	6,233	51,016	-44,784	9,736	55,582	-45,847	-69,891	464,773	580,511	-115,738
1994 January .....	452	3,114	-2,662	676	3,603	-2,927	R-6,026	R 37,499	R 46,451	R-8,953
February .....	366	3,298	-2,932	573	3,860	-3,287	-6,670	36,878	46,835	-9,957
2-Month Total .....	818	6,412	-5,594	1,249	7,463	-6,214	-12,696	74,377	93,286	-18,910
1993 2-Month Total .....	1,084	7,953	-6,869	1,725	8,712	-6,987	-5,032	71,928	83,944	-12,018
1992 2-Month Total .....	1,056	6,848	-5,792	1,886	7,468	-5,582	-2,066	71,412	79,060	-7,648

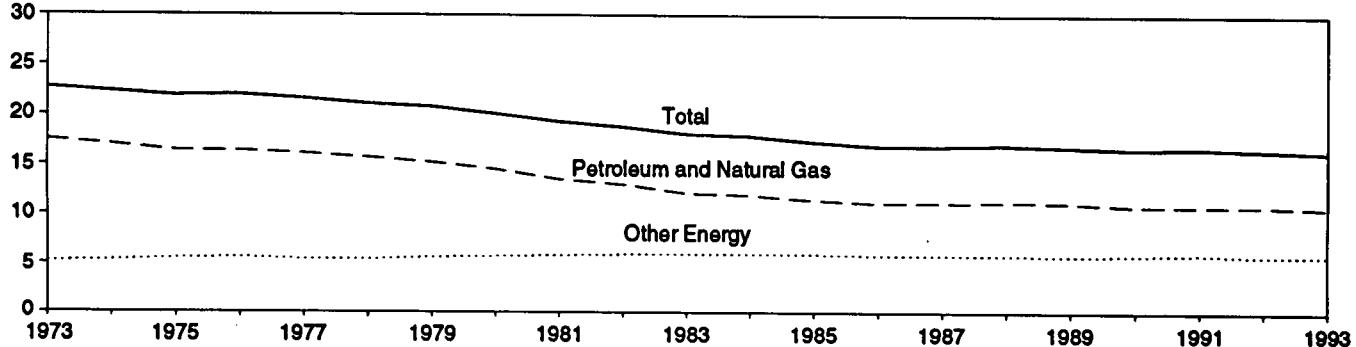
R=Revised data.

Notes: • Monthly data are not adjusted for seasonal variations. • The U.S. import statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. customs territory, which comprises the 50 States, the District of Columbia, Puerto Rico, and the Virgin

Islands. • See Note 5 at end of section. • Totals may not equal sum of components due to independent rounding.

Sources: • U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division. For details, see "Sources for Table 1.6" at the end of this section.

## Figure 1.6 Energy Consumption per Dollar of Gross Domestic Product (Thousand Btu per 1987 Dollar)



Source: Table 1.7.

**Table 1.7 Energy Consumption per Dollar of Gross Domestic Product  
(Seasonally Adjusted at Annual Rates)**

	Energy Consumption			Gross Domestic Product (GDP) Trillion 1987 Dollars	Energy Consumption per Dollar of GDP		
	Petroleum and Natural Gas	Other Energy	Total <sup>a</sup>		Petroleum and Natural Gas	Other Energy	Total
	Quadrillion Btu				Thousand Btu per 1987 Dollar		
1973 Year .....	57.352	16.930	74.282	3.269	17.5	5.2	22.7
1974 Year .....	55.187	17.356	72.543	3.248	17.0	5.3	22.3
1975 Year .....	52.878	17.668	70.546	3.222	16.4	5.5	21.9
1976 Year .....	55.520	18.842	74.362	3.381	16.4	5.6	22.0
1977 Year .....	57.053	19.235	76.288	3.533	16.1	5.4	21.6
1978 Year .....	57.966	20.123	78.089	3.704	15.7	5.4	21.1
1979 Year .....	57.789	21.109	78.898	3.797	15.2	5.6	20.8
1980 Year .....	54.596	21.359	75.955	3.776	14.5	5.7	20.1
1981 Year .....	51.859	22.131	73.990	3.843	13.5	5.8	19.3
1982 Year .....	48.736	22.112	70.848	3.760	13.0	5.9	18.8
1983 Year .....	47.411	23.113	70.524	3.907	12.1	5.9	18.1
1984 Year .....	49.558	24.586	74.144	4.149	11.9	5.9	17.9
1985 Year .....	48.756	25.225	73.981	4.280	11.4	5.9	17.3
1986 Year .....	48.904	25.393	74.297	4.405	11.1	5.8	16.9
1987 Year .....	50.809	26.285	76.894	4.540	11.1	5.8	16.9
1988 Year .....	52.774	27.444	80.218	4.719	11.2	5.8	17.0
1989 Year .....	53.595	27.730	81.325	4.838	11.1	5.7	16.8
1990 Year .....	52.849	28.416	81.265	4.897	10.8	5.8	16.6
1991 Year .....	52.452	28.664	81.116	4.861	10.8	5.9	16.7
1992 1 <sup>st</sup> Quarter .....	53.714	28.097	81.811	4.922	10.9	5.7	16.6
2 <sup>nd</sup> Quarter .....	54.003	28.600	82.603	4.957	10.9	5.8	16.7
3 <sup>rd</sup> Quarter .....	52.831	28.274	81.105	4.998	10.6	5.7	16.2
4 <sup>th</sup> Quarter .....	54.084	28.974	83.058	5.068	10.7	5.7	16.4
Year .....	53.657	28.487	82.144	4.986	10.8	5.7	16.5
1993 1 <sup>st</sup> Quarter .....	R 55.837	R 29.455	R 85.292	5.078	11.0	5.8	16.8
2 <sup>nd</sup> Quarter .....	R 53.230	R 29.822	R 83.052	5.102	10.4	R 5.8	16.3
3 <sup>rd</sup> Quarter .....	R 54.353	R 29.284	R 83.637	5.138	10.6	5.7	16.3
4 <sup>th</sup> Quarter .....	54.794	R 28.831	R 83.625	R 5.226	10.5	5.6	16.0
Year .....	R 54.549	R 29.347	R 83.896	R 5.136	10.6	5.7	16.3

<sup>a</sup> Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, except for small amounts used by electric utilities to generate electricity for distribution.

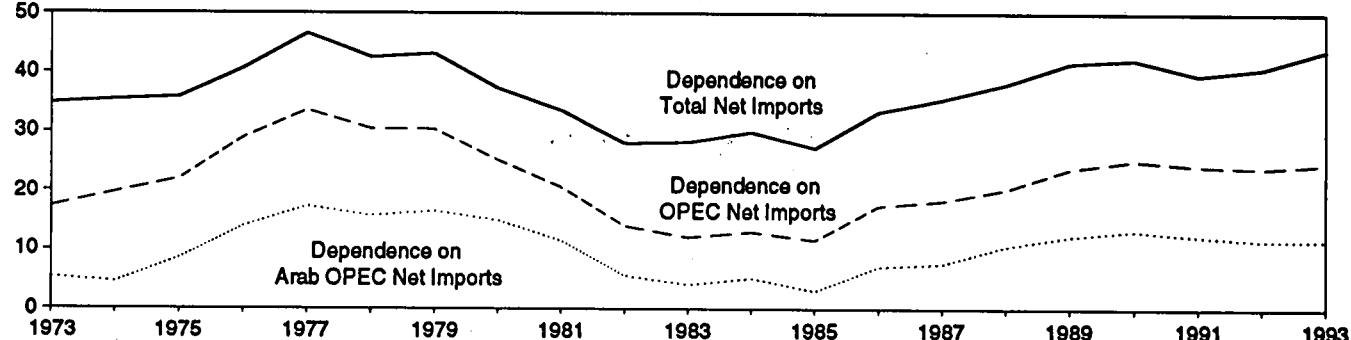
R=Revised data.

Notes: • Quarterly data are seasonally adjusted and shown at annual rates. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

• Yearly data may not equal average of quarters due to seasonality adjustments and independent rounding.

Sources: • Energy Consumption: Table 1.4. • Gross Domestic Product: 1973-1991—U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, September 1993, Table 2. 1992 forward—U.S. Department of Commerce, Bureau of Economic Analysis, *United States Department of Commerce News*, March 31, 1994, Table 2.

**Figure 1.7 U.S. Dependence on Petroleum Net Imports**  
(Net Imports as Percent of Product Supplied)



Source: Table 1.8.

**Table 1.8 U.S. Dependence on Petroleum Net Imports**

Annual Rate	Net Imports <sup>a</sup>			Petroleum Products Supplied	Net Imports as Percent of U.S. Petroleum Products Supplied		
	From Arab OPEC <sup>b</sup>	From OPEC <sup>c</sup>	From All Countries		From Arab OPEC <sup>b</sup>	From OPEC <sup>c</sup>	From All Countries
	Thousand Barrels per Day				Percent		
1973 Average .....	914	2,891	6,025	17,308	5.3	17.3	34.8
1974 Average .....	752	3,277	5,892	16,853	4.5	19.7	35.4
1975 Average .....	1,382	3,599	5,846	16,322	8.5	22.0	35.8
1976 Average .....	2,423	5,063	7,080	17,481	13.0	29.0	40.8
1977 Average .....	3,184	6,190	8,565	18,431	17.3	33.8	46.5
1978 Average .....	2,962	5,747	8,002	18,847	15.7	30.5	42.5
1979 Average .....	3,054	5,633	7,985	18,513	16.5	30.4	43.1
1980 Average .....	2,549	4,293	6,365	17,056	14.9	25.2	37.3
1981 Average .....	1,844	3,315	5,401	16,058	11.5	20.8	33.6
1982 Average .....	852	2,136	4,288	15,296	5.6	14.0	28.1
1983 Average .....	630	1,843	4,312	15,231	4.1	12.1	28.3
1984 Average .....	817	2,037	4,715	15,726	5.2	13.0	30.0
1985 Average .....	470	1,821	4,286	15,726	3.0	11.6	27.3
1986 Average .....	1,180	2,828	5,439	16,281	7.1	17.4	33.4
1987 Average .....	1,272	3,053	5,914	18,665	7.6	18.3	35.5
1988 Average .....	1,837	3,513	6,587	17,283	10.6	20.3	38.1
1989 Average .....	2,128	4,124	7,202	17,325	12.3	23.8	41.6
1990 Average .....	2,243	4,285	7,161	16,988	13.2	25.2	42.2
1991 Average .....	2,057	4,064	6,626	16,714	12.3	24.3	39.6
1992 1 <sup>st</sup> Quarter .....	2,052	3,783	6,239	16,910	12.1	22.4	38.9
2 <sup>nd</sup> Quarter .....	1,922	4,056	7,027	16,740	11.5	24.2	42.0
3 <sup>rd</sup> Quarter .....	1,910	4,230	7,451	16,984	11.2	24.9	43.9
4 <sup>th</sup> Quarter .....	2,005	4,210	7,029	17,493	11.5	24.1	40.2
Average .....	1,972	4,071	6,938	17,033	11.6	23.9	40.7
1993 1 <sup>st</sup> Quarter .....	2,025	4,311	7,038	17,126	11.8	25.2	41.1
2 <sup>nd</sup> Quarter .....	2,053	4,352	7,507	16,678	12.3	26.1	45.0
3 <sup>rd</sup> Quarter .....	1,907	4,129	7,750	17,360	11.0	23.8	44.6
4 <sup>th</sup> Quarter .....	1,971	4,134	7,786	17,600	11.2	23.5	44.2
Average .....	1,989	4,230	7,523	17,183	11.6	24.6	43.8

<sup>a</sup> "Net Imports" are imports minus exports. Imports from members of the Organization of Petroleum Exporting Countries (OPEC) exclude indirect imports, which are petroleum products primarily from Caribbean and West European areas and refined from crude oil produced by OPEC.

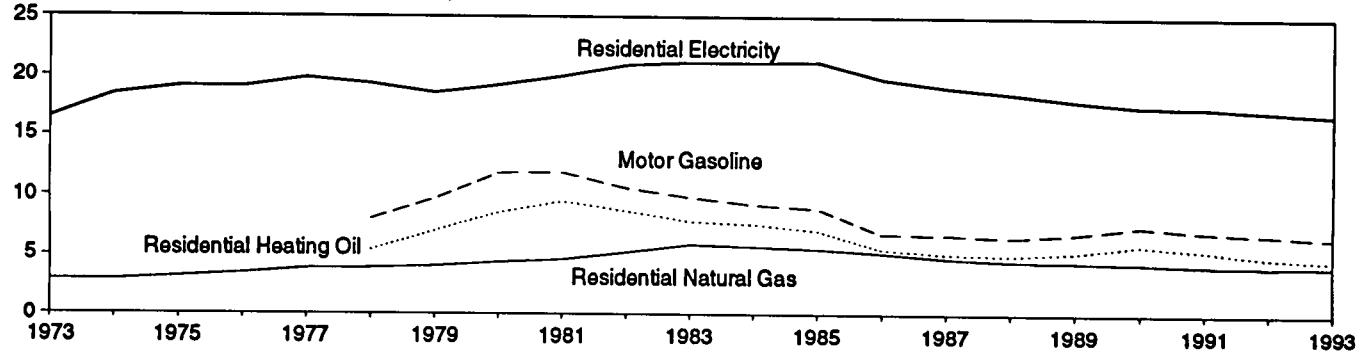
<sup>b</sup> The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates. Net imports from the Neutral Zone between Kuwait and Saudi Arabia are included in net imports from Arab OPEC.

<sup>c</sup> OPEC currently consists of Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members.

Notes: • Beginning in October 1977, Strategic Petroleum Reserves are included. • Geographic coverage is the 50 States and the District of Columbia. • Annual averages may not equal average of quarters due to independent rounding.

Sources: • Imports: Tables 3.3a-3.3h. • Exports: 1973-1976—U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys*, 1977-1980—Energy Information Administration (EIA), *Energy Data Reports*, "Petroleum Statement, Annual." 1981-1992—EIA, *Petroleum Supply Annual*. 1993 forward—EIA, *Petroleum Supply Monthly*. • Petroleum Products Supplied: Table 3.1a.

# Figure 1.8 Cost of Fuels to End Users in Constant (1982-84) Dollars (Dollars per Million Btu)



Source: Table 1.9.

**Table 1.9 Cost of Fuels to End Users in Constant (1982-84) Dollars**

	Motor Gasoline		Residential Heating Oil		Residential Natural Gas		Residential Electricity	
	Cents per Gallon	Dollars per Million Btu	Cents per Gallon	Dollars per Million Btu	Cents per Thousand Cubic Feet	Dollars per Million Btu	Cents per Kilowatthour	Dollars per Million Btu
1973 Average .....	NA	NA	NA	NA	290.5	2.85	5.6	16.50
1974 Average .....	NA	NA	NA	NA	290.1	2.83	6.3	18.43
1975 Average .....	NA	NA	NA	NA	317.8	3.12	6.5	19.07
1976 Average .....	NA	NA	NA	NA	348.0	3.41	6.5	19.06
1977 Average .....	NA	NA	NA	NA	387.8	3.81	6.8	19.83
1978 Average .....	100.0	8.00	75.2	5.42	392.6	3.86	6.6	19.33
1979 Average .....	121.5	9.71	97.0	6.99	410.5	4.03	6.3	18.57
1980 Average .....	148.2	11.85	118.2	8.52	446.6	4.36	6.6	19.21
1981 Average .....	148.8	11.90	131.4	8.47	471.9	4.60	6.8	19.99
1982 Average .....	132.7	10.61	120.2	8.67	535.8	5.22	7.2	20.96
1983 Average .....	123.0	9.83	108.2	7.80	608.4	5.90	7.2	21.19
1984 Average .....	115.3	9.22	105.0	7.57	589.0	5.72	7.2	21.16
1985 Average .....	111.2	8.89	97.9	7.06	568.8	5.52	7.2	21.25
1986 Average .....	84.9	6.79	76.3	5.50	531.9	5.17	6.6	19.79
1987 Average .....	84.2	6.74	70.7	5.10	487.7	4.73	6.5	19.09
1988 Average .....	81.4	6.51	68.7	4.96	462.4	4.49	6.3	18.58
1989 Average .....	85.5	6.83	72.8	5.23	454.8	4.41	6.1	17.96
1990 Average .....	93.1	7.44	81.3	5.86	443.8	4.31	6.0	17.49
1991 Average .....	87.8	7.02	74.8	5.39	427.3	4.14	5.9	17.43
1992 1 <sup>st</sup> Quarter .....	81.1	6.49	67.7	4.88	398.0	3.86	5.6	16.48
2 <sup>nd</sup> Quarter ....	85.3	6.82	66.0	4.76	443.5	4.30	5.9	17.40
3 <sup>rd</sup> Quarter ....	87.1	6.96	63.7	4.59	517.4	5.02	6.1	17.89
4 <sup>th</sup> Quarter ....	85.6	6.84	66.5	4.79	429.2	4.16	5.8	16.94
Average .....	84.8	6.78	66.6	4.80	419.8	4.07	5.8	17.13
1993 1 <sup>st</sup> Quarter .....	81.9	6.55	66.2	4.78	R 398.3	R 3.86	5.5	15.98
2 <sup>nd</sup> Quarter ....	82.3	6.58	63.0	4.54	R 463.9	R 4.50	5.9	17.28
3 <sup>rd</sup> Quarter ....	80.3	6.42	58.7	4.23	R 544.9	R 5.29	6.0	17.61
4 <sup>th</sup> Quarter ....	80.2	6.41	60.4	4.35	R 434.6	R 4.22	5.7	16.68
Average .....	81.2	6.49	63.0	4.55	R 425.6	R 4.13	5.7	16.83

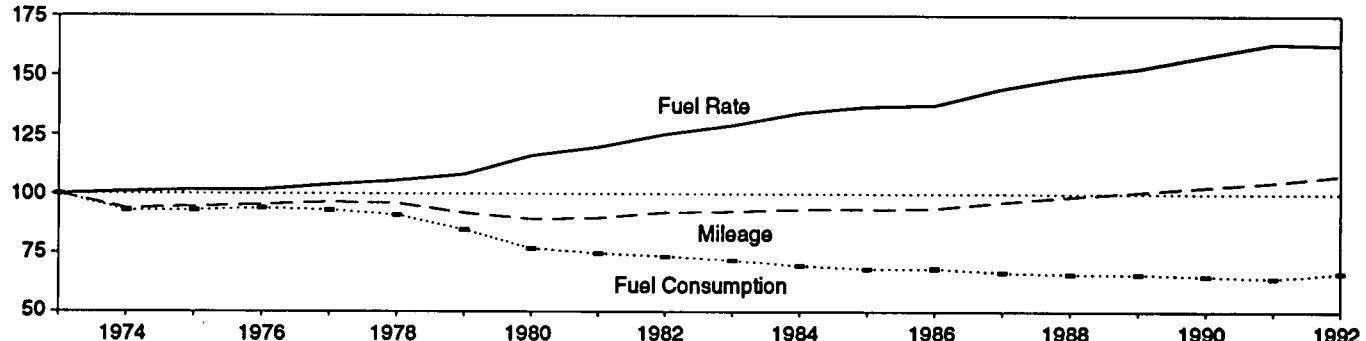
R=Revised data. NA=Not available.

Notes: • Fuel costs are calculated by using the Urban Consumer Price Index (CPI) developed by the Bureau of Labor Statistics. See Note 6 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Annual averages may not equal average of quarters due to independent rounding.

Sources: • Annual Data: Annual prices in Tables 9.4 (All Types), 9.8c,

9.11, and 9.9 (Monthly Series), adjusted by the CPI. • Quarterly Data: Simple averages of monthly prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9 (Monthly Series), adjusted by the CPI. • CPI: 1973-1992—*Economic Report of the President*, February 1994, Table B-59. 1993 forward—Council of Economic Advisers, *Economic Indicators*, March 1994, "Consumer Prices—All Urban Consumers." • Conversion Factors: Tables A1, A4, and A8.

**Figure 1.9 Passenger Car Efficiency**  
(Index, 1973 = 100)



Source: Table 1.10.

**Table 1.10 Passenger Car Efficiency**

	Mileage		Fuel Consumption		Fuel Rate	
	Miles per Car	Index 1973=100.0	Gallons per Car	Index 1973=100.0	Miles per Gallon	Index 1973=100.0
1973 .....	10,256	100.0	771	100.0	13.30	100.0
1974 .....	9,608	93.7	716	92.9	13.42	100.9
1975 .....	9,690	94.5	716	92.9	13.52	101.7
1976 .....	9,785	95.4	723	93.8	13.53	101.7
1977 .....	9,879	96.3	716	92.9	13.80	103.8
1978 .....	9,835	95.9	701	90.9	14.04	105.6
1979 .....	9,403	91.7	653	84.7	14.41	108.3
1980 .....	9,141	89.1	591	78.7	15.46	116.2
1981 .....	9,186	89.6	576	74.7	15.94	116.8
1982 .....	9,428	91.9	566	73.4	16.65	125.2
1983 .....	9,475	92.4	553	71.7	17.14	126.9
1984 .....	9,558	93.2	536	69.5	17.83	134.1
1985 .....	9,560	93.2	525	68.1	18.20	136.8
1986 .....	9,608	93.7	526	68.2	18.27	137.4
1987 .....	9,878	96.3	514	66.7	19.20	144.4
1988 .....	10,121	98.7	509	66.0	19.87	149.4
1989 .....	10,332	100.7	509	66.0	20.31	152.7
1990 .....	10,548	102.8	502	65.1	21.02	158.0
1991 .....	10,757	104.9	496	64.3	21.69	163.1
1992 <sup>a</sup> .....	11,063	107.9	512	66.4	21.60	162.4

<sup>a</sup> Preliminary data.

Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: Indices are prepared from statistics published by the U.S. Department of Transportation, Federal Highway Administration, Federal

Highway Statistics Division. • 1973-1985: *Highway Statistics Summary to 1985*, Table VM-201A. • 1986 forward: *Highway Statistics*, annual, Table VM-1.

**Table 1.11 Heating Degree-Days by Census Division**

Census Divisions	March 1 through March 31					Cumulative July 1 through March 31				
	Normal <sup>a</sup>	1993	1994	Percent Change		Normal <sup>a</sup>	1993	1994	Percent Change	
				Normal to 1994	1993 to 1994				Normal to 1994	1993 to 1994
New England Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont .....	919	980	915	-0.4	-6.6	5,706	5,875	6,037	5.8	2.8
Middle Atlantic New Jersey, New York, Pennsylvania .....	821	915	850	3.5	-7.1	5,124	5,209	5,407	5.5	3.8
East North Central Illinois, Indiana, Michigan, Ohio, Wisconsin .....	868	917	841	-3.1	-8.3	5,678	5,664	5,973	5.2	5.5
West North Central Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota .....	865	921	750	-13.3	-18.6	5,965	6,214	6,234	4.5	.3
South Atlantic Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia .....	379	448	353	-6.9	-21.2	2,670	2,599	2,667	-.1	2.6
East South Central Alabama, Kentucky, Mississippi, Tennessee .....	455	522	436	-4.2	-16.5	3,335	3,224	3,393	1.7	5.2
West South Central Arkansas, Louisiana, Oklahoma, Texas .....	277	296	244	-11.9	-17.6	2,221	2,143	2,256	1.6	5.3
Mountain Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming .....	677	581	543	-19.8	-6.5	4,578	4,600	4,373	-4.5	-4.9
Pacific <sup>b</sup> California, Oregon, Washington .....	432	333	337	-22.0	1.2	2,671	2,482	2,391	-10.5	-3.7
U.S. Average <sup>b</sup> .....	611	639	571	-6.5	-10.6	4,051	4,033	4,134	2.0	2.5

<sup>a</sup> "Normal" is based on calculations of data from 1961 through 1990.

<sup>b</sup> Excludes Alaska and Hawaii.

Notes: Degree-days are relative measurements of outdoor air temperature. Cooling degree-days are defined as deviations of the mean daily temperature at a sampling station above a base temperature equal to 65° F by convention. Heating degree-days are deviations of the mean daily temperature below 65° F. For example, if a weather station recorded a mean daily temperature of 78° F, cooling degree-days for that station would be 13 (and heating degree-days, 0). A weather station recording a mean daily temperature of 40° F would report 25 heating degree-days (and 0 cooling degree-days).

Sources: There are several degree-day databases maintained by the National Oceanic and Atmospheric Administration. The information published

here is developed by the National Weather Service Climate Analysis Center, Camp Springs, MD. The data are available weekly with monthly summaries and are based on mean daily temperatures recorded at about 200 major weather stations around the country. The temperature information recorded at those weather stations is used to calculate statewide degree-day averages based on population. The State figures are then aggregated into Census Divisions and into the national average. The population weights currently used represent resident State population data estimated for 1990 by the U.S. Department of Commerce, Bureau of the Census. The data provided here are available sooner than the Historical Climatology Series 5-1 and 5-2 developed by the National Climatic Center, Asheville, NC, which compiles data from some 8,000 weather stations.

**Table 1.12 Cooling Degree-Days by Census Division**

Census Divisions	March 1 through March 31					Cumulative January 1 through March 31				
	Normal <sup>a</sup>	1993	1994	Percent Change		Normal <sup>a</sup>	1993	1994	Percent Change	
				Normal to 1994	1993 to 1994				Normal to 1994	1993 to 1994
New England Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont .....	0	0	0	(c)	(c)	0	0	0	(c)	(c)
Middle Atlantic New Jersey, New York, Pennsylvania .....	0	0	0	(c)	(c)	0	0	0	(c)	(c)
East North Central Illinois, Indiana, Michigan, Ohio, Wisconsin .....	1	0	0	(c)	(c)	1	0	0	(c)	(c)
West North Central Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota .....	3	0	1	(c)	(c)	3	0	1	(c)	(c)
South Atlantic Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia .....	47	37	53	(c)	(c)	104	93	116	11.5	24.7
East South Central Alabama, Kentucky, Mississippi, Tennessee .....	19	2	3	(c)	(c)	30	2	4	(c)	(c)
West South Central Arkansas, Louisiana, Oklahoma, Texas .....	47	15	29	(c)	(c)	70	15	33	(c)	(c)
Mountain Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming .....	8	2	2	(c)	(c)	10	2	2	(c)	(c)
Pacific <sup>b</sup> California, Oregon, Washington .....	3	0	0	(c)	(c)	6	0	0	(c)	(c)
U.S. Average <sup>b</sup> .....	16	8	13	(c)	(c)	30	18	24	(c)	(c)

<sup>a</sup> "Normal" is based on calculations of data from 1961 through 1990.

<sup>b</sup> Excludes Alaska and Hawaii.

<sup>c</sup> Percent change is not meaningful: normal is less than 100 or ratio is incalculable.

Notes: Degree-days are relative measurements of outdoor air temperature. Cooling degree-days are defined as deviations of the mean daily temperature at a sampling station above a base temperature equal to 65° F by convention. Heating degree-days are deviations of the mean daily temperature below 65° F. For example, if a weather station recorded a mean daily temperature of 78° F, cooling degree-days for that station would be 13 (and heating degree-days, 0). A weather station recording a mean daily temperature of 40° F would report 25 heating degree-days (and 0 cooling degree-days).

Sources: There are several degree-day databases maintained by the

National Oceanic and Atmospheric Administration. The information published here is developed by the National Weather Service Climate Analysis Center, Camp Springs, MD. The data are available weekly with monthly summaries and are based on mean daily temperatures recorded at about 200 major weather stations around the country. The temperature information recorded at those weather stations is used to calculate statewide degree-day averages based on population. The State figures are then aggregated into Census Divisions and into the national average. The population weights currently used represent resident State population data estimated for 1990 by the U.S. Department of Commerce, Bureau of the Census. The data provided here are available sooner than the Historical Climatology Series 5-1 and 5-2 developed by the National Climatic Center, Asheville, NC, which compiles data from some 8,000 weather stations.

# Energy Summary Notes

**1. Energy Production:** Production of energy includes production of coal, crude oil and lease condensate, natural gas plant liquids, natural gas (dry), electric utility and industrial production of hydroelectric power, and electricity generated from nuclear power. Production also includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A.

**2. Energy Consumption:** Consumption of energy includes consumption of coal, natural gas (including supplemental gaseous fuels), petroleum products supplied, electric utility and industrial production of hydroelectric power, net imports of electricity (assumed to be hydroelectricity), net imports of coal coke, and electricity generated from nuclear power. Consumption also includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A.

**3. Energy Imports:** Energy imports include imports of coal, crude oil (including crude oil imported for the Strategic Petroleum Reserve), petroleum products, natural gas, electricity (assumed to be hydroelectricity), and coal coke. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A. For further information on electricity, see "Note for imports and exports of electricity" under Note 8 of the Notes and Sources for the Energy Consumption Section.

**4. Energy Exports:** Energy exports include coal, crude oil, petroleum products, natural gas, electricity produced from hydroelectric power, and coal coke. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A. For more information on electricity, see "Note for imports and exports of electricity" under Note 8 of the Notes and Sources for the Energy Consumption Section.

**5. Merchandise Trade Value:** Import data presented are based on the customs value. That value does not include insurance and freight and is consequently lower than the cost, insurance, and freight (CIF) value, which is also reported by the Bureau of the Census. All export data, and import data prior to 1981, are on a free alongside ship (f.a.s.) basis.

"Balance" is exports minus imports; a positive balance indicates a surplus trade value and a negative balance indicates a deficit trade value. "Energy" includes

mineral fuels, lubricants, and related material. "Non-Energy Balance" and "Total Merchandise" include foreign exports (i.e., reexports) and nonmonetary gold and Department of Defense Grant-Aid shipments. The "Non-Energy Balance" is calculated by subtracting the "Energy" from the "Total Merchandise Balance."

"Imports" consist of government and nongovernment shipments of merchandise into the 50 States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and the U.S. Foreign Trade Zones. They reflect the total arrival from foreign countries of merchandise that immediately entered consumption channels, warehouses, the Foreign Trade Zones, or the Strategic Petroleum Reserve. They exclude shipments between the United States, Puerto Rico, and U.S. possessions, shipments to U.S. Armed Forces and diplomatic missions abroad for their own use, U.S. goods returned to the United States by its Armed Forces, and in-transit shipments.

**6. The Consumer Price Index:** The values for the Consumer Price Index, All Urban Consumers, All Items, 1982-84=100, are as follows:

1973	44.4	1991	1st Quarter	134.8
1974	49.3		2nd Quarter	135.6
1975	53.8		3rd Quarter	136.7
1976	56.9		4th Quarter	137.7
1977	60.6		Year	136.2
1978	65.2	1992	1st Quarter	138.7
1979	72.6		2nd Quarter	139.8
1980	82.4		3rd Quarter	140.9
1981	90.9		4th Quarter	141.9
1982	96.5		Year	140.3
1983	99.6	1993	1st Quarter	143.1
1984	103.9		2nd Quarter	144.2
1985	107.6		3rd Quarter	144.8
1986	109.6		4th Quarter	145.8
1987	113.6		Year	144.5
1988	118.3			
1989	124.0			
1990	130.7			

## Sources for Table 1.6

U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division:

• **Petroleum Exports—1974-1987:** "U.S. Exports," FT410, December issues. 1988: "Report on U.S. Merchandise Trade, 1988 Final Revisions." 1989: "Report on U.S. Merchandise Trade, 1989 Revisions." 1990: "U.S. Merchandise Trade, 1990 Final Report." 1991: "U.S. Merchandise Trade, 1991 Final Report," May 13, 1992. 1992: "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993. 1993 and 1994: "U.S. International Trade in Goods and Services," FT900, monthly.

• **Petroleum Imports—1974-1987:** "U.S. Merchandise Trade," FT900, December issues, 1975-1988. 1988: "Report on U.S. Merchandise Trade, 1988 Final

**Revisions."** **1989:** "Report on U.S. Merchandise Trade, 1989 Revisions." **1990:** "U.S. Merchandise Trade, 1990 Final Report." **1991:** "U.S. Merchandise Trade, 1991 Final Report," May 13, 1992, and "U.S. Merchandise Trade, October 1992," December 17, 1992, page 3. **1992:** "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993. **1993 and 1994:** "U.S. International Trade in Goods and Services," FT900, monthly.

• **Energy Exports and Imports—1974-1987:** U.S. merchandise trade press releases and database printouts for adjustments. **1988:** January-July, monthly FT900 supplement, 1989 issues. August-December, monthly FT900, 1989 issues. **1989:** Monthly FT900, 1990 issues. **1990:** "U.S. Merchandise Trade, 1990 Final Report." **1991:** "U.S. Merchandise Trade, 1991 Final Report," May 13, 1992, and "U.S. Merchandise Trade, October 1992," December 17, 1992, page 3. **1992:** "U.S. Merchandise Trade, 1992 Final Report," May 12,

**1993. 1993 and 1994:** "U.S. International Trade in Goods and Services," FT900, monthly.

• **Total Merchandise—1974-1987:** U.S. merchandise trade press releases and database printouts for adjustments. **1988:** "Report on U.S. Merchandise Trade, 1988 Final Revisions," August 18, 1989. **1989:** "Report on U.S. Merchandise Trade, 1989 Revisions," July 10, 1990. **1990:** "U.S. Merchandise Trade, 1990 Final Report," May 10, 1991, and "U.S. Merchandise Trade, December 1992," February 18, 1993, page 3. **1991-1992:** "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993. **1993 and 1994:** "U.S. International Trade in Goods and Services," FT900, monthly.

• **Petroleum Balance, Energy Balance, and Non-Energy Balance**—Calculated by the Energy Information Administration.



## Section 2. Energy Consumption

U.S. total energy consumption in January 1994 was 8.4 quadrillion Btu. Petroleum products accounted for 36 percent<sup>1</sup> of the energy consumed in January 1994, while natural gas accounted for 32 percent and coal accounted for 22 percent.

Residential and commercial sector consumption was 3.8 quadrillion Btu in January 1994, up 14 percent from the January 1993 level. The sector accounted for 45 percent of January 1994 total consumption, up 2 percentage points from its 43-percent share in January 1993.

Industrial sector consumption was 2.8 quadrillion Btu in January 1994, up 6 percent from the January 1993 level. The industrial sector accounted for 33 percent of January 1994 total consumption, down 1 percentage point from its 34-percent share in January 1993.

Transportation sector consumption of energy was 1.9 quadrillion Btu in January 1994, up 4 percent from the January 1993 level. The sector accounted for 22 percent of January 1994 total consumption, down 1 percentage point from its 23-percent share in January 1993.

Electric utility consumption of energy totaled 2.8 quadrillion Btu in January 1994, up 6 percent from the January 1993 level. Coal contributed 57 percent of the energy consumed by electric utilities in January 1994, while nuclear electric power contributed 22 percent; hydroelectric power 9 percent; natural gas and petroleum 6 percent each; and geothermal, wood, waste, wind, photovoltaic, and solar thermal energy, about 1 percent.

**Table 2.1 Energy Consumption Summary for January 1994**  
(Quadrillion Btu)

Energy Source	End-Use Sectors				Electric Utilities	Total
	Residential and Commercial	Industrial	Transportation	Total <sup>a</sup>		
Coal .....	0.019	0.223	( b )	0.245	1.587	1.832
Natural Gas <sup>c</sup> .....	1.583	.859	.081	2.521	.174	2.695
Petroleum .....	.248	.806	1.781	2.835	.155	2.990
Nuclear Electric Power .....	-	-	-	-	.600	.600
Hydroelectric Power <sup>d</sup> .....	-	.003	-	.003	.236	.239
Geothermal .....	-	-	-	-	.013	.013
Net Imports of Coal Coke .....	-	.004	-	.004	-	.004
Other <sup>e</sup> .....	-	-	-	-	.002	.002
<b>Primary Consumption</b> .....	<b>1.850</b>	<b>1.894</b>	<b>1.862</b>	<b>5.608</b>	<b>2.768</b>	<b>8.375</b>
Electricity .....	.609	.274	.001	.884	-	-
<b>Net Consumption</b> .....	<b>2.459</b>	<b>2.168</b>	<b>1.863</b>	<b>6.492</b>	-	-
Electrical System Energy Losses .....	1.297	.584	.003	1.883	-	-
<b>Total Consumption<sup>f</sup></b> .....	<b>3.756</b>	<b>2.752</b>	<b>1.866</b>	<b>8.375</b>	-	-

<sup>a</sup> Totals for coal and natural gas may not equal sum of sectors due to the use of sector-specific conversion factors.

<sup>b</sup> Small amounts of coal consumed for transportation are reported as industrial sector consumption.

<sup>c</sup> Includes supplemental gaseous fuels. Transportation sector is pipeline fuel only.

<sup>d</sup> Includes net imports of electricity.

<sup>e</sup> "Other" is electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.

<sup>f</sup> Due to a lack of consistent historical data, some renewable energy sources are not included. For example, in 1991, 3.3 quadrillion Btu of renewable energy consumed by U.S. electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu of renewable energy used by other sectors is not included.

-=Not applicable.

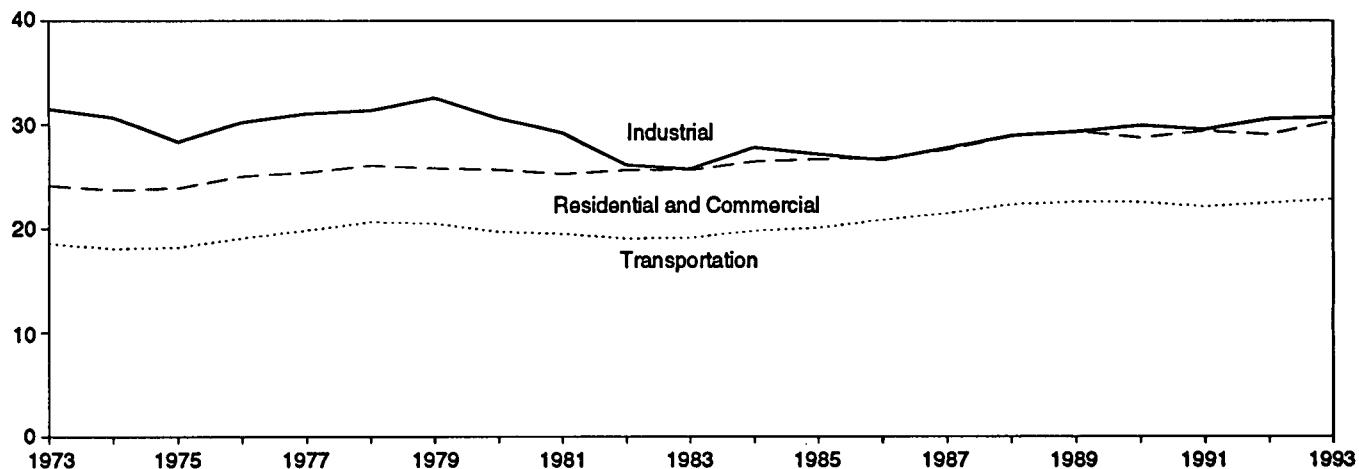
Note: Totals may not equal sum of components due to independent rounding.

Additional Notes and Sources: See Tables 2.2-2.6 and end of section.

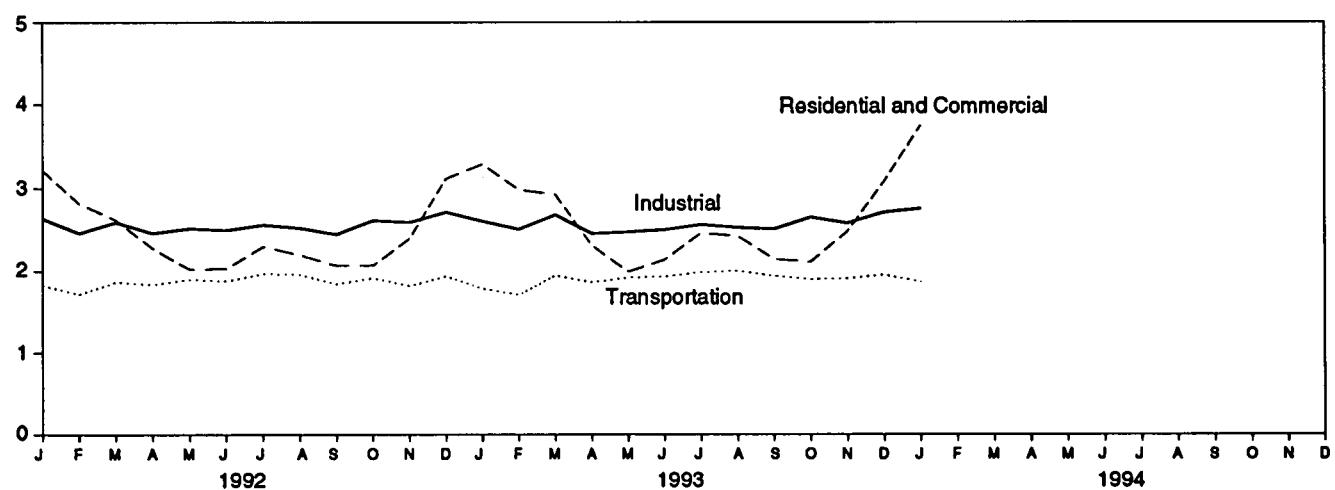
<sup>1</sup> Percentage changes are based on numbers in the following tables.

**Figure 2.1 Energy Consumption by End-Use Sector**  
 (Quadrillion Btu)

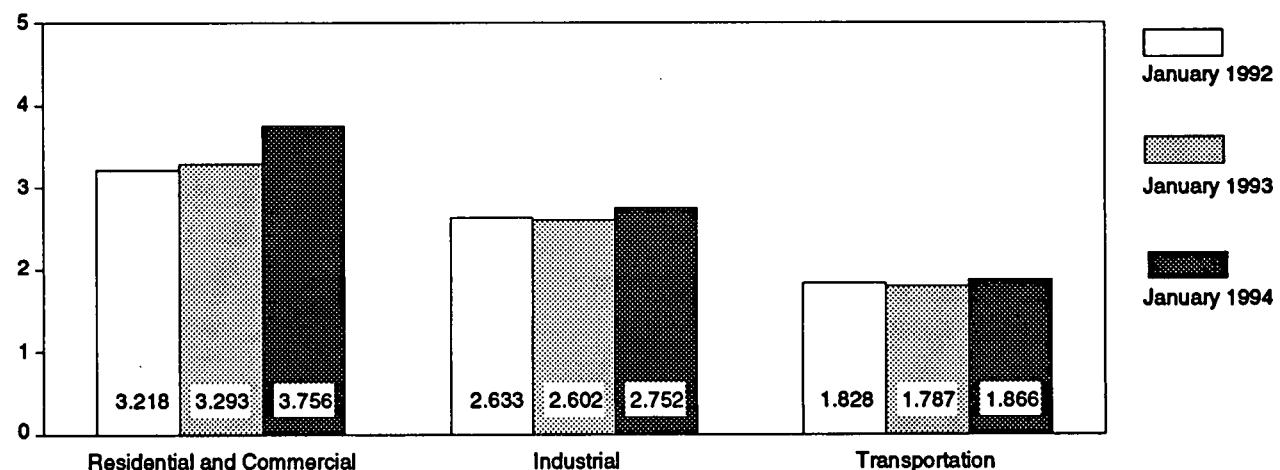
Consumption by End-Use Sector, 1973-1993



Consumption by End-Use Sector, Monthly



Consumption by End-Use Sector, January



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

Source: Table 2.2.

**Table 2.2 Energy Consumption by End-Use Sector**  
 (Quadrillion Btu)

	Residential and Commercial		Industrial		Transportation		Net	Total <sup>a</sup>
	Net	Total	Net	Total	Net	Total		
1973 Total .....	15.766	24.143	25.917	31.528	18.584	18.805	60.274	74.282
1974 Total .....	15.246	23.725	24.994	30.694	18.095	18.117	58.341	72.543
1975 Total .....	15.200	23.899	22.737	28.402	18.219	18.244	58.157	70.546
1976 Total .....	15.997	25.018	24.038	30.236	18.076	19.101	59.119	74.362
1977 Total .....	15.828	25.384	24.593	31.077	19.794	19.819	60.223	76.288
1978 Total .....	16.023	26.084	24.637	31.392	20.569	20.811	61.251	78.089
1979 Total .....	15.709	25.808	25.679	32.616	20.447	20.472	61.836	78.898
1980 Total .....	15.075	25.655	23.854	30.606	19.669	19.695	58.597	75.955
1981 Total .....	14.541	25.241	22.533	29.240	19.480	19.507	56.556	73.990
1982 Total .....	14.629	25.629	20.020	26.145	19.043	19.069	53.697	70.848
1983 Total .....	14.395	25.627	19.401	25.759	19.109	19.135	52.907	70.524
1984 Total .....	14.964	26.474	21.184	27.867	19.773	19.801	55.923	74.144
1985 Total .....	14.839	26.704	20.520	27.214	20.036	20.067	55.391	73.981
1986 Total .....	14.791	26.852	20.101	26.630	20.781	20.812	55.676	74.297
1987 Total .....	15.146	27.623	21.118	27.826	21.419	21.448	57.678	76.894
1988 Total .....	16.004	28.925	22.085	28.986	22.274	22.305	60.368	80.218
1989 Total .....	16.261	29.404	22.272	29.353	22.530	22.561	61.070	81.325
1990 Total .....	15.568	28.786	22.841	29.936	22.504	22.535	60.921	81.265
1991 Total .....	15.986	29.424	22.549	29.570	22.090	22.120	60.626	81.116
1992 January .....	2.029	3.218	2.062	2.633	1.826	1.828	5.916	7.678
February .....	1.814	2.816	1.940	2.458	1.716	1.718	5.468	6.989
March .....	1.596	2.615	2.014	2.590	1.864	1.866	5.472	7.070
April .....	1.336	2.272	1.909	2.458	1.834	1.837	5.078	6.565
May .....	1.040	2.021	1.917	2.515	1.897	1.899	4.853	6.435
June .....	.941	2.029	1.860	2.494	1.875	1.878	4.678	6.403
July .....	.995	2.293	1.902	2.558	1.963	1.966	4.865	6.822
August .....	.974	2.195	1.893	2.520	1.952	1.954	4.822	6.673
September .....	.983	2.065	1.862	2.444	1.842	1.844	4.689	6.356
October .....	1.083	2.066	2.030	2.610	1.911	1.914	5.024	6.590
November .....	1.381	2.390	1.992	2.588	1.818	1.820	5.190	6.798
December .....	1.918	3.118	2.118	2.711	1.933	1.936	5.970	7.765
Total .....	16.090	29.100	23.498	30.577	22.432	22.461	62.025	82.144
1993 January .....	R 2.086	R 3.293	R 2.034	R 2.602	1.784	1.787	R 5.904	R 7.681
February .....	R 1.942	R 2.984	R 1.975	R 2.505	1.707	1.710	R 5.625	R 7.199
March .....	R 1.836	R 2.926	R 2.108	R 2.679	1.945	1.947	R 5.890	R 7.553
April .....	R 1.370	R 2.307	R 1.908	R 2.454	1.858	1.861	R 5.135	R 6.621
May .....	R 1.000	R 1.990	R 1.860	R 2.473	1.917	R 1.919	R 4.776	R 6.381
June .....	R .973	R 2.134	R 1.851	R 2.497	1.926	1.929	R 4.754	R 6.563
July .....	R 1.043	R 2.456	R 1.906	R 2.559	1.980	R 1.982	R 4.936	R 7.004
August .....	R 1.034	R 2.421	R 1.879	R 2.524	1.996	1.999	R 4.916	R 6.951
September .....	R 1.044	R 2.141	R 1.962	R 2.506	1.934	1.937	R 4.943	R 6.588
October .....	R 1.104	R 2.109	R 2.069	R 2.648	1.896	1.898	R 5.069	R 6.656
November .....	R 1.448	R 2.474	R 1.982	R 2.576	1.905	1.908	R 5.336	R 6.959
December .....	R 1.899	3.083	R 2.104	R 2.708	R 1.947	1.950	R 5.952	R 7.742
Total .....	R 16.780	R 30.318	R 23.638	R 30.732	22.797	R 22.826	R 63.235	R 83.896
1994 January .....	2.459	3.756	2.168	2.752	1.863	1.866	6.492	8.375

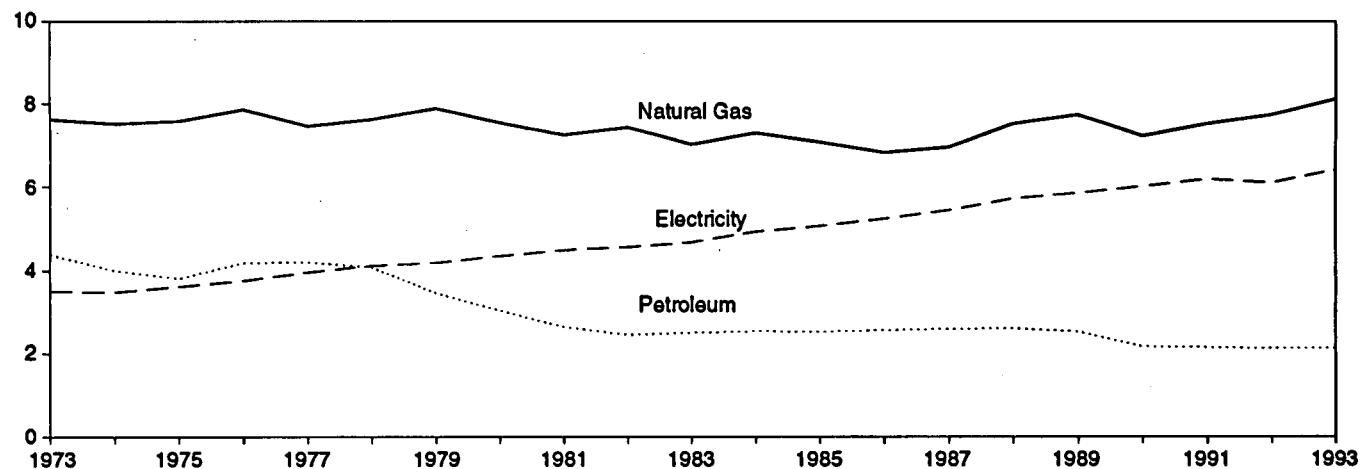
<sup>a</sup> Due to a lack of consistent historical data, some renewable energy sources are not included. For example, in 1991, 3.3 quadrillion Btu of renewable energy consumed by U.S. electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu of renewable energy used by other sectors is not included.

R=Revised data.

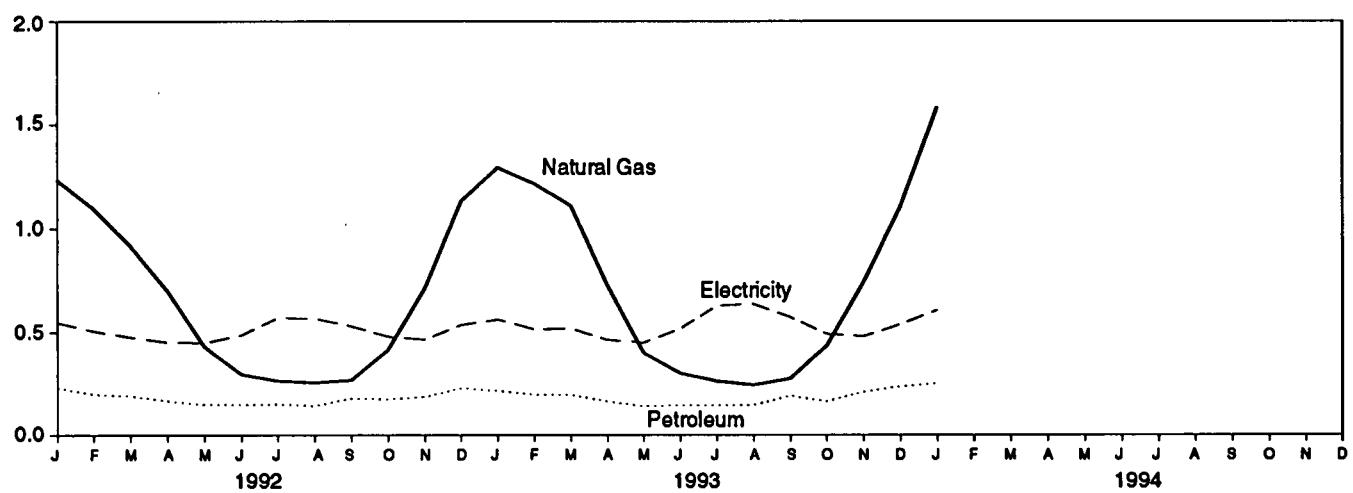
Notes: • Geographic coverage is the 50 States and the District of Columbia.  
 • Totals may not equal sum of components due to independent rounding and the use of sector-specific conversion factors for natural gas and coal.  
 Additional Notes and Sources: See end of section.

## Figure 2.2 Residential and Commercial Energy Consumption (Quadrillion Btu)

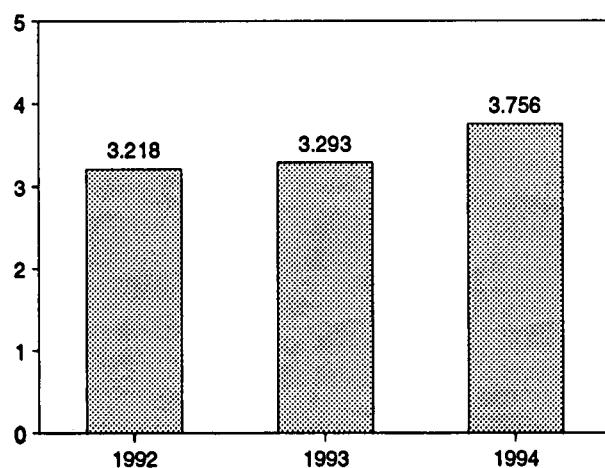
### Consumption by Major Sources, 1973-1993



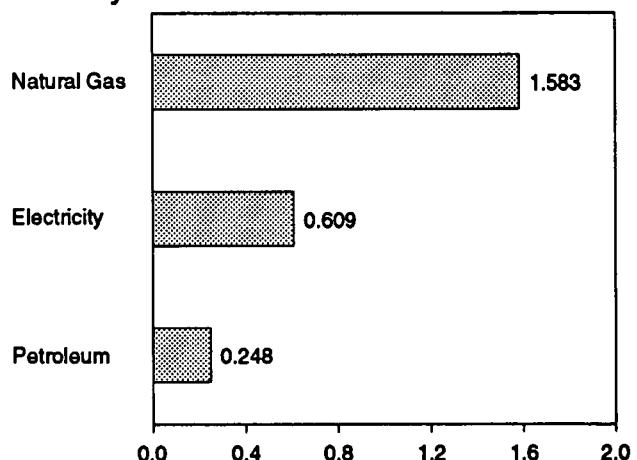
### Consumption by Major Sources, Monthly



### Total Consumption, January



### Consumption by Major Sources, January 1994



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

Source: Table 2.3.

**Table 2.3 Residential and Commercial Energy Consumption**  
 (Quadrillion Btu)

	Coal	Natural Gas <sup>a</sup>	Petroleum	Primary Consumption	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption <sup>b</sup>
1973 Total .....	0.254	7.826	4.391	12.270	3.495	15.786	8.377	24.143
1974 Total .....	.257	7.518	3.996	11.771	3.475	15.246	8.480	23.725
1975 Total .....	.209	7.581	3.805	11.595	3.604	15.200	8.700	23.899
1976 Total .....	.203	7.868	4.181	12.250	3.747	15.987	9.021	25.018
1977 Total .....	.205	7.461	4.206	11.873	3.955	15.828	9.558	25.384
1978 Total .....	.214	7.624	4.070	11.908	4.116	16.023	10.100	25.808
1979 Total .....	.187	7.891	3.448	11.525	4.184	15.709	10.100	25.808
1980 Total .....	.145	7.540	3.035	10.721	4.355	15.075	10.580	25.655
1981 Total .....	.167	7.243	2.634	10.043	4.497	14.541	10.700	25.241
1982 Total .....	.187	7.427	2.449	10.063	4.568	14.829	11.000	25.620
1983 Total .....	.182	7.024	2.498	9.715	4.680	14.395	11.232	25.627
1984 Total .....	.209	7.292	2.535	10.036	4.928	14.964	11.510	26.474
1985 Total .....	.176	7.079	2.522	9.777	5.061	14.839	11.865	26.704
1986 Total .....	.176	6.825	2.555	9.556	5.235	14.791	12.061	26.852
1987 Total .....	.182	6.854	2.587	9.703	5.443	15.146	12.477	27.623
1988 Total .....	.168	7.513	2.600	10.280	5.724	16.004	12.920	28.925
1989 Total .....	.146	7.731	2.525	10.402	5.859	16.261	13.143	29.404
1990 Total .....	.156	7.225	2.173	9.553	6.015	15.568	13.218	28.786
1991 Total .....	.141	7.510	2.154	9.805	6.180	15.986	13.439	29.424
1992 January .....	.017	1.233	.229	1.480	.550	2.029	1.189	3.218
February .....	.013	1.095	.197	1.305	.508	1.814	1.002	2.816
March .....	.012	.916	.189	1.117	.479	1.596	1.019	2.615
April .....	.012	.703	.165	.880	.455	1.336	.936	2.272
May .....	.007	.434	.146	.587	.452	1.040	.982	2.021
June .....	.007	.296	.148	.451	.489	.941	1.089	2.029
July .....	.011	.262	.149	.422	.573	.995	1.298	2.283
August .....	.009	.254	.141	.404	.570	.974	1.221	2.195
September .....	.009	.266	.177	.451	.532	.983	1.082	2.065
October .....	.008	.419	.173	.601	.482	1.083	.983	2.066
November .....	.015	.714	.184	.913	.468	1.381	1.009	2.390
December .....	.021	1.132	.227	1.380	.538	1.918	1.200	3.118
Total .....	.142	7.726	2.126	9.993	6.096	16.090	R 13.010	29.100
1993 January .....	R .015	1.293	.214	R 1.522	.564	R 2.086	1.207	R 3.283
February .....	R .015	1.215	.196	R 1.426	.517	R 1.942	R 1.042	R 2.984
March .....	R .012	1.110	.194	R 1.316	.521	R 1.836	R 1.090	R 2.926
April .....	R .014	.728	.162	R .905	.465	R 1.370	R .937	R 2.307
May .....	R .007	.401	.139	R .548	.452	R 1.000	R .990	R 1.990
June .....	R .010	.299	.145	R .453	.520	R .973	R 1.160	R 2.134
July .....	R .010	.261	.143	R .413	R .630	R 1.043	1.412	2.456
August .....	.009	.242	.145	.396	.638	R 1.034	1.388	R 2.421
September .....	.007	.273	.189	R .468	.576	R 1.044	1.097	R 2.141
October .....	R .009	.438	.163	R .610	.494	R 1.104	R 1.005	R 2.109
November .....	R .015	.744	.208	R .967	R .482	1.448	R 1.026	R 2.474
December .....	R .021	1.105	.234	R 1.359	R .540	R 1.899	R 1.184	3.083
Total .....	R .144	R 8.108	2.131	R 10.383	R 6.398	R 16.780	R 13.537	R 30.318
1994 January .....	.019	1.583	.248	1.850	.609	2.459	1.297	3.756

<sup>a</sup> Includes supplemental gaseous fuels.

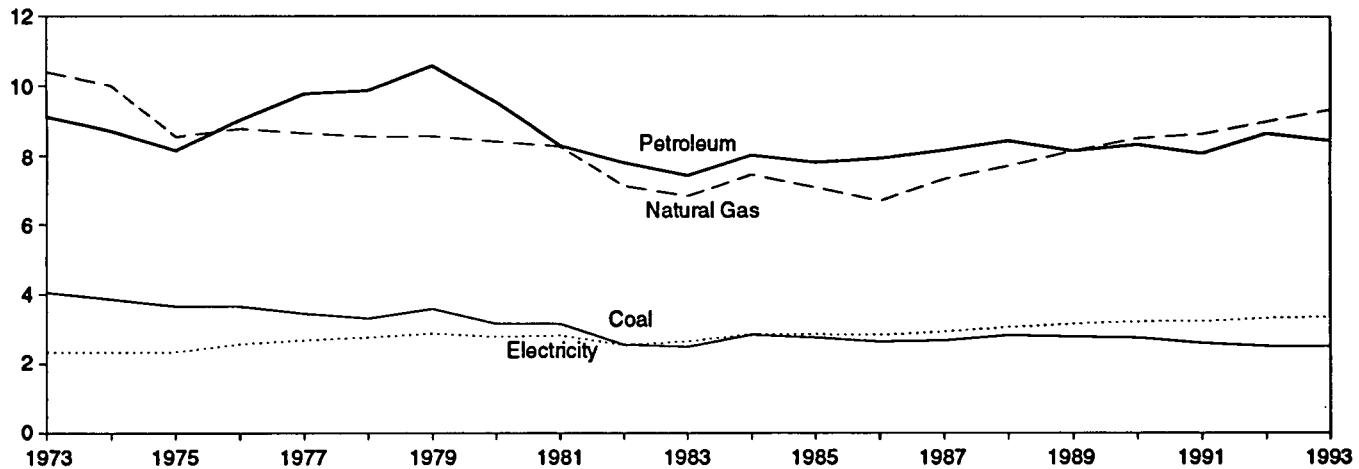
<sup>b</sup> Due to a lack of consistent historical data, some renewable energy sources are not included. For example, in 1991, an estimated 0.7 quadrillion Btu of renewable energy consumed by the U.S. residential and commercial sectors (primarily the residential sector) is not included.

R=Revised data.

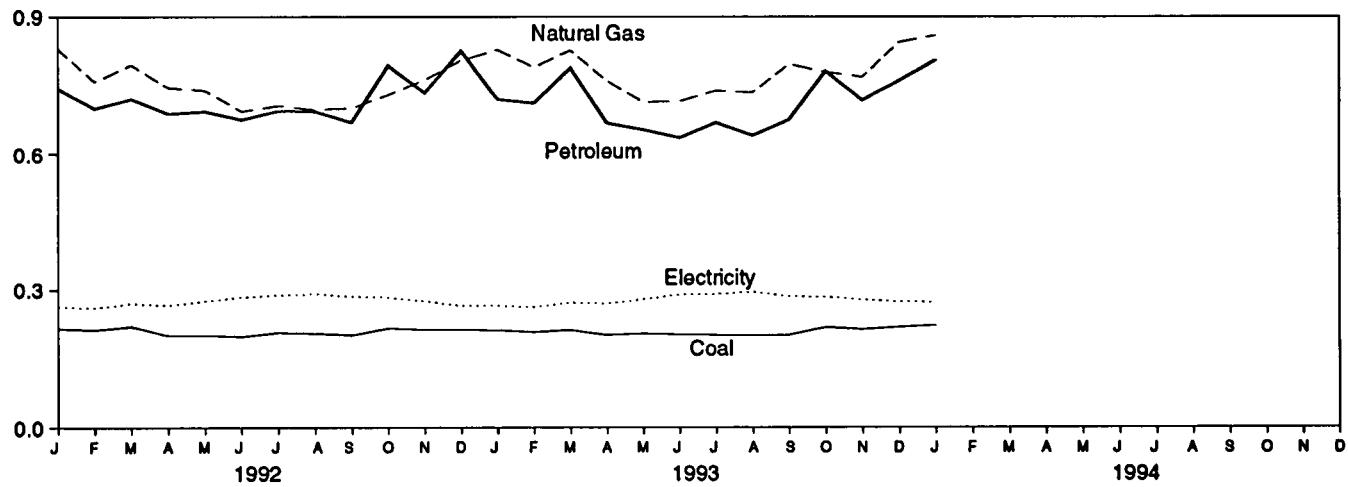
Notes: • Geographic coverage is the 50 States and the District of Columbia.  
 • Totals may not equal sum of components due to independent rounding.  
 Additional Notes and Sources: See end of section.

**Figure 2.3 Industrial Energy Consumption**  
 (Quadrillion Btu)

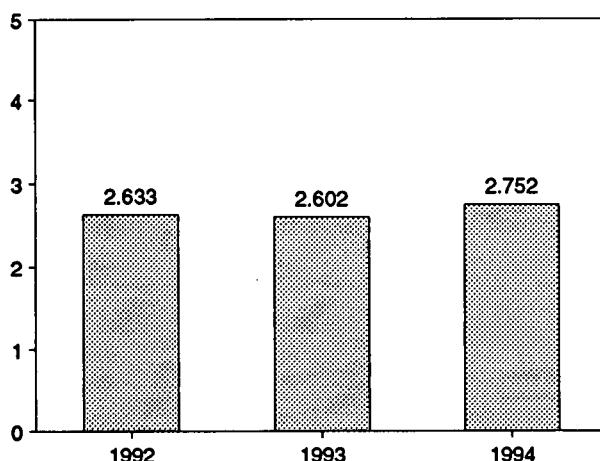
Consumption by Major Sources, 1973-1993



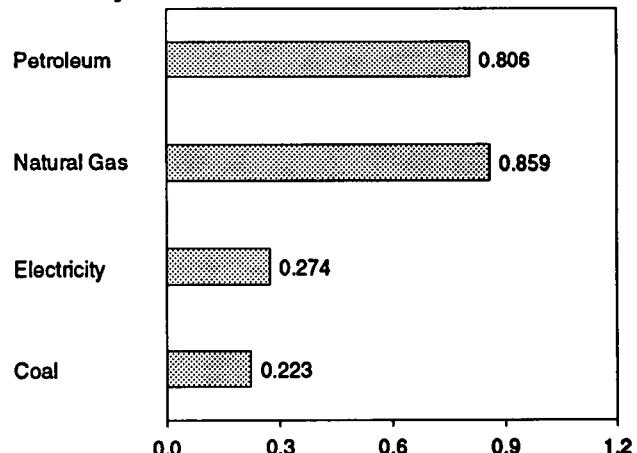
Consumption by Major Sources, Monthly



Total Consumption, January



Consumption by Major Sources, January 1994



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

Source: Table 2.4.

**Table 2.4 Industrial Energy Consumption**  
(Quadrillion Btu)

	Coal	Natural Gas <sup>a</sup>	Petroleum	Hydro-electric Power	Net Imports of Coal Coke	Primary Consumption	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption <sup>b</sup>
1973 Total .....	4.057	10.388	9.104	.035	-0.007	23.576	2.341	25.917	5.611	31.528
1974 Total .....	3.870	10.004	8.694	.033	.056	22.657	2.337	24.994	5.700	30.694
1975 Total .....	3.667	8.532	8.146	.032	.014	20.391	2.346	22.737	5.665	28.402
1976 Total .....	3.661	8.762	9.010	.033	(s)	21.465	2.573	24.038	6.198	30.238
1977 Total .....	3.454	8.635	9.774	.033	.015	21.911	2.682	24.593	6.484	31.077
1978 Total .....	3.314	8.539	9.667	.032	.125	21.876	2.761	24.637	6.755	31.392
1979 Total .....	3.593	8.549	10.568	.034	.063	22.807	2.873	25.679	6.936	32.616
1980 Total .....	3.155	8.395	9.525	.033	-.035	21.073	2.781	23.854	6.752	30.606
1981 Total .....	3.157	8.257	8.285	.033	-.016	19.715	2.817	22.533	6.707	29.240
1982 Total .....	2.552	7.121	7.794	.033	-.022	17.479	2.542	20.020	6.125	26.145
1983 Total .....	2.490	6.826	7.420	.033	-.016	16.753	2.648	19.401	6.359	25.759
1984 Total .....	2.842	7.448	8.014	.033	-.011	18.325	2.859	21.184	6.683	27.867
1985 Total .....	2.760	7.080	7.805	.033	-.013	17.665	2.855	20.520	6.694	27.214
1986 Total .....	2.640	6.690	7.920	.033	-.017	17.267	2.834	20.101	6.529	26.630
1987 Total .....	2.673	7.323	8.150	.033	.009	18.188	2.928	21.116	6.710	27.826
1988 Total .....	2.828	7.696	8.430	.033	.040	19.026	3.059	22.085	6.901	28.986
1989 Total .....	2.787	8.131	8.133	.033	.030	19.113	3.158	22.272	7.082	29.353
1990 Total .....	2.756	8.502	8.319	.033	.005	19.615	3.226	22.841	7.095	29.936
1991 Total .....	2.601	8.619	8.057	.033	.009	19.319	3.230	22.549	7.021	29.570
1992 January .....	.217	.830	.744	.003	.004	1.798	.264	2.062	.571	2.633
February .....	.214	.759	.700	.003	.003	1.678	.262	1.940	.517	2.458
March .....	.222	.795	.721	.003	.003	1.744	.271	2.014	.576	2.590
April .....	.201	.746	.689	.003	.003	1.642	.267	1.909	.549	2.458
May .....	.202	.740	.694	.003	.001	1.641	.278	1.917	.598	2.515
June .....	.199	.694	.676	.003	.003	1.575	.285	1.860	.634	2.494
July .....	.208	.706	.695	.003	.001	1.613	.289	1.902	.656	2.558
August .....	.206	.698	.694	.002	.001	1.601	.292	1.893	.627	2.520
September .....	.202	.701	.670	.002	.001	1.576	.286	1.862	.582	2.444
October .....	.217	.730	.794	.002	.002	1.746	.284	2.030	.580	2.610
November .....	.214	.763	.735	.002	.001	1.715	.276	1.992	.596	2.588
December .....	.214	.805	.826	.002	.005	1.852	.266	2.118	.593	2.711
Total .....	2.515	8.967	8.638	.033	.027	20.180	3.319	23.498	7.079	30.577
1993 January .....	R .213	R .828	.720	.003	.004	R 1.768	.266	R 2.034	R .568	R 2.602
February .....	R .209	R .790	.712	.003	(s)	R 1.712	.263	R 1.975	R .530	R 2.505
March .....	R .213	R .827	.789	.003	.003	R 1.835	R .273	R 2.108	R .571	R 2.679
April .....	R .202	R .761	.669	.003	.002	R 1.637	R .271	R 1.908	R .546	R 2.454
May .....	R .205	R .714	.654	.003	.002	R 1.579	R .280	R 1.860	R .613	R 2.473
June .....	R .203	R .716	.636	.003	.003	R 1.561	R .290	R 1.851	R .646	R 2.497
July .....	R .202	R .739	.670	.003	(s)	R 1.615	R .291	R 1.906	R .653	R 2.559
August .....	R .202	R .735	.641	.002	.002	R 1.583	R .296	R 1.879	R .645	R 2.524
September .....	R .202	R .797	.676	.002	-.001	R 1.676	R .286	R 1.962	R .545	R 2.506
October .....	R .219	.780	.782	.002	.001	R 1.784	R .285	R 2.069	R .579	R 2.648
November .....	R .214	.769	.718	.002	(s)	R 1.703	R .279	R 1.982	R .594	R 2.576
December .....	R .219	R .844	.761	.002	.002	R 1.829	R .275	R 2.104	R .604	R 2.708
Total .....	R 2.504	R 8.302	8.428	.033	.017	R 20.283	3.354	R 23.638	R 7.094	R 30.732
1994 January .....	.223	.859	.806	.003	.004	1.894	.274	2.168	.584	2.752

<sup>a</sup> Includes supplemental gaseous fuels.

<sup>b</sup> Due to a lack of consistent historical data, some renewable energy sources are not included. For example, in 1991, an estimated 2.7 quadrillion Btu of renewable energy consumed by the U.S. industrial sector (primarily the pulp and paper industry) is not included.

R=Revised data. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

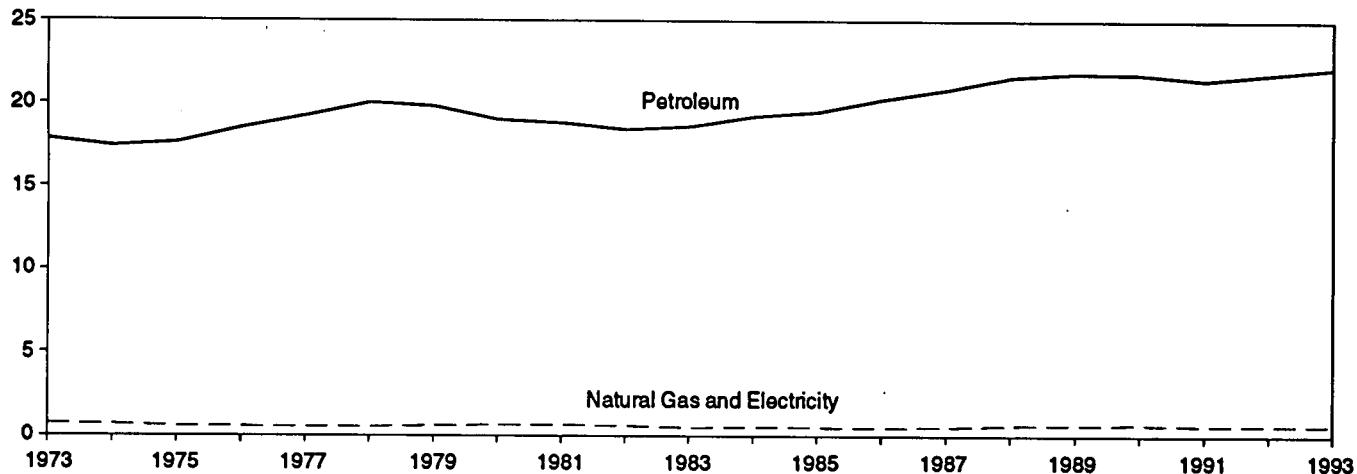
Notes: • Geographic coverage is the 50 States and the District of Columbia.

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

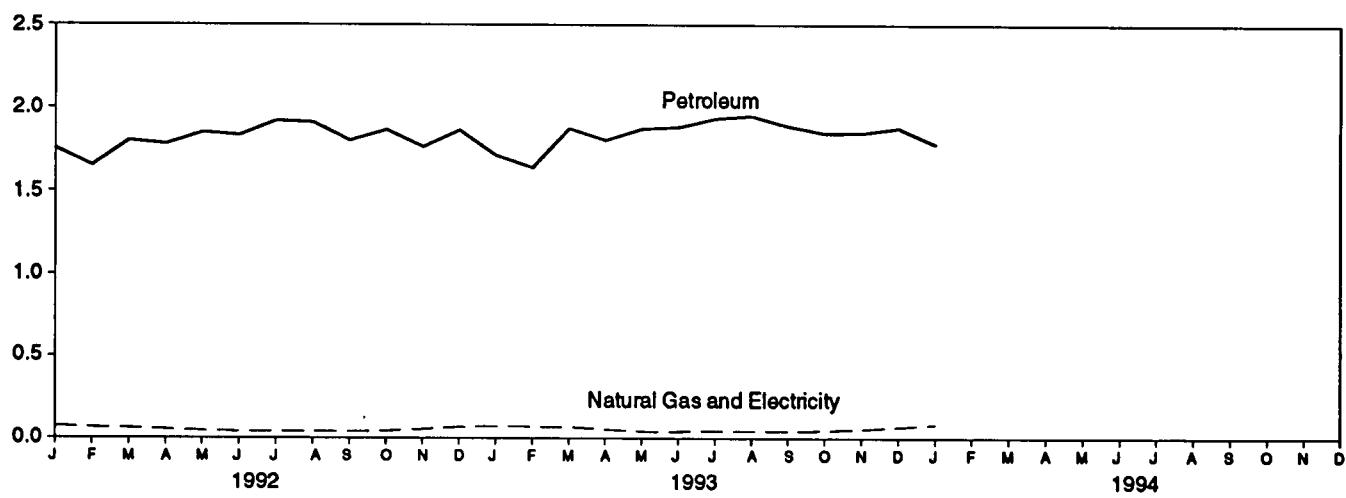
Additional Notes and Sources: See end of section.

**Figure 2.4 Transportation Energy Consumption**  
 (Quadrillion Btu)

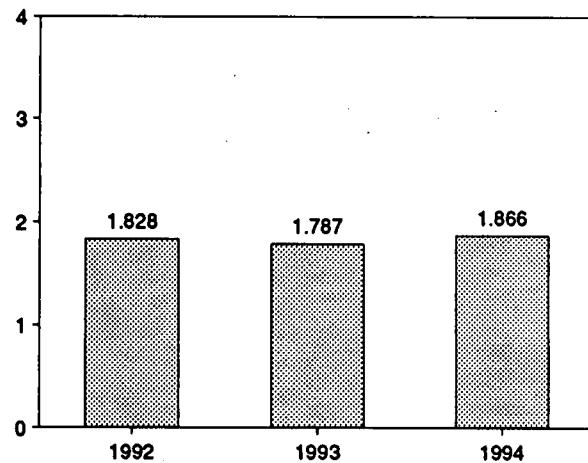
Consumption by Major Sources, 1973-1993



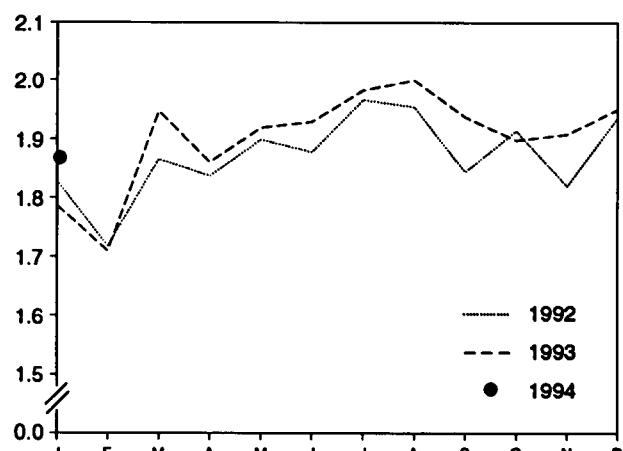
Consumption by Major Sources, Monthly



Total Consumption, January



Total Consumption, Monthly



Note: Because vertical scales differ, graphs should not be compared.  
 Source: Table 2.5.

**Table 2.5 Transportation Energy Consumption  
(Quadrillion Btu)**

	Coal	Natural Gas <sup>a</sup>	Petroleum	Primary Consumption	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption <sup>b</sup>
1973 Total .....	0.003	0.743	17.831	18.576	0.008	18.584	0.020	18.805
1974 Total .....	.002	.685	17.399	18.086	.009	18.095	.022	18.117
1975 Total .....	.001	.595	17.814	18.209	.010	18.219	.025	18.244
1976 Total .....	(s)	.550	18.506	19.065	.010	19.076	.025	19.101
1977 Total .....	(s)	.543	19.241	19.784	.010	19.794	.025	19.819
1978 Total .....	(c)	.539	20.041	20.580	.009	20.589	.022	20.611
1979 Total .....	(c)	.612	19.825	20.436	.010	20.447	.025	20.472
1980 Total .....	(c)	.650	19.008	19.858	.011	19.869	.026	19.895
1981 Total .....	(c)	.658	18.811	19.469	.011	19.480	.026	19.507
1982 Total .....	(c)	.612	18.420	19.032	.011	19.043	.026	19.069
1983 Total .....	(c)	.505	18.593	19.098	.011	19.109	.026	19.135
1984 Total .....	(c)	.545	19.216	19.761	.012	19.773	.026	19.801
1985 Total .....	(c)	.519	19.504	20.024	.013	20.036	.030	20.067
1986 Total .....	(c)	.499	20.269	20.768	.013	20.781	.031	20.812
1987 Total .....	(c)	.535	20.871	21.406	.013	21.419	.029	21.448
1988 Total .....	(c)	.632	21.629	22.260	.014	22.274	.031	22.305
1989 Total .....	(c)	.649	21.868	22.517	.014	22.530	.031	22.561
1990 Total .....	(c)	.680	21.810	22.480	.014	22.504	.031	22.535
1991 Total .....	(c)	.620	21.456	22.076	.014	22.090	.030	22.120
1992 January .....	(c)	.070	1.754	1.825	.001	1.826	.002	1.828
February .....	(c)	.064	1.651	1.715	.001	1.716	.002	1.718
March .....	(c)	.060	1.803	1.863	.001	1.864	.002	1.866
April .....	(c)	.052	1.781	1.833	.001	1.834	.002	1.837
May .....	(c)	.044	1.852	1.896	.001	1.897	.002	1.899
June .....	(c)	.039	1.835	1.874	.001	1.875	.003	1.878
July .....	(c)	.040	1.922	1.962	.001	1.963	.003	1.966
August .....	(c)	.039	1.912	1.950	.001	1.952	.003	1.954
September .....	(c)	.038	1.803	1.841	.001	1.842	.002	1.844
October .....	(c)	.042	1.868	1.910	.001	1.911	.002	1.914
November .....	(c)	.052	1.765	1.817	.001	1.818	.002	1.820
December .....	(c)	.066	1.866	1.932	.001	1.933	.003	1.936
Total .....	(c)	.606	21.812	22.418	.014	22.432	.029	22.461
1993 January .....	(c)	.071	1.712	1.783	.001	1.784	<sup>R</sup> .002	1.787
February .....	(c)	.067	1.639	1.706	.001	1.707	.002	1.710
March .....	(c)	.066	1.877	1.943	.001	1.945	.002	1.947
April .....	(c)	.052	1.806	1.857	.001	1.858	.002	1.861
May .....	(c)	.040	1.876	1.916	.001	1.917	.002	1.919
June .....	(c)	.040	1.885	1.925	.001	1.926	.003	1.929
July .....	(c)	.042	1.937	1.978	.001	1.980	.003	1.982
August .....	(c)	.042	1.953	1.995	.001	1.996	.003	1.999
September .....	(c)	.041	1.892	1.933	.001	1.934	.002	1.937
October .....	(c)	.045	1.849	1.895	.001	1.896	.002	1.898
November .....	(c)	.054	1.851	1.904	.001	1.905	.002	1.908
December .....	(c)	.066	1.880	1.946	.001	1.947	.003	1.950
Total .....	(c)	.626	22.157	<sup>R</sup> 22.763	.014	22.797	<sup>R</sup> .030	<sup>R</sup> 22.828
1994 January .....	(c)	.081	1.781	1.862	.001	1.863	.003	1.866

<sup>a</sup> Pipeline fuel only, including supplemental gaseous fuels.

<sup>b</sup> Due to a lack of consistent historical data, some renewable energy sources are not included. For example, in 1991, an estimated 0.1 quadrillion Btu of renewable energy consumed by the U.S. transportation sector is not included.

<sup>c</sup> Since 1978, the small amounts of coal consumed for transportation are

reported as industrial sector consumption.

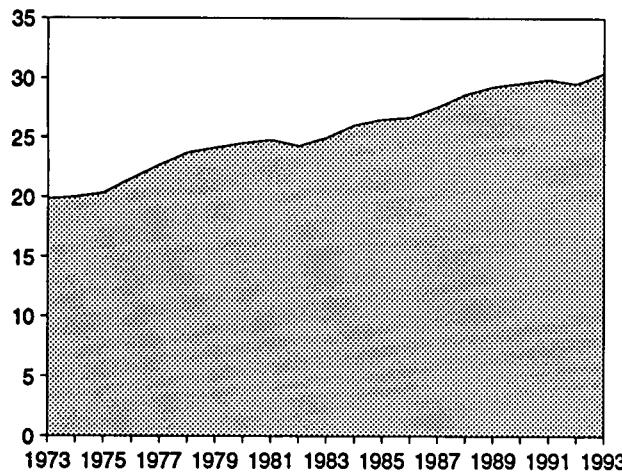
<sup>R</sup>=Revised data. (s)=Less than 0.5 trillion Btu.

Notes: • Geographic coverage is the 50 States and the District of Columbia.

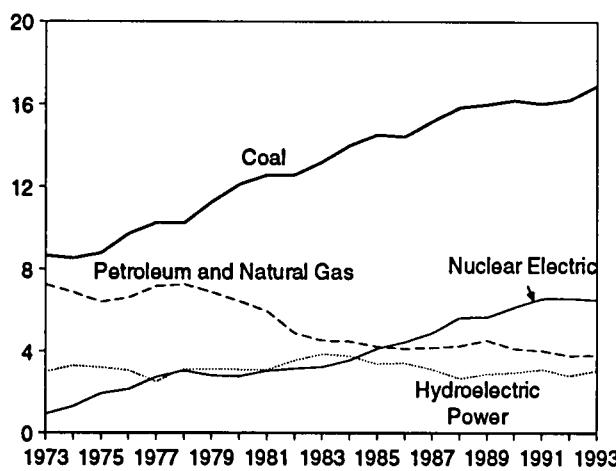
• Totals may not equal sum of components due to independent rounding.  
Additional Notes and Sources: See end of section.

**Figure 2.5 Energy Input at Electric Utilities**  
(Quadrillion Btu)

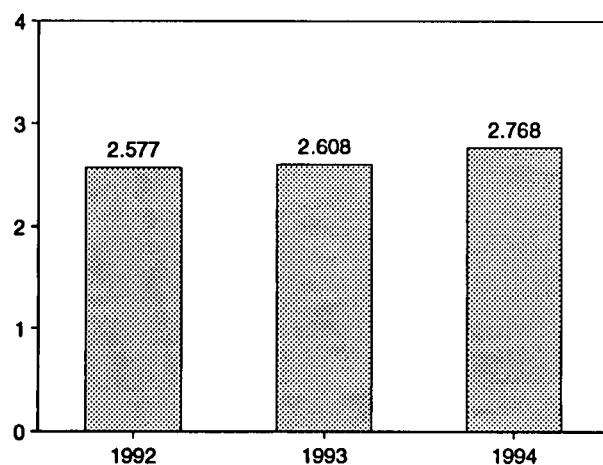
### Total Input, 1973-1993



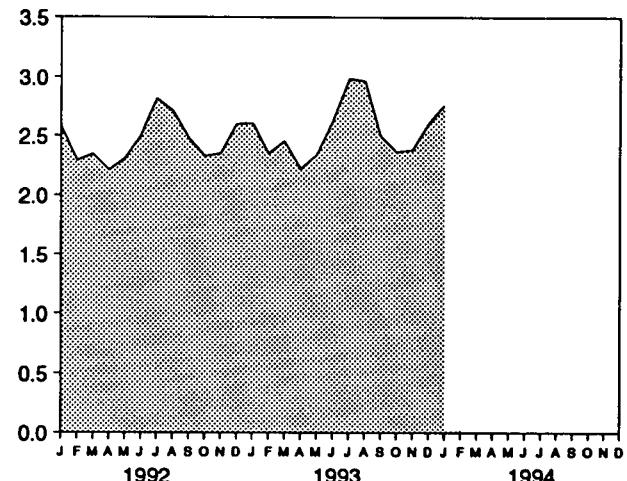
### **Input by Major Sources, 1973-1993**



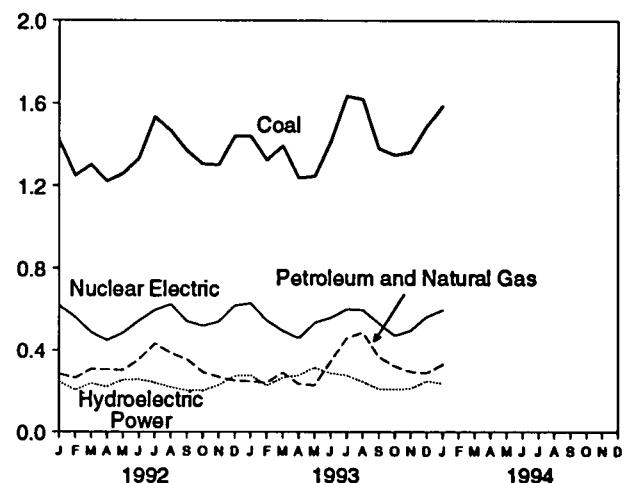
### Total Input, January



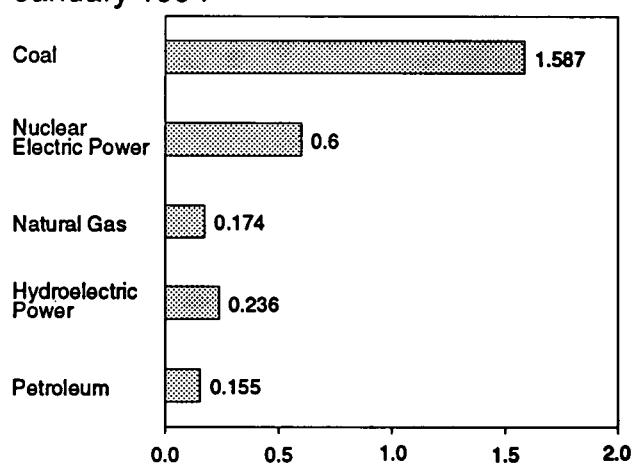
### Total Input, Monthly



## Input by Major Sources, Monthly



## **Input by Major Sources, January 1994**



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

Source: Table 2.6.

**Table 2.6 Energy Input at Electric Utilities**  
 (Quadrillion Btu)

	Coal	Natural Gas <sup>a</sup>	Petroleum <sup>b</sup>	Nuclear Electric Power	Hydro-electric Power <sup>c</sup>	Geothermal Energy	Other <sup>d</sup>	Total
1973 Total .....	8,658	3,748	3,515	0.910	2,975	0.043	0.003	19,852
1974 Total .....	8,534	3,519	3,365	1.272	3,276	.053	.003	20,022
1975 Total .....	8,786	3,240	3,166	1.900	3,187	.070	.002	20,350
1976 Total .....	9,720	3,152	3,477	2.111	3,032	.078	.003	21,574
1977 Total .....	10,262	3,284	3,901	2.702	2,482	.077	.005	22,713
1978 Total .....	10,238	3,297	3,987	3,024	3,110	.064	.003	23,724
1979 Total .....	11,260	3,613	3,283	2.776	3,107	.084	.005	24,128
1980 Total .....	12,123	3,810	2,634	2.739	3,085	.110	.005	24,505
1981 Total .....	12,583	3,768	2,202	3,008	3,072	.123	.004	24,760
1982 Total .....	12,582	3,342	1,568	3,131	3,539	.105	.003	24,270
1983 Total .....	13,213	2,998	1,544	3,203	3,866	.129	.004	24,956
1984 Total .....	14,020	3,220	1,286	3,553	3,767	.165	.009	26,020
1985 Total .....	14,542	3,160	1,090	4,149	3,365	.198	.015	26,519
1986 Total .....	14,444	2,691	1,452	4,471	3,413	.219	.012	26,703
1987 Total .....	15,173	2,935	1,257	4,906	3,084	.229	.016	27,600
1988 Total .....	15,850	2,709	1,563	5,661	2,630	.217	.017	28,648
1989 Total .....	15,988	2,871	1,685	5,877	2,848	.197	.020	29,286
1990 Total .....	16,189	2,882	1,250	6,161	2,914	.181	.021	29,599
1991 Total .....	16,028	2,856	1,178	6,579	3,083	.170	.021	29,915
1992 January .....	1,419	.173	.108	.618	.242	.015	.002	2,577
February .....	1,251	.174	.087	.564	.203	.013	.002	2,294
March .....	1,303	.212	.092	.489	.234	.015		2,348
April .....	1,222	.234	.069	.451	.219	.014	.001	2,211
May .....	1,260	.242	.056	.487	.251	.014	.002	2,311
June .....	1,333	.272	.080	.547	.254	.014	.002	2,501
July .....	1,534	.341	.092	.598	.238	.014		2,820
August .....	1,468	.309	.076	.626	.217	.014	.002	2,714
September .....	1,371	.280	.074	.544	.201	.013	.002	2,485
October .....	1,306	.217	.073	.521	.200	.014	.002	2,333
November .....	1,302	.193	.074	.542	.227	.014	.002	2,353
December .....	1,442	.179	.070	.620	.272	.014	.002	2,600
Total .....	16,211	2,826	.951	6,607	2,760	.170	.022	29,547
1993 January .....	R 1,443	.168	.077	.631	.275	.014	.002	R 2,608
February .....	R 1,326	.165	.074	.548	R 225	.013	.002	R 2,355
March .....	1,394	.198	.090	.498	.262	.014		2,458
April .....	R 1,239	.178	.055	.461	.275	.014	.002	R 2,223
May .....	R 1,248	.171	.056	.538	.313	.012	.001	R 2,339
June .....	1,416	.260	.083	.562	.285	.012	.001	2,620
July .....	1,636	.341	.121	.603	.274	.013	.001	2,990
August .....	1,620	.365	.126	.600	.244	.014	.002	2,970
September .....	R 1,382	R 264	.102	.534	.209	.013	.002	R 2,507
October .....	R 1,350	R 240	.080	.474	.207	.013	.002	R 2,366
November .....	1,365	.213	R 079	.500	.211	.013	.002	2,384
December .....	1,491	.178	.108	.567	.247	.013	.002	2,606
Total .....	R 16,911	R 2,741	R 1,052	6,517	R 3,027	.159	.021	R 30,427
1994 January .....	1,587	.174	.155	.600	.236	.013	.002	2,768

<sup>a</sup> Includes supplemental gaseous fuels.

<sup>b</sup> Petroleum products reported as "oil consumed in steam plants" through 1979 and "heavy oil" from 1980 forward, which are assumed to be residual fuel oil; petroleum products reported as "oil consumed in gas turbine and internal combustion engine plants" through 1979 and "light oil" from 1980 forward, which are assumed to be distillate fuel oil, kerosene, and petroleum coke.

<sup>c</sup> Includes net imports of electricity.

<sup>d</sup> "Other" is electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.

R=Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia.  
 • Totals may not equal sum of components due to independent rounding.  
 Additional Notes and Sources: See end of section.

# Energy Consumption Notes and Sources

The data in this section of the *Monthly Energy Review (MER)* are obtained initially from a group of energy-related surveys, typically called "supply surveys," conducted by the Energy Information Administration (EIA). Supply surveys are those surveys directed to suppliers and marketers of specific energy sources. They measure the quantities of specific energy sources produced, or the quantities supplied to the market, or both. The data obtained from the EIA's supply surveys are integrated to yield the summary consumption statistics published in this section (and in Section 1) of the *MER*. Users of the EIA's energy consumption statistics should be aware of a second group of energy-related surveys, typically called "consumption surveys." Consumption surveys gather information on the types of energy consumed by end users of energy, along with the characteristics of those end users that can be associated with energy use. For example, the Manufacturing Energy Consumption Survey belongs to the consumption survey group because it collects information directly from end users (the manufacturing establishments). There are important differences between the supply and consumption surveys that need to be taken into account in any analysis that uses both data sources. For information on those differences, see *Energy Consumption by End-Use Sector, A Comparison of Measures by Consumption and Supply Surveys*, DOE/EIA-0533, Energy Information Administration, Washington, DC, April 6, 1990. The numbered notes that follow elaborate on essential information in Section 2.

**1. Total Energy Consumed:** Total energy consumed includes coal, natural gas (including supplemental gaseous fuels), petroleum products supplied, electric utility and industrial generation of hydroelectric power, net imports of electricity generated from hydroelectric power, and electricity generated from nuclear power. Total energy consumed also includes electricity generated from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available.

**2. Economic Sectors:** Energy use is assigned to the major economic sectors according to the following guidelines as closely as possible:

- **Residential**—All private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units, and mobile homes. Secondary homes, such as summer homes, are also included. Institutional housing, such as school dormitories, hospitals, and military barracks, generally are not included in the residential sector; they are included in the commercial sector.
- **Commercial**—Business establishments that are not engaged in transportation or in manufacturing or

other types of industrial activity (agriculture, mining, or construction). Commercial establishments include hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; religious and nonprofit organizations; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included if the establishment operating them is considered commercial.

- **Industrial**—Manufacturing industries, which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in this sector range from steel mills to small farms to companies assembling electronic components.
- **Transportation**—Private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroads and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines.
- **Electric Utility**—Privately and publicly owned establishments that generate, transmit, distribute, and sell electricity primarily for use by the public and meet the definition of an electric utility. Non-utility power producers are not included in the electric utility sector.

Although the end-use allocations are made according to these aggregations as closely as possible, some data are collected by using different classifications. For example, data on agricultural use of natural gas are collected and reported in the commercial sector, rather than in the industrial sector. Since agricultural use of natural gas cannot be identified separately, it is included in the commercial sector in this report. Another example is master-metered condominiums and apartments, and buildings with a combination of residential and commercial units. In many cases, the metering and billing practices cause residential energy usage of electricity, natural gas, or fuel oil to be included in the commercial sector. No adjustments for these discrepancies were made.

**3. Conversion Factors:** See the conversion factors listed in Appendix A.

**4. Coal:** Coal is anthracite, bituminous coal (including subbituminous coal), and lignite. Sources:

- 1973-September 1977: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys*.
- Electric Utilities—October 1977 forward: Energy Information Administration (EIA), Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report."
- Other Industrial—October 1977-December 1979: EIA, Form EIA-3, "Monthly Coal Consumption Report - Manufacturing Plants"; January 1980 for-

ward: EIA, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants," and Form EIA-6, "Coal Distribution Report."

- Coke Plants—October 1977-December 1980: EIA, Form EIA-5/5A, "Coke and Coal Chemicals - Monthly/Annual"; January 1981-December 1984: EIA, Form EIA-5/5A, "Coke Plant Report - Quarterly/Annual Supplement"; January 1985 forward: EIA, Form EIA-5/5A, "Coke Plant Report," quarterly.
- Residential and Commercial—October 1977-December 1979: EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers - Upper Lake Docks"; January 1980 forward: EIA, Form EIA-6, "Coal Distribution Report."

**5. Natural Gas:** Natural gas consumption by end use is based on data presented in Table 4.4 of this report. For Section 2 calculations, lease and plant fuel consumption are added to industrial deliveries, and pipeline fuel represents transportation use of natural gas. Values in Btu are derived by using the conversion factors provided in Appendix A. Sources:

- 1973-1975: DOI, BOM, *Minerals Yearbook*, "Natural Gas" chapter.
- 1976-1978: EIA, "Energy Data Reports," *Natural Gas, Annual*.
- 1979: EIA, *Natural Gas Production and Consumption 1979*.
- 1980-1992: EIA, *Natural Gas Annual*.
- 1993: EIA, *Natural Gas Monthly*.
- Electric Utilities—1973-1976: Form FPC-4, "Monthly Power Plant Report"; 1977-1981: Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report"; 1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."
- American Gas Association, "Monthly Gas Utility Statistical Report," residential and commercial monthly sales data for 1973-1979, which are used to estimate monthly consumption values from EIA annual consumption values.

**6. Petroleum:** Petroleum consumption by end use is the sum of all individual petroleum products estimated to be consumed in each end-use sector. First, total consumption by product is determined. Petroleum consumption in this section of the *Monthly Energy Review (MER)* is the series called "petroleum products supplied" in Section 3. Sources for petroleum products supplied by individual products are:

- 1973-1975: DOI, BOM, *Mineral Industry Surveys*, "Petroleum Statement, Annual."
- 1976-1980: EIA, *Energy Data Reports*, "Petroleum Statement, Annual."
- 1981-1992: EIA, *Petroleum Supply Annual*.
- 1993 and 1994: EIA, *Petroleum Supply Monthly*.

Specific petroleum products' end-use allocation procedures follow:

- **Aviation Gasoline**—All product supplied is assigned to the transportation sector.
- **Asphalt**—All product supplied is assigned to the industrial sector.
- **Distillate Fuel**—Product supplied is assigned to electric utilities and non-electric utilities as follows:

#### *Electric Utilities, All Periods.*

Monthly and annual consumption for 1973-1979 is assumed to be the amount of oil (minus small amounts of kerosene and kerosene-type jet fuel deliveries) reported as consumed in internal combustion and gas turbine engine plants. From January 1980, electric utility consumption of distillate fuel is assumed to be the petroleum products reported as "light oil" (minus small amounts of kerosene deliveries through 1982) consumed at electric utilities.

Sources: 1973-September 1977: FPC, Form FPC-4, "Monthly Power Plant Report"; October 1977-1981: FERC, Form FPC-4, "Monthly Power Plant Report"; 1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."

#### *Sectors Other Than Electric Utilities, Annual Estimates Through 1992.*

The aggregate non-electric utility use of distillate fuel is total distillate fuel supplied minus the electric utility consumption. The non-electric utility annual consumption totals are allocated to the individual non-electric utility sectors (residential, commercial, industrial, and transportation) in proportion to the share of "adjusted sales" of each end-use sector, as reported in EIA's *Fuel Oil and Kerosene Sales (Sales)* report series (DOE/EIA-0535), which is based primarily on data collected by Form EIA-821, previously Form EIA-172. "Adjusted sales" are sales that have been adjusted at the PAD district level to equal EIA volume estimates of petroleum products supplied in the U.S. market. Following are notes on the individual sector groupings:

- Since 1979, the residential sector adjusted sales total is directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.
- Since 1979, the commercial sector adjusted sales total is directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into residential, commer-

cial, and industrial (including farm) in proportion to the 1979 shares.

- Since 1979, the industrial sector adjusted sales total is the sum of the adjusted sales for industrial, farm, oil company, off-highway, diesel, and all other uses. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares, and this estimated industrial portion is added to oil company, off-highway diesel, and all other uses.

- The transportation sector adjusted sales total is the sum of the adjusted sales for railroad, vessel bunkering, on-highway diesel, and military uses for all years.

#### **Sectors Other Than Electric Utilities, Monthly Estimates Through 1992.**

- Residential and commercial monthly consumption is estimated by allocating the annual estimates described above into months in proportion to each month's share of the year's sales of No. 2 heating oil as reported in the "Monthly Report of Heating Oil Sales" by the Ethyl Corporation from 1973-1980, the American Petroleum Institute for 1981 and 1982, and the EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, since 1983.

- The transportation highway use portion is allocated into the months in proportion to each month's share of the year's total sales for highway use as reported by the Federal Highway Administration's Table MF-25, "Private and Commercial Highway Use of Special Fuels by Months." The remaining transportation use of distillate fuel (i.e., for railroads, vessel bunkering, and military use) is evenly distributed over the months, adjusted for the number of days per month.

- Industrial monthly estimates are made by subtracting the residential and commercial, transportation, and electric utility sector estimates from each month's total distillate fuel supplied.

#### **Sectors Other Than Electric Utilities, 1993 and 1994**

Each month's non-electric utility consumption subtotal is disaggregated into the major end-use sectors in proportion to the shares each sector held of the non-electric utility subtotal in the same month in 1992.

• **Jet Fuel**—Through 1982, small amounts of kerosene-type jet fuel were consumed by electric utilities. Kerosene-type jet fuel deliveries to electric utilities as reported on the Form FERC-423 (formerly Form FPC-423) were used as

estimates of this consumption. All remaining jet fuel (kerosene-type and naphtha-type) is consumed by the transportation sector.

- **Kerosene**—Total product supplied monthly is allocated to the major end-use sectors in proportion to annual sales grouped into end-use sectors from EIA's *Fuel Oil and Kerosene Sales (Sales)* reports (based primarily on data collected by Form EIA-821, previously Form EIA-172), as follows:

- Residential deliveries are directly from the *Sales* reports for 1979-1992. Sales for 1992 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.

- Commercial sales are directly from the *Sales* reports for 1979-1992. Sales for 1992 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.

- Industrial sales are directly from the *Sales* reports for 1979-1992. Sales for 1992 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial and industrial in proportion to the 1979 shares, and this estimated industrial (including farm) portion is added to all other uses.

- **Liquefied Petroleum Gases (LPG)**—The annual shares of LPG's total consumption that are estimated to be consumed by each end-use sector are applied to each month's total LPG consumption (i.e., product supplied) to create monthly end-use consumption estimates. The annual end-use shares are calculated in the following manner:

- Sales of LPG to the residential and commercial sector are converted from thousand gallons per year to thousand barrels per year and are assumed to be the annual consumption of LPG by the sector.

- The quantity of LPG sold each year for consumption in internal combustion engines is allocated between the transportation and industrial sectors on the basis of data for special fuels used on highways published by the U.S. Department of Transportation, Federal Highway Administration, in *Highway Statistics*. The allocations of LPG sold for internal combustion engine use to the transportation sector range from a high of 67 percent in 1981 to a low of 37 percent in 1987.

- LPG consumed annually by the industrial sector is estimated as the difference between LPG total supplied and the estimated consumption of LPG by the sum of the residential and commercial sector and the transportation sector. The industrial sector includes LPG used by chemical plants as raw materials or solvents and used in the production of

synthetic rubber; refinery fuel use; use as synthetic natural gas feedstock and use in secondary recovery projects; all farm use; LPG sold to gas utility companies for distribution through the mains; and a portion of the use of LPG as an internal combustion engine fuel.

The sources of the annual sales data for creating annual end-use shares are:

- 1973-1982: EIA's "Sales of Liquefied Petroleum Gases and Ethane" reports, based primarily on data collected by Form EIA-174.
- 1983: End-use consumption estimates for 1983 are based on 1982 end-use consumption because the collection of data under Form EIA-174 was discontinued after data year 1982.
- 1984-1992: American Petroleum Institute (API), "Sales of Natural Gas Liquids and Liquefied Refinery Gases," which is based on an LPG sales survey jointly sponsored by API, the Gas Processors Association, and the National Liquefied Petroleum Gas Association.
- 1993 and 1994: The 1992 source is used to estimate succeeding periods.
- **Lubricants**—Total product supplied is allocated to the industrial and transportation sectors for all months according to proportions developed from annual sales of lubricants to the two sectors from U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports*, "Sales of Lubricating and Industrial Oils and Greases." The 1973 shares are applied to 1973 and 1974; the 1975 shares are applied to 1975 and 1976; and the 1977 shares are applied to 1977 forward.
- **Motor Gasoline**—Total product supplied monthly is allocated to the major end-use sectors in proportion to aggregations of annual sales categories created on the basis of the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Tables MF-21, MF-24, and MF-25, as follows:
  - Commercial sales are the sum of sales for public non-highway use and miscellaneous and unclassified uses.
  - Industrial sales are the sum of sales for agriculture, construction, and industrial and commercial use as classified in the *Highway Statistics*.
  - Transportation sales are the sum of sales for highway use (minus the sales of special fuels, which are primarily diesel fuel and are accounted for in the transportation sector of distillate fuel) and sales for marine use.
- **Petroleum Coke**—The portion consumed by electric utilities is from Form EIA-759, "Monthly

Power Plant Report" (formerly Form FPC-4). The remaining petroleum coke is assigned to the industrial sector.

- **Residual Fuel**—Product supplied is assigned to electric utilities and non-electric utilities as follows:

#### *Electric Utilities, All Periods.*

Monthly and annual consumption for 1973-1979 is assumed to be the amount of oil reported as consumed in steam-electric power plants. From January 1980 forward, electric utility consumption of residual fuel is assumed to be the petroleum products reported as heavy oil consumed at electric utilities.

Sources: 1973-September 1977: Form FPC-4, "Monthly Power Plant Report"; October 1977-1981: FERC, Form FPC-4, "Monthly Power Plant Report"; 1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."

#### *Sectors Other Than Electric Utilities, Annual Estimates Through 1992.*

The aggregate non-electric utility use of residual fuel is total residual fuel supplied minus the electric utility consumption. The non-electric utility annual totals are allocated into the individual non-electric utility sectors in proportion to the amount of residual fuel sold to end users, grouped into sectors from EIA's *Fuel Oil and Kerosene Sales (Sales)* reports (based primarily on data collected by Form EIA-821, previously Form EIA-172), as follows:

- Since 1979, commercial sales data are directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares.
- Since 1979, industrial sales data are the sum of sales for industrial, oil company, and all other uses. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares, and this estimated industrial portion is added to oil company and all other uses.

- Transportation sales are the sum of sales for railroad, vessel bunkering, and military uses for all years.

#### *Sectors Other Than Electric Utilities, Monthly Estimates Through 1992.*

- Commercial sector monthly consumption is estimated by allocating the annual commercial sector estimates described above into months in proportion to each month's share of the year's sales of No. 2 fuel oil as reported in the "Monthly Report"

of Heating Oil Sales" by the Ethyl Corporation for 1973-1980 and the American Petroleum Institute for 1981 and 1982, and the EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, since 1983.

- Transportation monthly estimates are made by evenly distributing the annual sector estimate over the months, adjusting for the number of days per month.

- Industrial monthly estimates are made by subtracting the commercial, transportation, and electric utility sector estimates from each month's total residual fuel supplied.

#### **Sectors Other Than Electric Utilities, 1993 and 1994**

Each month's non-electric utility consumption subtotal is disaggregated into the major end-use sectors in proportion to the shares each sector held of the non-electric utility subtotal in the same month in 1992.

- **Road Oil**—All product supplied is assigned to the industrial sector.
- **All Other Petroleum Products**—The product supplied of all remaining petroleum products is assigned to the industrial sector.

#### **7. Nuclear Electric Power, Geothermal, and Wood, Waste, Wind, Photovoltaic, and Solar Thermal Energy Sources Connected to Electric Utility Distribution Systems: Sources:**

- 1973-1976: FPC, Form FPC-4, "Monthly Power Plant Report."
- 1977-1981: FERC, Form FPC-4, "Monthly Power Plant Report."
- 1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."

#### **8. Hydroelectric Power:** Includes electricity generated by hydroelectric power at electric utilities, small amounts in the industrial sector, and net imports of electricity, which are assumed to be generated by hydroelectric power and are included in the electric utilities sector.

##### **Sources for electric utilities sector:**

- 1973-1976: FPC, Form FPC-4, "Monthly Power Plant Report."
- 1977-1981: FERC, Form FPC-4, "Monthly Power Plant Report."
- 1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."

##### **Sources for industrial sector:**

- 1973-1978: FPC, Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts, and FPC, Form FPC-12C, "Industrial Electric Generating Capacity," for all other plants.
- 1979: FPC, Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts and EIA estimates for all other plants.
- 1980 forward: Annual generation estimated by EIA as the average generation over the 6-year period of 1974-1979; monthly generation estimated to be in proportion to each month's hydroelectricity generation in the electric utility industry in 1980.

##### **Sources for imports and exports of electricity:**

- 1973-September 1977: Unpublished Federal Power Commission data.
- October 1977-1980: Unpublished Economic Regulatory Administration (ERA) data.
- 1981: DOE, Office of Energy Emergency Operations, "Report on Electric Energy Exchanges with Canada and Mexico for Calendar Year 1981," April 1982 (revised June 1982).
- 1982 and 1983: DOE, ERA, *Electricity Exchanges Across International Borders*.
- 1984-1986: DOE, ERA, *Electricity Transactions Across International Borders*.
- 1987 and 1988: DOE, ERA, Form ERA-781R, "Annual Report of International Electrical Export/Import Data."
- 1989-1991: DOE, Assistant Secretary for Fossil Energy, Form FE-781-R, "Annual Report of International Electrical Export/Import Data."
- 1992 forward: EIA estimates based on preliminary data from the National Energy Board of Canada and DOE, Assistant Secretary for Fossil Energy.

#### **9. Net Imports of Coal Coke:** Net imports means imports minus exports, and a minus sign indicates that exports are greater than imports. Sources:

- 1973-1975: DOI, BOM, *Minerals Yearbook*, "Coke and Coal Chemicals" chapter.
- 1976-1980: EIA, *Energy Data Report*, "Coke and Coal Chemicals" annual.
- 1981: EIA, *Energy Data Report*, "Coke Plant Report," quarterly.
- 1982 forward: EIA, *Quarterly Coal Report*.

#### **10. Electricity:** End-use consumption of electricity is based on Table 7.2 sales data. "Other," which is primarily for use in government buildings, is added to the commercial sector, except for approximately 4 per-

cent used by railroads and railways and attributed to the transportation sector. For 1973-1983 and 1993, "Monthly Series" data are used directly. For 1984-1992, monthly estimates are created by dividing each month's "Monthly Series" value by the "Monthly Series" total for the year and multiplying by the "Annual Series" value for the year. Kilowatthours are converted to Btu at the rate of 3,412 Btu per kilowatthour. See Table 7.2 for sources of the electricity sales data.

**11. Electrical System Energy Losses:** Electrical system energy losses are calculated as the difference between total energy input at electric utilities and the total energy content of electricity sold to end-use consumers. Most of those losses occur at steam-electric power plants (conventional and nuclear) in the conversion of heat energy into mechanical energy to turn electric generators. The loss is a thermodynamically necessary feature of the steam-electric cycle. Part of

the energy input-to-output losses is a result of imputing fossil energy equivalent inputs for hydroelectric and other energy sources, since there is no generally accepted practice for measuring those thermal conversion rates. In addition to conversion losses, other losses include power plant use of electricity, transmission and distribution of electricity from power plants to end-use consumers (also called "line losses"), and unaccounted for electricity. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity sales. Overall, approximately 67 percent of total energy input is lost in conversion; of electricity generated, approximately 5 percent is lost in plant use and 9 percent is lost in transmission and distribution. Calculated electrical system energy losses may be less than actual losses, because primary consumption does not include the energy equivalent of utility purchases of electricity from non-electric utilities and from Canada and Mexico, although they are included in electricity sales.



## Section 3. Petroleum

Total petroleum imports<sup>2</sup> averaged 8.4 million barrels per day in March 1994, 1 percent<sup>3</sup> lower than the previous month's rate but 1 percent higher than the March 1993 rate.

In March 1994, 17.7 million barrels per day of petroleum products were supplied for domestic use, slightly lower than the March 1993 rate. Motor gasoline accounted for 42 percent of the total; distillate fuel oil, 19 percent; and residual fuel oil, 6 percent.

Motor gasoline supplied during March 1994 averaged 7.4 million barrels per day, 2 percent higher than the previous month's rate but slightly lower than the March 1993 rate. Total motor gasoline stocks were 214 million barrels at the end of March 1994, 13 million barrels below the stock level in both the previous month and the level 1 year earlier.

Distillate fuel oil supplied during March 1994 averaged 3.3 million barrels per day, 8 percent lower than the previous month's rate and 3 percent lower than the March 1993 rate. Distillate fuel oil ending stocks for March 1994 were 99 million barrels, 5 million barrels below the stock level in the previous month but 2 million barrels above the stock level 1 year earlier.

Residual fuel oil supplied in March 1994 averaged 1.1 million barrels per day, 27 percent lower than the previous month's rate but 1 percent higher than the March 1993 rate. Residual fuel oil stocks measured 41 million barrels at the end of March 1994, 2 million barrels above the stock level in the previous month but the same as the stock level 1 year earlier.

Estimates (except of crude production) for the most current month are based on Energy Information Administration (EIA) weekly data and will be revised to conform with data from the EIA Petroleum Reporting System as available. For the most recent month, crude production is an EIA estimate based on historical and provisional data through December 1993.

<sup>2</sup>Total import data include imports into the Strategic Petroleum Reserve.

<sup>3</sup>Percentage changes are based on numbers shown in the following tables.

**Table 3.1a Petroleum Overview: Field Production, Stock Change, Petroleum Products Supplied, and Ending Stocks**

	Field Production			Stock Change <sup>a</sup>		Petroleum Products Supplied	Ending Stocks <sup>b</sup>
	Total Domestic <sup>c</sup>	Crude Oil	Natural Gas Plant Production	Crude Oil <sup>d</sup>	Petroleum Products		Crude Oil and Petroleum Products
	Thousand Barrels per Day						Million Barrels
1973 Average .....	10,975	9,208	1,738	-11	146	17,308	1,008
1974 Average .....	10,498	8,774	1,688	62	117	16,653	1,074
1975 Average .....	10,045	8,375	1,633	17	15	16,322	1,133
1976 Average .....	9,774	8,132	1,604	39	-96	17,461	1,112
1977 Average .....	9,913	8,245	1,618	170	378	18,431	1,312
1978 Average .....	10,328	8,707	1,567	78	-172	18,847	1,278
1979 Average .....	10,179	8,552	1,584	148	25	18,513	1,341
1980 Average .....	10,214	8,597	1,573	98	42	17,056	1,392
1981 Average .....	10,230	8,572	1,609	290	-130	16,058	1,484
1982 Average .....	10,252	8,649	1,550	136	-283	15,298	1,430
1983 Average .....	10,299	8,688	1,558	214	-234	15,231	1,454
1984 Average .....	10,554	8,879	1,630	199	81	15,726	1,556
1985 Average .....	10,636	8,971	1,609	50	-153	15,726	1,510
1986 Average .....	10,289	8,680	1,551	78	124	16,281	1,593
1987 Average .....	10,008	8,349	1,595	128	-87	16,665	1,607
1988 Average .....	9,818	8,140	1,625	1	-29	17,283	1,597
1989 Average .....	9,219	7,613	1,548	86	-129	17,325	1,581
1990 Average .....	8,994	7,355	1,559	-35	142	16,988	1,621
1991 Average .....	9,168	7,417	1,659	-42	32	16,714	1,617
1992 January .....	9,176	7,361	1,688	540	-757	17,012	1,610
February .....	9,175	7,389	1,696	171	-951	16,893	1,588
March .....	9,123	7,348	1,694	-250	-291	16,825	1,571
April .....	9,072	7,293	1,693	315	92	16,764	1,583
May .....	8,949	7,169	1,695	-144	770	16,485	1,602
June .....	8,968	7,167	1,701	-581	604	16,978	1,603
July .....	8,961	7,131	1,683	244	290	17,143	1,620
August .....	8,678	6,922	1,638	-124	161	16,929	1,621
September .....	8,843	7,030	1,660	-160	653	16,876	1,636
October .....	9,025	7,126	1,722	411	-258	17,448	1,640
November .....	8,975	7,024	1,754	-227	77	17,091	1,636
December .....	9,019	7,103	1,744	-212	-1,203	17,928	1,592
Average .....	8,896	7,171	1,697	-1	-68	17,033	1,592
1993 January .....	E 9,257	E 7,008	1,728	264	E 370	16,320	1,611
February .....	E 8,948	E 6,957	1,761	219	-799	17,397	1,595
March .....	E 9,009	E 6,976	1,799	246	-619	17,688	1,584
April .....	E 8,904	E 6,897	1,790	537	388	16,673	1,611
May .....	E 8,775	E 6,833	1,719	133	897	16,340	1,643
June .....	E 8,697	E 6,756	1,738	-15	586	17,032	1,660
July .....	E 8,599	E 6,654	1,723	41	542	17,208	1,678
August .....	E 8,691	E 6,732	1,732	-524	386	17,176	1,674
September .....	E 8,670	E 6,711	1,717	-439	7	17,709	1,661
October .....	E 8,847	E 6,816	1,765	333	420	17,230	1,685
November .....	E 8,823	E 6,888	1,674	251	-286	17,688	1,684
December .....	E 8,696	E 6,838	1,607	-58	-1,158	17,887	1,646
Average .....	E 8,826	E 6,838	1,729	E 81	67	17,183	1,646
1994 January .....	E 8,674	6,777	1,619	-16	R -831	17,924	1,620
February .....	RE 8,586	RE 6,745	R 1,642	R -164	R -1,225	18,302	R 1,581
March .....	E 8,549	PE 6,682	E 1,611	E 231	E -996	E 17,667	E 1,581
3-Month Average .....	E 8,604	PE 6,735	E 1,623	E 23	E -1,010	E 17,953	E 1,581
1993 3-Month Average .....	9,075	6,981	1,763	244	-334	17,126	1,584
1992 3-Month Average .....	9,157	7,365	1,693	153	-660	16,910	1,571

<sup>a</sup> A negative number indicates a decrease in stocks and a positive number indicates an increase.

<sup>b</sup> Stocks are totals as of end of period.

<sup>c</sup> Includes crude oil, natural gas plant liquids, and other liquids.

<sup>d</sup> Includes stocks located in the Strategic Petroleum Reserve.

<sup>e</sup> See Note 4 at end of section.

<sup>f</sup> See Note 6 at end of section.

<sup>g</sup> Beginning in 1993, includes fuel ethanol blended into finished motor gasoline and oxygenate production from merchant MTBE (methyl tertiary

butyl ether) plants.

PE=Preliminary estimate. R=Revised data. NA=Not available.

E=Estimate.

Notes: • Crude oil includes lease condensate. • Geographic coverage is the 50 States and the District of Columbia.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S1. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S1.

**Table 3.1b Petroleum Overview: Imports, Exports, and Net Imports**

	Imports			Exports			Net Imports <sup>b</sup>
	Total	Crude Oil <sup>a</sup>	Petroleum Products	Total	Crude Oil	Petroleum Products	
	Thousand Barrels per Day						
1973 Average .....	6,256	3,244	3,012	231	2	229	6,025
1974 Average .....	6,112	3,477	2,635	221	3	218	5,892
1975 Average .....	6,056	4,105	1,951	209	6	204	5,846
1976 Average .....	7,313	5,287	2,026	223	8	215	7,090
1977 Average .....	8,807	6,615	2,183	243	50	193	8,565
1978 Average .....	8,363	6,356	2,008	362	158	204	8,002
1979 Average .....	8,456	6,519	1,937	c 471	235	c 236	c 7,985
1980 Average .....	6,909	5,263	1,646	544	287	258	6,365
1981 Average .....	5,996	4,396	1,599	595	228	387	5,401
1982 Average .....	5,113	3,488	1,625	815	238	579	4,298
1983 Average .....	5,051	3,329	1,722	739	164	575	4,312
1984 Average .....	5,437	3,426	2,011	722	181	541	4,715
1985 Average .....	5,067	3,201	1,866	781	204	577	4,286
1986 Average .....	6,224	4,178	2,045	785	154	631	5,439
1987 Average .....	6,678	4,674	2,004	764	151	613	5,914
1988 Average .....	7,402	5,107	2,295	815	155	681	6,587
1989 Average .....	8,061	5,843	2,217	859	142	717	7,202
1990 Average .....	8,018	5,894	2,123	857	109	748	7,181
1991 Average .....	7,627	5,782	1,844	1,001	116	885	6,626
1992 January .....	7,712	5,956	1,756	1,144	118	1,026	6,568
February .....	6,827	5,079	1,748	852	22	829	5,975
March .....	7,068	5,321	1,747	912	105	807	6,156
April .....	8,092	6,127	1,966	937	23	914	7,155
May .....	7,823	6,060	1,763	885	106	779	6,939
June .....	7,946	6,171	1,775	957	107	850	6,989
July .....	8,479	6,796	1,683	929	53	876	7,550
August .....	8,260	6,457	1,803	789	133	657	7,470
September .....	8,178	6,218	1,960	848	68	780	7,330
October .....	8,505	6,696	1,810	902	106	796	7,603
November .....	7,872	6,121	1,751	995	111	885	6,877
December .....	7,839	5,937	1,901	1,237	107	1,130	6,602
Average .....	7,888	6,083	1,805	950	89	881	6,938
1993 January .....	7,964	6,292	1,672	1,135	129	1,006	6,830
February .....	7,930	6,156	1,775	1,033	166	887	6,897
March .....	8,342	6,513	1,829	970	139	831	7,373
April .....	8,485	6,698	1,787	1,067	73	994	7,418
May .....	8,348	6,549	1,799	1,082	112	970	7,266
June .....	8,745	7,175	1,569	899	150	750	7,845
July .....	9,145	7,262	1,883	1,013	62	950	8,132
August .....	8,360	6,614	1,746	823	55	768	7,537
September .....	8,476	6,558	1,918	902	107	796	7,574
October .....	9,147	7,181	1,966	889	62	827	8,258
November .....	8,725	6,892	1,833	965	67	898	7,760
December .....	8,600	6,838	1,762	1,260	63	1,197	7,340
Average .....	8,526	6,731	1,795	1,003	88	905	7,523
1994 January .....	7,914	5,961	1,953	927	110	817	6,987
February .....	R 8,501	R 6,313	R 2,187	R 882	R 116	R 768	R 7,619
March .....	E 8,413	E 6,387	E 2,027	E 867	E 103	E 764	E 7,546
3-Month Average .....	E 8,269	E 6,217	E 2,051	E 892	E 109	E 783	E 7,376
1993 3-Month Average .....	8,084	6,326	1,758	1,046	144	903	7,038
1992 3-Month Average .....	7,211	5,460	1,750	972	83	889	6,239

<sup>a</sup> Includes crude oil for storage in the Strategic Petroleum Reserve.

<sup>b</sup> Net imports equals imports minus exports.

<sup>c</sup> See Note 6 at end of section.

R=Revised data. E=Estimate.

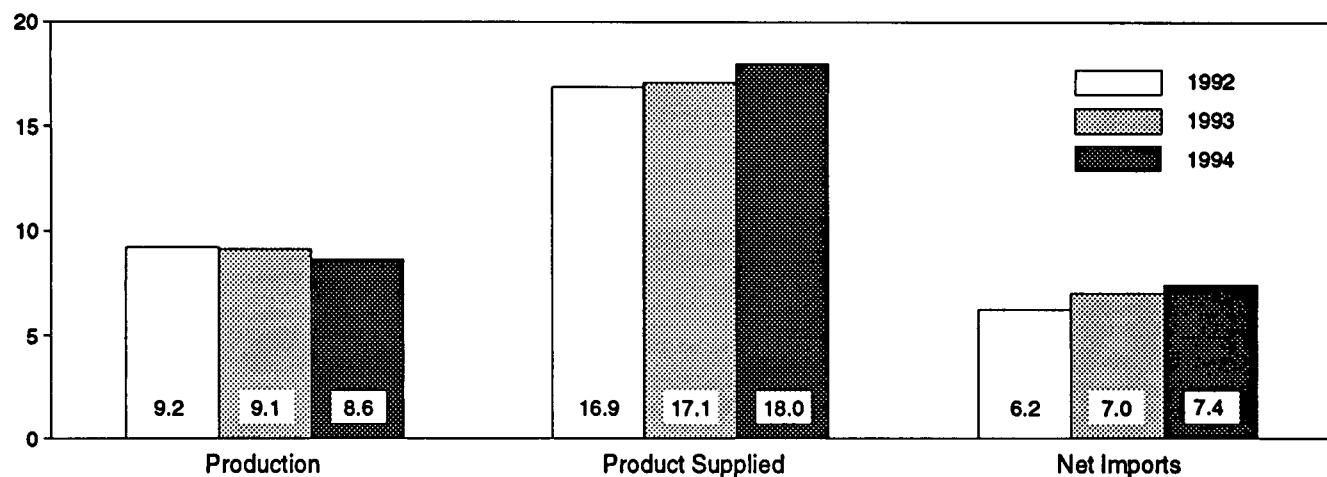
Notes: • Geographic coverage is the 50 States and the District of Columbia.

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

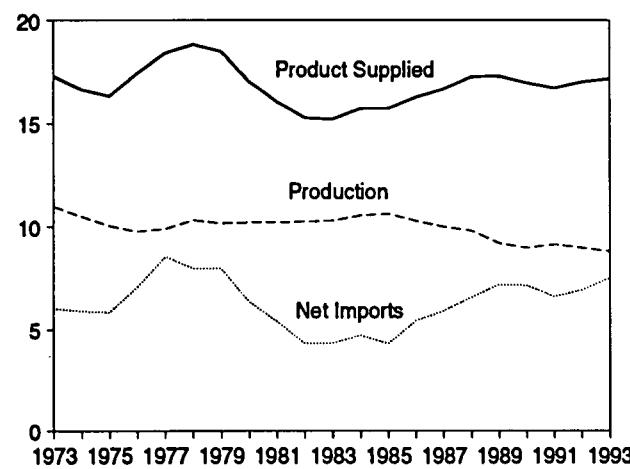
Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S1. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S1.

**Figure 3.1 Petroleum Overview**  
(Million Barrels per Day)

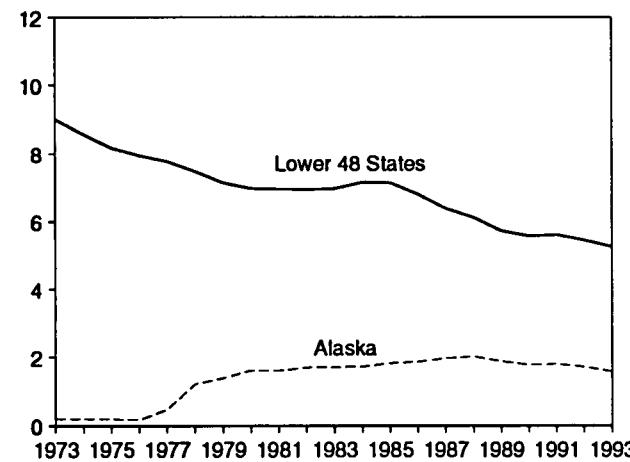
### Overview, January-March



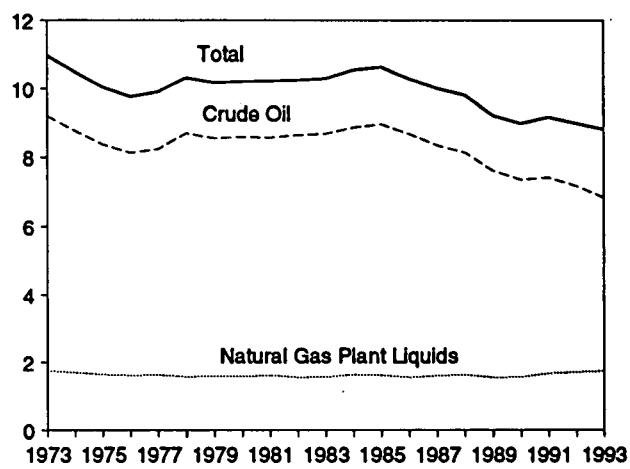
### Overview, 1973-1993



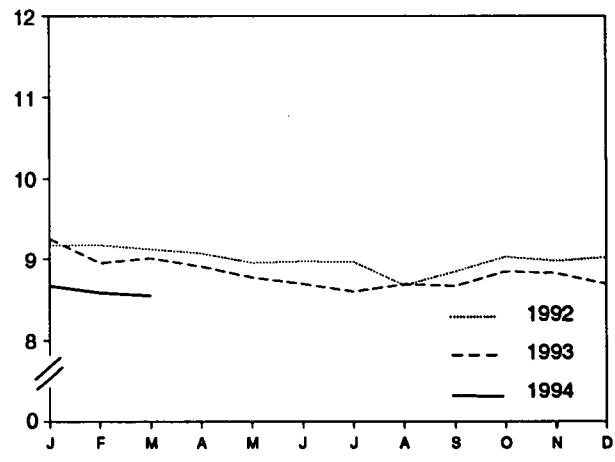
### Crude Oil Production, 1973-1993



### Production, 1973-1993



### Total Production, Monthly



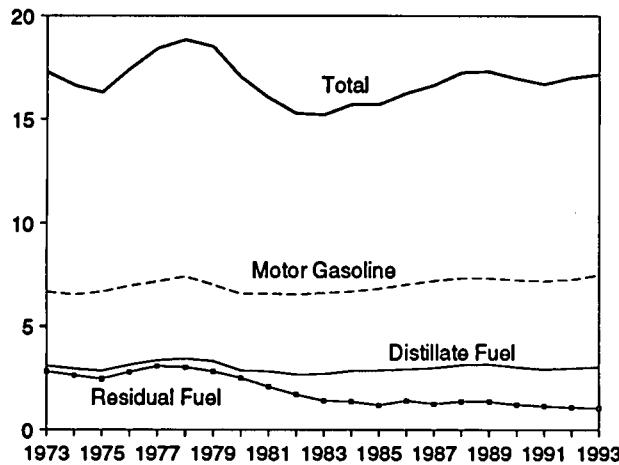
Note: Because vertical scales differ, graphs should not be compared.

Sources: Tables 3.1a, 3.1b, and 3.2a.

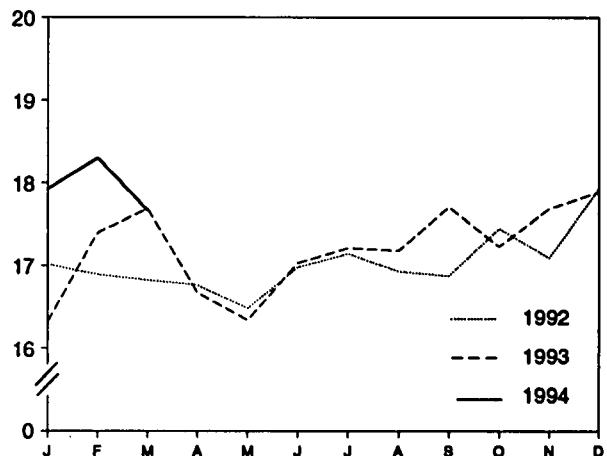
### Figure 3.1 Petroleum Overview (Continued)

(Million Barrels per Day, Except as Noted)

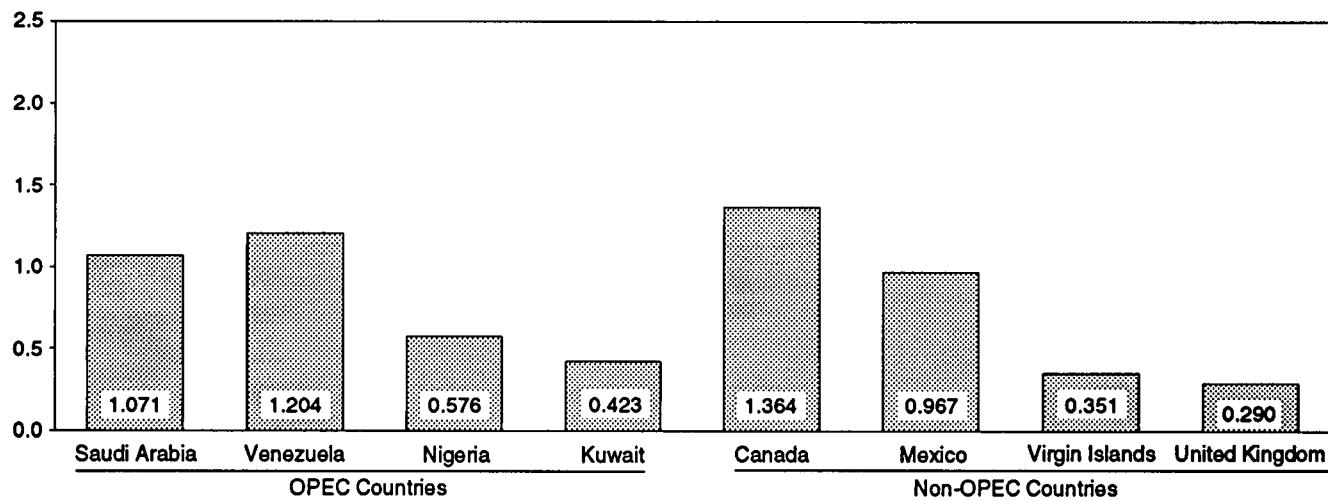
#### Product Supplied, 1973-1993



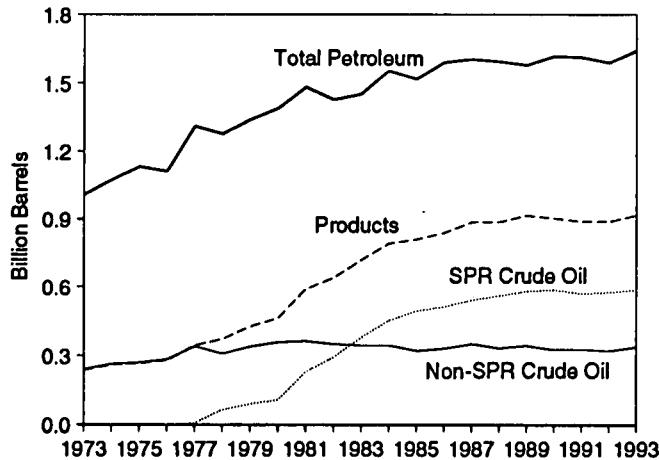
#### Total Product Supplied, Monthly



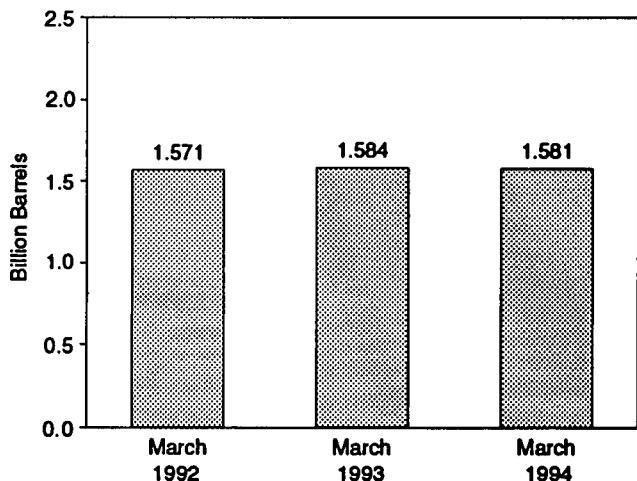
#### Imports from Selected Countries, February 1994



#### Stocks, End of Year, 1973-1993



#### Total Petroleum Stocks, End of Month



Notes: • OPEC = Organization of Petroleum Exporting Countries. • SPR = Strategic Petroleum Reserve. • Because vertical scales differ, graphs should not be compared.

Sources: Tables 3.1a, 3.2b, 3.3a, 3.3b, 3.3d-3.3h, 3.4, 3.5, and 3.6.

**Table 3.2a Crude Oil Supply and Disposition: Supply**

	Supply							Unaccounted-for Crude Oil <sup>b</sup>	Crude Oil Used Directly <sup>c</sup>		
	Field Production		Imports			Total	SPR <sup>a</sup>				
	Total Domestic	Alaskan	Total	Other							
Thousand Barrels per Day											
1973 Average .....	8,208	198	3,244	—	3,244	3	—	-10			
1974 Average .....	8,774	193	3,477	—	3,477	-25	—	-15			
1975 Average .....	8,375	191	4,105	—	4,105	17	—	-17			
1976 Average .....	8,132	173	5,287	—	5,287	77	—	d -19			
1977 Average .....	8,245	484	6,615	21	6,594	-6	—	-14			
1978 Average .....	8,707	1,229	6,356	d 181	6,195	-57	—	d -15			
1979 Average .....	8,552	1,401	6,519	67	6,452	-11	—	d -14			
1980 Average .....	8,597	1,617	5,263	44	5,219	34	—	d -14			
1981 Average .....	8,572	1,609	4,396	256	4,141	83	—	-58			
1982 Average .....	8,649	1,696	3,488	165	3,323	71	—	-59			
1983 Average .....	8,688	1,714	3,329	234	3,096	114	—	—			
1984 Average .....	8,879	1,722	3,426	197	3,229	185	—	—			
1985 Average .....	8,971	1,825	3,201	118	3,083	145	—	—			
1986 Average .....	8,680	1,867	4,178	48	4,130	139	—	—			
1987 Average .....	8,349	1,962	4,674	73	4,601	145	—	—			
1988 Average .....	8,140	2,017	5,107	51	5,055	166	—	—			
1989 Average .....	7,613	1,874	5,843	56	5,787	200	—	—			
1990 Average .....	7,355	1,773	5,894	27	5,867	258	—	—			
1991 Average .....	7,417	1,798	5,782	0	5,782	195	—	—			
1992 January .....	7,361	1,789	5,956	0	5,956	290	—	—			
February .....	7,389	1,808	5,079	0	5,079	229	—	—			
March .....	7,348	1,785	5,321	0	5,321	287	—	—			
April .....	7,293	1,741	6,127	0	6,127	189	—	—			
May .....	7,169	1,682	6,060	0	6,060	421	—	—			
June .....	7,167	1,703	6,171	34	6,138	259	—	—			
July .....	7,131	1,655	6,796	0	6,796	332	—	—			
August .....	6,922	1,635	6,457	18	6,439	65	—	—			
September .....	7,030	1,700	6,218	16	6,202	385	—	—			
October .....	7,126	1,696	6,696	49	6,647	290	—	—			
November .....	7,024	1,674	6,121	0	6,121	296	—	—			
December .....	7,103	1,705	5,937	0	5,937	61	—	—			
Average .....	7,171	1,714	6,083	10	6,073	258	—	—			
1993 January .....	E 7,008	E 1,654	6,292	0	6,292	82	—	—			
February .....	E 6,957	E 1,628	6,156	0	6,156	208	—	—			
March .....	E 6,976	E 1,639	6,513	32	6,481	156	—	—			
April .....	E 6,897	E 1,587	6,698	112	6,586	535	—	—			
May .....	E 6,833	E 1,566	6,549	0	6,549	575	—	—			
June .....	E 6,756	E 1,520	7,175	0	7,175	336	—	—			
July .....	E 6,654	E 1,441	7,262	0	7,262	311	—	—			
August .....	E 6,732	E 1,527	6,614	0	6,614	32	—	—			
September .....	E 6,711	E 1,470	6,558	34	6,524	253	—	—			
October .....	E 6,816	E 1,614	7,181	0	7,181	143	—	—			
November .....	E 6,888	E 1,675	6,892	0	6,892	239	—	—			
December .....	E 6,838	E 1,675	6,838	0	6,838	-79	—	—			
Average .....	E 6,838	E 1,583	6,731	15	6,716	231	—	—			
1994 January .....	E 6,777	E 1,658	5,961	0	5,961	651	—	—			
February .....	RE 6,745	RE 1,594	R 6,313	0	R 6,313	R 37	—	—			
March .....	PE 6,682	PE 1,580	E 6,387	E 64	E 6,323	E 85	—	—			
3-Month Average .....	PE 6,735	PE 1,611	E 6,217	E 22	E 6,195	E 265	—	—			
1993 3-Month Average .....	E 6,981	E 1,641	6,326	11	6,315	146	—	—			
1992 3-Month Average .....	7,365	1,794	5,460	0	5,460	269	—	—			

<sup>a</sup> Strategic Petroleum Reserve.

<sup>b</sup> A balancing item.

<sup>c</sup> Beginning in January 1983, crude oil used directly as fuel is shown as product supplied.

<sup>d</sup> See Note 6 at end of section.

PE=Preliminary estimate. R=Revised data. —=Not applicable. E=Estimate.

Notes: • Crude oil includes lease condensate. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S2. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S2.

**Table 3.2b Crude Oil Supply and Disposition: Disposition and Ending Stocks**

	Disposition					Ending Stocks <sup>a</sup>			
	Crude Losses	Stock Change <sup>b</sup>		Refinery Inputs	Exports	Product Supplied <sup>d</sup>	Total	SPRC <sup>c</sup>	
		SPRC	Other						
	Thousand Barrels per Day					Million Barrels			
1973 Average .....	13	-	-11	12,431	2	-	242	-	242
1974 Average .....	13	-	62	12,133	3	-	265	-	265
1975 Average .....	13	-	17	12,442	6	-	271	-	271
1976 Average .....	e 14	-	39	13,416	8	-	285	-	285
1977 Average .....	16	20	150	14,602	50	-	348	7	340
1978 Average .....	16	163	-84	14,739	158	-	378	67	309
1979 Average .....	16	67	81	14,648	235	-	430	91	339
1980 Average .....	e 14	45	52	13,481	287	-	466	108	358
1981 Average .....	5	336	-46	12,470	228	-	594	230	383
1982 Average .....	3	174	-38	11,774	236	-	644	294	350
1983 Average .....	2	234	g -20	11,685	164	68	723	379	344
1984 Average .....	2	195	4	12,044	181	64	798	451	345
1985 Average .....	1	117	-67	12,002	204	60	814	493	321
1986 Average .....	(s)	50	28	12,716	154	49	843	512	331
1987 Average .....	(s)	80	49	12,654	151	34	890	541	349
1988 Average .....	(s)	52	-51	13,246	155	40	890	560	330
1989 Average .....	(s)	56	30	13,401	142	28	921	580	341
1990 Average .....	(s)	16	-51	13,409	109	24	908	586	323
1991 Average .....	(s)	-47	5	13,301	116	18	893	569	325
1992 January .....	0	(s)	540	12,923	118	26	910	569	341
February .....	(s)	0	171	12,486	22	17	815	569	346
March .....	(s)	(s)	-250	13,083	105	18	907	569	339
April .....	0	0	315	13,260	23	11	917	569	348
May .....	0	(s)	-145	13,679	106	10	912	569	344
June .....	(s)	34	-615	14,059	107	12	895	570	325
July .....	0	(s)	244	13,953	53	9	902	570	333
August .....	(s)	20	-144	13,426	133	8	898	570	328
September .....	0	43	-204	13,714	68	11	893	571	322
October .....	(s)	69	342	13,584	106	10	908	574	333
November .....	(s)	15	-243	13,547	111	10	899	574	325
December .....	(s)	22	-234	13,194	107	12	893	575	318
Average .....	(s)	17	-18	13,411	89	13	893	575	318
1993 January .....	(s)	19	245	12,980	129	10	901	575	328
February .....	(s)	18	202	12,923	166	10	907	576	331
March .....	0	58	188	13,249	139	11	915	578	337
April .....	(s)	136	401	13,512	73	9	931	582	349
May .....	0	13	120	13,701	112	10	935	582	353
June .....	0	21	-37	14,125	150	8	935	583	352
July .....	0	19	22	14,114	62	9	936	583	352
August .....	0	24	-548	13,839	55	8	920	584	335
September .....	(s)	52	-491	13,845	107	9	906	586	321
October .....	0	19	314	13,733	62	12	917	586	330
November .....	0	18	233	13,689	67	13	924	587	337
December .....	0	9	-67	13,571	63	21	922	587	335
Average .....	(s)	34	47	13,810	98	11	922	587	335
1994 January .....	0	4	-19	13,285	110	10	922	587	335
February .....	0	(s)	R 164	R 13,132	R 116	R 12	R 917	587	R 330
March .....	E 0	E 64	E 168	E 12,806	E 103	E 19	E 926	E 589	E 337
3-Month Average .....	E 0	E 23	E (s)	E 13,072	E 109	E 14	E 926	E 589	E 337
1993 3-Month Average .....	(s)	32	212	13,055	144	10	915	578	337
1992 3-Month Average .....	(s)	(s)	153	12,838	83	20	907	569	339

<sup>a</sup> Stocks are totals as of end of period.

<sup>b</sup> A negative number indicates a decrease in stocks and a positive number indicates an increase.

<sup>c</sup> Strategic Petroleum Reserve.

<sup>d</sup> Beginning in January 1983, crude oil used directly as fuel is shown as product supplied.

<sup>e</sup> See Note 6 at end of section.

<sup>f</sup> Stocks of Alaskan crude oil in transit are included from January 1981 forward. See Note 5 at end of section.

<sup>g</sup> See Note 4 at end of section.

R=Revised data. - =Not applicable. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.

Notes: • Crude oil includes lease condensate. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S2. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S2.

**Table 3.3a Petroleum Imports: Algeria, Iraq, Kuwait, and Libya**  
 (Thousands Barrels per Day)

	Arab OPEC <sup>a</sup>							
	Algeria		Iraq		Kuwait <sup>b</sup>		Libya	
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
1973 Average .....	136	120	4	4	47	42	184	133
1974 Average .....	190	180	0	0	5	5	4	4
1975 Average .....	282	264	2	2	16	4	232	223
1976 Average .....	432	408	26	26	5	1	453	444
1977 Average .....	559	544	74	74	48	42	723	704
1978 Average .....	649	634	62	62	6	5	654	638
1979 Average .....	636	608	88	88	8	5	658	642
1980 Average .....	488	456	28	28	27	27	554	548
1981 Average .....	311	261	(s)	0	0	0	319	317
1982 Average .....	170	90	3	3	5	2	26	23
1983 Average .....	240	176	10	10	14	7	0	0
1984 Average .....	323	194	12	12	36	24	1	0
1985 Average .....	187	84	46	46	21	4	4	0
1986 Average .....	271	78	81	81	68	28	0	0
1987 Average .....	295	115	83	82	84	70	0	0
1988 Average .....	300	58	345	343	92	80	0	0
1989 Average .....	269	60	449	441	157	155	0	0
1990 Average .....	280	63	518	514	86	79	0	0
1991 Average .....	253	44	0	0	6	6	0	0
1992 January .....	206	37	0	0	0	0	0	0
February .....	218	57	0	0	0	0	0	0
March .....	215	37	0	0	0	0	0	0
April .....	182	19	0	0	0	0	0	0
May .....	202	7	0	0	0	0	0	0
June .....	144	12	0	0	0	0	0	0
July .....	179	37	0	0	58	23	0	0
August .....	261	45	0	0	66	33	0	0
September .....	184	19	0	0	70	33	0	0
October .....	186	8	0	0	137	109	0	0
November .....	171	0	0	0	117	117	0	0
December .....	203	9	0	0	165	149	0	0
Average .....	196	24	0	0	51	39	0	0
1993 January .....	153	28	0	0	144	129	0	0
February .....	256	0	0	0	251	229	0	0
March .....	185	7	0	0	316	300	0	0
April .....	274	26	0	0	262	262	0	0
May .....	228	3	0	0	222	222	0	0
June .....	169	32	0	0	235	235	0	0
July .....	246	6	0	0	368	362	0	0
August .....	241	28	0	0	467	451	0	0
September .....	192	0	0	0	445	431	0	0
October .....	317	80	0	0	530	526	0	0
November .....	217	47	0	0	486	470	0	0
December .....	169	25	0	0	484	484	0	0
Average .....	220	24	0	0	352	343	0	0
1994 January .....	233	35	0	0	309	309	0	0
February .....	226	20	0	0	423	423	0	0
2-Month Average .....	230	28	0	0	363	363	0	0
1993 2-Month Average .....	202	15	0	0	185	176	0	0
1992 2-Month Average .....	212	47	0	0	0	0	0	0

<sup>a</sup> Excludes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

<sup>b</sup> Imports from the Neutral Zone between Kuwait and Saudi Arabia are included in Saudi Arabia.

(s)=Less than 500 barrels per day.

Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • Petroleum is imported into the 50 States and the District of Columbia.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S3. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S3.

**Table 3.3b Petroleum Imports: Qatar, Saudi Arabia, U.A.E., and Total Arab OPEC**  
 (Thousands Barrels per Day)

	Arab OPEC <sup>a</sup>						Total Arab OPEC <sup>a</sup>	
	Qatar		Saudi Arabia <sup>b</sup>		United Arab Emirates			
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
1973 Average .....	7	7	486	462	71	71	915	838
1974 Average .....	17	17	461	438	74	69	752	713
1975 Average .....	18	18	715	701	117	117	1,383	1,330
1976 Average .....	24	24	1,230	1,222	254	254	2,424	2,378
1977 Average .....	67	67	1,380	1,373	335	333	3,185	3,136
1978 Average .....	64	64	1,144	1,142	385	385	2,963	2,930
1979 Average .....	31	31	1,356	1,347	281	281	3,058	3,002
1980 Average .....	22	22	1,261	1,250	172	172	2,551	2,503
1981 Average .....	7	7	1,129	1,112	81	77	1,848	1,774
1982 Average .....	7	7	552	530	92	81	854	736
1983 Average .....	(s)	0	337	321	30	18	632	533
1984 Average .....	5	4	325	309	117	90	819	634
1985 Average .....	(s)	0	168	132	45	35	472	300
1986 Average .....	13	12	685	618	44	38	1,162	854
1987 Average .....	0	0	751	642	61	56	1,274	965
1988 Average .....	0	0	1,073	911	29	23	1,839	1,415
1989 Average .....	2	2	1,224	1,116	28	21	2,130	1,794
1990 Average .....	4	4	1,339	1,195	17	9	2,244	1,864
1991 Average .....	0	0	1,802	1,703	3	2	2,064	1,754
1992 January .....	0	0	2,017	1,900	18	0	2,241	1,937
February .....	0	0	1,776	1,687	0	0	1,995	1,745
March .....	0	0	1,707	1,568	0	0	1,922	1,605
April .....	0	0	1,734	1,524	0	0	1,916	1,543
May .....	0	0	1,764	1,584	0	0	1,966	1,591
June .....	0	0	1,744	1,610	0	0	1,888	1,621
July .....	8	0	1,713	1,599	0	0	1,958	1,659
August .....	0	0	1,594	1,473	7	0	1,929	1,551
September .....	0	0	1,593	1,477	0	0	1,847	1,529
October .....	0	0	1,593	1,482	4	0	1,920	1,599
November .....	0	0	1,608	1,540	17	0	1,913	1,657
December .....	0	0	1,793	1,725	28	0	2,188	1,882
Average .....	1	0	1,720	1,597	6	0	1,974	1,660
1993 January .....	0	0	1,687	1,571	0	0	1,984	1,728
February .....	0	0	1,626	1,480	0	0	2,133	1,709
March .....	6	0	1,479	1,349	0	0	1,987	1,655
April .....	0	0	1,606	1,478	17	17	2,161	1,783
May .....	0	0	1,524	1,361	59	59	2,034	1,646
June .....	0	0	1,523	1,396	66	66	1,993	1,729
July .....	0	0	1,270	1,171	19	0	1,904	1,538
August .....	0	0	1,151	1,036	0	0	1,859	1,515
September .....	0	0	1,329	1,181	0	0	1,968	1,612
October .....	0	0	1,115	969	0	0	1,961	1,574
November .....	0	0	1,281	1,152	1	0	1,984	1,668
December .....	0	0	1,330	1,205	0	0	1,983	1,713
Average .....	1	0	1,408	1,277	14	12	1,994	1,655
1994 January .....	0	0	1,320	1,175	0	0	1,863	1,520
February .....	0	0	1,071	1,023	0	0	1,719	1,467
2-Month Average .....	0	0	1,202	1,103	0	0	1,795	1,494
1993 2-Month Average .....	0	0	1,658	1,528	0	0	2,055	1,719
1992 2-Month Average .....	0	0	1,901	1,797	9	0	2,122	1,844

<sup>a</sup> Excludes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

<sup>b</sup> Imports from the Neutral Zone between Kuwait and Saudi Arabia are included in Saudi Arabia.

(s)=Less than 500 barrels per day.

Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • Petroleum is imported into the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S3. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S3.

**Table 3.3c Petroleum Imports: Ecuador, Gabon, Indonesia, and Iran**  
 (Thousand Barrels per Day)

	Non-Arab OPEC <sup>a</sup>							
	Ecuador <sup>b</sup>		Gabon		Indonesia		Iran	
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
1973 Average .....	48	47	0	0	213	200	223	216
1974 Average .....	42	42	23	23	300	284	469	463
1975 Average .....	57	57	27	27	390	379	280	278
1976 Average .....	51	51	28	26	539	537	288	288
1977 Average .....	57	55	42	35	541	507	535	530
1978 Average .....	54	38	41	38	573	533	555	554
1979 Average .....	42	30	42	42	420	380	304	297
1980 Average .....	27	17	26	25	348	314	9	8
1981 Average .....	48	38	35	35	366	318	0	0
1982 Average .....	42	32	40	40	248	226	35	35
1983 Average .....	61	56	59	59	338	315	48	48
1984 Average .....	55	47	58	57	343	304	10	10
1985 Average .....	67	56	62	51	314	292	27	27
1986 Average .....	77	64	26	25	318	297	19	19
1987 Average .....	29	23	35	35	285	262	c (s)	c (s)
1988 Average .....	47	33	16	15	205	186	158	0
1989 Average .....	89	80	50	49	183	158	0	0
1990 Average .....	49	38	64	64	114	98	0	0
1991 Average .....	63	53	84	84	111	102	32	32
1992 January .....	56	56	91	91	125	117	0	0
February .....	61	48	105	105	39	39	0	0
March .....	26	26	25	25	85	83	0	0
April .....	53	46	186	186	54	49	0	0
May .....	51	51	135	135	155	133	0	0
June .....	105	101	129	129	109	102	0	0
July .....	111	111	143	143	65	65	0	0
August .....	99	93	108	108	91	85	0	0
September .....	97	97	165	158	57	38	0	0
October .....	42	36	167	167	54	43	0	0
November .....	53	53	114	114	36	23	0	0
December .....	24	24	120	120	60	60	0	0
Average .....	65	62	124	123	78	70	0	0
1993 January .....	76	70	90	89	37	37	0	0
February .....	14	14	88	88	52	51	0	0
March .....	59	59	126	123	67	64	0	0
April .....	74	62	127	127	76	76	0	0
May .....	56	56	169	169	82	82	0	0
June .....	75	75	107	107	97	67	0	0
July .....	85	85	168	166	55	55	0	0
August .....	121	121	152	152	95	80	0	0
September .....	49	49	211	211	51	40	0	0
October .....	146	135	242	242	131	82	0	0
November .....	115	106	143	136	74	34	0	0
December .....	84	84	191	191	156	114	0	0
Average .....	80	77	152	151	81	65	0	0
1994 January .....	(b)	(b)	144	144	140	81	0	0
February .....	(b)	(b)	212	208	103	59	0	0
2-Month Average .....	(b)	(b)	176	174	122	71	0	0
1993 2-Month Average .....	47	43	89	88	44	44	0	0
1992 2-Month Average .....	59	52	97	97	83	79	0	0

<sup>a</sup> Excludes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

<sup>b</sup> Ecuador withdrew from OPEC on December 31, 1992. As of January 1993, imports from Ecuador appear on Table 3.3f under "Non-OPEC."

<sup>c</sup> A small amount of Iranian crude oil entered the United States in January 1988 from the Virgin Islands. The oil originated in Iran and was exported to the Virgin Islands prior to the signing of Executive Order 12613 on October

29, 1987.

(s)=Less than 500 barrels per day.

Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • Petroleum is imported into the 50 States and the District of Columbia.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S3. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S3.

**Table 3.3d Petroleum Imports: Nigeria, Venezuela, Total Non-Arab OPEC, and Total OPEC**  
 (Thousands Barrels per Day)

	Non-Arab OPEC <sup>a</sup>				Total Non-Arab OPEC <sup>a,b</sup>		Total OPEC <sup>a,b</sup>	
	Nigeria		Venezuela					
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
1973 Average .....	459	448	1,135	344	2,078	1,257	2,993	2,005
1974 Average .....	713	697	979	319	2,527	1,827	3,280	2,540
1975 Average .....	762	746	702	395	2,219	1,882	3,601	3,211
1976 Average .....	1,025	1,014	700	241	2,642	2,187	5,088	4,545
1977 Average .....	1,143	1,130	690	250	3,008	2,507	6,193	5,643
1978 Average .....	919	910	646	181	2,788	2,254	5,751	5,184
1979 Average .....	1,080	1,069	690	293	2,579	2,110	5,837	5,112
1980 Average .....	857	841	481	156	1,749	1,361	4,300	3,864
1981 Average .....	620	611	406	147	1,476	1,149	3,323	2,922
1982 Average .....	514	510	412	155	1,291	998	2,146	1,734
1983 Average .....	302	301	422	164	1,231	944	1,862	1,477
1984 Average .....	216	207	548	253	1,230	878	2,049	1,512
1985 Average .....	293	280	605	308	1,358	1,012	1,830	1,312
1986 Average .....	440	437	793	416	1,674	1,259	2,837	2,113
1987 Average .....	535	529	804	488	1,787	1,435	3,060	2,400
1988 Average .....	618	607	794	439	1,681	1,281	3,520	2,696
1989 Average .....	815	800	873	495	2,010	1,582	4,140	3,376
1990 Average .....	800	784	1,025	668	2,052	1,650	4,286	3,514
1991 Average .....	703	683	1,035	668	2,028	1,622	4,092	3,377
1992 January .....	593	566	1,119	787	1,984	1,817	4,224	3,554
February .....	322	303	1,028	655	1,555	1,150	3,549	2,895
March .....	441	409	1,106	793	1,684	1,336	3,606	2,941
April .....	798	788	1,079	722	2,169	1,791	4,085	3,334
May .....	773	773	1,038	745	2,152	1,837	4,118	3,428
June .....	740	740	1,059	738	2,141	1,809	4,029	3,430
July .....	900	883	1,163	912	2,382	2,114	4,339	3,772
August .....	815	795	1,102	841	2,215	1,922	4,144	3,473
September .....	774	754	1,333	953	2,426	2,001	4,274	3,531
October .....	827	813	1,497	1,073	2,587	2,133	4,507	3,732
November .....	626	608	1,343	921	2,173	1,719	4,086	3,376
December .....	549	532	1,164	763	1,917	1,499	4,105	3,381
Average .....	681	665	1,170	826	2,117	1,746	4,092	3,406
1993 January .....	729	729	1,385	1,038	<sup>b</sup> 2,241	<sup>b</sup> 1,892	<sup>b</sup> 4,225	<sup>b</sup> 3,620
February .....	927	913	1,290	925	2,358	1,976	4,491	3,685
March .....	928	892	1,208	817	2,330	1,897	4,317	3,552
April .....	892	871	1,297	1,006	2,392	2,080	4,553	3,863
May .....	741	723	1,226	954	2,219	1,929	4,253	3,574
June .....	848	827	1,277	992	2,329	1,992	4,321	3,721
July .....	893	888	1,384	1,068	2,500	2,177	4,404	3,715
August .....	562	549	1,375	1,135	2,183	1,915	4,043	3,431
September .....	514	496	1,243	1,033	2,018	1,779	3,984	3,391
October .....	603	593	1,267	993	2,242	1,910	4,203	3,484
November .....	636	612	1,267	1,073	2,120	1,855	4,104	3,523
December .....	598	569	1,205	952	2,151	1,827	4,134	3,540
Average .....	738	720	1,285	999	2,257	1,935	4,251	3,590
1994 January .....	310	274	1,185	901	1,780	1,400	3,643	2,920
February .....	576	557	1,204	946	2,094	1,770	3,814	3,237
2-Month Average .....	436	408	1,194	923	1,929	1,576	3,724	3,070
1993 2-Month Average .....	823	816	1,340	984	2,296	1,932	4,351	3,651
1992 2-Month Average .....	462	439	1,075	723	1,776	1,391	3,898	3,235

<sup>a</sup> Excludes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

<sup>b</sup> As of January 1993, excludes petroleum imported from Ecuador, which withdrew from OPEC on December 31, 1992.

Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports

are included. • Petroleum is imported into the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S3. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S3.

**Table 3.3e Petroleum Imports: Angola, Australia, Bahama Islands, Brazil, Canada, and China**  
 (Thousand Barrels per Day)

	Non-OPEC <sup>a</sup>												
	Angola		Australia		Bahama Islands		Brazil		Canada		China		
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	
1973 Average .....	49	49	2	0	174	0	9	0	1,325	1,001	(s)	0	
1974 Average .....	49	48	1	0	164	0	2	0	1,070	791	0	0	
1975 Average .....	75	71	5	0	152	0	5	0	846	600	0	0	
1976 Average .....	12	7	2	0	118	0	0	0	599	371	0	0	
1977 Average .....	24	17	3	0	171	0	0	0	517	279	0	0	
1978 Average .....	20	6	5	0	160	0	0	0	467	248	0	0	
1979 Average .....	43	39	6	0	147	0	1	0	538	271	13	13	
1980 Average .....	42	37	1	0	78	0	3	1	455	199	(s)	0	
1981 Average .....	49	45	5	0	74	0	23	14	447	164	18	0	
1982 Average .....	44	42	5	(s)	65	0	47	19	482	214	40	8	
1983 Average .....	78	71	4	0	125	0	41	2	547	274	34	6	
1984 Average .....	90	85	38	25	68	0	60	(s)	630	341	46	15	
1985 Average .....	110	104	37	21	40	0	61	0	770	468	59	36	
1986 Average .....	112	102	41	30	37	0	50	0	807	570	90	68	
1987 Average .....	192	180	58	49	37	0	84	0	848	608	82	63	
1988 Average .....	212	203	64	59	32	0	98	0	999	681	88	82	
1989 Average .....	284	279	36	31	34	0	82	0	931	630	80	76	
1990 Average .....	237	236	53	47	37	0	49	0	934	643	80	77	
1991 Average .....	254	254	26	21	35	0	22	0	1,033	743	91	87	
1992 January .....	360	360	11	11	63	0	18	0	1,045	786	144	144	
February .....	246	246	10	10	47	0	12	0	1,147	834	80	69	
March .....	339	339	0	0	76	0	(s)	0	1,100	832	75	75	
April .....	381	381	39	22	67	0	17	0	1,121	835	86	69	
May .....	264	264	0	0	46	0	18	0	1,013	779	129	114	
June .....	286	286	21	21	57	0	28	0	970	736	110	95	
July .....	443	443	20	20	22	0	25	0	1,044	798	68	64	
August .....	335	323	21	21	8	0	10	0	1,038	762	66	66	
September .....	248	248	0	0	8	0	21	0	1,131	839	80	75	
October .....	395	395	11	11	1	0	10	0	1,063	761	61	61	
November .....	458	458	53	49	20	0	32	0	1,037	784	86	86	
December .....	279	279	38	38	19	0	50	0	1,122	816	97	90	
Average .....	336	336	19	17	36	0	20	0	1,069	797	90	84	
1993 January .....	354	354	0	0	18	0	3	0	1,034	778	60	60	
February .....	348	348	0	0	19	0	22	0	1,084	782	44	44	
March .....	408	408	0	0	30	0	27	0	1,065	814	79	73	
April .....	322	322	0	0	16	0	56	0	1,032	783	0	0	
May .....	287	287	13	13	8	0	41	0	1,119	874	40	40	
June .....	209	209	34	34	7	0	19	0	1,111	910	48	46	
July .....	386	386	40	40	31	0	48	0	1,247	991	24	24	
August .....	258	258	33	27	37	0	32	0	1,237	966	38	38	
September .....	282	282	0	0	27	0	59	0	1,309	1,018	91	89	
October .....	440	440	53	47	42	0	15	0	1,367	1,030	61	61	
November .....	283	283	0	0	26	0	51	0	1,231	917	68	68	
December .....	379	379	53	53	23	0	10	0	1,254	964	61	61	
Average .....	330	330	19	18	24	0	32	0	1,175	903	51	50	
1994 January .....	338	338	12	0	28	0	11	0	1,234	905	81	78	
February .....	295	282	0	0	79	0	12	0	1,364	994	44	44	
2-Month Average ....	317	311	6	0	52	0	11	0	1,298	947	64	62	
1993 2-Month Average ....	351	351	0	0	18	0	12	0	1,058	780	53	53	
1992 2-Month Average ....	305	305	10	10	56	0	15	0	1,095	809	113	108	

<sup>a</sup> Includes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

(s)=Less than 500 barrels per day.

Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports

are included. • Petroleum is imported into the 50 States and the District of Columbia.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S3. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S3.

**Table 3.3f Petroleum Imports: Colombia, Ecuador, Italy, Malaysia, Mexico, and Netherlands**  
 (Thousand Barrels per Day)

	Non-OPEC <sup>a</sup>											
	Colombia		Ecuador <sup>b</sup>		Italy		Malaysia		Mexico		Netherlands	
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
1973 Average .....	9	2	-	-	125	0	12	1	16	1	53	0
1974 Average .....	5	0	-	-	74	0	12	1	8	2	43	0
1975 Average .....	9	0	-	-	27	0	8	5	71	70	19	4
1976 Average .....	21	6	-	-	39	0	18	16	87	67	8	0
1977 Average .....	17	0	-	-	51	0	66	55	179	177	31	4
1978 Average .....	20	0	-	-	38	0	42	37	318	316	5	2
1979 Average .....	18	0	-	-	30	0	66	52	439	437	23	7
1980 Average .....	4	0	-	-	4	0	70	61	533	507	2	(s)
1981 Average .....	1	0	-	-	11	0	36	33	522	469	30	(s)
1982 Average .....	5	0	-	-	18	(s)	20	18	685	645	35	(s)
1983 Average .....	10	0	-	-	18	(s)	4	3	826	766	65	3
1984 Average .....	8	0	-	-	45	(s)	1	0	748	659	65	3
1985 Average .....	23	0	-	-	60	(s)	3	1	816	715	58	0
1986 Average .....	87	57	-	-	76	0	12	11	699	621	54	0
1987 Average .....	148	115	-	-	54	1	13	12	655	602	60	0
1988 Average .....	134	106	-	-	65	5	19	19	747	674	61	0
1989 Average .....	172	136	-	-	34	3	39	39	767	716	49	0
1990 Average .....	182	140	-	-	58	2	41	40	755	689	55	0
1991 Average .....	163	123	-	-	47	3	24	24	807	759	29	0
1992 January .....	158	111	-	-	51	0	0	0	764	721	31	0
February .....	114	92	-	-	48	0	0	0	838	807	9	0
March .....	101	74	-	-	44	0	0	0	846	809	34	0
April .....	150	129	-	-	75	0	0	0	857	795	8	0
May .....	57	46	-	-	57	0	5	5	788	764	27	0
June .....	135	114	-	-	69	0	8	8	905	883	25	0
July .....	103	93	-	-	36	0	40	40	830	788	21	0
August .....	156	142	-	-	94	0	22	22	857	790	45	0
September .....	190	179	-	-	81	0	17	17	755	720	39	0
October .....	153	132	-	-	37	0	17	17	829	783	18	0
November .....	127	84	-	-	33	0	8	8	762	700	26	0
December .....	66	34	-	-	37	0	4	4	930	888	33	0
Average .....	126	102	-	-	55	0	10	10	830	787	26	0
1993 January .....	188	167	76	70	48	0	0	0	858	820	11	0
February .....	148	137	14	14	34	0	0	0	807	748	18	0
March .....	161	129	59	59	43	0	11	10	861	815	11	0
April .....	152	138	74	62	14	0	8	8	844	818	0	0
May .....	147	90	56	56	18	0	21	10	907	846	10	0
June .....	176	143	75	75	22	0	0	0	995	977	10	0
July .....	204	184	85	85	25	0	11	11	943	878	20	0
August .....	124	101	121	121	50	0	14	14	862	809	17	0
September .....	224	170	49	49	32	0	28	28	929	867	22	0
October .....	192	182	146	135	30	0	10	10	1,013	951	0	0
November .....	153	143	115	106	25	0	0	0	1,100	1,025	(s)	0
December .....	125	85	84	84	0	0	28	28	909	837	6	0
Average .....	168	139	80	77	28	0	11	10	919	866	10	0
1994 January .....	182	149	128	128	8	0	11	0	971	945	35	0
February .....	184	131	96	96	35	0	19	15	967	928	43	0
2-Month Average .....	183	141	113	113	20	0	15	7	969	938	39	0
1993 2-Month Average .....	169	153	47	43	42	0	0	0	834	788	14	0
1992 2-Month Average .....	136	102	-	-	50	0	0	0	800	763	20	0

<sup>a</sup> Includes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

<sup>b</sup> Through 1992, Ecuador was a member of OPEC. See Table 3.3c.

-Not applicable. (s)=Less than 500 barrels per day.

Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • Petroleum is imported into the 50 States and the District of Columbia.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S3. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S3.

**Table 3.3g Petroleum Imports: Netherlands Antilles, Norway, Puerto Rico, Russia, Spain, and Trinidad and Tobago**  
 (Thousand Barrels per Day)

	Non-OPEC <sup>a</sup>											
	Netherlands Antilles		Norway		Puerto Rico		Russia <sup>b</sup>		Spain		Trinidad and Tobago	
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
1973 Average .....	585	0	1	0	99	0	26	0	26	0	255	60
1974 Average .....	511	0	1	1	90	0	20	0	12	0	251	63
1975 Average .....	332	0	17	12	90	0	14	0	1	0	242	115
1976 Average .....	275	0	36	35	88	0	11	2	1	0	274	104
1977 Average .....	211	0	50	48	105	0	12	2	10	0	289	134
1978 Average .....	229	0	104	104	94	0	8	1	3	0	253	142
1979 Average .....	231	0	75	75	92	0	1	0	4	0	190	123
1980 Average .....	225	0	144	144	88	0	1	0	1	0	176	115
1981 Average .....	197	0	119	114	62	0	5	(s)	1	(s)	133	102
1982 Average .....	175	0	102	102	50	0	1	0	3	(s)	112	92
1983 Average .....	189	0	66	65	40	0	1	(s)	2	(s)	98	63
1984 Average .....	188	0	114	112	42	0	13	(s)	11	0	94	87
1985 Average .....	40	0	32	31	28	0	8	(s)	29	1	113	98
1986 Average .....	25	0	60	53	21	0	18	(s)	53	0	125	93
1987 Average .....	29	0	80	70	21	0	11	0	55	0	106	75
1988 Average .....	38	0	67	62	22	0	29	0	68	0	97	71
1989 Average .....	42	0	138	127	32	0	48	0	67	0	94	73
1990 Average .....	31	0	102	96	32	0	45	1	47	0	96	76
1991 Average .....	81	0	82	74	27	0	29	1	33	0	88	72
1992 January .....	40	0	25	17	32	0	17	0	35	0	108	79
February .....	82	0	11	0	23	0	3	0	16	0	109	76
March .....	49	0	11	0	18	0	0	0	37	0	105	85
April .....	73	0	155	147	14	0	0	0	35	0	79	75
May .....	59	0	210	200	22	0	0	0	30	0	69	54
June .....	83	0	234	225	36	0	0	0	46	0	94	74
July .....	49	0	186	179	11	0	72	32	18	0	103	78
August .....	65	0	142	134	38	0	62	31	29	0	106	54
September .....	60	0	103	102	37	0	53	0	56	0	84	56
October .....	90	0	190	177	29	0	9	0	32	0	108	71
November .....	56	0	111	104	26	0	0	0	36	0	85	62
December .....	80	0	140	133	28	0	0	0	17	0	91	71
Average .....	65	0	127	119	26	0	18	5	32	0	95	70
1993 January .....	73	0	70	70	37	0	0	0	44	0	59	48
February .....	80	0	62	61	21	0	0	0	25	0	72	58
March .....	61	0	122	115	26	0	0	0	21	0	92	71
April .....	86	0	109	109	18	0	16	16	61	0	78	55
May .....	77	0	65	65	38	0	32	32	34	0	61	51
June .....	55	0	160	160	29	0	59	34	20	0	77	55
July .....	52	0	215	215	49	0	157	134	41	0	82	53
August .....	52	0	180	161	30	0	26	0	37	0	50	37
September .....	97	0	113	113	28	0	57	29	54	0	70	55
October .....	111	0	115	93	30	0	176	123	33	0	69	54
November .....	83	0	162	155	23	0	56	32	30	0	66	55
December .....	107	0	108	101	14	0	38	0	42	0	103	71
Average .....	78	0	124	119	29	0	52	34	37	0	73	55
1994 January .....	162	0	101	96	20	0	11	0	26	0	79	60
February .....	119	0	199	166	11	0	14	0	31	0	92	80
2-Month Average ....	142	0	147	129	16	0	12	0	28	0	85	70
1993 2-Month Average ....	76	0	66	66	30	0	0	0	35	0	65	53
1992 2-Month Average ....	60	0	18	9	28	0	10	0	26	0	109	78

<sup>a</sup> Includes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

<sup>b</sup> Imports from other States in the former U.S.S.R. may be included in imports from Russia for the years 1973 through 1992.

(s)=Less than 500 barrels per day.

Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • Petroleum is imported into the 50 States and the District of Columbia.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S3. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S3.

**Table 3.3h Petroleum Imports: United Kingdom, Virgin Islands, Other Non-OPEC, Total Non-OPEC, and Total Imports**  
 (Thousand Barrels per Day)

	Non-OPEC <sup>a</sup>						Total Non-OPEC <sup>a,b</sup>		Total Imports	
	United Kingdom		Virgin Islands		Other Non-OPEC					
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
1973 Average .....	15	0	329	0	153	36	3,263	1,149	8,256	3,244
1974 Average .....	8	0	391	0	122	30	2,832	837	6,112	3,477
1975 Average .....	14	(s)	406	0	120	14	2,454	893	6,056	4,105
1976 Average .....	31	13	422	0	203	101	2,247	742	7,313	5,287
1977 Average .....	126	97	466	0	287	157	2,614	971	8,807	6,815
1978 Average .....	180	169	428	0	239	146	2,612	1,172	8,383	6,356
1979 Average .....	202	107	431	0	269	192	2,819	1,407	8,458	6,519
1980 Average .....	176	173	388	0	219	162	2,600	1,399	6,809	5,263
1981 Average .....	375	369	327	0	236	163	2,672	1,474	5,996	4,396
1982 Average .....	456	441	316	0	308	174	2,988	1,754	5,113	3,488
1983 Average .....	382	365	282	0	378	215	3,189	1,853	5,051	3,329
1984 Average .....	402	378	294	0	411	210	3,388	1,914	5,437	3,426
1985 Average .....	310	278	247	0	394	137	3,237	1,888	5,067	3,201
1986 Average .....	350	317	244	0	426	144	3,387	2,065	6,224	4,178
1987 Average .....	352	304	272	0	459	196	3,617	2,274	6,678	4,674
1988 Average .....	315	254	242	0	487	196	3,882	2,411	7,402	5,107
1989 Average .....	215	160	321	0	457	197	3,921	2,467	8,061	5,843
1990 Average .....	189	155	282	0	417	180	3,721	2,381	8,018	5,894
1991 Average .....	138	106	243	0	282	137	3,535	2,405	7,827	5,782
1992 January .....	129	115	250	0	208	59	3,488	2,402	7,712	5,956
February .....	63	0	222	0	196	50	3,278	2,184	6,827	5,079
March .....	79	52	202	0	345	114	3,462	2,380	7,068	5,321
April .....	157	128	234	0	458	212	4,007	2,793	8,092	6,127
May .....	198	180	246	0	467	225	3,705	2,633	7,823	6,060
June .....	248	206	268	0	297	95	3,917	2,741	7,946	6,171
July .....	354	337	280	0	415	152	4,140	3,024	8,479	6,798
August .....	295	282	263	0	464	357	4,116	2,984	8,260	6,457
September .....	341	291	217	0	382	160	3,904	2,687	8,178	6,218
October .....	411	411	254	0	279	144	3,998	2,964	8,505	6,696
November .....	336	285	274	0	219	124	3,786	2,745	7,872	6,121
December .....	148	110	273	0	283	92	3,734	2,556	7,839	5,937
Average .....	230	200	249	0	335	149	3,796	2,676	7,888	6,083
1993 January .....	228	201	252	0	325	104	<sup>b</sup> 3,739	<sup>b</sup> 2,672	7,964	6,292
February .....	173	127	244	0	223	151	3,439	2,471	7,930	6,158
March .....	315	281	244	0	390	186	4,026	2,961	8,342	6,513
April .....	348	281	245	0	455	243	3,933	2,836	8,485	6,698
May .....	486	458	279	0	356	152	4,095	2,974	8,348	6,549
June .....	458	408	290	0	570	405	4,423	3,454	8,745	7,175
July .....	292	247	202	0	585	299	4,741	3,546	9,145	7,262
August .....	343	323	256	0	520	329	4,318	3,184	8,360	6,614
September .....	286	217	184	0	551	251	4,493	3,167	8,476	6,558
October .....	352	338	236	0	453	233	4,944	3,698	9,147	7,181
November .....	351	340	330	0	468	246	4,621	3,369	8,725	6,892
December .....	432	403	288	0	402	231	4,466	3,298	8,600	6,838
Average .....	340	303	254	0	443	236	4,275	3,140	8,526	6,731
1994 January .....	205	161	276	0	353	181	4,271	3,041	7,914	5,961
February .....	290	232	351	0	441	111	4,687	3,077	<sup>R</sup> 8,501	<sup>R</sup> 6,313
2-Month Average .....	246	195	312	0	395	148	4,469	3,058	8,193	6,128
1993 2-Month Average .....	202	166	248	0	277	126	3,597	2,576	7,948	6,227
1992 2-Month Average .....	97	59	237	0	202	55	3,386	2,297	7,284	5,532

<sup>a</sup> Includes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

<sup>b</sup> As of January 1993, includes petroleum imported from Ecuador, which withdrew from OPEC on December 31, 1992.

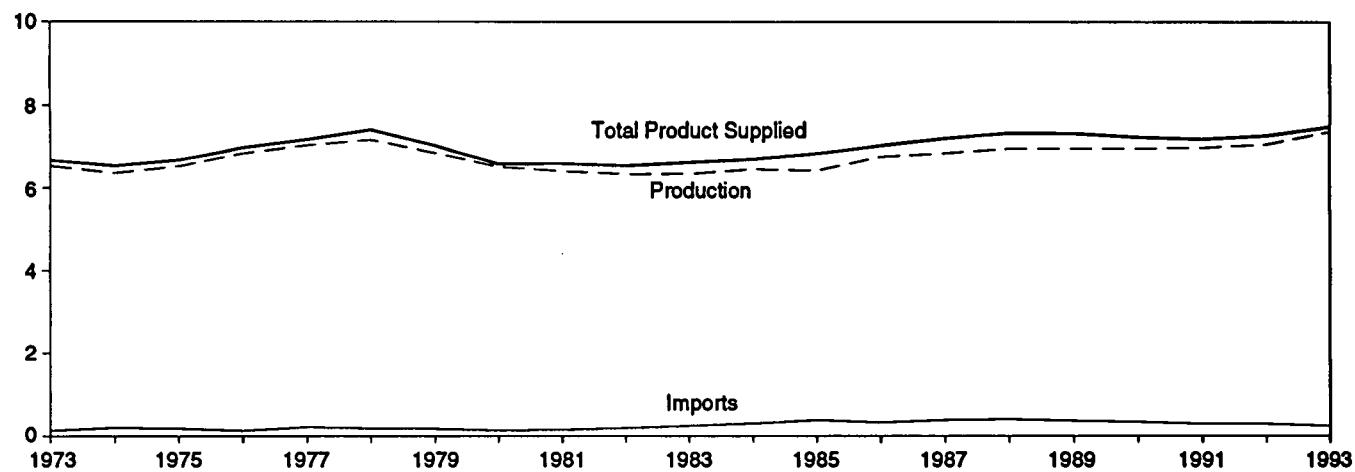
R=Revised data. (s)=Less than 500 barrels per day.

Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • Petroleum is imported into the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

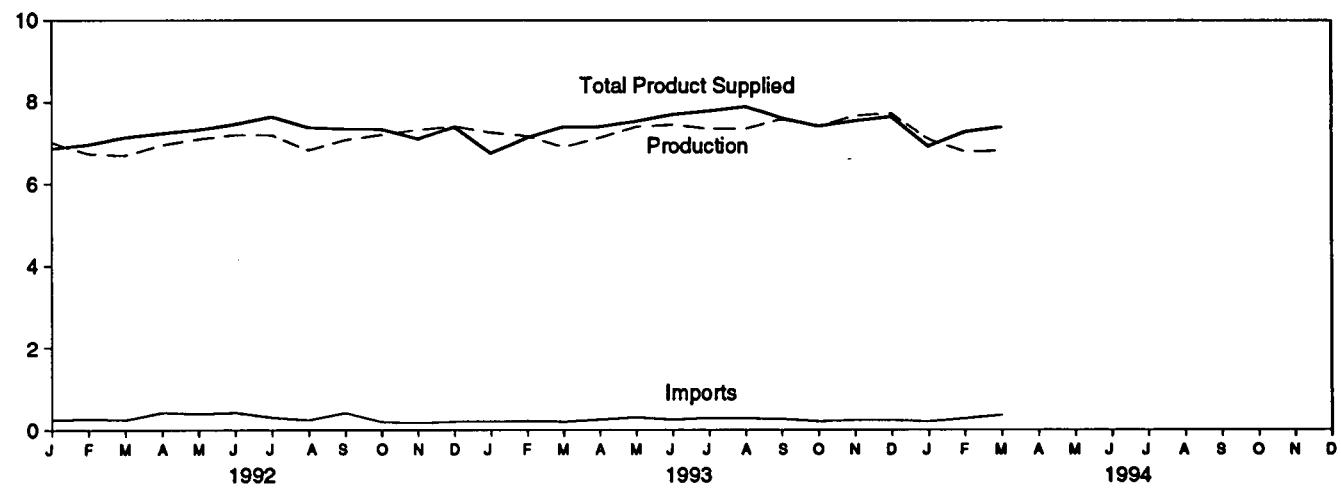
Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S3. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S3.

## Figure 3.2 Finished Motor Gasoline (Million Barrels per Day, Except as Noted)

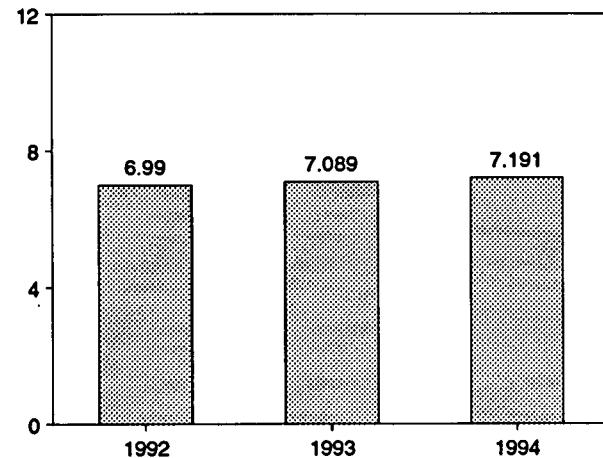
### Overview, 1973-1993



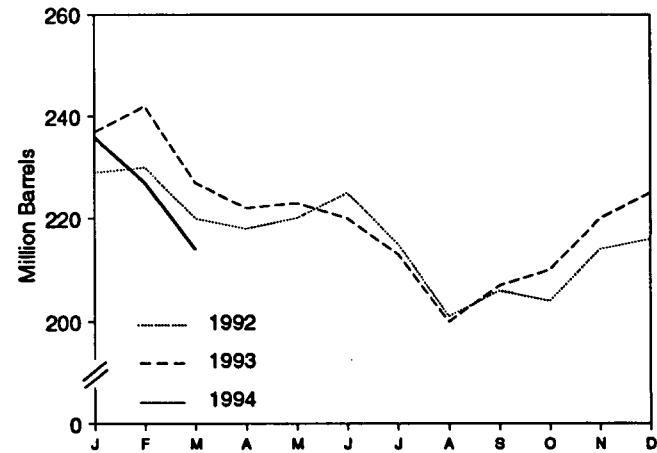
### Overview, Monthly



### Total Product Supplied, January-March



### Total Stocks, End of Month



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

Source: Table 3.4.

**Table 3.4 Finished Motor Gasoline Supply and Disposition**

	Supply		Disposition			Motor Gasoline Ending Stocks <sup>a</sup>		Oxygenates Ending Stocks <sup>a</sup>
	Total Production	Imports <sup>b</sup>	Stock Change <sup>b,c</sup>	Exports	Product Supplied	Total <sup>d</sup>	Finished	
	Thousand Barrels per Day					Million Barrels		
1973 Average .....	6,535	134	-9	4	6,674	209	NA	NA
1974 Average .....	6,360	204	24	2	6,537	218	NA	NA
1975 Average .....	6,520	184	28	2	6,675	235	NA	NA
1976 Average .....	6,841	131	-10	3	6,978	231	NA	NA
1977 Average .....	7,033	217	72	2	7,177	258	NA	NA
1978 Average .....	7,169	190	-54	1	7,412	238	NA	NA
1979 Average .....	6,852	181	-2	(s)	7,034	237	NA	NA
1980 Average .....	6,506	140	66	1	6,579	261	NA	NA
1981 Average <sup>f</sup> .....	6,405	157	28	2	6,588	253	203	NA
1982 Average .....	6,338	197	-25	20	6,539	235	194	NA
1983 Average .....	6,340	247	45	10	6,622	222	186	NA
1984 Average .....	6,453	299	54	6	6,693	243	205	NA
1985 Average .....	6,419	381	-41	10	6,831	223	190	NA
1986 Average .....	6,752	326	11	33	7,034	233	194	NA
1987 Average .....	6,841	384	-15	35	7,206	226	189	NA
1988 Average .....	6,956	405	3	22	7,336	228	190	NA
1989 Average .....	6,963	369	-35	39	7,328	213	177	NA
1990 Average .....	6,959	342	10	55	7,235	220	181	NA
1991 Average .....	6,975	297	3	82	7,188	219	182	NA
1992 January .....	7,013	246	304	87	6,869	229	191	NA
February .....	6,726	275	-22	59	6,963	230	191	NA
March .....	6,683	247	-278	71	7,137	220	182	NA
April .....	6,954	428	54	90	7,238	218	183	NA
May .....	7,092	392	74	82	7,328	220	186	NA
June .....	7,198	424	76	86	7,460	225	188	NA
July .....	7,195	303	-249	108	7,639	215	180	NA
August .....	6,817	240	-446	123	7,380	201	167	NA
September .....	7,071	418	60	85	7,344	206	168	NA
October .....	7,198	193	-41	94	7,338	204	167	NA
November .....	7,323	170	318	74	7,102	214	177	NA
December .....	7,411	202	32	184	7,396	216	178	NA
Average .....	7,058	294	-11	96	7,268	216	178	NA
1993 January .....	97,254	204	571	142	96,746	237	195	h14
February .....	7,172	216	160	99	7,129	242	200	13
March .....	6,897	198	-411	109	7,397	227	187	14
April .....	7,123	253	-137	111	7,401	222	183	15
May .....	7,394	308	80	90	7,531	223	185	17
June .....	7,447	251	-75	81	7,692	220	183	18
July .....	7,344	292	-242	100	7,777	213	176	20
August .....	7,344	283	-336	77	7,885	200	165	21
September .....	7,583	269	154	85	7,612	207	170	20
October .....	7,409	210	127	80	7,411	210	174	17
November .....	7,664	237	237	123	7,541	220	181	15
December .....	7,722	238	152	165	7,643	225	186	13
Average .....	7,363	247	22	105	7,483	225	186	13
1994 January .....	7,098	206	291	97	6,916	236	195	11
February .....	R 6,780	R 281	R -288	R 77	R 7,272	R 227	187	11
March .....	E 6,799	E 364	E -334	E 105	E 7,392	E 214	E 176	NA
3-Month Average .....	E 6,896	E 284	E -105	E 93	E 7,191	E 214	E 176	NA
1993 3-Month Average .....	7,106	206	105	117	7,089	227	187	14
1992 3-Month Average .....	6,809	256	2	73	6,990	220	182	NA

<sup>a</sup> Stocks are totals as of end of period.

<sup>b</sup> From 1981 forward, blending components are excluded.

<sup>c</sup> A negative number indicates a decrease in stocks and a positive number indicates an increase.

<sup>d</sup> Includes motor gasoline blending components, but excludes oxygenates, which are reported separately.

<sup>e</sup> See Note 4 at end of section.

<sup>f</sup> See Note 2 at end of section.

<sup>g</sup> Beginning in 1993, motor gasoline production and product supplied include blending of fuel ethanol and an adjustment to correct for the

imbalance of motor gasoline blending components. See Note 2 at end of section.

<sup>h</sup> See Note 1 at end of section.

R=Revised data. NA=Not available. E=Estimate. (s)=Less than 500 barrels per day.

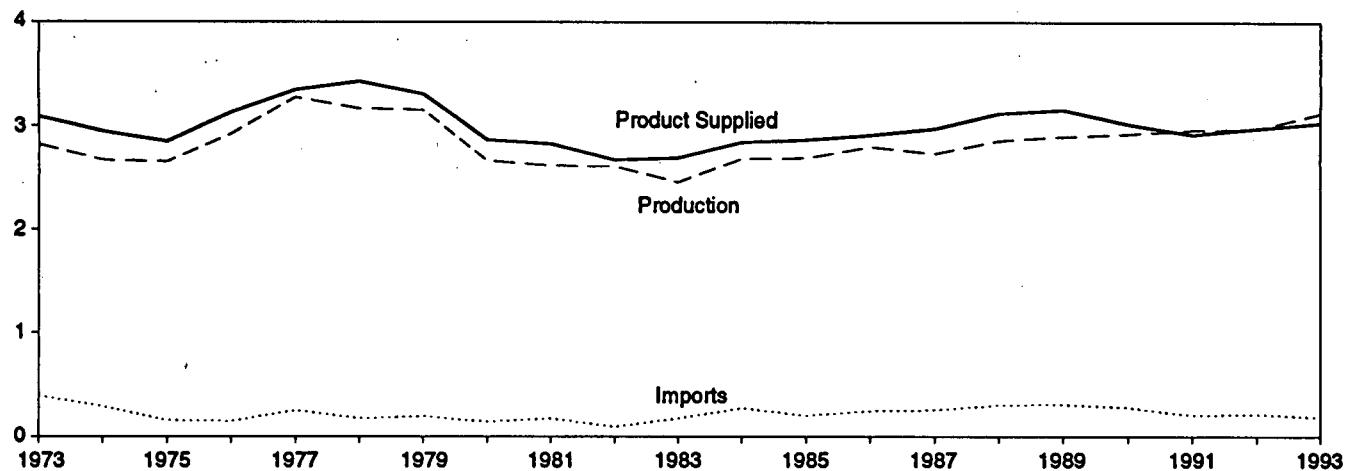
Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: • 1973-1980: Energy Information Administration (EIA), Petroleum Supply Monthly, February 1993, Table S4. • 1981 forward: EIA, Petroleum Supply Monthly, April 1994, Table S4.

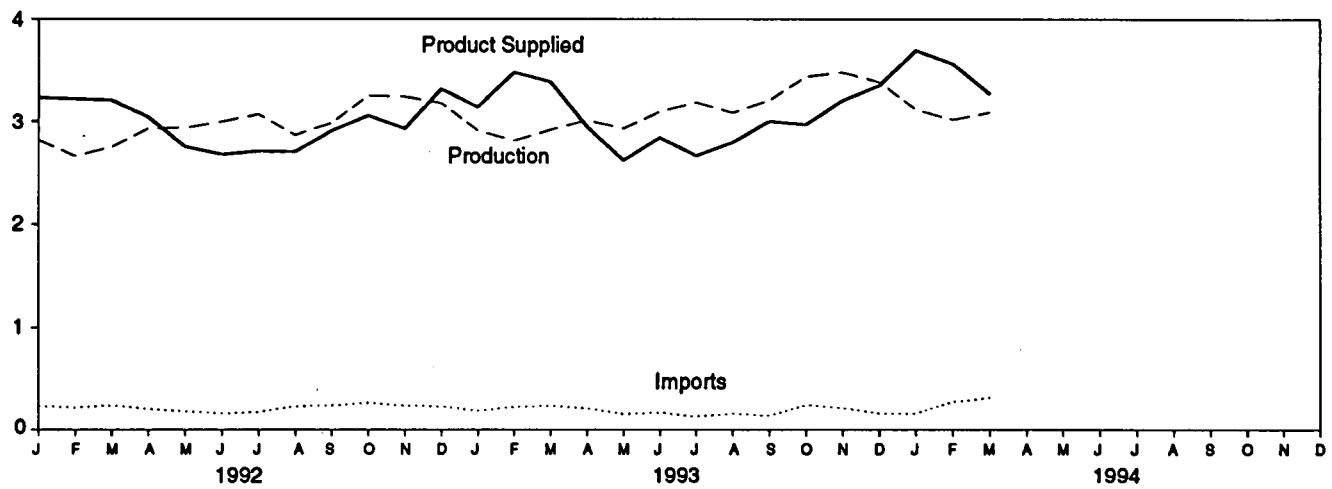
### Figure 3.3 Distillate Fuel

(Million Barrels per Day, Except as Noted)

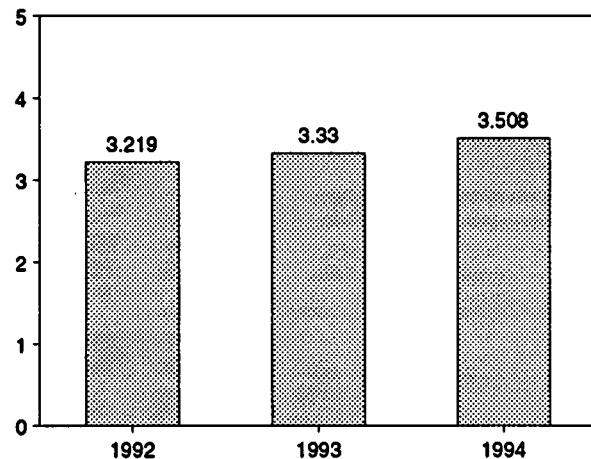
#### Overview, 1973-1993



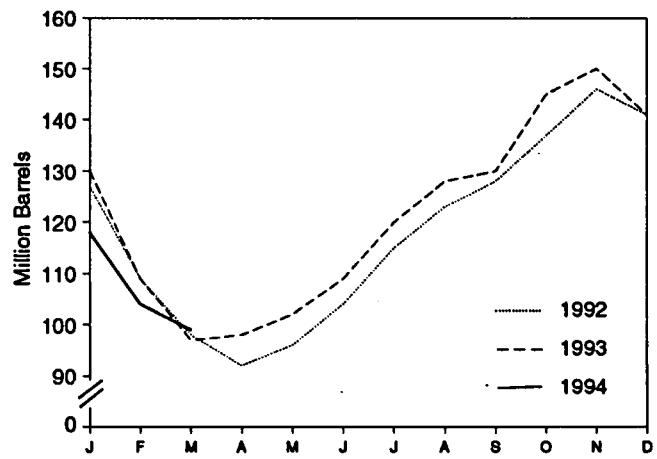
#### Overview, Monthly



#### Product Supplied, January-March



#### Stocks, End of Month



Source: Table 3.5.

**Table 3.5 Distillate Fuel Oil Supply and Disposition**

	Supply			Disposition			Ending Stocks <sup>a</sup>		
	Total Production	Imports	Crude Oil Used Directly <sup>b</sup>	Stock Change <sup>c</sup>	Exports	Product Supplied <sup>b</sup>	Total	Sulfur Content	
								0.05 Percent or Less <sup>d</sup>	Greater Than 0.05 Percent <sup>d</sup>
	Thousand Barrels per Day						Million Barrels		
1973 Average .....	2,822	392	2	115	9	3,092	196	NA	NA
1974 Average .....	2,669	289	2	e,f -10	2	2,948	200	NA	NA
1975 Average .....	2,654	155	2	e,f -41	1	2,851	209	NA	NA
1976 Average .....	2,924	146	1	-62	1	3,133	186	NA	NA
1977 Average .....	3,278	250	1	176	1	3,352	250	NA	NA
1978 Average .....	3,167	173	1	-93	3	3,432	216	NA	NA
1979 Average .....	3,153	193	1	34	3	3,311	229	NA	NA
1980 Average .....	2,662	142	1	-64	3	2,866	205	NA	NA
1981 Average <sup>g</sup> .....	2,613	173	10	e,f -38	5	2,829	192	NA	NA
1982 Average .....	2,606	93	10	-35	74	2,671	179	NA	NA
1983 Average .....	2,456	174	-	e,f -124	64	2,690	140	NA	NA
1984 Average .....	2,681	272	-	57	51	2,845	161	NA	NA
1985 Average .....	2,687	200	-	-48	67	2,868	144	NA	NA
1986 Average .....	2,798	247	-	31	100	2,914	155	NA	NA
1987 Average .....	2,731	255	-	-56	66	2,976	134	NA	NA
1988 Average .....	2,859	302	-	-30	69	3,122	124	NA	NA
1989 Average .....	2,899	306	-	-49	97	3,157	106	NA	NA
1990 Average .....	2,925	278	-	73	109	3,021	132	NA	NA
1991 Average .....	2,962	205	-	31	215	2,921	144	NA	NA
1992 January .....	2,818	232	-	-541	360	3,231	127	NA	NA
February .....	2,661	217	-	-619	278	3,219	109	NA	NA
March .....	2,749	238	-	-358	138	3,207	98	NA	NA
April .....	2,930	202	-	-185	278	3,039	92	NA	NA
May .....	2,933	179	-	139	222	2,753	98	NA	NA
June .....	2,995	157	-	268	205	2,679	104	NA	NA
July .....	3,067	172	-	328	201	2,710	115	NA	NA
August .....	2,865	229	-	262	127	2,705	123	NA	NA
September .....	2,983	237	-	168	145	2,908	128	NA	NA
October .....	3,251	263	-	290	169	3,056	137	NA	NA
November .....	3,240	236	-	316	230	2,929	146	NA	NA
December .....	3,179	229	-	-183	276	3,316	141	NA	NA
Average .....	2,974	216	-	-8	219	2,979	141	NA	NA
1993 January .....	2,909	182	-	-336	287	3,141	130	g 22	g 108
February .....	2,813	224	-	-742	301	3,478	109	16	94
March .....	2,918	235	-	-386	154	3,386	97	12	85
April .....	3,010	209	-	30	241	2,949	98	13	86
May .....	2,930	153	-	104	355	2,624	102	14	87
June .....	3,095	168	-	263	158	2,843	109	17	82
July .....	3,185	130	-	348	298	2,669	120	23	97
August .....	3,084	159	-	249	197	2,797	128	45	83
September .....	3,206	137	-	80	262	3,001	130	47	84
October .....	3,435	242	-	467	241	2,968	145	55	90
November .....	3,478	214	-	156	330	3,206	150	64	85
December .....	3,385	160	-	-266	460	3,351	141	63	79
Average .....	3,123	184	-	2	274	3,031	141	63	79
1994 January .....	3,117	160	-	-746	332	3,692	118	56	62
February .....	R 3,019	R 276	-	R -505	R 235	R 3,565	R 104	R 49	R 55
March .....	E 3,090	E 315	-	E -29	E 161	E 3,272	E 99	E 50	E 49
3-Month Average ....	E 3,077	E 249	-	E -424	E 243	E 3,508	E 99	E 50	E 49
1993 3-Month Average ....	2,883	213	-	-480	245	3,330	97	12	85
1992 3-Month Average ....	2,744	229	-	-504	258	3,219	98	NA	NA

<sup>a</sup> Stocks are totals as of end of period.

<sup>b</sup> Beginning in January 1983, crude oil used directly as distillate fuel oil is reported as crude oil product supplied on Table 3.2b rather than as distillate fuel oil product supplied.

<sup>c</sup> A negative number indicates a decrease in stocks and a positive number indicates an increase.

<sup>d</sup> By weight.

<sup>e</sup> See Note 6 at end of section.

<sup>f</sup> See Note 4 at end of section.

<sup>g</sup> See Note 3 at end of section.

R=Revised data. NA=Not available. -=Not applicable. E=Estimate.

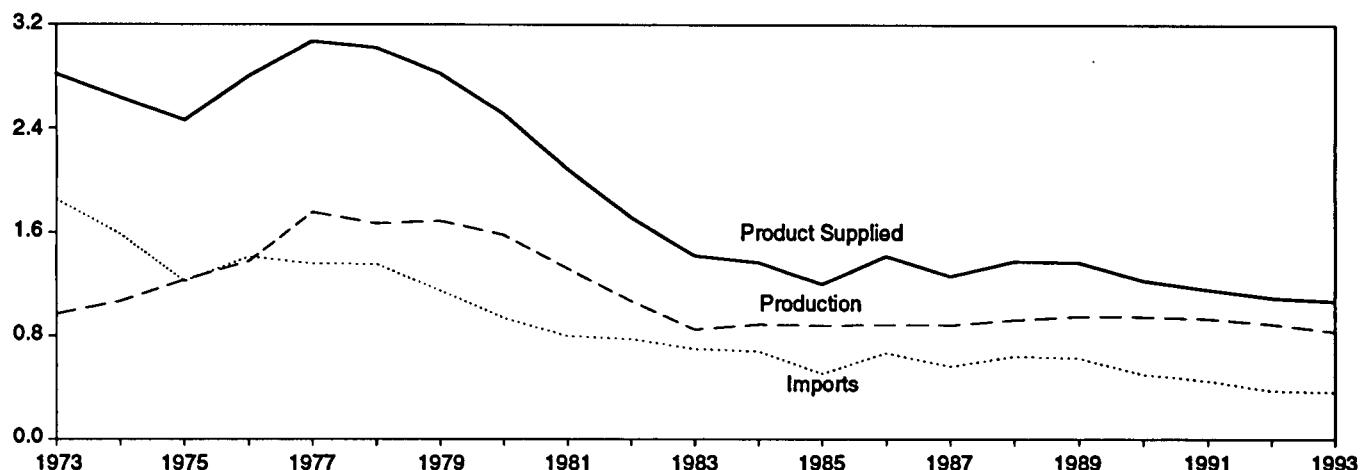
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S5. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S5.

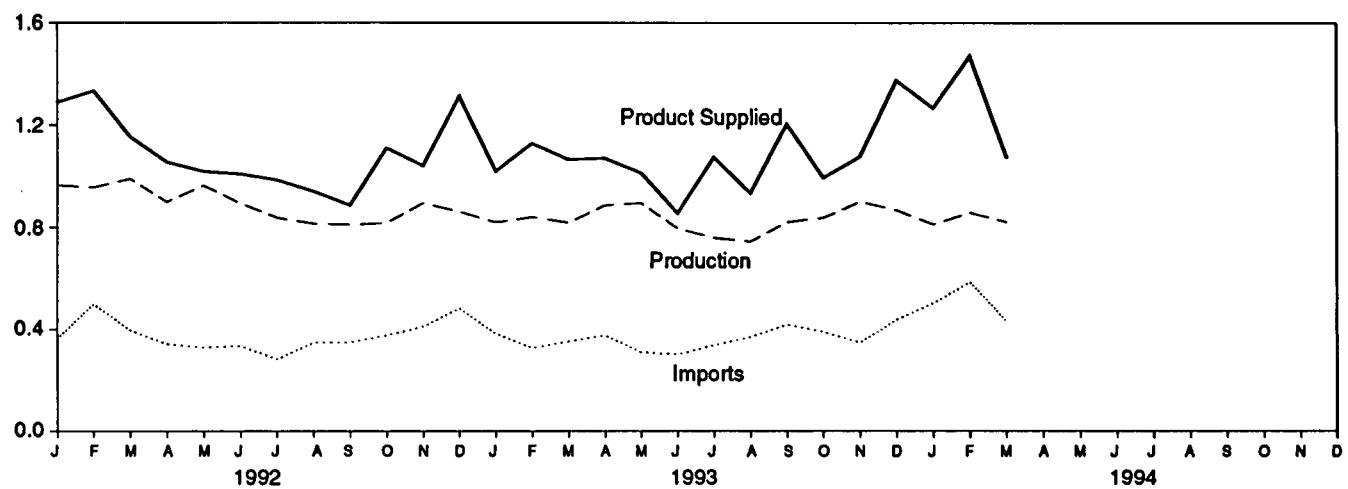
**Figure 3.4 Residual Fuel**

(Million Barrels per Day, Except as Noted)

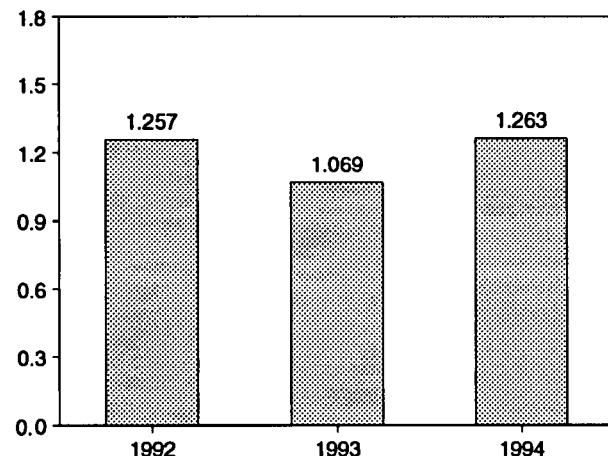
## Overview, 1973-1993



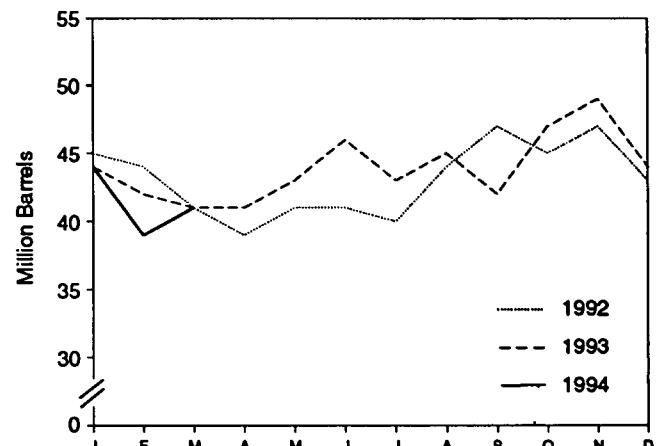
## Overview, Monthly



## Product Supplied, January-March



## Stocks, End of Month



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

Source: Table 3.6.

**Table 3.6 Residual Fuel Oil Supply and Disposition**

	Supply			Disposition			Ending Stocks <sup>c</sup>
	Total Production	Imports	Crude Oil Used Directly <sup>a</sup>	Stock Change <sup>b</sup>	Exports	Product Supplied <sup>a</sup>	
	Thousand Barrels per Day						
1973 Average .....	971	1,853	17	-5	23	2,822	53
1974 Average .....	1,070	1,587	13	17	14	2,639	d 60
1975 Average .....	1,235	1,223	15	d -2	15	2,462	74
1976 Average .....	1,377	1,413	17	-5	12	2,801	72
1977 Average .....	1,754	1,359	13	48	6	3,071	90
1978 Average .....	1,667	1,355	13	1	13	3,023	90
1979 Average .....	1,687	1,151	12	15	9	2,826	96
1980 Average .....	1,580	939	12	d -10	33	2,508	d 92
1981 Average <sup>e</sup> .....	1,321	800	48	d -37	118	2,088	78
1982 Average .....	1,070	776	48	d -32	209	1,716	d 66
1983 Average .....	852	699	-	d -55	185	1,421	49
1984 Average .....	891	681	-	12	190	1,369	53
1985 Average .....	882	510	-	-7	197	1,202	50
1986 Average .....	889	669	-	-8	147	1,418	47
1987 Average .....	885	565	-	(s)	186	1,264	47
1988 Average .....	926	644	-	-8	200	1,378	45
1989 Average .....	954	629	-	-2	215	1,370	44
1990 Average .....	950	504	-	13	211	1,229	49
1991 Average .....	934	453	-	4	226	1,158	50
1992 January .....	965	364	-	-144	184	1,289	45
February .....	957	498	-	-55	176	1,334	44
March .....	990	397	-	-77	310	1,154	41
April .....	900	342	-	-78	265	1,055	39
May .....	964	328	-	67	207	1,019	41
June .....	894	334	-	-11	230	1,009	41
July .....	838	280	-	-37	169	986	40
August .....	815	347	-	125	96	941	44
September .....	810	349	-	123	149	887	47
October .....	818	376	-	-72	156	1,110	45
November .....	895	411	-	49	216	1,041	47
December .....	862	481	-	-127	158	1,312	43
Average .....	892	375	-	-20	193	1,094	43
1993 January .....	820	383	-	49	133	1,020	44
February .....	841	325	-	-75	113	1,128	42
March .....	819	352	-	-46	152	1,065	41
April .....	887	377	-	24	169	1,070	41
May .....	896	308	-	53	137	1,014	43
June .....	797	299	-	92	147	857	46
July .....	760	337	-	-101	122	1,075	43
August .....	745	370	-	61	120	935	45
September .....	822	420	-	-73	110	1,205	42
October .....	839	391	-	141	94	995	47
November .....	901	347	-	85	86	1,077	49
December .....	869	439	-	-164	98	1,375	44
Average .....	833	363	-	4	123	1,068	44
1994 January .....	813	503	-	-16	64	1,267	44
February .....	R 859	R 586	-	R -152	R 127	R 1,470	R 39
March .....	E 822	E 432	-	E 26	E 154	E 1,074	E 41
3-Month Average .....	E 830	E 504	-	E -44	E 115	E 1,263	E 41
1993 3-Month Average .....	826	354	-	-22	133	1,069	41
1992 3-Month Average .....	971	418	-	-93	224	1,257	41

<sup>a</sup> Beginning in January 1983, crude oil used directly as residual fuel oil is reported as crude oil product supplied on Table 3.2b rather than as residual fuel oil product supplied.

<sup>b</sup> A negative number indicates a decrease in stocks and a positive number indicates an increase.

<sup>c</sup> Stocks are totals as of end of period.

<sup>d</sup> See Note 4 at end of section.

<sup>e</sup> See Note 3 at end of section.

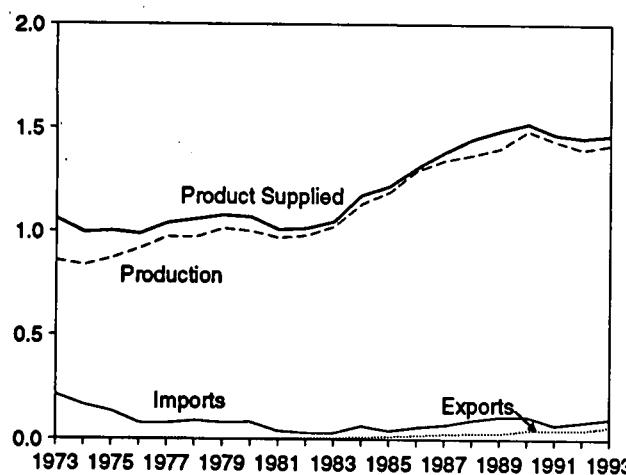
R=Revised data. - =Not applicable. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.

Note: Geographic coverage is the 50 States and the District of Columbia.

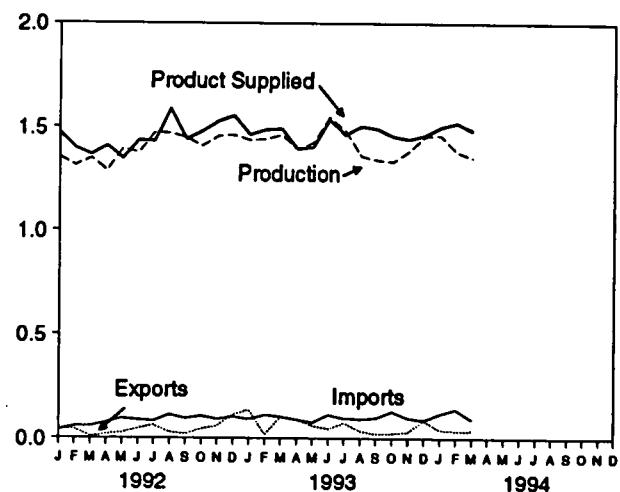
Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S6. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S6.

**Figure 3.5 Jet Fuel**  
 (Million Barrels per Day, Except as Noted)

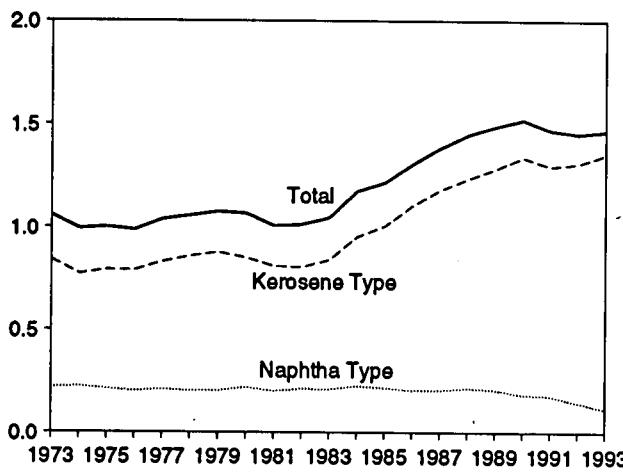
### Total Jet Fuel Overview, 1973-1993



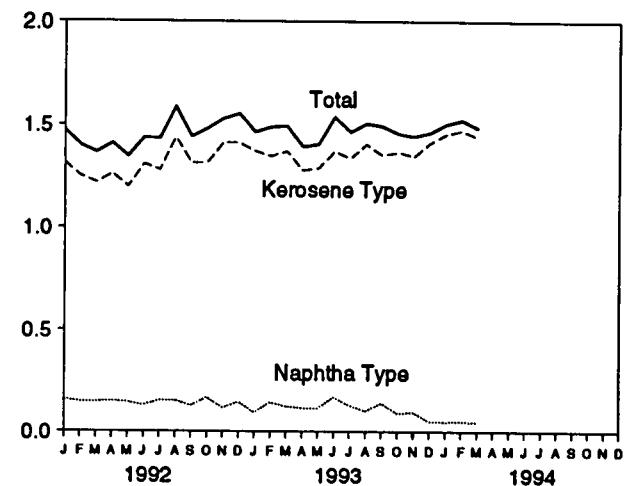
### Total Jet Fuel Overview, Monthly



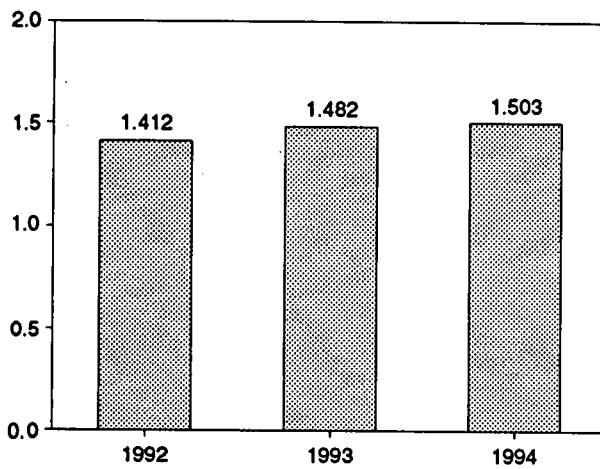
### Product Supplied by Type, 1973-1993



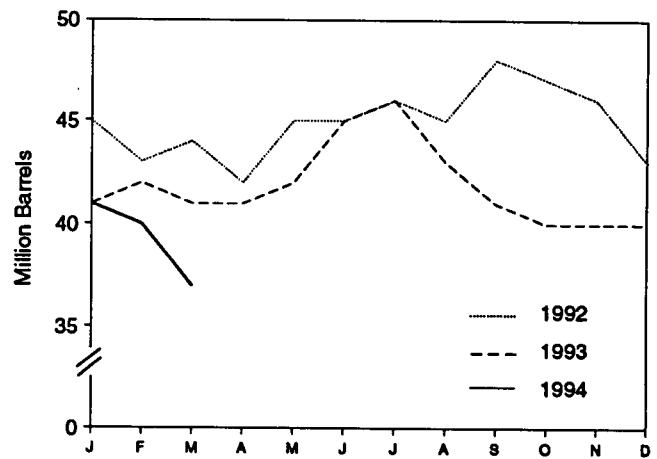
### Product Supplied by Type, Monthly



### Total Product Supplied, January-March



### Total Stocks, End of Month



Source: Table 3.7.

**Table 3.7 Jet Fuel Supply and Disposition**

	Supply			Disposition			Ending Stocks <sup>a</sup>	
	Production		Imports	Stock Change <sup>b</sup>	Exports	Product Supplied		
	Total	Kerosene Type				Total	Kerosene Type	Total
	Thousand Barrels per Day							Million Barrels
1973 Average .....	859	679	212	8	4	1,059	842	29
1974 Average .....	836	641	163	2	3	993	771	29
1975 Average .....	871	691	133	c	2	1,001	791	30
1976 Average .....	918	731	76	5	2	987	789	32
1977 Average .....	973	787	75	7	2	1,039	831	35
1978 Average .....	970	791	86	-2	1	1,057	858	34
1979 Average .....	1,012	835	78	13	1	1,076	876	39
1980 Average .....	999	811	80	10	1	1,068	851	c 42
1981 Average .....	968	775	38	c -4	2	1,007	809	41
1982 Average .....	978	778	29	-12	6	1,013	804	c 37
1983 Average .....	1,022	817	29	c (8)	6	1,046	839	39
1984 Average .....	1,132	919	62	9	9	1,175	953	42
1985 Average .....	1,189	983	39	-4	13	1,218	1,005	40
1986 Average .....	1,293	1,097	57	25	18	1,307	1,105	50
1987 Average .....	1,343	1,138	67	(s)	24	1,385	1,181	50
1988 Average .....	1,370	1,164	90	-17	28	1,449	1,236	44
1989 Average .....	1,403	1,197	106	-8	27	1,489	1,284	41
1990 Average .....	1,488	1,311	108	31	43	1,522	1,340	52
1991 Average .....	1,438	1,274	67	-9	43	1,471	1,296	49
1992 January .....	1,352	1,200	39	-127	44	1,473	1,314	45
February .....	1,311	1,164	56	-73	42	1,398	1,250	43
March .....	1,347	1,215	56	31	7	1,365	1,218	44
April .....	1,288	1,131	74	-68	18	1,409	1,262	42
May .....	1,393	1,214	93	114	26	1,348	1,198	45
June .....	1,374	1,234	86	-21	45	1,436	1,308	45
July .....	1,473	1,328	81	59	62	1,433	1,280	46
August .....	1,471	1,339	111	-32	28	1,585	1,438	45
September .....	1,448	1,296	93	78	20	1,442	1,313	48
October .....	1,408	1,265	105	-12	44	1,480	1,315	47
November .....	1,456	1,319	90	-41	59	1,528	1,411	46
December .....	1,462	1,336	102	-101	112	1,553	1,410	43
Average .....	1,399	1,254	82	-16	43	1,454	1,310	43
1993 January .....	1,437	1,306	89	-73	134	1,464	1,371	41
February .....	1,442	1,318	110	46	17	1,488	1,346	42
March .....	1,463	1,332	102	-29	101	1,493	1,371	41
April .....	1,390	1,262	88	-4	88	1,393	1,278	41
May .....	1,426	1,300	75	37	60	1,404	1,289	42
June .....	1,549	1,409	111	78	45	1,538	1,370	45
July .....	1,485	1,359	94	41	73	1,465	1,337	46
August .....	1,358	1,257	91	-91	34	1,506	1,405	43
September .....	1,339	1,242	97	-78	21	1,493	1,352	41
October .....	1,330	1,242	127	-24	23	1,457	1,367	40
November .....	1,383	1,298	96	6	29	1,443	1,347	40
December .....	1,456	1,379	86	-6	85	1,462	1,411	40
Average .....	1,421	1,309	97	-8	60	1,467	1,354	40
1994 January .....	1,461	1,394	116	36	40	1,502	1,453	41
February .....	R 1,379	R 1,331	R 138	R -41	R 35	R 1,522	R 1,471	R 40
March .....	E 1,352	E 1,304	E 90	E -79	E 36	E 1,485	E 1,439	E 37
3-Month Average .....	E 1,398	E 1,343	E 114	E -28	E 37	E 1,503	E 1,454	E 37
1993 3-Month Average .....	1,447	1,319	100	-21	86	1,482	1,363	41
1992 3-Month Average .....	1,337	1,194	50	-56	31	1,412	1,261	44

<sup>a</sup> Stocks are totals as of end of period.

<sup>b</sup> A negative number indicates a decrease in stocks and a positive number indicates an increase.

<sup>c</sup> See Note 4 at end of section.

R=Revised data. E=Estimate. (s)=Less than +500 barrels per day and

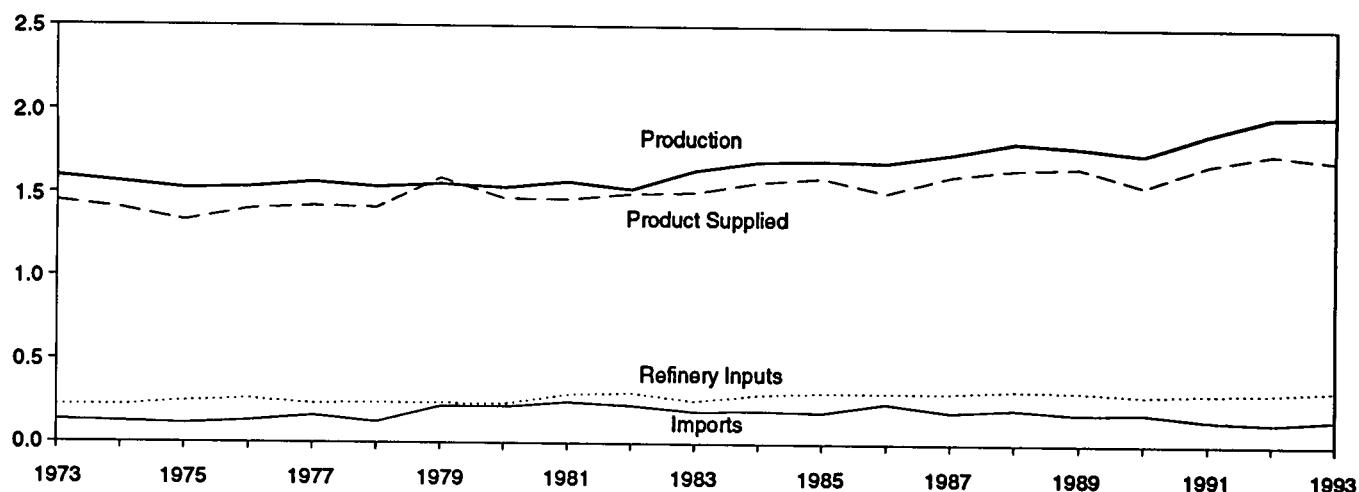
greater than -500 barrels per day.

Note: Geographic coverage is the 50 States and the District of Columbia.

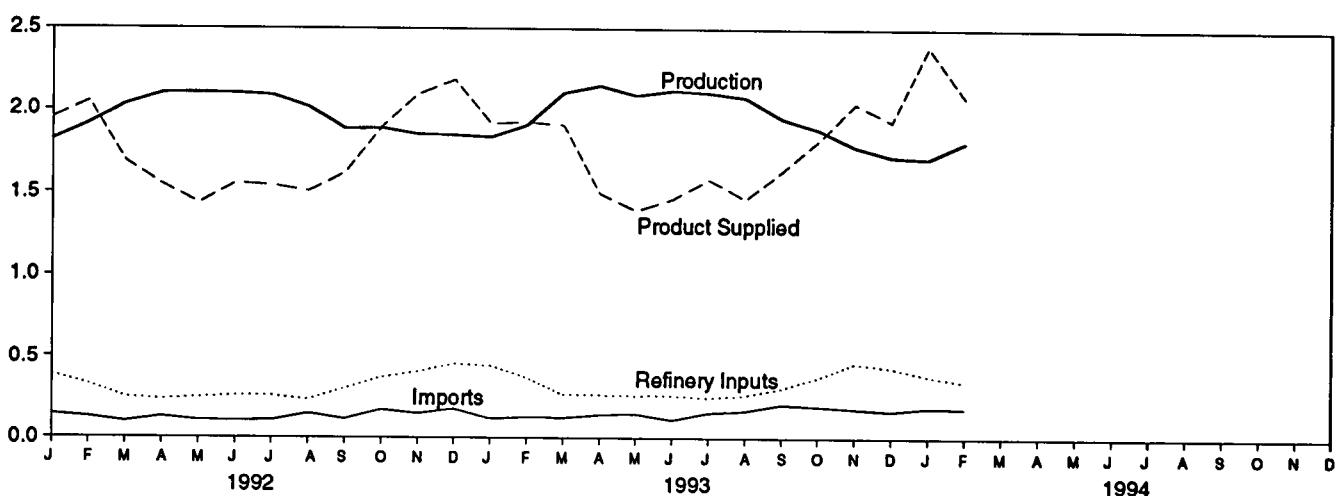
Sources: • 1973-1980: Energy Information Administration (EIA), Petroleum Supply Monthly, February 1993, Table S7. • 1981 forward: EIA, Petroleum Supply Monthly, April 1994, Table S7.

**Figure 3.6 Liquefied Petroleum Gases**  
 (Million Barrels per Day, Except as Noted)

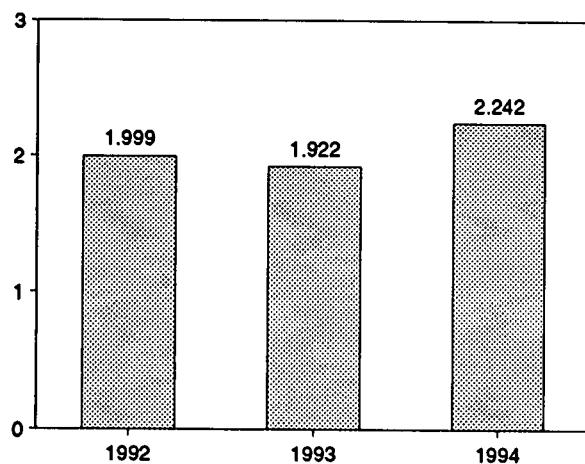
### Overview, 1973-1993



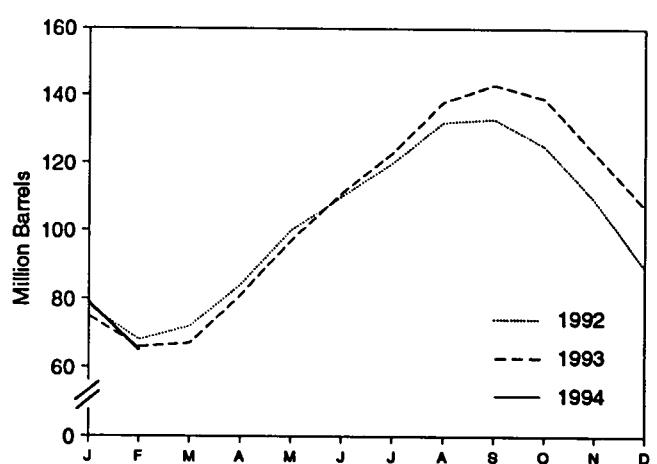
### Overview, Monthly



### Product Supplied, January and February



### Stocks, End of Month



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

Source: Table 3.8.

**Table 3.8 Liquefied Petroleum Gases Supply and Disposition**

	Supply		Disposition				Ending Stocks <sup>b</sup>
	Total Production	Imports	Stock Change <sup>a</sup>	Refinery Inputs	Exports	Product Supplied	
	Thousand Barrels per Day						
1973 Average .....	1,600	132	35	220	27	1,449	99
1974 Average .....	1,565	123	38	220	25	1,406	c 113
1975 Average .....	1,527	112	c 35	246	26	1,333	125
1976 Average .....	1,535	130	-24	260	25	1,404	116
1977 Average .....	1,566	161	55	233	18	1,422	136
1978 Average .....	1,537	123	-12	239	20	1,413	c 132
1979 Average .....	1,556	217	c -70	236	15	1,592	111
1980 Average .....	1,535	216	27	233	21	1,469	c 120
1981 Average .....	1,571	244	c 18	289	42	1,466	135
1982 Average .....	d 1,527	226	-111	300	65	1,499	c 94
1983 Average .....	1,642	190	c -4	253	73	1,509	c 101
1984 Average .....	1,697	195	c -19	291	48	1,572	101
1985 Average .....	1,704	187	-75	304	62	1,599	74
1986 Average .....	1,695	242	80	302	42	1,512	103
1987 Average .....	1,748	190	-15	304	38	1,612	97
1988 Average .....	1,817	209	1	321	49	1,656	97
1989 Average .....	1,791	181	-47	315	35	1,668	80
1990 Average .....	1,749	188	48	293	40	1,556	98
1991 Average .....	1,871	147	-15	304	41	1,689	92
1992 January .....	1,820	142	-452	384	80	1,950	78
February .....	1,917	126	-365	326	33	2,051	68
March .....	2,033	97	153	247	43	1,687	72
April .....	2,102	127	401	233	45	1,549	84
May .....	2,106	106	489	245	44	1,433	100
June .....	2,102	104	334	257	59	1,556	110
July .....	2,090	106	345	255	52	1,544	120
August .....	2,016	148	369	233	55	1,507	132
September .....	1,886	114	37	299	45	1,620	133
October .....	1,892	171	-242	369	39	1,898	125
November .....	1,854	148	-541	403	43	2,097	109
December .....	1,849	176	-660	453	49	2,184	89
Average .....	1,972	131	-10	309	49	1,755	89
1993 January .....	1,837	117	-441	440	39	1,917	75
February .....	1,912	128	-310	367	55	1,928	66
March .....	2,106	123	9	263	47	1,910	67
April .....	2,151	142	466	263	69	1,495	81
May .....	2,091	148	538	258	50	1,393	97
June .....	2,122	111	469	260	41	1,463	111
July .....	2,108	155	380	246	54	1,583	123
August .....	2,078	167	475	263	45	1,462	138
September .....	1,952	206	188	304	35	1,632	143
October .....	1,887	195	-129	372	21	1,819	139
November .....	1,781	180	-560	458	21	2,042	123
December .....	1,721	166	-518	432	40	1,933	107
Average .....	1,979	153	49	327	43	1,714	107
1994 January .....	1,710	187	-902	381	28	2,390	79
February .....	1,809	182	-474	343	44	2,077	65
2-Month Average .....	1,757	185	-699	363	36	2,242	65
1993 2-Month Average .....	1,873	122	-379	405	46	1,922	66
1992 2-Month Average .....	1,867	134	-410	356	57	1,999	68

<sup>a</sup> A negative number indicates a decrease in stocks and a positive number indicates an increase.

<sup>b</sup> Stocks are totals as of end of period.

<sup>c</sup> See Note 4 at end of section.

<sup>d</sup> See Note 6 at end of section.

Notes: • Liquefied petroleum gases include ethane, ethylene, propane,

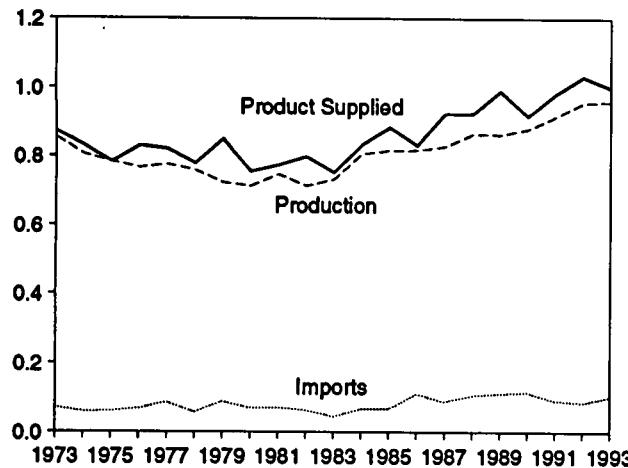
propylene, normal butane, butylene, isobutane and isobutylene.

• Geographic coverage is the 50 States and the District of Columbia.

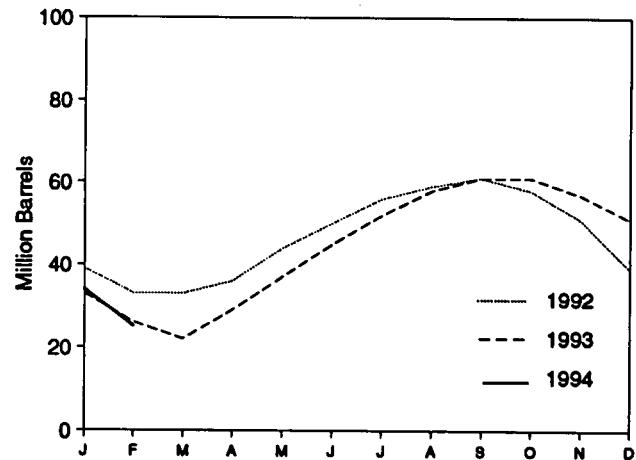
Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S8. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S9.

**Figure 3.7 Propane and Propylene**  
 (Million Barrels per Day, Except as Noted)

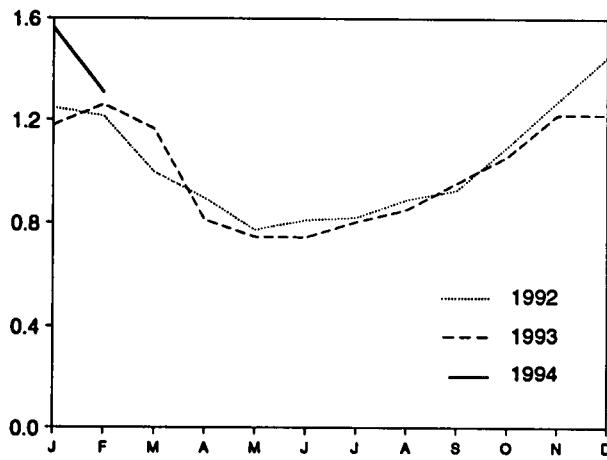
### Overview, 1973-1993



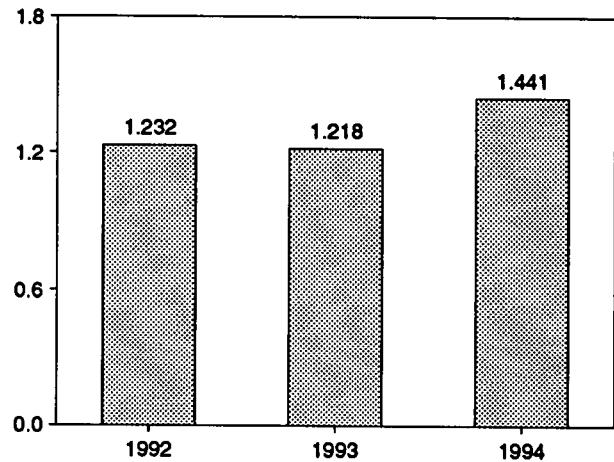
### Stocks, End of Month



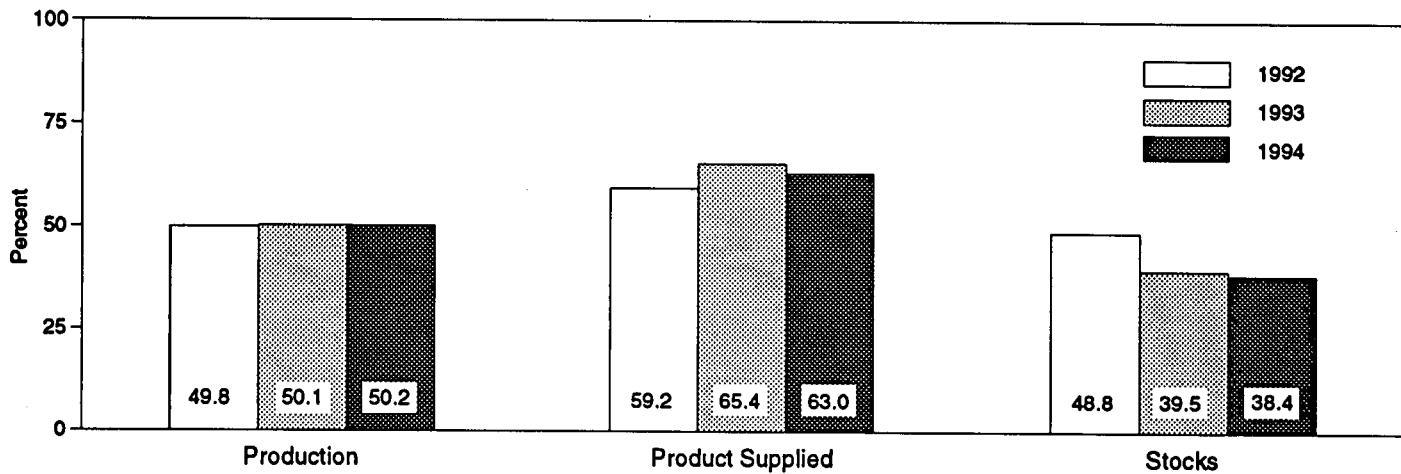
### Product Supplied, Monthly



### Product Supplied, January and February



### Share of Liquefied Petroleum Gases, February



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

Sources: Table 3.9 and, for calculation of shares, data prior to rounding for publication in Tables 3.8 and 3.9.

**Table 3.9 Propane and Propylene Supply and Disposition (A Subset of Table 3.8)**

	Supply		Disposition				Ending Stocks <sup>b</sup> Million Barrels
	Total Production	Imports	Stock Change <sup>a</sup>	Refinery Inputs	Exports	Products Supplied	
	Thousand Barrels per Day						
1973 Average .....	854	71	30	8	15	872	65
1974 Average .....	805	59	11	9	14	830	69
1975 Average .....	783	60	36	11	13	783	82
1976 Average .....	766	68	-22	12	13	830	74
1977 Average .....	775	86	21	10	10	821	81
1978 Average .....	758	57	15	13	9	778	87
1979 Average .....	721	88	c -61	14	8	849	64
1980 Average .....	711	69	c 4	12	10	754	65
1981 Average .....	745	70	c 18	5	18	773	76
1982 Average .....	711	63	c -59	4	31	798	54
1983 Average .....	730	44	c -24	4	43	751	48
1984 Average .....	806	67	c 7	4	30	833	58
1985 Average .....	816	67	-50	3	48	883	39
1986 Average .....	817	110	64	4	28	831	63
1987 Average .....	828	88	-41	8	24	924	48
1988 Average .....	863	106	7	8	31	923	50
1989 Average .....	862	111	-52	11	24	990	32
1990 Average .....	878	115	48	(s)	28	917	49
1991 Average .....	915	91	-3	(s)	28	982	48
1992 January .....	949	90	-282	(s)	72	1,249	39
February .....	955	86	-200	(s)	27	1,214	33
March .....	940	68	-15	(s)	26	997	33
April .....	961	80	120	0	24	896	38
May .....	977	72	253	(s)	23	773	44
June .....	978	66	206	(s)	27	811	50
July .....	964	68	176	(s)	35	821	58
August .....	946	85	117	(s)	25	889	59
September .....	931	71	51	(s)	25	927	61
October .....	933	104	-88	(s)	30	1,095	58
November .....	964	99	-243	0	33	1,273	51
December .....	977	131	-385	0	45	1,448	39
Average .....	956	85	-24	(s)	33	1,032	39
1993 January .....	965	72	-173	1	31	1,179	33
February .....	959	78	-261	(s)	37	1,261	26
March .....	971	85	-140	(s)	32	1,165	22
April .....	973	112	233	(s)	40	812	29
May .....	942	96	262	0	30	748	37
June .....	958	75	266	0	23	744	45
July .....	956	105	232	0	26	804	52
August .....	945	116	184	0	27	851	58
September .....	956	132	116	0	17	955	61
October .....	953	107	-10	0	13	1,057	61
November .....	964	138	-136	0	17	1,220	57
December .....	962	102	-183	0	25	1,222	51
Average .....	959	102	34	(s)	26	1,000	51
1994 January .....	892	134	-555	0	19	1,562	34
February .....	908	119	-316	6	30	1,308	25
2-Month Average .....	900	127	-442	3	24	1,441	25
1993 2-Month Average .....	962	75	-215	(s)	33	1,218	26
1992 2-Month Average .....	952	88	-243	(s)	50	1,232	33

<sup>a</sup> A negative number indicates a decrease in stocks and a positive number indicates an increase.

<sup>b</sup> Stocks are totals as of end of period.

<sup>c</sup> See Note 4 at end of section.

(s)=Less than 500 barrels per day.

Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: • 1973 through 1975: U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys*, "Petroleum Statement, Annual." • 1976 through 1980: Energy Information Administration (EIA), *Energy Data Reports*, Petroleum Statement, Annual." • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S8.

**Table 3.10 Other Petroleum Products Supply and Disposition**

	Supply		Disposition				Ending Stocks <sup>b</sup>
	Total Production	Imports	Stock Change <sup>a</sup>	Refinery Inputs	Exports	Products Supplied	
	Thousand Barrels per Day						
1973 Average .....	2,833	290	1	750	162	2,211	179
1974 Average .....	2,722	269	25	665	172	2,129	c 188
1975 Average .....	2,547	144	c -6	537	158	2,001	188
1976 Average .....	2,725	129	(s)	524	172	2,158	188
1977 Average .....	2,939	130	20	514	164	2,371	195
1978 Average .....	3,076	80	-12	492	165	2,511	191
1979 Average .....	3,141	116	24	352	208	2,673	200
1980 Average .....	2,957	130	15	310	197	2,566	c 205
1981 Average .....	2,771	188	c -42	723	197	2,081	241
1982 Average .....	2,475	305	-68	787	205	d 1,857	c 216
1983 Average .....	2,437	382	c -6	712	236	1,877	c 217
1984 Average .....	2,500	503	c -32	791	236	2,007	198
1985 Average .....	2,532	550	22	886	227	1,947	206
1986 Average .....	2,704	504	-15	888	291	2,045	201
1987 Average .....	2,737	543	-1	829	264	2,187	200
1988 Average .....	2,773	645	22	799	294	2,303	208
1989 Average .....	2,771	627	12	797	305	2,285	213
1990 Average .....	2,842	705	-32	887	289	2,402	201
1991 Average .....	2,826	675	18	936	277	2,269	208
1992 January .....	2,702	734	203	787	272	2,175	214
February .....	2,642	575	183	883	240	1,911	219
March .....	2,752	713	238	730	239	2,258	227
April .....	2,900	793	-31	1,043	217	2,464	226
May .....	2,929	665	-113	910	199	2,598	222
June .....	3,126	669	-42	787	225	2,826	221
July .....	3,207	740	-156	996	284	2,822	216
August .....	3,068	729	-116	884	227	2,802	212
September .....	3,114	748	188	675	336	2,663	218
October .....	2,923	701	-182	954	295	2,557	212
November .....	2,915	697	-24	989	264	2,383	212
December .....	2,853	711	-165	1,223	352	2,154	c 207
Average .....	2,928	707	-3	906	263	2,470	c 207
1993 January .....	e 3,026	698	c 600	829	e 271	e 2,023	225
February .....	2,815	773	122	949	282	2,235	228
March .....	2,866	818	243	747	269	2,425	236
April .....	2,862	719	9	900	315	2,357	236
May .....	2,899	808	85	979	278	2,364	239
June .....	3,022	630	-240	981	278	2,632	231
July .....	3,116	875	116	945	302	2,628	235
August .....	3,094	676	27	865	295	2,583	236
September .....	3,016	789	-265	1,031	282	2,757	228
October .....	3,108	802	-164	1,138	369	2,567	223
November .....	2,978	760	-210	1,274	309	2,365	217
December .....	2,810	674	-356	1,389	349	2,101	205
Average .....	2,969	752	-2	1,002	300	2,420	205
1994 January .....	2,719	780	507	590	256	2,147	221
February .....	2,779	725	236	638	248	2,383	228
2-Month Average .....	2,748	754	378	613	252	2,259	228
1993 2-Month Average .....	2,926	733	373	886	277	2,123	228
1992 2-Month Average .....	2,673	657	193	833	256	2,047	219

<sup>a</sup> A negative number indicates a decrease in stocks and a positive number indicates an increase.

<sup>b</sup> Stocks are totals as of end of period.

<sup>c</sup> See Note 4 at end of section.

<sup>d</sup> See Note 6 at end of section.

<sup>e</sup> Beginning in 1993, other petroleum products production, exports, and products supplied include an adjustment to oxygenates and motor gasoline blending components.

(s)=Less than +500 barrels per day and greater than -500 barrels per day.

Notes: • Other petroleum products include pentanes plus, other hydrocarbons and oxygenates, unfinished oils, gasoline blending components, and all finished petroleum products except finished motor gasoline, distillate fuel oil, residual fuel oil, jet fuel, and liquefied petroleum gases. • Geographic coverage is the 50 States and the District of Columbia.

Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S9. • 1981 forward: EIA, *Petroleum Supply Monthly*, April 1994, Table S10.

# Petroleum Notes

1. The Energy Information Administration (EIA) uses a number of sources and methods to maintain the survey respondent lists. On a regular basis, survey managers review such industry publications as the Oil and Gas Journal and Oil Daily for information on facilities or companies starting up or closing down operations. Those sources are augmented by articles in newspapers, letters from respondents indicating changes in status, and information received from survey systems.

To supplement routine frames maintenance and to provide more thorough coverage, a comprehensive frames investigation is conducted every 3 years. This investigation results in the reassessment and recompilation of the complete frame for each survey. The effort also includes the evaluation of the impact of potential frame changes on the historical time series of data published from these respondents. The results of this frame study are usually implemented in January to provide a full year under the same frame.

In 1991, the EIA conducted a frame identifier survey of companies that produce, blend, store, or import oxygenates. A summary of the results from the identification survey was published in the *Weekly Petroleum Status Report* dated February 12, 1992, and in the February 1992 issue of the *Petroleum Supply Monthly*. In order to continue to provide relevant information about U.S. and regional gasoline supply, the EIA conducted a second frame identifier survey of those companies during 1992. As a result, numerous respondents were added to the monthly surveys effective in January 1993. See Explanatory Note 7 in the *Petroleum Supply Monthly*.

2. Motor Gasoline: Beginning in January 1981, the EIA expanded its universe to include non-refinery blenders and separated blending components from finished motor gasoline as a reporting category. Also, survey forms were modified to describe refinery operations more accurately.

Beginning with the reporting of January 1993 data, the EIA made adjustments to the product supplied series for finished motor gasoline. It was recognized that motor gasoline statistics published by the EIA through 1992 were underreported because the reporting system was (1) not collecting all fuel ethanol blending, and (2) there was a misreporting of motor gasoline blending components that were blended into finished gasoline. The adjustments are incorporated into EIA's data beginning in January 1993. To facilitate data analysis across the 1992-1993 period, EIA has prepared a table of 1992 data adjusted according to the 1993 basis. See *Petroleum Supply Monthly*, March 1993, Table H3.

3. Distillate and Residual Fuel Oils: The requirement to report crude oil in pipelines or burned on leases as either distillate or residual fuel oil has been eliminated.

Prior to January 1981, the refinery input of unfinished oils typically exceeded the available supply of unfinished oils. That discrepancy was assumed to be due to the redesignation of distillate and residual fuel oils received as such but used as unfinished oil inputs by the receiving refinery. The imbalance between supply and disposition of unfinished oils would then be subtracted from the production of distillate and residual fuel oils. Two-thirds of that difference was subtracted from distillate and one-third from residual. Beginning in January 1981, the EIA modified its survey forms to account for redesignated product and discontinued the above-mentioned adjustment.

Beginning in January 1993, the end-of-month stocks of distillate fuel oil are split into two sulfur categories (0.05 percent sulfur or less and greater than 0.05 percent sulfur) to meet Environmental Protection Agency requirements effective in October 1992. For further details, see the EIA, *Petroleum Supply Monthly*.

4. New Stock Basis: In January 1975, 1979, 1981, and 1983, numerous respondents were added to bulk terminal and pipeline surveys, affecting subsequent stocks reported and stock change calculations. Using the expanded coverage (new basis), the end-of-year stocks, in million barrels, would have been:

- Crude Oil: 1982—645 (Total) and 351 (Other Primary).
- Crude Oil and Petroleum Products: 1974—1,121; 1980—1,425; and 1982—1,461.
- Motor Gasoline: 1974—225; 1980—263; 1982—244 (Total) and 202 (Finished).
- Distillate Fuel Oil: 1974—224; 1980—205; and 1982—186.
- Residual Fuel Oil: 1974—75; 1980—91; and 1982—69.
- Jet Fuel: 1974—30 (Total) and 24 (Kerosene Type); 1980—42 (Total) and 36 (Kerosene Type); and 1982—39 (Total) and 32 (Kerosene Type).
- Liquefied Petroleum Gases: 1974—113; 1978—136; 1980—128; and 1982—102.
- Propane and Propylene: 1978—86; 1980—69; and 1982—57.
- Other Petroleum Products: 1974—190; 1980—207; and 1982—219.

Stock change calculations beginning in 1975, 1979, 1981, and 1983 were made by using new basis stock levels.

In January 1984, changes were made in the reporting of natural gas liquids. As a result, unfractionated stream, which was formerly included in the "Other Petroleum Products Supply and Disposition" table, is now reported on a component basis (ethane, propane, normal butane, isobutane, and pentanes plus). Most of these stocks now appear in the "Liquefied Petroleum Gases Supply and

Disposition" table. This change affects stocks reported and stock change calculations in each table. Under the new basis, end-of-year 1983 stocks, in million barrels, would have been:

- Liquefied Petroleum Gases: 1983—108.
- Propane and Propylene: 1983—55.
- Other Petroleum Products: 1983—210.

In January 1993, changes were made in the monthly surveys to begin collecting bulk terminal and pipeline stocks of oxygenates. This change affected stocks reported and stock change calculations. However, a new basis stock level was not calculated for 1992 end-of-year stocks.

**5. Stocks of Alaskan Crude Oil:** Stocks of Alaskan Crude oil in transit were included for the first time in January 1981. The major impact of this change is on the reporting of stock change calculations. Using the expanded coverage (new basis), 1980 end-of-year stocks, in million barrels, would have been 488 (Total) and 380 (Other Primary).

**6. Data Discrepancies:** Due to differences internal to EIA data processing systems, some small discrepancies exist between data in the *Monthly Energy Review (MER)* and the *Petroleum Supply Annual (PSA)* and *Petroleum Supply Monthly (PSM)*. The data that have discrepancies are footnoted in Section 3 tables and summarized here.

Table	Data Series	Year Average	MER Data	PSA and PSM Data
3.1a	Natural Gas Plant Production	1976	1,604	1,603
3.1b	Exports, Total	1979	471	472
3.1b	Exports, Petroleum Products	1979	236	237
3.1b	Net Imports	1979	7,985	7,984
3.2a	Crude Used Directly	1976	-19	-18
3.2a	Imports, SPR	1978	161	162
3.2a	Crude Used Directly	1978	-15	-14
3.2a	Crude Used Directly	1979	-14	-13
3.2a	Crude Used Directly	1980	-14	-13
3.2b	Crude Losses	1976	14	15
3.2b	Crude Losses	1980	14	15
3.5	Stock Change	1974	10	9
3.5	Stock Change	1975	-41	-40
3.8	Total Production	1982	1,527	1,525
3.10	Products Supplied	1982	1,857	1,856

## Section 4. Natural Gas

Total dry natural gas production in the United States during February 1994 was an estimated 1.5 trillion cubic feet, 3 percent<sup>4</sup> higher than production during the previous February.

Consumption of natural and supplemental gas in February 1994 was 2.3 billion cubic feet, 8 percent above the level in February 1993.

Deliveries to residential consumers in January 1994 (latest date for which data are available) were 987 billion cubic feet, 18 percent above the previous January's deliveries. Total deliveries to industrial

consumers during January 1993 were 726 billion cubic feet, 4 percent higher than the previous January's level.

Imports of natural gas in February 1994 were 162 billion cubic feet, 11 percent lower than imports in the previous February.

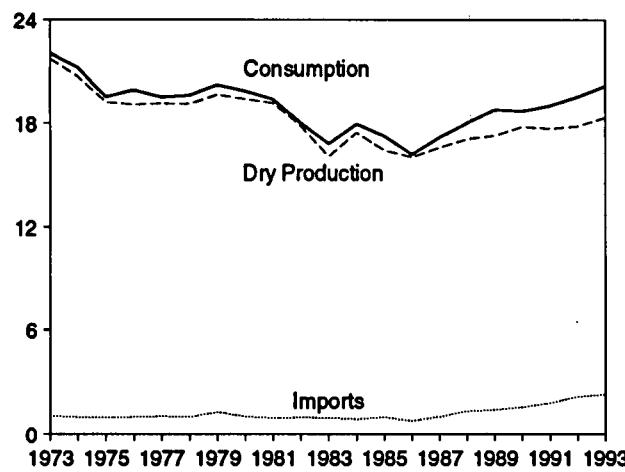
Stocks of working gas<sup>5</sup> in underground natural gas storage reservoirs at the end of February 1994 totaled 1.1 trillion cubic feet, 28 percent below the level of stocks available 1 year earlier. Net withdrawals from storage during February 1994 were 497 billion cubic feet, 10 percent below the amount of withdrawals during the previous February.

<sup>4</sup>Percentage changes are based on unrounded data.

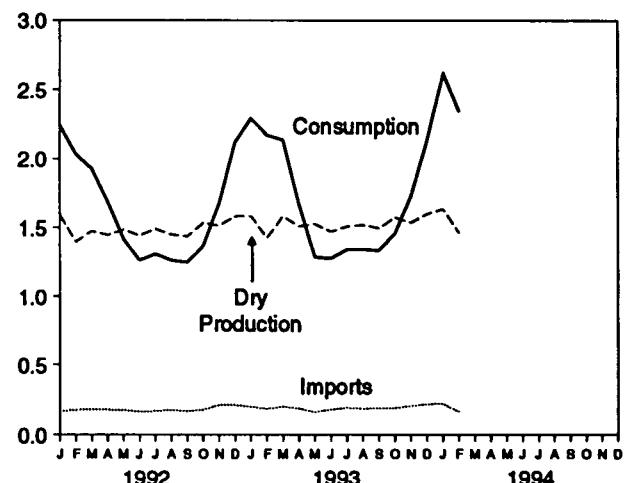
<sup>5</sup>Gas available for withdrawal.

**Figure 4.1 Natural Gas**  
(Trillion Cubic Feet)

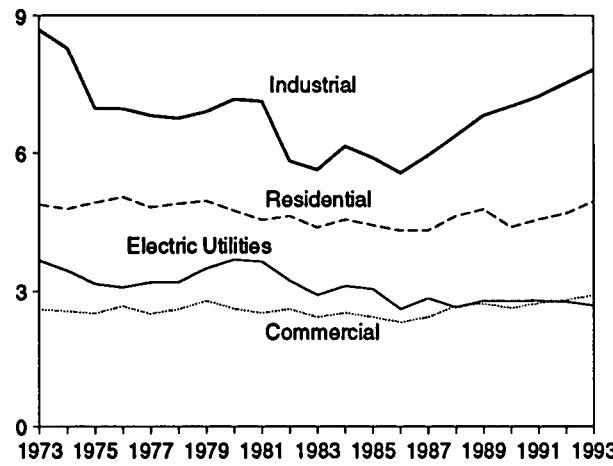
### Overview, 1973-1993



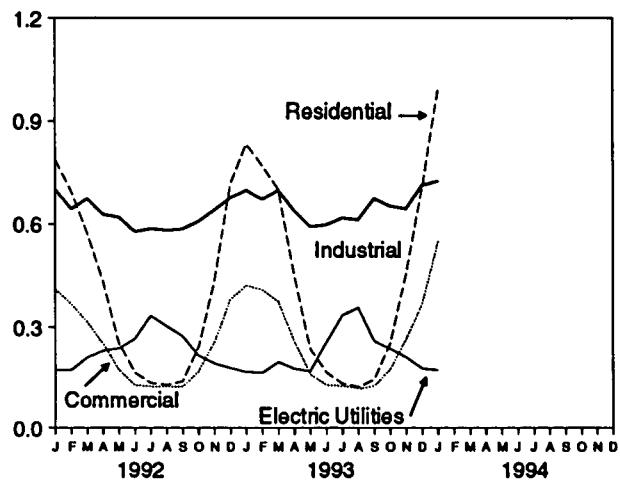
### Overview, Monthly



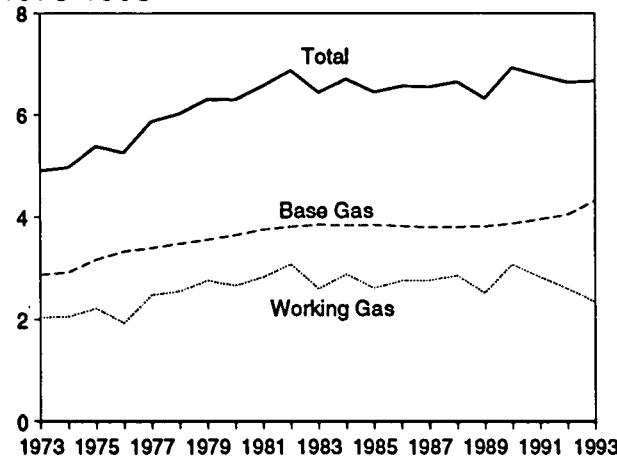
### Consumption by Sector, 1973-1993



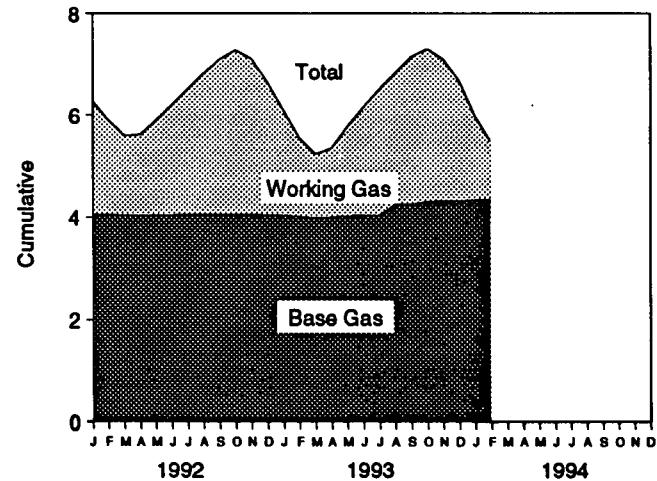
### Consumption by Sector, Monthly



### Underground Storage, End of Year, 1973-1993



### Underground Storage, End of Month



Note: Because vertical scales differ, graphs should not be compared.  
Sources: Tables 4.2, 4.4, and 4.5.

**Table 4.1 Natural Gas Production**  
(Billion Cubic Feet)

	Gross Withdrawals <sup>a</sup>	Repressuring <sup>b</sup>	Nonhydro-carbon Gases Removed <sup>c</sup>	Vented and Flared <sup>d</sup>	Marketed Production (Wet) <sup>e</sup>	Extraction Loss <sup>f</sup>	Total Dry Gas Production <sup>g</sup>
1973 Total .....	24,067	1,171	NA	248	h 22,848	917	h 21,731
1974 Total .....	22,850	1,080	NA	169	h 21,601	887	h 20,713
1975 Total .....	21,104	861	NA	134	h 20,109	872	h 19,236
1976 Total .....	20,944	859	NA	132	h 19,952	854	h 19,098
1977 Total .....	21,097	935	NA	137	h 20,025	863	h 19,163
1978 Total .....	21,308	1,181	NA	153	h 19,974	852	h 19,122
1979 Total .....	21,883	1,245	NA	167	h 20,471	808	h 19,863
1980 Total .....	21,870	1,385	199	125	20,180	777	19,403
1981 Total .....	21,587	1,312	222	98	19,956	775	19,181
1982 Total .....	20,272	1,388	208	93	18,582	762	17,820
1983 Total .....	18,659	1,458	222	95	16,884	790	16,094
1984 Total .....	20,267	1,630	224	108	18,304	838	17,466
1985 Total .....	19,607	1,915	326	95	17,270	816	16,454
1986 Total .....	19,131	1,838	337	98	16,859	800	16,059
1987 Total .....	20,140	2,208	376	124	17,433	812	16,621
1988 Total .....	20,999	2,478	460	143	17,918	816	17,103
1989 Total .....	21,074	2,475	362	142	18,095	785	17,311
1990 Total .....	21,523	2,489	289	150	18,594	784	17,610
1991 Total .....	21,750	2,772	276	170	18,532	835	17,698
1992 January .....	1,952	251	24	14	1,663	77	1,586
February .....	1,748	247	22	13	1,467	68	1,398
March .....	1,837	254	22	14	1,547	72	1,475
April .....	1,801	246	24	13	1,518	71	1,447
May .....	1,842	248	24	12	1,557	73	1,485
June .....	1,800	246	23	15	1,515	71	1,444
July .....	1,842	238	24	16	1,564	73	1,491
August .....	1,799	237	24	15	1,522	71	1,451
September .....	1,786	242	21	15	1,508	70	1,437
October .....	1,899	253	25	13	1,608	75	1,533
November .....	1,871	246	23	14	1,588	74	1,514
December .....	1,956	263	24	14	1,656	77	1,579
Total .....	22,132	2,973	280	168	18,712	872	17,640
1993 January .....	R 1,962	R 264	R 24	R 14	R 1,660	R 77	R 1,583
February .....	R 1,781	R 247	21	15	R 1,497	70	R 1,427
March .....	1,961	268	21	15	1,657	77	1,579
April .....	R 1,875	R 252	22	R 15	R 1,585	74	R 1,511
May .....	R 1,899	R 261	R 22	16	R 1,600	R 75	R 1,526
June .....	R 1,822	240	21	17	R 1,544	72	R 1,472
July .....	R 1,864	242	23	17	R 1,583	74	R 1,509
August .....	R 1,890	259	22	16	R 1,593	74	R 1,519
September .....	1,859	250	22	16	1,572	73	1,498
October .....	R 1,970	R 283	22	16	1,648	77	1,572
November .....	1,941	293	21	15	R 1,611	75	R 1,538
December .....	R 2,023	R 308	R 22	17	R 1,676	R 78	R 1,598
Total .....	R 22,847	R 3,168	R 264	R 189	R 19,226	R 896	R 18,330
1994 January .....	E 2,048	E 295	E 23	E 16	E 1,714	E 80	E 1,634
February .....	E 1,844	E 275	E 20	E 15	E 1,534	E 71	E 1,463
2-Month Total .....	E 3,892	E 570	E 44	E 31	E 3,248	E 151	E 3,097
1993 2-Month Total .....	3,743	511	45	30	3,157	147	3,010
1992 2-Month Total .....	3,700	497	46	27	3,130	146	2,984

<sup>a</sup> Gas withdrawn from gas and oil wells.

<sup>b</sup> The injection of natural gas into oil and gas formations for pressure maintenance and cycling purposes.

<sup>c</sup> See Note 1 at end of section.

<sup>d</sup> Vented: Natural gas released into the air on the base site or at processing plants. Flared: Natural gas burned in flares on the base site or at gas processing plants.

<sup>e</sup> "Gross Withdrawals" minus "Repressuring," "Nonhydrocarbon Gases Removed," and "Vented and Flared." See Note 2 at end of section.

<sup>f</sup> See Note 3 at end of section.

<sup>g</sup> "Marketed Production (Wet)" minus "Extraction Loss."

<sup>h</sup> May include unknown quantities of nonhydrocarbon gases.

R=Revised data. NA=Not available. E=Estimate.

Notes: • Geographic coverage is the 50 States and the District of Columbia.

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

Sources: • 1973-1986: Energy Information Administration (EIA), *Natural Gas Annual 1991*, Table 95. • 1987 forward: EIA, *Natural Gas Monthly*, April 1994, Table 1.

**Table 4.2 Natural Gas Supply and Disposition**  
(Billion Cubic Feet)

	Supply					Total Supply/Disposition <sup>d</sup>	Disposition		
	Total Dry Gas Production	Withdrawals from Storage <sup>a</sup>	Supplemental Gaseous Fuels <sup>b</sup>	Imports <sup>c</sup>	Balancing Item <sup>b</sup>		Additions to Storage <sup>a</sup>	Exports <sup>c</sup>	Consumption <sup>b</sup>
1973 Total .....	• 21,731	1,533	NA	1,033	-196	24,101	1,974	77	22,049
1974 Total .....	• 20,713	1,701	NA	959	-289	23,084	1,784	77	21,223
1975 Total .....	• 19,236	1,760	NA	953	-235	21,714	2,104	73	19,536
1976 Total .....	• 19,098	1,921	NA	964	-216	21,767	1,756	65	19,946
1977 Total .....	• 19,163	1,750	NA	1,011	-41	21,883	2,307	56	19,821
1978 Total .....	• 19,122	2,158	NA	966	-287	21,956	2,278	53	19,627
1979 Total .....	• 19,663	2,047	NA	1,253	-372	22,591	2,295	56	20,241
1980 Total .....	19,403	1,972	155	985	-640	21,875	1,949	49	19,877
1981 Total .....	19,181	1,930	178	904	-500	21,691	2,228	59	19,404
1982 Total .....	17,820	2,164	145	933	-537	20,525	2,472	52	18,001
1983 Total .....	16,094	2,270	132	918	-703	18,712	1,822	55	16,835
1984 Total .....	17,466	2,098	110	843	-217	20,300	2,295	56	17,851
1985 Total .....	16,454	2,397	126	950	-428	19,499	2,163	55	17,281
1986 Total .....	16,059	1,837	113	750	-493	18,286	1,984	61	16,221
1987 Total .....	16,621	1,905	101	993	-444	19,178	1,911	54	17,211
1988 Total .....	17,103	2,270	101	1,294	-453	20,315	2,211	74	16,030
1989 Total .....	17,311	2,654	107	1,382	-218	21,435	2,528	107	16,801
1990 Total .....	17,810	1,988	123	1,532	-149	21,302	2,499	86	16,716
1991 Total .....	17,698	2,752	113	1,773	-500	21,836	2,672	129	19,035
1992 January .....	1,586	624	12	165	-71	2,315	60	16	2,239
February .....	1,398	463	11	175	42	2,089	45	14	2,031
March .....	1,475	397	11	180	-42	2,022	74	23	1,926
April .....	1,447	142	10	176	89	1,864	161	18	1,685
May .....	1,485	44	9	174	68	1,780	344	19	1,418
June .....	1,444	35	8	162	16	1,666	384	18	1,264
July .....	1,491	42	8	167	-8	1,700	373	16	1,311
August .....	1,451	46	8	175	-19	1,662	380	18	1,264
September .....	1,437	40	8	166	-24	1,629	362	18	1,249
October .....	1,533	70	10	176	-130	1,659	271	19	1,368
November .....	1,514	282	11	210	-239	1,778	88	19	1,672
December .....	1,579	587	12	209	-191	2,195	58	19	2,119
Total .....	17,840	2,772	118	2,138	-508	22,360	2,599	216	19,544
1993 January .....	R 1,583	607	13	198	R -42	R 2,358	50	18	R 2,290
February .....	R 1,427	578	12	183	R 11	R 2,211	27	13	R 2,171
March .....	1,579	382	12	199	R 60	2,232	79	17	2,137
April .....	R 1,511	110	10	185	R 86	R 1,902	222	12	R 1,669
May .....	R 1,526	25	8	160	R 38	R 1,757	457	12	R 1,288
June .....	R 1,472	44	10	178	R 2	R 1,706	418	11	R 1,278
July .....	R 1,509	49	9	190	R -2	R 1,755	399	13	R 1,344
August .....	R 1,519	100	9	184	R -36	1,776	421	10	1,345
September .....	1,498	28	9	188	R 5	R 1,728	382	10	1,337
October .....	1,572	102	10	189	R -150	R 1,723	255	8	R 1,460
November .....	R 1,536	316	12	204	R -219	R 1,849	112	10	R 1,728
December .....	R 1,598	499	13	R 217	R -130	R 2,197	58	11	R 2,129
Total .....	R 18,330	2,840	R 127	R 2,276	R -376	R 23,197	2,879	142	R 20,178
1994 January .....	E 1,634	755	14	R 220	R 49	R 2,672	46	9	R 2,617
February .....	E 1,463	544	12	162	219	2,399	47	9	2,344
2-Month Total ...	E 3,097	1,300	26	381	268	5,071	93	18	4,960
1993 2-Month Total ...	3,010	1,185	25	381	-31	4,570	77	31	4,462
1992 2-Month Total ...	2,984	1,087	23	340	-29	4,405	105	30	4,269

<sup>a</sup> Data for 1980-1992 include underground storage and liquefied natural gas storage. All other data include underground storage only. Computation procedures are discussed in Note 8 at end of section.

<sup>b</sup> See Notes at end of section.

<sup>c</sup> See Table 4.3.

<sup>d</sup> Data for 1978 forward do not include in-transit receipts and deliveries.

<sup>e</sup> May include unknown quantities of nonhydrocarbon gases.

<sup>f</sup> See Note 7 at end of section.

R=Revised data. NA=Not available. E=Estimate.

Notes: • Geographic coverage is the 50 States and the District of Columbia.

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

Sources: • 1973-1986: Total Dry Gas Production—Energy Information Administration (EIA), *Natural Gas Annual 1991*, Table 95. Withdrawals from Storage, 1973-1975 and 1980-1986—EIA, *Natural Gas Annual 1991*, Table 96. Withdrawals from Storage, 1976-1979—EIA, *Natural Gas Production and Consumption 1979*, Table 1. Supplemental Gaseous Fuels, 1980-1986—EIA, *Natural Gas Annual 1990*, Volume 2, Table 12. Imports, Additions to Storage, Exports, and Consumption—EIA, *Natural Gas Annual 1991*, Table 96. Total Supply/Disposition—Sum of disposition items. Balancing Item—Total supply/disposition minus all other supply items. • 1987 forward: EIA, *Natural Gas Monthly*, April 1994, Table 2.

**Table 4.3 Natural Gas Trade by Country**  
(Billion Cubic Feet)

	Imports				Exports			
	Canada <sup>a</sup>	Algeria <sup>b</sup>	Other <sup>c</sup>	Total	Canada <sup>a</sup>	Mexico <sup>a</sup>	Japan <sup>b</sup>	Total
1973 Total .....	1,028	3	2	1,033	15	14	48	77
1974 Total .....	959	0	(s)	959	13	13	50	77
1975 Total .....	948	5	0	953	10	9	53	73
1976 Total .....	954	10	0	964	8	7	50	68
1977 Total .....	997	11	2	1,011	(s)	4	52	56
1978 Total .....	881	84	0	966	(s)	4	48	53
1979 Total .....	1,001	253	0	1,253	(s)	4	51	56
1980 Total .....	787	86	102	985	(s)	4	45	49
1981 Total .....	762	37	105	904	(s)	3	56	59
1982 Total .....	783	55	95	933	(s)	2	50	52
1983 Total .....	712	131	75	918	(s)	2	53	55
1984 Total .....	755	36	52	843	(s)	2	53	55
1985 Total .....	926	24	0	950	(s)	2	53	55
1986 Total .....	749	0	2	750	9	2	50	61
1987 Total .....	993	0	0	993	3	2	49	54
1988 Total .....	1,276	17	0	1,294	20	2	52	74
1989 Total .....	1,339	42	0	1,382	38	17	51	107
1990 Total .....	1,448	84	0	1,532	17	16	53	86
1991 Total .....	1,710	64	0	1,773	15	60	54	120
1992 January .....	157	8	0	165	2	10	4	16
February .....	170	5	0	175	4	6	4	14
March .....	178	3	0	180	11	7	4	23
April .....	174	3	0	176	6	7	4	18
May .....	174	0	0	174	6	7	6	19
June .....	160	3	0	182	6	7	4	18
July .....	167	0	0	167	5	6	4	16
August .....	172	2	0	175	5	9	4	18
September .....	164	3	0	166	6	8	4	18
October .....	174	3	0	176	6	10	3	19
November .....	203	8	0	210	3	11	4	19
December .....	202	8	0	209	7	8	4	18
Total .....	2,094	43	0	2,138	68	96	53	216
1993 January .....	193	5	0	198	6	8	4	18
February .....	175	8	0	183	6	2	4	13
March .....	194	5	0	199	8	3	6	17
April .....	178	8	0	185	5	3	4	12
May .....	155	5	0	160	4	3	4	12
June .....	171	8	0	178	4	4	3	11
July .....	183	8	0	190	4	4	5	13
August .....	179	5	0	184	2	3	5	10
September .....	178	10	0	188	3	2	5	10
October .....	184	5	0	189	3	2	3	8
November .....	197	8	0	204	3	2	5	10
December .....	R 208	8	0	R 217	3	1	7	11
Total .....	R 2,194	82	1	R 2,276	50	37	56	142
1994 January .....	R 209	10	1	R 220	3	1	5	9
February .....	156	5	1	162	4	1	4	9
2-Month Total ....	365	15	1	381	7	2	9	18
1993 2-Month Total ....	368	13	0	381	12	10	9	31
1992 2-Month Total ....	327	13	0	340	6	16	9	30

<sup>a</sup> By pipeline, except for very small amounts of liquefied natural gas imported from Canada in 1973, 1977 and 1981. See Note 5 at end of section.

<sup>b</sup> As liquefied natural gas.

<sup>c</sup> Other imports are from Mexico, except for 1986, when they came from Indonesia.

R=Revised data. (s)=Less than 500 million cubic feet.

Notes: • See Note 5 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration, *Natural Gas Monthly*, April 1994, Tables 5 and 6.

**Table 4.4 Natural Gas Consumption by End-Use Sector**  
 (Billion Cubic Feet)

	Lease and Plant Fuel	Pipeline Fuel <sup>a</sup>	Delivered to Consumers					Total Consumption
			Residential	Commercial	Industrial	Electric Utilities	Total	
1973 Total .....	1,496	728	4,879	2,597	8,689	3,860	19,825	22,049
1974 Total .....	1,477	669	4,786	2,556	8,292	3,443	19,077	21,223
1975 Total .....	1,396	583	4,924	2,508	6,968	3,158	17,558	19,538
1976 Total .....	1,634	548	5,051	2,668	6,964	3,081	17,764	19,946
1977 Total .....	1,659	533	4,821	2,501	6,815	3,191	17,329	19,521
1978 Total .....	1,648	530	4,903	2,601	6,757	3,188	17,449	19,827
1979 Total .....	1,499	601	4,965	2,786	6,899	3,491	18,141	20,241
1980 Total .....	1,026	635	4,752	2,611	7,172	3,682	18,218	18,877
1981 Total .....	928	642	4,546	2,520	7,128	3,640	17,834	19,404
1982 Total .....	1,109	596	4,633	2,606	5,831	3,226	16,295	18,001
1983 Total .....	978	490	4,381	2,433	5,643	2,911	15,367	16,935
1984 Total .....	1,077	529	4,555	2,524	6,154	3,111	16,345	17,951
1985 Total .....	966	504	4,433	2,432	5,901	3,044	15,811	17,281
1986 Total .....	923	485	4,314	2,318	5,579	2,602	14,814	16,221
1987 Total .....	1,149	519	4,315	2,430	5,953	2,844	15,542	17,211
1988 Total .....	1,096	614	4,630	2,670	6,383	2,636	16,320	18,030
1989 Total .....	1,070	629	4,781	2,718	6,816	2,787	17,102	18,801
1990 Total .....	1,236	660	4,391	2,623	7,018	2,787	16,820	18,716
1991 Total .....	1,129	601	4,556	2,729	7,231	2,789	17,305	19,035
1992 January .....	104	68	786	410	701	169	2,067	2,239
February .....	92	62	696	366	644	170	1,876	2,031
March .....	97	58	574	315	674	208	1,770	1,926
April .....	95	51	431	250	628	229	1,539	1,685
May .....	97	42	251	170	620	236	1,278	1,418
June .....	95	37	162	125	578	266	1,132	1,264
July .....	98	39	132	122	587	334	1,175	1,311
August .....	95	37	126	121	582	303	1,131	1,264
September .....	94	37	137	121	586	274	1,117	1,249
October .....	101	41	241	166	608	213	1,227	1,368
November .....	99	50	437	256	641	189	1,523	1,672
December .....	104	64	717	381	677	176	1,951	2,119
Total .....	1,171	588	4,690	2,803	7,527	2,766	17,786	19,544
1993 January .....	R 104	69	833	421	699	R 164	2,118	R 2,290
February .....	94	65	770	408	672	R 162	2,012	R 2,171
March .....	104	64	702	374	699	R 194	1,969	2,137
April .....	R 99	50	449	257	639	R 174	1,519	1,669
May .....	R 100	39	233	156	593	R 167	1,149	R 1,288
June .....	97	38	163	126	598	R 255	1,143	1,278
July .....	R 99	40	130	123	618	R 334	R 1,205	R 1,344
August .....	100	40	120	115	613	R 357	1,205	1,345
September .....	98	40	142	123	675	R 258	1,198	1,337
October .....	103	44	252	172	653	R 235	R 1,313	R 1,460
November .....	101	52	457	265	645	R 208	1,575	R 1,728
December .....	R 105	64	R 704	R 368	714	R 174	1,960	R 2,129
Total .....	R 1,204	607	R 4,956	R 2,908	7,819	R 2,682	R 18,365	R 20,176
1994 January .....	107	R 79	987	548	726	170	2,431	R 2,617

<sup>a</sup> Natural gas consumed in the operation of pipelines, primarily in compressors.

R=Revised data.

Notes: • Natural gas includes supplemental gaseous fuels. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not

equal sum of components due to independent rounding.

Sources: • 1973-1986: Energy Information Administration (EIA), *Natural Gas Annual 1991*, Table 97. • 1987 forward: EIA, *Natural Gas Monthly*, April 1994, Table 3.

**Table 4.5 Natural Gas in Underground Storage**  
 (Volumes in Billion Cubic Feet)

	Natural Gas in Underground Storage, End of Period			Change in Working Gas from Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total <sup>a</sup>	Volume	Percent	Injections <sup>b</sup>	Withdrawals <sup>b</sup>	Net <sup>c</sup>
1973 Total .....	2,864	2,034	4,898	305	17.6	1,974	1,533	442
1974 Total .....	2,912	2,050	4,962	16	.8	1,784	1,701	84
1975 Total .....	3,162	2,212	5,374	162	7.9	2,104	1,760	344
1976 Total .....	3,323	1,926	5,250	-286	-12.9	1,756	1,921	-165
1977 Total .....	3,391	2,475	5,866	549	28.5	2,307	1,750	557
1978 Total .....	3,473	2,547	6,020	72	2.9	2,278	2,158	120
1979 Total .....	3,553	2,753	6,306	207	8.1	2,295	2,047	248
1980 Total .....	3,642	2,655	6,297	-99	-3.6	1,896	1,910	-14
1981 Total .....	3,752	2,817	6,569	162	6.1	2,180	1,887	293
1982 Total .....	3,808	3,071	6,879	255	9.0	2,399	2,094	306
1983 Total .....	3,847	2,595	6,442	-476	-15.5	1,700	2,142	-442
1984 Total .....	3,830	2,876	6,706	281	10.8	2,252	2,064	188
1985 Total .....	3,842	2,607	6,448	-270	-9.4	2,128	2,359	-231
1986 Total .....	3,819	2,749	6,567	142	5.5	1,952	1,812	140
1987 Total .....	3,792	2,756	6,548	7	.3	1,887	1,881	6
1988 Total .....	3,800	2,850	6,650	94	3.4	2,174	2,244	-69
1989 Total .....	3,812	2,513	6,325	-337	-11.8	2,491	2,804	-313
1990 Total .....	3,868	3,068	6,936	555	22.1	2,433	1,934	499
1991 Total .....	3,954	2,824	6,778	-244	-8.0	2,608	2,689	-80
1992 January .....	4,061	2,216	6,277	-146	-6.2	68	591	-524
February .....	4,057	1,837	5,894	-226	-10.9	52	441	-389
March .....	4,046	1,545	5,591	-367	-19.2	81	381	-301
April .....	4,038	1,573	5,611	-463	-22.8	167	150	18
May .....	4,044	1,848	5,892	-425	-18.7	330	53	277
June .....	4,050	2,153	6,203	-400	-15.7	366	43	323
July .....	4,064	2,460	6,524	-311	-11.2	357	50	307
August .....	4,062	2,761	6,823	-217	-7.3	364	54	309
September .....	4,061	3,044	7,105	-157	-4.9	348	48	298
October .....	4,065	3,223	7,288	-146	-4.3	264	78	186
November .....	4,061	3,054	7,115	-94	-3.0	95	276	-181
December .....	4,044	2,597	6,641	-227	-8.0	65	557	-491
Total .....	4,044	2,597	6,641	-227	-8.0	2,555	2,724	-168
1993 January .....	4,041	2,046	6,087	-170	-7.7	50	607	-556
February .....	4,015	1,519	5,534	-318	-17.3	27	578	-551
March .....	3,994	1,238	5,232	-306	-19.8	79	382	-303
April .....	4,004	1,337	5,340	-236	-15.0	222	110	112
May .....	4,026	1,744	5,771	-104	-5.6	457	25	432
June .....	4,039	2,118	6,157	-35	-1.6	418	44	374
July .....	4,039	2,471	6,510	11	.5	399	49	350
August .....	4,263	2,572	6,835	-189	-6.8	421	100	321
September .....	4,255	2,904	7,159	-140	-4.6	382	28	354
October .....	4,314	2,998	7,312	-225	-7.0	255	102	154
November .....	4,325	2,781	7,106	-273	-8.9	112	316	-204
December .....	4,325	2,341	6,666	-256	-9.9	58	499	-441
Total .....	4,325	2,341	6,666	-256	-9.9	2,879	2,840	39
1994 January .....	4,344	1,616	5,960	-430	-21.0	46	755	-709
February .....	4,347	1,096	5,444	-423	-27.9	47	544	-487

<sup>a</sup> For total underground storage capacity at the end of each calendar year, see Note 9 at end of section.

<sup>b</sup> For 1980-1992, data differ from those shown on Table 4.2, which includes liquefied natural gas storage for that period.

<sup>c</sup> Positive numbers indicate injections are greater than withdrawals. Negative numbers indicate withdrawals are greater than injections. Net injections or withdrawals may not equal the difference between applicable ending stocks. See Note 8 at end of section.

Notes: • Geographic coverage is the 50 States and the District of Columbia.

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

Sources: • Storage Activity: 1973-1975—Energy Information Administration (EIA), *Natural Gas Annual 1990, Volume 2*, Table 9.

1976-1979—EIA, *Natural Gas Production and Consumption 1979*, Table 1.

1980-1986—EIA, *Natural Gas Annual 1990, Volume 2*, Table 11. 1987 forward—EIA, *Natural Gas Monthly*, April 1994, Table 13. • Other Data: 1973 and 1974—American Gas Association (AGA), *Gas Facts, 1972 Data*, Table 57, *Gas Facts, 1973 Data*, Table 57, and *Gas Facts, 1974 Data*, Table 40. 1975 and 1976—Federal Energy Administration (FEA), Form FEA-G318-M-0, "Underground Gas Storage Report," and Federal Power Commission (FPC), Form FPC-8, "Underground Gas Storage Report." 1977 and 1978—EIA, Form FEA-G318-M-0, "Underground Gas Storage Report," and Federal Energy Regulatory Commission (FERC), Form FERC-8, "Underground Gas Storage Report." 1979-1986—EIA, Form EIA-191, "Underground Gas Storage Report," and FERC, Form FERC-8, "Underground Gas Storage Report." 1987 forward—EIA, *Natural Gas Monthly*, April 1994, Table 13.

# Natural Gas Notes

**1. Nonhydrocarbon Gases Removed:** Annual data on nonhydrocarbon gases removed from marketed production—carbon dioxide, helium, hydrogen sulfide, and nitrogen—are from the Energy Information Administration (EIA) *Natural Gas Annual (NGA) 1991*. Data are not available for periods prior to 1980. Monthly data are reported by three States and computed for six States. Monthly data are preliminary until after publication of the EIA NGA. Differences between annual data published in the EIA NGA and the sum of the preliminary monthly data (January-December) are allocated proportionally to the months to create final monthly data. For further information on methods of estimating preliminary monthly data, see the EIA *Natural Gas Monthly (NGM)*.

## 2. Production.

- **Annual data:** Final annual data are from the EIA NGA.
- **Estimated monthly data:** Data for the two most recent months presented are estimated. Some of the data for earlier months are also estimated or computed. For a discussion of computation and estimation procedures, see the EIA NGM.
- **Preliminary monthly data:** Monthly data are considered preliminary until after publication of the EIA NGA. Preliminary monthly data are gathered from reports to the Interstate Oil Compact Commission and the U.S. Minerals Management Service. Volumetric data are converted, as necessary, to a standard 14.73 psi pressure base. Unless there are major changes, data are not revised until after publication of the EIA NGA.
- **Final monthly data:** Differences between annual data in the EIA NGA and the sum of preliminary monthly data (January-December) are allocated proportionally to the months to create final monthly data.

## 3. Extraction Loss:

Extraction loss is the reduction in volume of natural gas resulting from the removal of natural gas liquid constituents at natural gas processing plants.

Annual data for extraction loss are from the EIA NGA, where they are estimated on the basis of the type and quantity of liquid products extracted from the gas stream and the calculated volume of such products at standard conditions. For a detailed explanation of the calculations used to derive estimated extraction losses, see the EIA NGA.

Preliminary monthly data are estimated on the basis of extraction loss as an annual percentage of marketed production. This percentage is applied to each month's

marketed production to estimate monthly extraction loss.

Monthly data are revised and considered final after the publication of the EIA NGA. Final monthly data are estimated by allocating annual extraction loss data to the months on the basis of total natural gas marketed production data from the EIA NGA.

## 4. Supplemental Gaseous Fuels:

Any gaseous substance that, introduced into or commingled with natural gas, increases the volume available for disposition. Such substances include, but are not limited to, propane-air, refinery gas, coke oven gas, still gas, manufactured gas, biomass gas, or air or inert gases added for Btu stabilization.

Annual data beginning with 1980 are from the EIA NGA. Unknown quantities of supplemental gaseous fuels are included in consumption data for 1979 and earlier years.

Monthly data are considered preliminary until after the publication of the EIA NGA. Monthly estimates are based on the annual ratio of supplemental gaseous fuels to the sum of dry gas production, net imports, and net withdrawals from storage. The ratio is applied to the monthly sum of the three elements to compute a monthly supplemental gaseous fuels figure.

## 5. Imports and Exports:

The United States imports natural gas via pipeline from Canada. Prior to 1985, it also imported natural gas via pipeline from Mexico. Liquefied natural gas (LNG) arrives via tanker from Algeria. One shipment of LNG was received from Indonesia in December 1986. Very small amounts of LNG arrived from Canada in 1973 (667 million cubic feet), 1977 (572 million cubic feet), and 1981 (6 million cubic feet). The United States exports natural gas via pipeline to Canada and Mexico and LNG via tanker to Japan.

Annual and final monthly data are from the annual Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas," which requires data to be reported by month for the calendar year.

Preliminary monthly data are EIA estimates. For a discussion of estimation procedures, see the EIA NGM. Preliminary data are revised after the publication of the EIA *U.S. Imports and Exports of Natural Gas*.

## 6. Consumption:

Consumption includes pipeline fuel use, lease and plant fuel use, and deliveries to consuming sectors.

Final data are from the EIA NGA. Monthly data are considered preliminary until after publication of the EIA NGA. For more detailed information on the methods of

estimating preliminary and final monthly data, see the EIA *NGM*.

**7. Balancing Item:** The balancing item for natural gas represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas disposition. The differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperature and pressure bases and converted to a standard temperature and pressure base; the effect of variations in company accounting and billing practices; differences between billing cycle and calendar period time frames; and imbalances resulting from the merger of data reporting systems which vary in scope, format, definitions, and type of respondents.

The increase of 0.2 trillion cubic feet (Tcf) in the "Balancing Item" category in 1983, followed by a decline of 0.5 Tcf in 1984, reflected unusually large differences resulting from the use of the annual billing cycle (essentially December 15 through the following December 14) consumption data in conjunction with calendar year supply data. Record cold temperatures during the last half of December 1983 resulted in a reported 0.3 Tcf increase in net withdrawals from underground storage for peak shaving as compared with the same period in 1982, but the effect of this cold weather was reflected primarily in 1984 consumption data. For underground storage data, see Table F2 in the May 1985 *NGM*, which was published in July 1985.

**8. Natural Gas Storage:** Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals from the quantity in storage at the end of the previous

period. The difference is due to changes in the quantity of native gas included in the base gas and/or losses in base gas due to migration from storage reservoirs.

Monthly underground storage data are collected from the Forms FERC-8 (interstate data) and EIA-191 (intra-state data). Beginning in January 1991, all data are collected on the revised Form EIA-191. Injection and withdrawal data from the FERC-8/EIA-191 survey are adjusted to correspond to data from Form EIA-176 following publication of the EIA *NGA*.

The final monthly and annual storage and withdrawal data for 1980-1989 include both underground and liquefied natural gas (LNG) storage. Annual data on LNG additions and withdrawals are from Form EIA-176. Monthly data are estimated by computing the ratio of each month's underground storage additions and withdrawals to annual underground storage additions and withdrawals and applying the ratio to the annual LNG data.

**9. Total underground storage capacity at the end of each calendar year since 1975 (first year available), in billion cubic feet, is:**

1975	6,280	1984	8,043
1976	6,544	1985	8,067
1977	6,678	1986	8,145
1978	6,890	1987	8,124
1979	6,929	1988	8,124
1980	7,434	1989	8,124
1981	7,805	1990	8,125
1982	7,915	1991	7,993
1983	7,985	1992	7,932

Current capacity is 7,932 billion cubic feet.



## Section 5. Oil and Gas Resource Development

A total of 94 seismic exploration crews were active in March 1994, 23 more crews than were active a year earlier. Of the total, 75 were land crews and 19 were aboard marine vessels. The number of land crews increased by 20 and the number of operating marine vessels increased by 3 vessels from the March 1993 count.

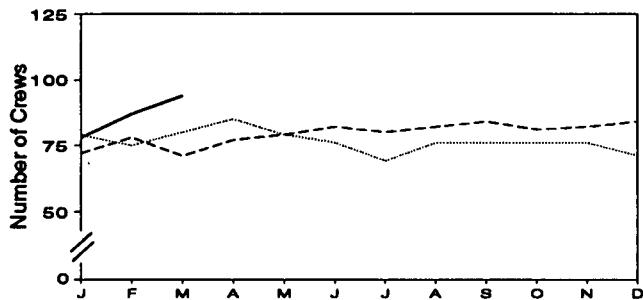
The March 1994 rotary rig count of 735 was 3 percent lower than the count in the previous month but 20 percent higher than the count in March 1993. Of the total number of rigs in operation, 636 were onshore and 99 were offshore. The number of onshore rigs was up 16 percent from the number in March 1993, and the number of offshore rigs was up 60 percent.

Total footage drilled in March 1994 was 9.8 million feet, up 13 percent from footage drilled in February 1994 but down 11 percent from that drilled in March 1993.

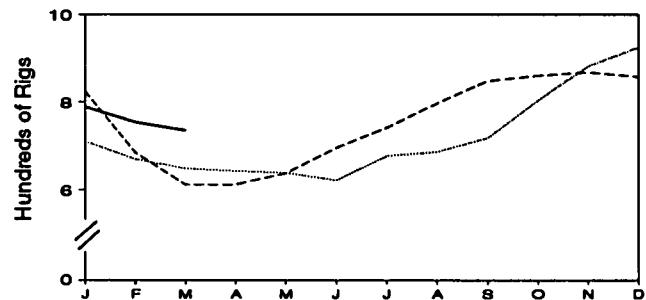
The estimated number of exploratory and development oil and gas wells drilled during March 1994 was 1,301, 15 percent higher than the number drilled in February 1994 but 16 percent lower than the number drilled in March 1993. The estimated number of oil wells drilled was 727 and the estimated number of gas wells was 574, 12 percent higher and 36 percent lower, respectively, from the March 1993 levels. The estimated number of dry holes drilled in March 1994 was 462, 19 percent higher than the number drilled in February 1994 and 5 percent higher than the number drilled in March 1993.

**Figure 5.1 Oil and Gas Resource Development Indicators**

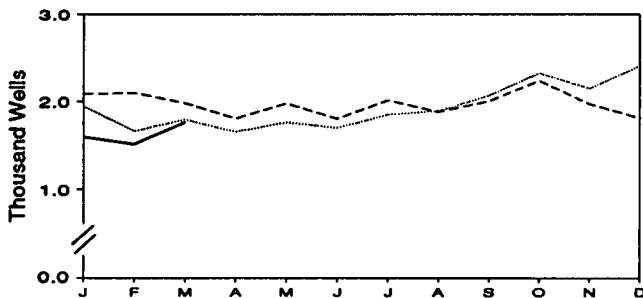
Crews Engaged in Seismic Exploration



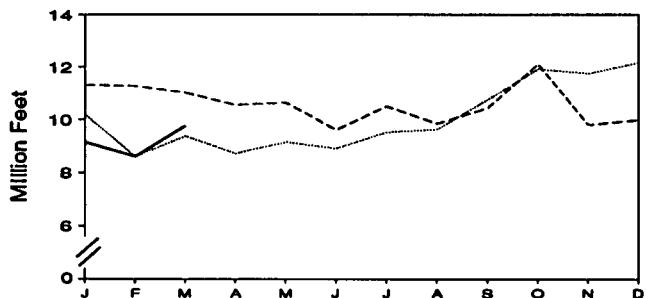
Rotary Rigs in Operation



Wells Drilled



Footage Drilled



Sources: Tables 5.1 and 5.2.

**Table 5.1 Oil and Gas Drilling Activity Measurements**

	Crews Engaged in Seismic Exploration			Rotary Rigs in Operation <sup>a</sup>					Total Footage Drilled <sup>c</sup>	Active Well Servicing Units <sup>d</sup>		
	Offshore	Onshore	Total	By Site		By Type						
				Offshore	Onshore	Oil	Gas					
	Monthly Average			Weekly Average					Thousand Feet	Number		
1973 Average .....	23	227	250	84	1,110	NA	NA	1,194	139,427	NA		
1974 Average .....	31	274	305	94	1,378	NA	NA	1,472	153,791	NA		
1975 Average .....	30	254	284	106	1,554	NA	NA	1,660	181,046	NA		
1976 Average .....	25	237	262	129	1,529	NA	NA	1,658	187,291	2,601		
1977 Average .....	27	281	308	167	1,834	NA	NA	2,001	215,696	2,828		
1978 Average .....	25	327	352	185	2,074	NA	NA	2,259	238,388	2,988		
1979 Average .....	30	370	400	207	1,970	NA	NA	2,177	243,686	3,399		
1980 Average .....	37	493	530	231	2,678	NA	NA	2,909	312,303	4,089		
1981 Average .....	44	637	681	256	3,714	NA	NA	3,970	408,842	4,850		
1982 Average .....	57	531	588	243	2,862	NA	NA	3,105	378,437	4,248		
1983 Average .....	47	426	473	199	2,033	NA	NA	2,232	318,585	3,732		
1984 Average .....	49	445	494	213	2,215	NA	NA	2,428	370,730	4,663		
1985 Average .....	45	333	376	206	1,774	NA	NA	1,980	312,569	4,716		
1986 Average .....	24	176	200	99	865	NA	NA	964	177,486	3,036		
1987 Average .....	24	153	177	85	841	NA	NA	936	161,228	3,060		
1988 Average .....	29	153	182	123	813	554	354	936	153,340	3,341		
1989 Average .....	23	109	132	105	764	453	401	869	133,383	3,391		
1990 Average .....	23	102	125	108	902	532	464	1,010	149,378	3,658		
1991 Average .....	19	85	104	81	779	482	351	860	141,648	3,331		
1992 January .....	18	61	79	56	654	400	294	710	10,196	2,912		
February .....	13	62	75	51	618	378	277	669	8,610	2,704		
March .....	13	67	80	54	594	381	250	648	R 9,381	2,592		
April .....	13	72	85	55	587	370	251	642	8,726	2,727		
May .....	13	68	79	47	591	358	260	638	9,158	2,264		
June .....	12	64	76	44	577	343	260	621	8,915	2,369		
July .....	9	60	69	48	628	349	310	676	9,529	2,492		
August .....	9	67	76	51	635	334	331	686	9,635	2,630		
September .....	10	66	76	45	672	345	356	717	10,748	2,825		
October .....	10	66	76	53	750	392	399	803	11,925	3,076		
November .....	15	61	76	60	822	418	451	882	11,764	2,977		
December .....	13	58	71	59	867	397	509	926	12,167	3,218		
Average .....	12	64	76	52	669	373	331	721	R 120,754	2,732		
1993 January .....	17	55	72	72	752	335	454	824	11,302	2,807		
February .....	15	63	78	69	615	311	334	684	11,272	2,899		
March .....	16	55	71	62	549	315	268	611	R 11,018	2,829		
April .....	14	63	77	69	543	320	270	612	10,553	2,703		
May .....	15	64	79	73	564	323	294	637	10,644	2,848		
June .....	17	65	82	83	612	350	327	695	9,620	3,087		
July .....	15	65	80	85	656	368	360	741	10,504	3,178		
August .....	16	66	82	87	710	397	390	797	9,852	3,423		
September .....	18	66	84	89	759	418	421	848	R 10,437	3,341		
October .....	15	66	81	93	767	441	411	860	12,110	3,519		
November .....	17	65	82	99	769	453	408	868	9,810	3,604		
December .....	18	66	84	103	754	425	426	857	9,995	3,662		
Average .....	16	63	79	82	672	373	364	754	R 127,117	3,158		
1994 January .....	18	60	78	99	690	356	425	789	9,152	3,386		
February .....	18	69	87	95	659	337	405	754	8,612	R 3,063		
March .....	19	75	94	99	636	323	403	735	9,769	E 3,100		
3-Month Average ...	18	68	86	97	660	337	410	757	27,533	E 3,163		
1993 3-Month Average ...	16	58	74	68	639	320	352	707	33,592	2,845		
1992 3-Month Average ...	15	63	78	54	625	388	275	678	28,187	2,738		

<sup>a</sup> Monthly data are averages of 4- or 5-week reporting periods, not calendar months. Annual data are averages of 52- or 53-week reporting periods, not calendar years.

<sup>b</sup> Sum of oil, gas, and miscellaneous other rigs, which is not shown.

<sup>c</sup> Values shown are totals.

<sup>d</sup> See Glossary.

R=Revised data. NA=Not available. E=Estimate.

Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: • Crews Engaged in Seismic Exploration: Society of Exploration Geophysicists, Tulsa, Oklahoma, *Monthly Seismic Crew Count*. • Rotary Rigs in Operation: Baker Hughes, Inc., Houston, Texas, *Rotary Rigs Running-by State*. • Total Footage Drilled: Energy Information Administration computations, which are based on well reports submitted to the American Petroleum Institute by the Petroleum Information Corporation, Denver, Colorado. • Active Well Servicing Units: American Association of Oilwell Servicing Contractors, Dallas, Texas, *Well Servicing*.

**Table 5.2 Oil and Gas Wells Drilled**  
 (Number of Wells)

	Exploratory				Development				Total			
	Oil	Gas	Dry	Total	Oil	Gas	Dry	Total	Oil	Gas	Dry	Total
1973 Total .....	654	1,079	6,038	7,771	9,597	5,896	4,428	19,921	10,251	6,975	10,466	27,692
1974 Total .....	870	1,205	6,894	8,969	12,794	5,965	5,311	24,070	13,664	7,170	12,205	33,039
1975 Total .....	981	1,263	7,207	9,461	15,988	6,907	6,529	29,424	16,979	8,170	13,738	38,885
1976 Total .....	1,100	1,362	6,954	9,316	18,597	8,076	6,951	31,824	17,897	9,438	13,805	40,940
1977 Total .....	1,183	1,562	7,402	10,147	17,517	10,557	7,634	35,708	18,700	12,119	15,036	45,855
1978 Total .....	1,191	1,792	8,054	11,037	17,874	12,813	8,537	39,024	18,065	14,405	16,591	50,061
1979 Total .....	1,335	1,920	7,478	10,733	19,368	13,250	8,560	41,178	20,703	15,170	16,038	51,911
1980 Total .....	1,781	2,094	9,035	12,910	30,497	15,129	11,302	56,928	32,278	17,223	20,337	69,838
1981 Total .....	2,887	2,533	12,297	17,497	40,176	17,374	14,987	72,537	42,843	19,907	27,284	90,034
1982 Total .....	2,470	2,168	11,348	15,984	38,672	16,776	15,036	68,484	39,142	18,944	26,382	84,468
1983 Total .....	2,113	1,660	10,271	14,044	35,086	12,898	14,065	62,047	37,199	14,556	24,336	78,091
1984 Total .....	2,335	1,599	11,482	15,416	40,250	15,413	14,315	69,978	42,585	17,012	25,797	85,394
1985 Total .....	1,879	1,282	8,445	12,606	33,142	12,970	11,763	57,875	35,021	14,252	21,208	70,481
1986 Total .....	988	733	5,511	7,232	17,713	7,402	7,255	32,370	18,701	8,135	12,768	39,802
1987 Total .....	859	673	5,179	6,711	15,327	7,084	6,302	28,713	16,186	7,757	11,481	35,424
1988 Total .....	792	663	4,766	6,221	12,530	7,575	5,476	25,581	13,322	8,238	10,242	31,802
1989 Total .....	580	R 654	4,001	R 5,235	9,759	R 8,571	4,490	R 22,820	10,339	9,225	8,491	28,055
1990 Total .....	617	R 584	3,782	R 4,983	11,533	R 9,856	4,832	R 26,221	12,150	10,440	8,614	31,204
1991 Total .....	R 545	464	3,303	R 4,312	R 11,363	8,666	4,527	R 24,556	11,908	9,130	7,830	28,868
1992 January .....	46	33	218	297	741	587	321	1,649	787	620	539	1,948
February .....	34	30	167	231	590	564	277	1,431	624	594	444	1,662
March .....	38	30	205	273	721	482	R 319	R 1,522	759	512	R 524	R 1,795
April .....	32	22	233	287	656	415	297	1,368	688	437	530	1,655
May .....	35	23	225	283	636	469	374	1,479	671	492	599	1,762
June .....	41	32	209	282	626	462	330	1,418	667	494	539	1,700
July .....	43	30	256	329	664	543	312	1,519	707	573	568	1,848
August .....	42	31	241	314	617	601	357	1,575	659	632	598	1,889
September .....	36	22	222	280	785	660	339	1,784	821	682	581	2,064
October .....	28	R 34	205	R 267	750	R 949	358	R 2,057	778	983	563	2,324
November .....	38	34	165	237	690	889	331	1,910	728	923	496	2,147
December .....	43	34	225	302	743	972	391	2,106	786	1,006	616	2,408
Total .....	456	R 355	2,571	R 3,382	8,219	R 7,593	R 4,006	18,818	8,675	7,948	R 6,577	R 23,200
1993 January .....	41	35	162	238	627	929	290	1,846	668	964	452	2,084
February .....	32	42	171	245	R 586	919	348	R 1,851	R 618	961	517	R 2,096
March .....	23	28	R 186	R 237	R 627	R 864	R 252	R 1,743	R 650	R 892	R 438	R 1,980
April .....	41	28	205	274	562	614	355	1,531	603	642	560	1,805
May .....	36	33	176	245	588	679	462	1,729	624	712	638	1,974
June .....	35	31	193	259	611	558	374	1,543	646	589	567	1,802
July .....	34	26	256	316	676	521	498	1,695	710	547	754	2,011
August .....	20	36	226	282	673	565	359	1,597	693	601	585	1,879
September .....	28	29	R 221	R 278	R 675	R 634	R 414	R 1,723	R 703	R 663	R 635	R 2,001
October .....	32	36	178	246	818	840	332	1,990	850	876	510	2,236
November .....	28	36	194	258	651	642	417	1,710	679	678	611	1,968
December .....	25	29	161	215	536	673	385	1,594	561	702	546	1,809
Total .....	375	389	R 2,329	R 3,093	R 7,630	R 8,438	R 4,484	R 20,552	R 8,005	R 8,827	R 8,813	R 23,845
1994 January .....	34	32	126	192	543	573	289	1,405	577	605	415	1,597
February .....	26	29	121	176	547	526	267	1,340	573	555	388	1,516
March .....	34	26	164	224	693	548	298	1,539	727	574	462	1,763
3-Month Total .....	94	87	411	592	1,783	1,647	854	4,284	1,877	1,734	1,265	4,876
1993 3-Month Total .....	96	105	519	720	1,840	2,712	888	5,440	1,938	2,817	1,407	6,160
1992 3-Month Total .....	118	93	590	801	2,052	1,633	917	4,602	2,170	1,728	1,507	5,403

R=Revised data.

Notes: • Service wells, stratigraphic tests, and core tests are excluded.  
 • Geographic coverage is the 50 States and the District of Columbia. • Due to the method of estimation, data shown on this page are frequently revised.

See end of section.

Sources: Energy Information Administration computations, which are based on well reports submitted to the American Petroleum Institute by the Petroleum Information Corporation, Denver, Colorado.

## **Oil and Gas Resource Development Notes**

Three well types are considered in the *Monthly Energy Review (MER)* drilling statistics: "completed for oil," "completed for gas," and "dry hole." Wells that productively encounter both crude oil and natural gas are categorized as "completed for oil." Both development wells and exploratory wells (new field wildcats, new pool tests, and extension tests) are included in the statistics. All other classes of wells drilled in connection with the search for producible hydrocarbons are excluded.

Prior to the March 1985 *MER*, drilling statistics consisted of completion data for the above types and classes of wells as reported to the American Petroleum Institute (API) during a given month. Due to time lags between the date of well completion and the date of completion reporting to the API, as-reported well completions proved to be an inaccurate indicator of drilling activity.

During 1982, for example, as-reported well completions rose, while the number of actual completions fell. Consequently, the drilling statistics published since the March 1985 *MER* are Energy Information Administration-generated (EIA) estimates produced by statistically imputing well counts and footage based on the partial data available from the API.

Estimates for a given month are first published in the *MER* for that month. Revisions of the "oil," "gas," and "dry" components are made in the 6th, 12th, and 24th subsequent months, as newly reported data allow refinement of the estimates. Unscheduled revisions may also occur when the latest estimate differs by more than 15 percent during the first 5 months, more than 10 percent during the next 6 months, or more than 2 percent thereafter through 5 years. After 5 years, the reported API data are published in lieu of EIA-generated estimates. Additional information about the EIA estimation methodology may be found in "Estimating Well Completions," the feature article published in the March 1985 *MER*.

## Section 6. Coal

Coal production in February 1994 totaled 83 million short tons, 9 percent<sup>6</sup> higher than coal production in February 1993.

Electric utility coal consumption in January 1994 totaled 76 million short tons, 10 percent higher than the consumption level in January 1993.

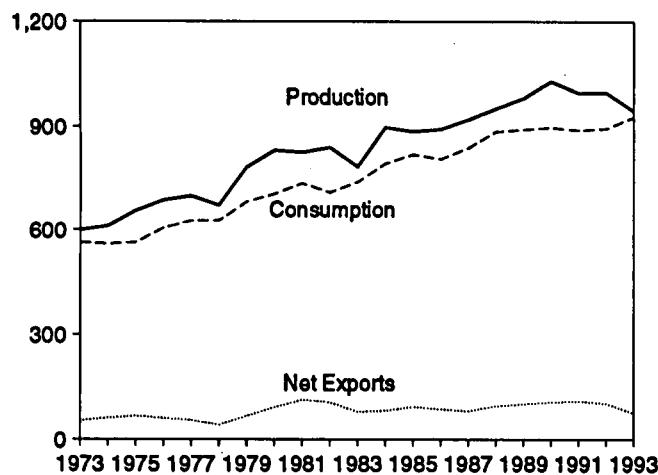
Electric utility coal stocks were 98 thousand short tons at the end of January 1994, down from 150 thousand short tons at the end of January 1993.

Coal exports in January 1994 totaled 5 million short tons, 27 percent lower than exports in January 1993. Coal imports in January 1994 totaled 540 thousand short tons, 57 percent higher than imports in January 1993.

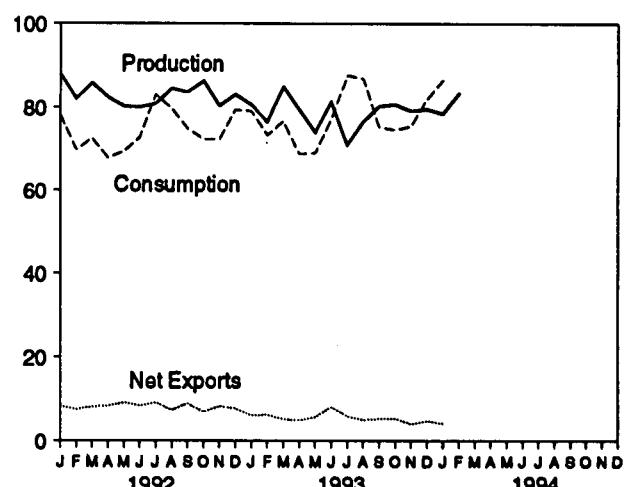
<sup>6</sup>Percentage changes are based on unrounded data.

## Figure 6.1 Coal (Million Short Tons)

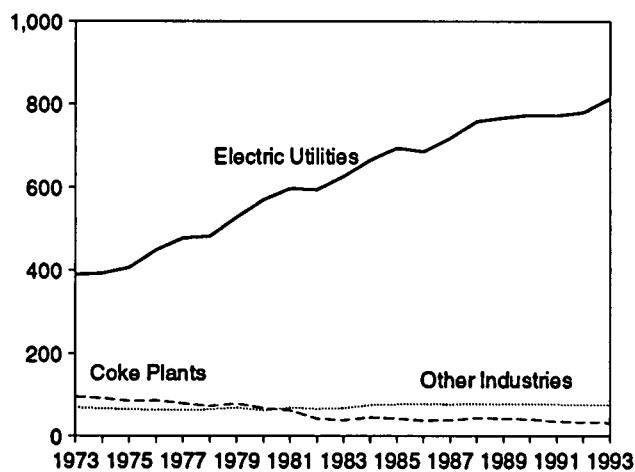
### Overview, 1973-1993



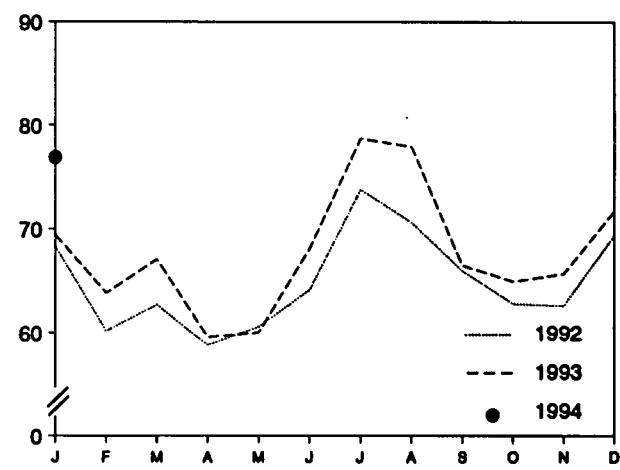
### Overview, Monthly



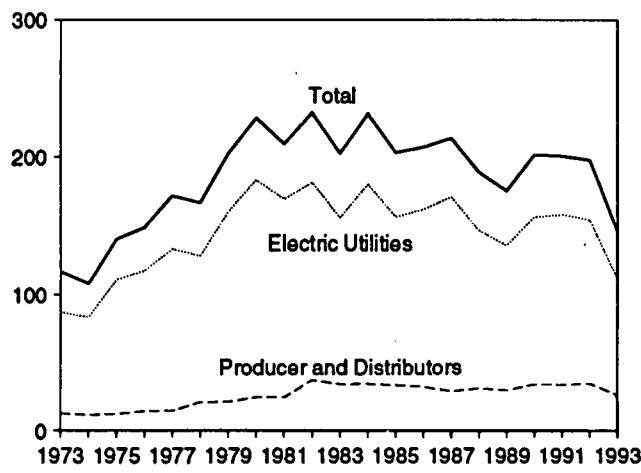
### Consumption by Sector, 1973-1993



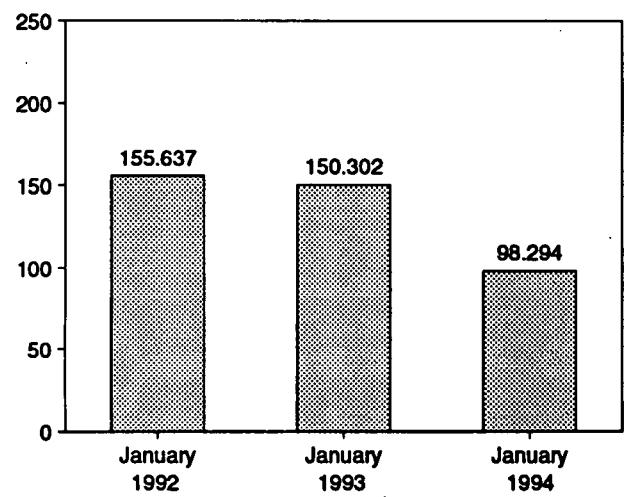
### Consumption by Electric Utilities, Monthly



### Stocks, End of Year, 1973-1993



### Stocks at Electric Utilities, End of Month



Note: Because vertical scales differ, graphs should not be compared.  
Sources: Tables 6.1, 6.2, and 6.3.

**Table 6.1 Coal Overview**  
(Thousand Short Tons)

	Production	Consumption	Imports <sup>a</sup>	Exports	Stocks <sup>b</sup>
1973 Total .....	598,568	562,584	127	53,587	116,865
1974 Total .....	610,023	558,402	2,080	60,661	107,957
1975 Total .....	654,641	562,640	940	68,309	140,158
1976 Total .....	684,913	603,790	1,203	60,021	148,659
1977 Total .....	697,205	625,291	1,847	54,312	171,323
1978 Total .....	670,164	625,225	2,953	40,714	168,246
1979 Total .....	781,134	680,524	2,059	68,042	202,472
1980 Total .....	829,700	702,730	1,194	91,742	228,407
1981 Total .....	823,775	732,627	1,043	112,541	209,423
1982 Total .....	838,112	708,911	742	108,277	232,038
1983 Total .....	782,091	736,672	1,271	77,772	202,584
1984 Total .....	895,921	791,298	1,286	81,483	231,300
1985 Total .....	883,638	818,049	1,952	92,680	203,367
1986 Total .....	890,315	804,231	2,212	85,518	207,319
1987 Total .....	916,762	836,941	1,747	79,607	213,780
1988 Total .....	950,265	883,642	2,134	95,023	188,831
1989 Total .....	980,729	889,699	2,851	100,815	175,087
1990 Total .....	1,028,076	895,480	2,689	105,804	201,629
1991 Total .....	985,984	887,621	3,390	108,969	200,682
1992 January .....	87,948	78,162	272	8,590	200,325
February .....	82,139	69,837	213	7,759	204,718
March .....	85,869	72,595	193	8,383	208,485
April .....	82,449	67,802	239	8,616	211,429
May .....	80,250	69,430	339	9,483	214,714
June .....	80,036	72,804	466	8,911	213,783
July .....	80,862	83,074	362	9,572	202,271
August .....	84,537	79,736	197	7,605	198,710
September .....	83,657	74,888	323	9,304	197,076
October .....	86,364	72,405	471	7,443	200,971
November .....	80,335	72,329	377	8,718	201,683
December .....	83,100	79,359	351	8,134	197,685
Total .....	997,545	892,421	3,803	102,516	197,685
1993 January .....	R 80,618	R 79,073	344	6,506	R 195,005
February .....	R 76,484	R 73,329	454	6,715	R 192,379
March .....	R 84,919	R 76,634	415	5,648	190,977
April .....	R 79,466	R 68,742	281	5,268	R 194,143
May .....	R 74,034	R 69,021	298	6,060	R 195,609
June .....	R 81,273	R 77,125	514	8,619	R 189,648
July .....	R 71,000	R 87,693	643	6,573	R 168,148
August .....	R 76,492	R 86,868	747	5,830	R 152,748
September .....	R 80,245	R 75,303	753	6,120	R 149,040
October .....	R 80,631	R 74,622	1,054	6,485	R 150,710
November .....	R 79,124	R 75,458	970	5,019	R 151,098
December .....	R 79,538	R 81,968	836	5,677	R 145,742
Total .....	R 943,824	R 925,834	7,309	74,519	R 145,742
1994 January .....	78,456	E 86,646	540	4,731	E 133,956
February .....	83,395	NA	NA	NA	NA
2-Month Total .....	161,851	NA	NA	NA	NA
1993 2-Month Total .....	157,102	152,402	798	13,221	192,379
1992 2-Month Total .....	170,087	147,999	486	16,348	204,716

<sup>a</sup> Includes Puerto Rico.

<sup>b</sup> Stocks held by electric utilities, coke plants, general industry, and coal producers and distributors at end of period. Stocks held at retail dealers for consumption by the residential and commercial sector are excluded.

R=Revised data. NA=Not available. E=Estimate.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1992 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding.

• For methodology used to calculate production, consumption, and stocks, see Notes 1, 2, and 3 at end of section.

Sources: • Production: 1973-September 1977—U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook* and *Minerals Industry Surveys*. October 1977 forward—Energy Information Administration, *Weekly Coal Production*. • Consumption: Table 6.2. • Imports and Exports: U.S. Department of Commerce, Bureau of the Census, *Monthly Reports IM-145* (Imports) and *EM-522* (Exports). • Stocks: Table 6.3.

**Table 6.2 Coal Consumption by End-Use Sector**  
(Thousand Short Tons)

	Residential and Commercial	Industrial		Electric Utilities	Total
		Coke Plants	Other Industrial Including Transportation		
1973 Total .....	11,117	94,101	68,154	389,212	562,584
1974 Total .....	11,417	90,191	64,983	391,811	558,402
1975 Total .....	9,410	83,598	63,670	405,962	562,840
1976 Total .....	8,916	84,704	61,799	448,371	603,780
1977 Total .....	8,954	77,739	61,472	477,126	625,291
1978 Total .....	9,511	71,394	63,085	461,235	625,225
1979 Total .....	8,388	77,368	67,717	527,051	680,524
1980 Total .....	6,452	66,657	60,347	568,274	702,730
1981 Total .....	7,421	61,014	67,395	596,787	732,827
1982 Total .....	8,240	40,908	64,097	593,666	706,911
1983 Total .....	8,448	37,033	65,980	625,211	736,872
1984 Total .....	9,130	44,022	73,745	664,399	791,296
1985 Total .....	7,779	41,056	75,372	693,841	818,049
1986 Total .....	7,667	35,924	75,583	685,056	804,231
1987 Total .....	6,914	36,957	75,175	717,894	836,941
1988 Total .....	7,130	41,888	76,252	758,372	883,842
1989 Total .....	6,167	40,508	76,134	766,888	888,690
1990 Total .....	6,724	38,877	76,330	773,549	895,480
1991 Total .....	6,094	33,854	75,405	772,268	887,821
1992 January .....	735	2,783	6,379	68,264	78,162
February .....	582	2,656	6,416	60,183	69,837
March .....	528	2,901	6,464	62,705	72,595
April .....	532	2,723	5,754	58,794	67,802
May .....	321	2,757	5,762	60,591	69,430
June .....	296	2,617	5,769	64,122	72,804
July .....	474	2,802	5,983	73,815	83,074
August .....	393	2,773	5,933	70,637	79,736
September .....	368	2,625	5,927	65,967	74,888
October .....	367	2,586	6,645	62,808	72,405
November .....	642	2,562	6,513	62,612	72,329
December .....	916	2,581	6,497	69,365	79,359
Total .....	6,153	32,366	74,042	778,860	892,421
1993 January .....	R 662	2,674	R 6,337	R 69,400	R 79,073
February .....	R 641	2,468	R 6,407	R 63,812	R 73,329
March .....	R 514	2,640	R 6,407	67,073	R 76,634
April .....	R 613	2,578	R 5,954	R 59,596	R 68,742
May .....	R 323	2,719	R 5,948	R 60,032	R 69,021
June .....	R 418	2,588	R 6,000	R 68,118	R 77,125
July .....	R 424	2,678	R 5,873	R 78,717	R 87,693
August .....	R 382	2,664	R 5,889	77,932	R 86,868
September .....	R 288	2,618	R 5,904	R 66,493	R 75,303
October .....	R 386	R 2,660	R 6,634	R 64,941	R 74,622
November .....	R 649	R 2,447	R 6,684	65,677	R 75,458
December .....	R 921	R 2,587	R 6,744	71,717	R 81,968
Total .....	R 8,221	R 31,323	R 74,782	R 813,508	R 925,834
1994 January .....	E 814	E 2,580	E 6,890	76,362	E 86,848

R=Revised data. E=Estimate.

Notes: • For sector-specific reporting and estimating information, see Note 2 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Data through 1992 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding.

Sources: • Residential and Commercial: 1973-1976—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*, January-September 1977—DOI, BOM, Form 6-1400, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." October 1977-1979—Energy Information Administration (EIA), Form EIA-2, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." 1980 forward—EIA, Form EIA-6, "Coal Distribution Report, quarterly." • Coke Plants: 1973-September 1977—DOI,

BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. October 1977-1980—EIA, Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual." 1981-1984—EIA, Form EIA-5/5A, "Coke Plant Report-Quarterly/Annual Supplement." 1985 forward—EIA, Form EIA-5, "Coke Plant Report," quarterly. • Other Industrial: 1973-September 1977—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. October 1977-1979—EIA, Form EIA-3, "Monthly Coal Consumption Report-Manufacturing Plants." 1980 forward—EIA, Form EIA-3, "Quarterly Coal Consumption Report-Manufacturing Plants," and Form EIA-6, "Coal Distribution Report, quarterly." • Electric Utilities: 1973-September 1977—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. October 1977 forward—EIA, Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report."

**Table 6.3 Coal Stocks, End of Period**  
(Thousand Short Tons)

	Consumer				Producers and Distributors	Total <sup>a</sup>
	Coke Plants	Other Industrial	Electric Utilities	Total		
1973 Year .....	6,998	10,370	86,967	104,335	12,530	116,865
1974 Year .....	6,209	6,605	83,509	96,323	11,634	107,957
1975 Year .....	8,797	8,529	110,724	128,050	12,108	140,158
1976 Year .....	9,902	7,100	117,436	134,438	14,221	148,659
1977 Year .....	12,818	11,063	133,219	157,098	14,225	171,323
1978 Year .....	8,278	9,048	128,225	145,551	20,695	166,248
1979 Year .....	10,155	11,777	159,714	181,646	20,826	202,472
1980 Year .....	9,067	11,951	183,010	204,028	24,379	228,407
1981 Year .....	6,475	9,906	168,893	185,274	24,149	209,423
1982 Year .....	4,642	9,479	181,132	195,254	36,784	232,038
1983 Year .....	4,348	8,710	155,598	168,654	33,931	202,584
1984 Year .....	6,166	11,317	179,727	187,211	34,090	231,300
1985 Year .....	3,420	10,438	156,376	170,234	33,133	203,367
1986 Year .....	2,992	10,429	161,806	175,226	32,093	207,319
1987 Year .....	3,884	10,777	170,787	185,459	28,321	213,780
1988 Year .....	3,137	8,768	148,507	158,413	30,418	188,831
1989 Year .....	2,864	7,363	135,860	146,087	29,000	175,087
1990 Year .....	3,329	8,718	156,166	168,210	33,418	201,629
1991 Year .....	2,773	7,061	157,878	167,711	32,971	200,682
1992 January .....	2,807	6,616	155,637	165,060	35,265	200,325
February .....	2,841	6,171	158,145	167,157	37,559	204,718
March .....	2,875	5,725	160,032	168,632	39,853	208,485
April .....	2,842	5,923	162,591	171,356	40,073	211,429
May .....	2,809	6,100	165,512	174,421	40,293	214,714
June .....	2,776	6,317	164,176	173,270	40,513	213,783
July .....	2,589	6,538	154,403	163,530	38,741	202,271
August .....	2,402	6,758	152,580	161,740	36,970	198,710
September .....	2,215	6,979	152,685	161,878	35,198	197,078
October .....	2,342	6,974	156,859	166,175	34,796	200,971
November .....	2,470	6,969	157,849	167,288	34,395	201,683
December .....	2,597	6,965	154,130	163,692	33,993	197,685
1993 January .....	2,668	6,600	R 150,302	R 159,570	35,435	R 195,005
February .....	2,739	6,236	R 146,528	R 155,502	36,877	R 192,379
March .....	2,809	5,872	R 143,978	R 152,659	38,319	190,977
April .....	2,879	5,931	R 148,178	R 156,988	37,155	R 194,143
May .....	2,949	5,990	R 150,678	R 159,618	35,991	R 195,609
June .....	3,020	6,049	R 145,753	R 154,821	34,827	R 189,648
July .....	2,858	6,195	R 126,815	R 135,869	32,279	R 168,148
August .....	2,697	6,342	R 113,978	R 123,017	29,731	R 152,748
September .....	2,536	6,488	R 112,833	R 121,856	27,183	R 149,040
October .....	R 2,491	R 6,564	R 115,105	R 124,160	R 26,550	R 150,710
November .....	R 2,446	R 6,640	R 116,095	R 125,181	R 25,917	R 151,098
December .....	R 2,401	R 6,716	R 111,341	R 120,458	R 25,284	R 145,742
1994 January .....	E 1,808	E 5,854	98,294	E 105,956	E 28,000	E 133,956

<sup>a</sup> Excludes stocks held at retail dealers for consumption by the residential and commercial sector.

R=Revised data. E=Estimate.

Notes: • For sector-specific reporting and estimating information, see Note 3 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Data through 1992 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding.

Sources: • Coke Plants: 1973-September 1977—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys*. October 1977-1980—Energy Information Administration (EIA), Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual."

1981-1984—EIA, Form EIA-5/5A, "Coke Plant Report-Quarterly/Annual Supplement." 1985 forward—EIA, Form EIA-5, "Coke Plant Report," quarterly. • Other Industrial: 1973-September 1977—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. October 1977-1979—EIA, Form EIA-3, "Monthly Coal Consumption Report-Manufacturing Plants." 1980 forward—EIA, Form EIA-3, "Quarterly Coal Consumption Report-Manufacturing Plants," and Form EIA-6, "Coal Distribution Report," quarterly. • Electric Utilities: 1973-September 1977—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. October 1977 forward—EIA, Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report." • Producers and Distributors: EIA, Form EIA-6, "Coal Distribution Report," quarterly.

## Coal Notes

**1. Production:** Preliminary monthly estimates of national coal production are the sum of weekly estimates developed by the Energy Information Administration (EIA) and published in the *Weekly Coal Production* report. When a week extends into a new month, production is allocated on a daily basis and added to the appropriate month. Weekly estimates are based on Association of American Railroads data showing the number of railcars loaded with coal during the week by Class I and certain other railroads. This number is converted into tons of coal by EIA by using the average number of tons of coal per railcar loaded reported in the most recent "Quarterly Freight Commodity Statistics" from the Interstate Commerce Commission. If an average coal tonnage per railcar loaded is not available for a specific railroad, the national average is used. To derive the estimate of total weekly production, the total rail tonnage for the week is divided by the ratio of quarterly production shipped by rail and total quarterly production. Data for the corresponding quarter of previous years are used to derive this ratio. This method insures that the seasonal variations are preserved in the production estimates.

When preliminary quarterly data become available, the monthly and weekly estimates are adjusted to conform to the quarterly figure. The adjustment procedure uses State-level production data and is explained in EIA's *Quarterly Coal Report*. Initial estimates of annual production published in January of the following year are based on preliminary production data covering the first 9 months (three quarters) and weekly/monthly estimates for the fourth quarter. The fourth quarter estimates may or may not be revised when preliminary data become available in March of the following year, depending on the magnitude of the difference between the estimates and the preliminary data. In any event, all quarterly, monthly, and weekly production figures are adjusted to conform to the final annual production data published in the *Monthly Energy Review* in the fall of the following year.

**2. Consumption:** Coal consumption data are reported by major end-use sector. Estimated data for the most recent months (designated by an "E") are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled "Supply and Disposition of Coal: Mid World Oil Price Case." The monthly estimates are one-third of the quarterly values shown in the then current issue of the publication, regularly released in February, May, August, and November. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

- **Residential and Commercial**—Prior to 1980, monthly consumption estimates for the residential and commercial sector were derived by using reported data to modify baseline figures developed by the Bureau of Mines. From 1980-1987, month-

ly estimates were derived by proportioning reported quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported on Form EIA-2. During 1981 and 1982, the estimates were also modified to reflect air temperature degree-days. Quarterly consumption data were taken directly from reported data and were defined as distribution to the residential and commercial sector as reported by coal producers and distributors on Form EIA-6. Beginning in January 1988, monthly residential and commercial consumption estimates are derived from reported quarterly data by using monthly national average population weighted heating/cooling degree-days obtained from the National Oceanic and Atmospheric Administration. The monthly ratios are the monthly national sum of heating and cooling degree-days as a proportion of the quarterly national sum. Quarterly consumption data are taken directly from reported data.

- **Coke Plants**—Prior to 1980, monthly coke plant consumption data were taken directly from reported data. From 1980-1987, coke plant consumption estimates were derived by proportioning reported quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported. Beginning in January 1988, monthly coke plant consumption estimates are derived from the reported quarterly data by using monthly ratios of raw steel production data from the American Iron and Steel Institute. The ratios are the monthly raw steel production from open hearth and basic oxygen process furnaces as a proportion of the quarterly production from those kinds of furnaces.
- **Other Industrial**—Prior to 1978, monthly consumption data for the other industrial sector (i.e., all industrial users minus coke plants) were derived by using reported data to modify baseline consumption figures from the most recent Bureau of the Census Annual Survey of Manufactures or Census of Manufactures. For 1978 and 1979, monthly estimates were derived from data reported on Forms EIA-3 and EIA-6. From 1980-1987, monthly figures were estimated by proportioning quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported on Form EIA-3. Quarterly consumption data were derived by adding beginning stocks at manufacturing plants to current receipts and subtracting ending stocks at manufacturing plants. In this calculation, current receipts were the greater of either reported receipts from manufacturing plants (Form EIA-3) or reported shipments to the other industrial sector (Form EIA-6), thereby ensuring that agriculture, forestry, fishing, mining, and construction consumption data were included where appropriate. Starting in January 1988, monthly consumption for the other industrial sector is estimated from reported quarterly data by using

ratios derived from industrial production indices published by the Board of Governors of the Federal Reserve System. Indices for six major industry groups are used as the basis for calculating the ratios: foods, Standard Industrial Classification (SIC) 20; paper and products, SIC 26; chemicals and products, SIC 28; petroleum products, SIC 29; clay, glass, and stone products, SIC 32; and primary metals, SIC 33. The monthly ratios are computed as the monthly sum of the weighted indices as a proportion of the quarterly sum of the weighted indices by using the 1977 proportion as the weights.

- Electric Utilities—Monthly consumption data for electric utility plants are taken directly from reported data.

**3. Stocks:** Coal stocks data are reported by major end-use sector. Estimated data for the most recent months (designated by an "E") are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled "Supply and Disposition of Coal: Mid World Oil Price Case." The monthly estimates are one-third of the quarterly values shown in the then current issue of the publication, regularly released in February, May, August, and November. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

- Coke Plants—Prior to 1980, monthly stocks at coke plants were taken directly from reported data. From 1980 forward, coke plant stocks are estimated by using one-third of the current

quarterly change to indicate the monthly change in stocks. Quarterly stocks are directly from data reported on Form EIA-5.

- Other Industrial—Prior to 1978, stocks for the other industrial sector were derived by using reported data to modify baseline figures from a one-time Bureau of Mines survey of consumers. For 1978-1982, monthly estimates were derived by judgmentally proportioning reported quarterly data based on representative seasonal patterns of supply and demand. From 1983 forward, other industrial coal stocks are estimated as indicated above for coke plants. Quarterly stocks are taken directly from data reported on Form EIA-3 and therefore include only manufacturing industries; data for agriculture, forestry, fishing, mining, and construction stocks are not available.
- Electric Utilities—Monthly stocks data at electric utility plants are taken directly from reported data.
- Producers and Distributors—Quarterly stocks at producers and distributors are taken directly from reported data. Monthly data are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks.

**4. Imports and Exports:** All coal import and export figures are taken directly from data reported monthly by the Bureau of the Census.

**5. Additional Information:** EIA's *Quarterly Coal Report* provides additional information about coal data and estimation procedures.



## Section 7. Electricity

During January 1994, electric utilities generated 261 billion kilowatthours of electricity, 6 percent<sup>7</sup> more than in January 1993. Coal-fired generation totaled 153 billion kilowatthours, 10 percent more than in January 1993. Nuclear generation totaled 56 billion kilowatthours, 5 percent below the level 1 year earlier. Natural gas-fired generation was 17 billion kilowatthours, 7 percent higher than the January 1993 level. Hydroelectric generation totaled 20 billion kilowatthours, 19 percent below the January 1993 level. Petroleum-fired generation totaled 15 billion kilowatthours, more than double the level 1 year earlier.

Sales of electricity to all ultimate consumers in the United States in January 1994 were 259 billion kilowatthours, 6 percent more than sales during January 1993. Sales to residential consumers during January 1994 were 104 billion kilowatthours, 10 percent above the level of sales during the previous year. Sales to industrial consumers totaled 80 billion kilowatthours in January 1994, 3 percent above the level a year ago.

Commercial sales were 67 billion kilowatthours, 5 percent above the level of commercial sales 1 year earlier. In January 1994, other sales totaled 8 billion kilowatthours, 2 percent above the January 1993 level.

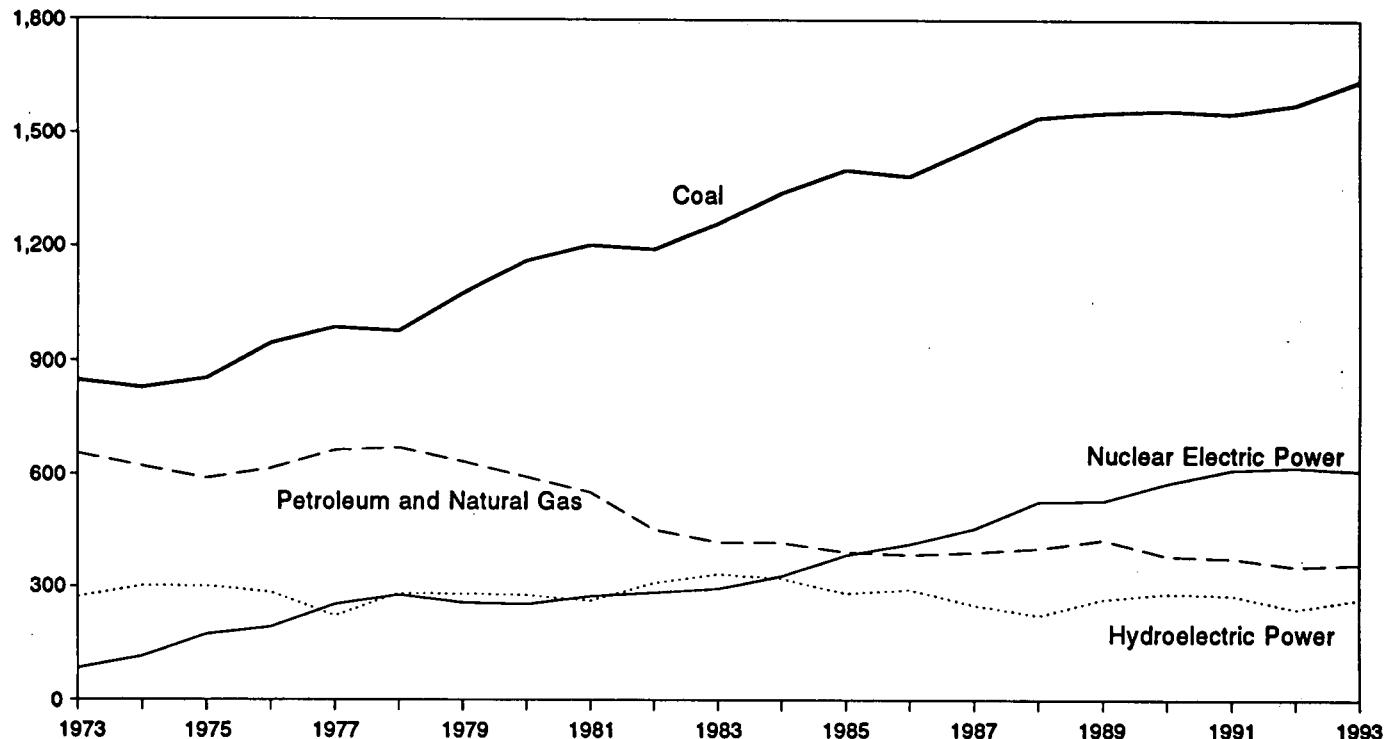
Electric utility consumption of coal during January 1994 was 76 million short tons, 10 percent above consumption in January 1993. Petroleum consumption (excluding petroleum coke) during January 1994 was 24 million barrels, more than twice the level of consumption in January 1993. During January 1994, electric utilities consumed 170 billion cubic feet of natural gas, 3 percent above the January 1993 consumption level.

On January 31, 1994, electric utility stocks of all types of coal totaled 98 million short tons, 35 percent below the level on January 31, 1993. Stocks of petroleum (excluding petroleum coke) on January 31, 1994, totaled 58 million barrels, 17 percent below the level on January 31, 1993.

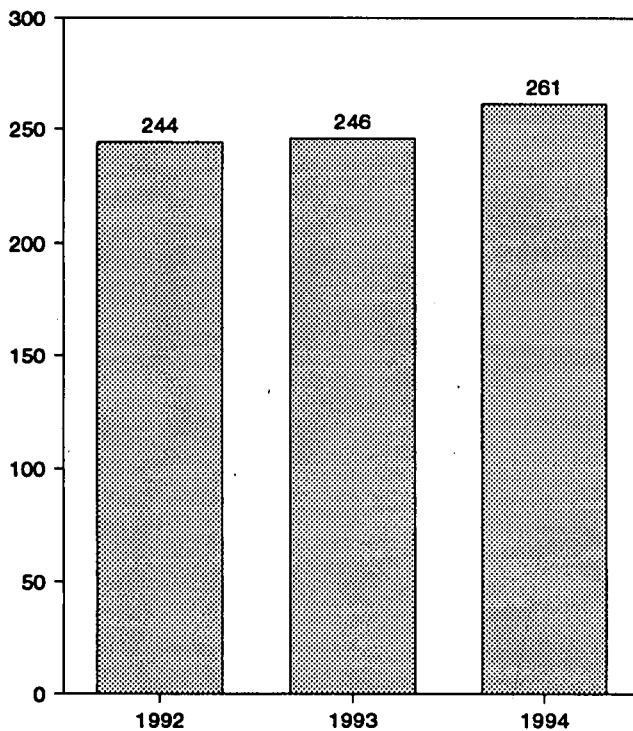
<sup>7</sup>Percentage changes are based on numbers shown in the following tables.

**Figure 7.1 Electric Utility Net Generation of Electricity**  
 (Billion Kilowatthours)

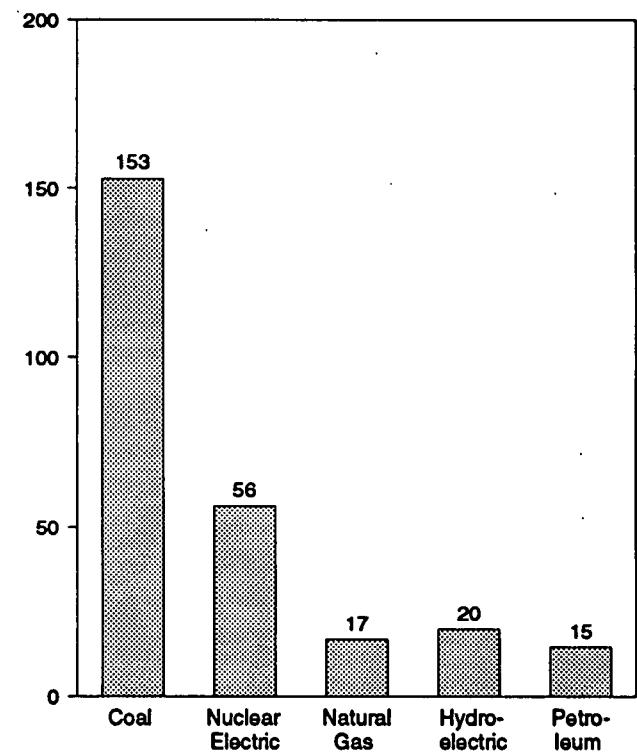
**Net Generation by Source, 1973-1993**



**Net Generation, January**



**Net Generation by Source, January 1994**



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

Source: Table 7.1.

**Table 7.1 Electric Utility Net Generation of Electricity**  
(Million Kilowatthours)

	Coal	Natural Gas <sup>a</sup>	Petroleum <sup>b</sup>	Nuclear Electric Power	Hydro-Electric Power	Geothermal Energy	Other <sup>c</sup>	Total
1973 Total .....	847,651	340,858	314,343	83,479	272,083	1,966	328	1,860,710
1974 Total .....	828,433	320,065	300,931	113,978	301,032	2,453	251	1,867,140
1975 Total .....	852,786	299,778	289,095	172,505	300,047	3,246	191	1,917,849
1976 Total .....	944,391	294,624	319,988	191,104	263,707	3,816	266	2,037,896
1977 Total .....	985,219	305,505	358,179	250,883	220,475	3,582	481	2,124,323
1978 Total .....	975,742	305,391	365,060	276,403	280,419	2,978	338	2,206,331
1979 Total .....	1,075,037	329,485	303,525	255,155	279,783	3,889	498	2,247,372
1980 Total .....	1,161,562	346,240	245,994	251,116	276,021	5,073	433	2,286,439
1981 Total .....	1,203,203	345,777	206,421	272,674	260,684	5,686	368	2,294,812
1982 Total .....	1,192,004	305,260	146,797	282,773	300,213	4,843	321	2,241,211
1983 Total .....	1,259,424	274,098	144,499	283,677	332,130	6,075	381	2,310,285
1984 Total .....	1,341,681	297,394	119,808	327,634	321,150	7,741	898	2,416,304
1985 Total .....	1,402,128	291,948	100,202	383,691	281,149	9,325	1,399	2,469,841
1986 Total .....	1,385,831	248,508	136,585	414,038	290,844	10,308	1,195	2,487,910
1987 Total .....	1,463,781	272,621	118,493	455,270	249,685	10,775	1,491	2,572,127
1988 Total .....	1,540,653	252,801	148,900	526,973	222,940	10,300	1,684	2,704,250
1989 Total .....	1,553,661	266,598	158,318	529,355	285,063	9,342	1,968	2,784,304
1990 Total .....	1,558,606	264,089	117,017	576,862	279,926	8,581	2,070	2,808,151
1991 Total .....	1,551,167	264,172	111,463	612,565	275,519	8,087	2,050	2,825,023
1992 January .....	137,327	16,178	10,202	57,849	21,502	711	202	243,970
February .....	121,732	16,165	8,296	52,804	17,966	626	172	217,761
March .....	127,678	19,906	8,809	45,835	21,566	713	158	224,665
April .....	119,909	21,913	6,505	42,268	19,454	645	143	210,837
May .....	123,768	22,689	5,156	45,627	22,285	683	147	220,355
June .....	129,607	24,997	7,508	51,185	22,698	675	170	236,842
July .....	149,028	31,950	8,540	56,049	19,711	685	184	266,148
August .....	141,900	28,778	6,923	58,656	18,062	690	195	255,203
September .....	133,239	26,099	6,841	50,919	16,838	642	183	234,760
October .....	127,940	20,420	6,908	48,784	16,375	677	185	221,289
November .....	125,535	18,031	6,838	50,726	19,294	675	165	221,283
December .....	138,234	16,744	6,390	58,075	23,808	682	192	244,126
Total .....	1,575,895	283,872	88,918	618,776	239,559	8,104	2,096	2,797,219
1993 January .....	R 138,354	R 15,807	R 7,239	59,076	R 24,453	651	202	R 245,782
February .....	R 130,069	R 15,768	R 6,939	51,319	R 19,722	633	167	R 224,617
March .....	R 136,404	R 18,783	8,569	46,606	R 23,587	659	193	R 234,801
April .....	120,325	R 16,684	5,205	43,199	R 25,160	654	148	R 211,374
May .....	120,878	R 15,845	R 5,267	50,367	29,323	582	135	222,398
June .....	R 137,485	R 24,393	R 7,809	52,620	R 26,600	586	139	R 249,633
July .....	R 158,400	R 31,705	11,341	56,502	R 23,556	643	144	R 282,292
August .....	R 156,197	R 34,263	R 11,975	56,209	R 19,667	653	167	R 279,132
September .....	R 134,001	R 24,978	9,759	49,989	R 17,073	630	173	R 236,603
October .....	130,926	R 22,912	7,659	44,434	16,899	625	174	R 223,629
November .....	R 132,288	R 20,535	7,479	46,862	17,898	618	174	R 225,855
December .....	143,824	17,242	R 10,299	53,108	21,125	637	178	248,412
Total .....	R 1,639,151	R 258,915	R 99,539	610,291	R 265,063	7,571	1,994	R 2,882,525
1994 January .....	152,752	16,847	14,600	58,184	19,843	631	177	261,036

<sup>a</sup> Includes supplemental gaseous fuel.

<sup>b</sup> Includes fuel oil nos. 1, 2, 4, 5, and 6, crude oil, kerosene, and petroleum coke.

<sup>c</sup> "Other" is electricity produced from wood, waste, wind, photovoltaic, and solar thermal energy sources connected to electric utility distribution systems.

R=Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia.

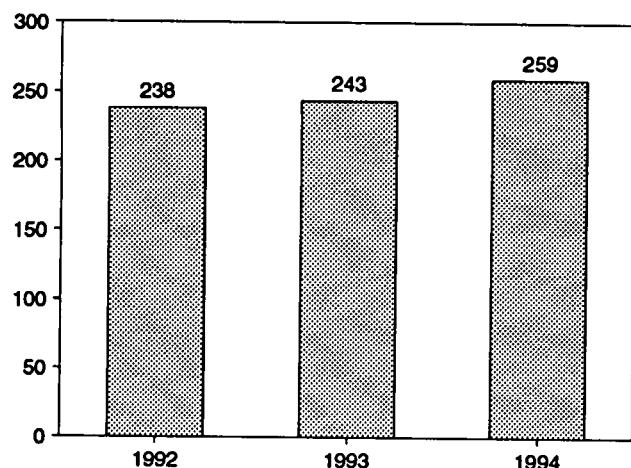
• Totals may not equal sum of components due to independent rounding.

Sources: • 1973-September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977-1979: Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant

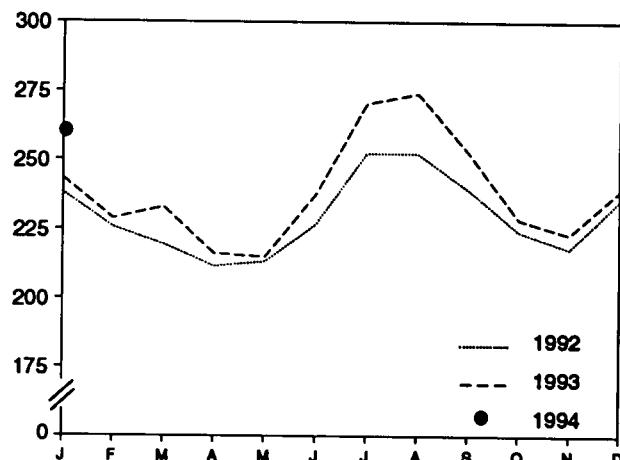
Report." • 1980: Energy Information Administration (EIA), *Electric Power Monthly*, March 1991, Table 4, and (for geothermal energy and other) FERC, Form FPC-4, "Monthly Power Plant Report." • 1981: EIA, *Electric Power Monthly*, March 1992, Table 4, and (for geothermal energy and other) FERC, Form FPC-4, "Monthly Power Plant Report." • 1982 and 1991 monthly data: EIA, *Electric Power Monthly*, March 1993, Table 4, and (for geothermal energy and other) EIA, Form EIA-759, "Monthly Power Plant Report." • 1983 forward (except 1991 monthly data): EIA, *Electric Power Monthly*, April 1994, Table 4, and (for geothermal energy and other) EIA, Form EIA-759, "Monthly Power Plant Report."

**Figure 7.2 Electricity Sales**  
(Billion Kilowatthours)

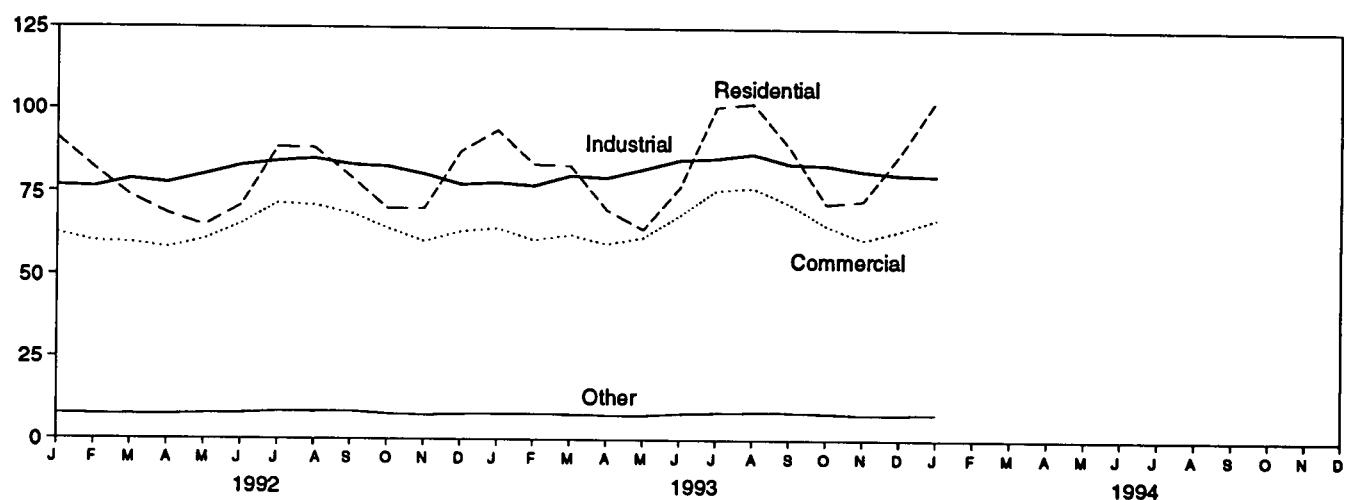
### Total Sales, January



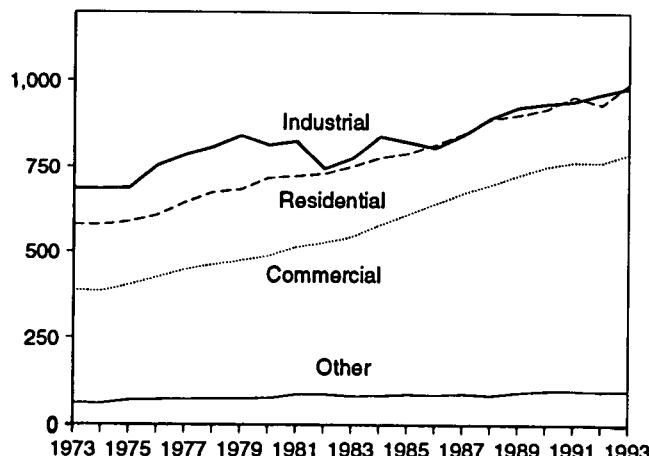
### Total Sales, Monthly



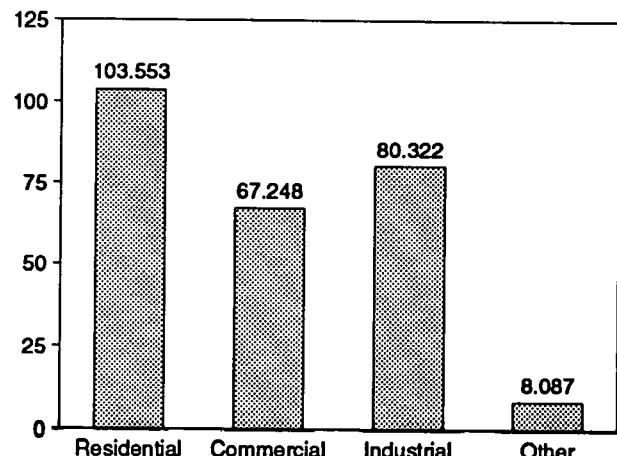
### Sales by Sector, Monthly



### Sales by Sector, 1973-1993



### Sales by Sector, January 1994



Note: Because vertical scales differ, graphs should not be compared.  
Source: Table 7.2, Monthly Series.

**Table 7.2 Electricity Sales by End-Use Sector**  
 (Million Kilowatthours)

	Residential		Commercial		Industrial		Other <sup>a</sup>		Total	
	Monthly Series <sup>b</sup>	Annual Series								
1973 Total .....	579,231	NA	388,266	NA	686,085	NA	59,326	NA	1,712,909	NA
1974 Total .....	578,184	NA	384,826	NA	684,875	NA	58,039	NA	1,705,924	NA
1975 Total .....	588,140	NA	403,049	NA	687,680	NA	68,222	NA	1,747,091	NA
1976 Total .....	606,452	NA	425,094	NA	754,069	NA	69,631	NA	1,855,246	NA
1977 Total .....	645,239	NA	446,514	NA	786,037	NA	70,571	NA	1,948,361	NA
1978 Total .....	674,466	NA	461,163	NA	809,078	NA	73,215	NA	2,017,922	NA
1979 Total .....	682,819	NA	473,307	NA	841,903	NA	73,070	NA	2,071,099	NA
1980 Total .....	717,495	NA	488,155	NA	815,067	NA	73,732	NA	2,094,449	NA
1981 Total .....	722,265	NA	514,338	NA	825,743	NA	84,756	NA	2,147,103	NA
1982 Total .....	729,520	NA	526,397	NA	744,949	NA	85,575	NA	2,086,441	NA
1983 Total .....	750,948	NA	543,788	NA	775,999	NA	80,219	NA	2,150,955	NA
1984 Total .....	777,654	780,092	578,281	582,621	840,588	837,836	81,849	85,248	2,278,372	2,285,796
1985 Total .....	790,977	793,934	608,968	605,989	824,523	836,772	85,075	87,279	2,309,543	2,323,974
1986 Total .....	817,663	819,088	641,469	630,520	808,292	830,531	83,409	88,615	2,350,835	2,368,753
1987 Total .....	849,613	850,410	673,707	660,433	845,266	858,233	86,854	88,196	2,455,440	2,457,272
1988 Total .....	892,125	892,866	697,711	699,100	895,751	896,498	82,362	89,598	2,567,949	2,578,062
1989 Total .....	903,979	905,525	725,229	725,861	926,376	925,659	91,066	89,765	2,646,651	2,646,809
1990 Total .....	921,473	924,019	750,835	751,027	936,428	945,522	95,936	91,988	2,704,672	2,712,555
1991 Total .....	957,801	955,417	765,476	765,664	944,684	946,583	96,513	94,339	2,764,474	2,762,003
1992 January .....	91,310	-	62,441	-	76,760	-	7,725	-	238,235	-
February .....	82,022	-	59,876	-	76,312	-	7,507	-	225,717	-
March .....	73,635	-	59,574	-	78,741	-	7,542	-	219,491	-
April .....	68,322	-	58,081	-	77,607	-	7,448	-	211,458	-
May .....	64,662	-	60,559	-	80,191	-	7,767	-	213,179	-
June .....	70,745	-	65,209	-	82,900	-	7,901	-	226,755	-
July .....	88,510	-	71,445	-	84,195	-	8,392	-	252,541	-
August .....	88,251	-	70,844	-	85,013	-	8,327	-	252,435	-
September .....	79,400	-	68,437	-	83,182	-	8,441	-	239,460	-
October .....	69,838	-	63,985	-	82,678	-	7,766	-	224,267	-
November .....	69,970	-	60,131	-	80,421	-	7,462	-	217,984	-
December .....	87,378	-	63,082	-	77,358	-	7,725	-	235,543	-
Total .....	934,046	R 935,939	763,664	R 761,271	965,356	R 972,714	94,003	R 93,442	2,757,067	R 2,763,365
1993 January .....	R 93,740	-	R 63,998	-	R 77,832	-	R 7,930	-	R 243,499	-
February .....	R 83,376	-	R 60,609	-	R 77,008	-	R 7,752	-	R 228,745	-
March .....	83,023	-	62,169	-	R 80,028	-	R 7,734	-	R 232,954	-
April .....	R 69,669	-	R 59,479	-	R 79,465	-	R 7,511	-	R 216,123	-
May .....	63,852	-	R 61,430	-	R 82,090	-	R 7,496	-	R 214,868	-
June .....	R 76,555	-	R 68,107	-	R 84,887	-	R 8,088	-	R 237,637	-
July .....	R 101,026	-	R 75,706	-	R 85,371	-	R 8,351	-	R 270,454	-
August .....	R 102,181	-	R 76,533	-	R 86,814	-	R 8,551	-	R 274,080	-
September .....	88,884	-	R 71,734	-	R 83,804	-	R 8,525	-	R 252,948	-
October .....	R 71,731	-	R 65,180	-	R 83,443	-	R 8,271	-	R 228,625	-
November .....	R 72,687	-	R 61,023	-	R 81,738	-	R 7,795	-	R 223,244	-
December .....	R 86,828	-	R 63,740	-	R 80,639	-	R 7,894	-	R 239,101	-
Total .....	R 993,552	NA	R 789,708	NA	R 983,118	NA	R 95,900	NA	R 2,862,279	NA
1994 January .....	103,553	-	67,248	-	80,322	-	8,087	-	259,210	-

<sup>a</sup> "Other" is public street and highway lighting, other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

<sup>b</sup> Annual totals are the sums of the monthly values.

R=Revised data. NA=Not available. - =Not applicable.

Notes: • Geographic coverage is the 50 States and the District of Columbia.

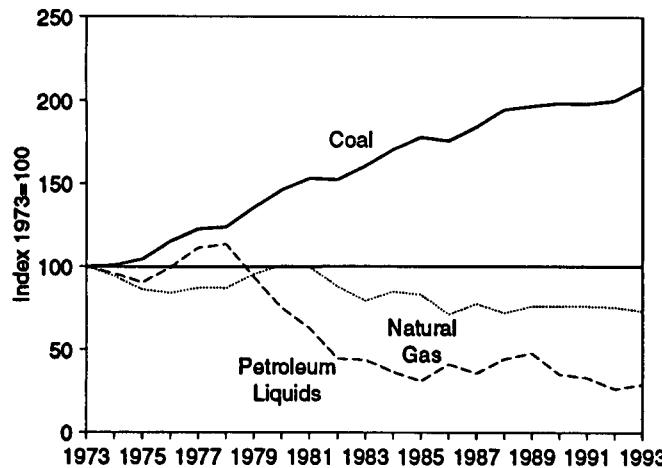
• Totals may not equal sum of components due to independent rounding.

Sources: • 1973-September 1977: Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income."

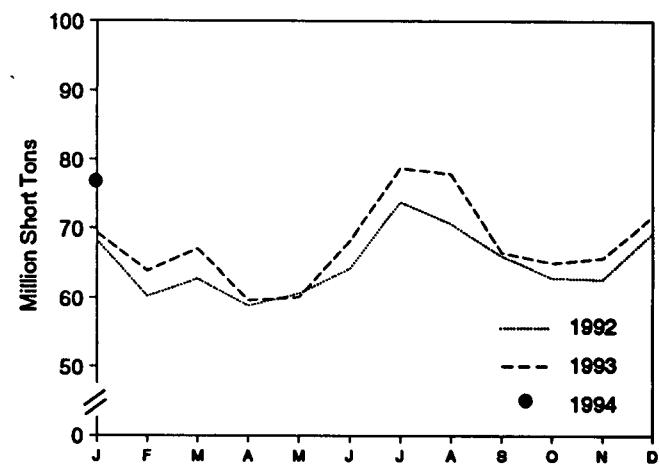
October 1977-1979: Federal Energy Regulatory Commission, Form FERC-5, "Electric Operating Revenue and Income." • 1980: Energy Information Administration (EIA), *Electric Power Monthly*, March 1991, Table 52. • 1981: EIA, *Electric Power Monthly*, March 1992, Table 52. • 1982 and 1991 monthly data: EIA, *Electric Power Monthly*, March 1993, Table 52. • 1983 forward (except 1991 monthly data): EIA, *Electric Power Monthly*, April 1994, Table 52.

### Figure 7.3 Electric Utility Consumption and Stocks of Fossil Fuels

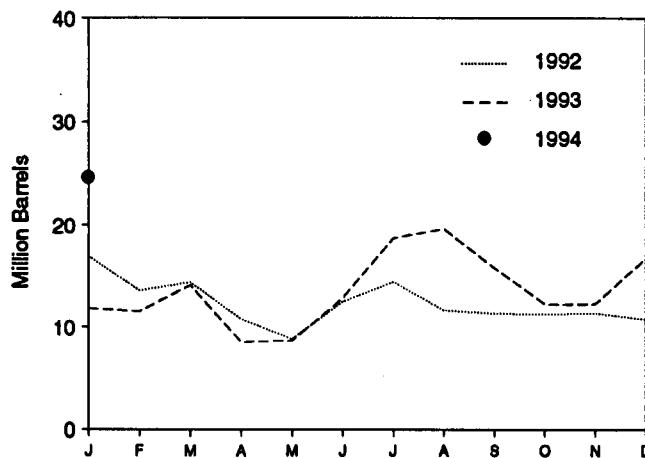
Fuels Consumed, 1973-1993



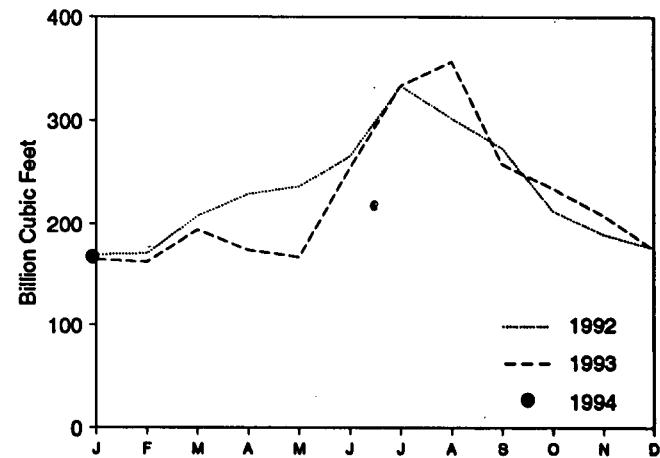
Coal Consumed, Monthly



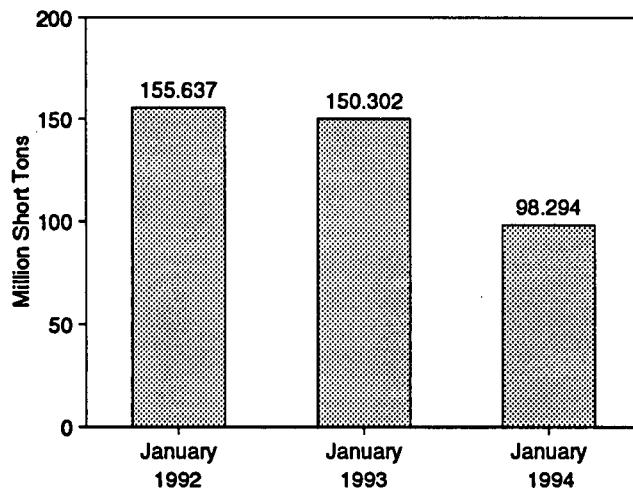
Petroleum Liquids Consumed, Monthly



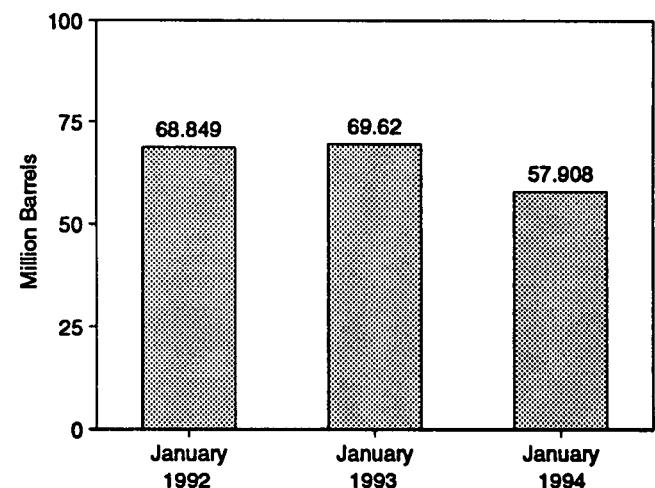
Natural Gas Consumed, Monthly



Coal Stocks, End of Month



Petroleum Liquids Stocks, End of Month



Note: Because vertical scales differ, graphs should not be compared.  
Sources: Tables 7.3 and 7.4.

**Table 7.3 Electric Utility Consumption of Fossil Fuels To Generate Electricity**

	Coal				Petroleum						Natural Gas <sup>d</sup>	
	Anthracite	Bituminous Coal	Lignite	Total	By Type of Petroleum		By Prime Mover Type		Total Liquids	Petroleum Coke		
					Heavy Oil <sup>a</sup>	Light Oil <sup>b</sup>	Steam Plants	GT/IC <sup>c</sup>				
	Thousand Short Tons				Thousand Barrels						Thousand Short Tons	Million Cubic Feet
1973 Total .....	1,443	376,975	10,794	389,212	NA	NA	513,180	47,058	560,248	507	3,680,172	
1974 Total .....	1,498	378,643	11,870	391,811	NA	NA	483,146	53,128	536,274	625	3,443,428	
1975 Total .....	1,480	388,523	15,860	405,962	NA	NA	467,221	38,807	508,128	70	3,157,669	
1976 Total .....	1,350	425,205	21,817	448,371	NA	NA	514,077	41,843	555,920	68	3,080,868	
1977 Total .....	1,425	451,051	24,650	477,126	NA	NA	574,869	48,837	623,705	98	3,191,200	
1978 Total .....	1,064	448,763	31,407	481,235	NA	NA	588,319	47,520	635,839	398	3,188,363	
1979 Total .....	1,046	488,129	37,876	527,051	NA	NA	492,606	30,691	523,297	268	3,490,529	
1980 Total .....	851	526,680	41,842	569,274	391,163	29,051	401,863	18,351	420,214	179	3,681,595	
1981 Total .....	1,221	550,784	44,792	596,787	329,798	21,313	339,680	11,431	351,111	139	3,640,154	
1982 Total .....	1,075	543,346	49,245	593,666	234,434	15,337	243,537	8,234	249,771	149	3,225,518	
1983 Total .....	1,036	570,108	54,067	625,211	228,984	16,512	237,845	7,652	245,497	261	2,910,767	
1984 Total .....	1,070	606,339	56,890	684,399	189,289	15,190	197,050	7,429	204,479	252	3,111,342	
1985 Total .....	1,033	631,885	60,923	693,841	158,779	14,635	166,842	8,572	173,414	231	3,044,083	
1986 Total .....	829	616,134	68,093	685,056	216,156	14,326	222,500	7,983	230,482	313	2,602,370	
1987 Total .....	972	647,824	69,098	717,894	184,011	15,367	190,818	8,560	199,378	348	2,844,051	
1988 Total .....	1,063	681,048	76,260	758,372	229,327	18,769	235,817	12,279	248,096	409	2,635,613	
1989 Total .....	1,049	688,504	77,335	766,888	241,980	25,491	250,315	17,136	267,451	517	2,787,012	
1990 Total .....	1,031	694,317	78,201	773,549	181,231	14,823	187,531	8,523	196,054	819	2,787,332	
1991 Total .....	894	691,275	79,999	772,268	171,157	13,729	177,286	7,800	184,886	722	2,788,014	
1992 January .....	80	60,881	7,304	68,264	15,811	1,103	16,332	582	18,915	71	169,125	
February .....	80	53,687	6,415	60,183	12,730	806	13,093	444	13,538	76	170,293	
March .....	93	56,243	6,368	62,705	13,492	843	13,932	404	14,336	83	207,656	
April .....	73	53,314	5,407	58,794	9,929	811	10,335	404	10,740	66	229,012	
May .....	69	54,664	5,858	60,591	7,910	843	8,385	367	8,752	50	236,316	
June .....	84	57,179	6,859	64,122	11,372	1,077	11,881	568	12,449	66	265,882	
July .....	90	66,318	7,407	73,815	12,939	1,428	13,392	974	14,367	72	333,567	
August .....	84	62,937	7,616	70,637	10,607	1,011	11,067	551	11,619	116	302,544	
September .....	83	58,899	6,985	65,967	10,456	849	10,820	485	11,305	98	273,670	
October .....	85	56,366	6,356	62,806	10,454	792	10,867	379	11,246	103	212,640	
November .....	74	56,186	6,352	62,612	10,330	1,004	10,803	531	11,333	93	189,296	
December .....	93	61,951	7,321	69,365	9,749	989	10,256	482	10,737	105	175,608	
Total .....	986	698,626	80,248	779,860	135,779	11,556	141,163	6,172	147,335	989	2,765,608	
1993 January .....	79	R 61,703	7,617	R 69,400	R 10,804	R 1,013	R 11,265	R 552	R 11,817	92	R 164,374	
February .....	88	R 57,293	6,431	R 63,812	R 10,569	R 935	R 11,002	R 503	R 11,504	81	R 161,928	
March .....	101	60,969	6,002	67,073	12,784	1,277	13,313	748	R 14,061	87	R 193,811	
April .....	84	R 53,755	5,757	R 59,596	7,629	819	8,094	354	8,448	79	R 173,834	
May .....	81	R 53,380	6,570	R 60,032	7,722	R 868	8,198	392	8,590	86	R 166,840	
June .....	80	R 61,090	6,948	R 68,118	11,756	R 1,033	12,249	R 540	R 12,789	98	R 254,823	
July .....	73	R 71,134	7,511	R 78,717	16,896	R 1,817	17,406	R 1,306	R 18,713	125	R 334,101	
August .....	67	70,241	7,624	77,932	18,044	R 1,568	R 18,509	R 1,101	R 19,610	112	R 357,027	
September .....	60	R 60,143	6,289	R 66,493	R 14,730	R 1,031	15,111	R 650	R 15,761	129	R 258,325	
October .....	64	R 59,125	5,752	R 64,941	R 11,318	897	R 11,771	444	R 12,216	112	R 234,544	
November .....	81	59,385	6,211	65,677	11,339	R 886	11,781	R 444	R 12,225	101	R 208,335	
December .....	92	64,516	7,109	71,717	15,694	R 1,027	16,206	514	16,720	120	R 174,498	
Total .....	951	R 732,736	79,821	R 813,508	R 149,287	R 13,168	R 154,805	R 7,549	R 162,454	1,220	R 2,882,440	
1994 January .....	82	69,022	7,257	76,362	20,743	3,710	21,602	2,851	24,453	112	169,995	

<sup>a</sup> Heavy oil includes fuel oil nos. 4, 5, and 6, and residual fuel oils.

<sup>b</sup> Light oil includes fuel oil nos. 1 and 2, kerosene, and jet fuel.

<sup>c</sup> GT/IC = Gas turbine and internal combustion plants.

<sup>d</sup> Includes supplemental gaseous fuels.

R=Revised data. NA=Not available.

Notes: • Geographic coverage is the 50 States and the District of Columbia.

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

Sources: • Prime Mover Type Data: 1973-September 1977—Federal Power Commission (FPC), Form FPC-4, "Monthly Power Plant Report."

October 1977-1981—Federal Energy Regulatory Commission (FERC), Form

FPC-4, "Monthly Power Plant Report." 1982 forward—Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report."

• All Other Data: 1973-September 1977—FPC, Form FPC-4, "Monthly Power Plant Report." October 1977-1979—FERC, Form FPC-4, "Monthly Power Plant Report." 1980—EIA, *Electric Power Monthly*, March 1991, Table 17.

1981—EIA, *Electric Power Monthly*, March 1992, Table 17. 1982 and 1991 monthly data—EIA, *Electric Power Monthly*, March 1993, Table 17.

1993 forward (except 1991 monthly data)—EIA, *Electric Power Monthly*, April 1994, Table 18.

**Table 7.4 Electric Utility Stocks of Coal and Petroleum, End of Period**

	Coal				Petroleum					
	Anthracite	Bituminous Coal	Lignite	Total	By Type of Petroleum		By Prime Mover Type		Total Liquids	Petroleum Coke
					Heavy Oil <sup>a</sup>	Light Oil <sup>b</sup>	Steam Plants	GT/IC <sup>c</sup>		
	Thousand Short Tons				Thousand Barrels					
										Thousand Short Tons
1973 Total .....	1,066	84,941	961	86,967	NA	NA	79,121	10,095	89,216	312
1974 Total .....	930	81,712	867	83,509	NA	NA	97,718	15,199	112,917	35
1975 Total .....	982	107,927	1,815	110,724	NA	NA	108,825	18,432	125,257	31
1976 Total .....	1,000	114,130	2,306	117,436	NA	NA	106,993	14,703	121,696	32
1977 Total .....	2,321	128,210	2,688	133,219	NA	NA	124,750	19,281	144,031	44
1978 Total .....	2,178	123,020	3,027	128,225	NA	NA	102,402	16,388	118,788	198
1979 Total .....	3,274	152,981	3,459	159,714	NA	NA	111,121	20,301	131,422	183
1980 Total .....	4,741	174,154	4,115	183,010	105,351	30,023	117,227	18,147	135,374	52
1981 Total .....	5,537	158,258	5,088	168,893	102,042	26,094	112,380	15,756	128,136	42
1982 Total .....	6,080	170,480	4,573	181,132	95,515	23,369	105,287	13,597	118,884	41
1983 Total .....	6,507	145,250	3,841	155,598	70,573	18,801	78,285	11,090	89,375	55
1984 Total .....	6,710	167,118	5,899	179,727	68,503	19,118	76,836	10,784	87,619	50
1985 Total .....	7,189	142,144	7,043	156,376	57,304	16,386	64,704	8,985	73,689	49
1986 Total .....	7,099	148,665	6,042	161,806	58,841	16,269	64,258	8,853	73,111	40
1987 Total .....	6,940	156,670	7,187	170,797	55,069	15,759	61,705	9,123	70,827	51
1988 Total .....	6,561	133,434	6,512	146,507	54,187	15,099	60,311	8,974	69,285	88
1989 Total .....	6,403	122,967	6,490	135,860	47,446	13,824	53,309	7,962	61,270	105
1990 Total .....	6,499	142,650	7,016	156,166	67,030	16,471	73,306	10,195	83,501	94
1991 Total .....	6,513	145,367	5,996	157,876	58,636	16,357	65,032	9,961	74,993	70
1992 January .....	6,488	143,466	5,683	155,637	53,136	15,712	59,340	9,509	68,849	75
February .....	6,455	146,338	5,352	158,145	54,750	15,655	61,085	9,321	70,406	62
March .....	6,398	147,978	5,656	160,032	54,513	15,589	60,840	9,262	70,103	58
April .....	6,379	149,824	6,387	162,591	52,815	15,371	59,044	9,143	68,186	47
May .....	6,370	152,275	6,867	165,512	55,144	15,214	61,145	9,214	70,358	63
June .....	6,355	151,224	6,596	164,176	53,794	15,117	59,648	9,263	68,910	67
July .....	6,341	141,613	6,449	154,403	53,445	14,995	59,273	9,167	68,440	56
August .....	6,343	140,166	6,071	152,580	54,434	15,456	60,644	9,246	69,890	46
September .....	6,329	140,409	5,946	152,685	52,731	15,251	58,646	9,336	67,982	51
October .....	6,304	144,068	6,487	156,859	52,919	15,351	58,869	9,400	68,269	55
November .....	6,273	145,406	6,169	157,849	53,632	15,302	59,535	9,398	68,934	59
December .....	6,215	142,156	5,759	154,130	56,135	15,714	62,374	9,475	71,849	67
1993 January .....	6,166	R 138,615	5,521	R 150,302	53,781	R 15,840	R 60,193	R 9,428	R 69,620	65
February .....	6,107	R 135,063	5,357	R 146,528	R 50,005	R 15,131	R 56,303	R 8,833	R 65,136	60
March .....	6,036	132,183	5,758	143,978	45,313	R 14,914	51,528	R 8,698	R 60,227	66
April .....	5,802	R 136,199	R 6,177	R 148,178	R 47,356	R 14,856	R 53,475	R 8,736	R 62,211	77
May .....	5,773	R 138,668	R 6,238	R 150,678	50,422	R 14,669	R 56,495	R 8,596	R 65,091	82
June .....	5,766	R 133,977	6,009	R 145,753	49,294	R 14,936	R 55,604	R 8,626	R 64,230	92
July .....	5,755	R 115,383	R 5,677	R 126,815	47,401	R 14,618	R 53,639	R 8,380	R 62,019	R 90
August .....	5,745	R 102,582	5,651	R 113,978	43,943	R 14,842	50,223	R 8,562	R 58,785	99
September .....	5,735	R 100,951	6,147	R 112,833	45,913	R 14,774	52,071	R 8,617	R 60,687	62
October .....	5,718	R 102,700	6,687	R 115,105	R 46,298	R 14,822	R 52,385	R 8,735	R 61,120	69
November .....	5,693	R 103,447	R 6,955	R 116,095	R 46,603	R 14,878	R 52,812	R 8,668	R 61,481	84
December .....	5,639	98,560	7,142	111,341	46,769	R 15,674	53,360	R 9,083	R 62,443	89
1994 January .....	5,576	86,043	6,676	98,294	42,781	15,127	49,922	7,986	57,908	83

<sup>a</sup> Heavy oil includes fuel oil nos. 4, 5, and 6, and residual fuel oils.

<sup>b</sup> Light oil includes fuel oil nos. 1 and 2, kerosene, and jet fuel.

<sup>c</sup> GT/IC = Gas turbine and internal combustion plants.

R=Revised data. NA=Not available.

Notes: • Geographic coverage is the 50 States and the District of Columbia.

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

Sources: • Prime Mover Type Data: 1973-September 1977—Federal Power Commission (FPC), Form FPC-4, "Monthly Power Plant Report." October 1977-1981—Federal Energy Regulatory Commission (FERC), Form

FPC-4, "Monthly Power Plant Report." 1982 forward—Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report." • All Other Data: 1973-September 1977—FPC, Form FPC-4, "Monthly Power Plant Report." October 1977-1979—FERC, Form FPC-4, "Monthly Power Plant Report." 1980—EIA, *Electric Power Monthly*, March 1991, Table 29. 1981—EIA, *Electric Power Monthly*, March 1992, Table 29. 1982 and 1991 monthly data—EIA, *Electric Power Monthly*, March 1993, Table 29. 1983 forward (except 1991 monthly data)—EIA, *Electric Power Monthly*, April 1994, Table 29.

## Section 8. Nuclear Energy

In January 1994, U.S. nuclear generating units produced a total of 56 net terawatthours (billion kilowatthours) of electricity, 5 percent<sup>8</sup> less than in January 1993. Nuclear units generated at an average capacity factor of 76.2 percent, 5 percentage points lower than in January 1993. Nuclear power supplied 21.5 percent of the total electric utility-generated electricity in January 1994, compared with 24.0 percent in January 1993.

No low- or full power licenses for nuclear power plants were issued by the Nuclear Regulatory Commission during January 1994.

On January 31, 1994, there were 109 operable nuclear generating units in the United States, with a collective net summer capability of 99.1 million kilowatts of electricity. Of the 109 operable units, 16 units

generated at less than 25 percent of capacity because of maintenance, refueling, or repair outage, and 13 of the 16 units generated no electricity during the month.

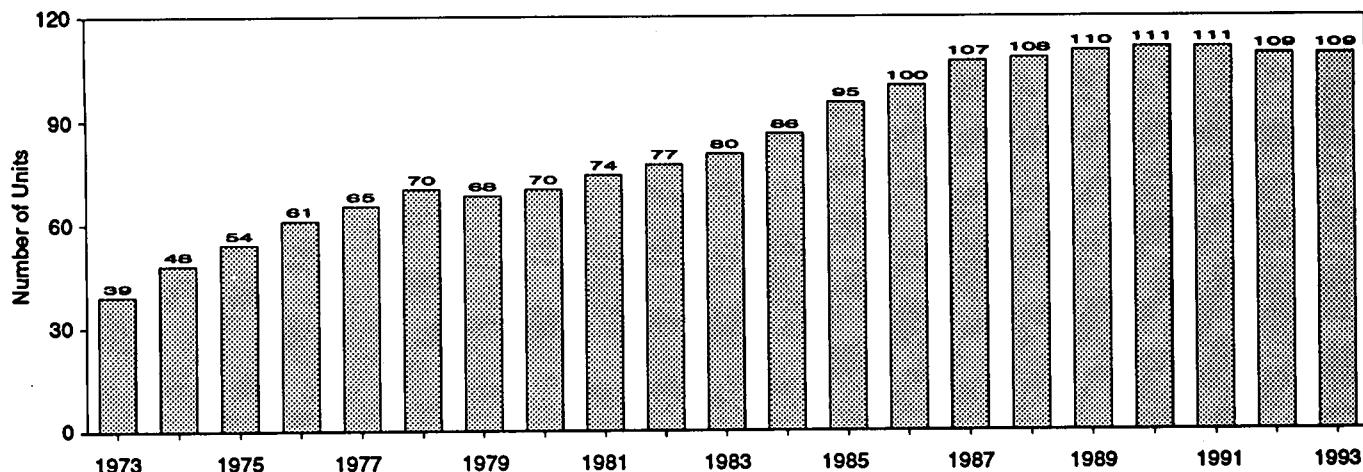
Two operable units, Browns Ferry 1 and 3, have been shut down since March 1985. Each unit had a capacity of 1,065 megawatts electric.

As of January 31, 1994, there were 115 domestic nuclear generating units in all stages of construction and operation (construction of the Perry-2 nuclear unit, in North Perry, Ohio, was canceled as of January 4, 1994). The aggregate net design capacity of operable units was 101.1 million kilowatts, and the design capacity of units under construction was 7.3 million kilowatts, for a total design capacity of 108.4 million kilowatts.

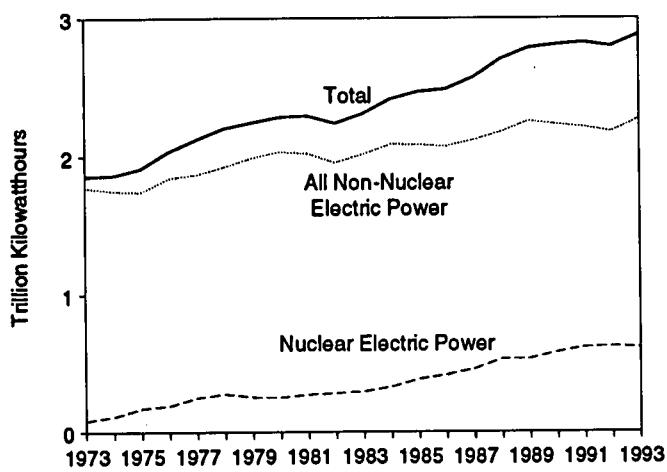
<sup>8</sup>Percentage changes are based on numbers shown in the following tables.

## Figure 8.1 Nuclear Power Plant Operations

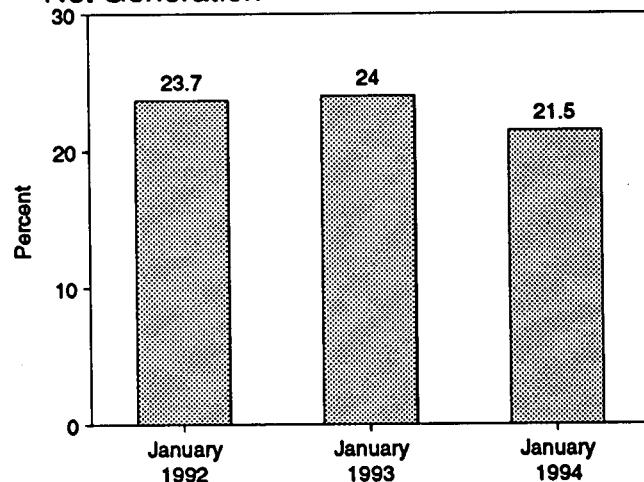
### Operable Units, End of Year, 1973-1993



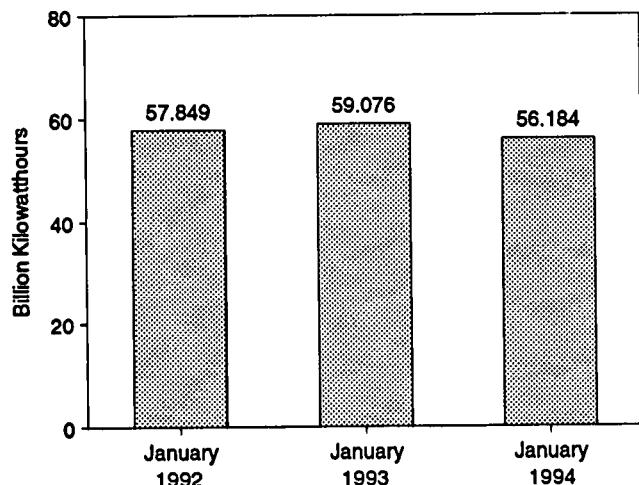
### Net Generation of Electricity, 1973-1993



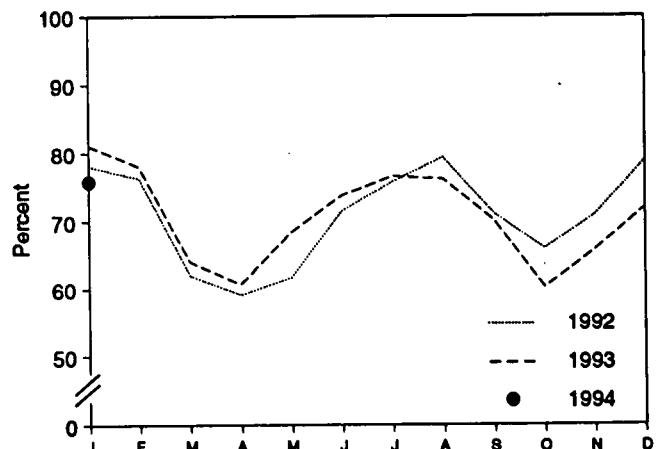
### Nuclear Portion of Domestic Electricity Net Generation



### Nuclear Electricity Net Generation



### Capacity Factor, Monthly



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

Sources: Tables 7.1 and 8.1.

**Table 8.1 Nuclear Power Plant Operations**

	Operable Units <sup>a,b</sup>	Nuclear Electricity Net Generation	Nuclear Portion of Domestic Electricity Net Generation	Net Summer Capability of Operable Units <sup>a,c</sup>	Capacity Factor <sup>d</sup>
		Number	Million Kilowatthours	Percent	
1973 Year .....	39	83,479	4.5	22,683	53.5
1974 Year .....	48	113,976	8.1	31,867	47.8
1975 Year .....	54	172,505	9.0	37,267	55.0
1976 Year .....	61	191,104	9.4	43,822	54.7
1977 Year .....	65	250,883	11.8	46,303	63.3
1978 Year .....	70	276,403	12.5	50,824	64.5
1979 Year .....	68	255,155	11.4	49,747	58.4
1980 Year .....	70	251,116	11.0	51,810	58.3
1981 Year .....	74	272,674	11.9	56,042	58.2
1982 Year .....	77	282,773	12.6	60,035	56.6
1983 Year .....	80	293,677	12.7	63,009	54.4
1984 Year .....	86	327,634	13.6	69,652	56.3
1985 Year .....	95	383,691	15.5	79,397	56.0
1986 Year .....	100	414,038	16.6	85,241	56.9
1987 Year .....	107	455,270	17.7	93,583	57.4
1988 Year .....	108	526,973	19.5	94,695	63.5
1989 Year .....	110	529,355	19.0	98,161	62.2
1990 Year .....	111	576,862	20.5	99,624	66.0
1991 Year .....	111	612,565	21.7	99,589	70.2
1992 January .....	111	57,849	23.7	99,589	78.1
February .....	110	52,804	24.2	99,421	76.3
March .....	110	45,835	20.4	99,421	62.0
April .....	110	42,268	20.0	99,421	59.1
May .....	110	45,627	20.7	99,421	61.7
June .....	110	51,185	21.6	99,421	71.5
July .....	110	56,049	21.1	99,421	75.8
August .....	110	58,656	23.0	99,421	79.3
September .....	110	50,919	21.7	99,421	71.1
October .....	110	48,784	22.0	99,421	65.9
November .....	110	50,726	22.9	99,421	70.9
December .....	109	58,075	23.8	98,985	78.9
Year .....	109	618,776	22.1	98,985	70.9
1993 January .....	108	59,076	24.0	97,881	81.1
February .....	108	51,319	22.8	97,881	78.0
March .....	108	48,606	R 19.8	97,881	64.0
April .....	109	43,199	20.4	99,031	60.7
May .....	109	50,367	22.6	99,031	68.4
June .....	109	52,620	21.1	99,031	73.8
July .....	109	56,502	20.0	99,031	R 76.6
August .....	109	56,209	20.1	99,031	R 76.2
September .....	109	49,989	21.1	99,031	70.1
October .....	109	44,434	19.9	99,094	60.2
November .....	109	46,862	R 20.7	99,094	65.7
December .....	109	53,108	21.6	99,094	72.0
Year .....	109	610,291	21.2	99,094	70.6
1994 January .....	109	56,184	21.5	99,094	76.2

<sup>a</sup> At end of period.

<sup>b</sup> See Note 1 at end of section.

<sup>c</sup> For the definition of "Net Summer Capability," see Note 3 at end of section.

<sup>d</sup> For an explanation of the method of calculating the capacity factor, see Note 4 at end of section.

R=Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia.

• Nuclear electricity net generation totals may not equal sum of components due to independent rounding.

Sources: • Operable Units: 1973-1982—U.S. Department of Energy (DOE), Office of Nuclear Programs, "U.S. Central Station Nuclear Electric

Generating Units: Significant Milestones." 1983 forward—Nuclear Regulatory Commission (NRC), "Licensed Operating Reactors" (NUREG-0020). • Nuclear Electricity Net Generation: Table 7.1. • Nuclear Portion of Domestic Electricity Net Generation: Calculated from data in Table 7.1. • Net Summer Capability of Operable Units: 1973-1982—Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones." 1983 forward—Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generation Report," and monthly updates as appropriate. • Capacity Factor: EIA, Office of Coal, Nuclear, Electric and Alternate Fuels.

**Table 8.2 Nuclear Generating Units, End of Period**

	Licensed for Operation		Construction Permits		On Order	Announced	Total	Total Design Capacity <sup>c</sup>
	Operable <sup>a</sup>	In Startup <sup>b</sup>	Granted	Pending				Million Kilowatts
	Number of Units							
1973 Year .....	39	2	57	52	49	9	208	198
1974 Year .....	48	5	62	75	30	6	226	223
1975 Year .....	54	2	69	69	14	5	213	212
1976 Year .....	61	1	71	63	16	2	214	211
1977 Year .....	65	2	78	49	13	2	209	203
1978 Year .....	70	0	88	32	5	0	195	191
1979 Year .....	68	0	90	24	3	0	185	180
1980 Year .....	70	1	82	12	3	0	168	162
1981 Year .....	74	0	76	11	2	0	163	157
1982 Year .....	77	2	60	3	2	0	144	134
1983 Year .....	80	3	53	0	2	0	138	129
1984 Year .....	86	6	38	0	2	0	132	123
1985 Year .....	95	3	30	0	2	0	130	121
1986 Year .....	100	7	19	0	2	0	128	119
1987 Year .....	107	4	14	0	2	0	127	119
1988 Year .....	108	3	12	0	0	0	123	115
1989 Year .....	110	1	10	0	0	0	121	113
1990 Year .....	111	0	8	0	0	0	119	111
1991 Year .....	111	0	8	0	0	0	119	111
1992 January .....	111	0	8	0	0	0	119	111
February .....	110	0	8	0	0	0	118	111
March .....	110	0	8	0	0	0	118	111
April .....	110	0	8	0	0	0	118	111
May .....	110	0	8	0	0	0	118	111
June .....	110	0	8	0	0	0	118	111
July .....	110	0	8	0	0	0	118	111
August .....	110	0	8	0	0	0	118	111
September .....	110	0	8	0	0	0	118	111
October .....	110	0	8	0	0	0	118	111
November .....	110	0	8	0	0	0	118	111
December .....	109	0	8	0	0	0	117	111
1993 January .....	108	0	8	0	0	0	116	110
February .....	108	1	7	0	0	0	116	110
March .....	108	1	7	0	0	0	116	110
April .....	109	0	7	0	0	0	116	110
May .....	109	0	7	0	0	0	116	110
June .....	109	0	7	0	0	0	116	110
July .....	109	0	7	0	0	0	116	110
August .....	109	0	7	0	0	0	116	110
September .....	109	0	7	0	0	0	116	110
October .....	109	0	7	0	0	0	116	110
November .....	109	0	7	0	0	0	116	110
December .....	109	0	7	0	0	0	116	110
1994 January .....	109	0	6	0	0	0	115	108

<sup>a</sup> See Note 1 at end of section.

<sup>b</sup> See Note 2 at end of section.

<sup>c</sup> Net design electrical rating (DER) is used because many of the units were canceled prior to being assigned a net summer capability. See Note 3 at end of section.

Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: • Licensed for Operation: 1973-1982—U.S. Department of Energy (DOE), Office of Nuclear Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones." 1983 forward—Nuclear Regulatory Commission (NRC), "Licensed Operating Reactors" (NUREG-0020). • Construction Permits, On Order, and Announced: 1973-1982—Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones"; Energy Information Administration (EIA), Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF), "Nuclear Steam-Electric

Units That Have Been in Operation as of 1957-1989"; EIA, CNEAF, "Nuclear Plant Cancellations: Causes, Costs, and Consequences"; and Utility Data Institute, Inc., "U.S. Nuclear Plant Statistics, 1987." 1983 forward—NRC, "Summary Information Report" (NUREG-0871); NRC, "Licensed Operating Reactors" (NUREG-0020); and various journals. • Total Design Capacity: 1973-1982—Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones"; EIA, CNEAF, "Nuclear Steam-Electric Units That Have Been in Operation as of 1957-1987"; EIA, CNEAF, "Monthly Report for Electric Utilities-Power Generation"; EIA, CNEAF, "Nuclear Plant Cancellations: Causes, Costs, and Consequences"; and Utility Data Institute, Inc., "U.S. Nuclear Plant Statistics, 1987." 1983 forward—NRC, "Summary Information Report" (NUREG-0871); NRC, "Licensed Operating Reactors" (NUREG-0020); and EIA, Form EIA-860, "Annual Electric Generator Report."

# Nuclear Energy Notes

**1. Operable Units:** Nuclear generating units that have been issued a full-power license by the Nuclear Regulatory Commission (NRC).

**Exceptions:** The Shippingport (60 megawatts (MW)) and the Hanford-N (840 MW) nuclear units were included in the operable units until 1982 and 1988, respectively. The Shippingport unit was excluded from the operable category during March 1974-August 1977 due to a major core modification outage. Hanford-N, an unlicensed unit used for defense material production, was included in the operable category because power was produced as by-product and sold commercially. Three Mile Island 2 (880 MW) experienced a major accident in 1979 and, although that unit still retains its operating license and site cleanup continues, there is no plan to restart it. Therefore, it has not been included in the operable category since March 1979. Although Shoreham received a full-power license in April 1989, the unit is not currently scheduled to operate and, therefore, has not been included in the operable category. Rancho Seco (873 MW) was shut down by the Sacramento Municipal Utility District (SMUD) in June 1989 following a referendum on its continued operation. Because there are currently no plans to operate it as a nuclear unit, it is no longer included as an operable unit but is identified as a unit shut down for an extended period. As soon as SMUD and the NRC formalize the plant's official retirement, it will be noted as such in this report. The Department of Energy-operated Experimental Breeder Reactor 2 unit is not a commercial reactor and is therefore not included in the operable category.

In addition, nine units have been retired and therefore removed from the operable category. Those units are: Peach Bottom 1 (40 MW) and Indian Point 1 (265 MW),

both retired in 1974; Humboldt Bay (65 MW), officially retired in 1976; Dresden 1 (200 MW), retired in August 1979; LaCrosse (51 MW), retired in May 1987; Fort Saint Vrain (217 MW), retired in August 1989; Yankee Rowe 1 (185 MW), retired in February 1992; San Onofre 1 (436 MW), retired in December 1992; and Trojan (1,104 MW), retired in January 1993.

**2. In Startup:** The period of time between a nuclear generating unit's initial fuel loading date and the issuance of its full-power license. During that period, the unit is undergoing low-power testing and the maximum level of operation is 5 percent of the unit's design thermal rating.

**3. Capacity:** Nuclear generating units may have more than one type of net capacity rating, including the following:

(a) **Net Summer Capability**—The steady hourly output that generating equipment is expected to supply to system load, exclusive of auxiliary power, as demonstrated by test at the time of summer peak demand. Auxiliary power of a typical nuclear power plant is about 5 percent of gross generation.

(b) **Net Design Capacity or Net Design Electrical Rating (DER)**—The nominal net electrical output of a unit, specified by the utility and used for plant design.

**4. Monthly Capacity Factors:** The monthly capacity factors are computed as the actual monthly generation divided by the maximum possible generation for that month. The maximum possible generation is the number of hours in the month multiplied by the net summer capability at the end of the month. That fraction is then multiplied by 100 to obtain a percentage. Annual capacity factors are averages of the monthly values for that year.



## Section 9. Energy Prices

**Crude Oil.** The average price of domestic crude oil purchased at the wellhead was \$10.51 per barrel in January 1994, 28 percent below the level in January 1993. The refiner acquisition cost of imported crude oil in January 1994 was \$12.97 per barrel, 23 percent below the January 1993 level. The average cost of domestic crude oil in January 1994 was \$12.72, 27 percent less than the January 1993 average.

**Motor Gasoline.** The national city average retail price of unleaded regular gasoline at all types of stations was \$1.05 per gallon in February 1994, 5 percent lower than the price in February 1993. The price of unleaded premium gasoline averaged \$1.25 per gallon in February 1994, 4 percent lower than the price in February 1993.

**Residual Fuel Oil.** The average price, excluding taxes, of residual fuel oil sold to end users in January 1994 was 33 cents per gallon, 11 percent higher than the previous month's price but 8 percent below the January 1993 average. The average resale price, excluding taxes, of residual fuel oil in January 1994 was 29 cents per gallon, 15 percent above the December 1993 average but 8 percent lower than the price 1 year earlier.

**Aviation Fuel.** The average price, excluding taxes, of aviation gasoline sold to end users in January 1994 was 89 cents per gallon, 3 percent lower than the previous month's price and 12 percent lower than the January 1993 price. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in January 1994 was 52 cents per gallon, 1 percent higher than the previous month's average price but 12 percent lower than the January 1993 average price.

**No. 2 Distillate Fuel Oil.** The January 1994 national average price, excluding taxes, of heating oil sold to residential customers was 90 cents per gallon, 3 percent higher than the December 1993 price but 5 percent lower than the January 1993 price. The average price of No. 2 fuel oil sold to all end users was 60 cents

per gallon in January 1994, 7 percent above the December 1993 price but 5 percent lower than the January 1993 price.

**Electricity.** The average price of electricity sold to all ultimate consumers in the United States in January 1994 was 6.7 cents per kilowatthour, 2 percent above the January 1993 mean price. The price of electricity sold to residential consumers in January 1994 averaged 7.8 cents per kilowatthour, 1 percent above the January 1993 price. The price of electricity sold to commercial consumers averaged 7.4 cents per kilowatthour in January 1994, 1 percent above the January 1993 price. The price of electricity sold to other consumers was 6.6 cents per kilowatthour, the same as the January 1993 price. The price of electricity sold to industrial users in January 1994 averaged 4.7 cents per kilowatthour, the same as the price 1 year earlier.

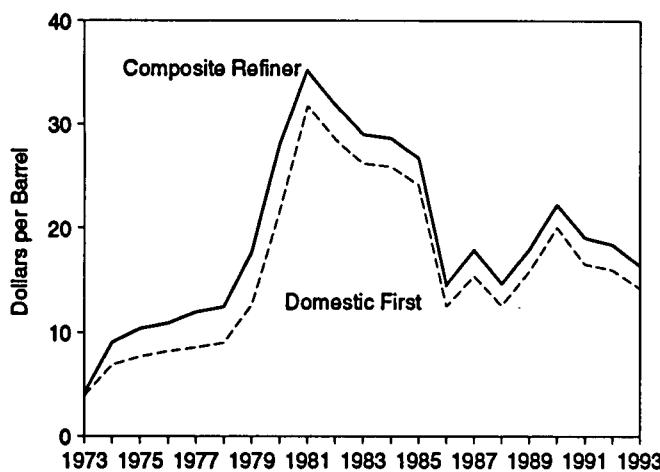
Beginning with January 1986, there were new series of national average price estimates based on a statistically derived sample of both publicly and privately owned electric utilities. Previously, average price estimates were derived from selected privately owned electric utilities and were not national averages.

**Natural Gas.** The estimated average wellhead price of natural gas for January 1994 was \$2.27 per thousand cubic feet, 16 percent above the January 1993 price.

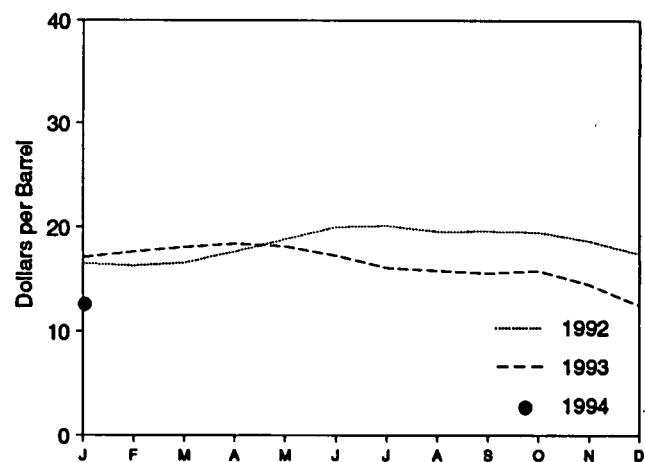
The average price of natural gas delivered to electric utility plants was \$2.76 per thousand cubic feet in December 1993 (latest date for which data are available), 2 percent below the December 1992 price. The average price of natural gas used by residential consumers in January 1994 was \$5.75 per thousand cubic feet, 1 percent above the January 1993 price. The average price of natural gas used by commercial consumers in January 1994 was \$4.94 per thousand cubic feet, 5 percent lower than the January 1993 price. The average price of natural gas used by industrial consumers in January 1994 was \$3.32 per thousand cubic feet, 2 percent above the January 1993 price.

## Figure 9.1 Petroleum Prices

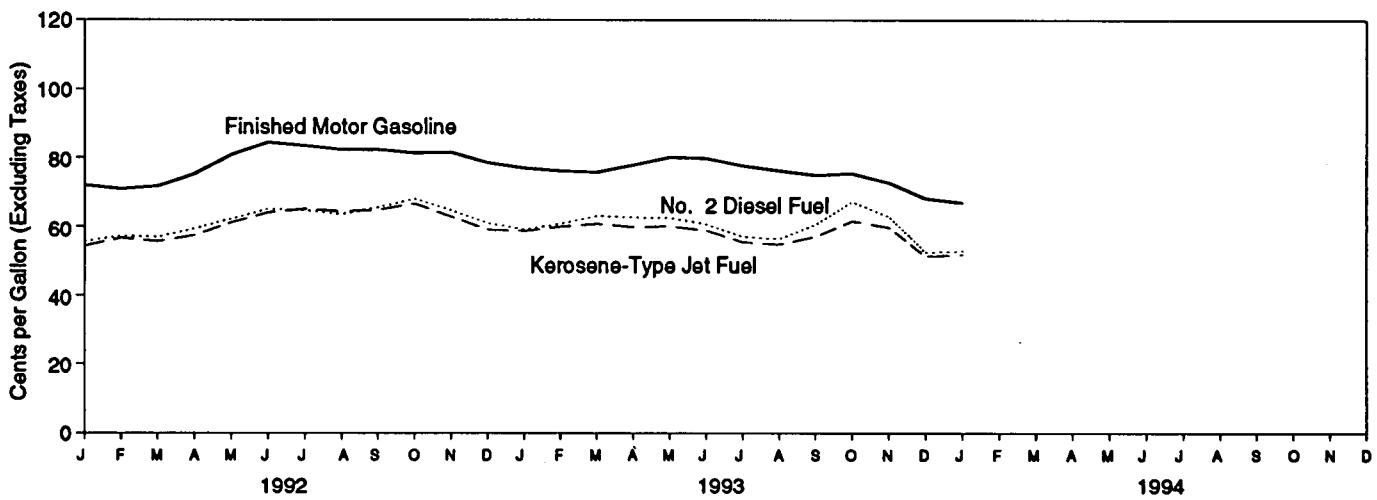
Crude Oil Prices, 1973-1993



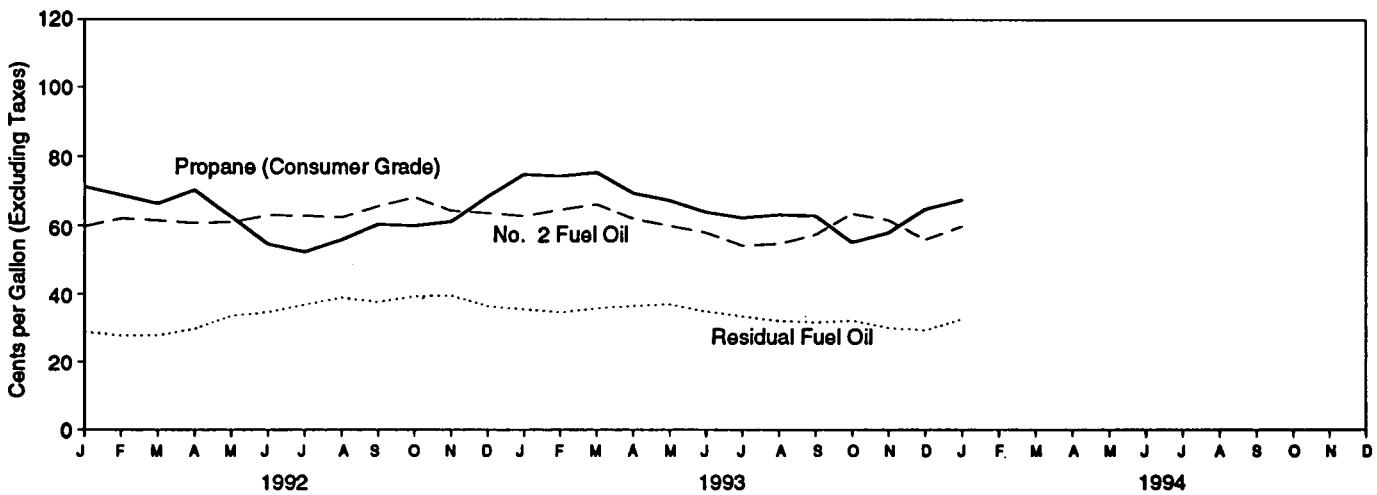
Composite Refiner Acquisition Cost, Monthly



Refiner Prices to End Users: Motor Gasoline, Diesel Fuel, and Jet Fuel, Monthly



Refiner Prices to End Users: No. 2 Fuel Oil, Propane, and Residual Fuel, Monthly



Sources: Tables 9.1, 9.5, and 9.7.

**Table 9.1 Crude Oil Price Summary**  
(Dollars per Barrel)

	Domestic First Purchase Price <sup>b</sup>	F.O.B. Cost of Imports <sup>c</sup>	Landed Cost of Imports <sup>d</sup>	Refiner Acquisition Cost <sup>e</sup>		
				Domestic	Imported	Composite
1973 Average .....	3.89	6.521	6.41	E 4.17	E 4.08	E 4.15
1974 Average .....	6.87	10.91	12.32	7.18	12.52	9.07
1975 Average .....	7.67	11.18	12.70	8.39	13.93	10.38
1976 Average .....	8.19	12.15	13.32	8.84	13.48	10.89
1977 Average .....	8.57	13.24	14.36	9.55	14.53	11.96
1978 Average .....	9.00	13.29	14.35	10.61	14.57	12.46
1979 Average .....	12.64	20.07	21.45	14.27	21.87	17.72
1980 Average .....	21.59	32.37	33.67	24.23	33.89	28.07
1981 Average .....	31.77	35.15	36.47	34.33	37.05	35.24
1982 Average .....	28.52	32.02	33.18	31.22	33.55	31.87
1983 Average .....	26.19	27.81	28.93	28.87	29.30	28.99
1984 Average .....	25.88	27.60	28.54	28.53	28.88	28.63
1985 Average .....	24.09	25.84	26.87	26.66	26.99	26.75
1986 Average .....	12.51	12.52	13.49	14.82	14.00	14.55
1987 Average .....	15.40	16.89	17.65	17.76	18.13	17.90
1988 Average .....	12.58	13.25	14.08	14.74	14.56	14.67
1989 Average .....	15.86	16.89	17.68	17.87	18.08	17.97
1990 Average .....	20.03	20.37	21.13	22.59	21.76	22.22
1991 Average .....	16.54	16.89	18.02	19.33	18.70	19.06
1992 January .....	13.99	14.32	15.28	16.80	16.10	16.50
February .....	14.04	14.68	15.60	16.54	16.00	16.30
March .....	14.12	14.96	16.00	16.71	16.36	16.56
April .....	15.36	16.57	17.40	17.88	17.37	17.66
May .....	16.38	17.56	18.38	18.86	18.79	18.83
June .....	17.96	18.38	19.44	20.13	19.83	19.99
July .....	17.80	18.01	19.13	20.42	19.74	20.10
August .....	17.07	17.65	18.74	19.84	19.25	19.56
September .....	17.20	18.04	18.90	19.88	19.26	19.59
October .....	17.16	17.68	18.75	19.64	19.34	19.49
November .....	16.00	16.49	17.64	18.90	18.40	18.66
December .....	14.94	15.62	16.58	17.85	16.94	17.43
Average .....	15.99	16.77	17.75	18.63	18.20	18.43
1993 January .....	14.64	15.24	16.34	17.40	16.78	17.10
February .....	15.47	16.09	17.12	17.84	17.41	17.64
March .....	15.88	16.61	17.56	18.31	17.82	18.08
April .....	16.08	16.39	17.58	18.49	18.35	18.42
May .....	15.97	16.27	17.35	18.43	17.89	18.16
June .....	15.00	15.12	16.31	17.70	16.80	17.26
July .....	13.78	14.23	15.44	16.36	15.82	16.10
August .....	13.69	14.21	15.26	16.03	15.62	15.84
September .....	13.39	14.19	15.00	15.82	15.32	15.59
October .....	13.87	14.21	15.07	16.04	15.59	15.81
November .....	12.65	12.87	R 13.79	14.99	14.05	14.51
December .....	R 10.38	R 11.65	R 12.29	12.45	12.56	12.51
Average .....	R 14.23	R 14.75	R 15.73	16.66	16.14	16.41
1994 January .....	10.51	12.01	12.61	12.72	12.97	12.85

<sup>a</sup> See Note 4 at end of section.

<sup>b</sup> See Note 1 at end of section.

<sup>c</sup> See Note 2 at end of section.

<sup>d</sup> See Note 3 at end of section.

<sup>e</sup> Based on October, November, and December data only.

R=Revised data. E=Estimate.

Notes: • Geographic coverage is the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, and all U.S. Territories and Possessions. • Values for Domestic First Purchase Price and Refiner Acquisition Cost for the current month and for F.O.B. and Landed Costs of Imports for the current 2 months are preliminary. • F.O.B. and landed costs through 1980 reflect the period of reporting; prices after 1980 reflect the period of loading. • Annual averages are the averages of the monthly prices, weighted by volume.

Sources: • Domestic First Purchase Price: 1973-1978—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*, "Crude Petroleum and Petroleum Products" chapter. 1977—Federal Energy Administration (FEA), based on Form FEA-P124, "Domestic Crude Oil

Purchaser's Monthly Report." 1978 forward—Energy Information Administration (EIA), *Petroleum Marketing Monthly*, April 1994, Table 1.

• F.O.B. and Landed Cost of Imports: October 1973-September 1977—FEA, Form FEA-F701-M-0, "Transfer Pricing Report." October-December 1977—EIA, Form FEA-F701-M-0, "Transfer Pricing Report." 1978 forward—EIA, *Petroleum Marketing Monthly*, April 1994, Table 1.

• Refiner Acquisition Cost: 1973—EIA estimates. The domestic price was derived by adding estimated transportation costs to the reported domestic first purchase price. The imported price was derived by adding an estimated ocean transport cost to the average "Free Alongside Ship" value published by the U.S. Bureau of the Census. 1974-1976—DOI, BOM, *Minerals Yearbook*, "Crude Petroleum and Petroleum Products" chapter. 1977—January-September—FEA, based on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report." October-December—EIA, based on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report." 1978 forward—EIA, *Petroleum Marketing Monthly*, April 1994, Table 1.

**Table 9.2 F.O.B. Costs of Crude Oil Imports from Selected Countries**  
(Dollars per Barrel)

	Algeria	Indonesia	Iran	Mexico	Nigeria	Saudi Arabia	United Kingdom	Venezuela	Other Countries	Arab OPEC <sup>a</sup>	Total OPEC <sup>b</sup>
1973 Average <sup>c</sup> ....	7.23	5.67	4.24	NA	7.81	3.25	NA	5.39	4.84	4.06	5.43
1974 Average ....	13.23	11.99	10.85	W	12.44	10.17	NA	10.71	10.02	10.96	11.33
1975 Average ....	11.93	12.55	10.81	11.44	11.82	10.87	NA	11.04	10.86	11.18	11.34
1976 Average ....	13.05	12.76	11.61	12.22	13.08	11.62	W	11.39	11.92	12.06	12.23
1977 Average ....	14.35	13.57	12.68	13.42	14.44	12.38	14.11	12.63	13.19	13.13	13.29
1978 Average ....	14.12	13.61	12.65	13.24	14.05	12.70	13.82	12.38	13.35	13.28	13.31
1979 Average ....	20.53	19.03	22.93	20.27	21.69	17.28	21.70	16.90	21.10	19.27	19.88
1980 Average ....	36.67	32.17	NA	31.06	35.93	28.17	34.36	24.81	34.34	31.57	32.21
1981 Average ....	39.08	35.62	(d)	33.01	36.31	32.60	36.06	28.95	36.69	34.79	35.17
1982 Average ....	34.20	35.11	30.97	28.08	35.13	33.73	33.42	23.74	31.96	33.84	33.48
1983 Average ....	30.09	29.92	28.39	25.20	29.81	27.53	29.91	21.48	27.96	28.28	28.46
1984 Average ....	28.34	29.13	27.42	26.39	29.51	27.67	28.87	24.23	27.79	27.79	27.79
1985 Average ....	26.89	27.12	W	25.33	28.04	22.04	27.64	23.64	26.12	24.34	25.67
1986 Average ....	13.62	13.19	W	11.84	14.35	11.36	13.84	10.92	13.32	11.59	12.21
1987 Average ....	16.79	17.40	W	16.36	18.47	15.12	18.28	15.08	17.11	15.80	16.43
1988 Average ....	W	13.81	(d)	12.18	15.16	12.16	14.80	12.96	13.45	12.57	13.43
1989 Average ....	W	17.01	(d)	15.98	18.31	16.29	17.89	16.09	17.12	16.72	17.06
1990 Average ....	W	21.29	(d)	19.26	22.46	20.36	23.43	19.55	19.88	18.84	20.40
1991 Average ....	W	18.69	15.58	15.37	20.29	14.62	20.81	14.91	17.79	15.59	16.99
1992 January ....	W	W	(d)	12.45	18.58	W	(d)	12.32	15.44	14.07	14.50
February ....	W	W	(d)	12.40	18.28	14.61	W	12.53	16.04	15.35	15.04
March ....	(d)	W	(d)	12.68	18.10	14.87	W	12.45	16.01	15.20	15.28
April ....	W	16.23	(d)	14.11	19.59	W	W	14.38	17.10	17.26	17.25
May ....	W	W	(d)	16.05	20.47	17.61	W	15.03	18.35	18.13	17.83
June ....	W	W	(d)	17.09	21.42	W	20.14	15.33	19.20	17.95	18.44
July ....	W	W	(d)	16.88	20.83	17.60	W	15.10	18.74	18.20	18.09
August ....	W	W	(d)	16.36	20.33	W	20.00	15.38	18.43	17.99	17.69
September ...	(d)	W	(d)	16.88	20.84	16.69	20.20	16.21	18.65	17.11	18.01
October ....	(d)	W	(d)	16.90	20.76	W	W	15.40	18.70	15.89	17.42
November ....	(d)	W	(d)	15.78	20.00	14.62	19.82	13.82	17.57	15.12	15.97
December ....	W	W	(d)	14.79	18.42	15.62	W	13.38	16.13	15.91	15.60
Average ....	W	17.06	(d)	15.26	19.98	15.85	19.61	14.39	17.65	16.50	16.87
1993 January ....	(d)	W	(d)	14.14	17.95	15.55	18.29	12.99	15.17	15.60	15.62
February ....	(d)	W	(d)	14.64	19.06	16.17	18.13	13.68	16.51	16.39	16.49
March ....	W	W	(d)	15.17	19.33	16.45	18.51	14.22	16.85	16.83	16.92
April ....	(d)	W	(d)	15.04	19.19	16.03	18.36	14.52	16.90	16.24	16.59
May ....	(d)	19.14	(d)	15.15	18.92	14.54	18.29	13.89	16.73	15.03	16.32
June ....	(d)	W	(d)	14.06	18.01	W	17.15	12.47	15.89	14.29	14.94
July ....	W	16.48	(d)	13.09	17.46	W	16.07	11.96	14.96	13.56	14.18
August ....	(d)	17.74	(d)	13.20	17.42	W	16.73	12.56	14.68	14.40	14.24
September ...	W	W	(d)	13.50	16.72	W	16.06	12.72	14.29	13.97	14.37
October ....	W	W	(d)	13.76	17.02	12.88	16.31	11.87	14.88	14.03	13.94
November ....	W	W	(d)	12.24	15.80	10.58	15.29	9.97	R 13.87	11.87	12.37
December ....	W	W	(d)	R 11.19	14.21	W	R 14.33	R 9.34	R 11.84	R 11.32	R 11.40
Average ....	W	R 17.16	(d)	R 13.74	R 17.78	R 14.27	R 16.62	R 12.48	R 15.20	R 14.62	R 14.84
1994 January ....	W	W	(d)	11.29	14.88	10.59	W	10.86	12.11	11.12	12.34

<sup>a</sup> The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

<sup>b</sup> Current members of OPEC are Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members. Prior to 1993, Ecuador was also a member. The cost of imports from the Neutral Zone between Kuwait and Saudi Arabia is included in the cost of imports from "Total OPEC."

<sup>c</sup> Based on October, November, and December data only.

<sup>d</sup> No data reported.

R=Revised data. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: • The Free on Board (F.O.B.) cost at the country of origin excludes all costs related to insurance and transportation. See Note 2 at end of section. • Values for the current 2 months are preliminary. • Prices through

1980 reflect the period of reporting; prices after 1980 reflect the period of loading. • Annual averages are averages of the monthly prices, including prices not published, weighted by volume. • Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported.

Sources: • October 1973-September 1977: Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report." • October 1977-December 1977: Energy Information Administration (EIA), Form FEA-F701-M-0, "Transfer Pricing Report." • 1978 forward: EIA, *Petroleum Marketing Monthly*, April 1994, Table 21.

**Table 9.3 Landed Costs of Crude Oil Imports from Selected Countries**  
(Dollars per Barrel)

	Algeria	Canada	Indonesia	Iran	Mexico	Nigeria	Saudi Arabia	United Kingdom	Venezuela	Other Countries	Arab OPEC <sup>a</sup>	Total OPEC <sup>b</sup>
1973 Average <sup>c</sup> ....	8.39	5.33	7.22	6.48	NA	9.08	5.37	NA	8.99	8.99	5.92	8.85
1974 Average ....	13.97	11.48	13.20	12.48	W	13.16	11.83	NA	11.25	12.93	12.39	12.49
1975 Average ....	12.88	12.84	13.83	12.51	12.61	12.70	12.50	NA	12.38	12.86	12.71	12.70
1976 Average ....	13.90	13.38	13.65	12.86	12.64	13.81	13.08	W	11.89	13.36	13.31	13.32
1977 Average ....	15.24	14.13	14.65	13.86	13.82	15.29	13.89	14.83	13.11	14.56	14.30	14.35
1978 Average ....	14.93	14.41	14.65	13.80	13.56	14.88	13.94	14.53	12.84	14.58	14.36	14.34
1979 Average ....	21.88	20.22	20.63	24.21	20.77	22.97	18.95	22.97	17.65	22.86	20.79	21.29
1980 Average ....	37.92	30.11	33.92	NA	31.77	37.15	29.80	35.68	25.92	38.15	32.97	33.56
1981 Average ....	40.46	32.32	37.31	(d)	33.70	38.66	34.20	37.29	29.91	38.54	38.22	38.60
1982 Average ....	35.35	27.15	36.70	32.46	28.63	36.16	34.99	34.25	24.93	34.03	35.15	34.81
1983 Average ....	31.26	25.63	31.57	29.81	25.78	30.85	29.27	30.87	22.94	29.88	29.87	29.84
1984 Average ....	29.06	26.56	30.87	28.70	28.85	30.36	29.20	29.45	25.19	29.21	29.10	29.06
1985 Average ....	27.51	25.71	28.67	25.79	25.63	28.96	24.72	28.36	24.43	27.33	25.90	28.86
1986 Average ....	14.82	13.43	14.63	12.38	12.17	15.29	12.84	14.63	11.52	14.25	13.14	13.46
1987 Average ....	17.87	17.04	18.49	18.26	16.69	19.32	16.81	18.78	15.76	18.30	17.32	17.64
1988 Average ....	W	13.50	15.15	W	12.58	15.88	13.37	15.82	13.66	14.45	13.60	14.18
1989 Average ....	19.13	16.81	18.35	(d)	18.35	19.19	17.34	18.74	16.78	18.08	17.41	17.78
1990 Average ....	W	20.48	22.50	(d)	19.84	23.33	21.82	22.85	20.31	20.52	20.64	21.23
1991 Average ....	W	17.16	20.20	17.54	15.89	21.39	17.22	21.37	15.92	19.73	17.45	18.08
1992 January ....	W	14.83	W	(d)	13.02	19.34	14.81	W	13.20	17.48	15.16	15.38
February ....	W	15.57	W	(d)	12.78	19.10	15.81	W	13.47	17.84	15.85	15.87
March ....	(d)	15.68	W	(d)	13.06	19.05	16.05	18.83	13.41	17.44	16.14	16.29
April ....	W	16.42	17.76	(d)	14.40	20.32	18.01	18.87	15.06	18.10	18.11	18.07
May ....	W	17.35	17.68	(d)	16.39	21.25	18.62	19.99	15.73	19.58	18.80	18.65
June ....	W	18.40	19.60	(d)	17.41	22.11	19.49	20.85	18.01	20.93	19.60	19.57
July ....	W	18.50	21.08	(d)	17.20	21.49	19.00	21.45	15.78	20.49	19.15	19.06
August ....	W	18.28	21.26	(d)	16.74	21.05	18.45	21.37	16.10	20.10	18.79	18.70
September ....	(d)	18.35	W	(d)	17.34	21.57	18.45	20.72	16.89	20.12	18.51	18.83
October ....	W	18.35	W	(d)	17.26	21.60	17.96	21.17	16.14	20.09	18.08	18.56
November ....	(d)	17.26	W	(d)	16.18	20.79	17.02	21.00	14.51	19.25	17.05	17.28
December ....	W	15.85	W	(d)	15.12	19.32	16.64	19.48	14.07	17.80	16.89	16.82
Average ....	W	17.04	18.78	(d)	15.80	20.78	17.48	20.63	15.13	19.25	17.83	17.81
1993 January ....	(d)	15.27	W	(d)	14.50	18.96	16.36	19.12	14.07	17.21	16.39	16.64
February ....	(d)	15.84	W	(d)	14.98	19.92	17.29	19.28	14.60	18.17	17.29	17.43
March ....	W	16.48	W	(d)	15.50	20.25	17.56	19.43	15.14	18.43	17.63	17.83
April ....	W	16.79	19.89	(d)	15.55	20.18	17.56	19.32	15.54	18.48	17.55	17.77
May ....	W	16.82	20.57	(d)	15.57	19.79	16.64	19.33	14.91	18.41	16.79	17.30
June ....	(d)	16.25	W	(d)	14.50	18.93	15.72	18.87	13.53	17.44	15.86	16.03
July ....	W	15.30	17.86	(d)	13.44	18.31	14.94	17.51	12.92	16.44	14.96	15.30
August ....	(d)	14.94	19.28	(d)	13.66	18.08	15.11	17.56	13.32	16.01	15.11	15.24
September ....	W	14.56	W	(d)	13.81	17.82	14.62	17.04	13.46	15.56	14.56	14.96
October ....	W	15.14	W	(d)	14.11	17.96	14.46	18.67	12.70	15.71	14.60	14.81
November ....	W	14.28	W	(d)	12.60	18.70	R 12.89	16.57	10.81	R 14.71	R 13.03	R 13.25
December ....	W	12.44	R 15.72	(d)	R 11.39	15.08	R 11.61	R 15.16	R 10.14	R 12.71	R 11.53	R 11.97
Average ....	17.34	15.27	R 18.47	(d)	R 14.10	R 18.72	R 15.43	R 17.91	R 13.39	R 16.45	R 15.31	R 15.69
1994 January ....	W	12.00	W	(d)	11.64	15.57	11.57	14.98	11.73	13.34	11.78	12.79

<sup>a</sup> The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

<sup>b</sup> Current members of OPEC are Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members. Prior to 1993, Ecuador was also a member. The cost of imports from the Neutral Zone between Kuwait and Saudi Arabia is included in the cost of imports from "Total OPEC."

<sup>c</sup> Based on October, November, and December data only.

<sup>d</sup> No data reported.

R=Revised data. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: • See Note 3 at end of section. • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices

since then reflect the period of loading. • Annual averages are averages of the monthly prices, including prices not published, weighted by volume.

• Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported.

Sources: • October 1973-September 1977: Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report." • October 1977-December 1977: Energy Information Administration (EIA), Form FEA-F701-M-0, "Transfer Pricing Report." • 1978 forward: EIA, *Petroleum Marketing Monthly*, April 1994, Table 22.

**Table 9.4 Motor Gasoline Retail Prices, U.S. City Average**  
 (Cents per Gallon, Including Taxes)

	Leaded Regular	Unleaded Regular	Unleaded Premium	All Types <sup>a</sup>
1973 Average .....	38.8	NA	NA	NA
1974 Average .....	53.2	NA	NA	NA
1975 Average .....	56.7	NA	NA	NA
1976 Average .....	59.0	61.4	NA	NA
1977 Average .....	62.2	65.6	NA	NA
1978 Average .....	62.6	67.0	NA	65.2
1979 Average .....	65.7	90.3	NA	88.2
1980 Average .....	119.1	124.5	NA	122.1
1981 Average <sup>b</sup> .....	131.1	137.8	147.0	135.3
1982 Average .....	122.2	129.6	141.5	128.1
1983 Average .....	115.7	124.1	138.3	122.5
1984 Average .....	112.9	121.2	136.8	119.8
1985 Average .....	111.5	120.2	134.0	119.6
1986 Average .....	85.7	92.7	108.5	93.1
1987 Average .....	89.7	94.8	109.3	95.7
1988 Average .....	89.9	94.6	110.7	96.3
1989 Average .....	98.8	102.1	118.7	106.0
1990 Average .....	114.9	116.4	134.9	121.7
1991 Average .....	NA	114.0	132.1	119.6
1992 January .....	NA	107.3	126.7	113.5
February .....	NA	105.4	124.8	111.7
March .....	NA	105.8	125.0	112.2
April .....	NA	107.9	126.8	114.3
May .....	NA	113.6	131.7	119.7
June .....	NA	117.9	135.9	123.9
July .....	NA	117.5	136.3	123.8
August .....	NA	115.8	134.8	122.1
September .....	NA	115.8	134.6	122.2
October .....	NA	115.4	134.5	121.9
November .....	NA	115.9	135.1	122.3
December .....	NA	113.6	133.0	120.1
Average .....	NA	112.7	131.6	119.0
1993 January .....	NA	111.7	131.3	118.2
February .....	NA	110.8	130.1	117.2
March .....	NA	109.8	129.4	116.3
April .....	NA	111.2	130.4	117.5
May .....	NA	112.9	131.9	119.3
June .....	NA	113.0	132.1	119.4
July .....	NA	110.9	130.5	117.4
August .....	NA	109.7	129.4	116.3
September .....	NA	108.5	128.2	115.1
October .....	NA	112.7	132.3	119.3
November .....	NA	111.3	130.5	117.8
December .....	NA	107.0	126.8	113.8
Average .....	NA	110.8	130.2	117.3
1994 January .....	NA	104.3	124.0	110.9
February .....	NA	105.1	124.5	111.4

<sup>a</sup> Also includes types of motor gasoline not shown separately.

<sup>b</sup> In September 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. From September 1981 forward, gasohol is included in the average for all types, and unleaded premium is weighted more heavily.

c September through December data only.

NA=Not available.

Notes: • See Note 5 at end of section. • Geographic coverage for

1973-1977 is 56 urban areas. Geographic coverage for 1978 forward is 85 urban areas.

Sources: • Monthly Data: U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Prices: Energy*. • Annual Data: 1973—Platt's Oil Price Handbook and Oilmanac, 1974, 51st Edition. 1974 forward—calculated by the Energy Information Administration as the simple averages of monthly data.

**Table 9.5 Refiner Prices of Residual Fuel Oil**  
 (Cents per Gallon, Excluding Taxes)

	Residual Fuel Oil Sulfur Content Less Than or Equal to 1 Percent		Residual Fuel Oil Sulfur Content Greater Than 1 Percent		Average	
	Sales for Resale	Sales to End Users	Sales for Resale	Sales to End Users	Sales for Resale	Sales to End Users
1978 Average .....	29.3	31.4	24.5	27.5	28.3	29.8
1979 Average .....	45.0	46.8	36.6	38.9	39.9	43.6
1980 Average .....	60.8	67.5	47.9	52.3	52.8	60.7
1981 Average .....	74.8	82.9	62.2	67.3	66.3	75.6
1982 Average .....	69.5	74.7	57.2	61.1	61.2	67.6
1983 Average .....	64.3	69.5	59.1	61.1	60.9	65.1
1984 Average .....	68.5	72.0	63.9	65.9	65.4	68.7
1985 Average .....	61.0	64.4	56.0	58.2	57.7	61.0
1986 Average .....	32.8	37.2	28.9	31.7	30.5	34.3
1987 Average .....	41.2	44.7	36.2	39.6	38.5	42.3
1988 Average .....	33.3	37.2	27.1	30.0	30.0	33.4
1989 Average .....	40.7	43.6	33.1	34.4	36.0	38.5
1990 Average .....	47.2	50.5	37.2	40.0	41.3	44.4
1991 Average .....	36.4	40.2	28.2	30.6	31.4	34.0
1992 January .....	30.3	35.7	21.1	24.7	24.4	28.8
February .....	32.7	36.2	20.9	23.6	25.6	27.7
March .....	30.8	34.8	21.1	24.4	24.6	27.7
April .....	31.6	35.3	25.2	27.5	27.4	29.6
May .....	33.1	37.2	29.1	32.0	30.2	33.4
June .....	35.9	38.8	30.7	33.1	32.5	34.5
July .....	38.0	41.4	33.3	34.9	34.7	36.7
August .....	37.7	42.1	33.2	37.0	34.7	38.8
September .....	37.9	42.0	32.9	35.3	34.8	37.5
October .....	41.4	44.7	35.5	37.3	37.4	39.2
November .....	39.2	42.8	33.8	37.6	35.9	39.4
December .....	35.9	40.2	28.1	33.4	30.6	36.2
Average .....	35.4	38.9	28.4	31.3	30.7	33.8
1993 January .....	36.6	40.8	27.2	32.4	31.2	35.3
February .....	35.5	40.8	27.1	30.8	31.1	34.4
March .....	39.0	42.6	27.5	31.6	32.9	35.6
April .....	38.4	43.6	29.2	32.2	33.6	36.3
May .....	34.7	41.9	27.8	34.1	31.0	36.8
June .....	33.7	40.6	26.4	31.5	30.0	34.7
July .....	32.7	41.9	24.6	28.5	27.4	33.2
August .....	31.5	37.2	23.7	28.7	26.9	31.9
September .....	31.9	37.7	24.0	28.6	26.8	31.5
October .....	32.4	38.7	25.7	29.4	28.7	32.0
November .....	31.0	38.7	23.6	27.0	26.7	29.9
December .....	27.4	35.6	R 21.9	25.8	R 24.9	29.2
Average .....	33.8	40.3	R 25.8	30.2	R 29.4	33.6
1994 January .....	33.7	39.7	23.6	27.7	28.7	32.5

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers, such as agriculture, industry, and electric utilities, as well as commercial customers. • Geographic

coverage is the 50 States and the District of Columbia. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly*, April 1994, Table 17.

**Table 9.6 Refiner Prices of Petroleum Products for Resale  
(Cents per Gallon, Excluding Taxes)**

	Finished Motor Gasoline <sup>a</sup>	Finished Aviation Gasoline	Kerosene-Type Jet Fuel	Kerosene	No. 2 Fuel Oil	No. 2 Diesel Fuel	Propane (Consumer Grade)
1978 Average .....	43.4	53.7	38.6	40.4	36.9	36.5	23.7
1979 Average .....	63.7	72.1	66.0	62.4	56.9	57.4	29.1
1980 Average .....	94.1	112.8	86.8	86.4	80.3	80.1	41.5
1981 Average .....	106.4	125.0	101.2	106.6	97.6	97.2	46.6
1982 Average .....	97.3	122.8	95.3	101.8	91.4	91.4	42.7
1983 Average .....	88.2	117.8	85.4	89.2	81.5	80.8	48.4
1984 Average .....	83.2	116.5	83.0	91.6	82.1	80.3	45.0
1985 Average .....	83.5	113.0	79.4	87.4	77.6	77.2	39.8
1986 Average .....	53.1	91.2	49.5	60.6	48.6	45.2	29.0
1987 Average .....	58.9	85.9	53.8	59.2	52.7	53.4	25.2
1988 Average .....	57.7	85.0	49.5	54.9	47.3	47.3	24.0
1989 Average .....	65.4	95.0	58.3	66.9	58.5	56.7	24.7
1990 Average .....	78.6	106.3	77.3	83.9	69.7	69.4	38.6
1991 Average .....	69.9	100.1	65.0	72.2	62.2	61.5	34.9
1992 January .....	60.0	94.9	53.9	59.9	51.9	51.4	30.9
February .....	61.7	93.1	55.2	62.0	54.0	54.1	30.2
March .....	62.7	92.5	54.6	59.1	53.7	54.0	29.5
April .....	66.6	96.4	56.9	61.6	56.5	57.0	29.0
May .....	71.5	100.5	60.8	62.1	58.8	60.1	29.4
June .....	74.2	101.5	63.3	63.7	61.7	62.7	31.6
July .....	71.0	102.0	64.8	65.7	61.3	61.8	31.5
August .....	70.6	102.6	63.9	64.2	60.1	60.4	32.9
September .....	71.0	102.3	64.3	68.8	62.7	63.3	35.4
October .....	70.4	100.5	66.0	70.1	64.6	65.5	36.6
November .....	68.1	99.7	61.5	64.5	58.8	60.4	36.2
December .....	63.8	97.6	58.9	62.8	55.7	56.4	36.3
Average .....	67.7	99.1	60.4	63.2	57.9	59.0	32.8
1993 January .....	63.8	96.9	57.7	61.4	54.4	54.9	40.2
February .....	63.8	96.5	60.5	63.7	56.9	57.4	36.7
March .....	65.2	97.4	60.3	65.4	59.0	60.0	38.2
April .....	67.7	97.7	59.9	60.8	57.5	59.9	36.2
May .....	69.2	99.4	60.1	58.3	56.9	59.8	34.0
June .....	66.2	99.1	58.4	56.9	54.9	57.2	33.8
July .....	62.7	97.9	55.1	53.6	51.0	53.1	33.3
August .....	62.9	96.9	55.2	55.6	51.0	53.2	33.3
September .....	61.5	96.3	56.8	58.8	54.8	58.8	34.1
October .....	61.7	94.8	60.7	65.6	58.9	66.0	34.7
November .....	56.8	92.7	58.6	62.4	53.5	59.1	33.6
December .....	50.1	R 86.7	51.1	R 53.6	45.0	46.8	30.9
Average .....	62.5	96.4	57.7	R 60.4	54.5	57.1	35.1
1994 January .....	52.2	87.5	52.8	65.7	51.1	49.1	32.3

\* See Note 5 at end of section.

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are shown in Table 9.7; they are sales made directly to the ultimate consumer, including bulk customers, such as agriculture, industry, and electric utilities, as well as residential and

commercial customers. • Geographic coverage is the 50 States and the District of Columbia. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly*, April 1994, Table 4.

**Table 9.7 Refiner Prices of Petroleum Products to End Users**  
 (Cents per Gallon, Excluding Taxes)

	Finished Motor Gasoline <sup>a</sup>	Finished Aviation Gasoline	Kerosene- Type Jet Fuel	Kerosene	No. 2 Fuel Oil	No. 2 Diesel Fuel	Propane (Consumer Grade)
1978 Average .....	48.4	51.6	38.7	42.1	40.0	37.7	33.5
1979 Average .....	71.3	68.9	54.7	58.5	51.6	58.5	35.7
1980 Average .....	103.5	108.4	86.8	90.2	78.8	81.8	49.2
1981 Average .....	114.7	130.3	102.4	112.3	91.4	99.5	58.5
1982 Average .....	108.0	131.2	96.3	108.9	90.5	94.2	59.2
1983 Average .....	95.4	125.5	87.8	98.1	91.6	82.6	70.0
1984 Average .....	90.7	123.4	84.2	103.6	91.6	82.3	73.7
1985 Average .....	91.2	120.1	79.6	103.0	84.9	78.9	71.7
1986 Average .....	62.4	101.1	52.9	79.0	58.0	47.8	74.5
1987 Average .....	66.9	90.7	54.3	77.0	58.1	55.1	70.1
1988 Average .....	67.3	89.1	51.3	73.8	54.4	50.0	71.4
1989 Average .....	75.6	99.5	58.2	70.9	58.7	58.5	61.5
1990 Average .....	88.3	112.0	76.6	92.3	73.4	72.5	74.5
1991 Average .....	79.7	104.7	65.2	83.8	68.5	64.8	73.0
1992 January .....	71.9	98.5	54.2	83.3	59.7	55.5	71.3
February .....	70.8	98.5	56.5	78.3	62.0	57.1	NA
March .....	71.6	98.0	55.5	80.2	61.4	56.8	66.4
April .....	75.2	99.1	57.3	78.3	60.6	59.2	70.3
May .....	80.8	102.4	61.0	73.3	60.9	62.1	62.5
June .....	84.5	106.4	63.9	68.7	62.9	64.9	54.5
July .....	83.5	106.8	64.9	70.5	62.8	64.5	52.3
August .....	82.3	105.7	64.2	69.0	62.3	63.4	55.8
September .....	82.3	104.9	64.6	70.5	65.6	65.3	60.3
October .....	81.3	104.3	66.4	87.2	68.2	67.8	59.9
November .....	81.5	103.4	62.7	83.3	64.3	64.5	61.1
December .....	78.5	101.3	58.9	84.0	63.6	60.8	68.4
Average .....	78.4	102.7	61.0	78.6	62.7	61.8	66.2
1993 January .....	76.9	100.3	58.5	82.4	62.7	59.0	74.8
February .....	76.1	99.9	59.8	81.3	64.6	60.6	74.3
March .....	75.7	99.4	60.6	83.2	68.2	62.9	75.4
April .....	77.8	100.7	59.7	77.0	61.9	62.5	69.4
May .....	80.1	102.2	59.9	68.8	59.8	62.3	67.3
June .....	79.8	102.5	58.7	65.3	57.9	60.5	63.9
July .....	77.6	99.7	55.3	61.4	54.1	56.9	62.2
August .....	76.2	98.8	54.6	61.9	54.6	56.2	63.1
September .....	74.9	98.2	56.9	66.5	57.3	60.4	62.8
October .....	75.4	98.0	61.4	75.5	63.4	67.0	55.1
November .....	72.8	95.7	59.6	79.4	61.5	62.7	57.9
December .....	R 68.0	91.2	51.2	72.6	55.9	52.4	R 64.8
Average .....	76.0	99.0	57.9	75.4	60.2	60.3	R 68.1
1994 January .....	66.7	88.6	51.6	79.3	59.7	52.7	67.5

<sup>a</sup> See Note 5 at end of section.

R=Revised data. NA=Not available.

Notes: • Sales to end users are those made directly to the ultimate consumer, including bulk customers, such as agriculture, industry, and electric utilities, as well as residential and commercial customers. Sales for resale are shown in Table 9.6; they are sales made to purchasers other than

ultimate consumers. • Geographic coverage is the 50 States and the District of Columbia. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly*, April 1994, Table 2.

**Table 9.8a No. 2 Distillate Prices to Residences: Northeastern States**  
 (Cents per Gallon, Excluding Taxes)

	Maine	New Hampshire	Vermont	Massachusetts	Rhode Island	Connecticut	New York	New Jersey	Pennsylvania
1978 Average .....	48.6	50.3	50.8	48.8	50.7	50.1	50.1	49.6	48.8
1979 Average .....	68.8	72.5	72.5	70.9	72.8	72.0	71.2	71.0	69.8
1980 Average .....	96.3	100.4	101.5	97.8	101.1	98.3	98.2	97.9	96.4
1981 Average .....	120.4	123.7	125.4	121.3	123.8	121.7	123.2	121.5	118.1
1982 Average .....	115.5	117.4	120.1	117.6	120.1	118.3	120.5	117.4	113.7
1983 Average .....	102.8	104.1	112.9	109.1	110.5	109.1	112.1	107.9	105.8
1984 Average .....	103.9	108.4	111.9	111.6	111.4	112.1	115.5	111.0	107.9
1985 Average .....	99.7	102.4	107.7	107.0	106.7	108.0	111.3	105.9	102.3
1986 Average .....	74.4	75.9	86.6	82.1	82.8	89.0	91.1	90.2	81.4
1987 Average .....	74.7	76.5	81.1	80.6	82.5	83.4	85.2	84.3	76.9
1988 Average .....	77.7	78.2	82.6	82.1	83.6	85.3	86.3	84.8	77.8
1989 Average .....	89.4	89.3	90.5	92.6	93.9	92.9	95.8	91.8	85.1
1990 Average .....	98.9	102.8	107.0	108.4	108.6	109.8	112.5	108.7	102.6
1991 Average .....	96.0	91.6	101.9	103.0	99.9	106.2	111.3	104.0	99.7
1992 January .....	87.7	88.1	92.4	93.2	90.7	96.4	103.4	95.6	91.4
February .....	88.2	86.5	92.8	92.5	91.7	95.5	103.8	95.1	91.5
March .....	86.4	83.3	92.2	91.5	90.9	94.0	102.1	93.5	90.1
April .....	85.5	81.8	91.7	91.4	90.4	93.3	101.1	92.9	89.4
May .....	85.5	81.7	91.5	91.0	90.9	93.1	101.1	89.2	88.6
June .....	87.1	82.9	90.7	91.3	89.7	91.8	101.7	90.4	86.5
July .....	87.7	82.3	89.1	90.4	89.9	93.1	100.7	90.3	83.0
August .....	87.8	81.8	89.4	89.6	89.4	90.5	99.0	88.1	81.7
September .....	86.8	83.0	91.6	90.7	89.8	91.8	99.7	90.8	84.4
October .....	89.3	87.6	92.0	93.5	92.7	94.9	102.7	94.0	87.5
November .....	88.3	87.6	92.6	93.8	92.5	95.8	104.7	94.6	89.6
December .....	85.7	87.7	92.9	93.5	91.5	95.2	104.3	95.4	89.3
Average .....	87.1	85.6	92.2	92.4	91.2	94.7	102.8	93.9	88.9
1993 January .....	85.2	87.1	93.4	94.0	91.7	94.9	104.3	96.5	89.0
February .....	85.4	87.0	93.3	94.4	91.8	96.2	104.2	96.7	89.1
March .....	86.5	86.6	93.7	94.8	92.4	96.7	104.2	96.2	89.8
April .....	83.0	85.0	91.2	91.3	90.3	93.6	100.1	95.1	89.0
May .....	81.5	83.8	91.2	90.9	90.6	91.7	99.3	91.6	86.6
June .....	80.8	82.5	89.7	88.6	87.6	88.6	97.8	88.0	84.0
July .....	78.2	78.0	85.5	83.9	85.2	86.5	95.2	87.9	78.8
August .....	77.3	76.1	85.6	83.4	82.7	84.0	92.9	85.7	77.0
September .....	78.3	75.2	86.6	83.8	84.1	84.3	93.5	85.9	80.4
October .....	82.8	77.2	86.8	86.1	86.0	88.6	96.1	88.7	83.2
November .....	80.6	77.1	86.1	85.9	87.7	88.9	95.9	89.6	85.2
December .....	R 79.4	R 77.8	R 87.1	R 83.9	R 85.9	R 88.2	R 93.9	R 87.2	R 84.3
Average .....	R 82.5	R 83.0	R 90.4	R 89.6	R 89.3	R 92.0	R 100.1	R 92.5	R 86.4
1994 January .....	83.7	80.9	89.0	87.7	87.9	91.3	97.3	91.9	87.7

R=Revised data.

Notes: • States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. • Values for the current month are preliminary.

• Prices prior to 1983 are Energy Information Administration (EIA) estimates.

See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly*, April 1994, Table 16.

**Table 9.8b No. 2 Distillate Prices to Residences: Selected South Atlantic and Midwestern States**  
 (Cents per Gallon, Excluding Taxes)

	Delaware	District of Columbia	Maryland	Virginia	West Virginia	Ohio	Michigan	Indiana	Illinois	Wisconsin	Minnesota
1978 Average .....	47.8	50.7	49.2	49.1	46.2	47.4	47.9	48.5	48.5	44.7	47.8
1979 Average .....	68.2	74.2	70.1	70.4	65.1	68.6	70.9	72.7	68.8	67.3	72.4
1980 Average .....	95.4	102.6	97.9	98.5	92.2	91.9	97.8	99.6	95.8	91.5	99.9
1981 Average .....	117.3	127.4	121.4	120.5	115.0	113.2	118.3	118.5	114.9	109.1	118.4
1982 Average .....	111.3	124.5	117.1	117.7	109.3	110.2	113.0	114.3	110.9	107.8	115.1
1983 Average .....	106.0	117.0	110.3	108.7	101.0	101.3	106.4	100.7	100.4	101.2	103.1
1984 Average .....	109.6	118.7	113.5	110.5	102.1	102.1	105.0	103.1	100.1	101.0	104.1
1985 Average .....	104.6	114.3	108.8	106.3	98.0	99.7	102.1	99.1	97.5	98.3	101.9
1986 Average .....	85.0	93.1	91.4	86.6	74.6	77.7	81.0	74.8	NA	75.6	79.2
1987 Average .....	79.3	91.8	86.6	79.5	76.4	74.7	77.5	75.4	79.8	75.1	74.6
1988 Average .....	80.1	91.6	87.0	80.5	74.2	74.7	77.5	75.4	77.6	73.9	73.5
1989 Average .....	88.2	98.6	93.8	87.0	83.0	81.6	85.3	83.2	80.9	81.1	82.4
1990 Average .....	105.8	107.8	111.9	110.6	99.1	98.1	100.9	99.3	98.1	94.2	101.4
1991 Average .....	99.7	112.2	108.4	101.1	93.4	91.0	94.2	91.8	92.7	89.5	91.1
1992 January .....	94.4	107.3	101.6	94.3	85.5	82.0	86.6	77.8	85.2	80.1	79.4
February .....	92.7	107.3	100.9	93.7	86.9	83.0	86.5	78.7	85.6	79.8	79.6
March .....	92.4	105.3	100.3	93.7	86.6	82.5	86.6	79.5	88.1	79.2	79.7
April .....	91.5	104.7	99.0	92.6	85.6	82.9	86.7	80.2	88.4	80.4	81.8
May .....	90.2	102.3	97.2	91.7	84.2	83.5	86.4	81.2	89.0	81.5	83.9
June .....	91.4	102.7	97.6	89.6	86.5	85.3	86.1	79.6	90.8	81.9	82.9
July .....	90.6	102.0	95.7	90.2	82.3	81.7	85.0	82.4	87.9	81.1	84.5
August .....	89.5	101.9	95.2	88.4	81.4	82.3	85.7	83.1	86.4	80.6	84.1
September .....	90.3	101.2	95.7	89.4	85.4	84.7	88.2	84.8	88.9	83.6	85.0
October .....	93.7	104.0	98.8	91.9	88.3	86.4	90.0	85.8	90.8	84.1	87.1
November .....	92.8	105.7	100.4	92.1	88.0	84.6	88.2	82.7	90.4	83.7	86.0
December .....	90.9	105.4	100.4	93.3	89.0	84.5	87.9	81.8	88.2	84.3	83.1
Average .....	92.4	105.7	99.9	92.8	86.4	83.6	87.1	81.1	87.6	81.8	82.3
1993 January .....	90.8	105.2	100.5	92.4	88.3	84.2	88.3	81.8	87.2	82.1	82.9
February .....	90.8	106.8	101.3	93.5	88.6	85.5	87.6	82.3	88.2	83.3	83.0
March .....	92.4	108.5	101.6	94.2	89.9	86.6	90.1	83.1	90.0	84.0	83.9
April .....	91.6	107.1	99.2	90.3	86.9	86.9	90.8	84.9	NA	84.7	83.3
May .....	89.4	104.3	96.2	88.6	84.8	86.0	89.8	83.6	84.8	84.9	84.1
June .....	90.9	100.4	95.2	88.0	86.7	85.7	87.4	82.1	81.2	84.2	83.4
July .....	90.2	100.2	92.3	84.7	81.2	79.3	83.4	79.0	79.4	84.1	82.0
August .....	83.5	96.1	91.3	84.0	79.1	78.6	82.1	76.6	77.2	78.7	80.0
September .....	85.0	95.0	92.6	84.9	79.2	81.4	85.5	80.3	80.9	82.8	83.1
October .....	88.6	102.3	94.2	85.0	83.6	85.6	89.7	83.1	87.0	82.0	87.1
November .....	88.3	100.6	95.9	84.4	84.0	84.5	86.6	81.0	82.3	82.6	85.6
December .....	R 88.8	R 100.6	94.6	R 86.3	R 84.7	R 80.9	R 82.1	R 76.6	R 77.8	R 78.7	R 80.5
Average .....	R 90.1	R 104.6	98.1	89.6	85.2	83.9	87.2	81.1	R 84.1	82.3	R 83.3
1994 January .....	92.1	101.9	98.5	89.4	87.5	82.4	85.7	78.7	76.3	78.8	81.1

R=Revised data. NA=Not available.

Notes: • States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. • Values for the current month are preliminary.

• Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly*, April 1994, Table 16.

**Table 9.8c No. 2 Distillate Prices to Residences: Selected Western States and U.S. Average**  
 (Cents per Gallon, Excluding Taxes)

	Idaho	Washington	Oregon	Alaska	U.S. Average
1978 Average .....	43.6	48.6	45.8	53.2	49.0
1979 Average .....	62.1	69.7	68.0	68.2	70.4
1980 Average .....	91.6	100.8	97.3	97.8	97.4
1981 Average .....	110.4	116.5	111.4	118.0	119.4
1982 Average .....	110.4	117.6	111.6	117.4	116.0
1983 Average .....	101.8	109.0	103.6	108.8	107.8
1984 Average .....	98.5	102.6	99.3	106.9	109.1
1985 Average .....	97.2	101.1	97.1	108.3	105.3
1986 Average .....	73.8	77.5	70.4	94.9	83.6
1987 Average .....	68.8	79.5	72.5	86.5	80.3
1988 Average .....	68.8	78.5	70.9	86.9	81.3
1989 Average .....	77.8	87.4	80.2	96.4	90.0
1990 Average .....	87.4	102.9	97.0	110.1	106.3
1991 Average .....	95.1	101.6	93.3	105.0	101.9
1992 January .....	86.1	92.0	85.3	92.7	94.2
February .....	79.2	90.9	83.5	91.1	94.2
March .....	82.2	91.8	82.6	93.0	93.2
April .....	84.2	92.0	85.5	92.1	92.5
May .....	86.1	94.3	88.9	93.6	92.3
June .....	84.6	90.8	89.2	93.9	92.0
July .....	86.1	88.0	87.3	93.0	90.4
August .....	79.4	84.0	84.0	96.8	88.6
September .....	86.0	90.3	87.6	93.4	90.1
October .....	89.6	94.5	91.7	96.8	93.7
November .....	91.7	98.7	92.8	97.7	94.8
December .....	86.8	99.7	91.5	95.8	94.5
Average .....	85.7	94.3	87.8	94.0	93.4
1993 January .....	84.8	100.6	91.7	95.1	94.3
February .....	84.2	101.4	89.9	95.1	94.6
March .....	87.8	99.7	90.7	94.2	95.4
April .....	84.1	101.5	92.1	94.7	92.5
May .....	82.9	100.3	91.3	96.6	91.0
June .....	82.8	95.1	90.2	97.1	88.9
July .....	80.0	91.3	86.1	95.3	85.6
August .....	77.0	89.3	83.5	95.5	84.1
September .....	85.3	97.1	92.0	94.8	85.4
October .....	94.8	105.5	100.2	96.7	88.7
November .....	98.2	104.3	97.4	94.3	88.6
December .....	R 81.2	R 96.7	R 87.9	91.7	R 86.7
Average .....	R 86.1	100.2	R 91.8	94.9	R 91.1
1994 January .....	73.1	94.5	86.3	88.4	89.7

R=Revised data.

Notes: • States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. • Values for the current month are preliminary.

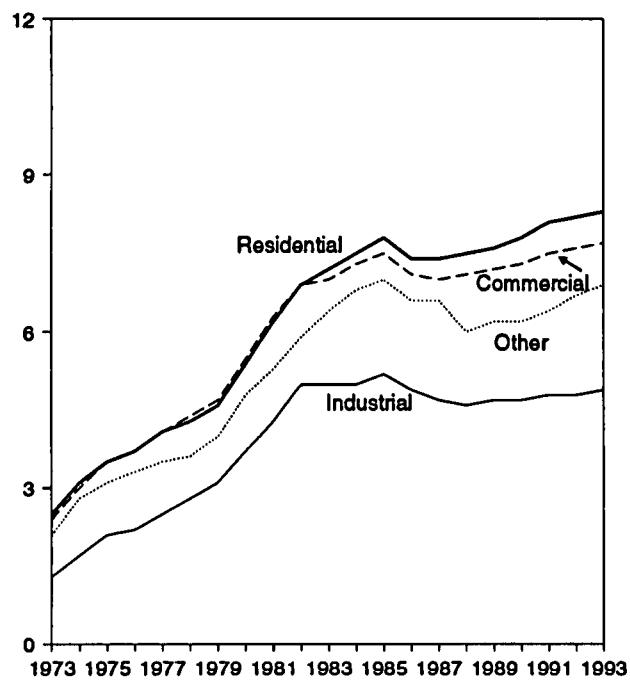
• Prices prior to 1983 are Energy Information Administration (EIA) estimates.

See Note 6 at end of section.

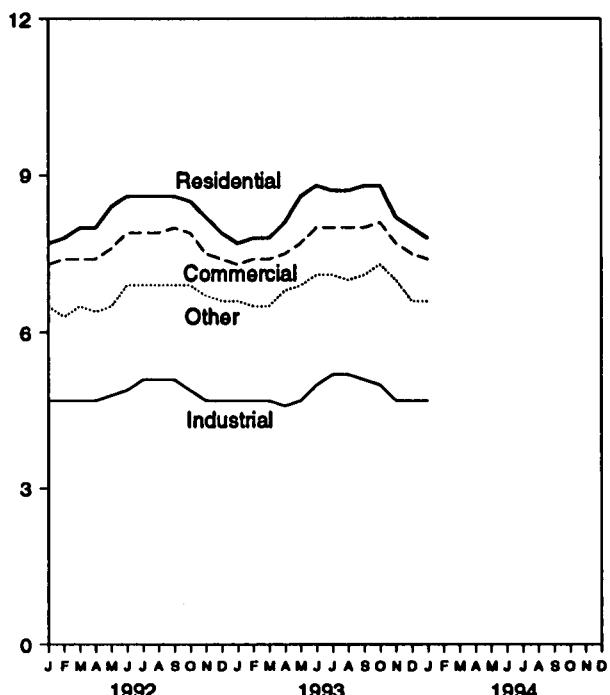
Source: EIA, *Petroleum Marketing Monthly*, April 1994, Table 18.

**Figure 9.2 Electricity Retail Prices**  
(Cents per Kilowatthour)

Prices by Sector, 1973-1993



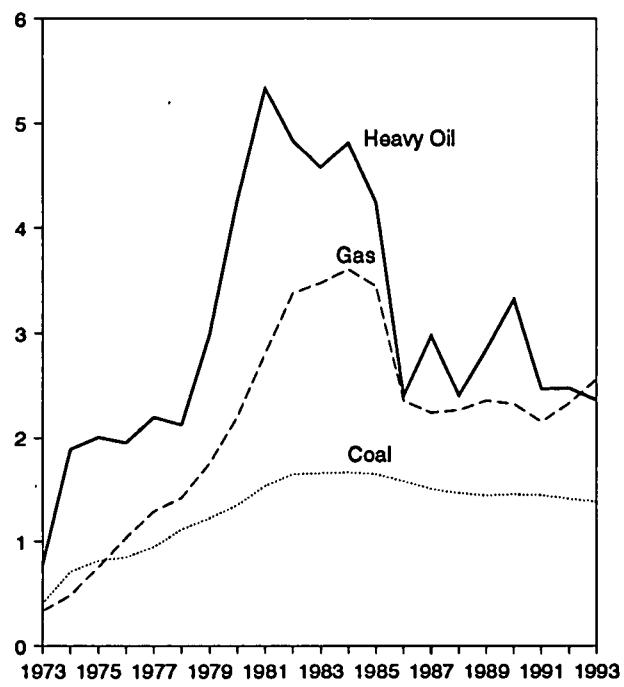
Prices by Sector, Monthly



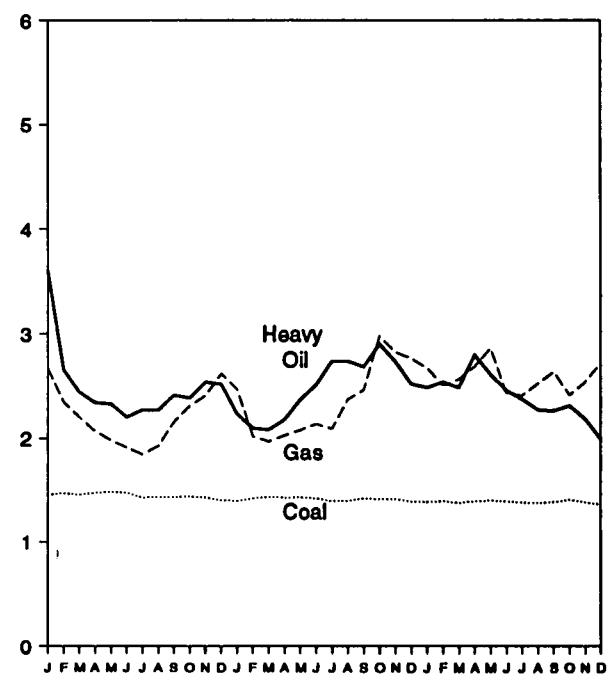
Source: Table 9.9, Monthly Series.

**Figure 9.3 Cost of Fossil-Fuel Receipts at Steam-Electric Plants**  
(Dollars per Million Btu)

Fossil Fuels Costs, 1973-1993



Fossil Fuel Costs, Monthly



Source: Table 9.10.

**Table 9.9 Electricity Retail Prices**  
(Cents per Kilowatthour)

	Residential		Commercial		Industrial		Other <sup>a</sup>		Total <sup>b</sup>	
	Monthly Series <sup>c</sup>	Annual Series								
1973 Average .....	2.5	NA	2.4	NA	1.3	NA	2.1	NA	2.0	NA
1974 Average .....	3.1	NA	3.0	NA	1.7	NA	2.8	NA	2.5	NA
1975 Average .....	3.5	NA	3.5	NA	2.1	NA	3.1	NA	2.9	NA
1976 Average .....	3.7	NA	3.7	NA	2.2	NA	3.3	NA	3.1	NA
1977 Average .....	4.1	NA	4.1	NA	2.5	NA	3.5	NA	3.4	NA
1978 Average .....	4.3	NA	4.4	NA	2.8	NA	3.6	NA	3.7	NA
1979 Average .....	4.6	NA	4.7	NA	3.1	NA	4.0	NA	4.0	NA
1980 Average .....	5.4	NA	5.5	NA	3.7	NA	4.8	NA	4.7	NA
1981 Average .....	6.2	NA	6.3	NA	4.3	NA	5.3	NA	5.5	NA
1982 Average .....	6.9	NA	6.9	NA	5.0	NA	5.9	NA	6.1	NA
1983 Average .....	7.2	NA	7.0	NA	5.0	NA	6.4	NA	6.3	NA
1984 Average .....	7.5	7.2	7.3	7.1	5.0	4.8	6.8	5.9	6.5	6.3
1985 Average .....	7.8	7.4	7.5	7.3	5.2	5.0	7.0	6.1	6.7	6.4
1986 Average .....	7.4	7.4	7.1	7.2	4.9	4.9	6.6	6.1	6.4	6.4
1987 Average .....	7.4	7.4	7.0	7.1	4.7	4.8	6.6	6.2	6.3	6.4
1988 Average .....	7.5	7.5	7.1	7.0	4.8	4.7	6.0	6.2	6.3	6.4
1989 Average .....	7.6	7.6	7.2	7.2	4.7	4.7	6.2	6.2	6.4	6.5
1990 Average .....	7.8	7.8	7.3	7.3	4.7	4.7	6.2	6.4	6.6	6.6
1991 Average .....	8.1	8.0	7.5	7.5	4.8	4.8	6.4	6.5	6.8	6.7
1992 January .....	7.7	—	7.3	—	4.7	—	6.5	—	6.6	—
February .....	7.8	—	7.4	—	4.7	—	6.3	—	6.6	—
March .....	8.0	—	7.4	—	4.7	—	6.5	—	6.6	—
April .....	8.0	—	7.4	—	4.7	—	6.4	—	6.6	—
May .....	8.4	—	7.6	—	4.8	—	6.5	—	6.7	—
June .....	8.6	—	7.9	—	4.9	—	6.9	—	7.0	—
July .....	8.6	—	7.9	—	5.1	—	6.9	—	7.2	—
August .....	8.6	—	7.9	—	5.1	—	6.9	—	7.2	—
September .....	8.6	—	8.0	—	5.1	—	6.9	—	7.2	—
October .....	8.5	—	7.9	—	4.9	—	6.9	—	6.9	—
November .....	8.2	—	7.5	—	4.7	—	6.7	—	6.6	—
December .....	7.9	—	7.4	—	4.7	—	6.6	—	6.7	—
Average .....	8.2	8.2	7.6	7.7	4.8	4.8	6.7	6.7	6.8	6.8
1993 January .....	7.7	—	7.3	—	4.7	—	R 6.6	—	6.6	—
February .....	7.8	—	7.4	—	4.7	—	R 6.5	—	6.6	—
March .....	7.8	—	7.4	—	4.7	—	R 6.5	—	6.6	—
April .....	8.1	—	7.5	—	4.6	—	6.8	—	6.6	—
May .....	8.6	—	7.7	—	4.7	—	6.9	—	6.8	—
June .....	8.8	—	8.0	—	5.0	—	7.1	—	7.1	—
July .....	8.7	—	8.0	—	5.2	—	R 7.1	—	7.4	—
August .....	8.7	—	8.0	—	5.2	—	7.0	—	7.3	—
September .....	8.8	—	8.0	—	5.1	—	7.1	—	7.3	—
October .....	8.8	—	8.1	—	5.0	—	7.3	—	7.2	—
November .....	8.2	—	R 7.7	—	4.7	—	7.0	—	6.7	—
December .....	R 8.0	—	R 7.5	—	4.7	—	6.6	—	R 6.7	—
Average .....	8.3	NA	7.7	NA	4.9	NA	R 6.9	NA	6.9	NA
1994 January .....	7.8	—	7.4	—	4.7	—	6.6	—	6.7	—

a "Other" is public street and highway lighting, other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

b Average price for total sales to ultimate consumers.

c Annual values are the sum of the monthly revenue divided by the sum of the monthly sales. Data through 1979 cover privately owned electric utilities in Classes A and B. Data for 1980-1985 cover selected privately owned electric utilities in Class A whose electric operating revenue was \$100 million or more during the previous year. See Note 7 at end of section.

R=Revised data. NA=Not available. —=Not applicable.

Notes: • Prices are calculated by dividing revenue by sales. Revenue may not correspond to sales for a particular month because of electric utility billing and accounting procedures. That lack of correspondence could result in uncharacteristic increases or decreases in the monthly prices. See Note 7

at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Sources: • Monthly Series: 1973-September 1977—Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income." October 1977-February 1980—Federal Energy Regulatory Commission (FERC), Form FERC-5, "Electric Operating Revenue and Income." March 1980-December 1980—FERC, Form FERC-5, "Electric Utility Company Monthly Statement." 1981—Energy Information Administration (EIA), *Electric Power Monthly*, March 1992, Table 60. 1982 and 1991 monthly data—EIA, *Electric Power Monthly*, March 1993, Table 60. 1983 forward (except 1991 monthly data)—EIA, *Electric Power Monthly*, April 1994, Table 60. • Annual Series: EIA, *Electric Power Monthly*, April 1994, Table 60.

**Table 9.10 Quantity and Cost of Fossil-Fuel Receipts at Steam-Electric Utility Plants**

	Coal		Petroleum				Gas <sup>a</sup>		All Fossil Fuels <sup>b</sup>
	Quantity (thousand short tons)	Cost (cents per million Btu)	Heavy Oil <sup>b</sup>		Total <sup>b,c</sup>		Quantity (million cubic feet)	Cost (cents per million Btu)	Cost (cents per million Btu)
			Quantity (thousand barrels)	Cost (cents per million Btu)	Quantity (thousand barrels)	Cost (cents per million Btu)			
1973 Year .....	374,842	40.5	512,650	78.5	535,859	80.0	3,382,877	33.8	47.6
1974 Year .....	384,868	70.9	479,166	189.0	515,217	191.0	3,225,203	48.2	91.4
1975 Year .....	431,527	81.4	457,582	200.5	510,352	202.3	3,034,808	75.2	104.4
1976 Year .....	454,858	84.8	495,363	195.2	549,973	198.0	2,962,811	103.4	111.9
1977 Year .....	490,415	94.7	563,685	219.8	635,556	224.9	3,106,403	129.1	129.7
1978 Year .....	478,169	111.6	546,197	212.5	616,040	219.1	3,140,654	142.2	141.1
1979 Year .....	556,558	122.4	479,705	298.8	515,695	307.2	3,368,976	174.0	163.0
1980 Year .....	593,995	135.1	394,159	426.7	419,140	435.1	3,588,814	219.9	192.8
1981 Year .....	579,374	153.2	327,477	533.4	345,544	542.5	3,573,558	280.5	226.8
1982 Year .....	601,427	164.7	228,200	483.2	239,111	492.2	3,161,348	337.6	224.9
1983 Year .....	592,728	165.8	211,705	457.8	219,652	462.8	2,732,248	347.4	220.6
1984 Year .....	684,111	166.4	193,832	481.2	202,372	486.3	2,878,808	360.3	219.1
1985 Year .....	666,743	164.8	156,410	424.4	164,947	431.7	2,808,921	344.4	209.4
1986 Year .....	686,964	157.9	220,585	240.1	228,522	243.7	2,387,622	235.1	176.0
1987 Year .....	721,298	150.6	187,300	297.8	194,578	301.1	2,605,191	224.0	170.6
1988 Year .....	727,775	146.8	230,234	240.5	236,924	243.9	2,362,721	226.3	184.3
1989 Year .....	753,217	144.5	237,668	284.6	246,422	289.3	2,472,506	235.5	167.5
1990 Year .....	786,627	145.5	202,281	331.9	209,350	338.4	2,490,979	232.1	168.9
1991 January .....	63,732	145.4	11,466	359.4	12,315	373.8	165,100	267.1	169.8
February .....	61,407	147.0	10,429	265.8	10,899	276.0	137,568	234.8	161.3
March .....	63,825	145.5	11,269	244.2	11,672	251.3	182,853	220.0	159.3
April .....	61,093	147.3	13,119	234.2	13,479	239.7	203,893	206.7	160.3
May .....	63,259	148.3	14,711	233.1	15,256	240.1	233,667	198.2	160.8
June .....	61,674	147.4	17,122	220.2	17,675	226.1	244,386	191.2	159.5
July .....	65,105	142.7	17,169	227.2	17,703	233.1	310,738	184.6	156.0
August .....	69,794	143.1	16,831	226.7	17,323	232.6	306,418	192.7	156.6
September .....	65,273	143.3	15,590	241.4	16,063	247.7	248,899	215.4	160.2
October .....	66,445	143.6	9,658	238.6	10,287	253.1	251,458	231.0	160.9
November .....	62,779	142.8	11,289	253.9	11,835	264.8	186,722	240.7	160.4
December .....	65,538	140.0	14,453	252.2	15,120	260.3	159,115	262.0	159.5
Year .....	769,923	144.7	163,106	246.5	169,625	254.8	2,630,818	215.3	160.3
1992 January .....	64,678	139.6	12,039	223.2	12,539	230.0	159,815	247.1	155.2
February .....	61,603	142.1	13,634	209.8	14,107	216.1	160,328	201.7	152.7
March .....	63,857	143.4	12,779	208.2	13,186	214.1	198,040	196.8	153.7
April .....	60,661	142.7	10,144	217.8	10,555	225.7	218,468	202.6	154.8
May .....	63,407	142.9	10,079	237.1	10,498	245.1	227,857	207.8	156.4
June .....	63,704	141.9	10,888	251.4	11,352	260.0	254,025	213.6	158.3
July .....	64,400	139.3	12,706	274.1	13,217	281.2	315,543	208.9	159.2
August .....	70,241	139.6	12,152	274.1	12,664	281.2	287,373	237.3	161.6
September .....	66,503	142.0	8,883	268.5	9,319	277.6	259,771	246.3	163.0
October .....	66,907	141.3	10,772	290.5	11,221	297.7	205,039	297.9	167.5
November .....	64,005	141.5	11,161	273.5	11,636	280.5	182,505	282.6	164.5
December .....	65,998	138.6	13,302	252.1	14,097	261.9	168,913	276.5	160.0
Year .....	775,963	141.2	138,537	247.5	144,390	255.1	2,637,678	232.8	159.0
1993 January .....	65,219	138.5	8,437	248.7	9,026	259.1	159,318	267.3	156.2
February .....	59,229	139.3	7,002	254.1	7,421	263.8	153,681	250.8	155.6
March .....	63,894	137.6	8,548	248.6	9,022	258.8	186,075	256.6	156.5
April .....	63,807	139.3	10,074	280.0	10,539	286.6	169,844	268.9	159.9
May .....	62,599	139.9	10,392	261.2	10,825	268.1	163,925	286.3	161.6
June .....	63,701	139.0	10,633	245.8	11,144	254.2	243,599	243.2	159.8
July .....	59,859	138.0	15,419	237.3	16,040	243.3	312,270	241.0	164.4
August .....	65,739	137.4	15,099	227.0	15,624	232.2	339,454	252.5	165.1
September .....	65,358	138.5	15,324	226.1	15,766	231.0	249,708	263.6	162.9
October .....	67,122	140.5	13,596	231.0	14,005	236.6	226,136	241.3	159.1
November .....	65,927	138.0	10,736	218.2	11,272	227.2	201,759	253.9	156.4
December .....	66,563	136.2	16,331	198.8	17,085	205.5	165,685	272.4	154.9
Year .....	769,018	138.5	141,590	236.2	147,769	243.3	2,571,453	256.0	159.5

<sup>a</sup> Includes supplemental gaseous fuels.

<sup>b</sup> Heavy oil includes fuel oil nos. 4, 5, and 6, and topped crude oil. The weighted averages for petroleum and all fossil fuels include both heavy and light oil (No. 2 fuel oil, kerosene, and jet fuel) prices. Data do not include petroleum coke.

<sup>c</sup> Data for 1973-1982 do not include small quantities of rerefined motor oil, bunker oil, and liquefied petroleum gas.

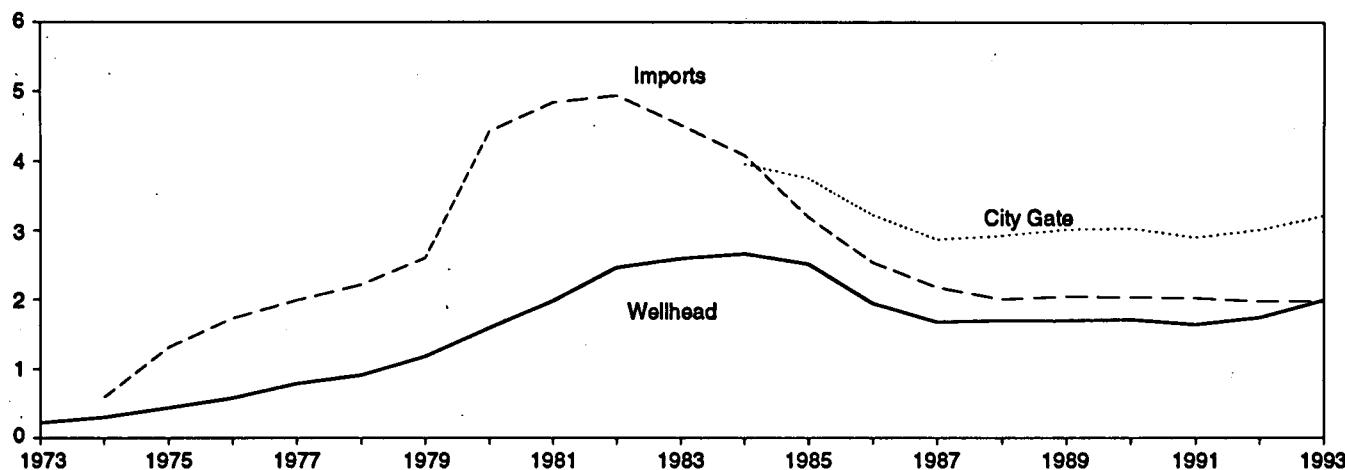
Notes: • See Note 8 at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Sources: • 1973-1979: Annual data for quantity are simple sums of unrounded monthly values and for cost are averages of monthly values,

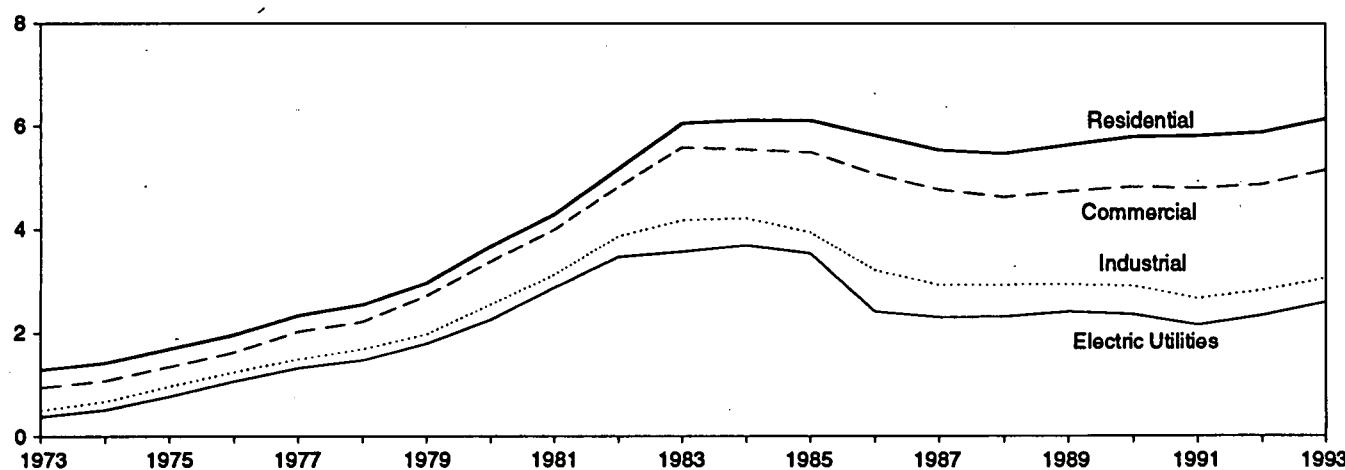
weighted by quantities of Btu, from the following: 1973-May 1977—Federal Power Commission, Form FPC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants." June 1977-December 1977—Federal Energy Regulatory Commission, Form FERC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants." 1978 and 1979—Energy Information Administration (EIA), Form FERC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants." • 1980: EIA, *Electric Power Monthly*, April 1991, Table 34. • 1981: EIA, *Electric Power Monthly*, April 1992, Table 34. • 1982 and 1991 monthly data: EIA, *Electric Power Monthly*, April 1993, Table 34. • 1983 forward (except 1991 monthly data): EIA, *Electric Power Monthly*, April 1994, Table 34.

**Figure 9.4 Natural Gas Prices**  
 (Dollars per Thousand Cubic Feet)

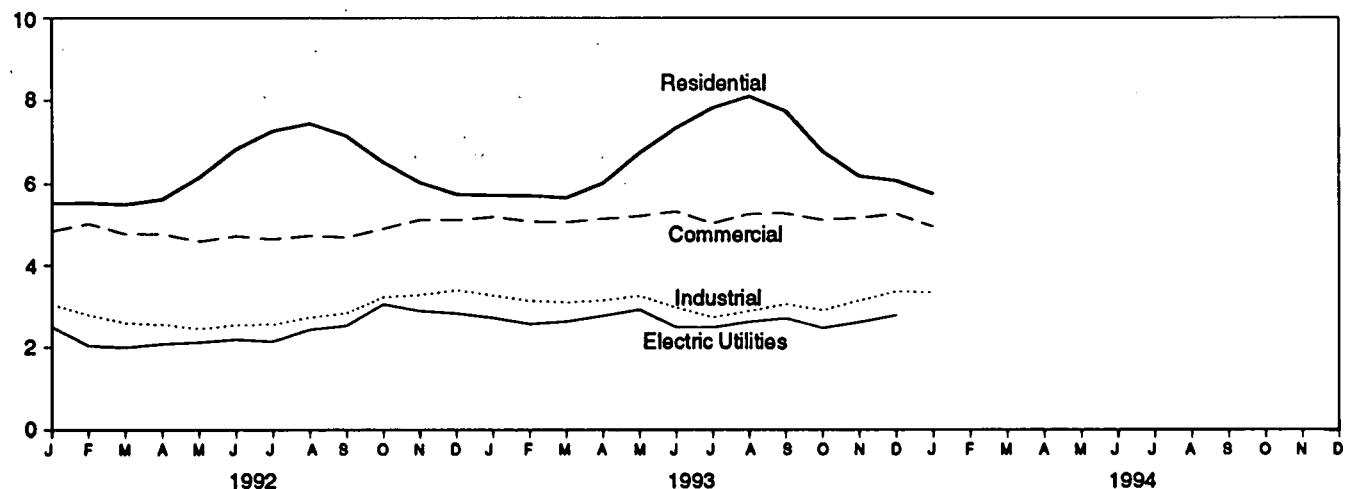
**Selected Prices, 1973-1993**



**Delivered to Consumers, 1973-1993**



**Delivered to Consumers, Monthly**



Note: Because vertical scales differ, graphs should not be compared.  
 Source: Table 9.11.

**Table 9.11 Natural Gas Prices**  
(Dollars per Thousand Cubic Feet)

	Wellhead	Major Interstate Pipeline Companies		City Gate	Delivered to Consumers <sup>a,b</sup>			
		Imports	Purchases from Producers		Residential	Commercial	Industrial	Electric Utilities <sup>c</sup>
1973 Average .....	0.22	NA	NA	NA	1.20	0.94	0.50	0.38
1974 Average .....	.30	.59	.27	NA	1.43	1.07	.67	.51
1975 Average .....	.44	1.31	.37	NA	1.71	1.35	.96	.77
1976 Average .....	.58	1.73	.48	NA	1.98	1.64	1.24	1.06
1977 Average .....	.70	1.99	.70	NA	2.35	2.04	1.50	1.32
1978 Average .....	.91	2.21	.83	NA	2.56	2.23	1.70	1.48
1979 Average .....	1.18	2.60	1.22	NA	2.98	2.73	1.99	1.81
1980 Average .....	1.59	4.42	1.63	NA	3.88	3.39	2.56	2.27
1981 Average .....	1.98	4.84	2.15	NA	4.20	4.00	3.14	2.60
1982 Average .....	2.46	4.94	2.72	NA	5.17	4.82	3.87	3.48
1983 Average .....	2.59	4.51	2.93	NA	6.06	5.59	4.18	3.88
1984 Average .....	2.66	4.08	2.91	3.95	6.12	5.55	4.22	3.70
1985 Average .....	2.51	3.19	2.85	3.75	6.12	5.50	3.95	3.55
1986 Average .....	1.94	2.53	2.39	3.22	5.83	5.08	3.23	2.43
1987 Average .....	1.67	2.17	2.10	2.87	5.54	4.77	2.94	2.32
1988 Average .....	1.69	2.00	2.13	2.92	5.47	4.63	2.95	2.33
1989 Average .....	1.69	2.04	2.18	3.01	5.64	4.74	2.96	2.43
1990 Average .....	1.71	2.03	2.19	3.03	5.80	4.83	2.93	2.38
1991 Average .....	1.64	2.02	1.92	2.90	5.82	4.81	2.69	2.16
1992 January .....	1.74	2.20	2.10	2.90	5.53	4.85	3.04	2.49
February .....	1.26	1.98	1.70	2.70	5.54	5.03	2.78	2.03
March .....	1.35	1.45	1.90	2.61	5.50	4.77	2.58	1.99
April .....	1.42	2.01	1.73	2.74	5.62	4.77	2.54	2.07
May .....	1.51	1.79	1.99	2.90	6.15	4.59	2.44	2.11
June .....	1.62	2.03	2.16	3.00	6.84	4.72	2.53	2.18
July .....	1.55	1.89	1.86	3.01	7.27	4.64	2.54	2.13
August .....	1.84	1.85	2.14	3.18	7.45	4.73	2.71	2.42
September .....	1.92	2.05	2.13	3.23	7.15	4.69	2.82	2.51
October .....	2.38	2.13	2.69	3.50	6.52	4.90	3.21	3.04
November .....	2.13	2.32	2.33	3.33	6.02	5.12	3.26	2.87
December .....	2.07	1.92	2.40	3.17	5.74	5.11	3.38	2.81
Average .....	1.74	1.97	2.09	3.01	5.89	4.88	2.84	2.36
1993 January .....	1.96	R 2.04	R 2.18	3.11	R 5.72	R 5.19	R 3.25	2.70
February .....	1.72	1.91	1.94	2.94	5.71	5.08	R 3.12	2.55
March .....	1.89	1.78	2.20	3.06	R 5.66	5.06	3.08	2.61
April .....	2.05	2.15	2.34	3.24	R 6.00	R 5.14	R 3.13	2.75
May .....	2.30	2.13	2.81	3.58	R 6.74	R 5.21	R 3.24	2.90
June .....	1.87	1.95	2.03	3.44	R 7.34	R 5.32	2.95	2.47
July .....	1.91	1.78	2.02	3.34	R 7.82	5.03	R 2.71	2.46
August .....	2.00	2.02	2.35	3.35	8.10	5.26	2.86	2.60
September .....	2.11	2.17	2.58	3.53	7.74	5.27	R 3.03	2.69
October .....	1.93	1.97	2.05	3.15	R 6.78	R 5.11	R 2.88	2.45
November .....	1.91	1.85	2.32	3.15	R 6.17	R 5.16	R 3.12	2.59
December .....	R 2.15	2.02	2.82	3.26	R 6.06	R 5.26	3.35	R 2.76
Average .....	R 1.99	1.98	2.30	3.21	R 6.15	R 5.16	R 3.07	R 2.61
1994 January .....	E 2.27	2.08	2.83	3.11	5.75	4.94	3.32	NA

<sup>a</sup> Includes supplemental gaseous fuels.

<sup>b</sup> See Note 9 at end of section.

<sup>c</sup> See Note 8 at end of section.

R=Revised data. NA=Not available. E=Estimate.

Notes: • Prices shown on this page are intended to include all taxes. See Note 9 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Wellhead annual and year-to-date prices are simple averages of the monthly prices; all other annual and year-to-date prices are volume-weighted averages of the monthly prices.

Sources: • 1973-1986: Wellhead—Energy Information Administration

(EIA), *Natural Gas Annual 1991*, Table 95. Major Interstate Pipeline Companies, 1974-1977—Calculated from revenue and sales data reported to the Federal Power Commission (FPC), Form FPC-11, "Natural Gas Pipeline Company Monthly Statement." Major Interstate Pipeline Companies, 1978-1983—EIA, *Natural Gas Monthly*, December 1984, Table 10. Major Interstate Pipeline Companies, 1984-1986—EIA, *Natural Gas Monthly*, December 1989, Table 4. City Gate, 1984-1986—EIA, *Natural Gas Monthly*, December 1989, Table 4. Delivered to Consumers, 1973-1986—EIA, *Natural Gas Annual 1991*, Table 98. • 1987 forward: EIA, *Natural Gas Monthly*, April 1994, Table 4.

## Energy Prices Notes

1. The average domestic first purchase price represents the average price at which all domestic crude oil is purchased. Prior to February 1976, the price represented an estimate of the average of posted prices; beginning with February 1976, the price represents an average of actual first purchase prices. The data series was previously called "Actual Domestic Wellhead Price."
2. F.O.B. literally means "Free on Board." It denotes a transaction whereby the seller makes the product available with an agreement on a given port at a given price; it is the responsibility of the buyer to arrange for the transportation and insurance.
3. The landed cost of imported crude oil from selected countries does not represent the total cost of all imported crude. Prior to March 1975, imported crude costs to U.S. company-owned refineries in the Caribbean were not included in the landed cost, and costs of crude oil from countries that export only small amounts to the United States were also excluded. Beginning in March 1975, however, coverage was expanded to include U.S. company-owned refineries in the Caribbean. Landed costs do not include supplemental fees.
4. Beginning with January 1981, refiner acquisition costs of crude oil are from data collected on Form EIA-14, "Refiners' Monthly Cost Report." Those costs were previously published from data collected on Form ERA-49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report." Form ERA-49 was discontinued with the decontrol of crude oil on January 28, 1981. Crude oil purchases and costs are defined for Form EIA-14 in accordance with conventions used for Form ERA-49. Also, the respondents for the two forms are essentially the same. However, due to possible different interpretations of the filing requirements and a different method for handling prior period adjustments, care must be taken when comparing the data collected on the two forms.

The refiner acquisition cost of crude oil is the average price paid by refiners for crude oil booked into their refineries in accordance with accounting procedures generally accepted and consistently and historically applied by the refiners concerned. Domestic crude oil is that oil produced in the United States or from the outer continental shelf as defined in 43 USC Section 1331. Imported crude oil is either that oil reported on Form ERA-51, "Transfer Pricing Report," or any crude oil that is not domestic oil. The composite cost is the weighted average of domestic and imported crude oil costs.

Crude oil costs and volumes reported on Form ERA-49 excluded unfinished oils but included the Strategic Petroleum Reserve (SPR). Crude oil costs and volumes reported on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report," included unfinished oils but excluded SPR. Imported averages derived from Form

ERA-49 exclude oil purchased for SPR, whereas the composite averages derived from Form ERA-49 include SPR. None of the prices derived from Form EIA-14 include either unfinished oils or SPR.

5. Several different series of motor gasoline prices are published in this section. U.S. City Average Retail Prices of Motor Gasoline are calculated monthly by the Bureau of Labor Statistics during the development of the Consumer Price Index (CPI). These prices include all Federal, State, and local taxes paid at the time of sale. For the period 1974-1977, prices were collected in 56 urban areas. For the period 1978 forward, prices were collected from a new sample of service stations in 85 urban areas selected to represent all urban consumers—about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-serve).

Refiner prices of finished motor gasoline for resale and to end users are determined by the Energy Information Administration (EIA) in a monthly survey of refiners and gas plant operators (Form EIA-782A). The prices do not include any Federal, State, or local taxes paid at the time of sale. Estimates of prices prior to January 1983 are based on Form FEA-P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices," and also exclude all Federal, State, or local taxes paid at the time of sale. Sales for resale are those made to purchasers who are other-than-ultimate consumers. Sales to end users are sales made directly to the consumer of the product, including bulk consumers, such as agriculture, industry, and utilities, as well as residential and commercial consumers.

6. Starting in January 1983, Form EIA-782, "Monthly Petroleum Product Sales Report," replaced 10 previous surveys. Every attempt was made to continue the most important price series. However, prices published through December 1982 and those published since January 1983 do not necessarily form continuous data series due to changes in survey forms, definitions, instructions, populations, samples, processing systems, and statistical procedures. To provide historical data, continuous series were generated for annual data 1978-1982 and for monthly data 1981 and 1982 by estimating the prices that would have been published had Form EIA-782 survey and system been in operation at that time. This form of estimation was performed after detailed adjustment was made for product and sales type matching and for discontinuity due to other factors. An important difference between the previous and present prices is the distinction between wholesale and resale and between retail and end user. The resale category continues to include sales among resellers. However, bulk sales to utility, industrial, and commercial accounts previously included in the wholesale category are now counted as made to end users. The end-user category continues to include retail sales through company owned and operated

outlets but also includes the bulk utility, industrial, and commercial sales. Additional information may be found in Estimated Historic Time Series for the EIA-782, a feature article reprinted from the December 1983 [3] *Petroleum Marketing Monthly*, published by EIA.

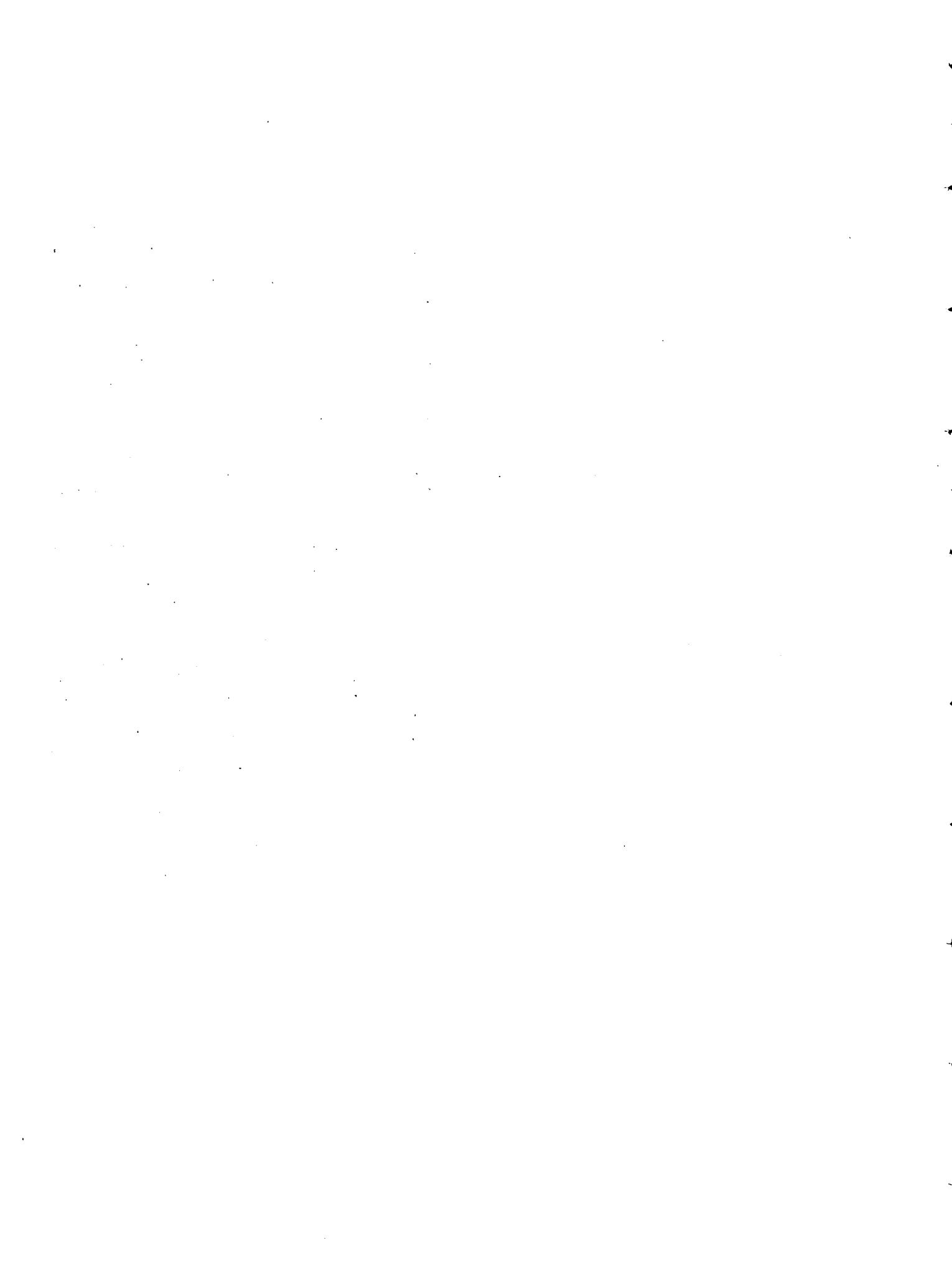
7. National average electricity prices are shown in two data series. The "Annual Series" is based on data from more than 3,000 publicly and privately owned electric utilities that report on Form EIA-861, "Annual Electric Utility Report." The "Monthly Series" is based on data from over 400 utilities statistically chosen as a stratified sample of the utilities that report on Form EIA-861. The selected utilities report monthly on Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions," formerly the "Electric Utility Company Monthly Statement." Annual values shown for the monthly series are the sum of the monthly revenue divided by the sum of the monthly sales. Prior to January 1986, only privately owned utilities were included in the monthly survey and the sample was chosen by using cut-off, rather than stratification, techniques.

8. Data for 1973-1982 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 25 megawatts or

greater. From 1974-1982, peaking units were included in the data and counted towards the 25-megawatt-or-greater total. Data for 1983-1990 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 50 megawatts or greater. Data for 1991 forward cover all electric generating plants at which the generator nameplate capacity of all steam-electric units and combined-cycle units together totaled 50 megawatts or greater.

9. Natural gas prices are intended to include all taxes. Instructions on the data collection forms specifically direct that all Federal, State, and local taxes, surcharges, and/or adjustments billed to consumers are to be included. However, sales and other taxes itemized on consumers' bills are sometimes excluded by the reporting utilities.

Delivered-to-consumers prices for 1987 forward represent natural gas delivered and sold to residential, commercial, industrial, and electric utility consumers. They do not include the price of natural gas delivered to industrial and commercial consumers on behalf of third parties. Volumes of natural gas delivered on behalf of third parties are included in the consumption data shown in Table 4.3. Additional information is available in the EIA *Natural Gas Monthly*, Appendix C.



## Section 10. International Energy

**Crude Oil Production.** World crude oil production during January 1994 was 60 million barrels per day, down 0.3 million barrels per day from the level in the previous month.

Organization of Petroleum Exporting Countries (OPEC) production during January 1994 averaged 26 million barrels per day, down slightly from the level during the previous month. Production by the Arab members of OPEC in January 1994 averaged 16 million barrels per day, up slightly from the December 1993 level. During January 1994, production increased in Saudi Arabia by 95 thousand barrels per day and decreased in Kuwait by 55 thousand barrels per day. Production remained unchanged in Algeria, Iraq, Libya, Qatar, and the United Arab Emirates. Among the non-Arab members of OPEC, production during January 1994 increased in Venezuela by 50 thousand barrels per day and decreased in Iran by 100 thousand barrels per day. Production remained unchanged in Indonesia and Nigeria.

Among the non-OPEC nations, production during January 1994 increased in the United Kingdom by 15 thousand barrels per day and slightly in Canada and China. Production decreased in the former U.S.S.R. by 85 thousand barrels per day and in the United States by 61 thousand barrels per day. Production remained unchanged in Mexico.

**Petroleum Consumption.** In November 1993, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 40.6 million barrels per day, 3 percent<sup>9</sup> higher than the November 1992 rate. The consumption rate was higher than it

was 1 year ago in Germany and France (both +8 percent), the United Kingdom (+6 percent), the United States (+3 percent), and Italy (+2 percent). Consumption was lower in Japan (-1 percent) and Canada (down less than 1 percent), compared with levels 1 year earlier.

**Petroleum Stocks.** For all OECD countries, petroleum stocks at the end of November 1993 totaled 3.7 billion barrels, 2 percent higher than the ending stock level in November 1992. Stock levels were higher than the levels 1 year ago in Japan (+5 percent), the United States (+3 percent), Germany (+1 percent), and France (up less than 1 percent). Stocks were lower in Italy, (-4 percent), Canada (-2 percent), and the United Kingdom (-1 percent), compared with levels 1 year earlier.

**Nuclear Electricity Generation.** Based on *Nucleonics Week* information for January 1994, all reporting countries with nuclear capacity generated 199.0 gross terawatthours<sup>10</sup> of nuclear-generated electricity.

During 1993, 9 nuclear units became operable: Comanche Peak-2 in the United States; Darlington-4 in Canada; Guangdong-1 in China, Golfech-2 in France; Shika-1, Hamaoka-4, Genkai-3, and Kashiwazaki Kariwa-4 in Japan, and Balakova-4 in Russia. However, 3 units were permanently shutdown in 1993: Trojan in the United States; and Trawsfynydd-1 and Trawsfynydd-2 in the United Kingdom.

Beginning January 1, 1994, there were 430 operable nuclear generating units in the world. No new nuclear units became operable through January 31, 1994.

<sup>9</sup>Percentage changes are based on unrounded data.  
<sup>10</sup>One terawatthour equals 1 billion kilowatthours.

**Table 10.1a World Crude Oil Production: Algeria Through Venezuela**  
 (Thousand Barrels per Day)

	Algeria	Iraq	Kuwait <sup>a</sup>	Libya	Qatar	Saudi Arabia <sup>a</sup>	United Arab Emirates	Arab OPEC <sup>b</sup>	Indonesia	Iran	Nigeria	Venezuela
1973 Average .....	1,097	2,018	3,020	2,175	570	7,596	1,533	18,009	1,339	5,861	2,054	3,368
1974 Average .....	1,009	1,971	2,546	1,521	518	8,480	1,679	17,724	1,375	6,022	2,255	2,976
1975 Average .....	983	2,262	2,084	1,480	438	7,075	1,664	15,985	1,307	5,350	1,783	2,345
1976 Average .....	1,075	2,415	2,145	1,933	497	8,577	1,936	18,570	1,504	5,883	2,087	2,294
1977 Average .....	1,152	2,348	1,969	2,063	445	8,245	1,999	19,221	1,686	5,663	2,085	2,238
1978 Average .....	1,231	2,563	2,131	1,983	487	8,301	1,831	18,525	1,635	5,242	1,897	2,185
1979 Average .....	1,224	3,477	2,500	2,092	508	9,532	1,831	21,163	1,591	3,168	2,302	2,356
1980 Average .....	1,106	2,514	1,656	1,787	472	9,900	1,709	19,144	1,577	1,662	2,055	2,168
1981 Average .....	1,002	1,000	1,125	1,140	405	8,815	1,474	15,961	1,605	1,380	1,433	2,102
1982 Average .....	987	1,012	823	1,150	330	6,483	1,250	12,035	1,339	2,214	1,295	1,895
1983 Average .....	968	1,005	1,064	1,105	295	5,086	1,149	10,672	1,343	2,440	1,241	1,801
1984 Average .....	1,014	1,209	1,157	1,087	394	4,663	1,146	10,670	1,412	2,174	1,388	1,798
1985 Average .....	1,037	1,433	1,023	1,059	301	3,388	1,193	9,434	1,325	2,250	1,495	1,677
1986 Average .....	945	1,690	1,419	1,034	308	4,870	1,330	11,598	1,390	2,035	1,467	1,767
1987 Average .....	1,048	2,079	1,585	972	293	4,265	1,541	11,783	1,343	2,298	1,341	1,752
1988 Average .....	1,040	2,685	1,492	1,175	346	5,086	1,565	13,380	1,342	2,240	1,450	1,903
1989 Average .....	1,095	2,887	1,783	1,150	380	5,064	1,860	14,229	1,409	2,810	1,716	1,907
1990 Average .....	1,175	2,040	1,175	1,375	406	6,410	2,117	14,698	1,462	3,086	1,810	2,137
1991 Average .....	1,230	305	180	1,483	395	8,115	2,386	14,104	1,592	3,312	1,892	2,375
1992 January .....	1,230	450	565	1,550	350	8,790	2,435	15,370	1,580	3,500	1,975	2,390
February .....	1,230	450	630	1,550	325	8,640	2,425	15,250	1,605	3,500	1,925	2,340
March .....	1,230	450	735	1,450	375	8,260	2,300	14,800	1,630	3,350	1,900	2,190
April .....	1,230	450	863	1,500	375	8,213	2,300	14,930	1,605	3,250	1,925	2,190
May .....	1,210	450	915	1,450	375	8,265	2,300	14,965	1,530	3,250	1,925	2,290
June .....	1,210	450	1,015	1,450	375	8,315	2,275	15,090	1,560	3,250	1,925	2,290
July .....	1,210	450	1,080	1,450	400	8,350	2,300	15,240	1,550	3,300	1,975	2,290
August .....	1,210	450	1,130	1,425	425	8,400	2,330	15,370	1,540	3,450	2,000	2,340
September ...	1,210	450	1,200	1,475	425	8,450	2,320	15,530	1,550	3,450	2,025	2,390
October .....	1,210	450	1,280	1,500	440	8,505	2,310	15,695	1,550	3,650	2,050	2,440
November ....	1,210	450	1,375	1,500	440	8,500	2,305	15,780	1,550	3,650	2,050	2,440
December ....	1,210	450	1,550	1,500	440	8,575	2,305	16,030	1,550	3,550	2,100	2,415
Average .....	1,217	450	1,029	1,483	396	8,438	2,325	15,338	1,566	3,429	1,982	2,334
1993 January .....	1,210	500	1,675	1,480	450	8,500	2,295	18,110	1,550	3,650	2,125	2,410
February .....	1,210	500	1,865	1,425	430	8,440	2,305	16,175	1,530	3,750	2,105	2,390
March .....	1,200	500	1,650	1,350	400	8,300	2,270	15,670	1,500	3,700	2,075	2,340
April .....	1,200	500	1,645	1,350	400	8,000	2,270	15,365	1,480	3,500	2,025	2,340
May .....	1,200	500	1,713	1,350	420	8,000	2,230	15,413	1,510	3,650	2,025	2,340
June .....	1,200	500	1,775	1,350	400	8,150	2,230	15,605	1,510	3,650	1,995	2,340
July .....	1,180	500	1,940	1,350	410	8,240	2,210	15,830	1,510	3,800	1,975	2,390
August .....	1,180	500	2,045	1,370	410	8,345	2,210	16,060	1,510	3,500	2,025	2,390
September ...	1,180	530	2,020	1,370	410	8,270	2,220	16,000	1,510	3,650	2,045	2,380
October .....	1,180	530	2,045	1,390	410	8,145	2,220	15,920	1,480	3,700	2,005	2,400
November ....	1,170	540	2,045	1,370	410	7,995	2,220	15,750	1,480	3,550	2,025	2,400
December ....	1,170	540	2,050	1,370	410	8,000	2,220	15,760	1,510	3,700	2,175	2,400
Average .....	1,180	512	1,872	1,377	413	8,198	2,241	15,803	1,507	3,650	2,050	2,377
1994 January .....	1,170	540	1,995	1,370	410	8,095	2,220	15,800	1,510	3,600	2,175	2,450

<sup>a</sup> Includes about one-half of the production in the Kuwait-Saudi Arabia Neutral Zone from 1973 through July 1990 and in June 1991. Kuwaiti Neutral Zone output was discontinued following Iraq's invasion of Kuwait on August 2, 1990, but was resumed in June 1991. In January 1994, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 390 thousand barrels per day.

<sup>b</sup> The Arab members of the Organization of Petroleum Exporting Countries (OPEC) are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates. Production in the Neutral Zone between Kuwait and Saudi Arabia is included in "Arab OPEC."

Notes: • Crude oil includes lease condensate but excludes natural gas plant liquids. • U.S. geographic coverage is the 50 States and the District of Columbia. • Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available.

Sources: • United States: Table 3.1a. • Other Countries: Annual Data—1973-1979—Energy Information Administration (EIA), *International Energy Annual 1981*, Table 8. 1980—EIA, *International Energy Annual 1989*, Table 1. 1981—EIA, *International Energy Annual 1990*, Table 1. 1982—EIA, *International Energy Annual 1991*, Table 1. 1983-1982—EIA, *International Energy Annual 1992*, Table 1. 1993—Average of monthly data. Monthly data—*Petroleum Intelligence Weekly*, the *Oil and Gas Journal*, and other industry sources. • World: Annual data—1973-1979—EIA, *International Energy Annual 1981*, Table 8. 1980—EIA, *International Energy Annual 1989*, Table 1. 1981—EIA, *International Energy Annual 1990*, Table 1. 1982—EIA, *International Energy Annual 1991*, Table 1. 1983-1992—EIA, *International Energy Annual 1993*, Table 1. 1993—Average of monthly data. Monthly data—EIA, *International Petroleum Statistics Report*, sum of all countries' monthly data.

**Table 10.1b World Crude Oil Production: Total OPEC, Canada Through Former U.S.S.R., and World**  
 (Thousand Barrels per Day)

	Total OPEC <sup>a</sup>	Persian Gulf Nations <sup>b</sup>	Canada	Mexico	United Kingdom	United States	China	Former U.S.S.R.	Other <sup>c</sup>	World
1973 Average .....	30,779	20,688	1,798	465	2	8,208	1,090	8,324	4,013	55,679
1974 Average .....	30,552	21,282	1,551	571	2	8,774	1,315	8,912	4,039	55,716
1975 Average .....	26,994	18,934	1,430	705	12	8,375	1,490	9,523	4,300	52,828
1976 Average .....	30,549	21,514	1,314	831	245	8,132	1,670	10,060	4,543	57,344
1977 Average .....	31,115	21,725	1,321	981	768	8,245	1,874	10,603	4,799	59,707
1978 Average .....	29,673	20,606	1,316	1,209	1,082	8,707	2,082	11,105	4,984	60,158
1979 Average .....	30,784	21,066	1,500	1,461	1,568	8,552	2,122	11,384	5,303	62,874
1980 Average .....	26,781	17,961	1,435	1,936	1,622	8,597	2,114	11,708	5,408	59,599
1981 Average .....	22,632	15,245	1,285	2,313	1,811	8,572	2,012	11,850	5,601	56,078
1982 Average .....	18,934	12,156	1,271	2,748	2,065	8,649	2,045	11,912	5,657	53,481
1983 Average .....	17,654	11,081	1,356	2,689	2,291	8,688	2,120	11,972	6,485	53,255
1984 Average .....	17,509	10,784	1,438	2,780	2,480	8,879	2,298	11,861	7,155	54,488
1985 Average .....	16,353	9,630	1,471	2,745	2,530	8,971	2,505	11,585	7,821	53,981
1986 Average .....	18,441	11,896	1,474	2,435	2,539	8,680	2,620	11,895	8,143	56,227
1987 Average .....	18,672	12,103	1,535	2,548	2,408	8,349	2,690	11,985	8,416	56,601
1988 Average .....	20,483	13,457	1,616	2,512	2,232	8,140	2,730	11,978	8,971	58,862
1989 Average .....	22,279	14,837	1,560	2,520	1,802	7,613	2,757	11,625	9,617	59,773
1990 Average .....	23,465	15,278	1,553	2,553	1,820	7,355	2,774	10,680	10,070	60,471
1991 Average .....	23,569	14,741	1,548	2,680	1,787	7,417	2,835	9,887	10,373	60,105
1992 January .....	25,100	16,130	1,585	2,675	1,920	7,361	2,830	9,115	10,821	61,407
February .....	24,880	16,010	1,560	2,665	1,905	7,389	2,865	8,650	10,670	60,584
March .....	24,170	15,510	1,620	2,680	1,755	7,348	2,835	8,760	10,744	59,912
April .....	24,205	15,487	1,535	2,680	1,835	7,293	2,855	9,025	10,838	60,265
May .....	24,265	15,592	1,510	2,660	1,700	7,169	2,835	8,455	10,566	59,160
June .....	24,420	15,716	1,560	2,680	1,545	7,167	2,830	8,440	10,758	59,400
July .....	24,660	15,916	1,630	2,660	1,780	7,131	2,825	8,365	10,818	59,869
August .....	25,005	16,220	1,675	2,685	1,825	8,922	2,815	8,130	10,802	59,858
September .....	25,245	16,330	1,620	2,685	1,830	7,030	2,860	7,980	10,873	60,123
October .....	25,685	16,670	1,665	2,655	1,930	7,126	2,875	7,965	11,017	60,918
November .....	25,770	16,755	1,640	2,640	1,945	7,024	2,845	7,910	10,847	60,621
December .....	25,945	16,905	1,575	2,655	1,935	7,103	2,785	7,870	11,074	60,942
Average .....	24,947	16,104	1,598	2,668	1,825	7,171	2,838	8,368	10,820	60,255
1993 January .....	26,145	17,105	1,570	2,605	1,815	E 7,008	2,885	7,800	10,736	60,564
February .....	26,250	17,325	1,610	2,610	1,925	E 6,957	2,875	7,785	10,877	60,889
March .....	25,585	16,855	1,635	2,635	1,710	E 6,976	2,885	7,685	11,044	60,155
April .....	25,010	16,350	1,605	2,674	1,695	E 6,897	2,900	7,665	11,009	59,455
May .....	25,238	16,548	1,660	2,673	1,745	E 6,833	2,925	7,495	11,048	59,617
June .....	25,400	16,740	1,725	2,675	1,675	E 6,756	2,960	7,400	10,731	59,322
July .....	25,795	17,135	1,710	2,650	1,930	E 6,654	2,930	7,120	11,145	59,934
August .....	25,775	17,045	1,770	2,650	1,940	E 6,732	2,855	7,025	11,021	59,768
September .....	25,875	17,135	R 1,740	2,700	1,945	E 6,711	2,895	6,915	R 11,035	R 59,816
October .....	25,795	17,085	R 1,725	2,700	2,060	E 6,816	2,975	6,910	R 11,269	R 60,250
November .....	25,495	16,795	R 1,675	R 2,730	R 2,195	E 6,888	2,945	6,915	R 11,460	R 60,303
December .....	25,835	16,955	1,645	R 2,745	R 2,270	E 6,838	R 2,898	R 6,885	R 11,538	R 60,654
Average .....	25,681	16,921	R 1,673	R 2,671	1,909	E 6,838	R 2,911	R 7,297	R 11,078	R 60,057
1994 January .....	25,825	16,895	1,650	2,745	2,285	E 6,777	2,900	6,800	11,374	60,356

<sup>a</sup> "Total OPEC" consists of Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Production from the Neutral Zone between Kuwait and Saudi Arabia is included in "Total OPEC."

<sup>b</sup> The Persian Gulf Nations are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. Production from the Neutral Zone between Kuwait and Saudi Arabia is included in "Persian Gulf Nations."

<sup>c</sup> "Other" is a calculated total derived from the difference between "World" and the sum of production in "Total OPEC," Canada, Mexico, the United Kingdom, the United States, China, and the former U.S.S.R.

R=Revised data. E=Estimate.

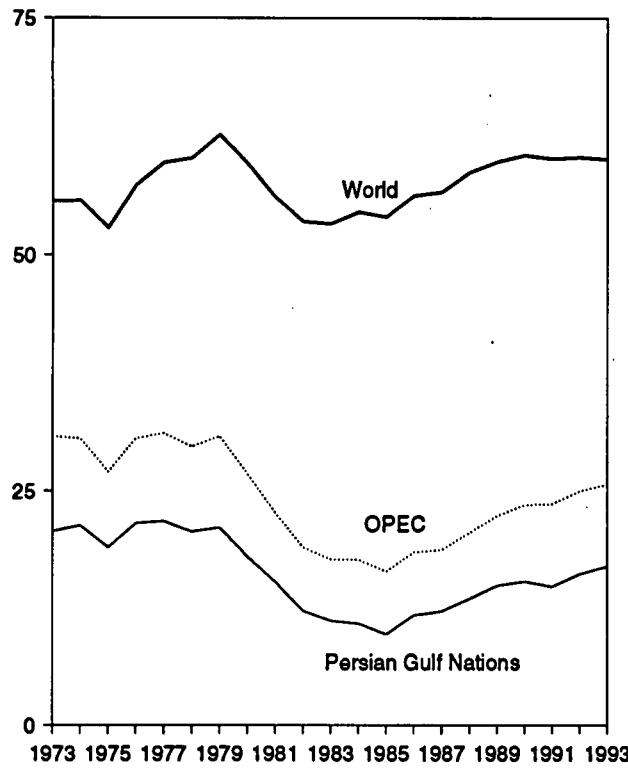
Notes: • Crude oil includes lease condensate but excludes natural gas plant liquids. • U.S. geographic coverage is the 50 States and the District of Columbia. • Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the

preliminary monthly data are not available.

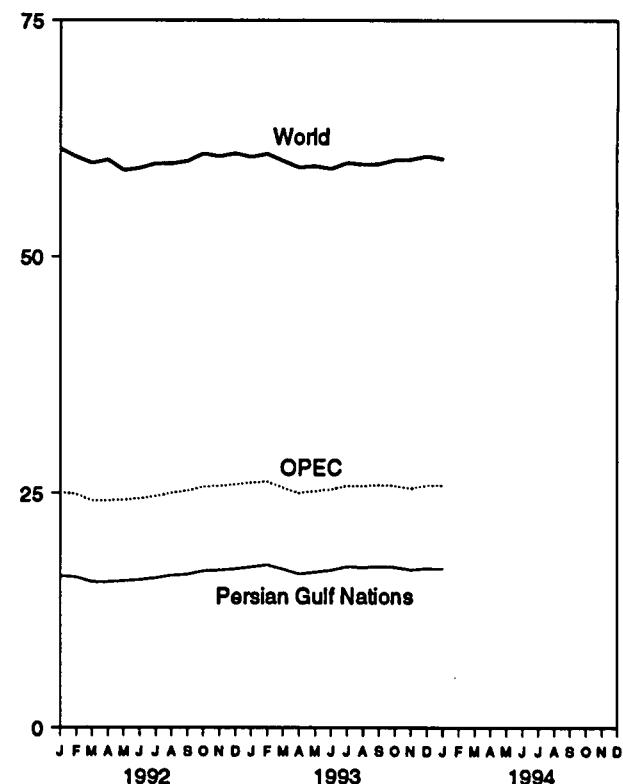
Sources: • United States: Table 3.1a. • Other Countries: Annual Data—1973-1979—Energy Information Administration (EIA), *International Energy Annual 1981*, Table 8. 1980—EIA, *International Energy Annual 1989*, Table 1. 1981—EIA, *International Energy Annual 1990*, Table 1. 1982—EIA, *International Energy Annual 1991*, Table 1. 1983-1992—EIA, *International Energy Annual 1992*, Table 1. 1993—Average of monthly data. Monthly data—*Petroleum Intelligence Weekly*, the *Oil and Gas Journal*, and other industry sources. • World: Annual data—1973-1979—EIA, *International Energy Annual 1981*, Table 8. 1980—EIA, *International Energy Annual 1989*, Table 1. 1981—EIA, *International Energy Annual 1990*, Table 1. 1982—EIA, *International Energy Annual 1991*, Table 1. 1983-1992—EIA, *International Energy Annual 1992*, Table 1. 1993—Average of monthly data. Monthly data—EIA, *International Petroleum Statistics Report*, sum of all countries' monthly data.

**Figure 10.1 Crude Oil Production**  
(Million Barrels per Day)

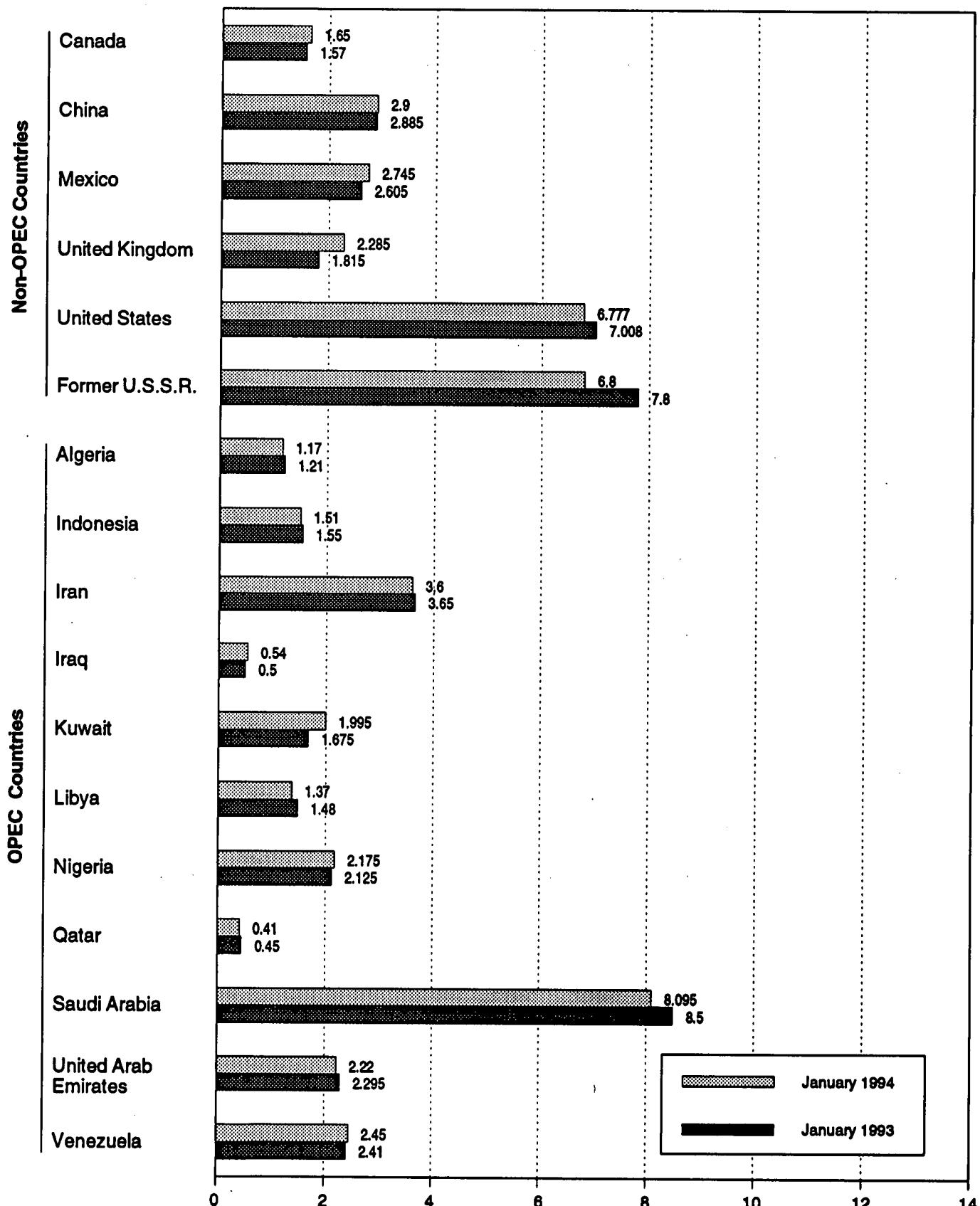
### World Production, 1973-1993



### World Production, Monthly



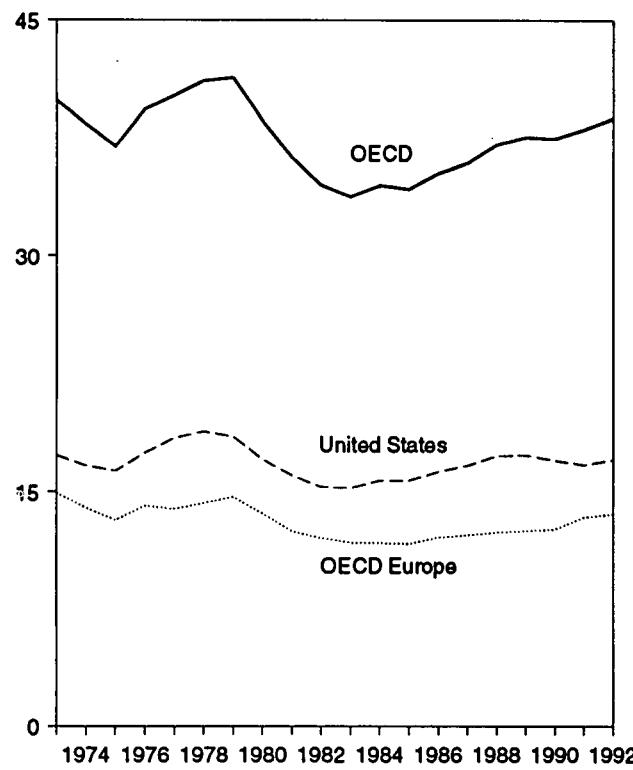
**Figure 10.2 Crude Oil Production by Selected Country**  
 (Million Barrels per Day)



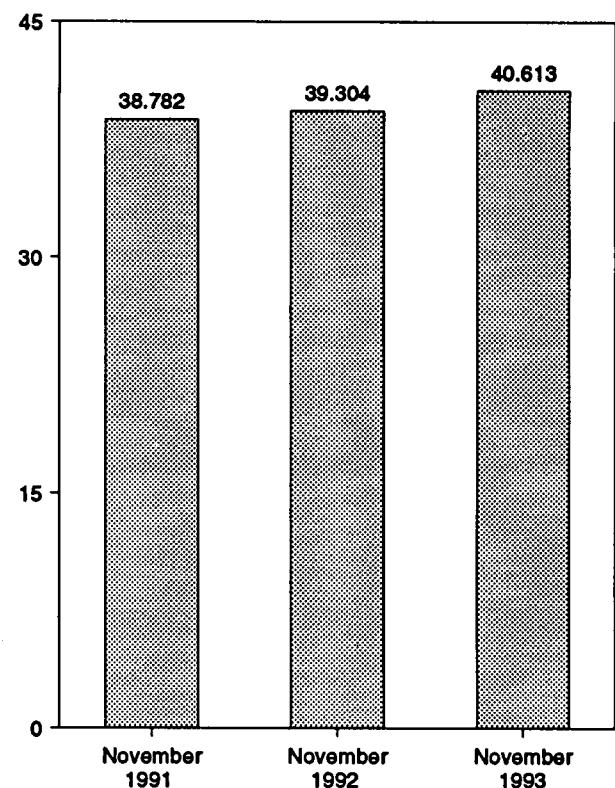
Note: OPEC is the Organization of Petroleum Exporting Countries.  
 Sources: Tables 10.1a and 10.1b.

**Figure 10.3 Petroleum Consumption in OECD Countries**  
 (Million Barrels per Day)

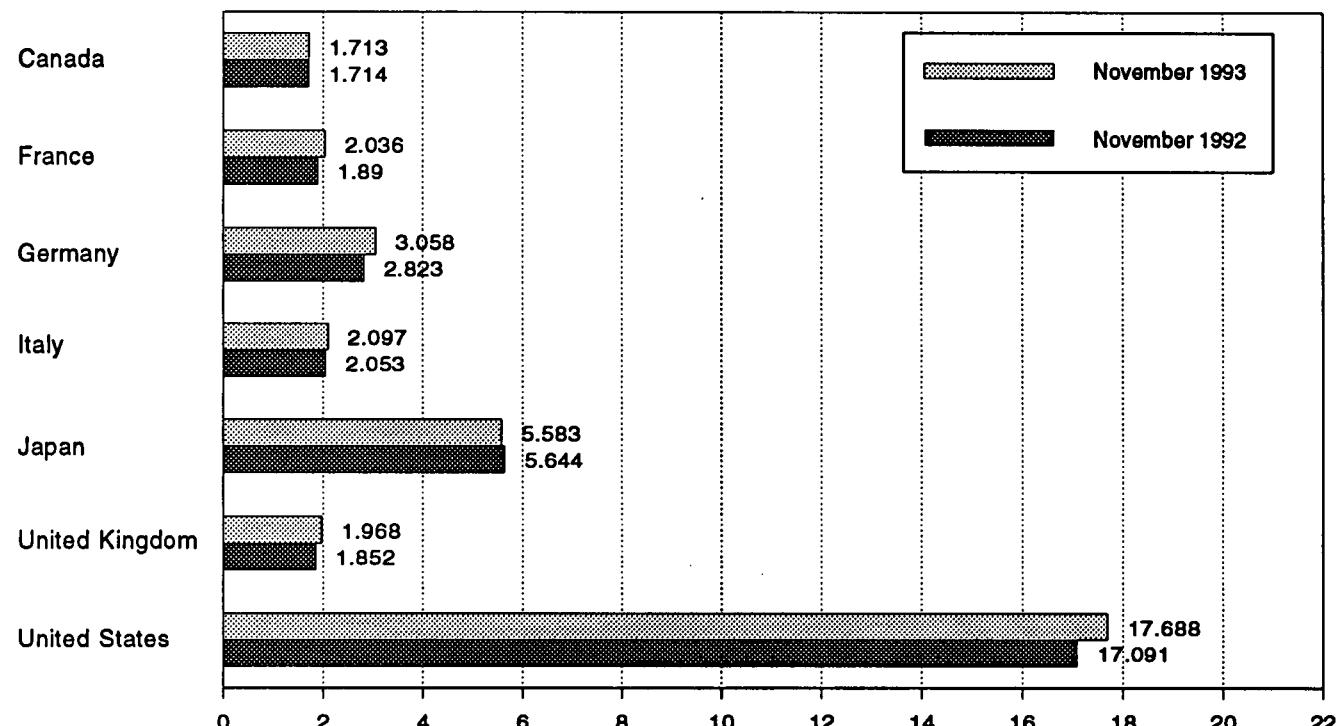
### OECD Consumption, 1973-1992



### OECD Consumption



### Consumption by Selected OECD Country



Note: OECD is the Organization for Economic Cooperation and Development.  
 Source: Table 10.2.

**Table 10.2 Petroleum Consumption in OECD Countries**  
(Thousands Barrels per Day)

	Canada	France	Germany <sup>a</sup>	Italy	Japan	United Kingdom	United States	OECD Europe <sup>b</sup>	Other OECD <sup>c</sup>	OECD
1973 Average .....	1,729	2,601	3,055	2,068	4,849	2,341	17,308	14,925	988	39,900
1974 Average .....	1,779	2,447	2,748	2,004	4,864	2,210	16,653	13,888	1,095	38,379
1975 Average .....	1,779	2,252	2,650	1,855	4,621	1,911	16,322	13,217	1,041	36,980
1976 Average .....	1,818	2,420	2,877	1,971	4,837	1,892	17,461	14,124	1,119	39,358
1977 Average .....	1,850	2,294	2,865	1,897	4,880	1,905	18,431	13,916	1,160	40,237
1978 Average .....	1,902	2,408	2,927	1,952	4,945	1,938	18,847	14,290	1,204	41,187
1979 Average .....	1,971	2,463	3,003	2,039	5,050	1,971	18,513	14,667	1,178	41,379
1980 Average .....	1,873	2,256	2,707	1,934	4,860	1,725	17,056	13,634	1,072	38,595
1981 Average .....	1,768	2,023	2,449	1,874	4,848	1,590	16,058	12,515	1,080	36,269
1982 Average .....	1,578	1,880	2,372	1,781	4,582	1,590	15,286	12,053	1,008	34,517
1983 Average .....	1,448	1,835	2,324	1,750	4,395	1,531	15,231	11,765	954	33,793
1984 Average .....	1,472	1,754	2,322	1,646	4,576	1,849	15,726	11,736	989	34,500
1985 Average .....	1,504	1,775	2,338	1,717	4,384	1,634	15,726	11,681	976	34,271
1986 Average .....	1,506	1,772	2,498	1,738	4,439	1,649	16,281	12,102	951	35,279
1987 Average .....	1,548	1,789	2,424	1,855	4,484	1,603	16,665	12,255	958	35,911
1988 Average .....	1,693	1,797	2,422	1,836	4,752	1,697	17,283	12,427	939	37,093
1989 Average .....	1,733	1,857	2,280	1,930	4,983	1,738	17,325	12,531	988	37,570
1990 Average .....	1,690	1,818	2,382	1,872	5,140	1,752	16,988	12,629	1,027	37,475
1991 January .....	1,599	2,294	2,998	2,185	5,852	1,819	16,893	14,564	1,067	39,975
February .....	1,613	2,009	2,783	2,025	6,155	1,837	16,339	13,804	1,043	38,953
March .....	1,484	1,759	2,858	1,660	5,789	1,725	16,212	12,609	1,096	37,190
April .....	1,595	1,808	2,953	1,813	5,025	1,793	16,139	13,073	1,087	36,918
May .....	1,637	1,773	2,912	1,722	4,880	1,799	16,189	12,965	1,108	36,780
June .....	1,589	1,807	3,269	1,535	4,765	1,769	16,878	13,184	950	37,366
July .....	1,707	1,989	2,272	1,665	5,000	1,853	16,971	12,648	1,005	37,330
August .....	1,693	1,785	2,609	1,546	4,888	1,812	17,183	12,727	992	37,483
September .....	1,583	1,824	2,679	1,824	4,724	1,753	16,848	12,999	1,028	37,182
October .....	1,693	2,075	2,919	2,126	4,848	1,864	16,996	14,178	1,117	38,831
November .....	1,602	1,953	2,860	2,031	5,581	1,829	16,730	13,736	1,132	38,782
December .....	1,662	2,132	2,829	2,231	5,952	1,765	17,145	14,228	1,047	40,033
Average .....	1,622	1,835	2,828	1,863	5,284	1,801	16,714	13,391	1,056	38,067
1992 January .....	1,627	2,213	2,968	2,237	5,776	1,832	17,012	14,459	1,014	39,888
February .....	1,623	2,108	2,814	2,149	6,347	1,819	16,893	14,052	1,045	39,958
March .....	1,595	1,939	2,809	1,886	5,873	1,818	16,825	13,682	1,054	39,029
April .....	1,581	1,993	2,893	1,891	5,212	1,858	16,764	13,667	1,042	38,267
May .....	1,589	1,632	2,588	1,671	4,845	1,694	16,485	12,347	1,002	36,269
June .....	1,847	1,817	2,699	1,801	4,949	1,725	16,978	13,036	1,086	37,696
July .....	1,642	1,929	3,029	1,900	5,124	1,804	17,143	13,662	1,027	38,599
August .....	1,876	1,735	2,829	1,655	4,964	1,699	16,929	12,909	946	37,423
September .....	1,655	1,956	3,072	2,003	5,147	1,870	16,876	14,224	1,046	38,947
October .....	1,705	1,942	2,752	1,930	5,310	1,825	17,448	13,475	1,014	38,953
November .....	1,714	1,890	2,823	2,053	5,644	1,852	17,091	13,806	1,049	39,304
December .....	1,670	2,000	2,841	2,078	6,285	1,839	17,928	13,991	1,103	40,976
Average .....	1,644	1,929	2,843	1,936	5,454	1,803	17,033	13,606	1,035	38,772
1993 January .....	1,591	1,950	2,521	1,875	5,937	1,721	16,320	12,833	944	37,625
February .....	1,728	2,138	2,930	1,989	6,286	1,872	17,397	R 14,088	1,104	R 40,603
March .....	1,696	2,010	2,953	1,962	6,238	1,881	17,688	R 14,004	1,144	R 40,771
April .....	1,615	1,931	2,814	1,809	5,447	1,726	16,673	R 13,169	1,099	R 38,004
May .....	1,624	1,696	2,584	1,706	4,760	1,671	16,340	12,084	1,110	35,918
June .....	1,713	1,972	3,037	1,752	4,955	1,802	17,032	13,654	1,092	38,445
July .....	R 1,741	1,857	2,953	1,816	4,875	1,801	17,208	R 13,652	1,031	R 38,506
August .....	R 1,761	1,657	2,901	1,736	4,803	1,784	17,176	R 13,120	1,096	R 37,955
September .....	1,755	1,804	3,167	1,937	4,784	1,841	17,709	R 14,072	1,068	R 39,387
October .....	R 1,651	R 1,823	R 2,812	R 1,908	R 4,982	R 1,788	17,230	R 13,321	R 1,112	R 38,295
November .....	1,713	2,036	3,058	2,097	5,583	1,968	17,688	14,499	1,131	40,613
11-Mo. Average .....	1,689	1,895	2,883	1,870	5,325	1,804	17,129	13,490	1,084	38,717
1992 11-Mo. Average .....	1,641	1,922	2,843	1,924	5,377	1,799	16,950	13,570	1,029	38,568
1991 11-Mo. Average .....	1,618	1,917	2,827	1,829	5,222	1,805	16,674	13,313	1,057	37,884

<sup>a</sup> Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

<sup>b</sup> "OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

<sup>c</sup> "Other OECD" consists of Australia, New Zealand, and the U.S. Territories.

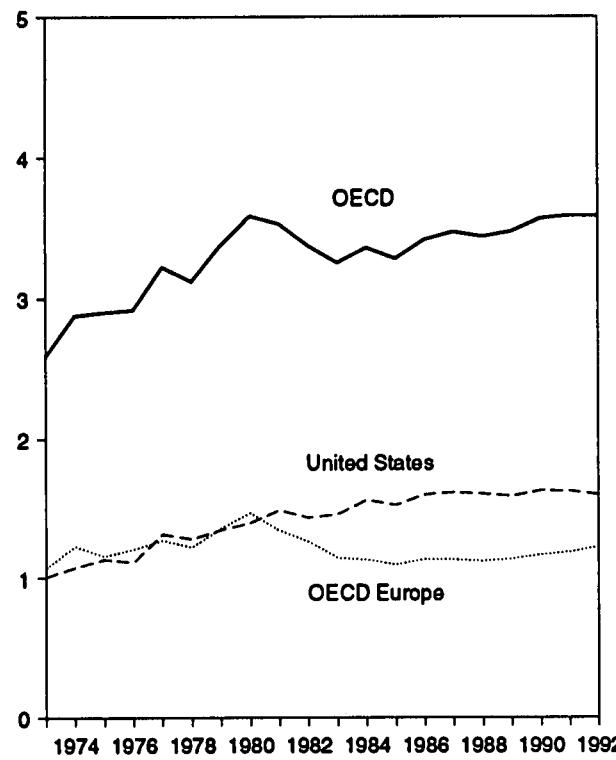
R=Revised data.

Notes: • The Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, and the United States, as well as "OECD Europe" and "Other OECD." • U.S. geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Data through 1991 are final. Subsequent data are preliminary.

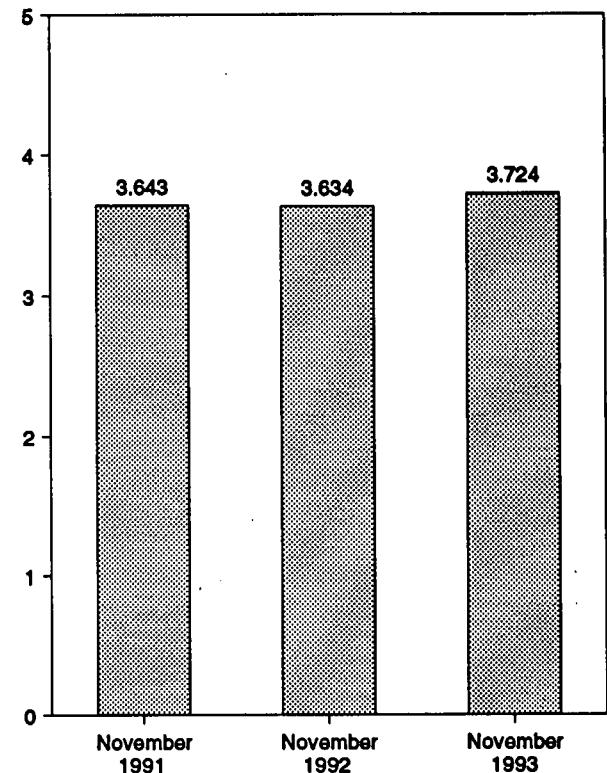
Sources: • **United States:** Table 3.1a. • **All Other Data:** 1973-1979—International Energy Agency (IEA), *Annual Oil and Gas Statistics of OECD Countries*. 1980 forward—IEA, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances*.

### Figure 10.4 Petroleum Stocks In OECD Countries (Billion Barrels)

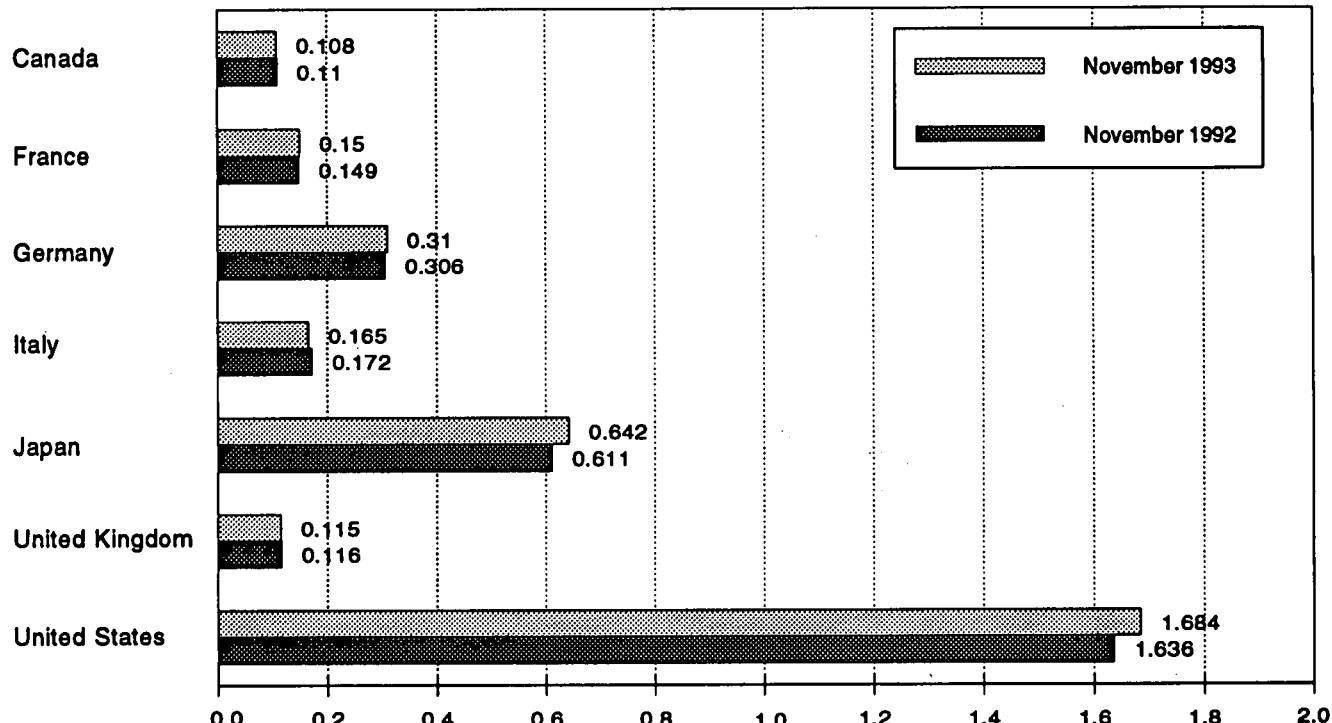
OECD Stocks, End of Year, 1973-1992



OECD Stocks, End of Month



Stocks by Selected Country, End of Month



Note: OECD is the Organization for Economic Cooperation and Development.  
Source: Table 10.3.

**Table 10.3 Petroleum Stocks in OECD Countries, End of Period  
(Million Barrels)**

	Canada	France	Germany <sup>a</sup>	Italy	Japan	United Kingdom	United States	OECD Europe <sup>b</sup>	Other OECD <sup>c</sup>	OECD
1973 Year .....	140	201	181	152	303	156	1,008	1,070	67	2,588
1974 Year .....	145	249	213	167	370	181	1,074	1,227	64	2,880
1975 Year .....	174	225	187	143	375	165	1,133	1,154	67	2,903
1976 Year .....	153	234	208	143	380	165	1,112	1,205	68	2,918
1977 Year .....	167	239	225	161	409	148	1,312	1,268	68	3,224
1978 Year .....	144	201	238	154	413	157	1,278	1,219	68	3,122
1979 Year .....	150	226	272	163	460	180	1,341	1,353	75	3,379
1980 Year .....	164	243	319	170	495	168	1,392	1,484	72	3,587
1981 Year .....	161	214	297	167	482	143	1,484	1,337	67	3,531
1982 Year .....	136	193	272	179	484	125	1,430	1,258	68	3,378
1983 Year .....	121	153	249	149	470	118	1,454	1,142	68	3,255
1984 Year .....	128	152	239	159	479	112	1,556	1,130	69	3,362
1985 Year .....	113	139	233	157	494	123	1,519	1,082	66	3,284
1986 Year .....	111	127	252	155	509	124	1,593	1,133	72	3,418
1987 Year .....	126	127	259	169	540	121	1,607	1,130	72	3,474
1988 Year .....	116	140	266	155	538	112	1,597	1,118	71	3,440
1989 Year .....	114	138	271	164	577	118	1,581	1,133	71	3,478
1990 Year .....	121	140	265	172	590	112	1,621	1,163	73	3,568
1991 January .....	116	133	278	174	591	116	1,587	1,164	73	3,531
February .....	114	137	278	169	572	119	1,573	1,162	72	3,493
March .....	117	142	280	178	593	124	1,558	1,178	75	3,521
April .....	110	138	277	177	585	119	1,578	1,161	75	3,509
May .....	107	138	279	174	586	113	1,626	1,157	75	3,551
June .....	107	144	274	173	590	118	1,634	1,161	72	3,564
July .....	118	145	285	169	594	113	1,635	1,170	73	3,590
August .....	116	152	284	171	610	118	1,648	1,186	76	3,636
September .....	117	150	287	170	622	120	1,663	1,195	74	3,671
October .....	118	148	286	165	625	119	1,644	1,190	71	3,649
November .....	122	152	289	163	607	120	1,647	1,198	70	3,643
December .....	119	153	288	160	607	119	1,617	1,192	65	3,589
1992 January .....	117	149	293	167	601	116	1,610	1,168	68	3,584
February .....	111	145	303	172	596	118	1,588	1,181	66	3,542
March .....	111	142	303	169	586	115	1,571	1,162	66	3,495
April .....	111	140	307	165	578	115	1,583	1,172	62	3,505
May .....	108	147	311	171	588	115	1,602	1,189	63	3,551
June .....	112	148	307	166	583	114	1,603	1,190	69	3,557
July .....	110	148	299	166	586	120	1,620	1,182	67	3,565
August .....	113	150	303	169	604	117	1,621	1,211	69	3,617
September .....	110	148	299	165	608	112	1,636	1,194	69	3,616
October .....	108	148	302	166	613	113	1,640	1,201	69	3,631
November .....	110	149	306	172	611	116	1,636	1,207	71	3,634
December .....	107	146	310	174	603	113	1,592	1,219	67	3,589
1993 January .....	110	148	319	173	614	120	1,611	1,232	68	3,636
February .....	106	142	317	168	606	120	1,595	1,218	68	3,593
March .....	107	138	311	165	593	120	1,584	1,201	66	3,550
April .....	110	139	311	166	584	116	1,611	1,196	73	3,575
May .....	106	145	320	172	592	117	1,643	1,208	69	3,618
June .....	107	139	310	167	602	119	1,660	1,188	70	3,627
July .....	112	141	312	169	617	115	1,678	R 1,188	70	R 3,666
August .....	112	150	316	170	634	117	1,674	R 1,218	70	3,708
September .....	106	149	312	162	646	115	1,661	R 1,211	77	R 3,702
October .....	R 105	R 160	317	162	R 653	111	1,685	R 1,220	78	R 3,741
November .....	108	150	310	165	642	115	1,684	1,212	78	3,724

<sup>a</sup> Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

<sup>b</sup> "OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

<sup>c</sup> "Other OECD" consists of Australia, New Zealand, and the U.S.  
Territories.

R=Revised data

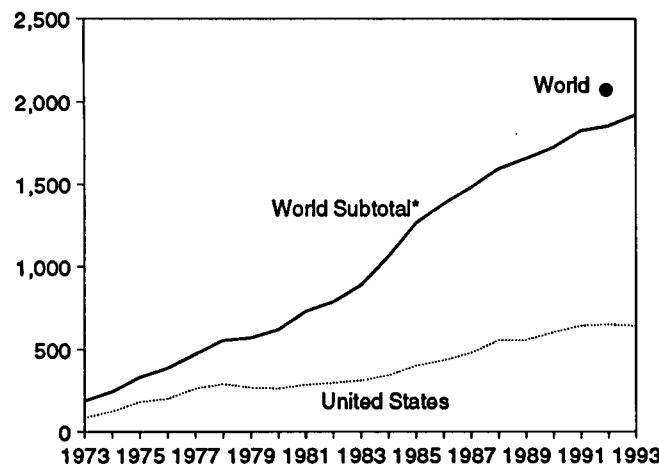
**R=Revised data.**  
Notes: • Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all nonmilitary petroleum held for storage, regardless of ownership, within each country in bulk terminals, refinery tanks, pipeline tankage, intercoastal tankers, tankers in port, and inland ship bunkers. Data

exclude oil held in pipelines (except for those in the United States), rail and truck cars, sea-going ships' bunkers, service stations, retail stores, and tankers at sea. • The Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, and the United States, as well as "OECD Europe" and "Other OECD." • U.S. geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • In the United States in January 1975, 1981, and 1983, numerous respondents were added to bulk terminal and pipeline surveys, thereby affecting subsequent stocks reported. New-basis end-of-year U.S. stocks, in million barrels, would have been 1,121 in 1974, 1,425 in 1980, and 1,461 in 1982. • Data through 1991 are final. Subsequent data are preliminary.

**Sources:** • United States: Table 3.1a. • All Other Data: International Energy Agency, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics* and *Energy Balances*.

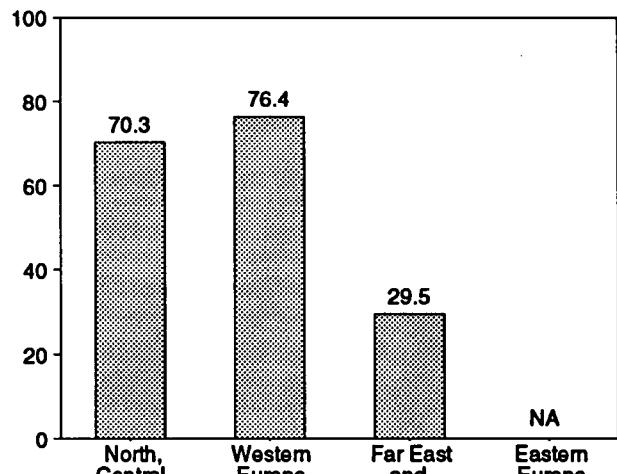
**Figure 10.5 Nuclear Electricity Gross Generation**  
(Billion Kilowatthours)

**U.S. and World Generation, 1973-1993**



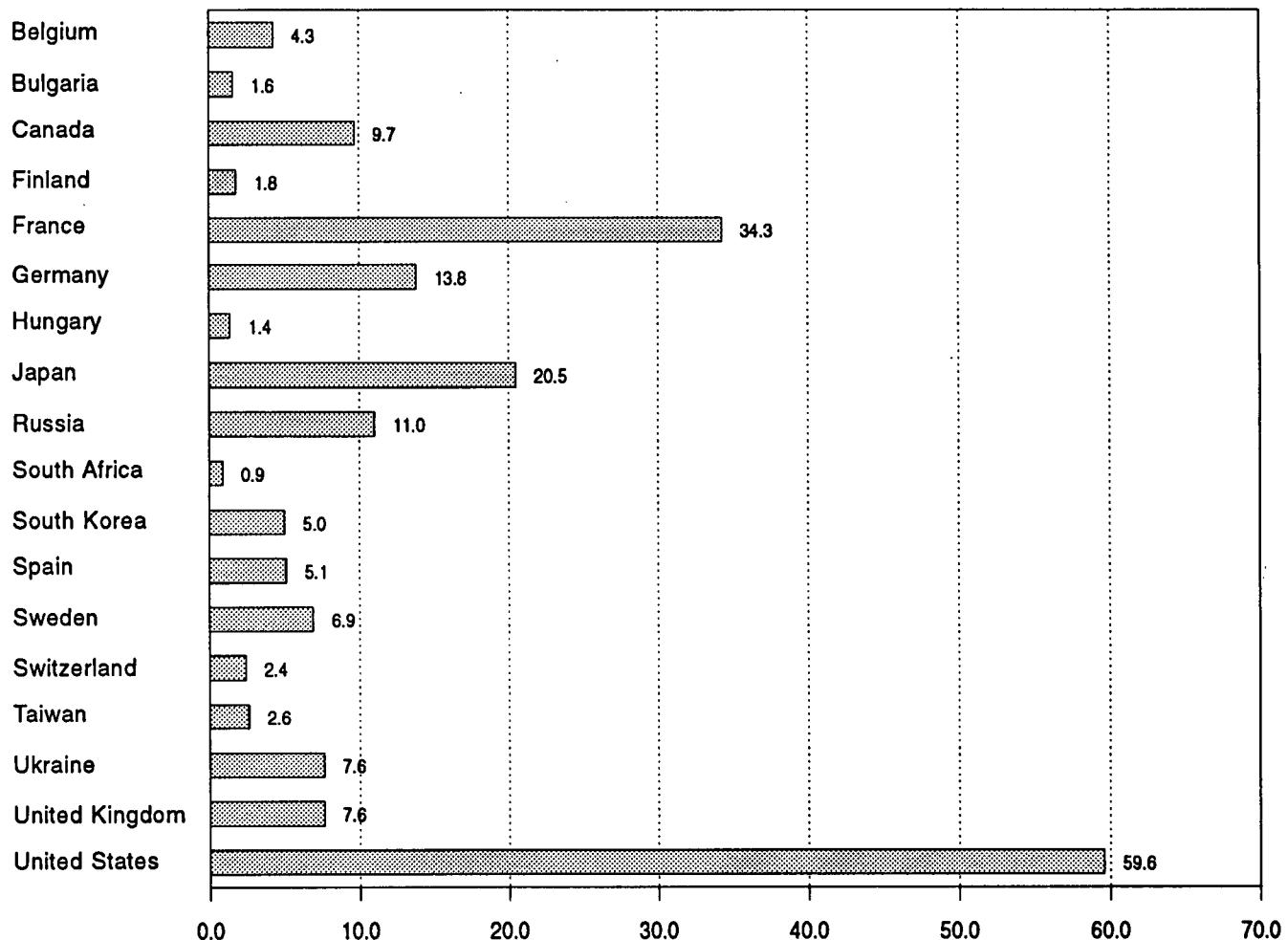
\*World excluding Eastern Europe.

**Generation by Region, January 1994**



NA = Not available.

**Generation by Selected Country, January 1994**



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

Sources: Tables 10.4a-10.4e.

**Table 10.4a Nuclear Electricity Gross Generation: Regions and World**  
(Billion Kilowatthours)

	North, Central, and South America	Western Europe	Far East and Africa	Subtotal	Eastern Europe <sup>a</sup>	World
1973 Total .....	103.1	73.9	12.3	189.3	NA	NA
1974 Total .....	140.8	83.9	21.4	246.0	NA	NA
1975 Total .....	198.0	111.7	24.4	334.1	NA	NA
1976 Total .....	222.4	126.2	40.3	388.9	NA	NA
1977 Total .....	292.4	148.1	31.5	472.0	NA	NA
1978 Total .....	328.3	166.9	60.6	555.9	NA	NA
1979 Total .....	311.7	184.3	74.7	570.7	NA	NA
1980 Total .....	308.1	214.2	97.4	619.8	NA	NA
1981 Total .....	334.6	293.4	102.9	730.9	NA	NA
1982 Total .....	343.1	321.8	123.6	788.5	NA	NA
1983 Total .....	370.2	377.2	140.1	887.5	NA	NA
1984 Total .....	404.1	485.4	171.9	1,061.5	NA	NA
1985 Total .....	474.8	582.8	207.9	1,265.4	NA	NA
1986 Total .....	514.6	631.5	232.9	1,378.9	NA	NA
1987 Total .....	566.3	648.3	266.1	1,480.7	NA	NA
1988 Total .....	645.2	688.1	259.6	1,592.8	NA	NA
1989 Total .....	646.8	732.2	275.1	1,654.1	NA	NA
1990 Total .....	690.7	738.6	293.2	1,722.5	NA	NA
1991 Total .....	742.6	769.7	313.0	1,825.2	NA	NA
1992 January .....	68.6	77.4	27.7	173.7	NA	NA
February .....	63.0	70.9	24.2	158.1	NA	NA
March .....	56.8	74.1	25.2	156.1	NA	NA
April .....	51.8	64.5	23.9	140.2	NA	NA
May .....	53.9	59.7	24.6	138.2	NA	NA
June .....	60.4	56.2	26.1	142.7	NA	NA
July .....	67.5	56.0	31.5	155.0	NA	NA
August .....	69.8	55.9	33.7	159.5	NA	NA
September .....	61.2	58.8	26.3	146.4	NA	NA
October .....	59.1	65.5	25.7	150.3	NA	NA
November .....	61.7	65.7	25.6	153.1	NA	NA
December .....	70.2	76.5	28.4	175.1	NA	NA
Total .....	744.0	783.9	325.1	1,852.9	E 271.5	E 2,124.8
1993 January .....	71.3	78.9	28.7	178.9	NA	NA
February .....	62.1	72.6	26.0	160.8	NA	NA
March .....	58.3	76.3	27.5	162.1	NA	NA
April .....	53.9	68.6	26.1	148.7	NA	NA
May .....	R 60.8	60.1	E 26.6	E 147.5	NA	NA
June .....	63.7	60.7	E 26.6	E 151.0	NA	NA
July .....	R 69.4	60.8	E 32.8	E 163.1	NA	NA
August .....	69.2	57.9	E 34.1	E 161.2	NA	NA
September .....	61.5	63.9	E 29.0	E 154.4	NA	NA
October .....	56.2	65.7	E 28.9	E 150.7	NA	NA
November .....	R 58.3	70.6	E 28.3	E 157.2	NA	NA
December .....	R 66.2	R 81.0	E 30.9	E 178.1	NA	NA
Total .....	R 752.7	R 817.0	E 350.4	RE 1,920.0	NA	NA
1994 January .....	70.3	76.4	E 29.5	E 176.2	NA	NA

<sup>a</sup> See Table 10.4e for country-specific estimated annual generation in 1992 and monthly generation in 1993 for Eastern Europe.

R=Revised data. NA=Not available. E=Estimate.

Notes: • Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants

themselves. • Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. • Data for countries may not sum to totals due to independent rounding.

Source: McGraw-Hill Publishing Company, *Nucleonics Week*.

**Table 10.4b Nuclear Electricity Gross Generation: North, Central, and South America**  
(Billion Kilowatthours)

	Argentina	Brazil	Canada	Mexico	United States	North, Central, and South America
1973 Total .....	-	-	15.3	-	87.8	103.1
1974 Total .....	1.0	-	15.4	-	124.3	140.8
1975 Total .....	2.5	-	13.2	-	182.3	198.0
1976 Total .....	2.6	-	18.0	-	201.8	222.4
1977 Total .....	1.6	-	26.6	-	264.2	292.4
1978 Total .....	2.9	-	33.0	-	292.4	328.3
1979 Total .....	2.7	-	38.4	-	270.6	311.7
1980 Total .....	2.3	-	40.4	-	265.4	308.1
1981 Total .....	2.8	-	43.3	-	288.5	334.6
1982 Total .....	1.9	0.1	42.6	-	298.6	343.1
1983 Total .....	3.4	.2	53.0	-	313.6	370.2
1984 Total .....	4.5	2.1	53.8	-	343.8	404.1
1985 Total .....	5.8	3.4	62.9	-	402.7	474.8
1986 Total .....	5.7	.1	74.6	-	434.1	514.6
1987 Total .....	5.2	1.0	80.6	-	479.5	566.3
1988 Total .....	5.1	.3	85.6	-	554.1	645.2
1989 Total .....	5.0	1.6	83.2	-	557.0	646.8
1990 Total .....	7.4	2.0	75.8	2.1	603.4	690.7
1991 Total .....	7.7	1.4	86.1	4.2	643.0	742.6
1992 January .....	.6	.0	6.9	.5	60.6	68.6
February .....	.7	.0	6.4	.4	55.4	63.0
March .....	.6	.0	7.4	.5	48.3	56.8
April .....	.6	.0	6.4	.5	44.3	51.8
May .....	.5	.0	4.8	.5	48.1	53.9
June .....	.6	.1	5.6	.3	53.7	60.4
July .....	.7	.3	7.2	.3	59.0	67.5
August .....	.7	.4	6.9	.2	61.6	69.8
September .....	.7	.3	6.9	.0	53.2	61.2
October .....	.3	.1	7.2	(s)	51.5	59.1
November .....	.4	.3	7.4	.4	53.2	61.7
December .....	.6	.1	8.0	.4	61.0	70.2
Total .....	7.1	1.8	81.3	3.9	650.0	744.0
1993 January .....	.6	.2	8.2	.5	61.8	71.3
February .....	.4	.2	7.4	.3	53.7	62.1
March .....	.6	(s)	7.8	.1	49.8	58.3
April .....	.7	.0	7.3	.5	45.4	53.9
May .....	.7	.0	6.7	.5	R 52.8	R 60.8
June .....	.7	.0	7.1	.5	55.4	63.7
July .....	.7	.0	9.3	.5	58.9	R 69.4
August .....	.7	.0	9.1	.5	58.9	69.2
September .....	.7	.0	7.9	.5	52.5	61.5
October .....	.4	.0	8.5	.4	46.9	56.2
November .....	R .6	.0	8.2	.4	49.1	R 58.3
December .....	R .7	.0	9.2	.4	55.9	R 66.2
Total .....	R 7.7	.4	97.6	4.9	642.0	R 752.7
1994 January .....	.7	.0	9.7	2	59.6	70.3

R=Revised data. - =Not applicable. (s)=Less than 0.05 billion kilowatthours.

Notes: • Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves. • U.S. geographic coverage is the 50 States and the District of

Columbia. • Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. • Data for countries may not sum to totals due to independent rounding.

Source: McGraw-Hill Publishing Company, *Nucleonics Week*.

**Table 10.4c Nuclear Electricity Gross Generation: Western Europe**  
 (Billion Kilowatthours)

	Belgium	Finland	France	Germany <sup>a</sup>	Italy	Netherlands	Spain	Sweden	Switzerland	United Kingdom <sup>b</sup>	Western Europe
1973 Total .....	0.0	-	14.7	11.9	3.1	1.1	6.5	2.1	6.2	28.2	73.9
1974 Total .....	.1	-	14.7	12.0	3.4	3.3	7.2	2.3	7.0	33.8	83.9
1975 Total .....	6.8	-	18.3	21.7	3.8	3.3	7.5	12.0	7.7	30.5	111.7
1976 Total .....	10.0	-	15.8	24.5	3.8	3.9	7.6	18.0	7.9	36.8	126.2
1977 Total .....	11.9	2.7	17.9	36.0	3.4	3.7	6.5	19.9	8.1	38.1	148.1
1978 Total .....	12.5	3.3	30.6	35.7	4.5	4.1	7.8	23.8	8.3	36.6	166.9
1979 Total .....	11.4	6.7	39.9	42.2	2.6	3.5	6.7	21.0	11.8	38.5	184.3
1980 Total .....	12.5	7.0	81.2	43.7	2.2	4.2	6.2	26.7	14.3	37.2	214.2
1981 Total .....	12.8	14.5	105.2	63.4	2.7	3.7	9.4	37.7	15.2	38.9	293.4
1982 Total .....	15.6	16.5	108.9	63.4	6.8	3.9	8.8	38.8	15.0	44.1	321.8
1983 Total .....	24.1	17.4	144.2	65.8	5.8	3.6	10.7	40.4	15.5	49.6	377.2
1984 Total .....	27.7	18.5	191.2	92.6	6.9	3.8	23.1	51.3	16.3	54.1	465.4
1985 Total .....	34.5	18.8	224.0	125.8	7.0	3.9	28.0	58.6	22.4	59.7	582.8
1986 Total .....	38.6	18.8	254.3	118.9	8.7	4.2	37.5	69.9	22.5	58.2	631.5
1987 Total .....	41.9	19.4	265.5	130.2	.2	3.6	41.2	67.2	23.0	56.2	648.3
1988 Total .....	43.1	19.3	274.9	145.2	.0	3.7	50.4	69.4	22.7	59.4	688.1
1989 Total .....	41.2	18.8	302.5	149.8	.0	4.0	56.1	65.6	22.8	71.8	732.2
1990 Total .....	42.7	18.9	314.1	147.2	.0	3.4	54.3	68.2	23.6	66.1	738.6
1991 Total .....	42.9	19.2	331.4	147.3	.0	3.3	55.8	76.8	22.9	70.4	769.7
1992 January .....	4.3	1.8	33.5	15.6	.0	.4	5.4	7.6	2.3	6.5	77.4
February .....	4.0	1.7	29.8	15.2	.0	3	4.6	6.8	2.1	6.3	70.9
March .....	4.0	1.8	30.7	15.8	.0	.1	4.2	7.1	2.2	8.3	74.1
April .....	3.4	1.7	28.0	14.1	.0	.1	3.8	6.7	1.9	5.0	64.6
May .....	3.8	1.3	25.6	11.8	.0	3	4.3	4.7	1.9	6.0	59.7
June .....	3.6	1.4	22.4	11.8	.0	3	4.5	3.9	1.3	7.0	56.2
July .....	3.1	1.6	23.7	12.0	.0	4	5.0	3.6	1.7	4.9	56.0
August .....	3.4	1.4	24.6	10.9	.0	4	5.2	3.5	1.1	5.5	55.9
September .....	3.1	1.3	25.6	11.6	.0	4	4.2	3.9	2.0	6.9	58.8
October .....	3.6	1.6	28.5	13.2	.0	4	5.0	5.2	2.3	5.7	65.5
November .....	3.3	1.7	29.5	13.0	.0	4	4.4	5.2	2.2	6.1	65.7
December .....	3.9	1.8	33.1	13.8	.0	4	5.4	5.4	2.3	10.4	76.5
Total .....	43.5	19.0	337.6	158.8	.0	3.8	55.8	63.5	23.4	78.5	783.9
1993 January .....	4.3	1.8	36.3	15.1	.0	.4	5.4	5.8	2.3	7.8	78.9
February .....	3.7	1.6	32.7	13.9	.0	.3	4.3	5.9	2.1	7.9	72.6
March .....	3.4	1.8	34.3	14.2	.0	.1	4.9	7.1	2.3	8.3	76.3
April .....	3.3	1.7	30.5	12.4	.0	.1	4.2	6.6	2.0	7.7	68.6
May .....	3.1	1.3	26.9	11.8	.0	4	4.1	4.6	1.9	6.0	60.1
June .....	3.0	1.6	25.4	12.0	.0	4	4.4	4.7	1.2	8.2	60.7
July .....	3.2	1.8	26.9	12.3	.0	4	5.0	3.1	1.8	6.4	60.8
August .....	3.4	1.5	25.9	11.1	.0	4	5.1	3.2	1.1	6.1	57.9
September .....	3.4	1.3	28.8	11.2	.0	4	4.6	4.1	1.7	8.4	63.9
October .....	3.2	1.8	29.1	12.6	.0	4	4.7	4.7	2.2	6.9	65.7
November .....	3.7	1.7	33.7	12.6	.0	4	4.2	5.3	2.3	6.7	70.8
December .....	4.3	1.8	36.2	14.3	.0	4	5.2	6.3	2.4	10.2	81.0
Total .....	41.9	19.6	366.7	153.5	.0	3.9	56.1	61.4	23.3	80.4	817.0
1994 January .....	4.3	1.8	34.3	13.8	.0	.4	5.1	6.9	2.4	7.6	76.4

<sup>a</sup> Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

<sup>b</sup> Monthly data for the United Kingdom are totals for 4- or 5-week reporting periods, not calendar months.

R=Revised data. - =Not applicable. (s)=Less than 0.05 billion kilowatthours.

Notes: • Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves. • Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. • Data for countries may not sum to totals due to independent rounding.

Source: McGraw-Hill Publishing Company, *Nucleonics Week*.

**Table 10.4d Nuclear Electricity Gross Generation: Far East and Africa**  
 (Billion Kilowatthours)

	China <sup>a</sup>	India	Japan	Pakistan	South Africa	South Korea	Taiwan	Far East and Africa
1973 Total .....	-	2.5	9.4	0.5	-	-	-	12.3
1974 Total .....	-	1.8	18.9	.6	-	-	-	21.4
1975 Total .....	-	2.5	21.3	.5	-	-	-	24.4
1976 Total .....	-	3.2	36.6	.5	-	-	-	40.3
1977 Total .....	-	2.8	28.2	.3	-	0.1	0.1	31.5
1978 Total .....	-	2.3	53.1	.2	-	2.3	2.7	60.6
1979 Total .....	-	3.2	62.0	(s)	-	3.2	6.3	74.7
1980 Total .....	-	2.9	82.6	.1	-	3.5	8.2	97.4
1981 Total .....	-	3.1	86.0	.2	-	2.9	10.7	102.9
1982 Total .....	-	2.2	104.5	.1	-	3.8	13.1	123.6
1983 Total .....	-	2.9	109.1	.2	-	9.0	16.9	140.1
1984 Total .....	-	4.1	127.2	.3	4.2	11.8	24.3	171.9
1985 Total .....	-	4.5	152.0	.3	5.9	16.5	28.7	207.9
1986 Total .....	-	5.1	164.8	.5	9.3	26.1	26.9	232.9
1987 Total .....	-	5.5	182.8	.3	6.6	37.8	33.1	266.1
1988 Total .....	-	6.1	173.6	.2	11.1	38.7	29.9	259.6
1989 Total .....	-	4.0	183.7	.1	11.7	47.2	28.3	275.1
1990 Total .....	-	6.3	191.9	.4	8.9	52.8	32.9	293.2
1991 Total .....	-	5.4	205.8	.4	9.7	56.3	35.3	313.0
1992 January .....	-	.5	18.5	(s)	.9	4.6	3.1	27.7
February .....	-	.5	17.1	.0	.4	4.0	2.2	24.2
March .....	-	.5	17.9	(s)	.4	4.2	2.2	25.2
April .....	-	.4	16.0	(s)	.4	4.5	2.6	23.9
May .....	-	.4	16.3	(s)	.7	4.5	2.6	24.6
June .....	-	.3	17.1	.1	1.2	4.5	2.9	26.1
July .....	-	.4	21.1	.1	1.3	5.3	3.3	31.5
August .....	-	.5	23.1	.1	1.0	5.4	3.6	33.7
September .....	-	.5	17.2	.1	1.1	4.6	2.8	26.3
October .....	-	.6	16.2	.1	1.0	4.9	2.9	25.7
November .....	-	.7	16.3	.1	.6	4.7	3.2	25.6
December .....	-	.8	19.1	.1	.8	5.1	2.6	28.4
Total .....	-	6.3	218.0	.6	9.9	56.4	33.8	325.1
1993 January .....	-	.7	19.5	(s)	.6	4.8	3.0	28.7
February .....	-	.6	17.4	.1	.6	4.5	2.7	26.0
March .....	-	.6	18.9	.1	.5	4.6	2.8	27.5
April .....	-	.2	17.6	.1	.6	4.8	2.8	26.1
May .....	NA	.4	17.4	(s)	.8	5.3	2.7	E 26.6
June .....	NA	.5	17.9	(s)	.5	5.1	2.6	E 26.6
July .....	NA	.7	22.3	.1	1.0	5.5	3.4	E 32.8
August .....	NA	.5	24.2	(s)	.9	4.9	3.6	E 34.1
September .....	NA	.4	20.5	.1	.5	4.6	2.9	E 29.0
October .....	NA	.5	20.6	(s)	.4	4.6	2.8	E 28.9
November .....	NA	.5	20.9	.0	.4	4.2	2.3	E 28.3
December .....	NA	.6	21.5	(s)	.8	5.1	2.8	E 30.9
Total .....	NA	6.2	243.5	.4	7.7	58.1	34.3	E 350.4
1994 January .....	NA	.4	20.5	.1	.9	5.0	2.6	E 29.5

<sup>a</sup> China has one nuclear generating unit in commercial operation and two under construction, which are projected for initial commercial operation in 1994.

NA=Not available. --=Not applicable. E=Estimate. (s)=Less than 0.05 billion kilowatthours.

Notes: • Net figures are generally less than gross figures by about 5

percent, the difference being the energy consumed by the generating plants themselves.  
 • Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data.  
 • Data for countries may not sum to totals due to independent rounding.

Source: McGraw-Hill Publishing Company, *Nucleonics Week*.

**Table 10.4e Nuclear Electricity Gross Generation: Eastern Europe**  
 (Billion Kilowatthours)

	Bulgaria	Czech Republic	Hungary	Kazakhstan	Lithuania	Romania <sup>a</sup>	Russia	Slovakia	Slovenia	Ukraine	Eastern Europe <sup>b</sup>
1973 Total .....	-	-	-	NA	-	-	NA	NA	-	-	NA
1974 Total .....	NA	-	-	NA	-	-	NA	NA	-	-	NA
1975 Total .....	NA	-	-	NA	-	-	NA	NA	-	-	NA
1976 Total .....	NA	-	-	NA	-	-	NA	NA	-	-	NA
1977 Total .....	NA	-	-	NA	-	-	NA	NA	-	-	NA
1978 Total .....	NA	-	-	NA	-	-	NA	NA	-	NA	NA
1979 Total .....	NA	-	-	NA	-	-	NA	NA	-	NA	NA
1980 Total .....	NA	-	-	NA	-	-	NA	NA	-	NA	NA
1981 Total .....	NA	-	-	NA	-	-	NA	NA	-	NA	NA
1982 Total .....	NA	-	-	NA	-	-	NA	NA	-	NA	NA
1983 Total .....	NA	-	NA	NA	-	-	NA	NA	NA	NA	NA
1984 Total .....	NA	-	NA	NA	-	-	NA	NA	NA	NA	NA
1985 Total .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
1986 Total .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
1987 Total .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
1988 Total .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
1989 Total .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
1990 Total .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
1991 Total .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
1992 January .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
February .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
March .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
April .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
May .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
June .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
July .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
August .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
September .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
October .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
November .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
December .....	NA	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
Total .....	E 12.2	E 12.9	E 13.8	E .5	E 16.4	-	E 125.6	E 11.7	E 4.0	E 74.6	E 271.5
1993 January .....	E 1.5	NA	1.4	NA	NA	-	11.0	NA	.5	E 7.8	NA
February .....	E 1.5	NA	1.2	NA	NA	-	9.8	NA	.4	E 7.8	NA
March .....	E 1.5	NA	1.2	NA	NA	-	10.6	NA	.4	7.8	NA
April .....	E 1.5	NA	1.0	NA	NA	-	10.3	NA	.5	5.5	NA
May .....	1.2	NA	1.0	NA	NA	-	9.6	NA	.2	5.1	NA
June .....	.8	NA	1.0	NA	NA	-	10.1	NA	.0	5.0	NA
July .....	.9	NA	1.0	NA	NA	-	8.4	NA	(s)	5.6	NA
August .....	.9	NA	1.0	NA	NA	-	9.5	NA	.4	6.0	NA
September .....	1.1	.9	1.0	NA	NA	-	9.3	NA	.5	5.1	NA
October .....	.6	.9	1.2	NA	NA	-	9.7	NA	.5	5.3	NA
November .....	.9	1.0	1.3	NA	NA	-	10.4	NA	.4	5.3	NA
December .....	1.6	.9	1.4	NA	NA	-	11.9	NA	.3	6.3	NA
Total .....	14.0	NA	13.8	NA	NA	-	120.4	NA	4.0	E 72.7	NA
1994 January .....	1.6	E .9	1.4	NA	NA	-	11.0	NA	.3	7.8	NA

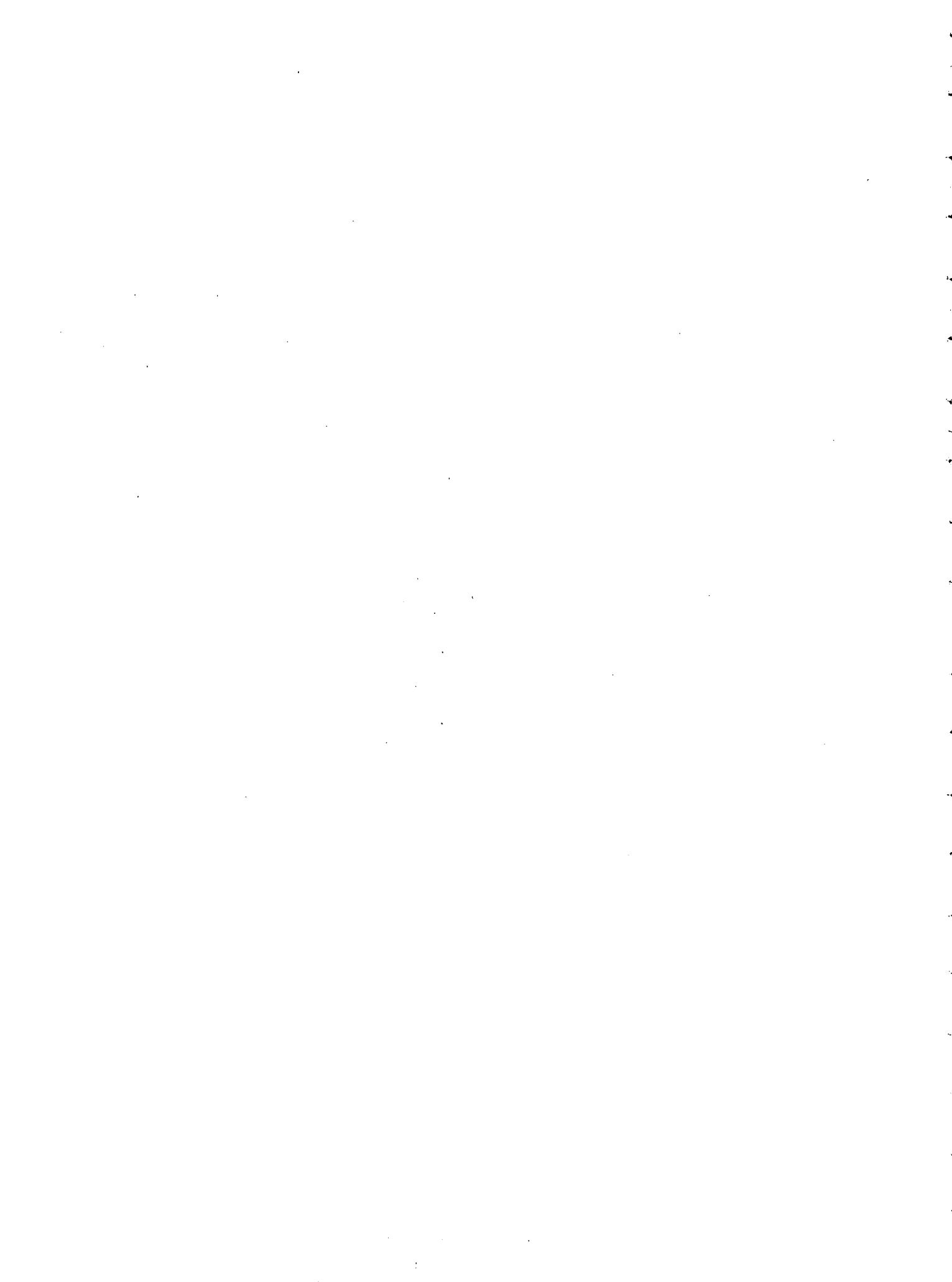
<sup>a</sup> Romania has a nuclear generating unit under construction. Its earliest initial commercial operation is projected to be in 1995.

<sup>b</sup> Total gross generation estimations for 1992 for Eastern European countries are calculated as 5 percent more than the annual net nuclear generation reported by the International Atomic Energy Agency (IAEA) and published in the Energy Information Administration annual report, *World Nuclear Capacity and Fuel Cycle Requirements 1993* (November 1993), Table 10.

NA=Not available. -=Not applicable. E=Estimate.

Notes: • Armenia has two nuclear generating units under construction. The earliest initial commercial operation for one unit is projected to be in 1995. • Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves. • Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. • Data for countries may not sum to totals due to independent rounding.

Source: McGraw-Hill Publishing Company, *Nucleonics Week*.



# Appendix A. Thermal Conversion Factors

The thermal conversion factors presented in the following eight tables can be used to estimate the heat content in British thermal units (Btu) of a given amount of energy measured in physical units, such as barrels or cubic feet. For example, 10 barrels of asphalt have a heat content of approximately 66.36 million Btu (10 barrels x 6.636 million Btu/barrel = 66.36 million Btu).

Thermal conversion factors for hydrocarbon mixes (Table A1) are weighted averages of the thermal conversion factors for each hydrocarbon included in the mix. For example, in calculating the thermal conversion factor for a 60-40 butane-propane mixture,

the thermal conversion factor for butane is weighted 1.5 times more heavily than the thermal conversion factor for propane.

In general, the annual thermal conversion factors presented in Tables A1 through A8 are computed from final annual data. However, if the current year's final data are not available in time for publication, thermal conversion factors for the current year are computed from the best available data and are labeled "preliminary." The source of each factor is described in the section entitled "Thermal Conversion Factor Source Documentation," which follows Table A8 in this appendix.

**Table A1. Approximate Heat Content of Petroleum Products  
(Million Btu per Barrel)**

Petroleum Product	Heat Content	Petroleum Product	Heat Content
Asphalt .....	6.636	Petrochemical Feedstocks	
Aviation Gasoline .....	5.048	Naphtha Less Than 401° F.....	5.248
Butane .....	4.326	Other Oils Equal to or Greater Than 401° F ...	5.825
Butane-Propane Mixture <sup>a</sup> .....	4.130	Still Gas .....	6.000
Distillate Fuel Oil .....	5.825	Petroleum Coke.....	6.024
Ethane .....	3.082	Plant Condensate.....	5.418
Ethane-Propane Mixture <sup>b</sup> .....	3.308	Propane .....	3.838
Isobutane.....	3.974	Residual Fuel Oil.....	6.287
Jet Fuel, Kerosene Type .....	5.670	Road Oil .....	6.636
Jet Fuel, Naphtha Type .....	5.355	Special Naphthas .....	5.248
Kerosene .....	5.670	Still Gas .....	6.000
Lubricants.....	6.065	Unfinished Oils .....	5.825
Motor Gasoline .....	5.253	Unfractionated Stream .....	5.418
Natural Gasoline and Isopentane .....	4.620	Waxes.....	5.537
Pentanes Plus .....	4.620	Miscellaneous.....	5.798

<sup>a</sup> 60 percent butane and 40 percent propane.

<sup>b</sup> 70 percent ethane and 30 percent propane.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

**Table A2. Approximate Heat Content of Crude Oil, Crude Oil and Products, and Natural Gas Plant Liquids**  
 (Million Btu per Barrel)

	Crude Oil			Crude Oil and Products		Natural Gas Plant Liquids Production
	Production	Imports	Exports	Imports	Exports	
1973 .....	5.800	5.817	5.800	5.897	5.752	4.049
1974 .....	5.800	5.827	5.800	5.884	5.774	4.011
1975 .....	5.800	5.821	5.800	5.858	5.748	3.984
1976 .....	5.800	5.808	5.800	5.856	5.745	3.964
1977 .....	5.800	5.810	5.800	5.834	5.797	3.941
1978 .....	5.800	5.802	5.800	5.839	5.808	3.925
1979 .....	5.800	5.810	5.800	5.810	5.832	3.955
1980 .....	5.800	5.812	5.800	5.796	5.820	3.914
1981 .....	5.800	5.818	5.800	5.775	5.821	3.930
1982 .....	5.800	5.826	5.800	5.775	5.820	3.872
1983 .....	5.800	5.825	5.800	5.774	5.800	3.839
1984 .....	5.800	5.823	5.800	5.745	5.850	3.812
1985 .....	5.800	5.832	5.800	5.736	5.814	3.815
1986 .....	5.800	5.903	5.800	5.808	5.832	3.797
1987 .....	5.800	5.901	5.800	5.820	5.858	3.804
1988 .....	5.800	5.900	5.800	5.820	5.840	3.800
1989 .....	5.800	5.906	5.800	5.833	5.857	3.826
1990 .....	5.800	5.934	5.800	5.849	5.833	3.822
1991 .....	5.800	5.948	5.800	5.873	5.823	3.807
1992 .....	5.800	5.953	5.800	5.877	5.777	3.804
1993 <sup>a</sup> .....	5.800	5.954	5.800	5.879	5.761	3.800
1994 <sup>a</sup> .....	5.800	5.954	5.800	5.879	5.761	3.800

<sup>a</sup> Preliminary.

Note: Crude oil includes lease condensate.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

**Table A3. Approximate Heat Content of Petroleum Product Weighted Averages**  
 (Million Btu per Barrel)

	Consumption					Imports	Exports	LPG Consumption
	Residential and Commercial	Industrial	Transportation	Electric Utilities	Total			
1973 .....	5.387	5.568	5.395	6.245	5.515	5.983	5.752	3.746
1974 .....	5.377	5.538	5.394	6.238	5.504	5.959	5.773	3.730
1975 .....	5.358	5.528	5.392	6.250	5.494	5.935	5.747	3.715
1976 .....	5.383	5.538	5.395	6.251	5.504	5.980	5.743	3.711
1977 .....	5.389	5.555	5.400	6.249	5.518	5.908	5.796	3.677
1978 .....	5.382	5.553	5.404	6.251	5.519	5.955	5.814	3.669
1979 .....	5.471	5.418	5.428	6.258	5.494	5.811	5.864	3.680
1980 .....	5.468	5.376	5.440	6.254	5.479	5.748	5.841	3.674
1981 .....	5.409	5.313	5.432	6.258	5.448	5.659	5.837	3.643
1982 .....	5.392	5.263	5.422	6.258	5.415	5.664	5.829	3.615
1983 .....	5.286	5.273	5.415	6.255	5.406	5.677	5.800	3.614
1984 .....	5.384	5.223	5.422	6.251	5.395	5.613	5.867	3.599
1985 .....	5.326	5.221	5.423	6.247	5.387	5.572	5.819	3.603
1986 .....	5.357	5.286	5.427	6.257	5.418	5.624	5.839	3.640
1987 .....	5.316	5.253	5.430	6.249	5.403	5.599	5.860	3.659
1988 .....	5.320	5.248	5.434	6.250	5.410	5.618	5.842	3.652
1989 .....	5.257	5.233	5.440	6.241	5.410	5.641	5.869	3.683
1990 .....	5.208	5.272	5.445	6.247	5.411	5.614	5.838	3.625
1991 .....	5.163	5.192	5.442	6.248	5.384	5.636	5.827	3.614
1992 <sup>a</sup> .....	5.169	5.188	5.445	6.243	5.378	5.623	5.774	3.624
1993 <sup>a</sup> .....	5.176	5.194	5.441	6.241	5.381	5.602	5.757	3.603
1994 <sup>a</sup> .....	5.176	5.194	5.441	6.241	5.381	5.602	5.757	3.603

<sup>a</sup> Preliminary.

Note: Weighted averages of the products included in each category are calculated by using heat content values shown in Table A1.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

**Table A4. Approximate Heat Content of Natural Gas**  
(Btu per Cubic Foot)

	Production		Consumption			Imports	Exports
	Dry	Marketed (Wet)	Sectors Other Than Electric Utilities	Electric Utilities	Total		
1973 .....	1,021	1,093	1,020	1,024	1,021	1,026	1,023
1974 .....	1,024	1,097	1,024	1,022	1,024	1,027	1,016
1975 .....	1,021	1,095	1,020	1,026	1,021	1,026	1,014
1976 .....	1,020	1,093	1,019	1,023	1,020	1,025	1,013
1977 .....	1,021	1,093	1,019	1,029	1,021	1,026	1,013
1978 .....	1,019	1,088	1,016	1,034	1,019	1,030	1,013
1979 .....	1,021	1,092	1,018	1,035	1,021	1,037	1,013
1980 .....	1,026	1,098	1,024	1,035	1,026	1,022	1,013
1981 .....	1,027	1,103	1,025	1,035	1,027	1,014	1,011
1982 .....	1,028	1,107	1,028	1,036	1,028	1,018	1,011
1983 .....	1,031	1,115	1,031	1,030	1,031	1,024	1,010
1984 .....	1,031	1,109	1,030	1,035	1,031	1,005	1,010
1985 .....	1,032	1,112	1,031	1,038	1,032	1,002	1,011
1986 .....	1,030	1,110	1,029	1,034	1,030	997	1,008
1987 .....	1,031	1,112	1,031	1,032	1,031	999	1,011
1988 .....	1,029	1,109	1,029	1,028	1,029	1,002	1,018
1989 .....	1,031	1,107	1,031	1,030	1,031	1,004	1,019
1990 .....	1,031	1,105	1,030	1,034	1,031	1,012	1,018
1991 .....	1,030	1,108	1,031	1,024	1,030	1,014	1,022
1992 <sup>a</sup> .....	1,030	1,110	1,031	1,022	1,030	1,011	1,018
1993 <sup>a</sup> .....	1,030	1,110	1,031	1,022	1,030	1,011	1,018
1994 <sup>a</sup> .....	1,030	1,110	1,031	1,022	1,030	1,011	1,018

<sup>a</sup> Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

**Table A5. Approximate Heat Content of Coal**  
(Million Btu per Short Ton)

	Production	Consumption					Imports	Exports
		Residential and Commercial	Coke Plants	Other Industrial <sup>a</sup>	Electric Utilities <sup>b</sup>	Total		
1973 .....	23.376	22.831	26.780	22.586	22.246	23.057	25.000	26.596
1974 .....	23.072	22.479	26.778	22.419	21.781	22.677	25.000	26.700
1975 .....	22.897	22.261	26.782	22.436	21.642	22.506	25.000	26.562
1976 .....	22.855	22.774	26.781	22.530	21.679	22.498	25.000	26.601
1977 .....	22.597	22.919	26.787	22.322	21.508	22.265	25.000	26.548
1978 .....	22.248	22.466	26.789	22.207	21.275	22.017	25.000	26.478
1979 .....	22.454	22.242	26.788	22.452	21.364	22.100	25.000	26.548
1980 .....	22.415	22.543	26.790	22.690	21.295	21.947	25.000	26.384
1981 .....	22.308	22.474	26.794	22.585	21.085	21.713	25.000	26.160
1982 .....	22.239	22.695	26.797	22.712	21.194	21.674	25.000	26.223
1983 .....	22.052	22.775	26.798	22.691	21.133	21.576	25.000	26.291
1984 .....	22.010	22.844	26.799	22.543	21.101	21.573	25.000	26.402
1985 .....	21.870	22.646	26.798	22.020	20.959	21.366	25.000	26.307
1986 .....	21.913	22.947	26.798	22.198	21.084	21.462	25.000	26.292
1987 .....	21.922	23.404	26.799	22.381	21.136	21.517	25.000	26.291
1988 .....	21.823	23.571	26.799	22.360	20.900	21.328	25.000	26.299
1989 .....	21.765	23.650	26.800	22.347	20.848	21.272	25.000	26.160
1990 .....	21.822	23.137	26.799	22.457	20.929	21.331	25.000	26.202
1991 .....	21.681	23.114	26.799	22.460	20.755	21.146	25.000	26.188
1992 .....	21.646	23.105	26.799	22.250	20.787	21.143	25.000	26.161
1993 <sup>c</sup> .....	21.646	23.105	26.799	22.250	20.787	21.143	25.000	26.161
1994 <sup>c</sup> .....	21.646	23.105	26.799	22.250	20.787	21.143	25.000	26.161

<sup>a</sup> Includes transportation.

<sup>b</sup> Data shown in this column are not the same as those shown in the *Electric Power Monthly* (EPM). The EPM data report coal receipts; the data shown here represent coal consumption.

<sup>c</sup> Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

**Table A6. Approximate Heat Content of Bituminous Coal and Lignite**  
 (Million Btu per Short Ton)

	Production	Consumption					Imports	Exports
		Residential and Commercial	Coke Plants	Other Industrial <sup>a</sup>	Electric Utilities	Total		
1973 .....	23.391	22.887	26.800	22.585	22.262	23.073	25.000	26.612
1974 .....	23.087	22.523	26.800	22.420	21.799	22.694	25.000	26.716
1975 .....	22.910	22.258	26.800	22.439	21.659	22.522	25.000	26.573
1976 .....	22.863	22.819	26.800	22.528	21.692	22.509	25.000	26.613
1977 .....	22.597	22.594	26.800	22.290	21.521	22.266	25.000	26.561
1978 .....	22.242	22.078	26.800	22.175	21.284	22.014	25.000	26.501
1979 .....	22.449	21.884	26.800	22.436	21.372	22.100	25.000	26.570
1980 .....	22.411	22.488	26.800	22.690	21.301	21.950	25.000	26.404
1981 .....	22.301	22.010	26.800	22.572	21.091	21.710	25.000	26.176
1982 .....	22.233	22.226	26.800	22.695	21.200	21.670	25.000	26.231
1983 .....	22.048	22.438	26.800	22.680	21.141	21.576	25.000	26.300
1984 .....	22.005	22.406	26.800	22.525	21.108	21.570	25.000	26.410
1985 .....	21.867	22.568	26.800	22.013	20.965	21.368	25.000	26.320
1986 .....	21.908	22.669	26.800	22.185	21.091	21.462	25.000	26.308
1987 .....	21.918	22.800	26.800	22.360	21.143	21.514	25.000	26.304
1988 .....	21.817	23.135	26.800	22.341	20.905	21.324	25.000	26.308
1989 .....	21.759	22.917	26.800	22.324	20.854	21.268	25.000	26.166
1990 .....	21.819	22.678	26.800	22.444	20.935	21.330	25.000	26.207
1991 .....	21.678	22.635	26.800	22.448	20.761	21.146	25.000	26.192
1992 .....	21.643	22.768	26.800	22.242	20.792	21.142	25.000	26.165
1993 <sup>b</sup> .....	21.643	22.768	26.800	22.242	20.792	21.142	25.000	26.165
1994 <sup>b</sup> .....	21.643	22.768	26.800	22.242	20.792	21.142	25.000	26.165

<sup>a</sup> Includes transportation.

<sup>b</sup> Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

**Table A7. Approximate Heat Content of Anthracite and Coal Coke**  
 (Million Btu per Short Ton)

	Production	Anthracite			Imports and Exports	Coal Coke Imports and Exports		
		Consumption		Total				
		Sectors Other Than Electric Utilities	Electric Utilities					
1973 .....	22.132	22.674	17.920	21.464	25.400	24.800		
1974 .....	21.711	22.330	17.200	20.919	25.400	24.800		
1975 .....	21.582	22.272	17.064	20.762	25.400	24.800		
1976 .....	22.045	22.618	17.526	21.254	25.400	24.800		
1977 .....	22.661	24.101	17.244	22.066	25.400	24.800		
1978 .....	23.079	24.388	17.104	22.398	25.400	24.800		
1979 .....	23.170	24.272	17.454	22.069	25.400	24.800		
1980 .....	22.869	22.719	17.652	21.405	25.400	24.800		
1981 .....	23.291	23.749	18.168	22.080	25.400	24.800		
1982 .....	23.289	24.578	18.160	22.518	25.400	24.800		
1983 .....	22.734	24.536	16.516	21.583	25.400	24.800		
1984 .....	23.107	25.128	17.018	22.322	25.400	24.800		
1985 .....	22.428	23.031	16.784	20.817	25.400	24.800		
1986 .....	23.084	24.399	15.578	21.512	25.400	24.800		
1987 .....	23.108	26.293	15.962	22.435	25.400	24.800		
1988 .....	23.266	26.021	17.312	22.423	25.400	24.800		
1989 .....	23.385	27.196	16.310	22.623	25.400	24.800		
1990 .....	22.574	25.199	16.140	21.668	25.400	24.800		
1991 .....	22.573	25.268	15.858	21.410	25.400	24.800		
1992 .....	22.572	24.617	16.944	21.423	25.400	24.800		
1993 <sup>a</sup> .....	22.572	24.617	16.944	21.423	25.400	24.800		
1994 <sup>a</sup> .....	22.572	24.617	16.944	21.423	25.400	24.800		

<sup>a</sup> Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

**Table A8. Approximate Heat Rates for Electricity**  
(Btu per Kilowatthour)

	Electricity Generation			Electricity Consumption
	Fossil-Fueled Steam-Electric Plants <sup>a</sup>	Nuclear Steam-Electric Plants	Geothermal Energy Plants	
1973 .....	10,389	10,903	21,674	3,412
1974 .....	10,442	11,161	21,674	3,412
1975 .....	10,408	11,013	21,611	3,412
1976 .....	10,373	11,047	21,611	3,412
1977 .....	10,435	10,769	21,611	3,412
1978 .....	10,361	10,941	21,611	3,412
1979 .....	10,353	10,879	21,545	3,412
1980 .....	10,388	10,908	21,639	3,412
1981 .....	10,453	11,030	21,639	3,412
1982 .....	10,454	11,073	21,629	3,412
1983 .....	10,520	10,905	21,290	3,412
1984 .....	10,440	10,843	21,303	3,412
1985 .....	10,447	10,813	21,263	3,412
1986 .....	10,446	10,799	21,263	3,412
1987 .....	10,419	10,776	21,263	3,412
1988 .....	10,324	10,743	21,096	3,412
1989 .....	10,317	10,724	21,096	3,412
1990 .....	10,335	10,680	21,096	3,412
1991 .....	10,352	10,740	20,997	3,412
1992 <sup>b</sup> .....	10,302	10,678	20,955	3,412
1993 <sup>b</sup> .....	10,302	10,678	20,955	3,412
1994 <sup>b</sup> .....	10,302	10,678	20,955	3,412

<sup>a</sup> This thermal conversion factor is used for hydroelectric power generation and for biomass fuels, wind, photovoltaic, and solar thermal energy consumed at electric utilities.

<sup>b</sup> Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows this table.

## Thermal Conversion Factor Source Documentation

### Approximate Heat Content of Petroleum and Natural Gas Plant Liquids

**Asphalt.** The Energy Information Administration (EIA) adopted the thermal conversion factor of 6.636 million British thermal units (Btu) per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

**Aviation Gasoline.** EIA adopted the Bureau of Mines thermal conversion factor of 5.048 million Btu per barrel for "Gasoline, Aviation" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

**Butane.** EIA adopted the Bureau of Mines thermal conversion factor of 4.326 million Btu per barrel in the *California Oil World and Petroleum Industry, First Issue, April 1942*.

**Butane-Propane Mixture.** EIA adopted the Bureau of Mines calculation of 4.130 million Btu per barrel

based on an assumed mixture of 60 percent butane and 40 percent propane. See **Butane and Propane**.

**Crude Oil, Exports.** Assumed by EIA to be 5.800 million Btu per barrel or equal to the thermal conversion factor for crude oil produced in the United States. See **Crude Oil and Lease Condensate, Production**.

**Crude Oil, Imports.** Calculated annually by EIA by weighting the thermal conversion factor of each type of crude oil imported by the quantity imported. Thermal conversion factors for each type were calculated on a foreign country basis, by determining the average American Petroleum Institute (API) gravity of crude imported from each foreign country from Form ERA-60 in 1977 and converting average API gravity to average Btu content by using National Bureau of Standards, Miscellaneous Publication No. 97, *Thermal Properties of Petroleum Products*, 1933.

**Crude Oil and Lease Condensate, Production.** EIA adopted the thermal conversion factor of 5.800 million Btu per barrel as reported in a Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950."

**Crude Oil and Petroleum Products, Exports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product

exported and crude oil exported weighted by the quantity of each petroleum product and crude oil exported. See Crude Oil, Exports and Petroleum Products, Exports.

**Crude Oil and Petroleum Products, Imports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product and each type of crude oil imported weighted by the quantity of each petroleum product and each type of crude oil imported. See Crude Oil, Imports and Petroleum Products, Imports.

**Distillate Fuel Oil.** EIA adopted the Bureau of Mines thermal conversion factor of 5.825 million Btu per barrel as reported in a Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Value of Various Fuels, Adopted January 3, 1950."

**Ethane.** EIA adopted the Bureau of Mines thermal conversion factor of 3.082 million Btu per barrel in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Ethane-Propane Mixture.** EIA calculated 3.308 million Btu per barrel based on an assumed mixture of 70 percent ethane and 30 percent propane. See Ethane and Propane.

**Isobutane.** EIA adopted the Bureau of Mines thermal conversion factor of 3.974 million Btu per barrel in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Jet Fuel, Kerosene Type.** EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel for "Jet Fuel, Commercial" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

**Jet Fuel, Naphtha Type.** EIA adopted the Bureau of Mines thermal conversion factor of 5.355 million Btu per barrel for "Jet Fuel, Military" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

**Kerosene.** EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel as reported in a Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950."

**Liquefied Petroleum Gases (LPG) Consumption.** Calculated annually by EIA as the average of the thermal conversion factors of each liquefied petroleum gas consumed, weighted by the quantity of each liquefied petroleum gas consumed.

**Lubricants.** EIA adopted the thermal conversion factor of 6.065 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

**Miscellaneous Products.** EIA adopted the thermal conversion factor of 5.796 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

**Motor Gasoline.** EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for "Gasoline, Motor Fuel" by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

**Natural Gas Plant Liquids, Production.** Calculated annually by EIA as the average of the thermal conversion factors of each natural gas plant liquid produced weighted by the quantity of each natural gas plant liquid produced.

**Natural Gasoline.** EIA adopted the thermal conversion factor of 4.620 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

**Pentanes Plus.** EIA assumed the thermal conversion factor to be 4.620 million Btu per barrel or equal to that for natural gasoline. See Natural Gasoline.

**Petrochemical Feedstocks, Naphtha Less Than 401 Degrees Fahrenheit.** Assumed by EIA to be 5.248 million Btu per barrel, equal to the thermal conversion factor for special naphtha. See Special Naphtha.

**Petrochemical Feedstocks, Oils Equal to or Greater Than 401 Degrees Fahrenheit.** Assumed by EIA to be 5.825 million Btu per barrel, equal to the thermal conversion factor for distillate fuel oil. See Distillate Fuel Oil.

**Petrochemical Feedstocks, Still Gas.** Assumed by EIA to be 6.000 million Btu per barrel, equal to the thermal conversion factor for still gas. See Still Gas.

**Petroleum Coke.** EIA adopted the thermal conversion factor of 6.024 million Btu per barrel as reported in Btu per short ton in the Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Value of Various Fuels, Adopted January 3, 1950." The Bureau of Mines calculated this factor by dividing 30,120,000 Btu per short ton, as given in the referenced Bureau of Mines internal memorandum, by 5.0 barrels per short ton, as given in the Bureau of Mines Form 6-1300-M and successor EIA forms.

**Petroleum Products, Total Consumption.** Calculated annually by EIA as the average of the

thermal conversion factors for all petroleum products consumed, weighted by the quantity of each petroleum product consumed.

**Petroleum Products, Consumption by Electric Utilities.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed at electric utilities, weighted by the quantity of each petroleum product consumed at electric utilities. The quantity of petroleum consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report*.

**Petroleum Products, Consumption by Industrial Users.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed in the industrial sector, weighted by the estimated quantity of each petroleum product consumed in the industrial sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report*.

**Petroleum Products, Consumption by Residential and Commercial Users.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the residential and commercial sector, weighted by the estimated quantity of each petroleum product consumed in the residential and commercial sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report*.

**Petroleum Products, Consumption by Transportation Users.** Calculated annually by EIA as the average of the thermal conversion factor for all petroleum products consumed in the transportation sector, weighted by the estimated quantity of each petroleum product consumed in the transportation sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report*.

**Petroleum Products, Exports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product, weighted by the quantity of each petroleum product exported.

**Petroleum Products, Imports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product imported, weighted by the quantity of each petroleum product imported.

**Plant Condensate.** Estimated to be 5.418 million Btu per barrel by EIA from data provided by McClanahan Consultants, Inc., Houston, Texas.

**Propane.** EIA adopted the Bureau of Mines thermal conversion factor of 3.836 million Btu per barrel in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Residual Fuel Oil.** EIA adopted the thermal conversion factor of 6.287 million Btu per barrel as reported in the Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950."

**Road Oil.** EIA adopted the Bureau of Mines thermal conversion factor of 6.636 million Btu per barrel, which was assumed to be equal to that of asphalt (see Asphalt) and was first published by the Bureau of Mines in the *Petroleum Statement, Annual, 1970*.

**Special Naphtha.** EIA adopted the Bureau of Mines thermal conversion factor of 5.248 million Btu per barrel, which was assumed to be equal to that of total gasoline (aviation and motor) factor and was first published in the *Petroleum Statement, Annual, 1970*.

**Still Gas.** EIA adopted the Bureau of Mines estimated thermal conversion factor of 6.000 million Btu per barrel and first published in the *Petroleum Statement, Annual, 1970*.

**Unfinished Oil.** EIA assumed the thermal conversion factor to be 5.825 million Btu per barrel or equal to that for distillate fuel oil (see Distillate Fuel Oil) and first published in the *Annual Report to Congress, Volume 3, 1977*.

**Unfractionated Stream.** EIA assumed the thermal conversion factor to be 5.418 million Btu per barrel or equal to that for plant condensate (see Plant Condensate) and first published in the *Annual Report to Congress, Volume 2, 1981*.

**Waxes.** EIA adopted the thermal conversion factor of 5.537 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

## Approximate Heat Content of Natural Gas

**Natural Gas, Total Consumption.** 1973-1979: EIA adopted the thermal conversion factor calculated annually by the American Gas Association (AGA) and published in *Gas Facts*, an AGA annual publication. 1980 forward: Calculated annually by EIA by dividing the total heat content of natural gas consumed by the total quantity of natural gas consumed. The heat content and quantity consumed are from Form EIA-176. Published sources are: 1980-1990: EIA, *Natural Gas Annual 1990, Volume 2, Table 15*. 1991 forward: 1990 value used as an estimate.

**Natural Gas, Consumption by Electric Utilities.** Calculated annually by EIA by dividing the total heat content of natural gas received at electric utilities by the total quantity received at electric utilities. The heat contents and receipts are from Form FERC-423 and predecessor forms.

**Natural Gas, Consumption by Sectors Other Than Electric Utilities.** Calculated annually by EIA by dividing the heat content of all natural gas consumed less the heat content of natural gas consumed at electric utilities by the quantity of all natural gas consumed less the quantity of natural gas consumed at electric utilities. Data are from Forms EIA-176, FERC-423, EIA-759, and predecessor forms.

**Natural Gas, Exports.** Calculated annually by EIA by dividing the heat content of exported natural gas by the quantity of natural gas exported, both reported on Form FPC-14.

**Natural Gas, Imports.** Calculated annually by EIA by dividing the heat content of imported natural gas by the quantity of natural gas imported, both reported on Form FPC-14.

**Natural Gas Production, Dry.** Assumed by EIA to be equal to the thermal conversion factor for the consumption of dry natural gas. See Natural Gas Consumption.

**Natural Gas Production, Marketed (Wet).** Calculated annually by EIA by adding the heat content of dry natural gas production and the total heat content of natural gas plant liquids production and dividing this sum by the total quantity of marketed (wet) natural gas production.

## Approximate Heat Content of Coal and Coal Coke

**Anthracite, Total Consumption.** Calculated annually by EIA by dividing the sum of the heat content of anthracite consumed by electric utilities and all other sectors combined by the total quantity of anthracite consumed.

**Anthracite, Consumption by Electric Utilities.** Calculated annually by EIA by dividing the heat content of anthracite receipts at electric utilities by the quantity of anthracite received at electric utilities. Heat contents and receipts are from Form FERC-423 and predecessor forms.

**Anthracite, Consumption by Sectors Other Than Electric Utilities.** Calculated annually by EIA by dividing the heat content of anthracite production less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of anthracite consumed by sectors other than electric utilities less the quantity of anthracite stock changes, losses, and "unaccounted for."

**Anthracite, Imports and Exports.** EIA assumed the anthracite imports and exports to be freshly mined anthracite having an estimated heat content of 25.40 million Btu per short ton.

**Anthracite, Production.** Calculated annually by EIA by dividing the sum of the heat content of freshly mined anthracite (estimated to have an average heat content of 25.400 million Btu per short ton) and the heat content of anthracite recovered from culm banks and river dredging (estimated to have a heat content of 17.500 million Btu per short ton) by the total quantity of anthracite production.

**Bituminous Coal and Lignite, Total Consumption.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite consumed by electric utilities, coal coke plants, other industrial plants, the residential and commercial sector, and the transportation sector by the sum of their respective tonnages.

**Bituminous Coal and Lignite, Consumption by Coke Plants.** Estimated by EIA to be 26.800 million Btu per short ton on the basis of an input/output analysis of coal carbonization.

**Bituminous Coal and Lignite, Consumption by Electric Utilities.** Calculated annually by EIA by dividing the total heat content of bituminous coal and lignite received at electric utilities by the total quantity received at electric utilities. Heat contents and receipts are from Form FERC-423 and predecessor forms.

**Bituminous Coal and Lignite, Consumption by Other Industrial and Transportation Users.** 1973: Calculated by EIA through regression analysis measuring the difference between the average Btu value of coal consumed by other industrial users and that of coal consumed at electric utilities in the 1974-1982 period. 1974 forward: Calculated annually by EIA by assuming that the bituminous coal and lignite delivered to other industrial users from each coal-producing area (reported on Form EIA-6 and predecessor Bureau of Mines Form 6-1419-Q) contained a heat value equal to that of bituminous coal and lignite received at electric utilities from each of the same coal-producing areas (reported on Form FERC-423). The average Btu value of coal by coal-producing area was applied to the volume of deliveries to other industrial users from each coal-producing area, and the sum total of the heat content was divided by the total volume of deliveries. Coal-producing areas are the Bureau of Mines coal-producing districts for 1974 through 1989 and coal-producing States for 1990 forward.

**Bituminous Coal and Lignite, Consumption by Residential and Commercial Users.** 1973: Calculated by EIA through regression analysis measuring the difference between the average Btu value of coal consumed by residential and commercial users and that of coal consumed by electric utilities in the 1974-1982 period. 1974 forward: Calculated annually by EIA by assuming that the bituminous coal and lignite delivered to residential and commercial

users from each coal-producing area (reported on Form EIA-6 and predecessor Bureau of Mines Form 6-1419-Q) contained a heat value equal to that of bituminous coal and lignite received at electric utilities from each of the same coal-producing areas (reported on Form FERC-423). The average Btu value of coal by coal-producing area was applied to the volume of deliveries to residential and commercial users from each coal-producing area, and the total of the heat value was divided by the total volume of deliveries. Coal-producing areas are the Bureau of Mines coal-producing districts for 1974 through 1989 and coal-producing States for 1990 forward.

**Bituminous Coal and Lignite, Exports.** Calculated annually by EIA by dividing the sum of the heat content of exported metallurgical coal (estimated to average 27,000 million Btu per short ton) and the heat content of exported steam coal (estimated to have an average thermal content of 25,000 million Btu per short ton) by the total quantity of bituminous coal and lignite exported.

**Bituminous Coal and Lignite, Imports.** EIA estimated the average thermal conversion factor to be 25,000 million Btu per short ton.

**Bituminous Coal and Lignite, Production.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite consumption, net exports, stock changes, and unaccounted for by the sum of their respective tonnages. Consumers' stock changes by sectors were assumed to have the same conversion factor as that of the consumption sector. Producers' stock changes and unaccounted for were assumed to have the same conversion factor as that for consumption by all users.

**Coal, Consumption.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite consumption by the sum of their respective tonnages.

**Coal, Consumption by Electric Utilities.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite received at electric utilities by the sum of their respective tonnages received.

**Coal, Consumption by Sectors Other Than Electric Utilities.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite consumed by sectors other than electric utilities by the sum of their respective tonnages.

**Coal, Exports.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite exported by the sum of their respective tonnages.

**Coal, Imports.** Calculated annually by EIA by dividing the sum of the heat content of bituminous

coal and lignite and anthracite imported by the sum of their respective tonnages.

**Coal, Production.** Calculated annually by EIA by dividing the sum of the total heat content of bituminous coal and lignite and anthracite production by the sum of their respective tonnages.

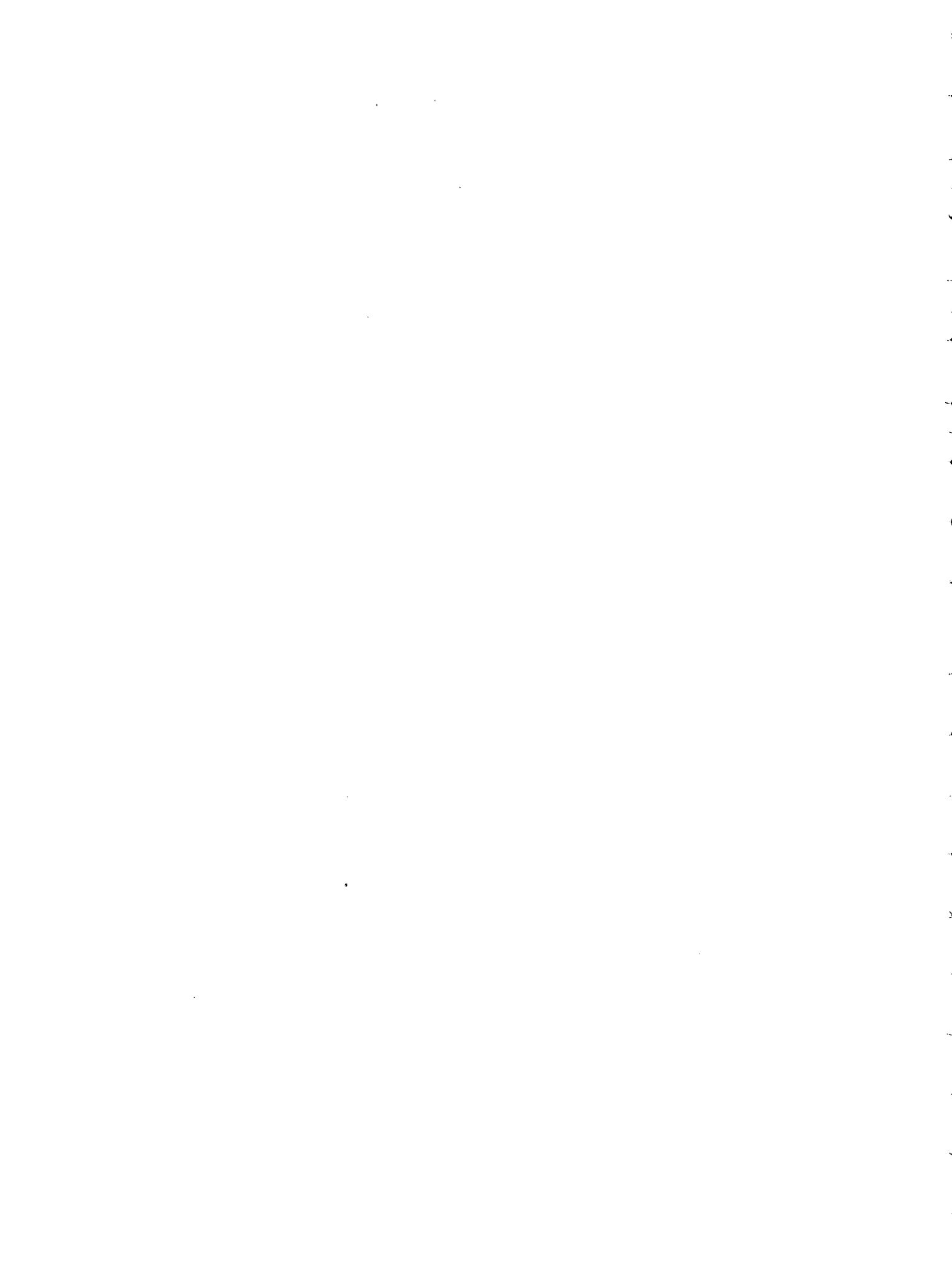
**Coal Coke, Imports and Exports.** EIA adopted the Bureau of Mines estimate of 24,800 million Btu per short ton.

## Approximate Heat Rates for Electricity

**Fossil-Fueled Steam-Electric Plant Generation.** There is no generally accepted practice for measuring the thermal conversion rates for power plants that generate electricity from hydroelectric, wood and waste, wind, photovoltaic, or solar thermal energy sources. Therefore, EIA uses data from Form EIA-767 to calculate a rate factor that is equal to the prevailing annual average heat rate factor for fossil-fueled steam-electric power plants in the United States. By using that factor, it is possible to evaluate fossil fuel requirements for replacing those sources during periods of interruption such as droughts. The heat content of a kilowatthour of electricity produced, regardless of the generation process, is 3,412 Btu per kilowatthour. 1973-1991: The weighted annual average heat rate for fossil-fueled steam-electric power plants in the United States, as published by EIA in *Electric Plant Cost and Power Production Expenses 1991*, Table 9. 1992 forward: Unpublished factors calculated on the basis of data from Form EIA-767.

**Geothermal Energy Plant Generation.** 1973-1981: Calculated annually by EIA by weighting the annual average heat rates of operating geothermal units by the installed nameplate capacities as reported on Form FPC-12. 1982 forward: Estimated annually by EIA on the basis of an informal survey of relevant plants.

**Nuclear Steam-Electric Plant Generation.** 1973-1991: Calculated annually by EIA by dividing the total heat content consumed in nuclear generating units by the total (net) electricity generated by nuclear generating units. The heat content and electricity generation are reported on Form FERC-1, Form EIA-412, and predecessor forms. The factors, beginning with 1982 data, are published in the following EIA reports—1982: *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants 1982*, page 215. 1983-1991: *Electric Plant Cost and Power Production Expenses 1991*, Table 13. 1992 forward: Calculated annually by EIA by dividing the total heat content of the steam leaving the nuclear generating units to generate electricity by the total (net) electricity generated by nuclear generating units. The heat content and electricity generation data are reported in Nuclear Regulatory Commission, *Licensed Operating Reactors—Status Summary Report*.



## Appendix B. Metric and Other Physical Conversion Factors

Data presented in the *Monthly Energy Review* and in other Energy Information Administration publications are expressed predominately in units that historically have been used in the United States, such as British thermal units, barrels, cubic feet, and short tons. However, because U.S. commerce involves other nations, most of which use metric units of measure, the U.S. Government is committed to the transition to the metric system, as stated in the Metric Conversion Act of 1975 (Public Law 94-168), amended by the Omnibus Trade and Competitiveness Act of 1988 (Public Law 100-418), and Executive Order 12770 of July 25, 1991.

The metric conversion factors presented in Table B1 can be used to calculate the metric-unit equivalents of values expressed in U.S. customary units. For example, 500 short

tons are the equivalent of 453.6 metric tons (500 short tons  $\times 0.9071847$  metric tons/short ton = 453.6 metric tons).

In the metric system of weights and measures, the names of multiples and subdivisions of any unit may be derived by combining the name of the unit with prefixes, such as deka, hecto, and kilo, meaning, respectively, 10, 100, 1,000, and deci, centi, and milli, meaning, respectively, one-tenth, one-hundredth, and one-thousandth. Common metric prefixes can be found in Table B2.

The conversion factors presented in Table B3 can be used to calculate equivalents in various physical units commonly used in energy analyses. For example, 10 barrels are the equivalent of 420 U.S. gallons (10 barrels  $\times 42$  gallons/barrel = 420 gallons).

**Table B1. Metric Conversion Factors**

Type of Unit	U.S. Unit	multiplied by	Conversion Factor	equals	Metric Unit
Mass	short tons (2,000 lb)	x	0.907 184 7	=	metric tons (t)
	long tons	x	1.016 047	=	metric tons (t)
	pounds (lb)	x	0.453 592 37 <sup>b</sup>	=	kilograms (kg)
	pounds uranium oxide (lb U <sub>3</sub> O <sub>8</sub> )	x	0.384 647 <sup>a</sup>	=	kilograms uranium (kgU)
	ounces, avoirdupois (avdp oz)	x	28.349 52	=	grams (g)
Volume	barrels of oil (bbl)	x	0.158 987 3	=	cubic meters (m <sup>3</sup> )
	cubic yards (yd <sup>3</sup> )	x	0.764 555	=	cubic meters (m <sup>3</sup> )
	cubic feet (ft <sup>3</sup> )	x	0.028 316 85	=	cubic meters (m <sup>3</sup> )
	U.S. gallons (gal)	x	3.785 412	=	liters (L)
	ounces, fluid (fl oz)	x	29.573 53	=	milliliters (mL)
Length	cubic inches (in <sup>3</sup> )	x	16.387 06	=	milliliters (mL)
	miles (mi)	x	1.609 344 <sup>b</sup>	=	kilometers (km)
	yards (yd)	x	0.914 4 <sup>b</sup>	=	meters (m)
	feet (ft)	x	0.304 8 <sup>b</sup>	=	meters (m)
Area	inches (in)	x	2.54 <sup>b</sup>	=	centimeters (cm)
	acres	x	0.404 69	=	hectares (ha)
	square miles (mi <sup>2</sup> )	x	2.589 988	=	square kilometers (km <sup>2</sup> )
	square yards (yd <sup>2</sup> )	x	0.836 127 4	=	square meters (m <sup>2</sup> )
	square feet (ft <sup>2</sup> )	x	0.092 903 04 <sup>b</sup>	=	square meters (m <sup>2</sup> )
Temperature	square inches (in <sup>2</sup> )	x	6.451 6 <sup>b</sup>	=	square centimeters (cm <sup>2</sup> )
	degrees Fahrenheit (°F)	x	5/9 (after subtracting 32) <sup>b,c</sup>	=	degrees Celsius (°C)
Energy	British thermal units (Btu)	x	1, 055.055 852 62 <sup>b,d</sup>	=	joules (J)
	calories (cal)	x	4.186 8 <sup>b</sup>	=	joules (J)
	kilowatthours (kWh)	x	3.6 <sup>b</sup>	=	megajoules (MJ)

<sup>a</sup>Calculated by the Energy Information Administration.<sup>b</sup>Exact conversion.<sup>c</sup>To convert degrees Celsius (°C) to degrees Fahrenheit (°F) exactly, multiply by 9/5, then add 32.<sup>d</sup>The Btu used in this table is the International Table Btu adopted by the Fifth International Conference on Properties of Steam, London, 1956.

Notes: • Spaces have been inserted after every third digit to the right of the decimal for ease of reading. • Most metric units belong to the International System of Units (SI), and the liter, hectare, and metric ton are accepted for use with the SI units. For more information about the SI units, contact Dr. Barry Taylor at Building 221, Room B610, National Institute of Standards and Technology, Gaithersburg, MD 20899, or on telephone number 301-975-4220.

Sources: • General Services Administration, Federal Standard 376B, *Preferred Metric Units for General Use by the Federal Government* (Washington, DC, January 27, 1993), pp. 9-11, 13, and 16. • National Institute of Standards and Technology, Special Publications 330, 811, and 814. • American National Standards Institute/Institute of Electrical and Electronic Engineers, ANSI/IEEE Std 268-1992, pp. 28 and 29.

**Table B2. Metric Prefixes**

<b>Unit Multiple</b>	<b>Prefix</b>	<b>Symbol</b>	<b>Unit Subdivision</b>	<b>Prefix</b>	<b>Symbol</b>
$10^1$	deka	da	$10^{-1}$	deci	d
$10^2$	hecto	h	$10^{-2}$	centi	c
$10^3$	kilo	k	$10^{-3}$	milli	m
$10^6$	mega	M	$10^{-6}$	micro	$\mu$
$10^9$	giga	G	$10^{-9}$	nano	n
$10^{12}$	tera	T	$10^{-12}$	pico	p
$10^{15}$	peta	P	$10^{-15}$	femto	f
$10^{18}$	exa	E	$10^{-18}$	atto	a
$10^{21}$	zetta	Z	$10^{-21}$	zepto	z
$10^{24}$	yotta	Y	$10^{-24}$	yocto	y

Source: U.S. Department of Commerce, National Institute of Standards and Technology, *The International System of Units (SI)*, NIST Special Publication 330, 1991 Edition (Washington, DC, August 1991), p. 10.

**Table B3. Other Physical Conversion Factors**

<b>Energy Source</b>	<b>Original Unit</b>	<i>multiplied by</i>	<b>Conversion Factor</b>	<b>equals</b>	<b>Final Unit</b>
Petroleum	barrels (bbl)	x	42 <sup>a</sup>	=	U.S. gallons (gal)
Coal	short tons	x	2,000 <sup>a</sup>	=	pounds (lb)
	long tons	x	2,240 <sup>a</sup>	=	pounds (lb)
	metric tons (t)	x	1,000 <sup>a</sup>	=	kilograms (kg)
Wood	cords (cd)	x	1.25 <sup>b</sup>	=	short tons
	cords (cd)	x	128 <sup>a</sup>	=	cubic feet ( $ft^3$ )

<sup>a</sup>Exact conversion.

<sup>b</sup>Calculated by the Energy Information Administration.

Source: U.S. Department of Commerce, National Institute of Standards and Technology, *Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, NIST Handbook 44, 1994 Edition (Washington, DC, October 1993), pp. B-10, C-17 and C-21.



# Appendix C. List of Features

The following is a complete list of features that have appeared in the *Monthly Energy Review* since the first issue was published in October 1974. There are four categories of features on the list. "Articles" cover a wide range of energy-related subjects in depth. "Highlights" summarize the most important information presented in the subject Energy Information Administration (EIA) report. "Energy Previews"

provide brief overviews of EIA preliminary energy data on a given topic. "EIA Data News" items present information on recent changes in the scope, design, methodology, and findings of EIA's energy surveys and databases. Questions and comments about features may be directed to Barbara T. Fichman by telephone on 202-586-5737 or by fax on 202-586-0018.

<b>Feature</b>	<b>Cover Date</b>
<b>1994</b>	
Energy Preview: Commercial Buildings Energy Consumption Survey, Preliminary Estimates, 1992 .....	January 1994
Highlights: <i>Household Vehicles Energy Consumption 1991</i> .....	February 1994
<b>1993</b>	
Energy Preview: Residential Transportation Energy Consumption Survey, Preliminary Estimates, 1991 .....	January 1993
EIA Data News: Natural Gas Transported for the Account of Others .....	February 1993
Highlights: <i>Federal Energy Subsidies: Direct and Indirect Interventions in Energy Markets</i> .....	July 1993
Highlights: <i>Household Energy Consumption and Expenditures 1990</i> .....	August 1993
Article: Demand, Supply, and Price Outlook for Low-Sulfur Diesel Fuel .....	August 1993
Energy Preview: Manufacturing Energy Consumption Survey, Preliminary Estimates, 1991 .....	September 1993
Highlights: <i>Natural Gas 1992: Issues and Trends</i> .....	September 1993
Highlights: <i>International Energy Outlook 1993</i> .....	October 1993
Highlights: <i>The Changing Structure of the U.S. Coal Industry: An Update</i> .....	November 1993
Highlights: <i>Emissions of Greenhouse Gases in the United States 1985-1990</i> .....	December 1993
Highlights: <i>Assessment of Energy Use in Multibuilding Facilities</i> .....	December 1993
<b>1992</b>	
Energy Preview: Residential Energy Consumption and Expenditures Preliminary Estimates, 1990 .....	April 1992
EIA Data News: Oxygenate Data Collection Begins .....	May 1992
Highlights: <i>Lighting in Commercial Buildings</i> .....	June 1992
Article: Demand, Supply, and Price Outlook for Oxgenated Gasoline, Winter 1992-1993 .....	August 1992
EIA Data News: EIA Statistics on Electric Utility Demand-Side Management .....	September 1992
EIA Data News: EIA Statistics on Nonutility Power Producers .....	October 1992
Highlights: <i>Derived Annual Estimates of Manufacturing Energy Consumption, 1974-1988</i> .....	November 1992
Article: Energy Efficiency in the Manufacturing Sector .....	December 1992
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Highlights: <i>U.S. Energy Industry Financial Developments, 1990 Fourth Quarter</i> .....	March 1991
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Article: Refining Results Highlight Energy Companies' First-Half Profit Performance .....	June 1990
Highlights: <i>U.S. Oil and Gas Reserves by Year of Field Discovery</i> .....	August 1990

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Article: A Review of Valdez Oil Spill Market Impacts .....	March 1989
Article: Monthly U.S. Crude Oil Production Estimates .....	March 1989
Article: Superconductivity and Energy Production and Consumption .....	May 1989
Highlights: <i>Commercial Buildings Consumption and Expenditures 1986</i> .....	May 1989
Article: Higher Prices Yield Improved Energy Industry Financial Results in the First Half of 1989 .....	June 1989
Article: The Future Structure of the U.S. Commercial Nuclear Power Equipment Manufacturing Industry .....	July 1989
Highlights: <i>Potential Costs of Restricting Chlorofluorocarbon Use</i> .....	September 1989
Highlights: <i>Manufacturing Energy Consumption Survey: Changes in Energy Efficiency, 1980-1985</i> .....	October 1989
Highlights: <i>Household Energy Consumption and Expenditures 1987, Part 1: National Data</i> .....	November 1989
Article: Improved Energy Profits Offset by Refining Results in 1989 .....	December 1989

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Article: Measures of Energy Consumption, Expenditures, and Prices .....	May 1988
Highlights: <i>Characteristics of Commercial Buildings 1986</i> .....	June 1988
Article: The U.S. Energy Industry's Financial Recovery Continued in the First Half of 1988 .....	June 1988
Article: A U.S. Perspective on Condensate .....	June 1988
Article: State Energy Severance Taxes, 1972-1987 .....	July 1988
Highlights: <i>Manufacturing Energy Consumption Survey: Consumption of Energy, 1985</i> .....	September 1988
Highlights: <i>Profiles of Foreign Direct Investment in U.S. Energy 1987</i> .....	October 1988
Highlights: <i>Manufacturing Energy Consumption Survey: Fuel Switching, 1985</i> .....	November 1988
Article: Increased Refining Income Led U.S. Energy Industry Financial Recovery in 1988 .....	December 1988

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Article: Manufacturing Sector Energy Consumption, 1985 Provisional Estimates .....	January 1987
Highlights: <i>Consumption and Expenditures, April 1984 Through March 1985,</i> <i>Part 1: National Data</i> .....	April 1987
Highlights: <i>Consumption and Expenditures, April 1984 Through March 1985,</i> <i>Part 2: Regional Data</i> .....	May 1987
Article: U.S. Energy Industry Financial Developments, 1987 Second Quarter .....	June 1987
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Highlights: <i>Uranium Industry Annual 1986</i> .....	September 1987
Highlights: <i>Potential Oil Production from ANWR</i> .....	October 1987
Highlights: <i>Profiles of Foreign Direct Investment in U.S. Energy 1986</i> .....	November 1987
Article: The U.S. Energy Industry in 1987: A Slow Recovery .....	December 1987

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Article: State Motor Gasoline Taxes, 1960-1985 .....	March 1986
Article: The Impact of Low Oil Prices on Electric Utility Fuel Choice .....	June 1986
Article: U.S. Energy Industry Financial Developments, 1986 Second Quarter .....	June 1986
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Article: U.S. Energy Industry Financial Developments, 1986 .....	December 1986

**1985**

Highlights: <i>Annual Energy Review 1984</i> .....	January 1985
Highlights: <i>Performance Profiles of Major Energy Producers 1983</i> .....	February 1985
Article: Estimating Well Completions .....	March 1985
Highlights: <i>State Energy Price and Expenditure Report 1970-1982</i> .....	March 1985
Highlights: <i>State Energy Data Report, Consumption Estimates, 1960-1983</i> .....	April 1985
Highlights: <i>Annual Outlook for U.S. Electric Power 1985</i> .....	June 1985
Highlights: <i>Short-Term Energy Outlook, Volume 1, October 1985</i> .....	August 1985
Highlights: <i>Analysis of Growth in Electricity Demand, 1980-1984</i> .....	August 1985
Highlights: <i>Profiles of Foreign Direct Investment in U.S. Energy 1984</i> .....	November 1985
Highlights: <i>Performance Profiles of Major Energy Producers 1984</i> .....	December 1985

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Highlights: <i>Annual Energy Review 1983</i> .....	February 1984
Highlights: <i>Annual Energy Outlook 1983</i> .....	March 1984
Highlights: <i>State Energy Data Report, Consumption Estimates, 1960-1982</i> .....	March 1984
Highlights: <i>State Energy Price and Expenditure Report, 1970-1981</i> .....	May 1984
Highlights: <i>Solar Collector Manufacturing Activity 1983</i> .....	June 1984
Highlights: <i>International Energy Annual 1983</i> .....	September 1984
Highlights: <i>Estimates of U.S. Wood Energy Consumption, 1980-1983</i> .....	September 1984
Highlights: <i>Energy Conservation Indicators 1983 Annual Report</i> .....	November 1984
Highlights: <i>Annual Energy Outlook 1984</i> .....	December 1984

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Highlights: <i>Residential Energy Consumption Survey: Consumption and Expenditures</i> .....	January 1983
Highlights: <i>Residential Energy Consumption Survey: Housing Characteristics</i> .....	February 1983
Article: The Effect of Weather on Energy Use .....	April 1983
Article: Trends in U.S. Energy Since 1973 .....	May 1983
Article: Data Series on Petroleum Use at Electric Utilities .....	July 1983
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Article: The Solar Collector Industry and Solar Energy .....	February 1980
Article: Trends in the Installation of Energy Using Equipment in New Residential Buildings .....	March 1980
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Article: Natural Gas Liquids: Revisions to 1979 Data .....	October 1980
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Article: The Department of Energy Disclosure Policy for Individually Identifiable Information Maintained by the Energy Information Administration .....	December 1980

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Article: The Energy Requirements of U.S. Agriculture .....	July 1979
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Article: Curtailments of Natural Gas Service .....

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Article: Home Heating Conservation Alternatives and the Solar Collector Industry .....

March 1976

Article: Trends in United States Petroleum Imports .....

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Article: Energy Consumption .....

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Article: The Price of Crude Oil .....

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July 1975

Article: Propane—A National Energy Resource .....

September 1975

Article: Short-Term Energy Supply and Demand Forecasting at FEA .....

October 1975

# Glossary

**Anthracite:** A hard, black, lustrous coal containing a high percentage of fixed carbon and a low percentage of volatile matter. Often referred to as hard coal. It conforms to ASTM Specification D388-84 for anthracite, meta-anthracite, and semianthracite.

**Asphalt:** A dark-brown-to-black cement-like material containing bitumens as the predominant constituents obtained by petroleum processing. The definition 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.

**ASTM:** The American Society for Testing and Materials.

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

**Aviation Gasoline, Finished:** All special grades of gasoline for use in aviation reciprocating engines, as given in ASTM Specification D910 and Military Specification MIL-G-5572. Excludes blending components that will be used in blending or compounding into finished aviation gasoline.

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

**Base (Cushion) Gas:** The volume of gas needed as a permanent inventory to maintain adequate underground storage reservoir pressures and deliverability rates throughout the withdrawal season. All native gas is included in the base gas volume.

**Bituminous Coal:** A dense black coal, often with well-defined bands of bright and dull material, with a moisture content usually less than 20 percent. Often referred to as soft coal. It is the most common coal and is used primarily for generating electricity, making coke, and space heating. It conforms to ASTM Specification D388-84 for bituminous coal. In this report, bituminous coal includes subbituminous coal.

**British Thermal Unit (Btu):** The quantity of heat needed to raise the temperature of 1 pound of water by 1° F at or near 39.2° F. See **Heat Content of a Quantity of Fuel, Gross and Heat Content of a Quantity of Fuel, Net.**

**Butane:** A normally gaseous straight-chain or branched-chain hydrocarbon ( $C_4H_{10}$ ). It is extracted from natural gas or refinery gas streams. It includes isobutane and normal butane and is designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial butane.

- **Isobutane:** A normally gaseous branched-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 10.9° F. It is extracted from natural gas or refinery gas streams.
- **Normal Butane:** A normally gaseous straight-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 31.1° F. It is extracted from natural gas or refinery gas streams.

**Butylene:** An olefinic hydrocarbon ( $C_4H_8$ ) recovered from refinery processes.

**Capacity Factor:** The ratio of the electrical energy produced by a generating unit for a given period of time to the electrical energy that could have been produced at continuous full-power operation during the same period.

**CIF:** See **Cost, Insurance, Freight.**

**City Gate:** A point or measuring station at which a distribution gas utility receives gas from a natural gas pipeline company or transmission system.

**Coal:** A black or brownish-black solid, combustible substance formed by the partial decomposition of vegetable matter without access to air. The rank of coal, which includes anthracite, bituminous coal, subbituminous coal, and lignite, is based on fixed carbon, volatile matter, and heating value. Coal rank indicates the progressive alteration, or coalification, from lignite to anthracite. Lignite contains approximately 9 to 17 million Btu per ton. The heat contents of subbituminous and bituminous coal range from 16 to 24 million Btu per ton, and from 19 to 30 million Btu per ton, respectively. Anthracite contains approximately 22 to 28 million Btu per ton.

**Coal Coke:** A hard, porous product made from baking bituminous coal in ovens at temperatures as high as 2,000° F. It is used both as a fuel and as a reducing agent in smelting iron ore in a blast furnace.

**Commercial Sector:** The commercial sector, as defined economically, consists of business establishments that are not engaged in transportation or in manufacturing or other types of industrial activity (agriculture, mining, or construction). Commercial establishments include hotels, motels,

restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; religious and nonprofit organizations; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included if the establishment operating them is considered commercial.

**Completion:** The 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.

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

**Cost, Insurance, Freight (CIF):** A type of sale in which the buyer of the product agrees to pay a unit price that includes the f.o.b. value of the product at the point of origin plus all costs of insurance and transportation. This type of transaction differs from a "delivered" purchase in that the buyer accepts the quantity as determined at the loading port (as certified by the Bill of Loading and Quality Report) rather than pay on the basis of the quantity and quality ascertained at the unloading port. It is similar to the terms of an f.o.b. sale, except that the seller, as a service for which he is compensated, arranges for transportation and insurance.

**Crude Oil f.o.b. Price:** The crude oil price actually charged at the oil-producing country's port of loading. Includes deductions for any rebates and discounts or additions of premiums, where applicable. It is the actual price paid with no adjustment for credit terms.

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

**Crude Oil Landed Cost:** The price of crude oil at the port of discharge, including charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. The cost does not include charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage).

**Crude Oil Refinery Input:** The total crude oil put into processing units at refineries.

**Crude Oil Stocks:** Stocks of crude oil and lease condensate held at refineries, in pipelines, at pipeline terminals, and on leases.

**Crude Oil Used Directly:** Crude oil consumed as fuel by crude oil pipelines and on crude oil leases.

**Cubic Foot (natural gas):** A unit of volume equal to 1 cubic foot at a pressure base of 14.73 pounds standard per square inch absolute and a temperature base of 60° F.

**Degree-Day Normals:** Simple arithmetic averages of monthly or annual degree-days over a long period of time (usually the 30-year period 1961-1990). The averages may be simple degree-day normals or population-weighted degree-day normals.

**Degree-Days, Cooling (CDD):** The number of degrees per day that the daily average temperature is above 65° F. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

**Degree-Days, Heating (HDD):** The number of degrees per day that the daily average temperature is below 65° F. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

**Degree-Days, Population-Weighted:** Heating or cooling degree-days weighted by the population of the area in which the degree-days are recorded. To compute State population-weighted degree-days, each State is divided into from one to nine climatically homogeneous divisions, which are assigned weights based on the ratio of the population of the division to the total population of the State. Degree-day readings for each division are multiplied by the corresponding population weight for each division and those products are then summed to arrive at the State population-weighted degree-day figure. To compute national population-weighted degree-days, the Nation is divided into nine Census regions comprised of from three to eight States, which are assigned weights based on the ratio of the population of the region to the total population of the Nation. Degree-day readings for each region are multiplied by the corresponding population weight for each region and those products are then summed to arrive at the national population-weighted degree-day figure.

**Design Electrical Rating, Net:** The nominal net electrical output of a nuclear unit as specified by the electric utility for the purpose of plant design.

**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.

**Distillate Fuel Oil:** A general classification for one of the petroleum fractions produced in conventional distillation operations. Included are products known as No. 1, No. 2, and No. 4 fuel oils and No. 1, No. 2, and No. 4 diesel fuels. It is used primarily for space heating, on- and off-highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation.

**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 Production (as a decrement from gas reserves):** The volume of natural gas withdrawn from reservoirs during the report year less (1) the volume returned to such reservoirs in cycling, repressuring of oil reservoirs, and conservation operations; (2) shrinkage resulting from the removal of lease condensate and plant liquids; and (3) nonhydrocarbon gases, where they occur in sufficient quantity to render the gas unmarketable. Volumes of gas withdrawn from gas storage reservoirs and native gas that has been transferred to the storage category are not considered production. This is not the same as marketed production, since the latter also excludes vented and flared gas but contains liquids.

**Dry Natural Gas Production (as an increment to gas supply):** Gross withdrawals from production reservoirs less gas used in reservoir repressuring, amounts vented and flared, nonhydrocarbons removed, and various natural gas constituents, such as ethane, propane, and butane, removed at natural gas processing plants. The parameters for measurement are 60° F and 14.73 pounds standard per square inch absolute.

**Electrical System Energy Losses:** The amount of energy lost during generation, transmission, and distribution of electricity, including plant and unaccounted-for uses.

**Electricity Generation:** The process of producing electric energy or transforming other forms of energy into electric energy. Also the amount of electric energy produced or expressed in watthours (Wh).

**Electricity Generation, Gross:** The total amount of electric energy produced by the generating station or stations, measured at the generator terminals.

**Electricity Generation, Net:** Gross generation less electricity consumed at the generating plant for station use. Electricity required for pumping at pumped-storage plants is regarded as plant use and is deducted from gross generation.

**Electricity Production:** Net electricity (gross electricity output measured at generator terminals minus power plant use) generated by publicly and

privately owned electric utilities. Excludes industrial electricity generation (except autogeneration of hydroelectric power).

**Electricity Sales:** The amount of kilowatthours sold in a given period of time; usually grouped by classes of service, such as residential, commercial, industrial, and other. "Other" sales include sales for public street and highway lighting and other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

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

**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, primarily for use by the public, and that files forms listed in the *Code of Federal Regulations*, Title 18, Part 141. Facilities that qualify as cogenerators or small power producers under the Public Utility Regulatory Policies Act are not considered electric utilities.

**Electric Utility Sector:** The electric utility sector consists of privately and publicly owned establishments that generate, transmit, distribute, or sell electricity primarily for use by the public and that meet the definition of an electric utility. Nonutility power producers are not included in the electric utility sector.

**End-Use Sectors:** The residential, commercial, industrial, and transportation sectors of the economy.

**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 an input in the manufacturing process.

**Energy Consumption, End-Use:** *Primary end-use energy consumption* is the sum of fossil fuel consumption by the four end-use sectors (residential, commercial, industrial, and transportation) and generation of hydroelectric power by nonelectric utilities. *Net end-use energy consumption* includes

electric utility sales to those sectors but excludes electrical system energy losses. *Total end-use energy consumption* includes both electric utility sales to the four end-use sectors and electrical system energy losses.

**Energy Consumption, Total:** The sum of fossil fuel consumption by the five sectors (residential, commercial, industrial, transportation, and electric utility) plus hydroelectric power, nuclear electric power, net imports of coal coke, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

**Energy Source:** A substance, such as petroleum, natural gas, or coal, that supplies heat or power. In Energy Information Administration reports, electricity and renewable forms of energy, such as biomass, geothermal, wind, and solar, are considered to be energy sources.

**Ethane:** A normally gaseous straight-chain hydrocarbon ( $C_2H_6$ ). It is a colorless, paraffinic gas that boils at a temperature of -127.48° F. It is extracted from natural gas and refinery gas streams.

**Ethylene:** An olefinic hydrocarbon ( $C_2H_4$ ) recovered from refinery processes or petrochemical processes.

**Exploratory Well:** A well drilled to find and produce oil or gas in an unproved area, to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir, or to extend the limit of a known oil or gas reservoir.

**Exports:** Shipments of goods from the 50 States and the District of Columbia to foreign countries and to Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

**f.a.s.:** See Free Alongside Ship.

**Federal Energy Regulatory Commission (FERC):** The Federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification. FERC is an independent regulatory agency within the Department of Energy and is the successor to the Federal Power Commission.

**Federal Power Commission (FPC):** The predecessor agency of the Federal Energy Regulatory Commission. The Federal Power Commission was created by an Act of Congress under the Federal Water Power Act on June 10, 1920. It was charged originally with regulating the electric power and natural gas industries. It was abolished on September 30, 1977, when the Department of Energy was created. Its functions were divided between the Department of

Energy and the Federal Energy Regulatory Commission, an independent regulatory agency.

**First Purchase Price:** The marketed first sales price of domestic crude oil, consistent with the removal price defined by the provisions of the Windfall Profits Tax on Domestic Crude Oil (Public Law 96-223, Sec. 4998 (c)).

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

**f.o.b.:** See Free on Board.

**Footage Drilled:** Total footage for wells in various categories, as reported for any specified period, includes (1) the deepest total depth (length of well bores) of all wells drilled from the surface, (2) the total of all bypassed footage drilled in connection with reported wells, and (3) all new footage drilled for directional sidetrack wells. Footage reported for directional sidetrack wells does not include footage in the common bore, which is reported as footage for the original well. In the case of old wells drilled deeper, the reported footage is that which was drilled below the total depth of the old well.

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

**Fossil Fuel:** Any naturally occurring organic fuel, such as petroleum, coal, and natural gas.

**Fossil Fuel 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.

**Free Alongside Ship (f.a.s.):** 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.

**Free on Board (f.o.b.):** A transaction whereby the seller makes the product available within an agreed-on period at a given port at a given price. It is the responsibility of the buyer to arrange for the transportation and insurance.

**Fuel Ethanol:** An anhydrous, denatured aliphatic alcohol ( $C_2H_5OH$ ) intended for motor gasoline blending. See Oxygenates.

**Full-Power Operation:** Operation of a nuclear generating unit at 100 percent of its design capacity. Full-power operation precedes commercial operation.

**Gasohol:** A blend of finished motor gasoline (leaded or unleaded) and alcohol (generally ethanol but sometimes methanol) limited to 10 percent by volume

**of alcohol.** Gasohol is included in finished leaded and unleaded motor gasoline.

**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, one or more combustion chambers where liquid or gaseous fuel is burned and 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.)

**Geothermal Energy:** Energy from the internal heat of the Earth, which may be residual heat, friction heat, or a result of radioactive decay. The heat is found in rocks and fluids at various depths and can be extracted by drilling and/or pumping.

**Geothermal Energy (as used at electric utilities):** Hot water or steam extracted from geothermal reservoirs in the Earth's crust and supplied to steam turbines at electric utilities that drive generators to produce electricity.

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

**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. Also referred to as the higher heating value. Btu conversion factors typically used in EIA 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. Also referred to as the lower heating value. Btu conversion factors typically used in EIA represent gross heat content.

**Heavy Oil:** The fuel oils remaining after the lighter oils have been distilled off during the refining process. Except for start-up and flame stabilization, virtually all petroleum used in steam-electric power plants is heavy oil.

**Hydrocarbon:** An organic chemical compound of hydrogen and carbon in the gaseous, liquid, or solid phase. The molecular structure of hydrocarbon compounds varies from the simplest (methane, the primary 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 Plant:** A plant in which the turbine generators are driven by falling water.

**Imports:** Receipts of goods into the 50 States and the District of Columbia from foreign countries and from Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

**Industrial Sector:** The industrial sector comprises manufacturing industries, which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in this sector range from steel mills, to small farms, to companies assembling electronic components.

**Internal Combustion Electric Power Plant:** A power plant in which the prime mover is an internal combustion engine. Diesel or gas-fired engines are the principal types used in electric power plants. The plant is usually operated during periods of high demand for electricity.

**Jet Fuel:** The term includes kerosene-type jet fuel and naphtha-type jet fuel. Kerosene-type jet fuel is a kerosene-quality product used primarily for commercial turbojet and turboprop aircraft engines. Naphtha-type jet fuel is a fuel in the heavy naphthas range used primarily for military turbojet and turboprop aircraft engines.

**Kerosene:** A petroleum distillate that has a maximum distillation temperature of 401° F at the 10-percent recovery point, a final boiling point of 572° F, and a minimum flash point of 100° F. Included are the two grades designated in ASTM D3699 (No. 1-K and No. 2-K) and all grades of kerosene called range or stove oil. Kerosene is used in space heaters, cook stoves, and water heaters; it is suitable for use as an illuminant when burned in wick lamps.

**Lease and Plant Fuel:** Natural gas used in well, field, and lease operations (such as gas used in drilling operations, heaters, dehydrators, and field compressors), and as fuel in natural gas processing plants.

**Lease Condensate:** A natural gas liquid recovered from gas well gas (associated and non-associated) in lease separators or natural gas field facilities. Lease condensate consists primarily of pentanes and heavier hydrocarbons.

**Light Oil:** Lighter fuel oils distilled off during the refining process. Virtually all petroleum used in internal combustion and gas-turbine engines is light oil.

**Lignite:** A brownish-black coal of low rank with a high content of moisture and volatile matter. Often referred to as brown coal. It is used almost exclusively for electric power generation. It conforms to ASTM Specification D388-84 for lignite.

**Liquefied Natural Gas (LNG):** Natural gas (primarily methane) that has been liquefied by reducing its temperature to -260° F at atmospheric pressure.

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

**Low-Power Testing:** The period of time between a nuclear generating unit's initial fuel loading date and the issuance of its operating (full-power) license. The maximum level of operation during that period is 5 percent of the unit's design thermal rating.

**Lubricants:** Substances used to reduce friction between bearing surfaces or as process materials either incorporated into other materials used as processing aids in the manufacturing of other products or as carriers of other materials. Petroleum lubricants may be produced either from distillates or residues. Other substances may be added to impart or improve certain required properties. Excluded are byproducts of lubricating oil refining, such as aromatic extracts derived from solvent extraction or tars derived from deasphalting. Included are all grades of lubricating oils from spindle oil to cylinder oil and those used in greases. Lubricant categories are paraffinic and naphthenic.

**Marketed Production:** Gross withdrawals less gas used for repressuring, quantities vented and flared, and nonhydrocarbon gases removed in treating or processing operations. Includes all quantities of gas used in field and processing operations.

**Methanol:** A light, volatile alcohol ( $\text{CH}_3\text{OH}$ ) eligible for motor gasoline blending. See Oxygenates.

**Miscellaneous Petroleum Products:** All finished petroleum products not classified elsewhere—for example, petrolatum, lube refining byproducts (aromatic extracts and tars), absorption oils, ram-jet fuel, petroleum rocket fuels, synthetic natural gas feedstocks, and specialty oils.

**Motor Gasoline Blending Components:** Naphthas that will be used for blending or compounding into finished motor gasoline (e.g., straight-run gasoline, alkylate, reformate, benzene, toluene, and zylene).

Excluded are oxygenates (alcohols and ethers), butane, and pentanes plus.

**Motor Gasoline, Finished:** A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that has been blended to form a fuel suitable for use in spark-ignition engines. Motor gasoline, as given in ASTM Specification D439 or Federal Specification VV-G-1690B, includes a range in distillation temperatures from 122 to 158° F at the 10-percent recovery point and from 365 to 374° F at the 90-percent recovery point. Motor gasoline includes reformulated motor gasoline, oxygenated motor gasoline, and other finished motor gasoline. Blendstock is excluded until blending has been completed.

- **Reformulated Motor Gasoline:** Motor gasoline, formulated for use in motor vehicles, the composition and properties of which are certified as "reformulated motor gasoline" by the Environmental Protection Agency.
- **Oxygenated Motor Gasoline:** Motor gasoline, formulated for use in motor vehicles, that has an oxygen content of 1.8 percent or higher by weight.
- **Other Finished Motor Gasoline:** Motor gasoline that is not included in the reformulated or oxygenated categories.

**Motor Gasoline, Finished Gasohol:** A blend of finished motor gasoline (leaded or unleaded) and alcohol (generally ethanol, but sometimes methanol) in which 10 percent or more of the product is alcohol.

**Motor Gasoline, Finished Leaded:** Motor gasoline that contains more than 0.05 gram of lead per gallon or more than 0.005 gram of phosphorus per gallon. Premium and regular grades are included, depending on the octane rating. Includes leaded gasohol. Blendstock is excluded until blending has been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

**Motor Gasoline, Finished Leaded Premium:** Motor gasoline having an antiknock index, calculated as  $(R+M)/2$ , greater than 90 and containing more than 0.05 gram of lead per gallon or more than 0.005 gram of phosphorus per gallon.

**Motor Gasoline, Finished Leaded Regular:** Motor gasoline having an antiknock index, calculated as  $(R+M)/2$ , greater than or equal to 87 and less than or equal to 90 and containing more than 0.05 gram of lead or 0.005 gram of phosphorus per gallon.

**Motor Gasoline, Finished Unleaded:** Motor gasoline containing not more than 0.05 gram of lead per gallon and not more than 0.005 gram of phosphorus per gallon. Premium and regular grades are included, depending on the octane rating. Includes unleaded gasohol. Blendstock is excluded until blending has

been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

**Motor Gasoline, Finished Unleaded Midgrade:** Motor gasoline having an antiknock index, calculated as  $(R+M)/2$ , greater than or equal to 88 and less than or equal to 90 and containing not more than 0.05 gram of phosphorus per gallon.

**Motor Gasoline, Finished Unleaded Premium:** Motor gasoline having an antiknock index, calculated as  $(R+M)/2$ , greater than 90 and containing not more than 0.05 gram of lead or 0.005 gram of phosphorus per gallon.

**Motor Gasoline, Finished Unleaded Regular:** Motor gasoline having an antiknock index, calculated as  $(R+M)/2$ , of 87 containing not more than 0.05 gram of lead per gallon and not more than 0.005 gram of phosphorus per gallon.

**Motor Gasoline Retail Prices:** Motor gasoline prices calculated each month by the Bureau of Labor Statistics (BLS) in conjunction with the construction of the Consumer Price Index (CPI). Those prices are collected in 85 urban areas selected to represent all urban consumers—about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-service).

**Motor Gasoline, Total:** Includes finished leaded motor gasoline (premium and regular), finished unleaded motor gasoline (premium, midgrade, and regular), motor gasoline blending components, and gasohol.

**MTBE (Methyl Tertiary Butyl Ether):** An ether,  $(\text{CH}_3)_3\text{COCH}_3$ , intended for motor gasoline blending. See Oxygenates.

**Naphtha:** A genetic term applied to a petroleum fraction with an approximate boiling range between 122 and 400° F.

**Natural Gas:** A mixture of hydrocarbons (principally methane) and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in underground reservoirs.

**Natural Gas, Dry:** The marketable portion of natural gas production, which is obtained by subtracting extraction losses, including natural gas liquids removed at natural gas processing plants, from total production.

**Natural Gas Marketed Production:** Gross withdrawals of natural gas from production reservoirs, less gas used for reservoir repressuring;

nonhydrocarbon gases removed in treating and processing operations; and quantities vented and flared.

**Natural Gas Plant Liquids (NGPL):** Natural gas liquids recovered from natural gas in processing plants and, in some situations, from natural gas field facilities, as well as those extracted by fractionators. Natural gas plant liquids are defined according to the published specifications of the Gas Processors Association and the American Society for Testing and Materials as follows: ethane, propane, normal butane, isobutane, pentanes plus, and other products from natural gas processing plants (i.e., products meeting the standards for finished petroleum products produced at natural gas processing plants, such as finished motor gasoline, finished aviation gasoline, special naphthas, kerosene, distillate fuel oil, and miscellaneous products).

**Natural Gas Wellhead Price:** The wellhead price of natural gas is calculated by dividing the total reported value at the wellhead by the total quantity produced as reported by the appropriate agencies of individual producing States and the U.S. Minerals Management Service. The price includes all costs prior to shipment from the lease, including gathering and compression costs, in addition to State production, severance, and similar charges.

**Natural Gas, Wet:** Natural gas prior to the extraction of liquids and other miscellaneous products.

**Net Consumption:** See Energy Consumption, End-Use.

**Nonhydrocarbon Gases:** Typical nonhydrocarbon gases that may be present in reservoir natural gas are carbon dioxide, helium, hydrogen sulfide, and nitrogen.

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

**Nuclear Electric Power Plant:** A single-unit or multiunit 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 the nuclear fission chain can be initiated, maintained, and controlled so that energy is released at a specific rate. The reactor includes fissionable material (fuel), such as uranium or plutonium; fertile material; moderating material (unless it is a fast reactor); a heavy-walled pressure vessel; shielding to protect personnel; provision for heat removal; and control elements and instrumentation.

**Offshore:** That geographic area that lies seaward of the coastline. In general, the coastline is the line of ordinary low water along with that portion of the coast that is in direct contact with the open sea or the line marking the seaward limit of inland water.

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

**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.

**Operable (nuclear):** A U.S. nuclear generating unit is considered operable after it completes low-power testing and is issued a full-power operating license by the Nuclear Regulatory Commission. A foreign nuclear generating unit is considered operable once it has generated electricity to the grid.

**Organization for Economic Cooperation and Development (OECD):** Current members are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States and its territories (Guam, Puerto Rico, and the Virgin Islands), and Germany.

**Organization of Petroleum Exporting Countries (OPEC):** Countries that have organized for the purpose of negotiating with oil companies on matters of oil production, prices, and future concession rights. Current members are Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

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

**Oxygenates:** Any substance which, when added to motor gasoline, increases the amount of oxygen in that motor gasoline blend. Through a series of waivers and interpretive rules, the Environmental Protection Agency (EPA) has determined the allowable limits for oxygenates in unleaded gasoline. The "Substantially Similar" Interpretive Rules (56 FR [February 11, 1991]) allows blends of aliphatic alcohols other than methanol and aliphatic ethers, provided the oxygen content does not exceed 2.7 percent by weight. The "Substantially Similar" Interpretive Rules also provide for blends of methanol up to 0.3 percent by volume exclusive of other oxygenates, and butanol or alcohols of a higher molecular weight up to 2.75 percent by weight. Individual waivers pertaining to the use of oxygenates in unleaded motor gasoline have been issued by the EPA. They include:

- **Fuel Ethanol.** Blends of up to 10 percent by volume anhydrous ethanol (200 proof).
- **Methanol.** Blends of methanol and gasoline-grade tertiary butyl alcohol (GTBA)

such that the total oxygen content does not exceed 3.5 percent by weight and the ratio of methanol to GTBA is less than or equal to 1. It is also specified that this blended fuel must meet ASTM volatility specifications.

Blends of up to 5.0 percent by volume methanol with a minimum of 2.5 percent by volume co-solvent alcohols having carbon number of 4 or less (i.e., ethanol, propanol, butanol, and/or GTBA). The total oxygen must not exceed 3.7 percent by weight, and the blend must meet ASTM volatility specifications as well as phase separation and alcohol purity specifications.

- **MTBE (Methyl tertiary butyl ether).** Blends up to 15.0 percent by volume MTBE that must meet the ASTM D4814 specifications. Blenders must take precautions that the blends are not used as base gasolines for other oxygenated blends.

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

**Petrochemical Feedstocks:** Chemical feedstocks derived from petroleum principally for the manufacture of chemicals, synthetic rubber, and a variety of plastics. The categories reported are naphthas less than 401° F endpoint and other oils equal to or greater than 401° F endpoint.

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

**Petroleum Coke:** A residue that is the final product of the condensation process in cracking. The product is either marketable petroleum coke or catalyst petroleum coke.

**Petroleum Coke, Catalyst:** The carbonaceous residue that is deposited on and deactivates the catalyst used in many catalytic operations (e.g., catalytic cracking). Carbon is deposited on the catalyst, thus deactivating the catalyst. The catalyst is reactivated by burning off the carbon, which is used as a fuel in the refining process. That carbon or coke is not recoverable in a concentrated form.

**Petroleum Coke, Marketable:** Those grades of coke produced in delayed or fluid cokers that may be recovered as relatively pure carbon. Marketable petroleum coke may be sold as is or further purified by calcining.

**Petroleum Consumption:** The sum of all refined petroleum products supplied. For each refined petroleum product, the amount supplied is calculated by adding production and imports, then subtracting

changes in primary stocks (net withdrawals are a plus quantity and net additions are a minus quantity) and exports.

**Petroleum Imports:** Imports of petroleum into the 50 States and the District of Columbia from foreign countries and from Puerto Rico, the Virgin Islands, and other U.S. territories and possessions. Included are imports for the Strategic Petroleum Reserve and withdrawals from bonded warehouses for onshore consumption, offshore bunker use, and military use. Excluded are receipts of foreign petroleum into bonded warehouses and into U.S. territories and U.S. Foreign Trade Zones.

**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 miscellaneous products.

**Petroleum Products Supplied:** See Petroleum Consumption.

**Petroleum Stocks, Primary:** For individual products, quantities that are held at refineries, in pipelines, and at bulk terminals that have a capacity of 50,000 barrels or more, or that are in transit thereto. Stocks held by product retailers and resellers, as well as tertiary stocks held at the point of consumption, are excluded. Stocks of individual products held at gas processing plants are excluded from individual product estimates but are included in other oils estimates and total.

**Photovoltaic and Solar Thermal Energy (as used at electric utilities):** Energy radiated by the sun as electromagnetic waves (electromagnetic radiation) that is converted at electric utilities into electricity by means of solar (photovoltaic) cells or concentrating (focusing) collectors.

**Pipeline Fuel:** Gas consumed in the operation of pipelines, primarily in compressors.

**Primary Consumption:** See Energy Consumption, End-Use.

**Propane:** A normally gaseous straight-chain hydrocarbon ( $C_3H_8$ ). It is a colorless paraffinic gas that boils at a temperature of  $-43.67^{\circ}$  F. It is extracted from natural gas or refinery gas streams. It includes all products designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial propane and HD-5 propane.

**Propylene:** An olefinic hydrocarbon ( $C_3H_6$ ) recovered from refinery or petrochemical processes.

**Refiner Acquisition Cost of Crude Oil:** The cost of crude oil to the refiner, including transportation and fees. The composite cost is the weighted average of domestic and imported crude oil costs.

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

**Renewable Energy:** Energy obtained from sources that are essentially inexhaustible (unlike, for example, the fossil fuels, of which there is a finite supply). Renewable sources of energy include wood, waste, photovoltaic, and solar thermal energy.

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

**Residential Sector:** The residential sector is considered to consist of all private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units, and mobile homes. Secondary homes, such as summer homes, are also included. Institutional housing, such as school dormitories, hospitals, and military barracks, generally are not included in the residential sector; they are included in the commercial sector.

**Residual Fuel Oil:** The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations and that conform to ASTM Specifications D396 and 975. Included are No. 5, a residual fuel oil of medium viscosity; Navy Special, for use in steam-powered vessels in government service and in shore power plants; and No. 6, which includes Bunker C fuel oil and is used for commercial and industrial heating, electricity generation, and to power ships. Imports of residual fuel oil include imported crude oil burned as fuel.

**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.

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

**SIC:** See Standard Industrial Classification.

**Solar Energy:** The radiant energy of the sun, which can be converted into other forms of energy, such as heat or electricity.

**Standard Industrial Classification (SIC):** A set of codes developed by the Office of Management and Budget which categorizes industries into groups with similar economic activities.

**Startup Test Phase of Nuclear Power Plant:** A nuclear power plant that has been licensed by the Nuclear Regulatory Commission to operate but is still in the initial testing phase, during which the production of electricity may not be continuous. In general, when the electric utility is satisfied with the plant's performance, it formally accepts the plant from the manufacturer and places it in commercial operation status. A request is then submitted to the appropriate utility rate commission to include the power plant in the rate base calculation.

**Steam-Electric Power Plant:** 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.

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

**Supplemental Gaseous Fuels:** Any gaseous substance that, introduced into or commingled with natural gas, increases the volume available for disposition. Such substances include, but are not limited to, propane-air, refinery gas, coke oven gas, still gas, manufactured gas, biomass gas, or air or inert gases added for Btu stabilization.

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

**Total Consumption:** See Energy Consumption, End-Use.

**Transportation Sector:** The transportation sector consists of private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroads and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines.

**Unaccounted-for Crude Oil:** Arithmetic difference between the calculated supply and the calculated disposition of crude oil. The calculated supply is the sum of crude oil production and imports, less changes in crude oil stocks. The calculated disposition of crude oil is the sum of crude oil input to refineries, crude oil exports, crude oil burned as fuel, and crude oil losses.

**Underground Storage:** The storage of natural gas in underground reservoirs at a different location from which it was produced.

**United States:** Unless otherwise noted, "United States" in this publication means the 50 States and the District of Columbia. U.S. exports include shipments to U.S. territories, and imports include receipts from U.S. territories.

**U.S.S.R.:** The Union of Soviet Socialist Republics consisted of 15 constituent republics: Armenia, Azerbaijan, Belorussia, Estonia, Georgia, Kazakhstan, Kirghizia, Latvia, Lithuania, Moldavia, Russia, Tadzhikistan, Turkmenistan, Ukraine, and Uzbekistan. As a political entity, the U.S.S.R. ceased to exist as of December 31, 1991.

**Vented Natural Gas:** Gas released into the air on the base site or at processing plants.

**Wellhead Price:** The value of crude oil or natural gas at the mouth of the well.

**Well Servicing Unit:** Truck-mounted equipment generally used for downhole services after a well is drilled. Services include well completions and recompletions, maintenance, repairs, workovers, and well plugging and abandonments. Jobs range from minor operations, such as pulling the rods and rod pumps out of an oil well, replacing the pump and rerunning the assemblage into the well, to major workovers, such as milling out and repairing collapsed casing. Well depth and characteristics determine the type of equipment used.

**Wind Energy (as used at electric utilities):** The kinetic energy of wind converted at electric utilities into mechanical energy by wind turbines (i.e., blades rotating from a hub) that drive generators to produce electricity for distribution.

**Wood and Waste (as used at electric utilities):** Wood energy, garbage, bagasse, sewerage gas, and other industrial, agricultural, and urban refuse used to generate electricity for distribution.

**Wood Energy:** Wood and wood products used as fuel, including round wood (cord wood), limb wood, wood chips, bark, sawdust, forest residues, charcoal, pulp waste, and spent pulping liquor.

**Working Gas:** The gas in a reservoir that is in addition to the base (cushion) gas. It may or may not be completely withdrawn during any particular withdrawal season. Conditions permitting, the total working capacity could be used more than once during any given season.

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*EIA Releases Preliminary Estimates*

# *Energy Information Times*

APRIL 29, 1994

## **Preliminary Estimates for the Commercial Buildings and Manufacturing Sectors**

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By the Energy Information Administration

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WASHINGTON, D.C.—Preliminary estimates became available in April for the 1992 Commercial Buildings Energy Consumption Survey (CBECS) and the 1991 Manufacturing Energy Consumption Survey (MECS). The CBECS estimates include the number of commercial buildings and corresponding floorspace, by building characteristics, and are presented in 70 tables. Copies of the preliminary CBECS tables are available through the National Energy Information Center (NEIC) at 202-586-8800. The full CBECS report, *Commercial Buildings Characteristics 1992*, will be available in May 1994.

Preliminary MECS estimates include energy consumption, end uses of energy, fuel-switching capabilities, technology penetration, participation in energy management programs, and other information. The MECS estimates are presented in

approximately 60 tables and are also available through NEIC. In addition, the MECS tables are available through the Energy Information Administration's Electronic Publishing System (EPUB). The full MECS report, *Manufacturing Energy Consumption 1991*, will be published in mid-1994.

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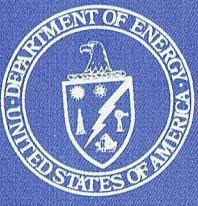
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