

# Monthly Energy Review

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# Monthly Energy Review

September 1998

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

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# Contents

	Page
Energy Plug: 25 <sup>th</sup> Anniversary of the 1973 Oil Embargo: Energy Trends Since the First Major U.S. Energy Crisis . . . . .	ix
Energy Plug: Energy Education Resources: Kindergarten Through 12 <sup>th</sup> Grade . . . . .	xi
Section 1. Energy Overview . . . . .	1
Section 2. Energy Consumption . . . . .	23
Section 3. Petroleum . . . . .	41
Section 4. Natural Gas . . . . .	71
Section 5. Oil and Gas Resource Development . . . . .	81
Section 6. Coal . . . . .	85
Section 7. Electricity . . . . .	93
Section 8. Nuclear Energy . . . . .	103
Section 9. Energy Prices . . . . .	109
Section 10. International Energy . . . . .	129
Appendix A. Thermal Conversion Factors . . . . .	145
Appendix B. Metric and Other Physical Conversion Factors . . . . .	157
Appendix C. Carbon Dioxide Emission Factors for Coal . . . . .	161
Appendix D. List of Features . . . . .	163
Glossary . . . . .	167

# Tables

	<b>Page</b>
<b>Section 1. Energy Overview</b>	
1.1 Energy Summary for June 1998 . . . . .	1
1.2 Energy Overview . . . . .	3
1.3 Energy Production by Source. . . . .	5
1.4 Energy Consumption by Source. . . . .	7
1.5 Energy Net Imports by Source. . . . .	9
1.6 Merchandise Trade Value . . . . .	11
1.7 Cost of Fuels to End Users in Constant (1982-1984) Dollars . . . . .	13
1.8 Overview of U.S. Petroleum Trade . . . . .	15
1.9 Energy Consumption per Dollar of Gross Domestic Product . . . . .	16
1.10 Passenger Car Efficiency . . . . .	17
1.11 Heating Degree-Days by Census Division. . . . .	18
1.12 Cooling Degree-Days by Census Division . . . . .	19
<b>Section 2. Energy Consumption</b>	
2.1 Energy Consumption Summary for June 1998 . . . . .	23
2.2 Energy Consumption by End-Use Sector . . . . .	25
2.3 Residential and Commercial Energy Consumption. . . . .	27
2.4 Industrial Energy Consumption . . . . .	29
2.5 Transportation Energy Consumption. . . . .	31
2.6 Energy Input at Electric Utilities . . . . .	33
<b>Section 3. Petroleum</b>	
3.1 Petroleum Overview	
3.1a Field Production, Stock Change, Petroleum Products Supplied, and Ending Stocks. . .	42
3.1b Imports, Exports, and Net Imports . . . . .	43
3.2 Crude Oil Supply and Disposition	
3.2a Supply . . . . .	46
3.2b Disposition and Ending Stocks . . . . .	47
3.3 Petroleum Imports	
3.3a Bahrain, Iran, Iraq, and Kuwait . . . . .	48
3.3b Qatar, Saudi Arabia, U.A.E., and Total Persian Gulf . . . . .	49
3.3c Algeria, Ecuador, Gabon, Indonesia, and Libya . . . . .	50
3.3d Nigeria, Venezuela, Total Other OPEC, and Total OPEC . . . . .	51
3.3e Angola, Australia, Bahama Islands, Brazil, Canada, and China . . . . .	52
3.3f Colombia, Ecuador, Gabon, Italy, Malaysia, and Mexico . . . . .	53
3.3g Netherlands, Netherlands Antilles, Norway, Puerto Rico, Russia, and Spain . . . . .	54
3.3h Trinidad and Tobago, United Kingdom, Virgin Islands, Other Non-OPEC, Total Non-OPEC, and Total Imports . . . . .	55
3.4 Finished Motor Gasoline Supply and Disposition . . . . .	57
3.5 Distillate Fuel Oil Supply and Disposition . . . . .	59
3.6 Residual Fuel Oil Supply and Disposition. . . . .	61
3.7 Jet Fuel Supply and Disposition. . . . .	63
3.8 Liquefied Petroleum Gases Supply and Disposition . . . . .	65
3.9 Propane and Propylene Supply and Disposition . . . . .	67
3.10 Other Petroleum Products Supply and Disposition . . . . .	68
<b>Section 4. Natural Gas</b>	
4.1 Natural Gas Overview . . . . .	73
4.2 Natural Gas Production . . . . .	74
4.3 Natural Gas Trade by Country . . . . .	75
4.4 Natural Gas Consumption by End-Use Sector. . . . .	76
4.5 Natural Gas in Underground Storage. . . . .	77
<b>Section 5. Oil and Gas Resource Development</b>	
5.1 Oil and Gas Drilling Activity Measurements. . . . .	82
5.2 Oil and Gas Wells Drilled . . . . .	83

## Tables (Continued)

	<b>Page</b>
<b>Section 6. Coal</b>	
6.1 Coal Overview . . . . .	87
6.2 Coal Consumption by End-Use Sector . . . . .	88
6.3 Coal Stocks, End of Period . . . . .	89
<b>Section 7. Electricity</b>	
7.1 Electric Power Industry Net Generation . . . . .	95
7.2 Electric Utility Retail Sales of Electricity by End-Use Sector . . . . .	97
7.3 Electric Utility Consumption of Fossil Fuels To Generate Electricity . . . . .	99
7.4 Electric Utility Stocks of Coal and Petroleum, End of Period . . . . .	100
7.5 Nonutility Power Net Generation of Electricity . . . . .	101
7.6 Electric Power Industry Consumption of Fossil Fuels To Generate Electricity . . . . .	101
<b>Section 8. Nuclear Energy</b>	
8.1 Nuclear Power Plant Operations . . . . .	105
8.2 Nuclear Generating Unit . . . . .	106
<b>Section 9. Energy Prices</b>	
9.1 Crude Oil Price Summary . . . . .	111
9.2 F.O.B. Costs of Crude Oil Imports From Selected Countries . . . . .	112
9.3 Landed Costs of Crude Oil Imports From Selected Countries . . . . .	113
9.4 Motor Gasoline Retail Prices, U.S. City Average . . . . .	114
9.5 Refiner Prices of Residual Fuel Oil . . . . .	115
9.6 Refiner Prices of Petroleum Products for Resale . . . . .	116
9.7 Refiner Prices of Petroleum Products to End Users . . . . .	117
9.8 No. 2 Distillate Prices to Residences	
9.8a Northeastern States . . . . .	118
9.8b Selected South Atlantic and Midwestern States . . . . .	119
9.8c Selected Western States and U.S. Average . . . . .	120
9.9 Retail Prices of Electricity Sold by Electric Utilities . . . . .	122
9.10 Quantity and Cost of Fossil-Fuel Receipts at Steam-Electric Utility Plants . . . . .	123
9.11 Natural Gas Prices . . . . .	125
<b>Section 10. International Energy</b>	
10.1 World Oil Production	
10.1a OPEC Members . . . . .	130
10.1b Persian Gulf Nations, Non-OPEC, and World . . . . .	131
10.2 Petroleum Consumption in OECD Countries . . . . .	135
10.3 Petroleum Stocks in OECD Countries, End of Period . . . . .	137
10.4 Nuclear Electricity Gross Generation	
10.4a Regions and World . . . . .	139
10.4b North, Central, and South America . . . . .	140
10.4c Western Europe . . . . .	141
10.4d Far East and Africa . . . . .	142
10.4e Eastern Europe and Former U.S.S.R. . . . .	143
<b>Appendix A. Thermal Conversion Factors</b>	
A1. Approximate Heat Content of Petroleum Products . . . . .	145
A2. Approximate Heat Content of Crude Oil, Crude Oil and Products, and Natural Gas Plant Liquids	146
A3. Approximate Heat Content of Petroleum Products, Weighted Averages . . . . .	147
A4. Approximate Heat Content of Natural Gas . . . . .	148
A5. Approximate Heat Content of Coal . . . . .	149
A6. Approximate Heat Content of Bituminous Coal and Lignite . . . . .	150
A7. Approximate Heat Content of Anthracite and Coal Coke . . . . .	151
A8. Approximate Heat Rates for Electricity . . . . .	152

## Tables (Continued)

		<b>Page</b>
<b>Appendix B. Metric and Other Physical Conversion Factors</b>		
B1.	Metric Conversion Factors . . . . .	158
B2.	Metric Prefixes . . . . .	159
B3.	Other Physical Conversion Factors . . . . .	159
<b>Appendix C. Carbon Dioxide Emission Factors for Coal</b>		
C1.	Average Carbon Dioxide Emission Factors for Coal by Sector . . . . .	161

# Figures

	<b>Page</b>
<b>Section 1. Energy Overview</b>	
1.1 Energy Overview .....	2
1.2 Energy Production .....	4
1.3 Energy Consumption .....	6
1.4 Energy Net Imports .....	8
1.5 Merchandise Trade Value .....	10
1.6 Cost of Fuels to End Users in Constant (1982-1984) Dollars .....	12
1.7 Overview of U.S. Petroleum Trade .....	14
1.8 Energy Consumption per Dollar of Gross Domestic Product .....	16
1.9 Passenger Car Efficiency .....	17
<b>Section 2. Energy Consumption</b>	
2.1 Energy Consumption by End-Use Sector .....	24
2.2 Residential and Commercial Energy Consumption .....	26
2.3 Industrial Energy Consumption .....	28
2.4 Transportation Energy Consumption .....	30
2.5 Energy Input at Electric Utilities .....	32
<b>Section 3. Petroleum</b>	
3.1 Petroleum Overview .....	44
3.2 Finished Motor Gasoline .....	56
3.3 Distillate Fuel .....	58
3.4 Residual Fuel .....	60
3.5 Jet Fuel .....	62
3.6 Liquefied Petroleum Gases .....	64
3.7 Propane and Propylene .....	66
<b>Section 4. Natural Gas</b>	
4.1 Natural Gas .....	72
<b>Section 5. Oil and Gas Resource Development</b>	
5.1 Oil and Gas Resource Development Indicators .....	81
<b>Section 6. Coal</b>	
6.1 Coal .....	86
<b>Section 7. Electricity</b>	
7.1 Electric Power Industry Net Generation of Electricity .....	94
7.2 Electric Utility Retail Sales of Electricity .....	96
7.3 Electric Utility Consumption and Stocks of Fossil Fuels .....	98
<b>Section 8. Nuclear Energy</b>	
8.1 Nuclear Power Plant Operations .....	104
<b>Section 9. Energy Prices</b>	
9.1 Petroleum Prices .....	110
9.2 Retail Prices of Electricity Sold by Electric Utilities .....	121
9.3 Cost of Fossil-Fuel Receipts at Steam-Electric Plants .....	121
9.4 Natural Gas Prices .....	124
<b>Section 10. International Energy</b>	
10.1 Crude Oil Production .....	132
10.2 Crude Oil Production by Selected Country .....	133
10.3 Petroleum Consumption in OECD Countries .....	134
10.4 Petroleum Stocks in OECD Countries .....	136
10.5 Nuclear Electricity Gross Generation .....	138





# Section 1. Energy Overview

Energy production during June 1998 totaled 5.7 quadrillion Btu, a 1.4-percent increase from the level of production during June 1997. Coal production increased 4.9 percent, production of crude oil and natural gas plant liquids decreased 2.8 percent, and natural gas production increased 0.7 percent. All other forms of energy production combined were up 1.3 percent from the level of production during June 1997.

Energy consumption during June 1998 totaled 7.3 quadrillion Btu, 2.7 percent above the level of consumption during June 1997. Consumption of coal

increased 6.5 percent, consumption of natural gas increased 3.2 percent, and consumption of petroleum products rose 1.1 percent. Consumption of all other forms of energy combined increased 0.2 percent from the level 1 year earlier.

Net imports of energy during June 1998 totaled 1.8 quadrillion Btu, 0.3 percent above the level of net imports 1 year earlier. Net imports of natural gas were up 6.5 percent and net imports of petroleum decreased 0.7 percent. Net exports of coal fell 7.2 percent from the level in June 1997.

**Table 1.1 Energy Summary for June 1998**  
(Quadrillion Btu)

	June			Cumulative January Through June				
	1998	1997	Percent Change <sup>a</sup>	1998	1998 Daily Rate	1997	1997 Daily Rate	Percent Change <sup>a</sup>
<b>Production</b> .....	<b>5.743</b>	<b>5.665</b>	<b>1.4</b>	<b>34.716</b>	<b>0.192</b>	<b>34.562</b>	<b>0.191</b>	<b>0.4</b>
Coal .....	1.942	1.850	4.9	11.724	.065	11.584	.064	1.2
Natural Gas (Dry) .....	<sup>E</sup> 1.595	1.583	.7	<sup>E</sup> 9.737	<sup>E</sup> .054	9.680	.053	.6
Crude Oil <sup>b</sup> and Natural Gas Plant Liquids .....	<sup>E</sup> 1.290	1.327	-2.8	<sup>E</sup> 7.994	<sup>E</sup> .044	8.023	.044	-4
Other <sup>c</sup> .....	.917	.905	1.3	5.261	.029	5.275	.029	-3
<b>Consumption</b> .....	<b>7.340</b>	<b>7.146</b>	<b>2.7</b>	<b>45.145</b>	<b>.249</b>	<b>45.315</b>	<b>.250</b>	<b>-4</b>
Coal .....	<sup>E</sup> 1.830	1.718	6.5	<sup>E</sup> 10.213	<sup>E</sup> .056	10.004	.055	2.1
Natural Gas <sup>d</sup> .....	<sup>F</sup> 1.546	1.498	3.2	<sup>E</sup> 11.721	<sup>E</sup> .065	12.052	.067	-2.7
Petroleum Products <sup>e</sup> .....	3.022	2.990	1.1	17.807	.098	17.806	.098	.0
Other <sup>f</sup> .....	.942	.940	.2	5.404	.030	5.453	.030	-9
<b>Net Imports</b> .....	<b>1.831</b>	<b>1.826</b>	<b>.3</b>	<b>10.516</b>	<b>.058</b>	<b>10.390</b>	<b>.057</b>	<b>1.2</b>
Coal <sup>g</sup> .....	-.150	-.162	-7.2	-.915	-.005	-.987	-.005	-7.3
Natural Gas .....	<sup>E</sup> .242	.228	6.5	<sup>E</sup> 1.492	<sup>E</sup> .008	1.446	.008	3.2
Petroleum <sup>h</sup> .....	1.714	1.725	-7	9.796	.054	9.754	.054	.4
Other <sup>i</sup> .....	.025	.035	-27.8	.143	.001	.178	.001	-19.5

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

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

<sup>c</sup> "Other" is hydroelectric and nuclear electric power, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

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

<sup>e</sup> Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

<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> 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.

E=Estimate. F=Forecast.

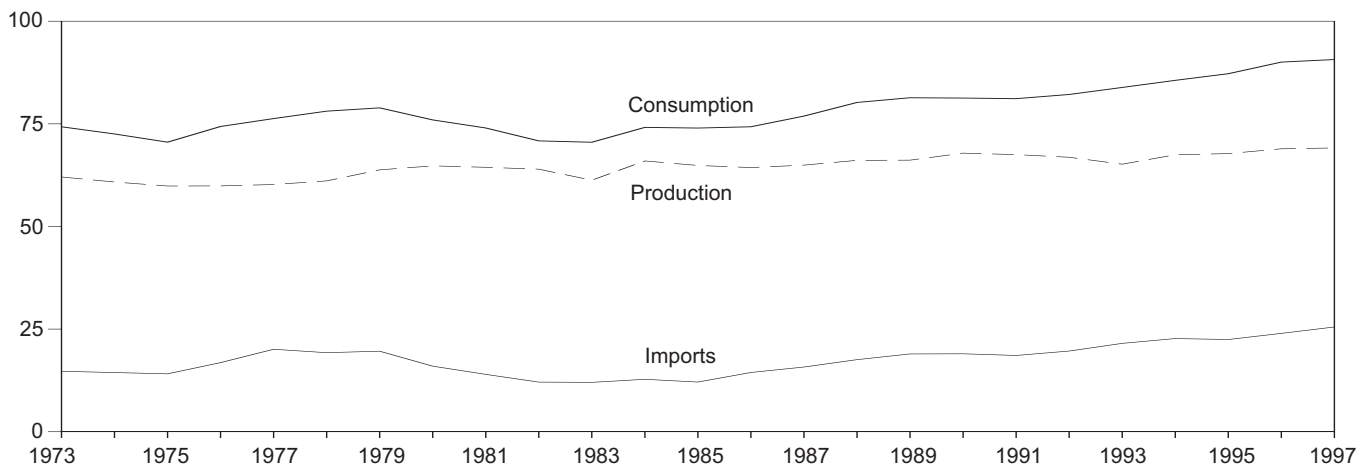
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Sources: Tables 1.3, 1.4, and 1.5.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in production and consumption. In 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

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

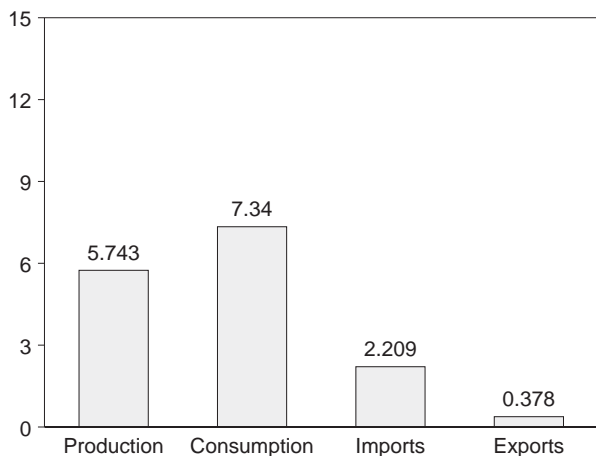
**Consumption, Production, and Imports, 1973-1997**



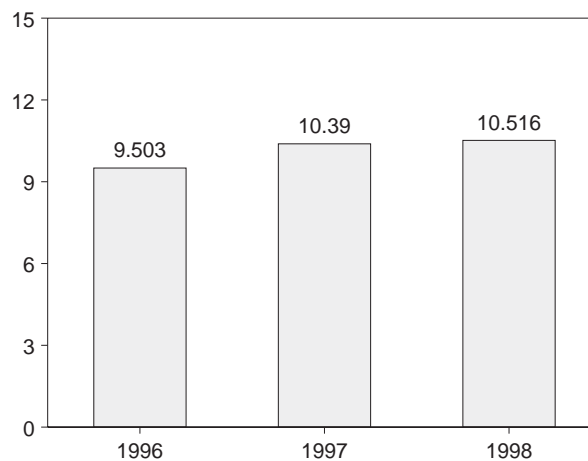
**Consumption, Production, and Imports, Monthly**



**Overview, June 1998**



**Net Imports, January-June**



Note: Because vertical scales differ, graphs should not be compared.  
Source: Table 1.2.

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

	Production	Consumption <sup>a</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	19.616	2.870	16.746
1980 Total	64.761	75.955	15.971	3.723	12.247
1981 Total	64.421	73.990	13.975	4.329	9.646
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	8.963
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	66.160	81.358	18.950	4.767	14.182
1990 Total	67.871	81.283	18.988	4.911	14.078
1991 Total	67.505	81.138	18.579	5.221	13.358
1992 Total	66.862	82.154	19.652	5.017	14.634
1993 Total	65.171	83.871	21.531	4.351	17.181
1994 Total	67.457	85.598	22.696	4.125	18.571
1995 Total	67.760	87.205	22.469	4.580	17.890
1996 January	5.766	8.480	2.010	.389	1.621
February	5.548	7.865	1.714	.376	1.338
March	5.909	7.908	1.947	.359	1.588
April	5.701	7.119	1.934	.378	1.556
May	5.836	7.142	2.131	.378	1.753
June	5.668	7.084	2.034	.387	1.647
July	5.834	7.347	2.094	.396	1.698
August	5.944	7.453	2.129	.381	1.748
September	5.589	6.796	1.912	.428	1.484
October	5.779	7.236	2.093	.425	1.669
November	5.569	7.476	1.935	.412	1.523
December	5.777	8.135	2.029	.399	1.630
Total	68.920	90.041	23.961	4.706	19.255
1997 January	R 5.960	8.544	R 2.102	.396	R 1.705
February	R 5.512	7.562	R 1.852	.337	R 1.515
March	R 5.920	R 7.693	R 2.100	.372	R 1.728
April	R 5.604	R 7.204	R 2.075	.359	R 1.716
May	R 5.901	7.166	R 2.263	.363	R 1.900
June	R 5.665	R 7.146	R 2.185	.359	R 1.826
July	R 5.835	R 7.686	R 2.136	.376	R 1.760
August	R 5.817	R 7.519	R 2.228	.440	R 1.788
September	R 5.699	R 7.063	R 2.167	.381	R 1.786
October	R 5.782	R 7.291	R 2.281	.415	R 1.866
November	R 5.504	7.456	R 2.093	.362	R 1.731
December	R 5.930	8.338	2.037	.413	1.624
Total	R 69.128	R 90.668	R 25.520	4.575	R 20.945
1998 January	6.026	R 8.266	2.147	.408	1.739
February	R 5.485	R 7.396	1.873	.317	1.556
March	R 5.978	R 7.830	2.088	.357	1.731
April	R 5.665	R 7.122	R 2.144	R .375	R 1.769
May	R 5.818	R 7.191	R 2.296	R .407	R 1.889
June	5.743	7.340	2.209	.378	1.831
6-Month Total	34.716	45.145	12.758	2.242	10.516
1997 6-Month Total	34.562	45.315	12.577	2.187	10.390
1996 6-Month Total	34.429	45.598	11.769	2.266	9.503

<sup>a</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.

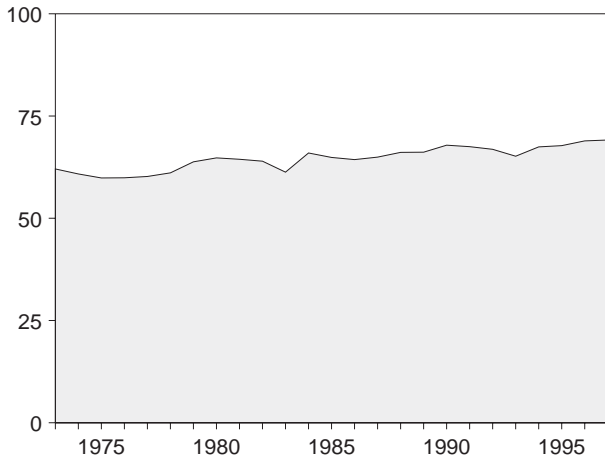
Notes: • For definitions, see Notes 1 through 4 at end of section.  
• Totals may not equal sum of components due to independent rounding.  
• Geographic coverage is the 50 States and the District of Columbia.

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.

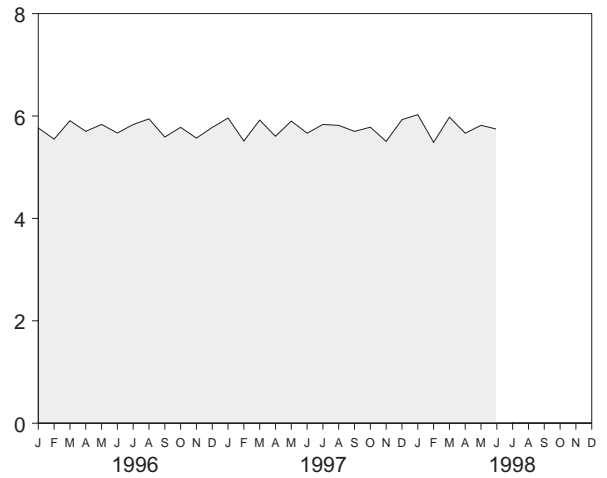
**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in production and consumption. In 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

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

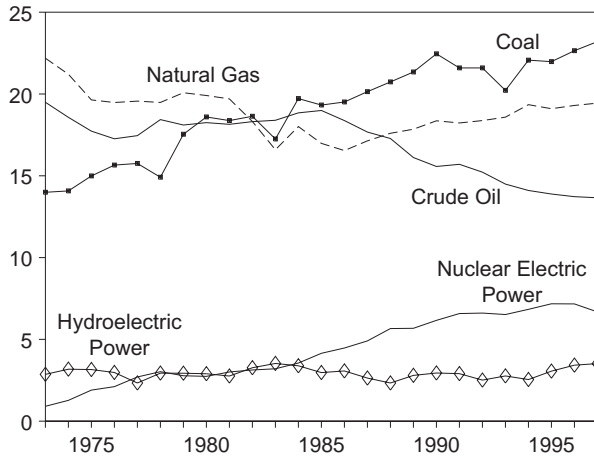
Total, 1973-1997



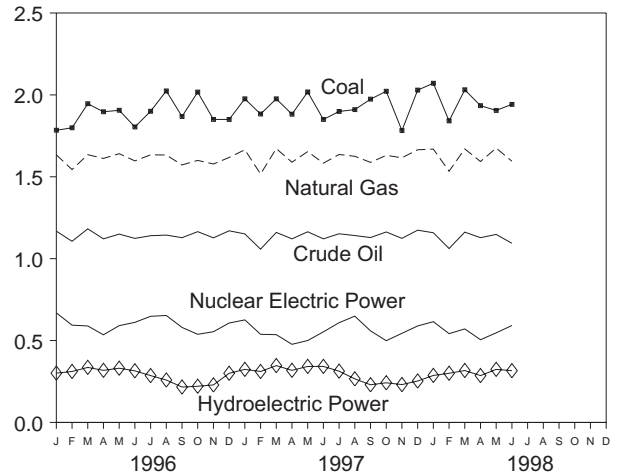
Total, Monthly



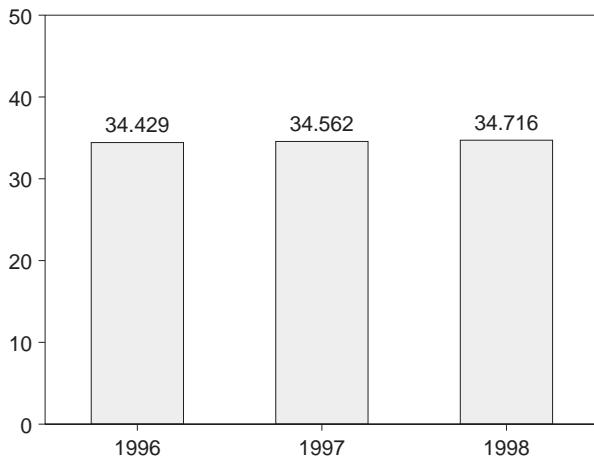
By Major Sources, 1973-1997



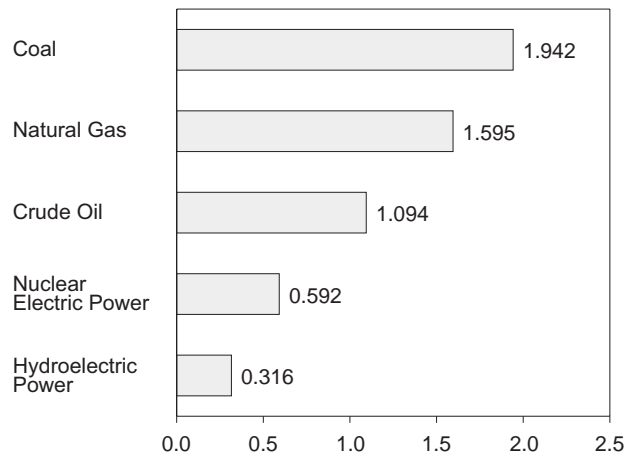
By Major Sources, Monthly



Total, January-June



By Major Sources, June 1998



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	Hydroelectric Power <sup>b</sup>	Geothermal Energy	Other <sup>c</sup>	Total
<b>1973 Total</b> .....	13.993	22.187	19.493	2.569	0.910	2.861	0.043	0.003	62.060
<b>1974 Total</b> .....	14.074	21.210	18.575	2.471	1.272	3.177	.053	.003	60.835
<b>1975 Total</b> .....	14.990	19.640	17.729	2.374	1.900	3.155	.070	.002	59.860
<b>1976 Total</b> .....	15.654	19.480	17.262	2.327	2.111	2.976	.078	.003	59.892
<b>1977 Total</b> .....	15.755	19.565	17.454	2.327	2.702	2.333	.077	.005	60.219
<b>1978 Total</b> .....	14.910	19.485	18.434	2.245	3.024	2.937	.064	.003	61.103
<b>1979 Total</b> .....	17.539	20.076	18.104	2.286	2.776	2.931	.084	.005	63.801
<b>1980 Total</b> .....	18.597	19.908	18.249	2.254	2.739	2.900	.110	.005	64.761
<b>1981 Total</b> .....	18.376	19.699	18.146	2.307	3.008	2.758	.123	.004	64.421
<b>1982 Total</b> .....	18.639	18.319	18.309	2.191	3.131	3.266	.105	.003	63.962
<b>1983 Total</b> .....	17.246	16.593	18.392	2.184	3.203	3.527	.129	.004	61.279
<b>1984 Total</b> .....	19.719	18.008	18.848	2.274	3.553	3.386	.165	.009	65.962
<b>1985 Total</b> .....	19.325	16.980	18.992	2.241	4.149	2.970	.198	.015	64.871
<b>1986 Total</b> .....	19.510	16.541	18.376	2.149	4.471	3.071	.219	.012	64.350
<b>1987 Total</b> .....	20.142	17.136	17.675	2.215	4.906	2.635	.229	.016	64.952
<b>1988 Total</b> .....	20.737	17.599	17.279	2.260	5.661	2.334	.217	.017	66.105
<b>1989 Total</b> .....	21.345	17.847	16.117	2.158	5.677	2.798	.197	.021	66.160
<b>1990 Total</b> .....	22.456	18.362	15.571	2.175	6.161	2.944	.181	.022	67.871
<b>1991 Total</b> .....	21.594	18.229	15.701	2.306	6.579	2.905	.170	.021	67.505
<b>1992 Total</b> .....	21.593	18.375	15.223	2.363	6.607	2.510	.169	.022	66.862
<b>1993 Total</b> .....	20.221	18.584	14.494	2.408	6.519	2.765	.158	.021	65.171
<b>1994 Total</b> .....	22.068	19.348	14.103	2.391	6.837	2.545	.145	.021	67.457
<b>1995 Total</b> .....	21.978	19.101	13.887	2.442	7.177	3.058	.099	.017	67.760
<b>1996 January</b> .....	1.784	1.634	1.168	.201	.669	.301	.007	.002	5.766
February .....	1.799	1.544	1.106	.184	.594	.311	.008	.001	5.548
March .....	1.946	1.635	1.182	.212	.589	.336	.007	.002	5.909
April .....	1.897	1.612	1.121	.209	.535	.318	.008	.001	5.701
May .....	1.906	1.641	1.150	.212	.591	.331	.005	.001	5.836
June .....	1.804	1.597	1.124	.208	.611	.315	.008	.002	5.668
July .....	1.900	1.634	1.140	.214	.648	.286	.012	.002	5.834
August .....	2.024	1.633	1.144	.218	.653	.259	.012	.002	5.944
September .....	1.868	1.572	1.128	.212	.580	.216	.010	.002	5.589
October .....	2.017	1.600	1.165	.224	.538	.221	.011	.002	5.779
November .....	1.850	1.578	1.127	.217	.554	.229	.011	.002	5.569
December .....	1.850	1.618	1.170	.220	.607	.300	.010	.002	5.777
<b>Total</b> .....	<b>22.646</b>	<b>19.300</b>	<b>13.723</b>	<b>2.530</b>	<b>7.168</b>	<b>3.423</b>	<b>.110</b>	<b>.020</b>	<b>68.920</b>
<b>1997 January</b> .....	R 1.976	E 1.665	1.151	.208	.626	.324	.009	.002	R 5.960
February .....	R 1.883	E 1.517	1.058	.197	.538	.311	.006	.002	R 5.512
March .....	R 1.976	E 1.672	1.160	.219	.536	.347	.009	.002	R 5.920
April .....	R 1.882	E 1.589	1.121	.206	.477	.318	.010	.002	R 5.604
May .....	R 2.018	E 1.654	1.164	.212	.500	.342	.010	.002	R 5.901
June .....	R 1.850	E 1.583	1.121	.206	.553	.342	.008	.002	R 5.665
July .....	R 1.899	E 1.636	1.152	.212	.609	.313	.011	.002	R 5.835
August .....	R 1.910	E 1.625	1.141	.214	.649	.266	.011	.002	R 5.817
September .....	R 1.974	E 1.588	1.129	.208	.559	.230	.010	.002	R 5.699
October .....	R 2.022	E 1.631	1.163	.211	.499	.242	.010	.002	R 5.782
November .....	R 1.782	E 1.616	1.124	.195	.544	.231	.010	.002	R 5.504
December .....	R 2.029	E 1.665	1.174	.207	.589	.253	.011	.002	R 5.930
<b>Total</b> .....	<b>R 23.201</b>	<b>E 19.441</b>	<b>13.658</b>	<b>2.495</b>	<b>6.678</b>	<b>3.519</b>	<b>.115</b>	<b>.021</b>	<b>R 69.128</b>
<b>1998 January</b> .....	2.071	E 1.669	E 1.158	.213	.615	.287	.010	.002	6.026
February .....	1.841	E 1.534	E 1.062	.197	.542	.300	.008	.001	R 5.485
March .....	2.031	RE 1.670	E 1.162	.215	.571	.317	.010	.002	R 5.978
April .....	R 1.934	RE 1.593	E 1.128	.210	.505	.286	.007	.002	R 5.665
May .....	R 1.905	E 1.675	E 1.148	.211	.547	.324	.006	.002	R 5.818
June .....	R 1.942	E 1.595	E 1.094	.196	.592	.316	.007	.001	5.743
<b>6-Month Total</b> .....	<b>11.724</b>	<b>E 9.737</b>	<b>E 6.752</b>	<b>1.242</b>	<b>3.371</b>	<b>1.831</b>	<b>.049</b>	<b>.010</b>	<b>34.716</b>
<b>1997 6-Month Total</b> .....	<b>11.584</b>	<b>9.680</b>	<b>6.775</b>	<b>1.248</b>	<b>3.229</b>	<b>1.983</b>	<b>.052</b>	<b>.010</b>	<b>34.562</b>
<b>1996 6-Month Total</b> .....	<b>11.136</b>	<b>9.664</b>	<b>6.850</b>	<b>1.226</b>	<b>3.588</b>	<b>1.912</b>	<b>.044</b>	<b>.009</b>	<b>34.429</b>

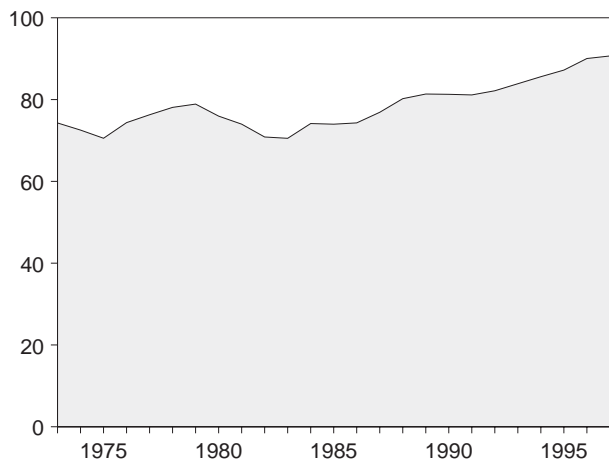
<sup>a</sup> Includes lease condensate.  
<sup>b</sup> Electric utility and industrial generation.  
<sup>c</sup> "Other" production is electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.  
R=Revised. E=Estimate.  
Notes: • See Note 1 at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50

States and the District of Columbia.  
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.

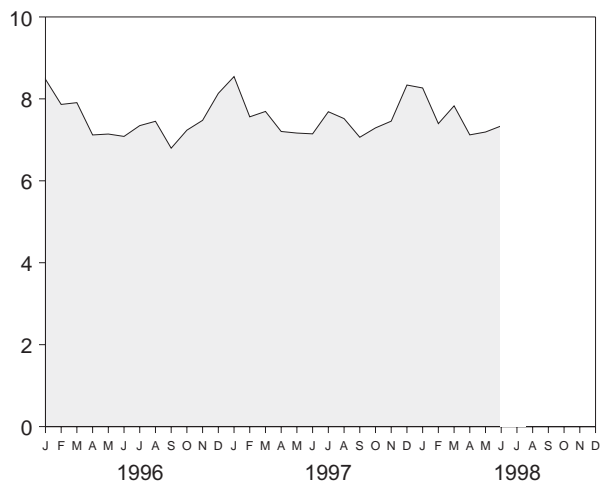
**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total production. In 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

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

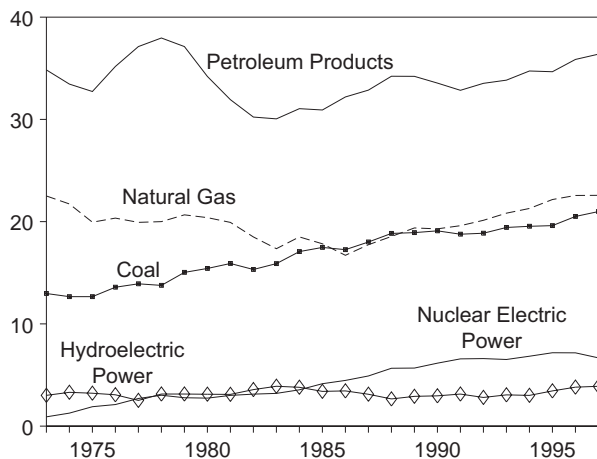
Total, 1973-1997



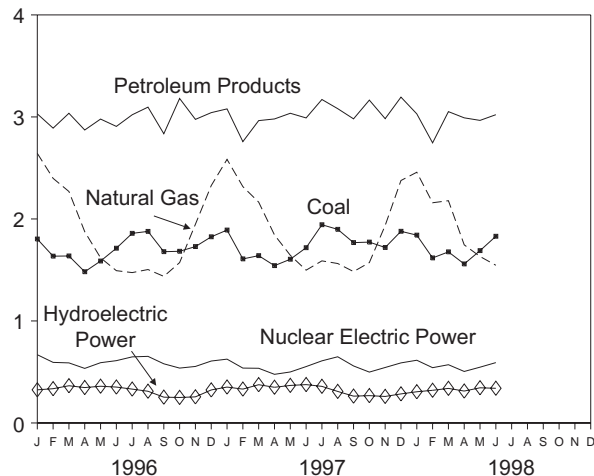
Total, Monthly



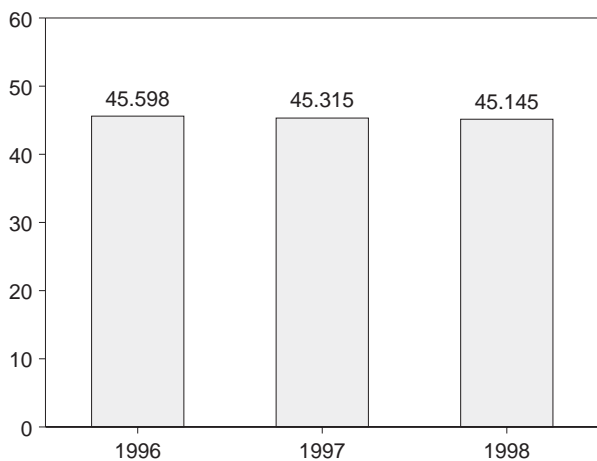
By Major Sources, 1973-1997



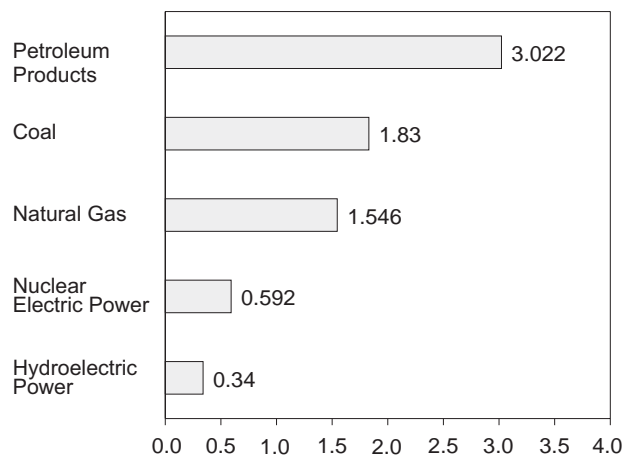
By Major Sources, Monthly



Total, January-June



By Major Sources, June 1998



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 Products <sup>b</sup>	Nuclear Electric Power	Hydroelectric Power <sup>c</sup>	Geothermal Energy	Other <sup>d</sup>	Total
<b>1973 Total</b> .....	12.971	22.512	34.840	0.910	3.010	0.043	-0.004	74.282
<b>1974 Total</b> .....	12.663	21.732	33.455	1.272	3.309	.053	.059	72.543
<b>1975 Total</b> .....	12.663	19.948	32.731	1.900	3.219	.070	.016	70.546
<b>1976 Total</b> .....	13.584	20.345	35.175	2.111	3.066	.078	.003	74.362
<b>1977 Total</b> .....	13.922	19.931	37.122	2.702	2.515	.077	.020	76.288
<b>1978 Total</b> .....	13.765	20.000	37.965	3.024	3.141	.064	.128	78.089
<b>1979 Total</b> .....	15.039	20.666	37.123	2.776	3.141	.084	.068	78.898
<b>1980 Total</b> .....	15.423	20.394	34.202	2.739	3.118	.110	-.031	75.955
<b>1981 Total</b> .....	15.907	19.928	31.931	3.008	3.105	.123	-.012	73.990
<b>1982 Total</b> .....	15.322	18.505	30.231	3.131	3.572	.105	-.018	70.848
<b>1983 Total</b> .....	15.894	17.357	30.054	3.203	3.899	.129	-.012	70.524
<b>1984 Total</b> .....	17.071	18.507	31.051	3.553	3.800	.165	-.002	74.144
<b>1985 Total</b> .....	17.478	17.834	30.922	4.149	3.398	.198	.001	73.981
<b>1986 Total</b> .....	17.261	16.708	32.196	4.471	3.446	.219	-.004	74.297
<b>1987 Total</b> .....	18.008	17.744	32.865	4.906	3.117	.229	.024	76.894
<b>1988 Total</b> .....	18.846	18.552	34.222	5.661	2.662	.217	.057	80.218
<b>1989 Total</b> .....	18.925	19.384	34.211	5.677	2.913	.197	.051	81.358
<b>1990 Total</b> .....	19.101	19.296	33.553	6.161	2.964	.181	.026	81.283
<b>1991 Total</b> .....	18.770	19.606	32.845	6.579	3.137	.170	.030	81.138
<b>1992 Total</b> .....	18.868	20.131	33.527	6.607	2.803	.169	.049	82.154
<b>1993 Total</b> .....	19.430	20.827	33.841	6.519	3.058	.158	.038	83.871
<b>1994 Total</b> .....	19.544	21.288	34.735	6.837	3.005	.145	.044	85.598
<b>1995 Total</b> .....	19.613	22.163	34.663	7.177	3.446	.099	.044	87.205
<b>1996</b> January .....	1.803	2.643	3.030	.669	.325	.007	.003	8.480
February .....	1.635	2.398	2.890	.594	.336	.008	.004	7.865
March .....	1.637	2.269	3.036	.589	.365	.007	.005	7.908
April .....	1.482	1.875	2.872	.535	.347	.008	.000	7.119
May .....	1.587	1.619	2.979	.591	.360	.005	.001	7.142
June .....	1.713	1.493	2.907	.611	.352	.008	-.001	7.084
July .....	1.859	1.474	3.021	.648	.332	.012	.002	7.347
August .....	1.878	1.504	3.096	.653	.311	.012	-.001	7.453
September .....	1.679	1.437	2.835	.580	.253	.010	.002	6.796
October .....	1.683	1.572	3.181	.538	.250	.011	.002	7.236
November .....	1.729	1.948	2.976	.554	.256	.011	.002	7.476
December .....	1.825	2.327	3.042	.607	.324	.010	.001	8.135
<b>Total</b> .....	<b>20.509</b>	<b>22.560</b>	<b>35.864</b>	<b>7.168</b>	<b>3.811</b>	<b>.110</b>	<b>.020</b>	<b>90.041</b>
<b>1997</b> January .....	1.891	<sup>R</sup> 2.584	3.079	.626	.352	.009	.003	8.544
February .....	1.608	2.317	2.758	.538	.332	.006	.003	7.562
March .....	1.640	<sup>R</sup> 2.165	2.964	.536	.375	.009	.003	<sup>R</sup> 7.693
April .....	1.542	1.843	2.980	.477	.350	.010	.002	<sup>R</sup> 7.204
May .....	1.605	1.644	3.036	.500	.368	.010	.004	7.166
June .....	1.718	<sup>R</sup> 1.498	2.990	.553	.376	.008	.003	<sup>R</sup> 7.146
July .....	1.943	<sup>R</sup> 1.589	3.171	.609	.359	.011	.003	<sup>R</sup> 7.686
August .....	1.898	<sup>R</sup> 1.563	3.081	.649	.309	.011	.009	<sup>R</sup> 7.519
September .....	1.768	<sup>R</sup> 1.484	2.981	.559	.263	.010	-.001	<sup>R</sup> 7.063
October .....	1.773	<sup>R</sup> 1.572	3.165	.499	.268	.010	.004	<sup>R</sup> 7.291
November .....	1.720	1.936	2.983	.544	.260	.010	.003	7.456
December .....	1.879	<sup>R</sup> 2.377	3.194	.589	.285	.011	.002	8.338
<b>Total</b> .....	<b>20.986</b>	<sup>R</sup> <b>22.573</b>	<b>36.381</b>	<b>6.678</b>	<b>3.897</b>	<b>.115</b>	<b>.039</b>	<sup>R</sup> <b>90.668</b>
<b>1998</b> January .....	1.841	<sup>R</sup> 2.458	3.030	.615	.306	.010	.007	<sup>R</sup> 8.266
February .....	1.618	<sup>R</sup> 2.159	2.746	.542	.320	.008	.003	<sup>R</sup> 7.396
March .....	1.677	<sup>R</sup> 2.179	3.052	.571	.339	.010	.002	<sup>R</sup> 7.830
April .....	<sup>E</sup> 1.559	<sup>R</sup> 1.746	2.991	.505	.313	.007	.001	<sup>R</sup> 7.122
May .....	<sup>E</sup> 1.689	<sup>R</sup> 1.632	2.966	.547	.345	.006	.005	<sup>R</sup> 7.191
June .....	<sup>E</sup> 1.830	<sup>F</sup> 1.546	3.022	.592	.340	.007	.003	7.340
<b>6-Month Total</b> .....	<sup>E</sup> <b>10.213</b>	<sup>E</sup> <b>11.721</b>	<b>17.807</b>	<b>3.371</b>	<b>1.963</b>	<b>.049</b>	<b>.022</b>	<b>45.145</b>
<b>1997 6-Month Total</b> .....	<b>10.004</b>	<b>12.052</b>	<b>17.806</b>	<b>3.229</b>	<b>2.153</b>	<b>.052</b>	<b>.018</b>	<b>45.315</b>
<b>1996 6-Month Total</b> .....	<b>9.857</b>	<b>12.297</b>	<b>17.714</b>	<b>3.588</b>	<b>2.085</b>	<b>.044</b>	<b>.012</b>	<b>45.598</b>

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

<sup>b</sup> Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

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

<sup>d</sup> Net imports of coal coke and electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.

R=Revised. E=Estimate. F=Forecast.

Notes: • See Note 2 at end of section. • Totals may not equal sum of

components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

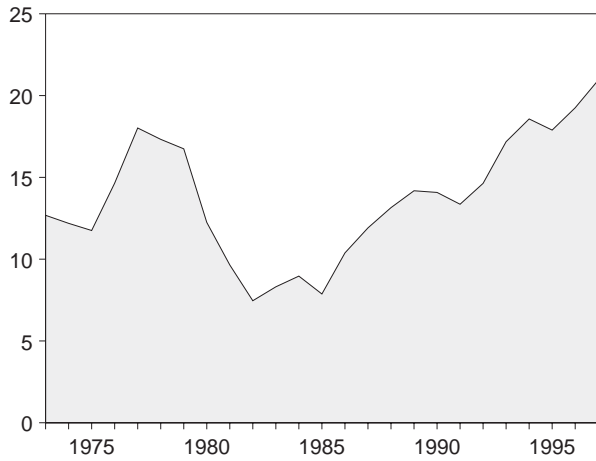
Sources: • **Coal:** Tables 6.1 and A5-A7. • **Natural Gas:** Tables 4.2 and A4. • **Petroleum:** Tables 3.1a and A3. • **Nuclear Electric Power:** Tables 7.1 and A8. • **Hydroelectric Power:** Table 7.1; Section 2, "Energy Consumption Notes and Sources," Note 8; and Table A8. • **Geothermal Energy and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

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. In 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

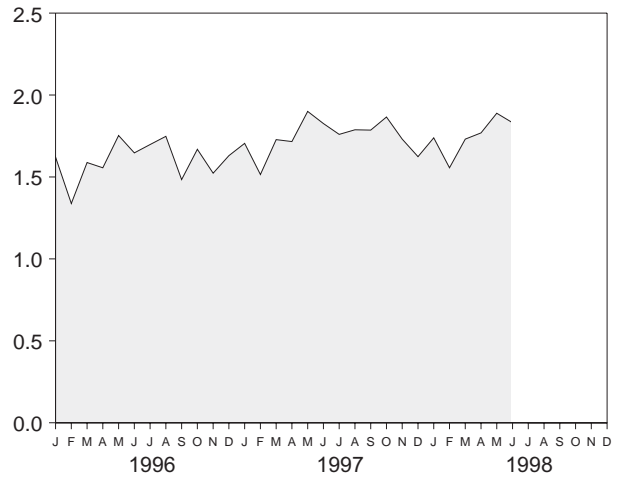


**Figure 1.4 Energy Net Imports**  
(Quadrillion Btu, Except as Noted)

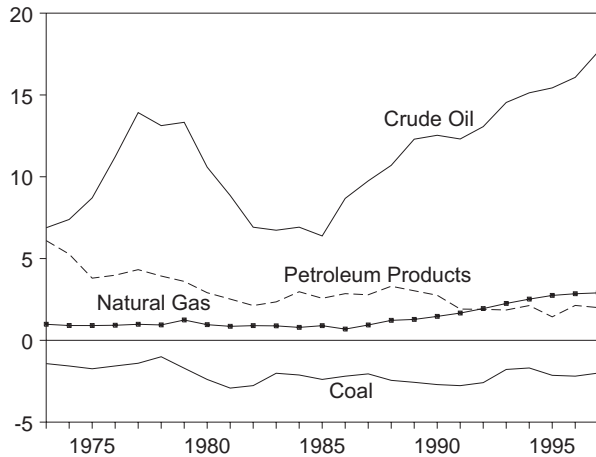
Total, 1973-1997



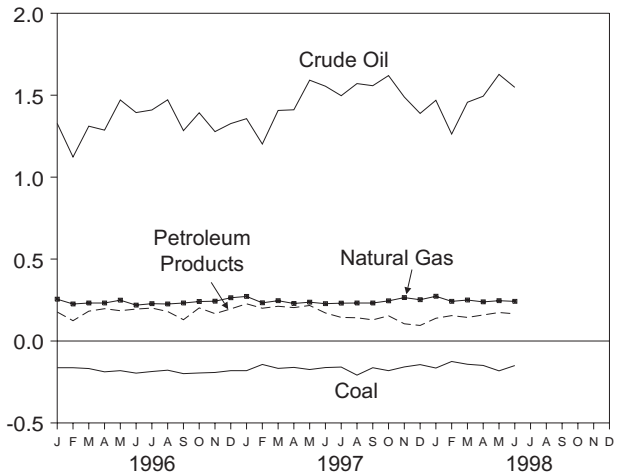
Total, Monthly



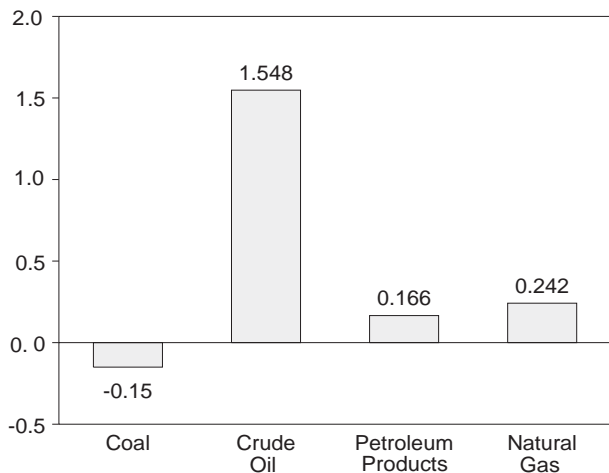
By Major Sources, 1973-1997



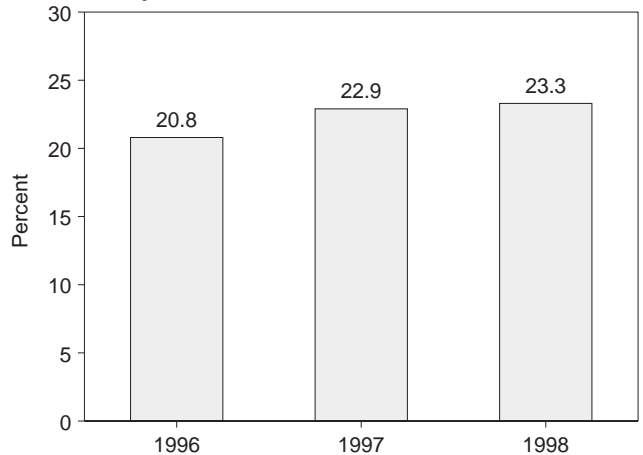
By Major Sources, Monthly



By Major Sources, June 1998



As Share of Consumption, January-June



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
<b>1973 Total</b> .....	-1.422	0.981	6.883	6.097	0.148	-0.007	12.680
<b>1974 Total</b> .....	-1.568	.907	7.389	5.273	.133	.056	12.190
<b>1975 Total</b> .....	-1.738	.904	8.708	3.800	.064	.014	11.752
<b>1976 Total</b> .....	-1.567	.922	11.221	3.982	.089	(s)	14.648
<b>1977 Total</b> .....	-1.401	.981	13.921	4.321	.182	.015	18.019
<b>1978 Total</b> .....	-1.004	.941	13.125	3.932	.204	.125	17.323
<b>1979 Total</b> .....	-1.702	1.243	13.328	3.603	.211	.063	16.746
<b>1980 Total</b> .....	-2.391	.957	10.586	2.912	.217	-.035	12.247
<b>1981 Total</b> .....	-2.918	.857	8.854	2.522	.347	-.016	9.646
<b>1982 Total</b> .....	-2.768	.898	6.917	2.128	.306	-.022	7.460
<b>1983 Total</b> .....	-2.013	.885	6.731	2.351	.372	-.016	8.310
<b>1984 Total</b> .....	-2.119	.792	6.918	2.970	.414	-.011	8.963
<b>1985 Total</b> .....	-2.389	.896	6.381	2.570	.428	-.013	7.872
<b>1986 Total</b> .....	-2.193	.686	8.676	2.855	.375	-.017	10.382
<b>1987 Total</b> .....	-2.049	.937	9.748	2.784	.483	.009	11.911
<b>1988 Total</b> .....	-2.446	1.221	10.698	3.308	.328	.040	13.149
<b>1989 Total</b> .....	-2.566	1.278	12.296	3.029	.115	.030	14.182
<b>1990 Total</b> .....	-2.705	1.464	12.536	2.757	.021	.005	14.078
<b>1991 Total</b> .....	-2.769	1.666	12.308	1.912	.232	.009	13.358
<b>1992 Total</b> .....	-2.587	1.941	13.065	1.895	.293	.027	14.634
<b>1993 Total</b> .....	-1.780	2.255	14.542	1.854	.293	.017	17.181
<b>1994 Total</b> .....	-1.689	2.518	15.131	2.128	.460	.024	18.571
<b>1995 Total</b> .....	-2.138	2.745	15.432	1.437	.388	.026	17.890
<b>1996 January</b> .....	-.163	.255	1.328	.177	.024	.001	1.621
February .....	-.163	.226	1.123	.124	.025	.003	1.338
March .....	-.168	.232	1.311	.182	.029	.003	1.588
April .....	-.188	.232	1.287	.197	.029	-.001	1.556
May .....	-.181	.249	1.471	.185	.030	-.001	1.753
June .....	-.196	.219	1.394	.195	.037	-.002	1.647
July .....	-.186	.228	1.410	.201	.046	(s)	1.698
August .....	-.178	.226	1.472	.180	.052	-.003	1.748
September .....	-.199	.232	1.284	.130	.036	(s)	1.484
October .....	-.195	.241	1.393	.202	.029	(s)	1.669
November .....	-.192	.243	1.278	.167	.027	(s)	1.523
December .....	-.181	.264	1.327	.196	.024	-.001	1.630
<b>Total</b> .....	<b>-2.190</b>	<b>2.847</b>	<b>16.075</b>	<b>2.135</b>	<b>.388</b>	<b>(s)</b>	<b>19.255</b>
<b>1997 January</b> .....	-.181	R .272	1.357	.227	E .028	.002	R 1.705
February .....	-.143	R .233	1.202	.200	E .021	.002	R 1.515
March .....	-.167	R .246	1.407	.212	E .028	.002	R 1.728
April .....	-.161	R .229	1.411	.204	E .032	(s)	R 1.716
May .....	-.174	R .237	1.592	.217	E .026	.002	R 1.900
June .....	-.162	R .228	1.555	.171	E .034	.001	R 1.826
July .....	-.159	R .231	1.497	.144	E .046	.002	R 1.760
August .....	-.208	R .232	1.571	.142	E .043	.007	R 1.788
September .....	-.163	R .232	1.558	.129	E .033	-.003	R 1.786
October .....	-.181	R .245	1.620	.154	E .025	.002	R 1.866
November .....	-.158	R .265	1.489	.105	E .028	.001	R 1.731
December .....	-.144	.252	1.389	.095	E .032	.001	1.624
<b>Total</b> .....	<b>-2.000</b>	<b>R 2.901</b>	<b>17.648</b>	<b>1.999</b>	<b>E .378</b>	<b>.018</b>	<b>R 20.945</b>
<b>1998 January</b> .....	-.165	.273	1.469	.139	E .018	.005	1.739
February .....	-.125	.242	1.263	.155	E .019	.002	1.556
March .....	-.142	.250	1.457	.144	E .022	(s)	1.731
April .....	-.149	RE .239	1.494	.159	E .027	-.001	R 1.769
May .....	-.182	RE .246	1.627	.174	E .021	.003	R 1.889
June .....	-.150	E .242	1.548	.166	E .024	.001	1.831
<b>6-Month Total</b> .....	<b>-.915</b>	<b>E 1.492</b>	<b>8.859</b>	<b>.937</b>	<b>E .131</b>	<b>.012</b>	<b>10.516</b>
<b>1997 6-Month Total</b> .....	<b>-.987</b>	<b>1.446</b>	<b>8.524</b>	<b>1.230</b>	<b>.170</b>	<b>.008</b>	<b>10.390</b>
<b>1996 6-Month Total</b> .....	<b>-1.058</b>	<b>1.413</b>	<b>7.912</b>	<b>1.059</b>	<b>.174</b>	<b>.003</b>	<b>9.503</b>

<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 kilowatt-hour since 1973. Actual heat rates applied in converting kilowatt-hours to Btu are listed by year in Table A8.

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

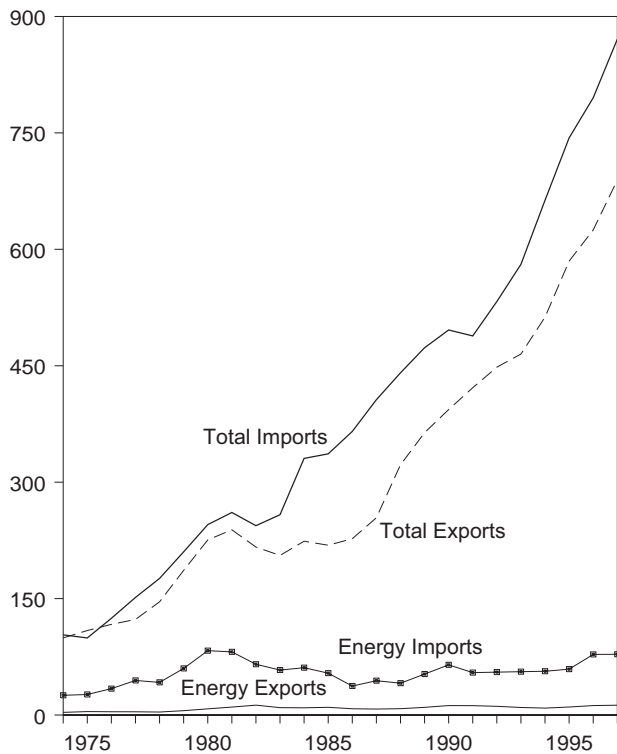
-0.5 trillion Btu.

Notes: • See Notes 3 and 4 at end of section. • Net imports equal imports minus exports. Minus sign indicates exports are greater than imports. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

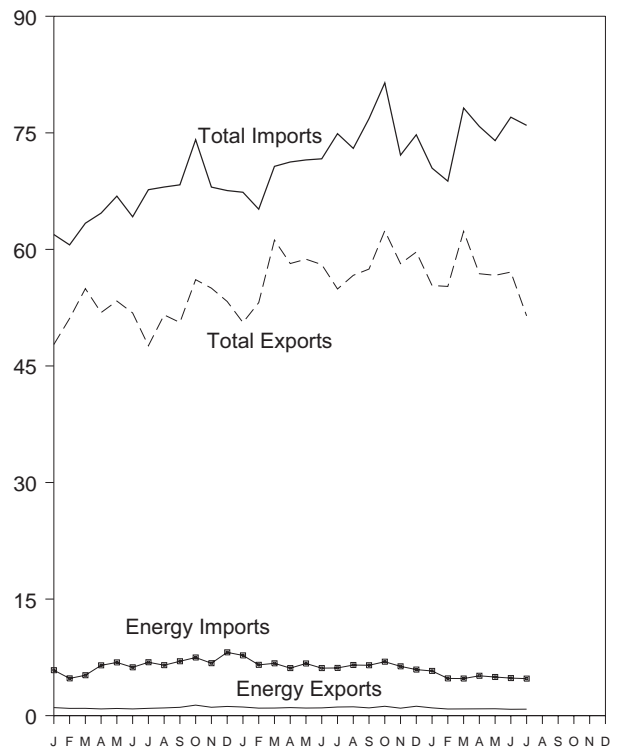
Sources: • **Coal:** Tables 6.1 and A5-A7. • **Natural Gas:** Tables 4.2 and A4. • **Crude Oil and Petroleum Products:** Tables 3.1b and A2. • **Electricity:** Section 2, "Energy Consumption Notes and Sources," Note 8, and Table A8. • **Coal Coke:** Section 2, "Energy Consumption Notes and Sources," Note 9, and Table A7.

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

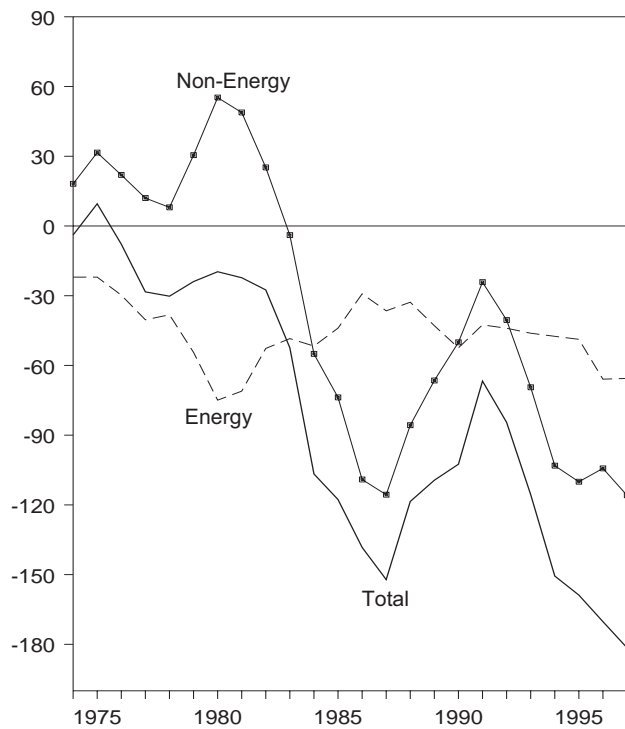
Imports and Exports, 1974-1997



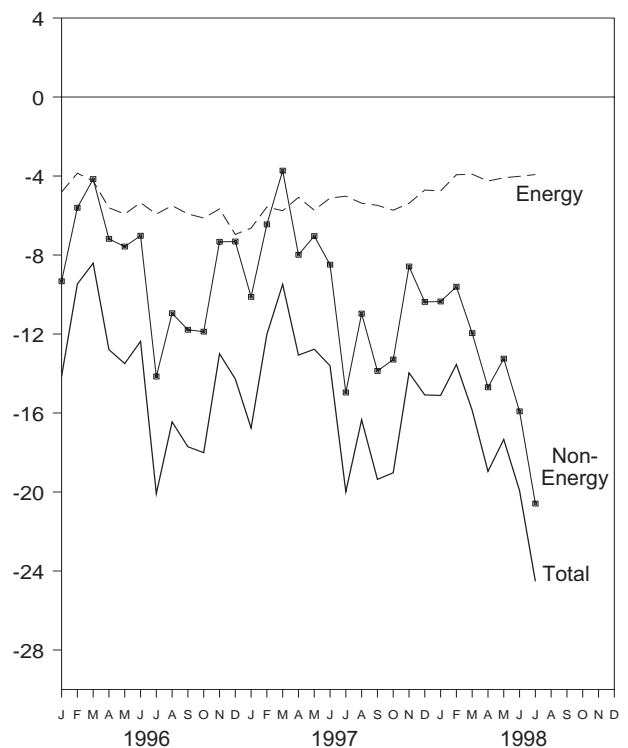
Imports and Exports, Monthly



Trade Balance, 1974-1997



Trade Balance, Monthly



Note: Because vertical scales differ, graphs should not be compared.  
Source: Table 1.6.

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

	Petroleum <sup>a</sup>			Energy <sup>b</sup>			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 .....	3,696	76,659	-72,963	10,279	81,360	-71,081	48,814	238,715	260,982	-22,267
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	336,526	-117,712
1986 Total .....	3,640	35,142	-31,503	8,115	37,310	-29,195	-109,084	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 Total .....	6,412	51,217	-44,805	11,254	55,256	-44,002	-40,500	448,164	532,665	-84,501
1993 Total .....	6,215	51,046	-44,831	9,756	55,900	-46,144	-69,425	465,091	580,659	-115,568
1994 Total .....	5,659	50,835	-45,176	8,911	56,391	-47,480	-103,149	512,626	663,256	-150,629
1995 Total .....	6,321	54,368	-48,047	10,358	59,109	-48,751	-110,050	584,742	743,543	-158,801
1996 January .....	722	5,327	-4,605	1,032	5,842	-4,810	-9,332	47,767	61,910	-14,142
February .....	611	4,315	-3,704	932	4,791	-3,859	-5,609	51,112	60,580	-9,468
March .....	612	4,679	-4,067	941	5,197	-4,256	-4,156	54,952	63,364	-8,412
April .....	517	6,004	-5,487	864	6,472	-5,608	-7,184	51,872	64,664	-12,792
May .....	574	6,421	-5,847	921	6,846	-5,925	-7,573	53,359	66,857	-13,498
June .....	498	5,787	-5,289	867	6,217	-5,350	-7,025	51,821	64,196	-12,375
July .....	592	6,407	-5,815	942	6,869	-5,927	-14,157	47,598	67,682	-20,084
August .....	640	6,006	-5,366	993	6,492	-5,499	-10,951	51,575	68,025	-16,450
September .....	695	6,557	-5,862	1,071	6,993	-5,922	-11,788	50,598	68,309	-17,710
October .....	961	7,021	-6,060	1,353	7,480	-6,127	-11,883	56,107	74,118	-18,010
November .....	724	6,147	-5,423	1,080	6,747	-5,667	-7,333	55,016	68,016	-13,000
December .....	839	7,351	-6,512	1,185	8,141	-6,956	-7,318	53,295	67,570	-14,274
<b>Total .....</b>	<b>7,984</b>	<b>72,022</b>	<b>-64,038</b>	<b>12,181</b>	<b>78,086</b>	<b>-65,905</b>	<b>-104,309</b>	<b>625,075</b>	<b>795,289</b>	<b>-170,214</b>
1997 January .....	777	6,824	-6,047	1,111	7,749	-6,638	-10,123	50,591	67,352	-16,761
February .....	675	5,891	-5,216	965	6,534	-5,569	-6,450	53,153	65,171	-12,019
March .....	637	6,256	-5,619	974	6,731	-5,757	-3,729	61,201	70,687	-9,486
April .....	715	5,668	-4,953	1,035	6,115	-5,080	-7,990	58,180	71,250	-13,070
May .....	655	6,252	-5,597	981	6,710	-5,729	-7,043	58,738	71,511	-12,772
June .....	679	5,600	-4,921	1,000	6,115	-5,115	-8,493	58,049	71,656	-13,608
July .....	792	5,613	-4,821	1,110	6,133	-5,023	-14,964	54,909	74,896	-19,987
August .....	744	5,985	-5,241	1,135	6,510	-5,375	-10,969	56,662	73,005	-16,344
September .....	670	5,949	-5,279	994	6,481	-5,487	-13,874	57,470	76,831	-19,361
October .....	787	6,279	-5,492	1,206	6,937	-5,731	-13,297	62,402	81,430	-19,028
November .....	636	5,574	-4,938	959	6,342	-5,383	-8,584	58,164	72,130	-13,967
December .....	828	5,262	-4,434	1,212	5,921	-4,709	-10,377	59,664	74,750	-15,086
<b>Total .....</b>	<b>8,592</b>	<b>71,152</b>	<b>-62,560</b>	<b>12,682</b>	<b>78,277</b>	<b>-65,595</b>	<b>-115,893</b>	<b>689,182</b>	<b>870,671</b>	<b>-181,488</b>
1998 January .....	657	4,931	-4,274	994	5,749	-4,755	-10,355	55,350	70,459	-15,110
February .....	575	4,122	-3,547	854	4,789	-3,935	-9,608	55,236	68,779	-13,543
March .....	543	4,264	-3,721	863	4,770	-3,907	-11,958	62,329	78,194	-15,865
April .....	577	4,661	-4,084	874	5,129	-4,255	-14,702	56,869	75,826	-18,957
May .....	558	4,484	-3,926	882	4,971	-4,089	-13,250	56,661	74,000	-17,339
June .....	509	4,297	-3,788	816	4,830	-4,014	R -15,918	R 57,081	R 77,013	R -19,932
July .....	541	4,167	-3,626	836	4,763	-3,927	-20,592	51,445	75,963	-24,519
<b>7-Month Total .....</b>	<b>3,960</b>	<b>30,926</b>	<b>-26,966</b>	<b>6,118</b>	<b>35,001</b>	<b>-28,883</b>	<b>-96,381</b>	<b>394,971</b>	<b>520,235</b>	<b>-125,264</b>
1997 7-Month Total .....	4,930	42,104	-37,174	7,176	46,087	-38,911	-58,792	394,821	492,523	-97,703
1996 7-Month Total .....	4,126	38,940	-34,814	6,499	42,234	-35,735	-55,036	358,481	449,253	-90,771

<sup>a</sup> Crude oil, petroleum preparations, liquefied propane and butane, and other mineral fuels.

<sup>b</sup> Petroleum, coal, natural gas, and electricity.

R=Revised.

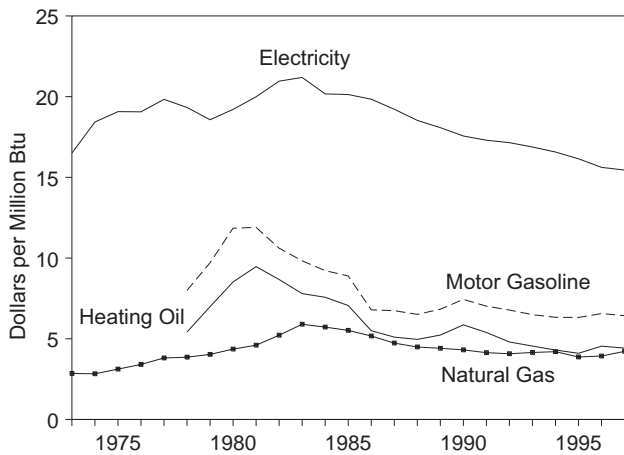
Notes: • Monthly data are not adjusted for seasonal variations. • See Note 5 at end of section. • Totals may not equal sum of components due to independent rounding. • The U.S. import statistics reflect both government

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.

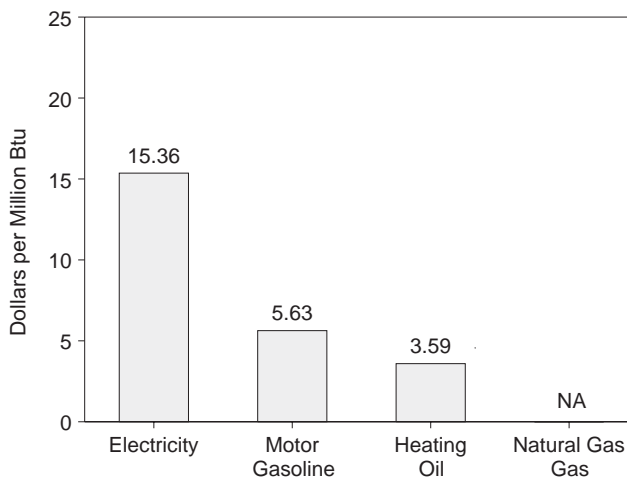
Sources: • U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division. For details, see "Sources for Table 1.6" at the end of this section.

**Figure 1.6 Cost of Fuels to End Users in Constant (1982-1984) Dollars**

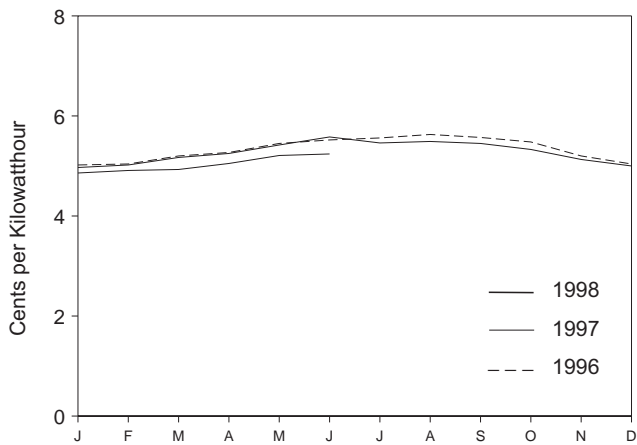
Costs, 1973-1997



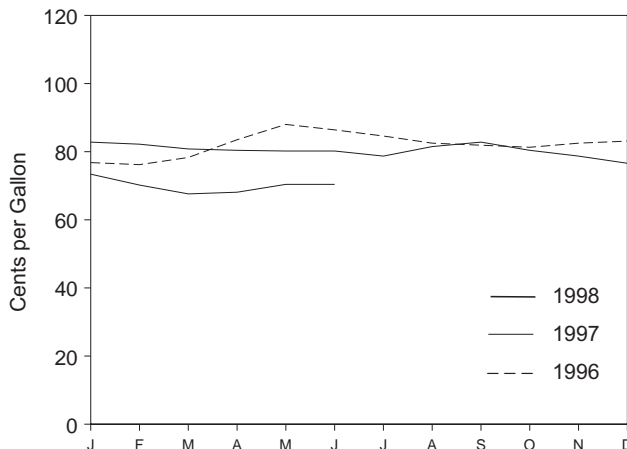
Costs, June 1998



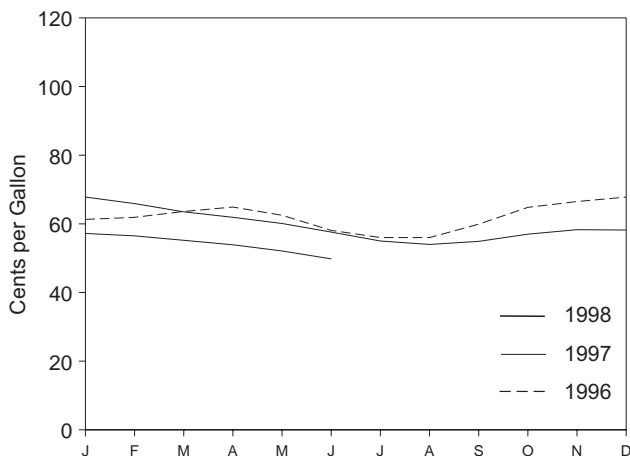
Electricity, Monthly



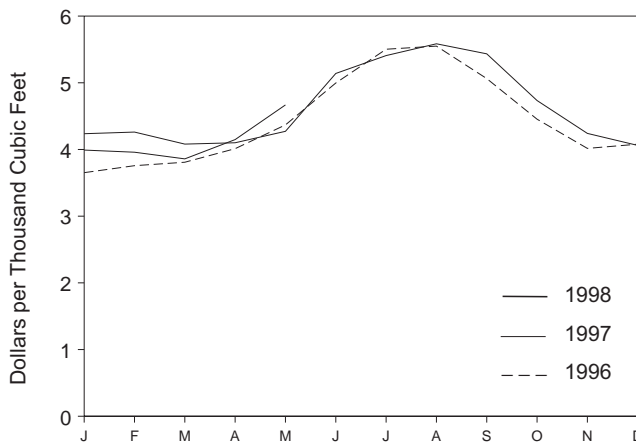
Motor Gasoline, Monthly



Heating Oil, Monthly



Natural Gas, Monthly



NA=Not available.

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

Source: Table 1.7.

**Table 1.7 Cost of Fuels to End Users in Constant (1982-84) Dollars**

	Consumer Price Index (Urban) <sup>a</sup>	Motor Gasoline (All Types)		Residential Heating Oil		Residential Natural Gas		Residential Electricity	
	Index 1982-1984=100	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
<b>1973 Average</b> .....	44.4	NA	NA	NA	NA	290.5	2.85	5.6	16.50
<b>1974 Average</b> .....	49.3	NA	NA	NA	NA	290.1	2.83	6.3	18.43
<b>1975 Average</b> .....	53.8	NA	NA	NA	NA	317.8	3.12	6.5	19.07
<b>1976 Average</b> .....	56.9	NA	NA	NA	NA	348.0	3.41	6.5	19.06
<b>1977 Average</b> .....	60.6	NA	NA	NA	NA	387.8	3.81	6.8	19.83
<b>1978 Average</b> .....	65.2	100.0	8.00	75.2	5.42	392.6	3.86	6.6	19.33
<b>1979 Average</b> .....	72.6	121.5	9.71	97.0	6.99	410.5	4.03	6.3	18.57
<b>1980 Average</b> .....	82.4	148.2	11.85	118.2	8.52	446.6	4.36	6.6	19.21
<b>1981 Average</b> .....	90.9	148.8	11.90	131.4	9.47	471.9	4.60	6.8	19.99
<b>1982 Average</b> .....	96.5	132.7	10.61	120.2	8.67	535.8	5.22	7.2	20.96
<b>1983 Average</b> .....	99.6	123.0	9.83	108.2	7.80	608.4	5.90	7.2	21.19
<b>1984 Average</b> .....	103.9	115.3	9.22	105.0	7.57	589.0	5.72	6.88	20.17
<b>1985 Average</b> .....	107.6	111.2	8.89	97.9	7.06	568.8	5.52	6.87	20.13
<b>1986 Average</b> .....	109.6	84.9	6.79	76.3	5.50	531.9	5.17	6.77	19.84
<b>1987 Average</b> .....	113.6	84.2	6.74	70.7	5.10	487.7	4.73	6.56	19.22
<b>1988 Average</b> .....	118.3	81.4	6.51	68.7	4.96	462.4	4.49	6.32	18.53
<b>1989 Average</b> .....	124.0	85.5	6.83	72.6	5.23	454.8	4.41	6.17	18.08
<b>1990 Average</b> .....	130.7	93.1	7.44	81.3	5.86	443.8	4.31	5.99	17.56
<b>1991 Average</b> .....	136.2	87.8	7.02	74.8	5.39	427.3	4.14	5.90	17.30
<b>1992 Average</b> .....	140.3	84.8	6.78	66.6	4.80	419.8	4.07	5.85	17.15
<b>1993 Average</b> .....	144.5	81.2	6.49	63.0	4.55	426.3	4.15	5.76	16.88
<b>1994 Average</b> .....	148.2	79.2	6.33	59.6	4.30	432.5	4.20	5.65	16.57
<b>1995 Average</b> .....	152.4	79.1	6.32	56.9	4.10	397.6	3.87	5.51	16.15
<b>1996 January</b> .....	154.4	76.8	6.14	61.3	4.42	365.3	3.56	5.02	14.71
February .....	154.9	76.2	6.10	61.9	4.46	375.7	3.66	5.04	14.78
March .....	155.7	78.3	6.26	63.6	4.59	380.9	3.71	5.20	15.23
April .....	156.3	83.5	6.68	64.9	4.68	401.2	3.91	5.27	15.45
May .....	156.6	88.0	7.04	62.5	4.50	436.8	4.25	5.45	15.98
June .....	156.7	86.4	6.91	58.1	4.19	499.7	4.87	5.52	16.18
July .....	157.0	84.6	6.76	56.0	4.04	550.3	5.36	5.56	16.30
August .....	157.3	82.5	6.60	56.0	4.04	555.0	5.40	5.63	16.51
September .....	157.8	81.9	6.55	59.9	4.32	506.3	4.93	5.57	16.33
October .....	158.3	81.3	6.50	64.8	4.67	445.4	4.34	5.48	16.05
November .....	158.6	82.5	6.59	66.5	4.79	401.6	3.91	5.20	15.25
December .....	158.6	83.1	6.64	67.8	4.89	407.9	3.97	5.04	14.77
<b>Average</b> .....	<b>156.9</b>	<b>82.1</b>	<b>6.56</b>	<b>63.0</b>	<b>4.54</b>	<b>404.1</b>	<b>3.93</b>	<b>5.33</b>	<b>15.62</b>
<b>1997 January</b> .....	159.1	82.8	6.62	67.8	4.89	423.6	4.12	4.97	14.55
February .....	159.6	82.2	6.57	65.9	4.75	426.1	4.15	5.02	14.71
March .....	160.0	80.8	6.46	63.5	4.58	408.1	3.97	5.17	15.15
April .....	160.2	80.4	6.43	61.9	4.46	410.1	3.99	5.25	15.39
May .....	160.1	80.2	6.41	60.1	4.34	<sup>R</sup> 427.2	<sup>R</sup> 4.16	5.42	15.89
June .....	160.3	80.2	6.41	57.6	4.15	<sup>R</sup> 514.0	<sup>R</sup> 5.01	5.58	16.35
July .....	160.5	78.7	6.29	55.0	3.97	<sup>R</sup> 540.8	<sup>R</sup> 5.27	5.46	16.01
August .....	160.8	81.5	6.51	54.0	3.90	<sup>R</sup> 558.5	<sup>R</sup> 5.44	5.49	16.09
September .....	161.2	82.8	6.62	54.9	3.96	<sup>R</sup> 543.4	<sup>R</sup> 5.29	5.45	15.96
October .....	161.6	80.4	6.43	57.0	4.11	<sup>R</sup> 473.4	<sup>R</sup> 4.61	5.33	15.63
November .....	161.5	78.7	6.29	58.3	4.20	424.1	4.13	5.13	15.03
December .....	161.3	76.6	6.13	58.2	4.19	406.1	3.95	5.00	14.65
<b>Average</b> .....	<b>160.5</b>	<b>80.4</b>	<b>6.43</b>	<b>61.3</b>	<b>4.42</b>	<sup>R</sup> <b>433.0</b>	<sup>R</sup> <b>4.22</b>	<b>5.27</b>	<b>15.45</b>
<b>1998 January</b> .....	161.6	73.4	5.87	57.2	4.13	399.1	3.89	4.86	14.26
February .....	161.9	70.2	5.62	56.5	4.07	<sup>R</sup> 395.9	<sup>R</sup> 3.86	4.91	14.39
March .....	162.2	67.6	5.41	55.2	3.98	<sup>R</sup> 385.9	<sup>R</sup> 3.76	4.93	14.46
April .....	162.5	68.1	5.44	53.9	3.89	<sup>R</sup> 414.8	<sup>R</sup> 4.04	5.05	14.81
May .....	162.8	70.4	5.63	52.1	3.76	466.8	4.55	5.21	15.27
June .....	163.0	70.4	5.63	49.8	3.59	NA	NA	5.24	15.36

<sup>a</sup> Consumer Price Index, All Urban Consumers, All Items, 1982-1984 = 100.0.

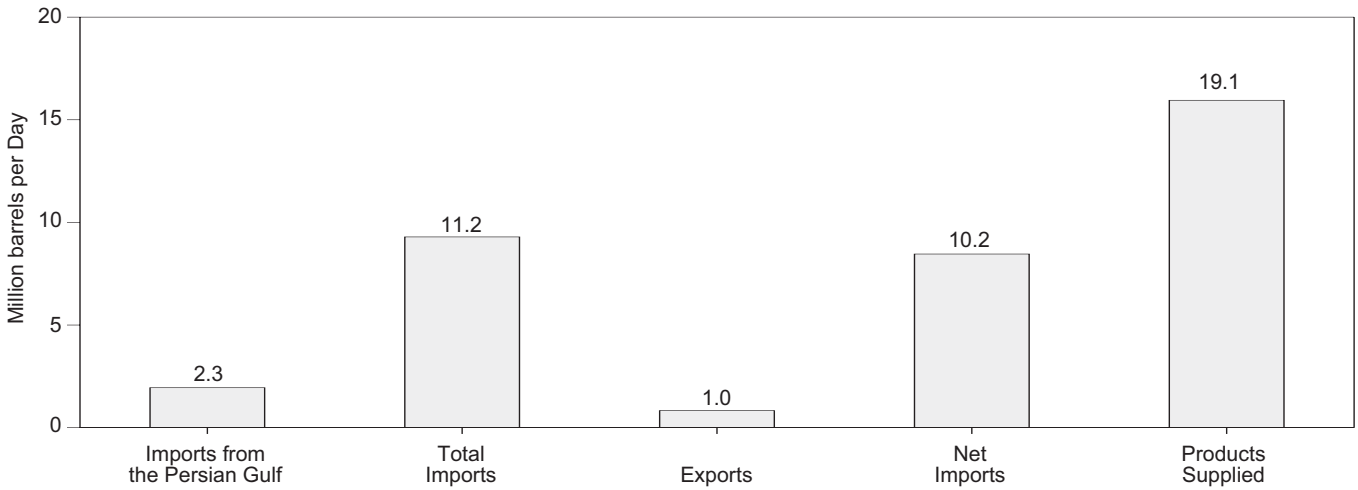
R=Revised. NA=Not available.

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

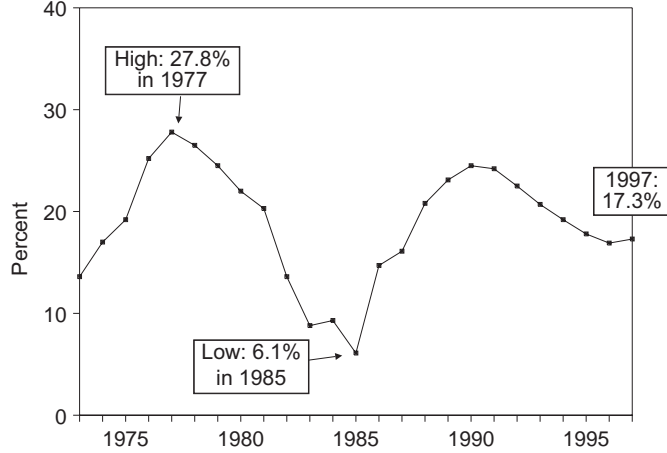
Sources: • **Annual Data:** Annual prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9, adjusted by the CPI. • **Monthly Data:** Monthly prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9, adjusted by the CPI. • **CPI: 1973-1993—***Economic Report of the President*, February 1998, Table B-60. **1994 forward—**Council of Economic Advisers, *Economic Indicators*, August 1998, "Consumer Prices - All Urban Consumers." • **Conversion Factors:** Tables A1, A4, and A8.

**Figure 1.7 Overview of U.S. Petroleum Trade**  
(Quadrillion Btu)

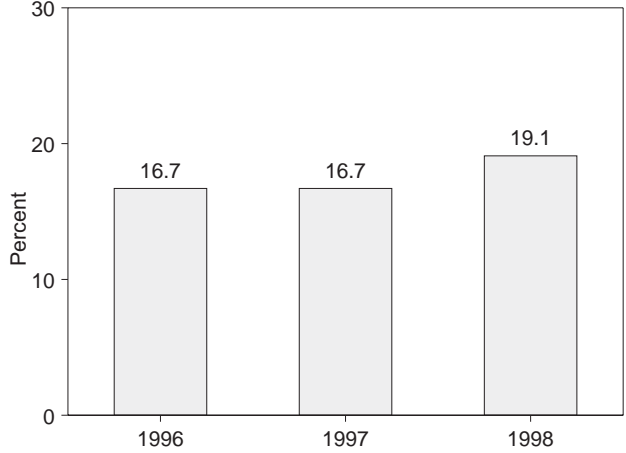
Overview, July 1998



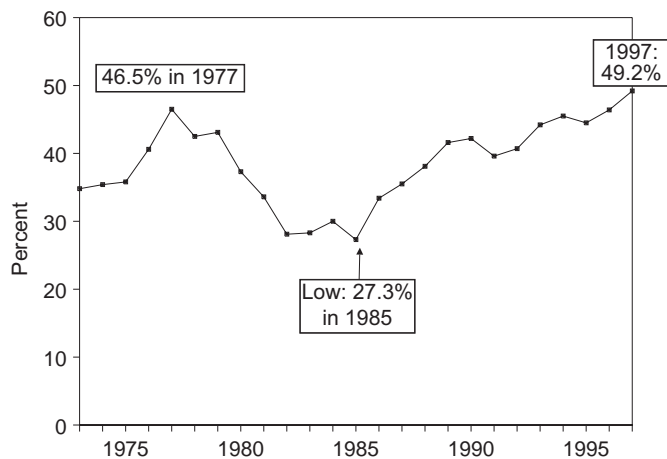
**Imports from the Persian Gulf as a Share of Total Imports**  
1973-1997



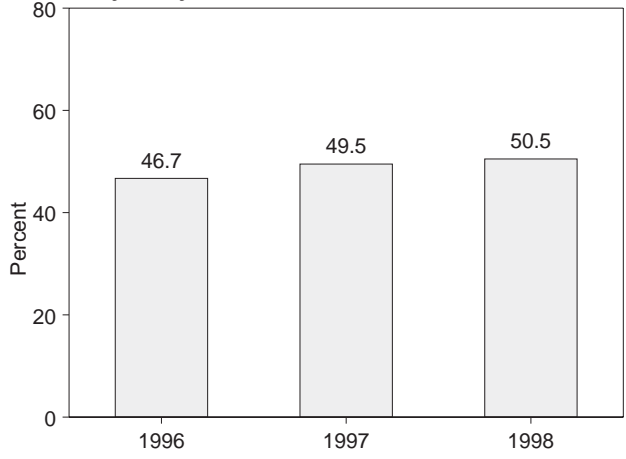
January-July



**Net Imports as Share of Product Supplied**  
1973-1997



January-July



Note: Because vertical scales differ, graphs should not be compared.  
Source: Table 1.8.

**Table 1.8 Overview of U.S. Petroleum Trade**

	Imports from the Persian Gulf <sup>a</sup>	Total Imports	Exports	Net Imports	Products Supplied	As Share of Products Supplied			Imports from the Persian Gulf <sup>a</sup> as a Share of Total Imports
						Imports from the Persian Gulf <sup>a</sup>	Total Imports	Net Imports	
						Thousand Barrels per Day			
<b>1973 Average</b> .....	<b>848</b>	<b>6,256</b>	<b>231</b>	<b>6,025</b>	<b>17,308</b>	<b>4.9</b>	<b>36.1</b>	<b>34.8</b>	<b>13.6</b>
<b>1974 Average</b> .....	<b>1,039</b>	<b>6,112</b>	<b>221</b>	<b>5,892</b>	<b>16,653</b>	<b>6.2</b>	<b>36.7</b>	<b>35.4</b>	<b>17.0</b>
<b>1975 Average</b> .....	<b>1,165</b>	<b>6,056</b>	<b>209</b>	<b>5,846</b>	<b>16,322</b>	<b>7.1</b>	<b>37.1</b>	<b>35.8</b>	<b>19.2</b>
<b>1976 Average</b> .....	<b>1,840</b>	<b>7,313</b>	<b>223</b>	<b>7,090</b>	<b>17,461</b>	<b>10.5</b>	<b>41.9</b>	<b>40.6</b>	<b>25.2</b>
<b>1977 Average</b> .....	<b>2,448</b>	<b>8,807</b>	<b>243</b>	<b>8,565</b>	<b>18,431</b>	<b>13.3</b>	<b>47.8</b>	<b>46.5</b>	<b>27.8</b>
<b>1978 Average</b> .....	<b>2,219</b>	<b>8,363</b>	<b>362</b>	<b>8,002</b>	<b>18,847</b>	<b>11.8</b>	<b>44.4</b>	<b>42.5</b>	<b>26.5</b>
<b>1979 Average</b> .....	<b>2,069</b>	<b>8,456</b>	<b>471</b>	<b>7,985</b>	<b>18,513</b>	<b>11.2</b>	<b>45.7</b>	<b>43.1</b>	<b>24.5</b>
<b>1980 Average</b> .....	<b>1,519</b>	<b>6,909</b>	<b>544</b>	<b>6,365</b>	<b>17,056</b>	<b>8.9</b>	<b>40.5</b>	<b>37.3</b>	<b>22.0</b>
<b>1981 Average</b> .....	<b>1,219</b>	<b>5,996</b>	<b>595</b>	<b>5,401</b>	<b>16,058</b>	<b>7.6</b>	<b>37.3</b>	<b>33.6</b>	<b>20.3</b>
<b>1982 Average</b> .....	<b>696</b>	<b>5,113</b>	<b>815</b>	<b>4,298</b>	<b>15,296</b>	<b>4.5</b>	<b>33.4</b>	<b>28.1</b>	<b>13.6</b>
<b>1983 Average</b> .....	<b>442</b>	<b>5,051</b>	<b>739</b>	<b>4,312</b>	<b>15,231</b>	<b>2.9</b>	<b>33.2</b>	<b>28.3</b>	<b>8.8</b>
<b>1984 Average</b> .....	<b>506</b>	<b>5,437</b>	<b>722</b>	<b>4,715</b>	<b>15,726</b>	<b>3.2</b>	<b>34.6</b>	<b>30.0</b>	<b>9.3</b>
<b>1985 Average</b> .....	<b>311</b>	<b>5,067</b>	<b>781</b>	<b>4,286</b>	<b>15,726</b>	<b>2.0</b>	<b>32.2</b>	<b>27.3</b>	<b>6.1</b>
<b>1986 Average</b> .....	<b>912</b>	<b>6,224</b>	<b>785</b>	<b>5,439</b>	<b>16,281</b>	<b>5.6</b>	<b>38.2</b>	<b>33.4</b>	<b>14.7</b>
<b>1987 Average</b> .....	<b>1,077</b>	<b>6,678</b>	<b>764</b>	<b>5,914</b>	<b>16,665</b>	<b>6.5</b>	<b>40.1</b>	<b>35.5</b>	<b>16.1</b>
<b>1988 Average</b> .....	<b>1,541</b>	<b>7,402</b>	<b>815</b>	<b>6,587</b>	<b>17,283</b>	<b>8.9</b>	<b>42.8</b>	<b>38.1</b>	<b>20.8</b>
<b>1989 Average</b> .....	<b>1,861</b>	<b>8,061</b>	<b>859</b>	<b>7,202</b>	<b>17,325</b>	<b>10.7</b>	<b>46.5</b>	<b>41.6</b>	<b>23.1</b>
<b>1990 Average</b> .....	<b>1,966</b>	<b>8,018</b>	<b>857</b>	<b>7,161</b>	<b>16,988</b>	<b>11.6</b>	<b>47.2</b>	<b>42.2</b>	<b>24.5</b>
<b>1991 Average</b> .....	<b>1,845</b>	<b>7,627</b>	<b>1,001</b>	<b>6,626</b>	<b>16,714</b>	<b>11.0</b>	<b>45.6</b>	<b>39.6</b>	<b>24.2</b>
<b>1992 Average</b> .....	<b>1,778</b>	<b>7,888</b>	<b>950</b>	<b>6,938</b>	<b>17,033</b>	<b>10.4</b>	<b>46.3</b>	<b>40.7</b>	<b>22.5</b>
<b>1993 Average</b> .....	<b>1,782</b>	<b>8,620</b>	<b>1,003</b>	<b>7,618</b>	<b>17,237</b>	<b>10.3</b>	<b>50.0</b>	<b>44.2</b>	<b>20.7</b>
<b>1994 Average</b> .....	<b>1,728</b>	<b>8,996</b>	<b>942</b>	<b>8,054</b>	<b>17,718</b>	<b>9.8</b>	<b>50.8</b>	<b>45.5</b>	<b>19.2</b>
<b>1995 Average</b> .....	<b>1,573</b>	<b>8,835</b>	<b>949</b>	<b>7,886</b>	<b>17,725</b>	<b>8.9</b>	<b>49.8</b>	<b>44.5</b>	<b>17.8</b>
<b>1996</b>									
January .....	1,546	9,364	1,070	8,294	18,261	8.5	51.3	45.4	16.5
February .....	1,344	8,390	1,048	7,342	18,620	7.2	45.1	39.4	16.0
March .....	1,549	9,092	867	8,225	18,301	8.5	49.7	44.9	17.0
April .....	1,506	9,429	976	8,453	17,885	8.4	52.7	47.3	16.0
May .....	1,748	10,007	891	9,116	17,957	9.7	55.7	50.8	17.5
June .....	1,537	9,938	895	9,043	18,107	8.5	54.9	49.9	15.5
July .....	1,819	9,820	945	8,876	18,211	10.0	53.9	48.7	18.5
August .....	1,747	9,986	896	9,090	18,658	9.4	53.5	48.7	17.5
September .....	1,591	9,142	1,104	8,038	17,655	9.0	51.8	45.5	17.4
October .....	1,635	9,837	1,045	8,792	19,171	8.5	51.3	45.9	16.6
November .....	1,525	9,244	1,024	8,220	18,535	8.2	49.9	44.3	16.5
December .....	1,675	9,417	1,013	8,404	18,334	9.1	51.4	45.8	17.8
<b>Average</b> .....	<b>1,604</b>	<b>9,478</b>	<b>981</b>	<b>8,498</b>	<b>18,309</b>	<b>8.8</b>	<b>51.8</b>	<b>46.4</b>	<b>16.9</b>
<b>1997</b>									
January .....	1,553	9,763	1,038	8,725	18,554	8.4	52.6	47.0	15.9
February .....	1,533	9,561	1,017	8,544	18,398	8.3	52.0	46.4	16.0
March .....	1,641	9,833	933	8,900	17,863	9.2	55.0	49.8	16.7
April .....	1,877	10,114	937	9,177	18,559	10.1	54.5	49.4	18.6
May .....	1,706	10,818	876	9,941	18,293	9.3	59.1	54.3	15.8
June .....	1,781	10,736	955	9,782	18,617	9.6	57.7	52.5	16.6
July .....	1,746	10,008	1,012	8,996	19,107	9.1	52.4	47.1	17.4
August .....	1,866	10,465	1,074	9,390	18,565	10.0	56.4	50.6	17.8
September .....	1,921	10,537	997	9,540	18,562	10.3	56.8	51.4	18.2
October .....	1,919	10,792	1,066	9,726	19,071	10.1	56.6	51.0	17.8
November .....	1,748	9,948	934	9,014	18,578	9.4	53.5	48.5	17.6
December .....	1,755	9,328	1,197	8,130	19,250	9.1	48.5	42.2	18.8
<b>Average</b> .....	<b>1,755</b>	<b>10,162</b>	<b>1,003</b>	<b>9,158</b>	<b>18,620</b>	<b>9.4</b>	<b>54.6</b>	<b>49.2</b>	<b>17.3</b>
<b>1998</b>									
January .....	1,729	9,893	1,083	8,811	18,256	9.5	54.2	48.3	17.5
February .....	1,716	9,577	957	8,620	18,322	9.4	52.3	47.0	17.9
March .....	1,956	9,694	919	8,775	18,393	10.6	52.7	47.7	20.2
April .....	1,986	10,398	1,029	9,369	18,624	10.7	55.8	50.3	19.1
May .....	1,905	10,903	1,027	9,876	17,876	10.7	61.0	55.2	17.5
June .....	2,192	10,702	987	9,715	18,818	11.6	56.9	51.6	20.5
July .....	2,336	11,151	998	10,152	19,140	12.2	58.3	53.0	21.0
<b>7-Month Average</b> .....	<b>1,977</b>	<b>10,340</b>	<b>1,001</b>	<b>9,339</b>	<b>18,490</b>	<b>10.7</b>	<b>55.9</b>	<b>50.5</b>	<b>19.1</b>
<b>1997 7-Month Average</b> .....	<b>1,692</b>	<b>10,124</b>	<b>966</b>	<b>9,158</b>	<b>18,485</b>	<b>9.2</b>	<b>54.8</b>	<b>49.5</b>	<b>16.7</b>
<b>1996 7-Month Average</b> .....	<b>1,581</b>	<b>9,442</b>	<b>955</b>	<b>8,487</b>	<b>18,189</b>	<b>8.7</b>	<b>51.9</b>	<b>46.7</b>	<b>16.7</b>

<sup>a</sup> Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates.

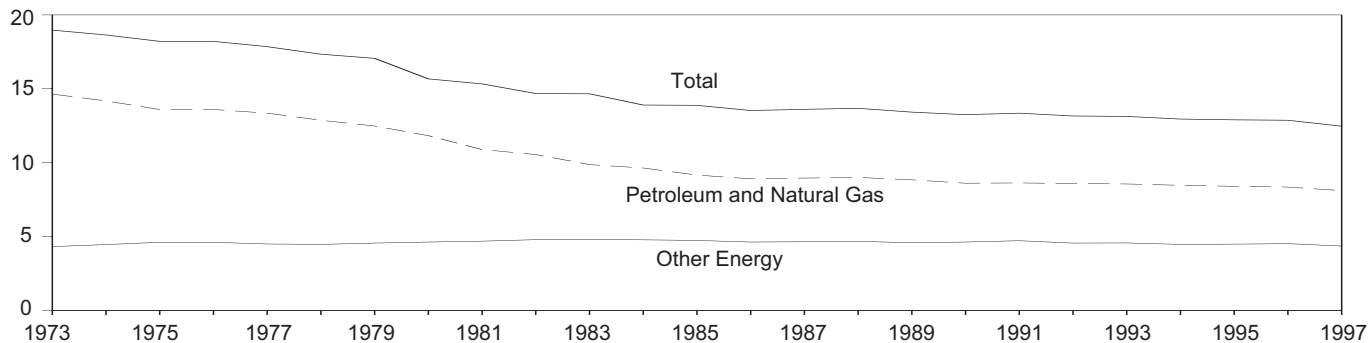
Notes: • Readers of Table 1.8 may be interested in a feature article, "Measuring Dependence on Imported Oil," that was published in the August 1995 *Monthly Energy Review*. • Petroleum is crude oil, lease condensate, unfinished oils, petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products. • Beginning in October 1977, petroleum imported for the Strategic Petroleum Reserves is included. • Annual averages may not equal average of months

due to independent rounding. • U.S. geographic coverage is 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.

Sources: • **Column 1:** Table 3.3b. • **Columns 2 - 4:** Table 3.1b. • **Column 5:** Table 3.1a. • **Column 6:** Column 1 divided by column 5 times 100. • **Column 7:** Column 2 divided by column 5 times 100. • **Column 8:** Column 4 divided by column 5 times 100. • **Column 9:** Column 1 divided by column 2 times 100.



**Figure 1.8 Energy Consumption per Dollar of Gross Domestic Product**  
(Thousand Btu per Chained (1992) Dollar)



**Table 1.9 Energy Consumption per Dollar of Gross Domestic Product**  
(Seasonally Adjusted at Annual Rates)

	Energy Consumption			Gross Domestic Product (GDP)	Energy Consumption per Dollar of GDP		
	Petroleum and Natural Gas	Other Energy <sup>a</sup>	Total <sup>a</sup>		Petroleum and Natural Gas	Other Energy <sup>a</sup>	Total <sup>a</sup>
	Quadrillion Btu				Billion Chained (1992) Dollars	Thousand Btu per Chained (1992) Dollar	
1973 Year .....	57.352	16.930	74.282	3,916.3	14.64	4.32	18.97
1974 Year .....	55.187	17.356	72.543	3,891.2	14.18	4.46	18.64
1975 Year .....	52.678	17.867	70.546	3,873.9	13.60	4.61	18.21
1976 Year .....	55.520	18.842	74.362	4,082.9	13.60	4.61	18.21
1977 Year .....	57.053	19.236	76.288	4,273.6	13.35	4.50	17.85
1978 Year .....	57.966	20.123	78.089	4,503.0	12.87	4.47	17.34
1979 Year .....	57.789	21.108	78.898	4,630.6	12.48	4.56	17.06
1980 Year .....	54.596	21.359	75.955	4,615.0	11.83	4.63	15.67
1981 Year .....	51.859	22.131	73.990	4,720.7	10.89	4.69	15.33
1982 Year .....	48.736	22.111	70.848	4,620.3	10.55	4.79	14.68
1983 Year .....	47.411	23.114	70.524	4,803.7	9.87	4.81	14.66
1984 Year .....	49.558	24.586	74.144	5,140.1	9.64	4.78	13.90
1985 Year .....	48.756	25.225	73.981	5,323.5	9.16	4.74	13.88
1986 Year .....	48.904	25.393	74.297	5,487.7	8.91	4.63	13.53
1987 Year .....	50.609	26.285	76.894	5,649.5	8.96	4.65	13.61
1988 Year .....	52.774	27.443	80.218	5,865.2	9.00	4.68	13.68
1989 Year .....	53.595	27.763	81.358	6,062.0	8.84	4.58	13.42
1990 Year .....	52.849	28.434	81.283	6,136.3	8.61	4.63	13.25
1991 Year .....	52.452	28.687	81.138	6,079.4	8.63	4.72	13.35
1992 Year .....	53.657	28.497	82.154	6,244.4	8.59	4.56	13.16
1993 Year .....	54.668	29.203	83.871	6,389.6	8.56	4.57	13.13
1994 Year .....	56.022	29.576	85.598	6,610.7	8.47	4.47	12.95
1995 Year .....	56.827	30.378	87.205	6,761.7	8.40	4.49	12.90
1996 1 <sup>st</sup> Quarter .....	59.282	31.628	90.910	6,882.0	8.61	4.60	13.21
2 <sup>nd</sup> Quarter .....	58.591	31.967	90.558	6,983.9	8.39	4.58	12.97
3 <sup>rd</sup> Quarter .....	57.442	31.208	88.650	7,020.0	8.18	4.45	12.63
4 <sup>th</sup> Quarter .....	58.392	31.671	90.063	7,093.1	8.23	4.46	12.70
Year .....	58.424	31.618	90.041	6,994.8	8.35	4.52	12.87
1997 1 <sup>st</sup> Quarter .....	R 58.520	R 31.848	R 90.367	7,166.7	8.17	4.44	R 12.61
2 <sup>nd</sup> Quarter .....	R 59.327	R 31.585	R 90.912	7,236.5	8.20	4.36	12.56
3 <sup>rd</sup> Quarter .....	R 59.347	R 31.671	R 91.018	7,311.2	8.12	R 4.33	R 12.45
4 <sup>th</sup> Quarter .....	R 58.617	R 31.755	R 90.372	7,364.6	7.96	4.31	12.27
Year .....	R 58.954	R 31.714	R 90.668	7,269.8	8.11	4.36	12.47
1998 1 <sup>st</sup> Quarter .....	R 57.697	R 31.627	R 89.323	7,464.7	R 7.73	R 4.24	R 11.97
2 <sup>nd</sup> Quarter .....	58.963	32.478	91.441	7,494.9	7.87	4.33	12.20

<sup>a</sup> Due to a lack of consistent monthly historical data, some renewable energy sources are not included in other energy or total consumption. For example, in 1995, 3.4 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.3 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

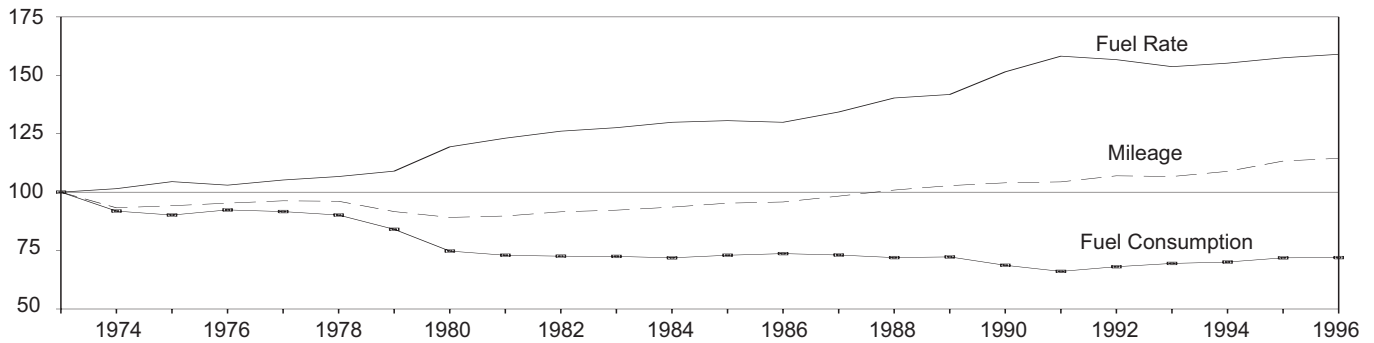
R=Revised.

Notes: • Quarterly data are seasonally adjusted and shown at annual rates. • Yearly data may not equal average of quarters due to seasonality

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

Sources: • **Energy Consumption:** Table 1.4. • **Gross Domestic Product: 1973-1996**—U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, August 1997, Table 2A. **1997 forward**—U.S. Department of Commerce, Bureau of Economic Analysis, *United States Department of Commerce News*, August 27, 1998, Table 2.

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



**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 .....	9,884	100.0	737	100.0	13.4	100.0
1974 .....	9,221	93.3	677	91.9	13.6	101.5
1975 .....	9,309	94.2	665	90.2	14.0	104.5
1976 .....	9,418	95.3	681	92.4	13.8	103.0
1977 .....	9,517	96.3	676	91.7	14.1	105.2
1978 .....	9,500	96.1	665	90.2	14.3	106.7
1979 .....	9,062	91.7	620	84.1	14.6	109.0
1980 .....	8,813	89.2	551	74.8	16.0	119.4
1981 .....	8,873	89.8	538	73.0	16.5	123.1
1982 .....	9,050	91.6	535	72.6	16.9	126.1
1983 .....	9,118	92.3	534	72.5	17.1	127.6
1984 .....	9,248	93.6	530	71.9	17.4	129.9
1985 .....	9,419	95.3	538	73.0	17.5	130.6
1986 .....	9,464	95.8	543	73.7	17.4	129.9
1987 .....	9,720	98.3	539	73.1	18.0	134.3
1988 .....	9,972	100.9	531	72.0	18.8	140.3
1989 .....	10,157	102.8	533	72.3	19.0	141.8
1990 .....	10,277	104.0	506	68.7	20.3	151.5
1991 .....	10,322	104.4	487	66.1	21.2	158.2
1992 .....	10,571	107.0	502	68.1	21.0	156.7
1993 .....	10,545	106.7	512	69.5	20.6	153.7
1994 .....	10,759	108.9	517	70.1	20.8	155.2
1995 .....	11,203	113.3	530	71.9	21.1	157.5
1996 <sup>a</sup> .....	11,314	114.5	531	72.0	21.3	159.0

<sup>a</sup> Preliminary.

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. • 1973-1994: *Highway Statistics Summary to 1995*, Table VM-201A. • 1995 forward: *Highway Statistics*, annual, Table VM-1.

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

Census Divisions	August 1 through August 31					Cumulative July 1 through August 31				
	Normal <sup>a</sup>	1997	1998	Percent Change		Normal <sup>a</sup>	1997	1998	Percent Change	
				Normal to 1998	1997 to 1998				Normal to 1998	1997 to 1998
<b>New England</b> Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont .....	24	61	34	( <sup>c</sup> )	( <sup>c</sup> )	31	98	65	( <sup>c</sup> )	( <sup>c</sup> )
<b>Middle Atlantic</b> New Jersey, New York, Pennsylvania .....	12	34	11	( <sup>c</sup> )	( <sup>c</sup> )	16	52	23	( <sup>c</sup> )	( <sup>c</sup> )
<b>East North Central</b> Illinois, Indiana, Michigan, Ohio, Wisconsin .....	20	58	12	( <sup>c</sup> )	( <sup>c</sup> )	25	90	26	( <sup>c</sup> )	( <sup>c</sup> )
<b>West North Central</b> Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota .....	23	42	11	( <sup>c</sup> )	( <sup>c</sup> )	32	70	24	( <sup>c</sup> )	( <sup>c</sup> )
<b>South Atlantic</b> Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia .....	0	3	1	( <sup>c</sup> )	( <sup>c</sup> )	1	5	2	( <sup>c</sup> )	( <sup>c</sup> )
<b>East South Central</b> Alabama, Kentucky, Mississippi, Tennessee .....	0	2	0	( <sup>c</sup> )	( <sup>c</sup> )	0	3	0	( <sup>c</sup> )	( <sup>c</sup> )
<b>West South Central</b> Arkansas, Louisiana, Oklahoma, Texas .....	0	0	0	( <sup>c</sup> )	( <sup>c</sup> )	0	0	0	( <sup>c</sup> )	( <sup>c</sup> )
<b>Mountain</b> Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming .....	26	23	8	( <sup>c</sup> )	( <sup>c</sup> )	39	37	11	( <sup>c</sup> )	( <sup>c</sup> )
<b>Pacific<sup>b</sup></b> California, Oregon, Washington .....	20	14	15	( <sup>c</sup> )	( <sup>c</sup> )	43	35	29	( <sup>c</sup> )	( <sup>c</sup> )
<b>U.S. Average<sup>b</sup></b> .....	<b>13</b>	<b>25</b>	<b>9</b>	<b>(<sup>c</sup>)</b>	<b>(<sup>c</sup>)</b>	<b>20</b>	<b>42</b>	<b>18</b>	<b>(<sup>c</sup>)</b>	<b>(<sup>c</sup>)</b>

<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 used as an index for heating and cooling energy requirements. Heating degree-days are the number of degrees that the daily average temperature falls below 65° F. Cooling degree-days are the number of degrees that the

daily average temperature rises above 65° F. The daily average temperature is the mean of the maximum and minimum temperatures in a 24-hour period. For example, a weather station recording an average daily temperature of 40° F would report 25 heating degree-days for that day (and 0 cooling degree-days). If a weather station recorded an average daily temperature of 78° F, cooling degree-days for that station would be 13 ( and 0 heating degree days).

Sources: See end of section.

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

Census Divisions	August 1 through August 31					Cumulative January 1 through August 31				
	Normal <sup>a</sup>	1997	1998	Percent Change		Normal <sup>a</sup>	1997	1998	Percent Change	
				Normal to 1998	1997 to 1998				Normal to 1998	1997 to 1998
<b>New England</b> Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont .....	148	111	166	12.2	49.5	394	389	414	5.1	6.4
<b>Middle Atlantic</b> New Jersey, New York, Pennsylvania .....	210	163	246	17.1	50.9	601	532	661	10.0	24.2
<b>East North Central</b> Illinois, Indiana, Michigan, Ohio, Wisconsin .....	201	124	239	18.9	92.7	656	479	733	11.7	53.0
<b>West North Central</b> Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota .....	263	204	290	10.3	42.2	870	701	911	4.7	30.0
<b>South Atlantic</b> Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia .....	391	371	410	4.9	10.5	1,469	1,403	1,628	10.8	16.0
<b>East South Central</b> Alabama, Kentucky, Mississippi, Tennessee .....	374	339	406	8.6	19.8	1,280	1,054	1,446	13.0	37.2
<b>West South Central</b> Arkansas, Louisiana, Oklahoma, Texas .....	528	512	585	10.8	14.3	1,930	1,676	2,236	15.9	33.4
<b>Mountain</b> Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming .....	287	298	320	11.5	7.4	965	953	909	-5.8	-4.6
<b>Pacific<sup>b</sup></b> California, Oregon, Washington .....	193	197	230	19.2	16.8	529	569	506	-4.3	-11.1
<b>U.S. Average<sup>b</sup></b> .....	<b>287</b>	<b>254</b>	<b>321</b>	<b>11.8</b>	<b>26.4</b>	<b>966</b>	<b>865</b>	<b>1,057</b>	<b>9.4</b>	<b>22.2</b>

<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 used as an index for heating and cooling energy requirements. Cooling degree-days are the number of degrees that the daily average temperature rises above 65° F. Heating degree-days are the number of degrees that the daily average temperature falls below 65° F. The daily average temperature

is the mean of the maximum and minimum temperatures in a 24-hour period. For example, if a weather station recorded an average daily temperature of 78° F, cooling degree-days for that station would be 13 (and 0 heating degree-days). A weather station recording an average daily temperature of 40° F would report 25 heating degree-days for that day (and 0 cooling degree-days).

Sources: See end of section.

## 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 geothermal, wood, waste, 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 Section 2, Energy Consumption Section Notes and Sources.

**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 Section 2, Energy Consumption Section Notes and Sources.

**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., re-exports) 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.

### 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:** "U.S. International Trade in Goods and Services, Annual Revision for 1993."

**1994:** "U.S. International Trade in Goods and Services, Annual Revision for 1994."

**1995:** "U.S. International Trade in Goods and Services, Annual Revision for 1995."

**1996:** "U.S. International Trade in Goods and Services, Annual Revision for 1996."

**1997 and 1998:** "U.S. International Trade in Goods and Services," FT-900, 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:** "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993.

**1994:** "U.S. International Trade in Goods and Services, Annual Revision for 1994."

**1995:** "U.S. International Trade in Goods and Services, Annual Revision for 1995."

**1996:** "U.S. International Trade in Goods and Services, Annual Revision for 1996."

**1997 and 1998:** "U.S. International Trade in Goods and Services," FT-900, monthly.

### **Energy Exports and Imports**

**1974-1987:** U.S. merchandise trade press releases and database printouts for adjustments.

**1988:** January-July, monthly FT-900 supplement, 1989 issues. August-December, monthly FT-900, 1989 issues.

**1989:** Monthly FT-900, 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:** "U.S. International Trade in Goods and Services, Annual Revision for 1993."

**1994:** "U.S. International Trade in Goods and Services, Annual Revision for 1994."

**1995:** "U.S. International Trade in Goods and Services, Annual Revision for 1995."

**1996:** "U.S. International Trade in Goods and Services, Annual Revision for 1996."

**1997 and 1998:** "U.S. International Trade in Goods and Services," FT-900, monthly.

### **Energy and Non-Energy Balances**

Calculated by the Energy Information Administration.

#### **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:** "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993.

**1992:** "U.S. International Trade in Goods and Services, Annual Revision for 1994."

**1993 and 1994:** "U.S. International Trade in Goods and Services, Annual Revision for 1995."

**1995 and 1996:** "U.S. International Trade in Goods and Services, Annual Revision for 1996."

**1997 and 1998:** "U.S. International Trade in Goods and Services," FT-900, monthly.

### **Sources for Tables 1.11 and 1.12**

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 (heating degree-days) and 5-2 (cooling degree-days) developed by the National Climatic Data Center, Asheville, NC, which compiles data from some 8,000 weather stations.





## Section 2. Energy Consumption

U.S. total energy consumption in June 1998 was 7.3 quadrillion Btu. Petroleum products accounted for 41 percent of the energy consumed in June 1998, while natural gas accounted for 21 percent and coal accounted for 25 percent.

Residential and commercial sector consumption was 2.6 quadrillion Btu in June 1998, up 10 percent from the 1997 level. The sector accounted for 35 percent of total consumption, up 2 percentage points from its 33-percent share in June 1997.

Industrial sector consumption was 2.7 quadrillion Btu in June 1998, down 2 percent from the June 1997 level. The industrial sector accounted for 37 percent

of total consumption, down 2 percentage points from its 39-percent share in June 1997.

Transportation sector consumption of energy was 2.1 quadrillion Btu in June 1998, 1 percent higher than the June 1997 level. The sector accounted for 28 percent of total consumption, down 1 percentage point from its 29-percent share in June 1997.

Electric utility consumption of energy totaled 3.1 quadrillion Btu in June 1998, up 9 percent from the June 1997 level. Coal contributed 53 percent of the energy consumed by electric utilities, while nuclear electric power contributed 19 percent; natural gas 13 percent; hydroelectric 11 percent; petroleum 4 percent; and all other, less than 1 percent.

**Table 2.1 Energy Consumption Summary for June 1998**  
(Quadrillion Btu)

Energy Source	End-Use Sectors				Electric Utilities	Total
	Residential and Commercial	Industrial	Transportation	Total <sup>a</sup>		
Coal .....	<sup>E</sup> 0.010	<sup>E</sup> 0.183	( <sup>b</sup> )	<sup>E</sup> 0.198	1.632	<sup>E</sup> 1.830
Natural Gas <sup>c</sup> .....	<sup>F</sup> .327	<sup>F</sup> .782	<sup>F</sup> .047	<sup>F</sup> 1.158	.388	<sup>F</sup> 1.546
Petroleum Products <sup>d</sup> .....	.144	.736	2.013	2.893	.129	3.022
Nuclear Electric Power .....	—	—	—	—	.592	.592
Hydroelectric Power <sup>e</sup> .....	—	.003	—	.003	.337	.340
Geothermal .....	—	—	—	—	.007	.007
Net Imports of Coal Coke .....	—	.001	—	.001	—	.001
Other <sup>f</sup> .....	—	—	—	—	.001	.001
<b>Primary Consumption</b> .....	<b>.480</b>	<b>1.706</b>	<b>2.060</b>	<b>4.253</b>	<b>3.087</b>	<b>7.340</b>
Electricity .....	.652	.310	.001	.964	—	—
<b>Net Consumption</b> .....	<b>1.133</b>	<b>2.016</b>	<b>2.061</b>	<b>5.217</b>	—	—
Electrical System Energy Losses .....	1.437	.683	.003	2.123	—	—
<b>Total Consumption</b> .....	<b>2.570</b>	<b>2.700</b>	<b>2.064</b>	<b>7.340</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> Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

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

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

— =Not applicable. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu. E=Estimate. F=Forecast

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

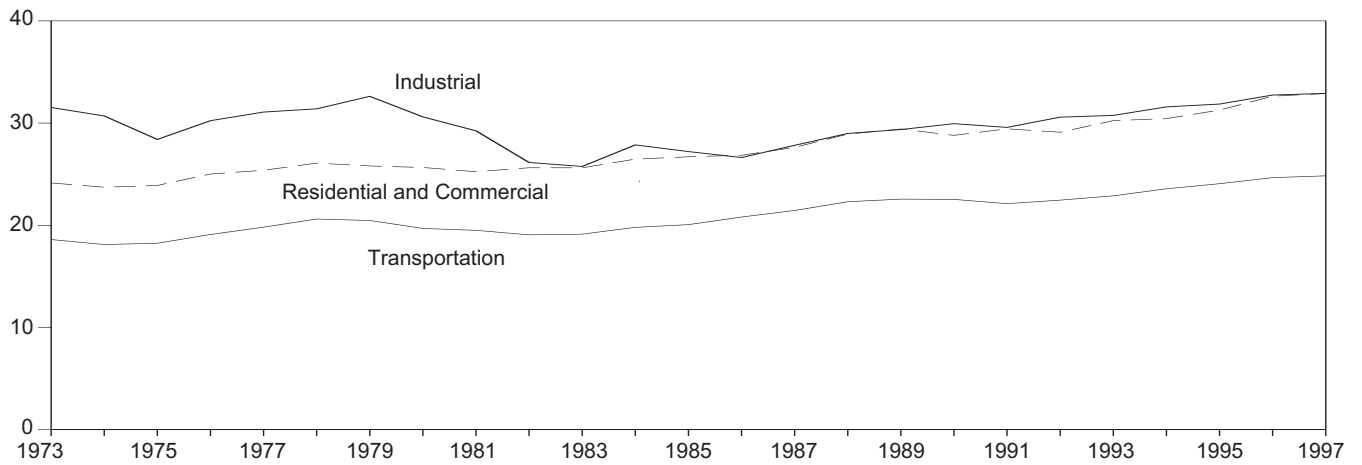
Additional Notes and Sources: See Tables 2.2-2.6 and end of section.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. For the full year of 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of section for details.

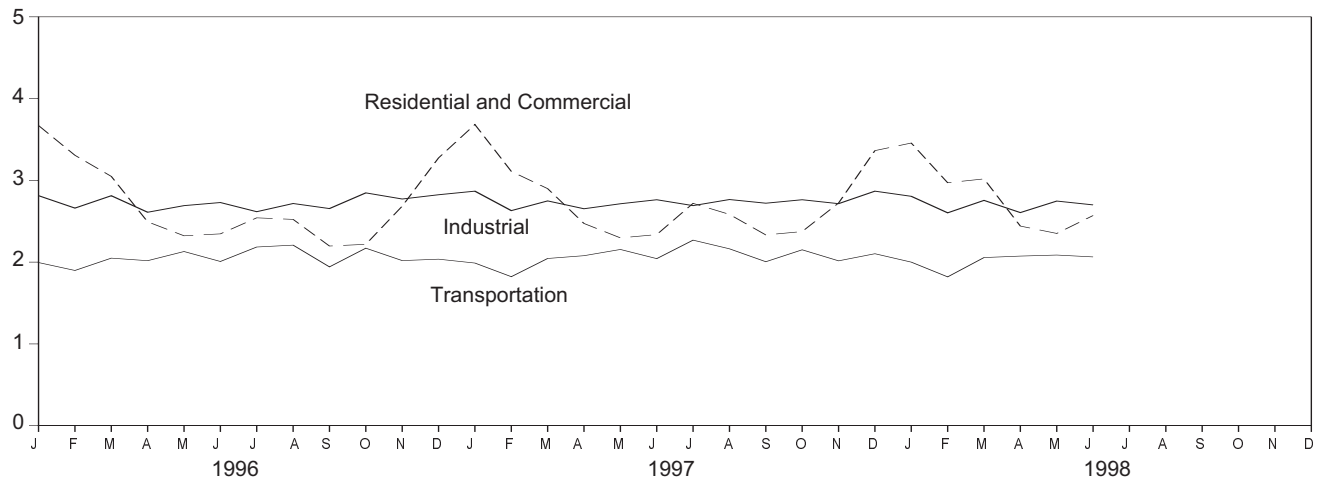


**Figure 2.1 Energy Consumption by End-Use Sector**  
(Quadrillion Btu)

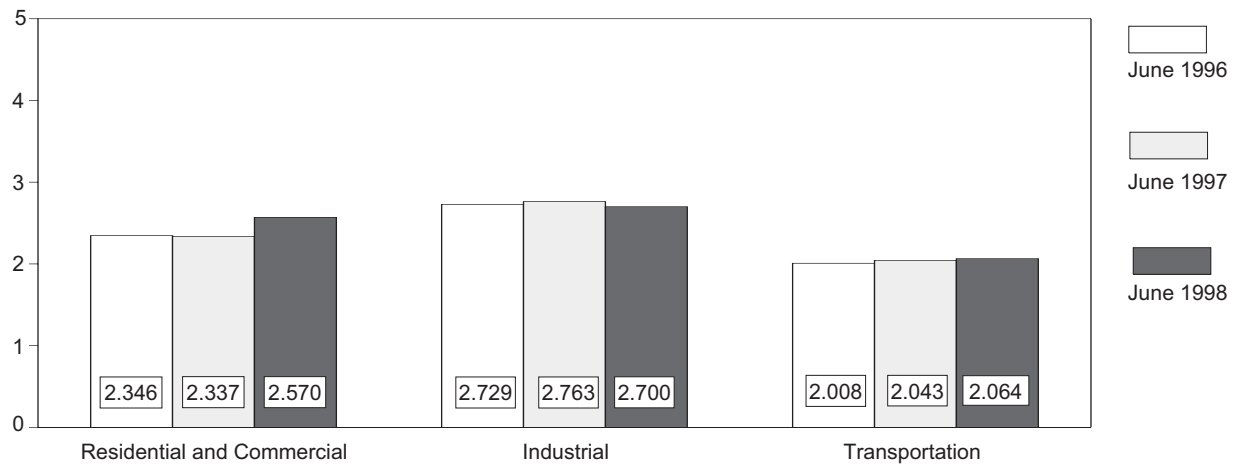
Overview, 1973-1997



Overview, Monthly



Overview, June



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
	Net	Total	Net	Total	Net	Total		
<b>1973 Total</b> .....	15.766	24.143	25.917	31.528	18.584	18.605	60.274	74.282
<b>1974 Total</b> .....	15.246	23.725	24.994	30.694	18.095	18.117	58.341	72.543
<b>1975 Total</b> .....	15.200	23.899	22.737	28.402	18.219	18.244	56.157	70.546
<b>1976 Total</b> .....	15.997	25.018	24.038	30.236	19.076	19.101	59.119	74.362
<b>1977 Total</b> .....	15.828	25.384	24.593	31.077	19.794	19.819	60.223	76.288
<b>1978 Total</b> .....	16.023	26.084	24.637	31.392	20.589	20.611	61.251	78.089
<b>1979 Total</b> .....	15.709	25.808	25.679	32.616	20.447	20.472	61.836	78.898
<b>1980 Total</b> .....	15.075	25.655	23.854	30.606	19.669	19.695	58.597	75.955
<b>1981 Total</b> .....	14.541	25.241	22.533	29.240	19.480	19.507	56.556	73.990
<b>1982 Total</b> .....	14.629	25.629	20.020	26.145	19.043	19.069	53.697	70.848
<b>1983 Total</b> .....	14.395	25.627	19.401	25.759	19.109	19.135	52.907	70.524
<b>1984 Total</b> .....	14.964	26.474	21.184	27.867	19.773	19.801	55.923	74.144
<b>1985 Total</b> .....	14.839	26.704	20.520	27.214	20.036	20.067	55.391	73.981
<b>1986 Total</b> .....	14.791	26.852	20.101	26.630	20.781	20.812	55.676	74.297
<b>1987 Total</b> .....	15.146	27.623	21.116	27.826	21.419	21.448	57.678	76.894
<b>1988 Total</b> .....	16.004	28.925	22.085	28.986	22.274	22.305	60.366	80.218
<b>1989 Total</b> .....	16.261	29.424	22.272	29.365	22.530	22.561	61.071	81.358
<b>1990 Total</b> .....	15.568	28.798	22.841	29.942	22.504	22.535	60.922	81.283
<b>1991 Total</b> .....	15.985	29.438	22.549	29.578	22.091	22.121	60.626	81.138
<b>1992 Total</b> .....	16.089	29.106	23.499	30.581	22.432	22.462	62.025	82.154
<b>1993 Total</b> .....	16.736	30.239	23.739	30.752	22.857	22.884	63.328	83.871
<b>1994 Total</b> .....	16.760	30.440	24.414	31.585	23.544	23.573	64.719	85.598
<b>1995 Total</b> .....	17.118	31.270	24.691	31.861	24.040	24.068	65.855	87.205
<b>1996</b> January .....	2.347	3.671	2.234	2.813	1.993	1.995	6.574	8.480
February .....	2.147	3.307	2.111	2.661	1.896	1.898	6.153	7.865
March .....	1.894	3.049	2.215	2.812	2.047	2.049	6.154	7.908
April .....	1.472	2.493	2.044	2.610	2.016	2.018	5.529	7.119
May .....	1.152	2.322	2.029	2.691	2.127	2.130	5.308	7.142
June .....	1.054	2.346	2.085	2.729	2.006	2.008	5.146	7.084
July .....	1.085	2.542	1.964	2.617	2.182	2.185	5.235	7.347
August .....	1.083	2.523	2.061	2.717	2.206	2.208	5.354	7.453
September .....	1.026	2.197	2.079	2.655	1.940	1.942	5.047	6.796
October .....	1.133	2.218	2.234	2.847	2.168	2.171	5.536	7.236
November .....	1.568	2.685	2.161	2.772	2.016	2.019	5.746	7.476
December .....	2.027	3.275	2.217	2.824	2.034	2.036	6.278	8.135
<b>Total</b> .....	<b>17.987</b>	<b>32.628</b>	<b>25.430</b>	<b>32.743</b>	<b>24.634</b>	<b>24.662</b>	<b>68.060</b>	<b>90.041</b>
<b>1997</b> January .....	2.331	3.683	R 2.270	R 2.868	1.987	1.989	R 6.591	8.544
February .....	2.023	3.110	2.101	2.630	1.820	1.822	5.944	7.562
March .....	R 1.746	R 2.899	2.145	2.749	2.043	2.045	R 5.934	R 7.693
April .....	R 1.438	R 2.473	R 2.068	R 2.653	R 2.077	2.079	R 5.582	R 7.204
May .....	R 1.182	R 2.297	R 2.066	R 2.714	2.152	2.155	5.401	7.166
June .....	R 1.059	R 2.337	R 2.094	2.763	2.041	2.043	R 5.197	R 7.146
July .....	R 1.145	R 2.719	R 2.014	R 2.691	2.266	2.269	R 5.432	R 7.686
August .....	R 1.108	R 2.584	2.095	2.766	2.160	2.163	R 5.369	R 7.519
September .....	R 1.068	R 2.333	2.111	2.721	2.003	R 2.005	R 5.186	R 7.063
October .....	R 1.203	R 2.374	R 2.157	R 2.763	R 2.148	2.151	R 5.512	R 7.291
November .....	R 1.590	2.723	2.110	R 2.715	2.014	2.016	5.715	7.456
December .....	R 2.058	R 3.364	2.251	2.868	2.101	2.103	R 6.413	8.338
<b>Total</b> .....	<b>R 17.952</b>	<b>R 32.895</b>	<b>R 25.481</b>	<b>R 32.901</b>	<b>R 24.812</b>	<b>24.841</b>	<b>R 68.277</b>	<b>R 90.668</b>
<b>1998</b> January .....	2.157	3.457	R 2.221	R 2.805	1.998	2.000	R 6.379	R 8.266
February .....	R 1.886	R 2.971	R 2.051	R 2.603	1.818	1.820	R 5.757	R 7.396
March .....	R 1.815	R 3.018	R 2.137	R 2.755	2.053	R 2.056	R 6.007	R 7.830
April .....	R 1.390	R 2.441	R 2.019	R 2.606	2.072	2.074	R 5.482	R 7.122
May .....	R 1.114	R 2.351	R 2.055	R 2.747	R 2.085	R 2.087	R 5.258	R 7.191
June .....	1.133	2.570	2.016	2.700	2.061	2.064	5.217	7.340
<b>6-Month Total</b> .....	<b>9.495</b>	<b>16.809</b>	<b>12.499</b>	<b>16.216</b>	<b>12.087</b>	<b>12.101</b>	<b>34.100</b>	<b>45.145</b>
<b>1997 6-Month Total</b> .....	<b>9.780</b>	<b>16.798</b>	<b>12.744</b>	<b>16.377</b>	<b>12.120</b>	<b>12.134</b>	<b>34.650</b>	<b>45.315</b>
<b>1996 6-Month Total</b> .....	<b>10.064</b>	<b>17.188</b>	<b>12.717</b>	<b>16.315</b>	<b>12.084</b>	<b>12.098</b>	<b>34.863</b>	<b>45.598</b>

R=Revised.  
Notes: • Totals may not equal sum of components due to independent rounding and the use of sector-specific conversion factors for natural gas and

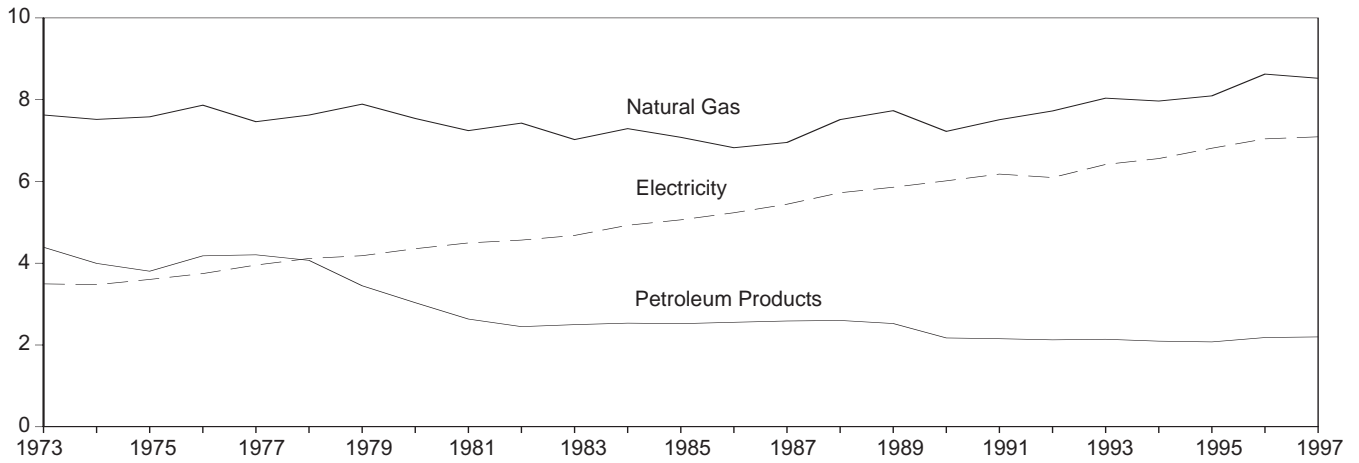
coal. • Geographic coverage is the 50 States and the District of Columbia.  
Additional Notes and Sources: See end of section.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. In 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of section for details.

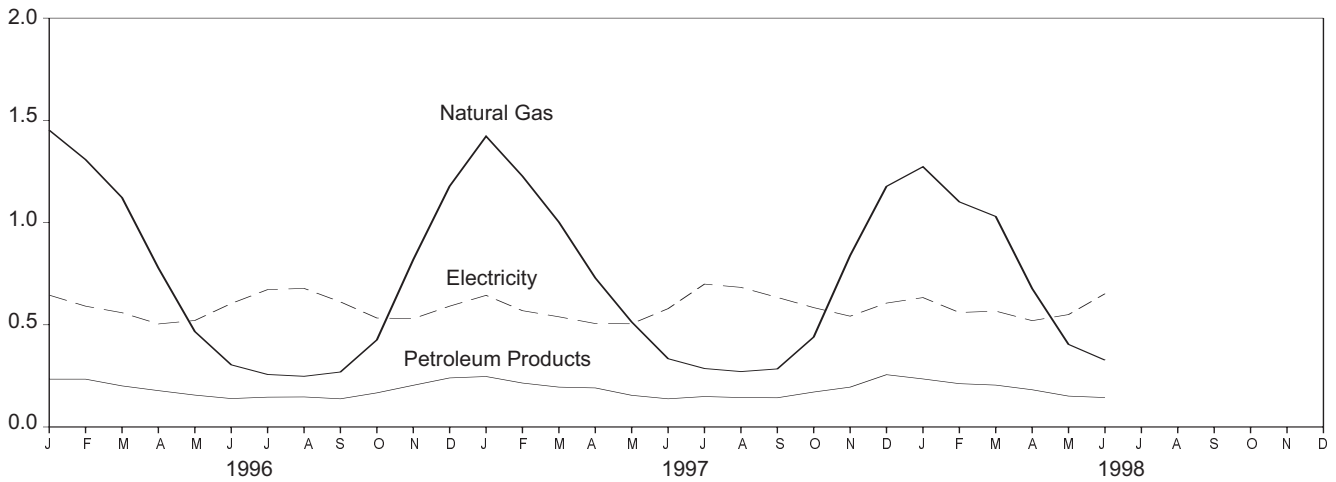
## Figure 2.2 Residential and Commercial Energy Consumption

(Quadrillion Btu)

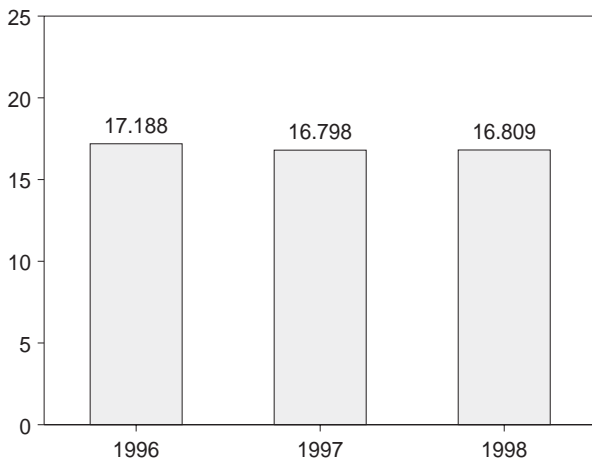
By Major Sources, 1973-1997



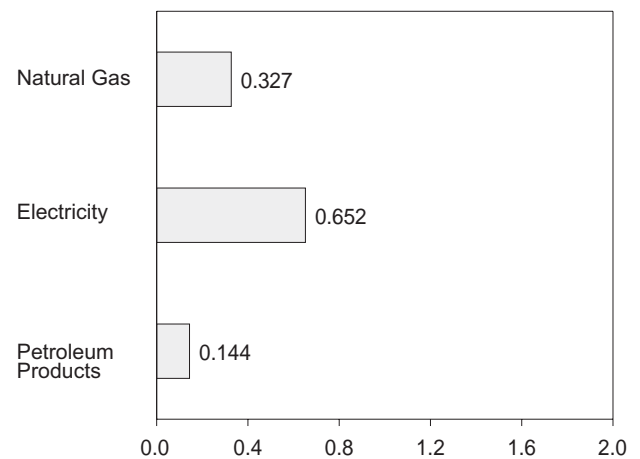
By Major Sources, Monthly



Total, January-June



By Major Sources, June 1998



Note: Because vertical scales differ, graphs should not be compared.  
Source: Table 2.3.

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

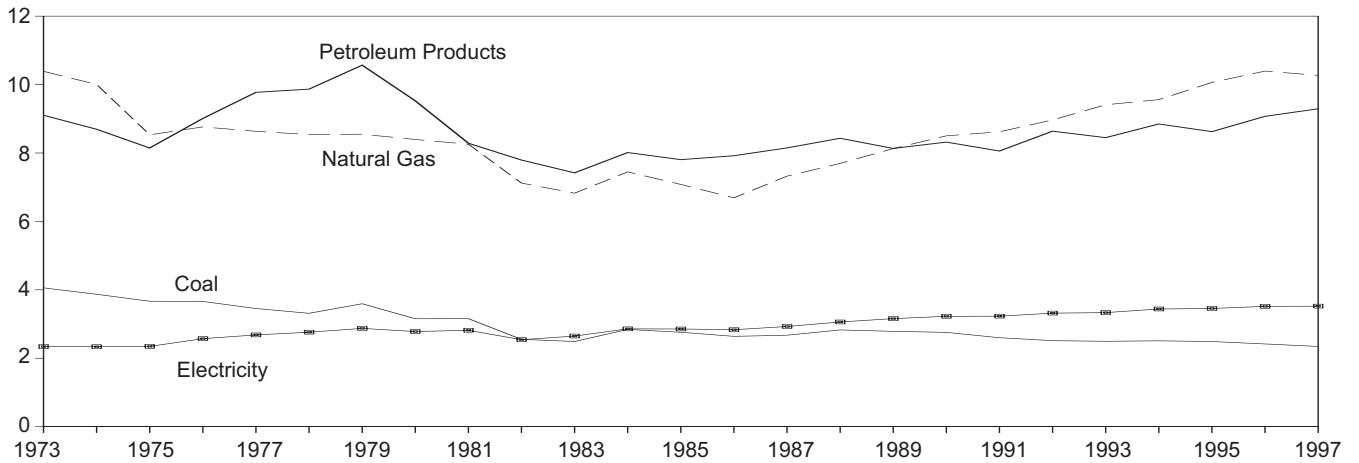
	Coal	Natural Gas <sup>a</sup>	Petroleum Products <sup>b</sup>	Primary Consumption	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption
<b>1973 Total</b> .....	<b>0.254</b>	<b>7.626</b>	<b>4.391</b>	<b>12.270</b>	<b>3.495</b>	<b>15.766</b>	<b>8.377</b>	<b>24.143</b>
<b>1974 Total</b> .....	<b>.257</b>	<b>7.518</b>	<b>3.996</b>	<b>11.771</b>	<b>3.475</b>	<b>15.246</b>	<b>8.480</b>	<b>23.725</b>
<b>1975 Total</b> .....	<b>.209</b>	<b>7.581</b>	<b>3.805</b>	<b>11.595</b>	<b>3.604</b>	<b>15.200</b>	<b>8.700</b>	<b>23.899</b>
<b>1976 Total</b> .....	<b>.203</b>	<b>7.866</b>	<b>4.181</b>	<b>12.250</b>	<b>3.747</b>	<b>15.997</b>	<b>9.021</b>	<b>25.018</b>
<b>1977 Total</b> .....	<b>.205</b>	<b>7.461</b>	<b>4.206</b>	<b>11.873</b>	<b>3.955</b>	<b>15.828</b>	<b>9.556</b>	<b>25.384</b>
<b>1978 Total</b> .....	<b>.214</b>	<b>7.624</b>	<b>4.070</b>	<b>11.908</b>	<b>4.116</b>	<b>16.023</b>	<b>10.061</b>	<b>26.084</b>
<b>1979 Total</b> .....	<b>.187</b>	<b>7.891</b>	<b>3.448</b>	<b>11.525</b>	<b>4.184</b>	<b>15.709</b>	<b>10.100</b>	<b>25.808</b>
<b>1980 Total</b> .....	<b>.145</b>	<b>7.540</b>	<b>3.035</b>	<b>10.721</b>	<b>4.355</b>	<b>15.075</b>	<b>10.580</b>	<b>25.655</b>
<b>1981 Total</b> .....	<b>.167</b>	<b>7.243</b>	<b>2.634</b>	<b>10.043</b>	<b>4.497</b>	<b>14.541</b>	<b>10.700</b>	<b>25.241</b>
<b>1982 Total</b> .....	<b>.187</b>	<b>7.427</b>	<b>2.449</b>	<b>10.063</b>	<b>4.566</b>	<b>14.629</b>	<b>11.000</b>	<b>25.629</b>
<b>1983 Total</b> .....	<b>.192</b>	<b>7.024</b>	<b>2.498</b>	<b>10.721</b>	<b>4.680</b>	<b>14.395</b>	<b>11.232</b>	<b>25.627</b>
<b>1984 Total</b> .....	<b>.209</b>	<b>7.292</b>	<b>2.535</b>	<b>10.036</b>	<b>4.928</b>	<b>14.964</b>	<b>11.510</b>	<b>26.474</b>
<b>1985 Total</b> .....	<b>.176</b>	<b>7.079</b>	<b>2.522</b>	<b>9.777</b>	<b>5.061</b>	<b>14.839</b>	<b>11.865</b>	<b>26.704</b>
<b>1986 Total</b> .....	<b>.176</b>	<b>6.825</b>	<b>2.555</b>	<b>9.556</b>	<b>5.235</b>	<b>14.791</b>	<b>12.061</b>	<b>26.852</b>
<b>1987 Total</b> .....	<b>.162</b>	<b>6.954</b>	<b>2.587</b>	<b>9.703</b>	<b>5.443</b>	<b>15.146</b>	<b>12.477</b>	<b>27.623</b>
<b>1988 Total</b> .....	<b>.168</b>	<b>7.513</b>	<b>2.600</b>	<b>10.280</b>	<b>5.724</b>	<b>16.004</b>	<b>12.920</b>	<b>28.925</b>
<b>1989 Total</b> .....	<b>.146</b>	<b>7.731</b>	<b>2.525</b>	<b>10.402</b>	<b>5.859</b>	<b>16.261</b>	<b>13.163</b>	<b>29.424</b>
<b>1990 Total</b> .....	<b>.156</b>	<b>7.224</b>	<b>2.173</b>	<b>9.553</b>	<b>6.015</b>	<b>15.568</b>	<b>13.229</b>	<b>28.798</b>
<b>1991 Total</b> .....	<b>.141</b>	<b>7.510</b>	<b>2.154</b>	<b>9.805</b>	<b>6.180</b>	<b>15.985</b>	<b>13.453</b>	<b>29.438</b>
<b>1992 Total</b> .....	<b>.142</b>	<b>7.725</b>	<b>2.126</b>	<b>9.993</b>	<b>6.096</b>	<b>16.089</b>	<b>13.017</b>	<b>29.106</b>
<b>1993 Total</b> .....	<b>.143</b>	<b>8.037</b>	<b>2.140</b>	<b>10.320</b>	<b>6.416</b>	<b>16.736</b>	<b>13.503</b>	<b>30.239</b>
<b>1994 Total</b> .....	<b>.139</b>	<b>7.967</b>	<b>2.094</b>	<b>10.200</b>	<b>6.560</b>	<b>16.760</b>	<b>13.680</b>	<b>30.440</b>
<b>1995 Total</b> .....	<b>.134</b>	<b>8.094</b>	<b>2.076</b>	<b>10.305</b>	<b>6.813</b>	<b>17.118</b>	<b>14.153</b>	<b>31.270</b>
<b>1996</b> January .....	.016	1.452	.234	1.702	.645	2.347	1.325	3.671
February .....	.013	1.308	.234	1.556	.591	2.147	1.160	3.307
March .....	.012	1.122	.201	1.335	.559	1.894	1.155	3.049
April .....	.011	.778	.178	.967	.504	1.472	1.022	2.493
May .....	.009	.467	.156	.631	.521	1.152	1.170	2.322
June .....	.007	.304	.139	.450	.604	1.054	1.292	2.346
July .....	.010	.257	.146	.413	.672	1.085	1.456	2.542
August .....	.010	.248	.147	.405	.678	1.083	1.440	2.523
September .....	.008	.269	.138	.415	.612	1.026	1.171	2.197
October .....	.008	.426	.167	.600	.533	1.133	1.085	2.218
November .....	.015	.819	.204	1.038	.530	1.568	1.117	2.685
December .....	.018	1.178	.240	1.436	.591	2.027	1.248	3.275
<b>Total</b> .....	<b>.138</b>	<b>8.626</b>	<b>2.182</b>	<b>10.946</b>	<b>7.041</b>	<b>17.987</b>	<b>14.641</b>	<b>32.628</b>
<b>1997</b> January .....	.018	1.422	.247	1.687	.644	2.331	1.352	3.683
February .....	.013	1.227	.215	1.454	.569	2.023	1.086	3.110
March .....	.011	R 1.002	.195	R 1.207	.539	R 1.746	1.153	R 2.899
April .....	.012	R .729	.191	R .932	.506	R 1.438	1.035	R 2.473
May .....	.008	R .514	.155	R .677	.505	R 1.182	1.115	R 2.297
June .....	.007	R .334	.138	R .480	.579	R 1.059	1.278	R 2.337
July .....	.011	R .286	.149	R .446	.699	R 1.145	1.574	R 2.719
August .....	.009	R .271	.144	R .425	.683	R 1.108	1.477	R 2.584
September .....	.008	R .284	.143	R .434	.634	R 1.068	1.265	R 2.333
October .....	.008	R .440	.171	R .619	.584	R 1.203	1.171	R 2.374
November .....	.014	.839	.195	R 1.048	.542	R 1.590	1.133	2.723
December .....	.019	R 1.177	.256	R 1.452	.606	R 2.058	1.306	R 3.364
<b>Total</b> .....	<b>.138</b>	<b>R 8.524</b>	<b>2.198</b>	<b>R 10.860</b>	<b>7.092</b>	<b>R 17.952</b>	<b>14.943</b>	<b>R 32.895</b>
<b>1998</b> January .....	.016	1.273	.235	1.523	.633	2.157	1.301	3.457
February .....	.013	R 1.101	.212	R 1.326	.560	R 1.886	1.085	R 2.971
March .....	.013	R 1.030	.205	R 1.248	.567	R 1.815	1.203	R 3.018
April .....	E .011	R .677	.182	R .870	.520	R 1.390	1.051	R 2.441
May .....	E .009	R .404	.151	R .564	.550	R 1.114	1.237	R 2.351
June .....	E .010	F .327	.144	.480	.652	1.133	1.437	2.570
<b>6-Month Total</b> .....	<b>E .072</b>	<b>E 4.812</b>	<b>1.128</b>	<b>6.012</b>	<b>3.483</b>	<b>9.495</b>	<b>7.314</b>	<b>16.809</b>
<b>1997 6-Month Total</b> .....	<b>.069</b>	<b>5.227</b>	<b>1.141</b>	<b>6.437</b>	<b>3.343</b>	<b>9.780</b>	<b>7.018</b>	<b>16.798</b>
<b>1996 6-Month Total</b> .....	<b>.069</b>	<b>5.430</b>	<b>1.140</b>	<b>6.640</b>	<b>3.425</b>	<b>10.064</b>	<b>7.124</b>	<b>17.188</b>

<sup>a</sup> Includes supplemental gaseous fuels. Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
<sup>b</sup> Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds. Additional Notes and Sources: See end of section.  
R=Revised. E=Estimate. F=Forecast.

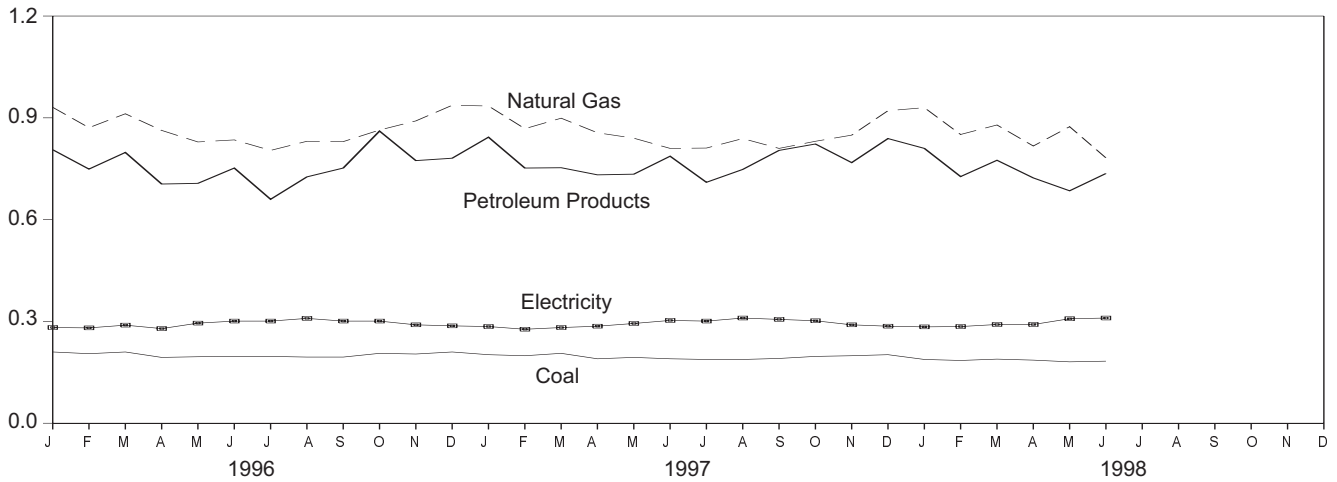
**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in this table. In 1997, for example, an estimated 0.6 quadrillion Btu of renewable energy used by the residential and commercial sectors (primarily the residential sector) is not included. See Note 12 at the end of section for details.

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

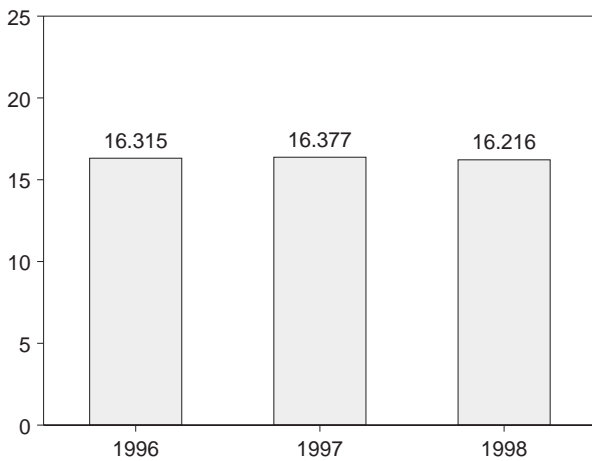
By Major Sources, 1973-1997



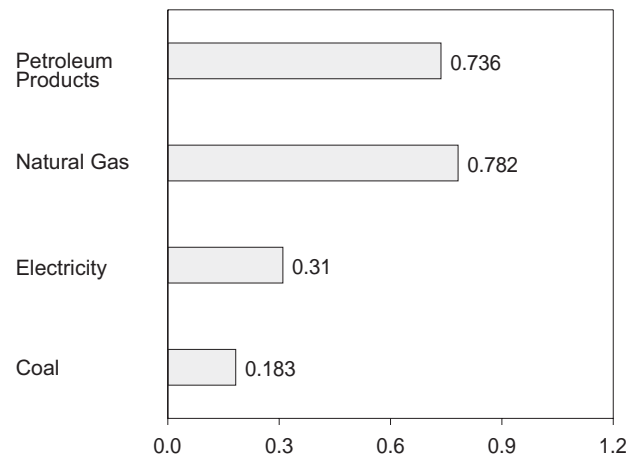
By Major Sources, Monthly



Total, January-June



By Major Sources, June 1998



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 Products <sup>b</sup>	Hydro-electric Power	Net Imports of Coal Coke	Primary Consumption	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption
<b>1973 Total</b> .....	4.057	10.388	9.104	0.035	-0.007	23.576	2.341	25.917	5.611	31.528
<b>1974 Total</b> .....	3.870	10.004	8.694	.033	.056	22.657	2.337	24.994	5.700	30.694
<b>1975 Total</b> .....	3.667	8.532	8.146	.032	.014	20.391	2.346	22.737	5.665	28.402
<b>1976 Total</b> .....	3.661	8.762	9.010	.033	(s)	21.465	2.573	24.038	6.198	30.236
<b>1977 Total</b> .....	3.454	8.635	9.774	.033	.015	21.911	2.682	24.593	6.484	31.077
<b>1978 Total</b> .....	3.314	8.539	9.867	.032	.125	21.876	2.761	24.637	6.755	31.392
<b>1979 Total</b> .....	3.593	8.549	10.568	.034	.063	22.807	2.873	25.679	6.936	32.616
<b>1980 Total</b> .....	3.155	8.395	9.525	.033	-.035	21.073	2.781	23.854	6.752	30.606
<b>1981 Total</b> .....	3.157	8.257	8.285	.033	-.016	19.715	2.817	22.533	6.707	29.240
<b>1982 Total</b> .....	2.552	7.121	7.794	.033	-.022	17.479	2.542	20.020	6.125	26.145
<b>1983 Total</b> .....	2.490	6.826	7.420	.033	-.016	16.753	2.648	19.401	6.359	25.759
<b>1984 Total</b> .....	2.842	7.448	8.014	.033	-.011	18.325	2.859	21.184	6.683	27.867
<b>1985 Total</b> .....	2.760	7.080	7.805	.033	-.013	17.665	2.855	20.520	6.694	27.214
<b>1986 Total</b> .....	2.640	6.690	7.920	.033	-.017	17.267	2.834	20.101	6.529	26.630
<b>1987 Total</b> .....	2.673	7.323	8.150	.033	.009	18.188	2.928	21.116	6.710	27.826
<b>1988 Total</b> .....	2.828	7.696	8.430	.033	.040	19.026	3.059	22.085	6.901	28.986
<b>1989 Total</b> .....	2.787	8.131	8.133	.033	.030	19.114	3.158	22.272	7.093	29.365
<b>1990 Total</b> .....	2.756	8.502	8.319	.033	.005	19.615	3.226	22.841	7.101	29.942
<b>1991 Total</b> .....	2.601	8.619	8.057	.033	.009	19.319	3.230	22.549	7.029	29.578
<b>1992 Total</b> .....	2.515	8.967	8.638	.033	.027	20.180	3.319	23.499	7.083	30.581
<b>1993 Total</b> .....	2.496	9.410	8.449	.033	.017	20.405	3.334	23.739	7.013	30.752
<b>1994 Total</b> .....	2.510	9.560	8.849	.033	.024	20.975	3.439	24.414	7.171	31.585
<b>1995 Total</b> .....	2.488	10.064	8.624	.033	.026	21.236	3.455	24.691	7.170	31.861
<b>1996 January</b> .....	.210	.931	.806	.003	.001	1.952	.282	2.234	.579	2.813
February .....	.205	.871	.749	.003	.003	1.830	.281	2.111	.551	2.661
March .....	.210	.912	.798	.003	.003	1.926	.289	2.215	.597	2.812
April .....	.194	.863	.705	.003	-.001	1.764	.279	2.044	.566	2.610
May .....	.196	.829	.707	.003	-.001	1.734	.295	2.029	.662	2.691
June .....	.197	.835	.752	.003	-.002	1.784	.301	2.085	.644	2.729
July .....	.197	.804	.660	.003	(s)	1.663	.301	1.964	.653	2.617
August .....	.195	.831	.726	.002	-.003	1.752	.309	2.061	.656	2.717
September .....	.195	.830	.752	.002	(s)	1.779	.301	2.079	.575	2.655
October .....	.206	.864	.861	.002	(s)	1.932	.301	2.234	.613	2.847
November .....	.204	.891	.774	.002	(s)	1.872	.290	2.161	.610	2.772
December .....	.210	.937	.781	.002	-.001	1.930	.287	2.217	.607	2.824
<b>Total</b> .....	<b>2.418</b>	<b>10.394</b>	<b>9.071</b>	<b>.033</b>	<b>(s)</b>	<b>21.915</b>	<b>3.516</b>	<b>25.430</b>	<b>7.313</b>	<b>32.743</b>
<b>1997 January</b> .....	.202	<sup>R</sup> .935	.843	.003	.002	<sup>R</sup> 1.985	.285	<sup>R</sup> 2.270	.598	<sup>R</sup> 2.868
February .....	.199	<sup>R</sup> .868	.752	.003	.002	<sup>R</sup> 1.823	.277	<sup>R</sup> 2.101	.530	<sup>R</sup> 2.630
March .....	.206	.899	.753	.003	.002	1.863	.282	2.145	.604	2.749
April .....	.190	<sup>R</sup> .856	.732	.003	(s)	<sup>R</sup> 1.782	.286	<sup>R</sup> 2.068	.585	<sup>R</sup> 2.653
May .....	.194	<sup>R</sup> .840	.734	.003	.002	<sup>R</sup> 1.773	.294	<sup>R</sup> 2.066	.648	<sup>R</sup> 2.714
June .....	.190	.810	.787	.003	.001	<sup>R</sup> 1.791	.303	<sup>R</sup> 2.094	.668	2.763
July .....	.188	<sup>R</sup> .811	.710	.003	.002	<sup>R</sup> 1.713	.301	<sup>R</sup> 2.014	.677	<sup>R</sup> 2.691
August .....	.188	<sup>R</sup> .839	.748	.002	.007	<sup>R</sup> 1.784	.310	2.095	.671	2.766
September .....	.191	.810	.804	.002	-.003	1.805	.306	2.111	.610	2.721
October .....	.197	<sup>R</sup> .831	.823	.002	.002	<sup>R</sup> 1.855	.302	<sup>R</sup> 2.157	.606	<sup>R</sup> 2.763
November .....	.199	<sup>R</sup> .849	.768	.002	.001	<sup>R</sup> 1.820	.290	2.110	.605	<sup>R</sup> 2.715
December .....	.202	.921	.839	.002	.001	<sup>R</sup> 1.964	.286	2.251	.617	2.868
<b>Total</b> .....	<b>2.345</b>	<sup>R</sup> <b>10.269</b>	<b>9.293</b>	<b>.033</b>	<b>.018</b>	<sup>R</sup> <b>21.958</b>	<b>3.523</b>	<sup>R</sup> <b>25.481</b>	<b>7.420</b>	<sup>R</sup> <b>32.901</b>
<b>1998 January</b> .....	.188	<sup>R</sup> .930	.810	.003	.005	<sup>R</sup> 1.936	.284	<sup>R</sup> 2.221	.584	<sup>R</sup> 2.805
February .....	.185	<sup>R</sup> .851	.727	.003	.002	<sup>R</sup> 1.766	.285	<sup>R</sup> 2.051	.552	<sup>R</sup> 2.603
March .....	.189	<sup>R</sup> .879	.775	.003	(s)	<sup>R</sup> 1.846	.291	<sup>R</sup> 2.137	.618	<sup>R</sup> 2.755
April .....	<sup>E</sup> .186	<sup>R</sup> .817	.723	.003	-.001	1.729	.291	<sup>R</sup> 2.019	.587	<sup>R</sup> 2.606
May .....	<sup>E</sup> .181	<sup>R</sup> .874	.685	.003	.003	<sup>R</sup> 1.747	.308	<sup>R</sup> 2.055	.692	<sup>R</sup> 2.747
June .....	<sup>E</sup> .183	<sup>F</sup> .782	.736	.003	.001	1.706	.310	2.016	.683	2.700
<b>6-Month Total</b> .....	<sup>E</sup> <b>1.111</b>	<sup>E</sup> <b>5.134</b>	<b>4.455</b>	<b>.018</b>	<b>.012</b>	<b>10.730</b>	<b>1.769</b>	<b>12.499</b>	<b>3.717</b>	<b>16.216</b>
<b>1997 6-Month Total</b> .....	<b>1.180</b>	<b>5.208</b>	<b>4.602</b>	<b>.018</b>	<b>.008</b>	<b>11.017</b>	<b>1.727</b>	<b>12.744</b>	<b>3.633</b>	<b>16.377</b>
<b>1996 6-Month Total</b> .....	<b>1.212</b>	<b>5.240</b>	<b>4.518</b>	<b>.018</b>	<b>.003</b>	<b>10.991</b>	<b>1.726</b>	<b>12.717</b>	<b>3.598</b>	<b>16.315</b>

<sup>a</sup> Includes supplemental gaseous fuels.  
<sup>b</sup> Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.  
R=Revised. E=Estimate. F=Forecast. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

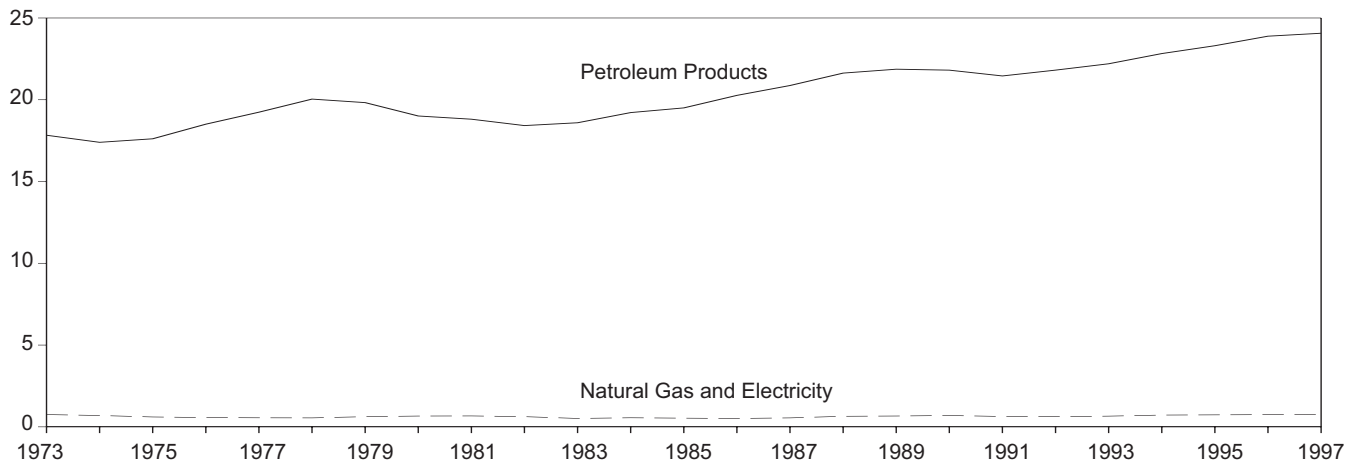
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See end of section.

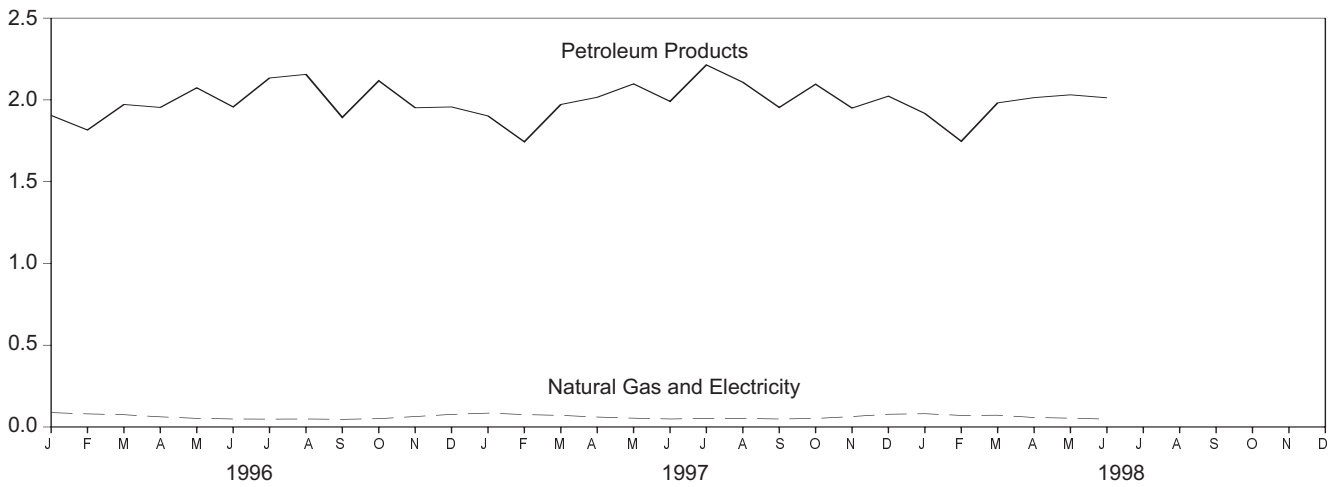
**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in this table. In 1997, for example, an estimated 2.6 quadrillion Btu of renewable energy used by the industrial sector (primarily the pulp and paper industry) is not included. See Note 12 at the end of section for details.

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

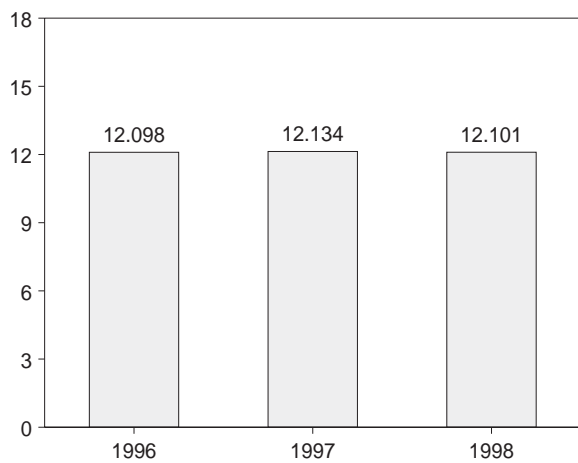
By Major Sources, 1973-1997



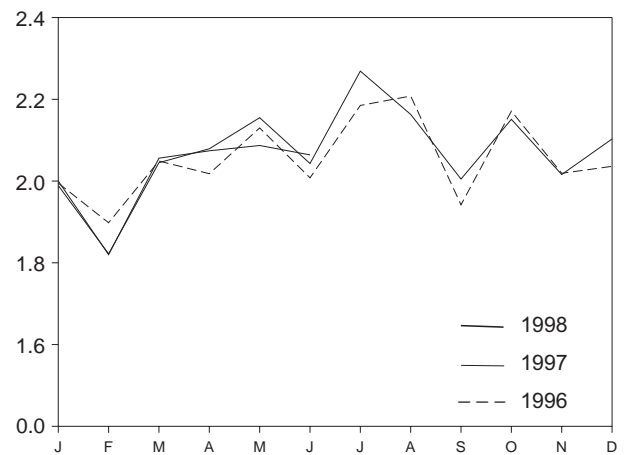
By Major Sources, Monthly



Total, January-June



Total, 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 Products <sup>b,c</sup>	Primary Consumption	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption
<b>1973 Total</b> .....	<b>0.003</b>	<b>0.743</b>	<b>17.831</b>	<b>18.576</b>	<b>0.008</b>	<b>18.584</b>	<b>0.020</b>	<b>18.605</b>
1974 Total .....	.002	.685	17.399	18.086	.009	18.095	.022	18.117
1975 Total .....	.001	.595	17.614	18.209	.010	18.219	.025	18.244
1976 Total .....	(s)	.559	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 .....	(d)	.539	20.041	20.580	.009	20.589	.022	20.611
1979 Total .....	(d)	.612	19.825	20.436	.010	20.447	.025	20.472
1980 Total .....	(d)	.650	19.008	19.658	.011	19.669	.026	19.695
1981 Total .....	(d)	.658	18.811	19.469	.011	19.480	.026	19.507
1982 Total .....	(d)	.612	18.420	19.032	.011	19.043	.026	19.069
1983 Total .....	(d)	.505	18.593	19.098	.011	19.109	.026	19.135
1984 Total .....	(d)	.545	19.216	19.761	.012	19.773	.028	19.801
1985 Total .....	(d)	.519	19.504	20.024	.013	20.036	.030	20.067
1986 Total .....	(d)	.499	20.269	20.768	.013	20.781	.031	20.812
1987 Total .....	(d)	.535	20.871	21.406	.013	21.419	.029	21.448
1988 Total .....	(d)	.632	21.629	22.260	.014	22.274	.031	22.305
1989 Total .....	(d)	.649	21.868	22.517	.014	22.530	.031	22.561
1990 Total .....	(d)	.680	21.810	22.490	.014	22.504	.031	22.535
1991 Total .....	(d)	.620	21.456	22.077	.014	22.091	.030	22.121
1992 Total .....	(d)	.606	21.812	22.419	.014	22.432	.029	22.462
1993 Total .....	(d)	.643	22.201	22.843	.013	22.857	.028	22.884
1994 Total .....	(d)	.707	22.824	23.531	.014	23.544	.028	23.573
1995 Total .....	(d)	.722	23.305	24.027	.013	24.040	.027	24.068
<b>1996 January</b> .....	(d)	.087	1.905	1.992	.001	1.993	.002	1.995
February .....	(d)	.079	1.816	1.895	.001	1.896	.002	1.898
March .....	(d)	.074	1.972	2.046	.001	2.047	.002	2.049
April .....	(d)	.061	1.954	2.015	.001	2.016	.002	2.018
May .....	(d)	.052	2.074	2.126	.001	2.127	.002	2.130
June .....	(d)	.048	1.957	2.004	.001	2.006	.002	2.008
July .....	(d)	.047	2.134	2.181	.001	2.182	.002	2.185
August .....	(d)	.048	2.156	2.204	.001	2.206	.003	2.208
September .....	(d)	.046	1.893	1.939	.001	1.940	.002	1.942
October .....	(d)	.050	2.117	2.167	.001	2.168	.002	2.171
November .....	(d)	.063	1.952	2.015	.001	2.016	.002	2.019
December .....	(d)	.076	1.957	2.033	.001	2.034	.002	2.036
<b>Total</b> .....	(d)	<b>.734</b>	<b>23.887</b>	<b>24.620</b>	<b>.013</b>	<b>24.634</b>	<b>.028</b>	<b>24.662</b>
<b>1997 January</b> .....	(d)	.084	1.902	1.986	.001	1.987	.002	1.989
February .....	(d)	.075	1.744	1.819	.001	1.820	.002	1.822
March .....	(d)	.070	1.972	2.042	.001	2.043	.002	2.045
April .....	(d)	.060	2.016	2.075	.001	<sup>R</sup> 2.077	.002	2.079
May .....	(d)	.053	2.098	2.151	.001	2.152	.002	2.155
June .....	(d)	.048	1.991	2.040	.001	2.041	.002	2.043
July .....	(d)	<sup>R</sup> .051	2.214	2.265	.001	2.266	.003	2.269
August .....	(d)	.051	2.108	2.159	.001	2.160	.003	2.163
September .....	(d)	.048	1.954	2.002	.001	2.003	.002	<sup>R</sup> 2.005
October .....	(d)	.051	2.096	2.147	.001	<sup>R</sup> 2.148	.002	2.151
November .....	(d)	.063	1.950	2.012	.001	2.014	.002	2.016
December .....	(d)	.077	2.023	2.100	.001	2.101	.002	2.103
<b>Total</b> .....	(d)	<b>.731</b>	<b>24.068</b>	<b>24.799</b>	<b>.013</b>	<sup>R</sup> <b>24.812</b>	<b>.028</b>	<b>24.841</b>
<b>1998 January</b> .....	(d)	.080	1.917	1.996	.001	1.998	.002	2.000
February .....	(d)	.070	1.747	1.817	.001	1.818	.002	1.820
March .....	(d)	<sup>R</sup> .071	1.982	2.052	.001	2.053	.002	<sup>R</sup> 2.056
April .....	(d)	<sup>R</sup> .057	2.014	2.071	.001	2.072	.002	2.074
May .....	(d)	<sup>R</sup> .053	2.031	<sup>R</sup> 2.084	.001	<sup>R</sup> 2.085	.002	<sup>R</sup> 2.087
June .....	(d)	<sup>F</sup> .047	2.013	2.060	.001	2.061	.003	2.064
<b>6-Month Total</b> .....	(d)	<sup>E</sup> .377	<b>11.703</b>	<b>12.080</b>	<b>.007</b>	<b>12.087</b>	<b>.014</b>	<b>12.101</b>
<b>1997 6-Month Total</b> .....	(d)	<b>.390</b>	<b>11.724</b>	<b>12.114</b>	<b>.006</b>	<b>12.120</b>	<b>.014</b>	<b>12.134</b>
<b>1996 6-Month Total</b> .....	(d)	<b>.400</b>	<b>11.678</b>	<b>12.078</b>	<b>.007</b>	<b>12.084</b>	<b>.014</b>	<b>12.098</b>

<sup>a</sup> Natural gas consumed in the operation of pipelines (primarily in compressors) and small amounts consumed as vehicle fuel. See Table 4.4.

<sup>b</sup> Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

<sup>c</sup> Includes small quantities (about 0.1 quadrillion Btu per year since 1990) of renewable energy in the form of ethanol blended into motor gasoline. See Note 12 at end of section.

<sup>d</sup> Since 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

<sup>R</sup>=Revised. <sup>E</sup>=Estimate. <sup>F</sup>=Forecast. (s)=Less than 0.5 trillion Btu.

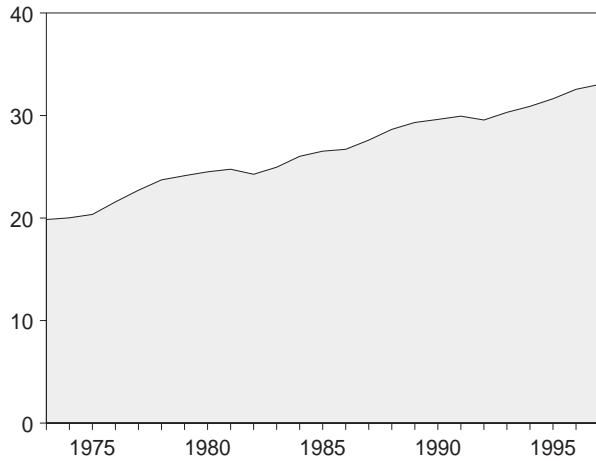
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See end of section.

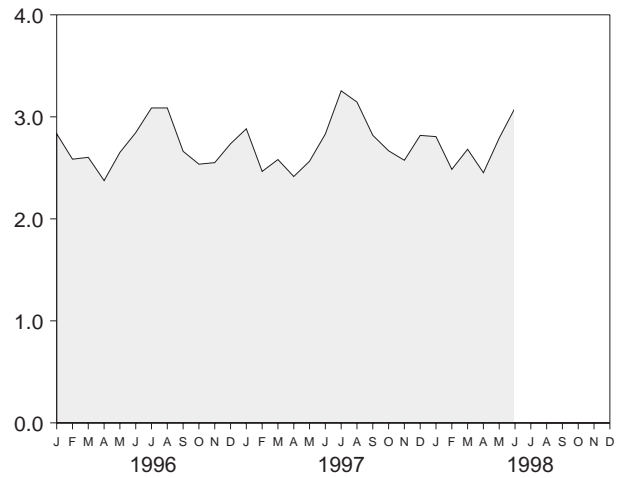


**Figure 2.5 Energy Input at Electric Utilities**  
(Quadrillion Btu)

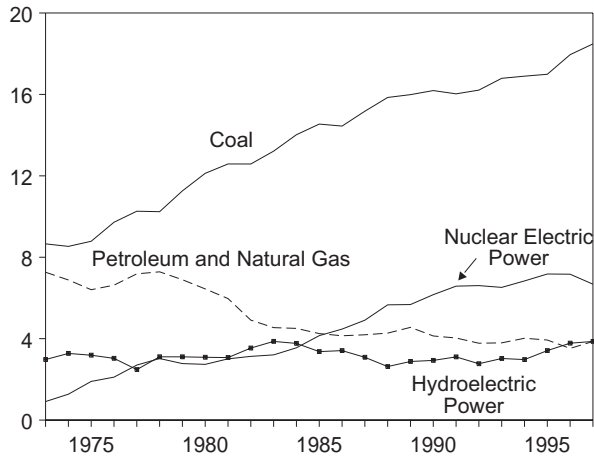
Total, 1973-1997



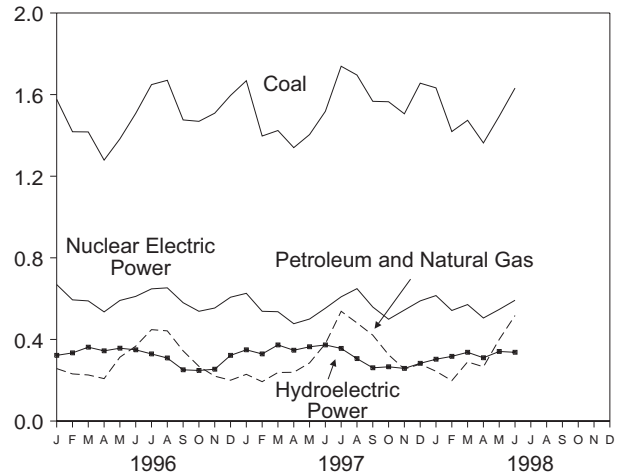
Total, Monthly



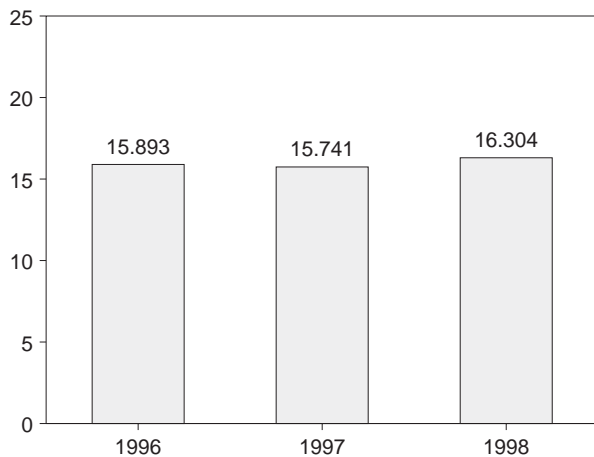
By Major Sources, 1973-1997



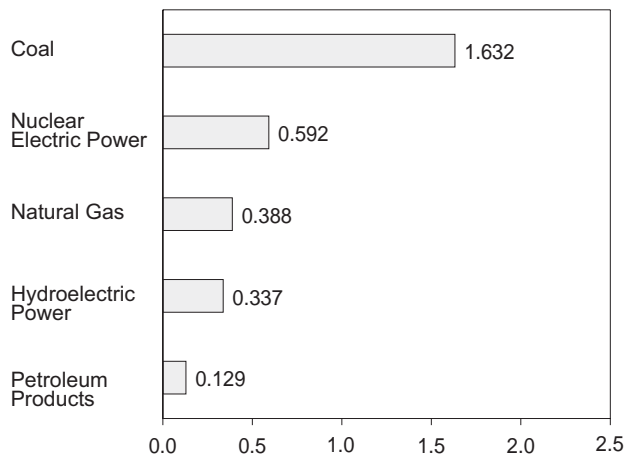
By Major Sources, Monthly



Total, January-June



By Major Sources, June 1998



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 Products <sup>b</sup>	Nuclear Electric Power	Hydro-electric Power <sup>c</sup>	Geothermal Energy	Other <sup>d</sup>	Total
<b>1973 Total</b> .....	<b>8.658</b>	<b>3.748</b>	<b>3.515</b>	<b>0.910</b>	<b>2.975</b>	<b>0.043</b>	<b>0.003</b>	<b>19.852</b>
<b>1974 Total</b> .....	<b>8.534</b>	<b>3.519</b>	<b>3.365</b>	<b>1.272</b>	<b>3.276</b>	<b>.053</b>	<b>.003</b>	<b>20.022</b>
<b>1975 Total</b> .....	<b>8.786</b>	<b>3.240</b>	<b>3.166</b>	<b>1.900</b>	<b>3.187</b>	<b>.070</b>	<b>.002</b>	<b>20.350</b>
<b>1976 Total</b> .....	<b>9.720</b>	<b>3.152</b>	<b>3.477</b>	<b>2.111</b>	<b>3.032</b>	<b>.078</b>	<b>.003</b>	<b>21.574</b>
<b>1977 Total</b> .....	<b>10.262</b>	<b>3.284</b>	<b>3.901</b>	<b>2.702</b>	<b>2.482</b>	<b>.077</b>	<b>.005</b>	<b>22.713</b>
<b>1978 Total</b> .....	<b>10.238</b>	<b>3.297</b>	<b>3.987</b>	<b>3.024</b>	<b>3.110</b>	<b>.064</b>	<b>.003</b>	<b>23.724</b>
<b>1979 Total</b> .....	<b>11.260</b>	<b>3.613</b>	<b>3.283</b>	<b>2.776</b>	<b>3.107</b>	<b>.084</b>	<b>.005</b>	<b>24.128</b>
<b>1980 Total</b> .....	<b>12.123</b>	<b>3.810</b>	<b>2.634</b>	<b>2.739</b>	<b>3.085</b>	<b>.110</b>	<b>.005</b>	<b>24.505</b>
<b>1981 Total</b> .....	<b>12.583</b>	<b>3.768</b>	<b>2.202</b>	<b>3.008</b>	<b>3.072</b>	<b>.123</b>	<b>.004</b>	<b>24.760</b>
<b>1982 Total</b> .....	<b>12.582</b>	<b>3.342</b>	<b>1.568</b>	<b>3.131</b>	<b>3.539</b>	<b>.105</b>	<b>.003</b>	<b>24.270</b>
<b>1983 Total</b> .....	<b>13.213</b>	<b>2.998</b>	<b>1.544</b>	<b>3.203</b>	<b>3.866</b>	<b>.129</b>	<b>.004</b>	<b>24.956</b>
<b>1984 Total</b> .....	<b>14.020</b>	<b>3.220</b>	<b>1.286</b>	<b>3.553</b>	<b>3.767</b>	<b>.165</b>	<b>.009</b>	<b>26.020</b>
<b>1985 Total</b> .....	<b>14.542</b>	<b>3.160</b>	<b>1.090</b>	<b>4.149</b>	<b>3.365</b>	<b>.198</b>	<b>.015</b>	<b>26.519</b>
<b>1986 Total</b> .....	<b>14.444</b>	<b>2.691</b>	<b>1.452</b>	<b>4.471</b>	<b>3.413</b>	<b>.219</b>	<b>.012</b>	<b>26.703</b>
<b>1987 Total</b> .....	<b>15.173</b>	<b>2.935</b>	<b>1.257</b>	<b>4.906</b>	<b>3.084</b>	<b>.229</b>	<b>.016</b>	<b>27.600</b>
<b>1988 Total</b> .....	<b>15.850</b>	<b>2.709</b>	<b>1.563</b>	<b>5.661</b>	<b>2.630</b>	<b>.217</b>	<b>.017</b>	<b>28.648</b>
<b>1989 Total</b> .....	<b>15.988</b>	<b>2.871</b>	<b>1.685</b>	<b>5.677</b>	<b>2.880</b>	<b>.197</b>	<b>.021</b>	<b>29.318</b>
<b>1990 Total</b> .....	<b>16.189</b>	<b>2.882</b>	<b>1.250</b>	<b>6.161</b>	<b>2.932</b>	<b>.181</b>	<b>.022</b>	<b>29.617</b>
<b>1991 Total</b> .....	<b>16.028</b>	<b>2.856</b>	<b>1.178</b>	<b>6.579</b>	<b>3.104</b>	<b>.170</b>	<b>.021</b>	<b>29.937</b>
<b>1992 Total</b> .....	<b>16.211</b>	<b>2.826</b>	<b>.951</b>	<b>6.607</b>	<b>2.770</b>	<b>.169</b>	<b>.022</b>	<b>29.557</b>
<b>1993 Total</b> .....	<b>16.790</b>	<b>2.741</b>	<b>1.052</b>	<b>6.519</b>	<b>3.026</b>	<b>.158</b>	<b>.021</b>	<b>30.307</b>
<b>1994 Total</b> .....	<b>16.895</b>	<b>3.053</b>	<b>.968</b>	<b>6.837</b>	<b>2.972</b>	<b>.145</b>	<b>.021</b>	<b>30.892</b>
<b>1995 Total</b> .....	<b>16.990</b>	<b>3.276</b>	<b>.658</b>	<b>7.177</b>	<b>3.413</b>	<b>.099</b>	<b>.017</b>	<b>31.632</b>
<b>1996 January</b> .....	<b>1.577</b>	<b>.172</b>	<b>.085</b>	<b>.669</b>	<b>.322</b>	<b>.007</b>	<b>.002</b>	<b>2.834</b>
February .....	1.418	.140	.091	.594	.334	.008	.001	2.585
March .....	1.417	.160	.066	.589	.362	.007	.002	2.603
April .....	1.279	.174	.034	.535	.344	.008	.001	2.375
May .....	1.383	.271	.042	.591	.357	.005	.001	2.651
June .....	1.508	.307	.060	.611	.349	.008	.002	2.845
July .....	1.649	.366	.082	.648	.329	.012	.002	3.087
August .....	1.670	.376	.066	.653	.309	.012	.002	3.087
September .....	1.476	.292	.052	.580	.251	.010	.002	2.662
October .....	1.469	.232	.036	.538	.248	.011	.002	2.536
November .....	1.509	.174	.046	.554	.254	.011	.002	2.551
December .....	1.596	.136	.064	.607	.322	.010	.002	2.736
<b>Total</b> .....	<b>17.953</b>	<b>2.798</b>	<b>.725</b>	<b>7.168</b>	<b>3.778</b>	<b>.110</b>	<b>.020</b>	<b>32.552</b>
<b>1997 January</b> .....	<b>1.668</b>	<b>.142</b>	<b>.087</b>	<b>.626</b>	<b>.349</b>	<b>.009</b>	<b>.002</b>	<b>2.883</b>
February .....	1.397	.147	.046	.538	.329	.006	.002	2.465
March .....	1.424	.194	.044	.536	.373	.009	.002	2.581
April .....	1.340	.198	.041	.477	.347	.010	.002	2.415
May .....	1.404	.237	.048	.500	.364	.010	.002	2.565
June .....	1.518	.305	.074	.553	.373	.008	.002	2.832
July .....	1.739	.440	.098	.609	.356	.011	.002	3.255
August .....	1.696	.400	.081	.649	.306	.011	.002	3.145
September .....	1.567	.341	.080	.559	.261	.010	.002	2.819
October .....	1.565	.250	.075	.499	.266	.010	.002	2.667
November .....	1.506	.184	.071	.544	.258	.010	.002	2.574
December .....	1.656	.202	.077	.589	.283	.011	.002	2.818
<b>Total</b> .....	<b>18.480</b>	<b>3.040</b>	<b>.822</b>	<b>6.678</b>	<b>3.864</b>	<b>.115</b>	<b>.021</b>	<b>33.019</b>
<b>1998 January</b> .....	<b>1.633</b>	<b>.175</b>	<b>.069</b>	<b>.615</b>	<b>.303</b>	<b>.010</b>	<b>.002</b>	<b>2.806</b>
February .....	1.419	.137	.061	.542	.317	.008	.001	2.485
March .....	1.474	.199	.091	.571	.337	.010	.002	2.682
April .....	1.363	.195	.071	.505	.310	.007	.002	2.452
May .....	1.494	.300	.100	.547	.341	.006	.002	2.792
June .....	1.632	.388	.129	.592	.337	.007	.001	3.087
<b>6-Month Total</b> .....	<b>9.015</b>	<b>1.394</b>	<b>.521</b>	<b>3.371</b>	<b>1.944</b>	<b>.049</b>	<b>.010</b>	<b>16.304</b>
<b>1997 6-Month Total</b> .....	<b>8.752</b>	<b>1.223</b>	<b>.340</b>	<b>3.229</b>	<b>2.135</b>	<b>.052</b>	<b>.010</b>	<b>15.741</b>
<b>1996 6-Month Total</b> .....	<b>8.583</b>	<b>1.223</b>	<b>.378</b>	<b>3.588</b>	<b>2.067</b>	<b>.044</b>	<b>.009</b>	<b>15.893</b>

<sup>a</sup> Includes supplemental gaseous fuels.  
<sup>b</sup> Includes residual and distillate fuel oils, petroleum coke, and small amounts of kerosene and jet fuel.  
<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.  
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
Additional Notes and Sources: See end of section.

**Please Read:** This table reports energy input at electric utilities and does not include data on nonutility power producers (NUPP). NUPP data are collected by EIA on an annual basis starting in 1989. See EIA's *Electric Power Annual 1996, Volume II*, "Nonutility Power Producers" chapter for additional information.

## 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 geothermal, wood, waste, 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. Nonutility 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 Federal Power Commission (FPC) 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 forward:** EIA, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants," and Form EIA-6, "Coal Distribution Report," quarterly.

## 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," quarterly.

**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*.

**1980-1996:** EIA, *Natural Gas Annual*.

**1997:** 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."

**1981-1996:** EIA, *Petroleum Supply Annual*.

**1997:** 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.*

For 1973-1979, consumption of distillate fuel is assumed to be the amount of petroleum (minus small amounts of kerosene and kerosene-type jet fuel deliveries) consumed in gas turbine and internal combustion plants. For 1980 forward, consumption of distillate fuel is assumed to be the amount of light oil (minus small amounts of kerosene deliveries through 1982) consumed at electric utilities. (See Table 7.3)

### 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 1995.*

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* 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, commercial, 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 1995.***

- Residential and commercial monthly consumption is estimated by allocating the annual estimates, which are described above, into the months in proportion to each month's share of the year's sales of No. 2 heating oil. The years' sales totals are from the following sources: for 1973-1980, the Ethyl Corporation, *Monthly Report of Heating Oil Sales*; for 1981 and 1982, the American Petroleum Institute, *Monthly Report of Heating Oil Sales*; and for 1983-1995, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale.

- 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." After 1993, the sales-for-highway-use data are no longer available as a monthly series; the 1993 data are used for allocating succeeding year's totals into 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, 1996 Forward.***

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 1995.

- **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* reports (based primarily on data collected by Form EIA-821, previously Form EIA-172), as follows:

- Residential deliveries are taken directly from the *Sales* reports for 1979-1995. Sales for 1995 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 1979-1995. Sales for 1995 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 1979-1995. Sales for 1995 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 low of 37 percent in 1987 to a high of 73 percent in 1994.

- 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.

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.

**1984-1994:** 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.

**1994-1997:** The 1993 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.*

For 1973-1979, consumption of residual fuel is assumed to be the amount of petroleum consumed in steam-electric power plants. For 1980 forward, consumption of residual fuel is assumed to be the amount of heavy oil consumed at electric utilities. (See Table 7.3)

#### **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 1995.*

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* 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 1995.***

- Commercial monthly consumption is estimated by allocating the annual estimates, which are described above, into the months in proportion to each month's share of the year's sales of No. 2 heating oil. The years' sales totals are from the following sources: for 1973-1980, the Ethyl Corporation, *Monthly Report of Heating Oil Sales*; for 1981 and 1982, the American Petroleum Institute, *Monthly Report of Heating Oil Sales*; and for 1983-1995, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale.

- 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, 1996 Forward.***

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 1995.

- **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."

**1989-1993:** DOE, Assistant Secretary for Fossil Energy, Form FE-781-R, "Annual Report of International Electrical Export/Import Data."

**1994 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 percent used by railroads and railways and attributed to the transportation sector. 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.

**12. Renewable Energy:** *Monthly Energy Review (MER)* consumption and production totals currently capture about half of estimated total renewable energy resources. Coverage is complete for the electric utilities as reported under “Hydroelectric Power,” “Geothermal Energy,” and “Other” on Table 2.6. Small amounts of hydroelectric power (about 0.04 quadrillion Btu in 1997) included on Table 2.6 are used at pumped storage facilities and are not considered renewable. Small quantities of ethanol (about 0.10 quadrillion Btu in 1997) are blended into motor gasoline, which are accounted for under “Petroleum Products” on Table 2.5 for the transportation sector.

Renewable energy used by residential, commercial, and industrial consumers is not currently included in the *MER* data series because consistent monthly series are not available. On an annual basis, the estimated quantities in quadrillion Btu are:

Year	Residential and Commercial			Industrial					
	Biofuels	Solar Energy	Total	Biofuels	Geothermal Energy	Conventional Hydroelectric Power	Solar Energy	Wind Energy	Total
1990	0.581	0.056	<b>0.645</b>	1.948	0.155	0.085	0.007	0.023	<b>2.217</b>
1991	0.613	0.058	<b>0.680</b>	1.943	0.170	0.085	0.008	0.027	<b>2.234</b>
1992	0.645	0.060	<b>0.714</b>	2.042	0.182	0.098	0.008	0.030	<b>2.360</b>
1993	0.592	0.062	<b>0.664</b>	2.084	0.206	0.119	0.009	0.031	<b>2.449</b>
1994	0.582	0.064	<b>0.656</b>	2.138	0.214	0.136	0.008	0.036	<b>2.533</b>
1995	0.641	0.065	<b>0.717</b>	2.084	0.210	0.152	0.008	0.033	<b>2.487</b>
1996	0.644	0.066	<b>0.722</b>	2.200	0.217	0.171	0.009	0.035	<b>2.633</b>
1997 <sup>E</sup>	0.475	0.065	<b>0.553</b>	2.132	0.238	0.193	0.010	0.039	<b>2.612</b>

E=Estimate.

Source: Energy Information Administration, *Annual Energy Review 1997* (July 1998), Table 10.2.

Note: See the inside front cover of the *Monthly Energy Review* for information about ordering EIA reports, or, for direct access to several reports on the subject of renewable energy, go to our Web site at <http://www.eia.doe.gov> and tap “Renewables” under “Fuel Groups.”





## Section 3. Petroleum

Total petroleum imports<sup>1</sup> averaged 11.1 million barrels per day in August 1998, 1 percent lower than the previous month's rate but 6 percent higher than the August 1997 rate.

In August 1998, 19.4 million barrels per day of petroleum products were supplied for domestic use, 5 percent higher than the August 1997 rate. Motor gasoline accounted for 44 percent of the total; distillate fuel oil, 18 percent; and kerosene-type jet fuel, 8 percent.

Motor gasoline supplied during August 1998 averaged 8.6 million barrels per day, 1 percent lower than the previous month's rate but 4 percent higher than the August 1997 rate. Total motor gasoline stocks were 208 million barrels at the end of August 1998, 7 million barrels below the stock level in the previous month but 21 million barrels above the level 1 year earlier.

Distillate fuel oil supplied during August 1998 averaged 3.5 million barrels per day, 6 percent higher than the previous month's rate and 13 percent higher than the August 1997 rate. Distillate fuel oil ending stocks for August 1998 were 144 million barrels, 5 million barrels below the stock level in the previous month but 11 million barrels above the level 1 year earlier.

Kerosene-type jet fuel supplied in August 1998 averaged 1.5 million barrels per day, 2 percent lower than the previous month's rate and 7 percent lower than the August 1997 rate. Kerosene-type jet fuel stocks measured 44 million barrels at the end of August 1998, 2 million barrels above the stock level in the previous month and 1 million barrels above the 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 May 1998.

<sup>1</sup>Total import data include imports into the Strategic Petroleum Reserve.

**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 Liquids	Crude Oil <sup>d</sup>	Petroleum Products		Crude Oil <sup>d</sup> and Petroleum Products
							Million Barrels
Thousand Barrels per Day							Million Barrels
<b>1973 Average</b> .....	<b>10,975</b>	<b>9,208</b>	<b>1,738</b>	<b>-11</b>	<b>146</b>	<b>17,308</b>	<b>1,008</b>
<b>1974 Average</b> .....	<b>10,498</b>	<b>8,774</b>	<b>1,688</b>	<b>62</b>	<b>117</b>	<b>16,653</b>	<sup>e</sup> <b>1,074</b>
<b>1975 Average</b> .....	<b>10,045</b>	<b>8,375</b>	<b>1,633</b>	<sup>e</sup> <b>17</b>	<sup>e</sup> <b>15</b>	<b>16,322</b>	<b>1,133</b>
<b>1976 Average</b> .....	<b>9,774</b>	<b>8,132</b>	<sup>f</sup> <b>1,604</b>	<b>39</b>	<b>-96</b>	<b>17,461</b>	<b>1,112</b>
<b>1977 Average</b> .....	<b>9,913</b>	<b>8,245</b>	<b>1,618</b>	<b>170</b>	<b>378</b>	<b>18,431</b>	<b>1,312</b>
<b>1978 Average</b> .....	<b>10,328</b>	<b>8,707</b>	<b>1,567</b>	<b>78</b>	<b>-172</b>	<b>18,847</b>	<b>1,278</b>
<b>1979 Average</b> .....	<b>10,179</b>	<b>8,552</b>	<b>1,584</b>	<b>148</b>	<b>25</b>	<b>18,513</b>	<b>1,341</b>
<b>1980 Average</b> .....	<b>10,214</b>	<b>8,597</b>	<b>1,573</b>	<b>98</b>	<b>42</b>	<b>17,056</b>	<sup>e</sup> <b>1,392</b>
<b>1981 Average</b> .....	<b>10,230</b>	<b>8,572</b>	<b>1,609</b>	<sup>e</sup> <b>290</b>	<sup>e</sup> <b>-130</b>	<b>16,058</b>	<b>1,484</b>
<b>1982 Average</b> .....	<b>10,252</b>	<b>8,649</b>	<b>1,550</b>	<b>136</b>	<b>-283</b>	<b>15,296</b>	<sup>e</sup> <b>1,430</b>
<b>1983 Average</b> .....	<b>10,299</b>	<b>8,688</b>	<b>1,559</b>	<sup>e</sup> <b>214</b>	<sup>e</sup> <b>-234</b>	<b>15,231</b>	<b>1,454</b>
<b>1984 Average</b> .....	<b>10,554</b>	<b>8,879</b>	<b>1,630</b>	<b>199</b>	<b>81</b>	<b>15,726</b>	<b>1,556</b>
<b>1985 Average</b> .....	<b>10,636</b>	<b>8,971</b>	<b>1,609</b>	<b>50</b>	<b>-153</b>	<b>15,726</b>	<b>1,519</b>
<b>1986 Average</b> .....	<b>10,289</b>	<b>8,680</b>	<b>1,551</b>	<b>78</b>	<b>124</b>	<b>16,281</b>	<b>1,593</b>
<b>1987 Average</b> .....	<b>10,008</b>	<b>8,349</b>	<b>1,595</b>	<b>128</b>	<b>-87</b>	<b>16,665</b>	<b>1,607</b>
<b>1988 Average</b> .....	<b>9,818</b>	<b>8,140</b>	<b>1,625</b>	<b>1</b>	<b>-29</b>	<b>17,283</b>	<b>1,597</b>
<b>1989 Average</b> .....	<b>9,219</b>	<b>7,613</b>	<b>1,546</b>	<b>86</b>	<b>-129</b>	<b>17,325</b>	<b>1,581</b>
<b>1990 Average</b> .....	<b>8,994</b>	<b>7,355</b>	<b>1,559</b>	<b>-35</b>	<b>142</b>	<b>16,988</b>	<b>1,621</b>
<b>1991 Average</b> .....	<b>9,168</b>	<b>7,417</b>	<b>1,659</b>	<b>-42</b>	<b>32</b>	<b>16,714</b>	<b>1,617</b>
<b>1992 Average</b> .....	<b>8,996</b>	<b>7,171</b>	<b>1,697</b>	<b>-1</b>	<b>-68</b>	<b>17,033</b>	<sup>e</sup> <b>1,592</b>
<b>1993 Average</b> .....	<sup>g</sup> <b>8,836</b>	<b>6,847</b>	<b>1,736</b>	<b>81</b>	<sup>e</sup> <b>70</b>	<b>17,237</b>	<sup>e</sup> <b>1,647</b>
<b>1994 Average</b> .....	<b>8,645</b>	<b>6,662</b>	<b>1,727</b>	<b>18</b>	<b>-2</b>	<b>17,718</b>	<b>1,653</b>
<b>1995 Average</b> .....	<b>8,626</b>	<b>6,560</b>	<b>1,762</b>	<b>-93</b>	<b>-153</b>	<b>17,725</b>	<b>1,563</b>
<b>1996</b> January .....	8,564	6,495	1,716	-8	-592	18,261	1,544
February .....	8,558	6,577	1,680	-63	-1,454	18,620	1,500
March .....	8,718	6,571	1,814	-132	-464	18,301	1,482
April .....	8,597	6,444	1,845	29	633	17,885	1,502
May .....	8,502	6,394	1,806	2	576	17,957	1,520
June .....	8,550	6,458	1,833	305	593	18,107	1,546
July .....	8,486	6,338	1,829	-244	358	18,211	1,550
August .....	8,535	6,360	1,858	-19	-130	18,658	1,545
September .....	8,623	6,482	1,872	-499	701	17,655	1,551
October .....	8,685	6,481	1,912	186	-630	19,171	1,538
November .....	8,730	6,476	1,915	-414	-117	18,535	1,522
December .....	8,738	6,506	1,876	-627	165	18,334	1,507
<b>Average</b> .....	<b>8,607</b>	<b>6,465</b>	<b>1,830</b>	<b>-124</b>	<b>-28</b>	<b>18,309</b>	<b>1,507</b>
<b>1997</b> January .....	8,470	6,402	1,782	462	-679	18,554	1,501
February .....	8,708	6,514	1,867	-122	-557	18,398	1,482
March .....	8,646	6,452	1,876	520	444	17,863	1,512
April .....	8,604	6,441	1,824	197	4	18,559	1,518
May .....	8,633	6,474	1,822	230	1,172	18,293	1,561
June .....	8,610	6,442	1,827	-199	658	18,617	1,575
July .....	8,608	6,409	1,821	-343	-167	19,107	1,559
August .....	8,535	6,347	1,831	-283	643	18,565	1,570
September .....	8,679	6,486	1,845	95	642	18,562	1,592
October .....	8,624	6,467	1,813	393	-214	19,071	1,598
November .....	8,565	6,459	1,728	252	-195	18,578	1,600
December .....	8,662	6,531	1,773	-608	-675	19,250	1,560
<b>Average</b> .....	<b>8,611</b>	<b>6,452</b>	<b>1,817</b>	<b>51</b>	<b>93</b>	<b>18,620</b>	<b>1,560</b>
<b>1998</b> January .....	<sup>E</sup> 8,644	<sup>E</sup> 6,438	1,826	522	-64	18,256	1,576
February .....	<sup>E</sup> 8,759	<sup>E</sup> 6,538	1,870	49	-169	18,322	1,572
March .....	<sup>E</sup> 8,608	<sup>E</sup> 6,465	1,846	457	59	18,393	1,588
April .....	<sup>E</sup> 8,656	<sup>E</sup> 6,484	1,859	492	358	18,624	1,614
May .....	<sup>E</sup> 8,515	<sup>E</sup> 6,384	1,808	47	1,247	17,876	1,654
June .....	<sup>E</sup> 8,466	<sup>E</sup> 6,290	1,734	-656	642	18,818	1,654
July .....	<sup>RE</sup> 8,295	<sup>RE</sup> 6,322	<sup>R</sup> 1,580	<sup>R</sup> 200	<sup>R</sup> 152	<sup>R</sup> 19,140	<sup>R</sup> 1,665
August .....	<sup>E</sup> 8,468	<sup>PE</sup> 6,331	<sup>E</sup> 1,798	<sup>E</sup> -388	<sup>E</sup> 138	<sup>E</sup> 19,429	<sup>E</sup> 1,656
<b>8-Month Average</b> .....	<sup>E</sup> <b>8,549</b>	<sup>PE</sup> <b>6,405</b>	<sup>E</sup> <b>1,789</b>	<sup>E</sup> <b>93</b>	<sup>E</sup> <b>299</b>	<sup>E</sup> <b>18,610</b>	<sup>E</sup> <b>1,656</b>
<b>1997 8-Month Average</b> .....	<b>8,600</b>	<b>6,434</b>	<b>1,831</b>	<b>60</b>	<b>198</b>	<b>18,495</b>	<b>1,570</b>
<b>1996 8-Month Average</b> .....	<b>8,564</b>	<b>6,454</b>	<b>1,798</b>	<b>-17</b>	<b>-54</b>	<b>18,249</b>	<b>1,545</b>

<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. 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*, September 1998, 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						
<b>1973 Average</b> .....	6,256	3,244	3,012	231	2	229	6,025
<b>1974 Average</b> .....	6,112	3,477	2,635	221	3	218	5,892
<b>1975 Average</b> .....	6,056	4,105	1,951	209	6	204	5,846
<b>1976 Average</b> .....	7,313	5,287	2,026	223	8	215	7,090
<b>1977 Average</b> .....	8,807	6,615	2,193	243	50	193	8,565
<b>1978 Average</b> .....	8,363	6,356	2,008	362	158	204	8,002
<b>1979 Average</b> .....	8,456	6,519	1,937	<sup>c</sup> 471	235	<sup>c</sup> 236	<sup>c</sup> 7,985
<b>1980 Average</b> .....	6,909	5,263	1,646	544	287	258	6,365
<b>1981 Average</b> .....	5,996	4,396	1,599	595	228	367	5,401
<b>1982 Average</b> .....	5,113	3,488	1,625	815	236	579	4,298
<b>1983 Average</b> .....	5,051	3,329	1,722	739	164	575	4,312
<b>1984 Average</b> .....	5,437	3,426	2,011	722	181	541	4,715
<b>1985 Average</b> .....	5,067	3,201	1,866	781	204	577	4,286
<b>1986 Average</b> .....	6,224	4,178	2,045	785	154	631	5,439
<b>1987 Average</b> .....	6,678	4,674	2,004	764	151	613	5,914
<b>1988 Average</b> .....	7,402	5,107	2,295	815	155	661	6,587
<b>1989 Average</b> .....	8,061	5,843	2,217	859	142	717	7,202
<b>1990 Average</b> .....	8,018	5,894	2,123	857	109	748	7,161
<b>1991 Average</b> .....	7,627	5,782	1,844	1,001	116	885	6,626
<b>1992 Average</b> .....	7,888	6,083	1,805	950	89	861	6,938
<b>1993 Average</b> .....	8,620	6,787	1,833	1,003	98	904	7,618
<b>1994 Average</b> .....	8,996	7,063	1,933	942	99	843	8,054
<b>1995 Average</b> .....	8,835	7,230	1,605	949	95	855	7,886
<b>1996</b> January .....	9,364	7,303	2,061	1,070	89	981	8,294
February .....	8,390	6,612	1,778	1,048	92	956	7,342
March .....	9,092	7,215	1,877	867	94	773	8,225
April .....	9,429	7,371	2,058	976	148	828	8,453
May .....	10,007	8,029	1,977	891	37	854	9,116
June .....	9,938	7,958	1,980	895	130	766	9,043
July .....	9,820	7,800	2,020	945	139	806	8,876
August .....	9,986	8,041	1,944	896	44	852	9,090
September .....	9,142	7,353	1,789	1,104	147	957	8,038
October .....	9,837	7,701	2,136	1,045	134	911	8,792
November .....	9,244	7,344	1,900	1,024	172	852	8,220
December .....	9,417	7,307	2,110	1,013	96	917	8,404
<b>Average</b> .....	<b>9,478</b>	<b>7,508</b>	<b>1,971</b>	<b>981</b>	<b>110</b>	<b>871</b>	<b>8,498</b>
<b>1997</b> January .....	9,763	7,492	2,271	1,038	141	897	8,725
February .....	9,561	7,434	2,127	1,017	229	787	8,544
March .....	9,833	7,754	2,079	933	136	796	8,900
April .....	10,114	7,987	2,127	937	92	845	9,177
May .....	10,818	8,653	2,165	876	26	851	9,941
June .....	10,736	8,759	1,978	955	57	898	9,782
July .....	10,008	8,178	1,830	1,012	70	942	8,996
August .....	10,465	8,621	1,844	1,074	110	964	9,390
September .....	10,537	8,840	1,697	997	122	875	9,540
October .....	10,792	8,927	1,865	1,066	152	914	9,726
November .....	9,948	8,366	1,582	934	32	901	9,014
December .....	9,328	7,653	1,675	1,197	131	1,066	8,130
<b>Average</b> .....	<b>10,162</b>	<b>8,225</b>	<b>1,936</b>	<b>1,003</b>	<b>108</b>	<b>896</b>	<b>9,158</b>
<b>1998</b> January .....	9,893	8,185	1,708	1,083	231	852	8,811
February .....	9,577	7,770	1,807	957	197	760	8,620
March .....	9,694	7,989	1,705	919	99	820	8,775
April .....	10,398	8,523	1,874	1,029	163	866	9,369
May .....	10,903	8,957	1,945	1,027	144	883	9,876
June .....	10,702	8,725	1,977	987	63	924	9,715
July .....	<sup>R</sup> 11,151	<sup>R</sup> 9,309	<sup>R</sup> 1,842	<sup>R</sup> 998	<sup>R</sup> 104	<sup>R</sup> 894	<sup>R</sup> 10,152
August .....	<sup>E</sup> 11,064	<sup>E</sup> 9,301	<sup>E</sup> 1,763	<sup>E</sup> 968	<sup>E</sup> 106	<sup>E</sup> 862	<sup>E</sup> 10,096
<b>8-Month Average</b> .....	<sup>E</sup> <b>10,432</b>	<sup>E</sup> <b>8,605</b>	<sup>E</sup> <b>1,827</b>	<sup>E</sup> <b>996</b>	<sup>E</sup> <b>138</b>	<sup>E</sup> <b>859</b>	<sup>E</sup> <b>9,436</b>
<b>1997 8-Month Average</b> .....	<b>10,167</b>	<b>8,116</b>	<b>2,052</b>	<b>980</b>	<b>107</b>	<b>874</b>	<b>9,187</b>
<b>1996 8-Month Average</b> .....	<b>9,511</b>	<b>7,548</b>	<b>1,963</b>	<b>948</b>	<b>96</b>	<b>851</b>	<b>8,563</b>

<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. E=Estimate.

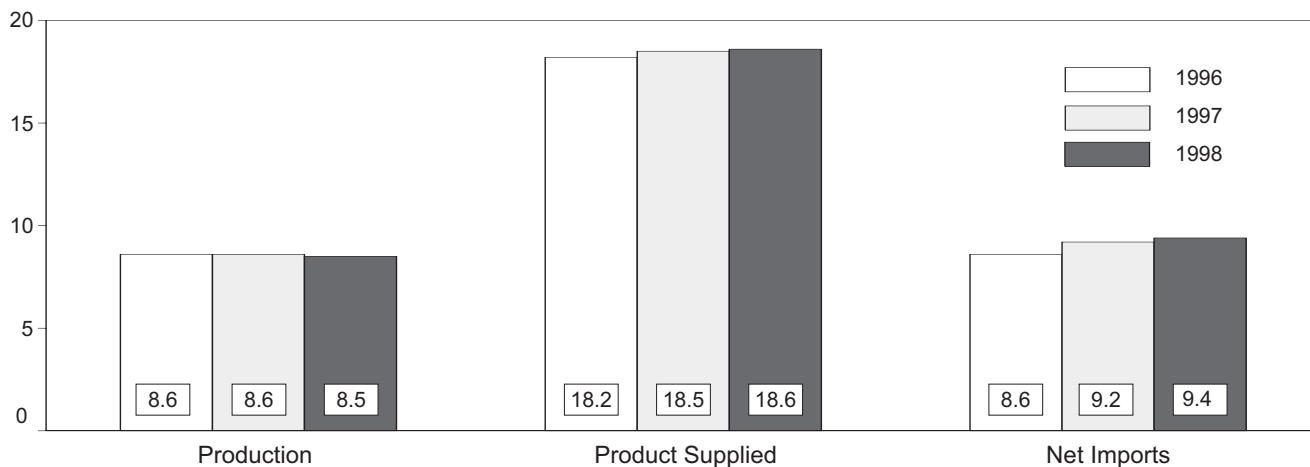
Notes: • Crude oil includes lease condensate. • Totals may not equal sum

of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

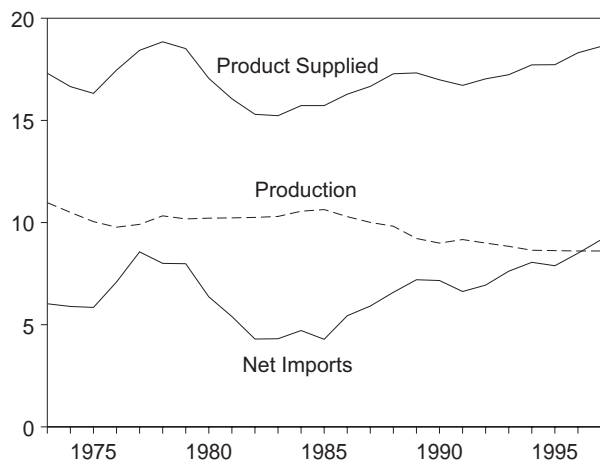
Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S1. • **1981 forward:** EIA, *Petroleum Supply Monthly*, September 1998, Table S1.

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

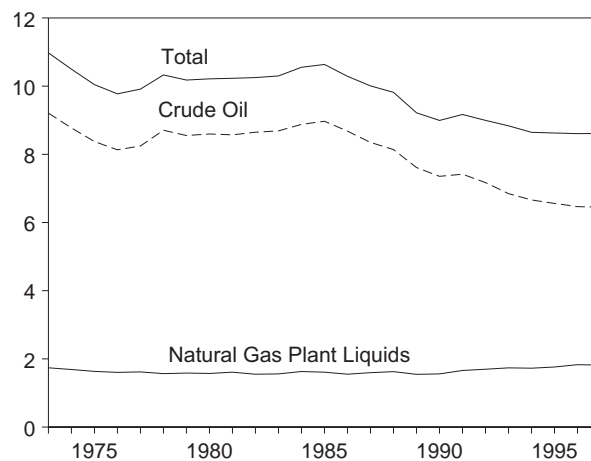
Overview, January-August



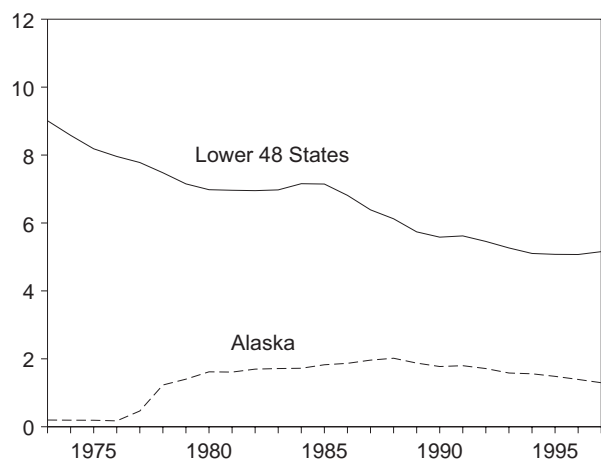
Overview, 1973-1997



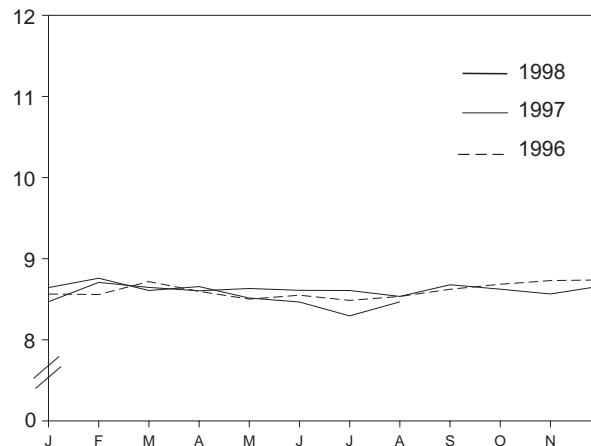
Production, 1973-1997



Crude Oil Production, 1973-1997



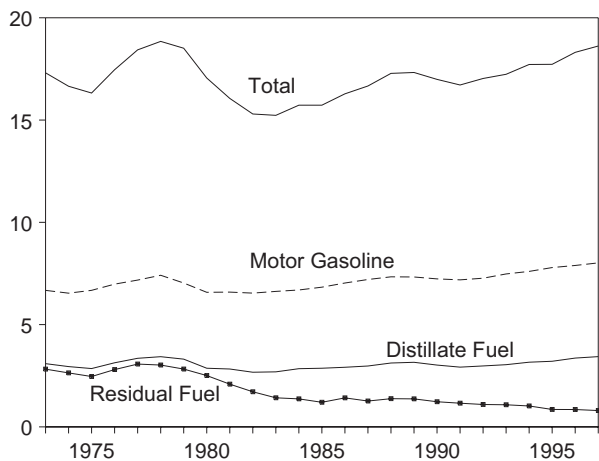
Total Production, Monthly



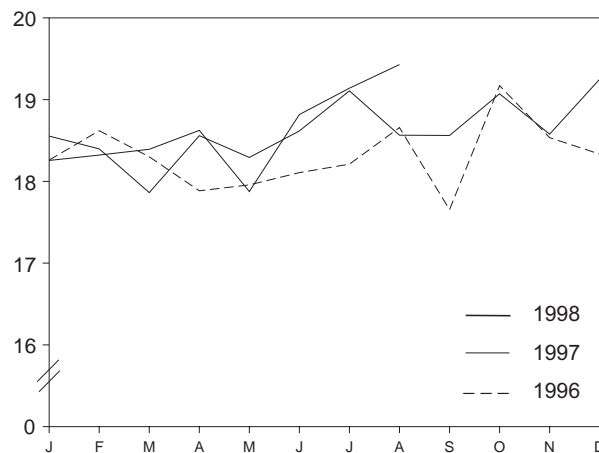
Note: Because vertical scales differ, graphs should not be compared.  
Sources: Tables 3.1a, 3.1b, and 3.2a.

**Figure 3.1 Petroleum Overview (Continued)**  
(Million Barrels per Day, Except as Noted)

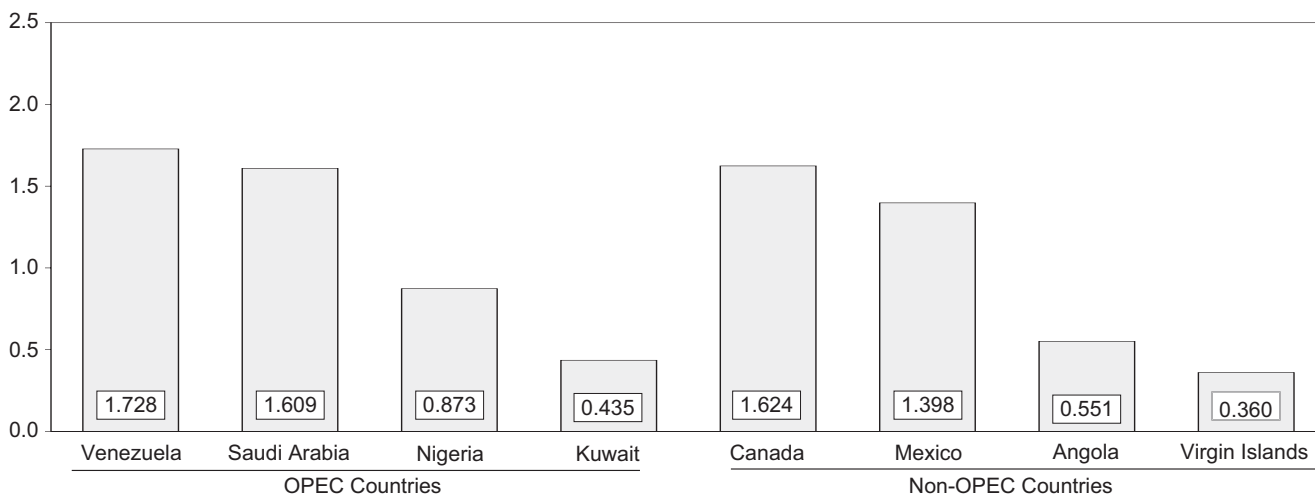
Product Supplied, 1973-1997



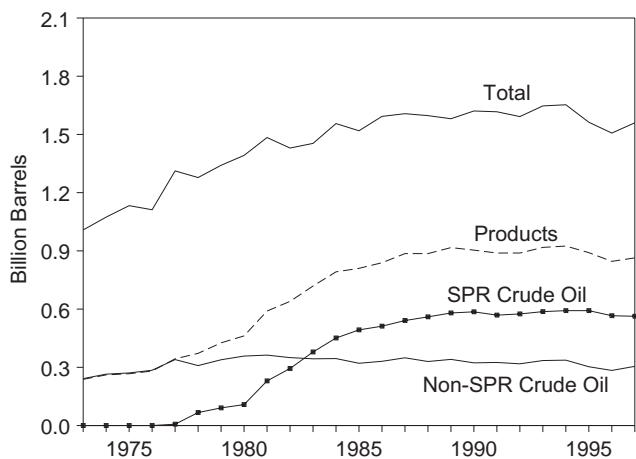
Product Supplied, Monthly



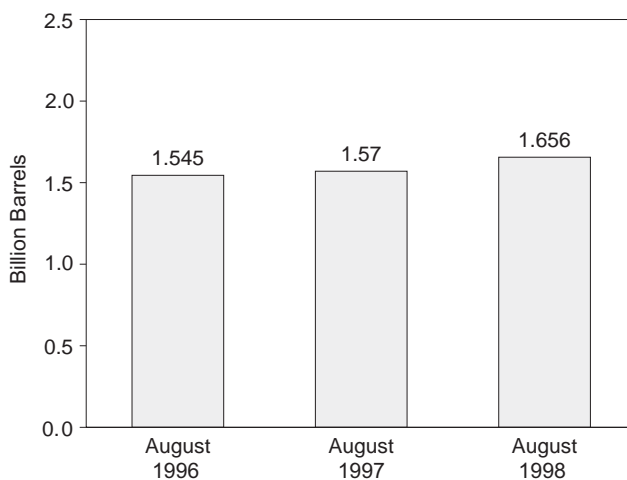
Imports from Selected Countries, July 1998



Stocks, End of Year, 1973-1997



Total 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						
	Field Production		Imports			Unaccounted-for Crude Oil <sup>b</sup>	Crude Oil Used Directly <sup>c</sup>
	Total Domestic	Alaskan	Total	SPR <sup>a</sup>	Other		
	Thousand Barrels per Day						
1973 Average	9,208	198	3,244	—	3,244	3	-19
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	<sup>d</sup> -19
1977 Average	8,245	464	6,615	21	6,594	-6	-14
1978 Average	8,707	1,229	6,356	<sup>d</sup> 161	6,195	-57	<sup>d</sup> -15
1979 Average	8,552	1,401	6,519	67	6,452	-11	<sup>d</sup> -14
1980 Average	8,597	1,617	5,263	44	5,219	34	<sup>d</sup> -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	196	—
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 Average	7,171	1,714	6,083	10	6,073	258	—
1993 Average	6,847	1,582	6,787	15	6,772	168	—
1994 Average	6,662	1,559	7,063	12	7,051	266	—
1995 Average	6,560	1,484	7,230	0	7,230	193	—
1996 January	6,495	1,444	7,303	0	7,303	20	—
February	6,577	1,482	6,612	0	6,612	413	—
March	6,571	1,454	7,215	0	7,215	-25	—
April	6,444	1,367	7,371	0	7,371	665	—
May	6,394	1,341	8,029	0	8,029	61	—
June	6,458	1,419	7,958	0	7,958	594	—
July	6,338	1,317	7,800	0	7,800	121	—
August	6,360	1,327	8,041	0	8,041	54	—
September	6,482	1,401	7,353	0	7,353	303	—
October	6,481	1,379	7,701	0	7,701	420	—
November	6,476	1,403	7,344	0	7,344	148	—
December	6,506	1,392	7,307	0	7,307	-153	—
Average	6,465	1,393	7,508	0	7,508	215	—
1997 January	6,402	1,380	7,492	0	7,492	378	—
February	6,514	1,384	7,434	0	7,434	-350	—
March	6,452	1,331	7,754	0	7,754	501	—
April	6,441	1,330	7,987	0	7,987	167	—
May	6,474	1,303	8,653	0	8,653	257	—
June	6,442	1,260	8,759	0	8,759	-170	—
July	6,409	1,238	8,178	0	8,178	136	—
August	6,347	1,200	8,621	0	8,621	130	—
September	6,486	1,276	8,840	0	8,840	199	—
October	6,467	1,286	8,927	0	8,927	5	—
November	6,459	1,278	8,366	0	8,366	164	—
December	6,531	1,290	7,653	0	7,653	267	—
Average	6,452	1,296	8,225	0	8,225	145	—
1998 January	<sup>E</sup> 6,438	<sup>E</sup> 1,229	8,185	0	8,185	441	—
February	<sup>E</sup> 6,538	<sup>E</sup> 1,238	7,770	0	7,770	-27	—
March	<sup>E</sup> 6,465	<sup>E</sup> 1,221	7,989	0	7,989	692	—
April	<sup>E</sup> 6,484	<sup>E</sup> 1,200	8,523	0	8,523	609	—
May	<sup>E</sup> 6,384	<sup>E</sup> 1,173	8,957	0	8,957	-46	—
June	<sup>E</sup> 6,290	<sup>E</sup> 1,135	8,725	0	8,725	-240	—
July	<sup>RE</sup> 6,322	<sup>RE</sup> 1,155	<sup>R</sup> 9,309	0	<sup>R</sup> 9,309	<sup>R</sup> 170	—
August	<sup>PE</sup> 6,331	<sup>PE</sup> 1,113	<sup>E</sup> 9,301	<sup>E</sup> 0	<sup>E</sup> 9,301	<sup>E</sup> -292	—
8-Month Average	<sup>PE</sup> 6,405	<sup>PE</sup> 1,183	<sup>E</sup> 8,605	<sup>E</sup> 0	<sup>E</sup> 8,605	<sup>E</sup> 166	—
1997 8-Month Average	6,434	1,302	8,116	0	8,116	138	—
1996 8-Month Average	6,454	1,393	7,548	0	7,548	233	—

<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. —=Not applicable. E=Estimate.

Notes: • Crude oil includes lease condensate. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S2. • 1981 forward: EIA, *Petroleum Supply Monthly*, September 1998, 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	SPR <sup>c</sup>	Other Primary
		SPR <sup>c</sup>	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	<sup>e</sup> 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	-	376	67	309
1979 Average	16	67	81	14,648	235	-	430	91	339
1980 Average	<sup>e</sup> 14	45	52	13,481	287	-	<sup>f</sup> 466	108	<sup>f</sup> 358
1981 Average	5	336	<sup>f</sup> -46	12,470	228	-	594	230	363
1982 Average	3	174	-38	11,774	236	-	<sup>g</sup> 644	294	<sup>g</sup> 350
1983 Average	2	234	<sup>g</sup> -20	11,685	164	66	723	379	344
1984 Average	2	195	4	12,044	181	64	796	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	12,854	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 Average	(s)	17	-18	13,411	89	13	893	575	318
1993 Average	(s)	34	47	13,613	98	10	922	587	335
1994 Average	(s)	13	5	13,866	99	9	929	592	337
1995 Average	(s)	(s)	-93	13,973	95	7	895	592	303
1996 January	0	(s)	-8	13,728	89	11	895	592	303
February	0	(s)	-62	13,564	92	8	893	592	301
March	0	-80	-52	13,793	94	7	889	589	300
April	(s)	-88	117	14,295	148	6	890	586	303
May	0	-22	24	14,439	37	7	890	586	304
June	0	-45	350	14,569	130	6	899	584	314
July	(s)	-50	-194	14,359	139	5	891	583	308
August	0	-172	153	14,424	44	6	891	578	313
September	0	-130	-368	14,484	147	6	876	574	302
October	0	-1	187	14,277	134	5	882	574	308
November	0	-127	-288	14,204	172	5	869	570	299
December	0	-129	-498	14,185	96	6	850	566	284
Average	(s)	-71	-53	14,195	110	6	850	566	284
1997 January	0	-75	537	13,664	141	5	864	563	301
February	0	(s)	-121	13,485	229	6	861	563	297
March	0	(s)	520	14,047	136	5	877	563	313
April	0	(s)	197	14,303	92	3	883	563	319
May	0	(s)	230	15,123	26	4	890	563	326
June	0	(s)	-199	15,170	57	2	884	563	320
July	0	(s)	-343	14,994	70	2	873	563	310
August	0	(s)	-283	15,271	110	(s)	864	563	301
September	0	(s)	95	15,308	122	(s)	867	563	304
October	0	(s)	393	14,854	152	0	879	563	316
November	0	(s)	252	14,706	32	0	887	563	324
December	0	(s)	-607	14,928	131	0	868	563	305
Average	0	-7	57	14,662	108	2	868	563	305
1998 January	0	(s)	522	14,313	231	0	884	563	321
February	0	(s)	50	14,034	197	0	886	563	322
March	0	0	457	14,590	99	0	900	563	336
April	0	0	492	14,961	163	0	915	563	351
May	0	(s)	47	15,104	144	0	916	563	353
June	0	(s)	-656	15,368	63	0	896	563	333
July	<sup>R</sup> (s)	(s)	<sup>R</sup> 201	<sup>R</sup> 15,496	<sup>R</sup> 104	0	<sup>R</sup> 903	563	<sup>R</sup> 339
August	<sup>E</sup> 0	<sup>E</sup> (s)	<sup>E</sup> -388	<sup>E</sup> 15,623	<sup>E</sup> 106	<sup>E</sup> 0	<sup>E</sup> 895	<sup>E</sup> 563	<sup>E</sup> 332
8-Month Average	<sup>E</sup> (s)	<sup>E</sup> (s)	<sup>E</sup> 93	<sup>E</sup> 14,945	<sup>E</sup> 138	<sup>E</sup> 0	<sup>E</sup> 895	<sup>E</sup> 563	<sup>E</sup> 332
1997 8-Month Average	0	-10	70	14,518	107	3	864	563	301
1996 8-Month Average	(s)	-58	40	14,149	96	7	891	578	313

<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. - =Not applicable. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.  
Notes: • Crude oil includes lease condensate. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S2. • 1981 forward: EIA, *Petroleum Supply Monthly*, September 1998, Table S2.



**Table 3.3a Petroleum Imports: Bahrain, Iran, Iraq, and Kuwait**  
(Thousand Barrels per Day)

	Persian Gulf <sup>a</sup>							
	Bahrain		Iran		Iraq		Kuwait <sup>b</sup>	
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
<b>1973 Average</b> .....	11	0	223	216	4	4	47	42
<b>1974 Average</b> .....	12	0	469	463	0	0	5	5
<b>1975 Average</b> .....	16	0	280	278	2	2	16	4
<b>1976 Average</b> .....	3	0	298	298	26	26	5	1
<b>1977 Average</b> .....	10	0	535	530	74	74	48	42
<b>1978 Average</b> .....	3	0	555	554	62	62	6	5
<b>1979 Average</b> .....	1	0	304	297	88	88	8	5
<b>1980 Average</b> .....	(s)	0	9	8	28	28	27	27
<b>1981 Average</b> .....	1	0	0	0	(s)	0	0	0
<b>1982 Average</b> .....	1	0	35	35	3	3	5	2
<b>1983 Average</b> .....	2	0	48	48	10	10	14	7
<b>1984 Average</b> .....	1	0	10	10	12	12	36	24
<b>1985 Average</b> .....	4	0	27	27	46	46	21	4
<b>1986 Average</b> .....	2	0	19	19	81	81	68	28
<b>1987 Average</b> .....	0	0	98	98	83	82	84	70
<b>1988 Average</b> .....	2	0	<sup>c</sup> (s)	<sup>c</sup> (s)	345	343	92	80
<b>1989 Average</b> .....	0	0	0	0	449	441	157	155
<b>1990 Average</b> .....	1	0	0	0	518	514	86	79
<b>1991 Average</b> .....	2	0	32	32	0	0	6	6
<b>1992 Average</b> .....	0	0	0	0	0	0	51	39
<b>1993 Average</b> .....	1	0	0	0	0	0	353	344
<b>1994 Average</b> .....	1	0	0	0	0	0	312	307
<b>1995 Average</b> .....	1	0	0	0	0	0	218	213
<b>1996</b> January .....	0	0	0	0	0	0	148	145
February .....	0	0	0	0	0	0	216	216
March .....	0	0	0	0	0	0	127	127
April .....	17	0	0	0	0	0	201	201
May .....	0	0	0	0	0	0	230	230
June .....	0	0	0	0	0	0	388	388
July .....	0	0	0	0	0	0	266	266
August .....	0	0	0	0	0	0	271	266
September .....	0	0	0	0	0	0	236	236
October .....	0	0	0	0	0	0	260	260
November .....	0	0	0	0	0	0	228	228
December .....	0	0	0	0	14	14	262	262
<b>Average</b> .....	1	0	0	0	1	1	236	235
<b>1997</b> January .....	0	0	0	0	0	0	209	209
February .....	0	0	0	0	0	0	172	172
March .....	0	0	0	0	35	35	315	315
April .....	0	0	0	0	84	84	204	204
May .....	0	0	0	0	102	102	128	128
June .....	0	0	0	0	115	115	361	361
July .....	0	0	0	0	88	88	331	331
August .....	0	0	0	0	(s)	(s)	229	229
September .....	0	0	0	0	0	0	322	322
October .....	0	0	0	0	177	177	349	349
November .....	0	0	0	0	220	220	220	220
December .....	0	0	0	0	240	240	188	188
<b>Average</b> .....	0	0	0	0	89	89	253	253
<b>1998</b> January .....	0	0	0	0	36	36	194	194
February .....	0	0	0	0	0	0	283	283
March .....	0	0	0	0	127	127	307	307
April .....	0	0	0	0	233	233	262	262
May .....	17	0	0	0	137	137	399	399
June .....	0	0	0	0	270	270	275	275
July .....	0	0	0	0	277	277	435	435
<b>7-Month Average</b> .....	2	0	0	0	156	156	309	309
<b>1997 7-Month Average</b> .....	0	0	0	0	61	61	246	246
<b>1996 7-Month Average</b> .....	2	0	0	0	0	0	225	224

<sup>a</sup> The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

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

<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. • U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: • **Bahrain:** Energy Information Administration (EIA), Form EIA-814, "Monthly Imports Report." • **All Other Data:** 1973-1980—EIA, *Petroleum Supply Monthly*, February 1993, Table S3. 1981 forward—EIA, *Petroleum Supply Monthly*, September 1998, Table S3.

**Table 3.3b Petroleum Imports: Qatar, Saudi Arabia, U.A.E., and Total Persian Gulf**  
(Thousand Barrels per Day)

	Persian Gulf <sup>a</sup>							
	Qatar		Saudi Arabia <sup>b</sup>		United Arab Emirates		Total <sup>a</sup>	
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
1973 Average .....	7	7	486	462	71	71	848	802
1974 Average .....	17	17	461	438	74	69	1,039	992
1975 Average .....	18	18	715	701	117	117	1,165	1,121
1976 Average .....	24	24	1,230	1,222	254	254	1,840	1,825
1977 Average .....	67	67	1,380	1,373	335	333	2,448	2,418
1978 Average .....	64	64	1,144	1,142	385	385	2,219	2,212
1979 Average .....	31	31	1,356	1,347	281	281	2,069	2,049
1980 Average .....	22	22	1,261	1,250	172	172	1,519	1,508
1981 Average .....	7	7	1,129	1,112	81	77	1,219	1,196
1982 Average .....	7	7	552	530	92	81	696	659
1983 Average .....	(s)	0	337	321	30	18	442	405
1984 Average .....	5	4	325	309	117	90	506	450
1985 Average .....	(s)	0	168	132	45	35	311	244
1986 Average .....	13	12	685	618	44	38	912	796
1987 Average .....	0	0	751	642	61	56	1,077	949
1988 Average .....	0	0	1,073	911	29	23	1,541	1,357
1989 Average .....	2	2	1,224	1,116	28	21	1,861	1,734
1990 Average .....	4	4	1,339	1,195	17	9	1,966	1,801
1991 Average .....	0	0	1,802	1,703	3	2	1,845	1,743
1992 Average .....	1	0	1,720	1,597	6	0	1,778	1,636
1993 Average .....	1	0	1,414	1,282	14	12	1,782	1,637
1994 Average .....	0	0	1,402	1,297	13	11	1,728	1,615
1995 Average .....	0	0	1,344	1,260	10	5	1,573	1,479
1996 January .....	0	0	1,398	1,334	0	0	1,546	1,479
February .....	0	0	1,128	1,053	0	0	1,344	1,268
March .....	0	0	1,422	1,318	0	0	1,549	1,446
April .....	0	0	1,288	1,200	0	0	1,506	1,401
May .....	0	0	1,518	1,414	0	0	1,748	1,643
June .....	0	0	1,138	1,035	11	11	1,537	1,433
July .....	0	0	1,548	1,371	4	4	1,819	1,642
August .....	0	0	1,477	1,333	0	0	1,747	1,599
September .....	0	0	1,355	1,255	0	0	1,591	1,491
October .....	0	0	1,357	1,209	17	17	1,635	1,486
November .....	0	0	1,297	1,201	0	0	1,525	1,429
December .....	0	0	1,400	1,236	0	0	1,675	1,511
Average .....	0	0	1,363	1,248	3	3	1,604	1,488
1997 January .....	0	0	1,344	1,253	0	0	1,553	1,462
February .....	0	0	1,361	1,250	0	0	1,533	1,421
March .....	0	0	1,292	1,157	0	0	1,641	1,506
April .....	15	0	1,573	1,408	0	0	1,877	1,697
May .....	0	0	1,475	1,333	0	0	1,706	1,564
June .....	0	0	1,299	1,174	6	0	1,781	1,650
July .....	0	0	1,313	1,188	14	0	1,746	1,607
August .....	0	0	1,636	1,516	0	0	1,866	1,746
September .....	0	0	1,599	1,511	0	0	1,921	1,833
October .....	16	0	1,377	1,282	0	0	1,919	1,808
November .....	0	0	1,308	1,257	0	0	1,748	1,697
December .....	15	0	1,311	1,192	0	0	1,755	1,621
Average .....	4	0	1,407	1,293	2	0	1,755	1,635
1998 January .....	0	0	1,500	1,422	0	0	1,729	1,652
February .....	18	18	1,415	1,305	0	0	1,716	1,606
March .....	0	0	1,508	1,359	13	13	1,956	1,807
April .....	0	0	1,470	1,305	20	20	1,986	1,821
May .....	0	0	1,352	1,273	0	0	1,905	1,808
June .....	15	0	1,631	1,550	0	0	2,192	2,096
July .....	15	0	1,609	1,575	0	0	2,336	2,287
7-Month Average .....	7	2	1,499	1,400	5	5	1,977	1,871
1997 7-Month Average .....	2	0	1,379	1,252	3	0	1,692	1,559
1996 7-Month Average .....	0	0	1,352	1,249	2	2	1,581	1,476

<sup>a</sup> The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

<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. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is 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*, September 1998, Table S3.

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

	Other OPEC <sup>a</sup>									
	Algeria		Ecuador <sup>b</sup>		Gabon <sup>c</sup>		Indonesia		Libya	
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
1973 Average	136	120	48	47	0	0	213	200	164	133
1974 Average	190	180	42	42	23	23	300	284	4	4
1975 Average	282	264	57	57	27	27	390	379	232	223
1976 Average	432	408	51	51	28	26	539	537	453	444
1977 Average	559	544	57	55	42	35	541	507	723	704
1978 Average	649	634	54	38	41	38	573	533	654	638
1979 Average	636	608	42	30	42	42	420	380	658	642
1980 Average	488	456	27	17	26	25	348	314	554	548
1981 Average	311	261	48	38	35	35	366	318	319	317
1982 Average	170	90	42	32	40	40	248	226	26	23
1983 Average	240	176	61	56	59	59	338	315	0	0
1984 Average	323	194	55	47	58	57	343	304	1	0
1985 Average	187	84	67	56	52	51	314	292	4	0
1986 Average	271	78	77	64	26	25	318	297	0	0
1987 Average	295	115	29	23	35	35	285	262	0	0
1988 Average	300	58	47	33	16	15	205	186	0	0
1989 Average	269	60	89	80	50	49	183	158	0	0
1990 Average	280	63	49	38	64	64	114	98	0	0
1991 Average	253	44	63	53	84	84	111	102	0	0
1992 Average	196	24	65	62	124	123	78	70	0	0
1993 Average	220	24	(b)	(b)	152	151	81	65	0	0
1994 Average	243	21	(b)	(b)	194	194	111	92	0	0
1995 Average	234	27	(b)	(b)	(c)	(c)	88	64	0	0
1996 January	313	38	(b)	(b)	(c)	(c)	52	43	0	0
February	200	16	(b)	(b)	(c)	(c)	44	43	0	0
March	241	38	(b)	(b)	(c)	(c)	58	55	0	0
April	211	2	(b)	(b)	(c)	(c)	57	57	0	0
May	340	0	(b)	(b)	(c)	(c)	49	15	0	0
June	313	0	(b)	(b)	(c)	(c)	72	65	0	0
July	305	0	(b)	(b)	(c)	(c)	56	48	0	0
August	323	0	(b)	(b)	(c)	(c)	53	49	0	0
September	186	0	(b)	(b)	(c)	(c)	26	26	0	0
October	209	0	(b)	(b)	(c)	(c)	125	82	0	0
November	214	3	(b)	(b)	(c)	(c)	36	12	0	0
December	214	0	(b)	(b)	(c)	(c)	81	32	0	0
Average	256	8	(b)	(b)	(c)	(c)	59	44	0	0
1997 January	282	0	(b)	(b)	(c)	(c)	55	38	0	0
February	319	0	(b)	(b)	(c)	(c)	51	39	0	0
March	309	0	(b)	(b)	(c)	(c)	18	15	0	0
April	320	23	(b)	(b)	(c)	(c)	40	32	0	0
May	290	0	(b)	(b)	(c)	(c)	86	86	0	0
June	349	0	(b)	(b)	(c)	(c)	57	50	0	0
July	291	0	(b)	(b)	(c)	(c)	73	66	0	0
August	261	4	(b)	(b)	(c)	(c)	24	21	0	0
September	259	6	(b)	(b)	(c)	(c)	90	83	0	0
October	272	3	(b)	(b)	(c)	(c)	42	42	0	0
November	267	7	(b)	(b)	(c)	(c)	79	74	0	0
December	208	28	(b)	(b)	(c)	(c)	84	68	0	0
Average	285	6	(b)	(b)	(c)	(c)	58	51	0	0
1998 January	306	9	(b)	(b)	(c)	(c)	36	33	0	0
February	295	7	(b)	(b)	(c)	(c)	24	24	0	0
March	244	13	(b)	(b)	(c)	(c)	50	47	0	0
April	336	0	(b)	(b)	(c)	(c)	44	26	0	0
May	330	16	(b)	(b)	(c)	(c)	21	21	0	0
June	362	31	(b)	(b)	(c)	(c)	0	0	0	0
July	308	26	(b)	(b)	(c)	(c)	96	84	0	0
7-Month Average	311	15	(b)	(b)	(c)	(c)	39	34	0	0
1997 7-Month Average	308	3	(b)	(b)	(c)	(c)	55	47	0	0
1996 7-Month Average	275	14	(b)	(b)	(c)	(c)	55	47	0	0

<sup>a</sup> The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

<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> Gabon withdrew from OPEC on December 31, 1994. As of January

1995, imports from Gabon appear on Table 3.3f under "Non-OPEC."

Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • U.S. geographic coverage is 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*, September 1998, Table S3.

**Table 3.3d Petroleum Imports: Nigeria, Venezuela, Total Other OPEC, and Total OPEC**

(Thousand Barrels per Day)

	Other OPEC <sup>a</sup>						Total OPEC <sup>b</sup>	
	Nigeria		Venezuela		Total			
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
<b>1973 Average</b> .....	<b>459</b>	<b>448</b>	<b>1,135</b>	<b>344</b>	<b>2,156</b>	<b>1,293</b>	<b>2,993</b>	<b>2,095</b>
1974 Average .....	713	697	979	319	2,253	1,549	3,280	2,540
1975 Average .....	762	746	702	395	2,452	2,091	3,601	3,211
1976 Average .....	1,025	1,014	700	241	3,229	2,721	5,066	4,545
1977 Average .....	1,143	1,130	690	250	3,754	3,225	6,193	5,643
1978 Average .....	919	910	646	181	3,536	2,972	5,751	5,184
1979 Average .....	1,080	1,069	690	293	3,569	3,063	5,637	5,112
1980 Average .....	857	841	481	156	2,781	2,356	4,300	3,864
1981 Average .....	620	611	406	147	2,106	1,726	3,323	2,922
1982 Average .....	514	510	412	155	1,451	1,075	2,146	1,734
1983 Average .....	302	301	422	164	1,422	1,072	1,862	1,477
1984 Average .....	216	207	548	253	1,544	1,062	2,049	1,512
1985 Average .....	293	280	605	306	1,522	1,069	1,830	1,312
1986 Average .....	440	437	793	416	1,926	1,317	2,837	2,113
1987 Average .....	535	529	804	488	1,983	1,451	3,060	2,400
1988 Average .....	618	607	794	439	1,981	1,339	3,520	2,696
1989 Average .....	815	800	873	495	2,279	1,642	4,140	3,376
1990 Average .....	800	784	1,025	666	2,332	1,713	4,296	3,514
1991 Average .....	703	683	1,035	668	2,249	1,634	4,092	3,377
1992 Average .....	681	665	1,170	826	2,313	1,770	4,092	3,406
1993 Average .....	740	722	1,300	1,010	2,493	1,972	4,273	3,609
1994 Average .....	637	624	1,334	1,034	2,520	1,965	4,247	3,580
1995 Average .....	627	621	1,480	1,151	2,430	1,862	4,002	3,341
<b>1996</b> January .....	690	663	1,518	1,148	2,574	1,892	4,120	3,371
February .....	647	639	1,495	1,166	2,385	1,865	3,730	3,133
March .....	594	548	1,719	1,341	2,611	1,981	4,161	3,427
April .....	518	497	1,732	1,288	2,519	1,844	4,007	3,245
May .....	705	705	1,700	1,333	2,794	2,054	4,541	3,697
June .....	711	697	1,642	1,236	2,738	1,999	4,275	3,432
July .....	750	696	1,690	1,332	2,800	2,076	4,619	3,718
August .....	793	785	1,749	1,431	2,918	2,265	4,665	3,865
September .....	694	677	1,708	1,269	2,613	1,972	4,204	3,463
October .....	521	488	1,781	1,448	2,636	2,019	4,271	3,504
November .....	465	453	1,728	1,303	2,443	1,770	3,967	3,199
December .....	320	298	1,641	1,324	2,256	1,654	3,931	3,166
<b>Average</b> .....	<b>617</b>	<b>595</b>	<b>1,676</b>	<b>1,303</b>	<b>2,609</b>	<b>1,950</b>	<b>4,211</b>	<b>3,438</b>
<b>1997</b> January .....	548	522	1,641	1,215	2,525	1,775	4,078	3,237
February .....	625	620	1,601	1,262	2,597	1,920	4,130	3,341
March .....	542	541	1,769	1,348	2,638	1,904	4,279	3,410
April .....	756	747	1,695	1,319	2,811	2,121	4,688	3,818
May .....	992	975	1,927	1,449	3,295	2,510	5,001	4,073
June .....	919	919	1,893	1,508	3,218	2,478	4,999	4,128
July .....	580	571	1,738	1,418	2,683	2,055	4,429	3,662
August .....	882	866	1,794	1,394	2,961	2,285	4,827	4,030
September .....	769	769	1,822	1,478	2,939	2,336	4,860	4,168
October .....	688	675	1,991	1,605	2,994	2,326	4,913	4,134
November .....	649	649	1,689	1,418	2,683	2,147	4,431	3,845
December .....	423	423	1,699	1,304	2,413	1,823	4,168	3,444
<b>Average</b> .....	<b>698</b>	<b>689</b>	<b>1,773</b>	<b>1,394</b>	<b>2,814</b>	<b>2,140</b>	<b>4,569</b>	<b>3,775</b>
<b>1998</b> January .....	613	608	1,600	1,333	2,555	1,983	4,285	3,634
February .....	544	544	1,699	1,328	2,562	1,903	4,278	3,510
March .....	812	812	1,657	1,316	2,763	2,187	4,718	3,994
April .....	772	772	1,626	1,334	2,778	2,132	4,765	3,953
May .....	899	892	1,902	1,549	3,152	2,479	5,040	4,287
June .....	771	755	1,565	1,326	2,698	2,112	4,890	4,207
July .....	873	871	1,728	1,415	3,005	2,397	5,341	4,684
<b>7-Month Average</b> .....	<b>758</b>	<b>753</b>	<b>1,683</b>	<b>1,373</b>	<b>2,791</b>	<b>2,175</b>	<b>4,766</b>	<b>4,046</b>
<b>1997 7-Month Average</b> .....	<b>709</b>	<b>699</b>	<b>1,754</b>	<b>1,361</b>	<b>2,825</b>	<b>2,110</b>	<b>4,517</b>	<b>3,669</b>
<b>1996 7-Month Average</b> .....	<b>660</b>	<b>635</b>	<b>1,643</b>	<b>1,264</b>	<b>2,634</b>	<b>1,960</b>	<b>4,213</b>	<b>3,436</b>

<sup>a</sup> The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

<sup>b</sup> OPEC includes the Persian Gulf nations that are displayed on Tables 3.3a and 3.3b except Bahrain, which is not a member of OPEC, and the nations displayed under "Other OPEC" on Tables 3.3c and 3.3d. Ecuador withdrew from OPEC on December 31, 1992; as of January 1993, imports from Ecuador appear on Table 3.3f under "Non-OPEC." Gabon withdrew on December 31, 1994; as of January 1995, imports from Gabon appear on

Table 3.3f under "Non-OPEC." Imports from Bahrain are accounted for under "Other Non-OPEC" on Table 3.3h.

Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is 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*, September 1998, 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
<b>1973 Average</b> .....	49	49	2	0	174	0	9	0	1,325	1,001	(s)	0
<b>1974 Average</b> .....	49	48	1	0	164	0	2	0	1,070	791	0	0
<b>1975 Average</b> .....	75	71	5	0	152	0	5	0	846	600	0	0
<b>1976 Average</b> .....	12	7	2	0	118	0	0	0	599	371	0	0
<b>1977 Average</b> .....	24	17	3	0	171	0	0	0	517	279	0	0
<b>1978 Average</b> .....	20	6	5	0	160	0	0	0	467	248	0	0
<b>1979 Average</b> .....	43	39	6	0	147	0	1	0	538	271	13	13
<b>1980 Average</b> .....	42	37	1	0	78	0	3	1	455	199	(s)	0
<b>1981 Average</b> .....	49	45	5	0	74	0	23	14	447	164	18	0
<b>1982 Average</b> .....	44	42	5	(s)	65	0	47	19	482	214	40	8
<b>1983 Average</b> .....	78	71	4	0	125	0	41	2	547	274	34	6
<b>1984 Average</b> .....	90	85	38	25	88	0	60	(s)	630	341	46	15
<b>1985 Average</b> .....	110	104	37	21	40	0	61	0	770	468	59	36
<b>1986 Average</b> .....	112	102	41	30	37	0	50	0	807	570	90	68
<b>1987 Average</b> .....	192	180	58	49	37	0	84	0	848	608	82	63
<b>1988 Average</b> .....	212	203	64	59	32	0	98	0	999	681	88	82
<b>1989 Average</b> .....	284	279	36	31	34	0	82	0	931	630	80	76
<b>1990 Average</b> .....	237	236	53	47	37	0	49	0	934	643	80	77
<b>1991 Average</b> .....	254	254	26	21	35	0	22	0	1,033	743	91	87
<b>1992 Average</b> .....	336	336	19	17	36	0	20	0	1,069	797	90	84
<b>1993 Average</b> .....	336	336	19	18	28	0	33	0	1,181	900	51	50
<b>1994 Average</b> .....	331	322	17	16	29	0	31	1	1,272	983	65	64
<b>1995 Average</b> .....	367	360	16	16	2	0	8	0	1,332	1,040	53	53
<b>1996</b> January .....	312	312	21	21	0	0	1	0	1,490	1,117	86	86
February .....	195	195	0	0	0	0	4	0	1,413	1,026	42	42
March .....	257	257	0	0	12	0	1	0	1,322	1,001	53	53
April .....	244	233	22	22	0	0	(s)	0	1,427	1,030	18	18
May .....	403	379	22	22	0	0	9	0	1,373	1,056	19	19
June .....	356	356	56	47	1	0	10	0	1,395	1,091	37	37
July .....	292	292	11	0	0	0	28	0	1,393	1,093	78	78
August .....	480	456	43	43	0	0	38	0	1,393	1,042	73	73
September .....	391	391	47	27	0	0	13	0	1,276	1,000	64	64
October .....	502	485	79	65	0	0	1	0	1,407	1,059	36	36
November .....	353	353	35	25	0	0	1	0	1,516	1,151	104	104
December .....	420	405	39	21	0	0	3	0	1,675	1,232	78	78
<b>Average</b> .....	351	344	31	25	1	0	9	0	1,424	1,075	57	57
<b>1997</b> January .....	485	485	21	21	0	0	1	0	1,571	1,162	84	84
February .....	422	422	0	0	13	0	0	0	1,605	1,155	65	65
March .....	467	461	37	37	0	0	4	0	1,508	1,158	120	120
April .....	435	422	22	22	0	0	0	0	1,454	1,063	46	46
May .....	374	369	61	44	0	0	0	0	1,571	1,203	21	21
June .....	480	480	23	23	0	0	20	0	1,546	1,184	44	44
July .....	416	416	77	48	0	0	21	0	1,547	1,201	0	0
August .....	323	323	91	60	0	0	4	0	1,630	1,275	42	42
September .....	428	428	67	27	0	0	3	0	1,577	1,250	49	43
October .....	537	537	92	53	0	0	6	0	1,503	1,175	48	47
November .....	480	480	23	23	0	0	2	0	1,559	1,213	22	22
December .....	286	286	59	14	0	0	0	0	1,689	1,333	45	45
<b>Average</b> .....	427	425	48	31	1	0	5	0	1,563	1,198	49	48
<b>1998</b> January .....	427	427	5	0	0	0	6	0	1,679	1,313	36	36
February .....	417	417	48	48	0	0	0	0	1,717	1,382	41	41
March .....	302	302	46	30	0	0	27	0	1,460	1,132	63	63
April .....	452	452	62	14	0	0	11	0	1,546	1,239	36	36
May .....	503	495	82	60	3	0	28	0	1,608	1,316	70	70
June .....	399	399	77	33	0	0	45	0	1,683	1,404	81	81
July .....	551	551	69	48	0	0	29	0	1,624	1,338	73	73
<b>7-Month Average</b> .....	436	435	56	33	(s)	0	21	0	1,616	1,302	57	57
<b>1997 7-Month Average</b> .....	440	436	35	28	2	0	7	0	1,543	1,162	54	54
<b>1996 7-Month Average</b> .....	295	290	19	16	2	0	8	0	1,402	1,060	48	48

<sup>a</sup> The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

(s)=Less than 500 barrels per day.

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

are included. • U.S. geographic coverage is 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*, September 1998, Table S3.

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

	Non-OPEC <sup>a</sup>											
	Colombia		Ecuador <sup>b</sup>		Gabon <sup>c</sup>		Italy		Malaysia		Mexico	
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
<b>1973 Average</b> .....	9	2	-	-	-	-	125	0	12	1	16	1
<b>1974 Average</b> .....	5	0	-	-	-	-	74	0	12	1	8	2
<b>1975 Average</b> .....	9	0	-	-	-	-	27	0	8	5	71	70
<b>1976 Average</b> .....	21	6	-	-	-	-	39	0	18	16	87	87
<b>1977 Average</b> .....	17	0	-	-	-	-	51	0	66	55	179	177
<b>1978 Average</b> .....	20	0	-	-	-	-	38	0	42	37	318	316
<b>1979 Average</b> .....	18	0	-	-	-	-	30	0	66	52	439	437
<b>1980 Average</b> .....	4	0	-	-	-	-	4	0	70	61	533	507
<b>1981 Average</b> .....	1	0	-	-	-	-	11	0	36	33	522	469
<b>1982 Average</b> .....	5	0	-	-	-	-	18	(s)	20	18	685	645
<b>1983 Average</b> .....	10	0	-	-	-	-	18	(s)	4	3	826	766
<b>1984 Average</b> .....	8	0	-	-	-	-	45	(s)	1	0	748	659
<b>1985 Average</b> .....	23	0	-	-	-	-	60	(s)	3	1	816	715
<b>1986 Average</b> .....	87	57	-	-	-	-	76	0	12	11	699	621
<b>1987 Average</b> .....	148	115	-	-	-	-	54	1	13	12	655	602
<b>1988 Average</b> .....	134	106	-	-	-	-	65	5	19	19	747	674
<b>1989 Average</b> .....	172	136	-	-	-	-	34	3	39	39	767	716
<b>1990 Average</b> .....	182	140	-	-	-	-	58	2	41	40	755	689
<b>1991 Average</b> .....	163	123	-	-	-	-	47	3	24	24	807	759
<b>1992 Average</b> .....	126	102	-	-	-	-	55	0	10	10	830	787
<b>1993 Average</b> .....	171	141	81	78	-	-	31	0	11	10	919	863
<b>1994 Average</b> .....	161	146	91	91	-	-	22	0	10	6	984	939
<b>1995 Average</b> .....	219	207	97	96	229	229	5	0	8	6	1,068	1,027
<b>1996</b> January .....	186	183	126	120	171	171	2	0	0	0	1,281	1,245
February .....	149	139	81	81	191	191	0	0	24	17	1,083	1,062
March .....	262	250	131	125	154	154	13	0	4	0	1,176	1,165
April .....	280	280	158	143	212	212	(s)	0	0	0	1,303	1,273
May .....	263	249	100	95	154	154	0	0	47	40	1,288	1,222
June .....	250	247	138	133	218	218	16	0	19	11	1,351	1,274
July .....	204	198	113	96	191	191	19	0	0	0	1,216	1,186
August .....	221	217	83	71	156	156	8	0	5	0	1,157	1,142
September .....	213	213	48	48	104	104	15	0	0	0	1,355	1,306
October .....	265	252	66	60	226	226	4	0	31	0	1,213	1,189
November .....	267	267	111	111	253	253	13	0	7	0	1,157	1,110
December .....	246	218	89	72	184	184	8	0	0	0	1,346	1,301
<b>Average</b> .....	234	226	104	96	184	184	8	0	11	6	1,244	1,207
<b>1997</b> January .....	227	226	112	107	62	62	8	0	32	0	1,324	1,280
February .....	248	248	110	110	262	262	27	0	7	7	1,277	1,241
March .....	260	257	148	148	217	217	5	0	33	0	1,310	1,249
April .....	255	255	73	73	203	203	26	0	33	0	1,448	1,416
May .....	272	266	109	104	210	210	9	0	9	0	1,429	1,408
June .....	228	228	132	132	226	226	0	0	32	24	1,401	1,382
July .....	235	225	122	122	335	335	0	0	28	0	1,366	1,347
August .....	250	250	128	128	203	203	2	0	23	15	1,452	1,448
September .....	289	289	143	143	271	271	0	0	37	29	1,410	1,395
October .....	321	321	143	143	235	235	8	0	19	19	1,526	1,500
November .....	322	322	91	91	256	256	0	0	8	0	1,460	1,453
December .....	350	350	66	66	288	288	5	0	7	0	1,215	1,192
<b>Average</b> .....	271	270	115	114	230	230	7	0	23	8	1,385	1,360
<b>1998</b> January .....	281	281	77	77	264	264	26	0	17	11	1,467	1,438
February .....	243	235	103	103	244	244	6	0	64	49	1,214	1,197
March .....	261	261	75	75	312	312	12	0	10	10	1,235	1,220
April .....	348	348	88	81	256	256	2	0	29	13	1,473	1,444
May .....	394	385	114	105	194	194	35	0	63	55	1,377	1,359
June .....	340	333	75	67	110	110	18	0	14	0	1,400	1,379
July .....	229	229	89	89	197	197	8	0	46	38	1,398	1,372
<b>7-Month Average</b> .....	300	296	89	85	226	226	15	0	34	25	1,368	1,346
<b>1997 7-Month Average</b> .....	246	243	115	114	216	216	11	0	25	4	1,366	1,332
<b>1996 7-Month Average</b> .....	228	221	121	113	184	184	7	0	13	10	1,243	1,205

<sup>a</sup> The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

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

<sup>c</sup> Through December 1994, Gabon 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. • U.S. geographic coverage is 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*, September 1998, Table S3.



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

	Non-OPEC <sup>a</sup>											
	Netherlands		Netherlands Antilles		Norway		Puerto Rico		Russia <sup>b</sup>		Spain	
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
<b>1973 Average</b> .....	53	0	585	0	1	0	99	0	26	0	26	0
<b>1974 Average</b> .....	43	0	511	0	1	1	90	0	20	0	12	0
<b>1975 Average</b> .....	19	4	332	0	17	12	90	0	14	0	1	0
<b>1976 Average</b> .....	8	0	275	0	36	35	88	0	11	2	1	0
<b>1977 Average</b> .....	31	4	211	0	50	48	105	0	12	2	10	0
<b>1978 Average</b> .....	5	2	229	0	104	104	94	0	8	1	3	0
<b>1979 Average</b> .....	23	7	231	0	75	75	92	0	1	0	4	0
<b>1980 Average</b> .....	2	(s)	225	0	144	144	88	0	1	0	1	0
<b>1981 Average</b> .....	30	(s)	197	0	119	114	62	0	5	(s)	1	(s)
<b>1982 Average</b> .....	35	(s)	175	0	102	102	50	0	1	0	3	(s)
<b>1983 Average</b> .....	65	3	189	0	66	65	40	0	1	(s)	2	(s)
<b>1984 Average</b> .....	65	3	188	0	114	112	42	0	13	(s)	11	0
<b>1985 Average</b> .....	58	0	40	0	32	31	28	0	8	(s)	29	1
<b>1986 Average</b> .....	54	0	25	0	60	53	21	0	18	(s)	53	0
<b>1987 Average</b> .....	60	0	29	0	80	70	21	0	11	0	55	0
<b>1988 Average</b> .....	61	0	36	0	67	62	22	0	29	0	68	0
<b>1989 Average</b> .....	49	0	42	0	138	127	32	0	48	0	67	0
<b>1990 Average</b> .....	55	0	31	0	102	96	32	0	45	1	47	0
<b>1991 Average</b> .....	29	0	81	0	82	74	27	0	29	1	33	0
<b>1992 Average</b> .....	26	0	65	0	127	119	26	0	18	5	32	0
<b>1993 Average</b> .....	10	0	82	0	142	137	29	0	55	36	37	0
<b>1994 Average</b> .....	32	0	98	0	202	190	22	0	30	27	37	0
<b>1995 Average</b> .....	15	0	52	0	273	258	15	0	25	14	16	1
<b>1996</b> January .....	16	0	59	0	199	178	6	0	11	0	23	0
February .....	38	0	101	0	236	221	17	0	14	0	23	0
March .....	35	0	35	0	284	264	24	0	18	0	58	0
April .....	20	0	50	0	375	357	17	0	0	0	36	0
May .....	9	0	47	0	380	364	22	0	63	63	21	0
June .....	26	0	52	0	434	408	25	0	14	14	12	0
July .....	7	0	45	0	375	359	25	0	42	33	47	10
August .....	14	0	53	0	369	362	33	0	32	32	21	0
September .....	13	0	56	0	274	254	22	0	39	37	21	0
October .....	24	0	97	0	389	359	14	0	42	33	34	0
November .....	18	0	79	0	249	220	20	0	0	0	33	0
December .....	14	0	98	0	187	166	18	0	26	0	13	0
<b>Average</b> .....	19	0	64	0	313	293	20	0	25	18	29	1
<b>1997</b> January .....	40	0	94	0	244	230	18	0	21	0	31	0
February .....	33	0	60	0	204	179	16	0	19	0	36	0
March .....	40	0	102	0	295	276	7	0	13	0	6	0
April .....	20	0	114	0	307	294	12	0	20	0	9	0
May .....	13	0	116	0	388	366	21	0	0	0	23	0
June .....	37	0	66	0	329	318	13	0	8	0	45	0
July .....	5	0	61	0	386	360	24	0	9	0	6	0
August .....	15	0	65	0	321	320	20	0	32	19	41	0
September .....	54	0	71	0	285	265	14	0	0	0	21	0
October .....	13	0	46	0	346	312	19	0	13	6	12	0
November .....	28	0	33	0	316	276	23	0	21	7	19	0
December .....	1	0	54	0	275	249	10	0	0	0	5	0
<b>Average</b> .....	25	0	74	0	309	288	16	0	13	3	21	0
<b>1998</b> January .....	6	0	87	0	217	208	18	0	0	0	15	0
February .....	18	0	85	0	169	169	21	0	12	0	13	0
March .....	5	0	90	32	210	198	5	0	3	0	0	0
April .....	36	0	63	0	232	232	4	0	(s)	0	9	0
May .....	27	0	55	0	196	172	18	0	0	0	14	0
June .....	16	0	86	0	283	252	13	0	34	34	26	0
July .....	59	0	24	0	318	311	21	0	69	69	34	0
<b>7-Month Average</b> .....	24	0	70	5	233	221	14	0	17	15	16	0
<b>1997 7-Month Average</b> .....	27	0	88	0	309	290	16	0	13	0	22	0
<b>1996 7-Month Average</b> .....	21	0	55	0	326	308	20	0	23	16	32	1

<sup>a</sup> The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

<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. • U.S. geographic coverage is 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*, September 1998, Table S3.

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

	Non-OPEC <sup>a</sup>										Total Imports	
	Trinidad and Tobago		United Kingdom		Virgin Islands		Other Non-OPEC <sup>b</sup>		Total			
	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil	Total	Crude Oil
<b>1973 Average</b> .....	255	60	15	0	329	0	153	36	3,263	1,149	6,256	3,244
<b>1974 Average</b> .....	251	63	8	0	391	0	122	30	2,832	937	6,112	3,477
<b>1975 Average</b> .....	242	115	14	(s)	406	0	120	14	2,454	893	6,056	4,105
<b>1976 Average</b> .....	274	104	31	13	422	0	203	101	2,247	742	7,313	5,287
<b>1977 Average</b> .....	289	134	126	97	466	0	287	157	2,614	971	8,807	6,615
<b>1978 Average</b> .....	253	142	180	169	428	0	239	146	2,612	1,172	8,363	6,356
<b>1979 Average</b> .....	190	123	202	197	431	0	269	192	2,819	1,407	8,456	6,519
<b>1980 Average</b> .....	176	115	176	173	388	0	219	162	2,609	1,399	6,909	5,263
<b>1981 Average</b> .....	133	102	375	369	327	0	236	163	2,672	1,474	5,996	4,396
<b>1982 Average</b> .....	112	92	456	441	316	0	306	174	2,968	1,754	5,113	3,488
<b>1983 Average</b> .....	96	83	382	365	282	0	378	215	3,189	1,853	5,051	3,329
<b>1984 Average</b> .....	94	87	402	378	294	0	411	210	3,388	1,914	5,437	3,426
<b>1985 Average</b> .....	113	98	310	278	247	0	394	137	3,237	1,888	5,067	3,201
<b>1986 Average</b> .....	125	93	350	317	244	0	426	144	3,387	2,065	6,224	4,178
<b>1987 Average</b> .....	106	75	352	304	272	0	459	196	3,617	2,274	6,678	4,674
<b>1988 Average</b> .....	97	71	315	254	242	0	487	196	3,882	2,411	7,402	5,107
<b>1989 Average</b> .....	94	73	215	160	321	0	457	197	3,921	2,467	8,061	5,843
<b>1990 Average</b> .....	96	76	189	155	282	0	417	180	3,721	2,381	8,018	5,894
<b>1991 Average</b> .....	88	72	138	106	243	0	282	137	3,535	2,405	7,627	5,782
<b>1992 Average</b> .....	95	70	230	200	249	0	335	149	3,796	2,676	7,888	6,083
<b>1993 Average</b> .....	74	55	350	312	254	0	452	240	<sup>c</sup> 4,347	<sup>c</sup> 3,178	8,620	6,787
<b>1994 Average</b> .....	77	62	458	396	328	0	450	239	4,749	3,483	8,996	7,063
<b>1995 Average</b> .....	70	62	383	341	278	0	302	181	4,833	3,889	8,835	7,230
<b>1996</b> January .....	92	71	364	238	390	0	406	188	5,244	3,932	9,364	7,303
February .....	56	56	374	280	343	0	275	169	4,660	3,479	8,390	6,612
March .....	63	52	346	252	311	0	373	215	4,932	3,788	9,092	7,215
April .....	87	55	481	347	359	0	333	157	5,421	4,125	9,429	7,371
May .....	97	71	421	316	298	0	429	282	5,465	4,332	10,007	8,029
June .....	86	54	312	234	292	0	561	402	5,663	4,526	9,938	7,958
July .....	70	58	244	195	344	0	456	292	5,201	4,082	9,820	7,800
August .....	81	59	274	177	279	0	508	348	5,321	4,177	9,986	8,041
September .....	51	37	165	90	268	0	502	318	4,938	3,891	9,142	7,353
October .....	70	55	264	136	325	0	477	240	5,566	4,196	9,837	7,701
November .....	96	75	199	160	253	0	513	318	5,277	4,145	9,244	7,344
December .....	58	54	253	167	294	0	438	245	5,487	4,142	9,417	7,307
<b>Average</b> .....	76	58	308	216	313	0	440	265	5,267	4,070	9,478	7,508
<b>1997</b> January .....	74	55	400	333	335	0	502	210	5,685	4,255	9,763	7,492
February .....	69	61	236	172	341	0	380	170	5,431	4,093	9,561	7,434
March .....	56	55	236	161	254	0	437	206	5,554	4,344	9,833	7,754
April .....	69	62	159	70	321	0	401	242	5,426	4,169	10,114	7,987
May .....	70	66	261	181	300	0	558	341	5,817	4,579	10,818	8,653
June .....	55	55	372	311	300	0	380	225	5,737	4,631	10,736	8,759
July .....	62	54	198	165	310	0	370	243	5,579	4,515	10,008	8,178
August .....	41	37	268	220	219	0	368	251	5,638	4,591	10,465	8,621
September .....	66	58	166	110	248	0	476	364	5,677	4,672	10,537	8,840
October .....	58	55	154	119	301	0	479	271	5,879	4,793	10,792	8,927
November .....	65	57	127	87	260	0	403	236	5,517	4,521	9,948	8,366
December .....	53	53	135	98	314	0	304	235	5,160	4,208	9,328	7,653
<b>Average</b> .....	61	56	226	169	300	0	422	250	5,593	4,450	10,162	8,225
<b>1998</b> January .....	58	54	232	166	283	0	408	276	5,609	4,551	9,893	8,185
February .....	60	60	170	89	296	0	358	224	5,299	4,260	9,577	7,770
March .....	53	53	95	70	334	0	376	236	4,976	3,995	9,694	7,989
April .....	48	48	224	154	272	0	444	254	5,633	4,570	10,398	8,523
May .....	61	53	233	133	292	0	494	273	5,863	4,670	10,903	8,957
June .....	64	56	227	125	310	0	511	245	5,812	4,518	10,702	8,725
July .....	79	56	96	36	360	0	436	219	5,809	4,625	11,151	9,309
<b>7-Month Average</b> .....	60	54	182	111	307	0	433	247	5,574	4,458	10,340	8,503
<b>1997 7-Month Average</b> .....	65	58	267	199	308	0	434	235	5,607	4,373	10,124	8,042
<b>1996 7-Month Average</b> .....	79	60	363	265	334	0	405	244	5,229	4,040	9,442	7,476

<sup>a</sup> The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

<sup>b</sup> Includes Bahrain, which is shown on Table 3.3a.

<sup>c</sup> As of January 1993, includes petroleum imported from Ecuador, which withdrew from OPEC on December 31, 1992. As of January 1995, includes petroleum imported from Gabon, which withdrew from OPEC on December 31, 1994.

(s)=Less than 500 barrels per day.

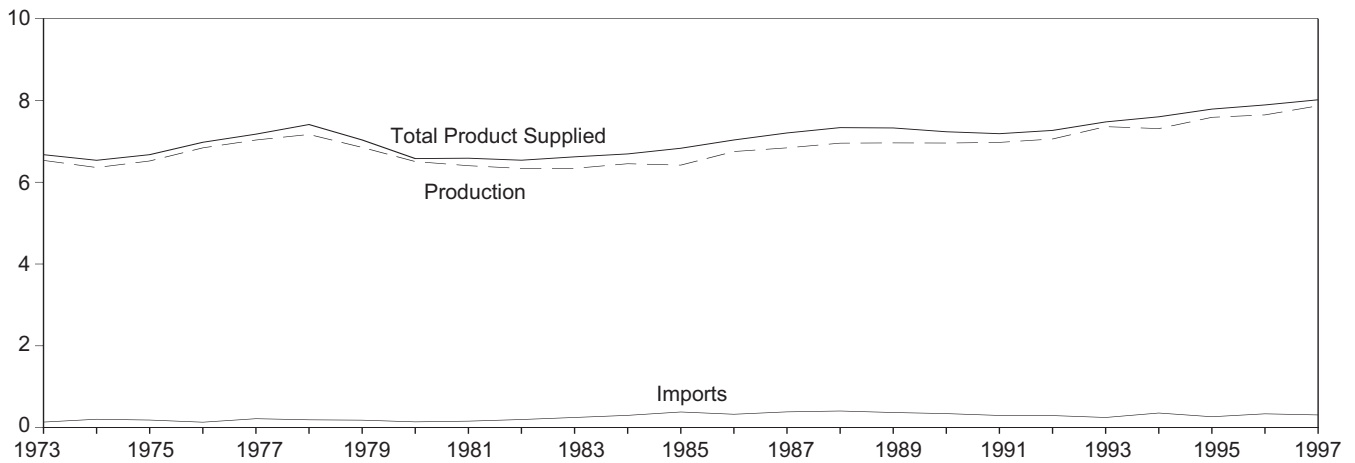
Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S3. • **1981 forward:** EIA, *Petroleum Supply Monthly*, September 1998, Table S3.

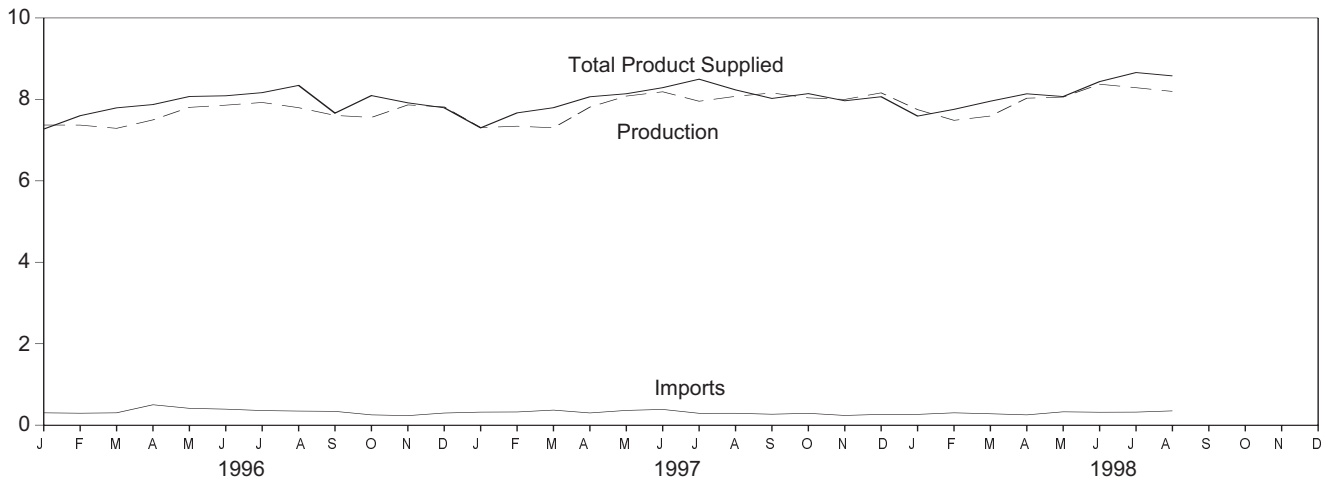


**Figure 3.2 Finished Motor Gasoline**  
(Million Barrels per Day, Except as Noted)

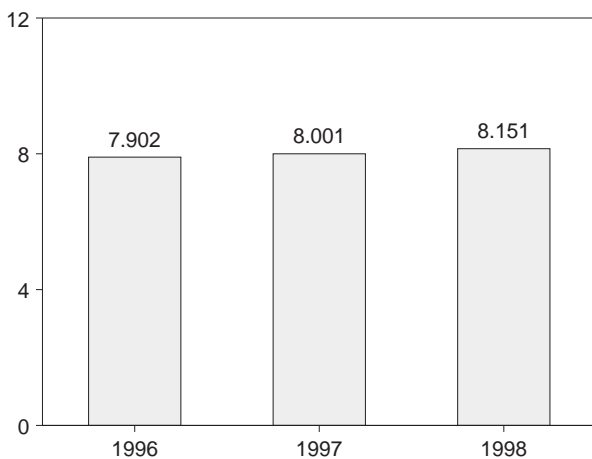
Overview, 1973-1997



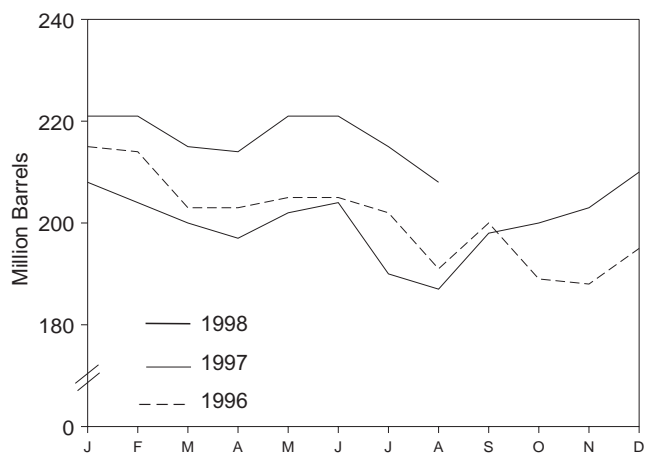
Overview, Monthly



Product Supplied, January-August



Stocks, End of Month



Note: Because vertical scales differ, graphs should not be compared.  
Source: Tables 3.4

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

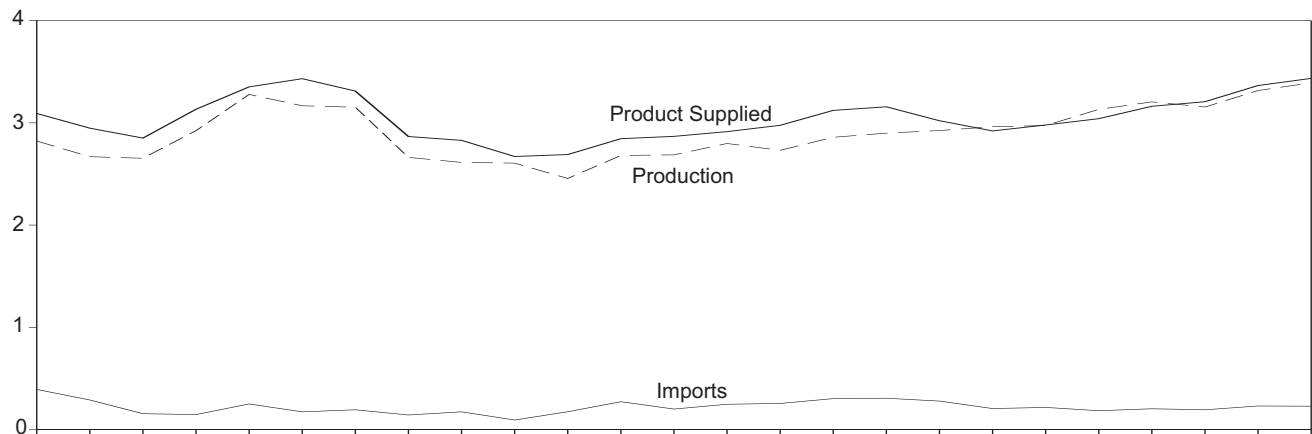
	Supply		Disposition			Motor Gasoline Ending Stocks <sup>a</sup>		Oxygenates Ending Stocks <sup>a</sup>
	Total Production	Imports <sup>b</sup>	Stock Change <sup>b,c</sup>	Exports	Product Supplied	Total <sup>d</sup>	Finished	
	Thousand Barrels per Day					Million Barrels		
<b>1973 Average</b> .....	6,535	134	-9	4	6,674	209	NA	NA
<b>1974 Average</b> .....	6,360	204	24	2	6,537	<sup>e</sup> 218	NA	NA
<b>1975 Average</b> .....	6,520	184	<sup>e</sup> 28	2	6,675	235	NA	NA
<b>1976 Average</b> .....	6,841	131	-10	3	6,978	231	NA	NA
<b>1977 Average</b> .....	7,033	217	72	2	7,177	258	NA	NA
<b>1978 Average</b> .....	7,169	190	-54	1	7,412	238	NA	NA
<b>1979 Average</b> .....	6,852	181	-2	(s)	7,034	237	NA	NA
<b>1980 Average</b> .....	6,506	140	66	1	6,579	<sup>e</sup> 261	NA	NA
<b>1981 Average<sup>f</sup></b> .....	6,405	157	<sup>e</sup> -28	2	6,588	253	203	NA
<b>1982 Average</b> .....	6,338	197	-25	20	6,539	<sup>e</sup> 235	<sup>e</sup> 194	NA
<b>1983 Average</b> .....	6,340	247	<sup>e</sup> -45	10	6,622	222	186	NA
<b>1984 Average</b> .....	6,453	299	54	6	6,693	243	205	NA
<b>1985 Average</b> .....	6,419	381	-41	10	6,831	223	190	NA
<b>1986 Average</b> .....	6,752	326	11	33	7,034	233	194	NA
<b>1987 Average</b> .....	6,841	384	-15	35	7,206	226	189	NA
<b>1988 Average</b> .....	6,956	405	3	22	7,336	228	190	NA
<b>1989 Average</b> .....	6,963	369	-35	39	7,328	213	177	NA
<b>1990 Average</b> .....	6,959	342	10	55	7,235	220	181	NA
<b>1991 Average</b> .....	6,975	297	3	82	7,188	219	182	NA
<b>1992 Average</b> .....	7,058	294	-11	96	7,268	216	178	NA
<b>1993 Average</b> .....	<sup>g</sup> 7,360	247	26	105	<sup>g</sup> 7,476	226	187	<sup>h</sup> 13
<b>1994 Average</b> .....	7,312	356	-31	97	7,601	215	176	17
<b>1995 Average</b> .....	7,588	265	-40	104	7,789	202	161	12
<b>1996</b> January .....	7,370	303	240	163	7,271	215	169	12
February .....	7,369	293	-10	72	7,599	214	168	12
March .....	7,289	303	-327	128	7,792	203	158	13
April .....	7,497	501	49	77	7,873	203	160	13
May .....	7,804	414	66	81	8,071	205	162	12
June .....	7,858	393	68	95	8,088	205	164	11
July .....	7,924	359	-5	123	8,165	202	164	11
August .....	7,796	346	-284	82	8,343	191	155	12
September .....	7,606	339	215	68	7,662	200	161	11
October .....	7,557	253	-396	113	8,093	189	149	11
November .....	7,864	234	55	128	7,915	188	151	12
December .....	7,815	298	202	117	7,794	195	157	13
<b>Average</b> .....	<b>7,647</b>	<b>336</b>	<b>-12</b>	<b>104</b>	<b>7,891</b>	<b>195</b>	<b>157</b>	<b>13</b>
<b>1997</b> January .....	7,307	320	250	75	7,301	208	165	13
February .....	7,341	324	-114	111	7,668	204	162	13
March .....	7,302	370	-247	123	7,796	200	154	14
April .....	7,811	300	-70	117	8,064	197	152	13
May .....	8,081	362	203	101	8,139	202	158	13
June .....	8,186	387	189	96	8,288	204	164	12
July .....	7,954	291	-414	164	8,496	190	151	13
August .....	8,075	292	-41	175	8,233	187	150	13
September .....	8,158	269	275	130	8,023	198	158	13
October .....	8,037	291	1	186	8,141	200	158	12
November .....	7,999	239	122	151	7,965	203	162	12
December .....	8,160	265	154	206	8,065	210	166	12
<b>Average</b> .....	<b>7,870</b>	<b>309</b>	<b>26</b>	<b>137</b>	<b>8,017</b>	<b>210</b>	<b>166</b>	<b>12</b>
<b>1998</b> January .....	7,749	265	296	128	7,590	221	175	13
February .....	7,485	303	-90	124	7,755	221	173	14
March .....	7,591	280	-205	121	7,956	215	166	13
April .....	8,029	253	64	81	8,137	214	168	13
May .....	8,057	328	212	103	8,070	221	175	13
June .....	8,372	317	92	159	8,437	221	178	14
July .....	<sup>R</sup> 8,287	<sup>R</sup> 321	<sup>R</sup> -168	<sup>R</sup> 117	<sup>R</sup> 8,659	215	<sup>R</sup> 172	13
August .....	<sup>E</sup> 8,195	<sup>E</sup> 351	<sup>E</sup> -158	<sup>E</sup> 127	<sup>E</sup> 8,577	<sup>E</sup> 208	<sup>E</sup> 164	NA
<b>8-Month Average</b> .....	<sup>E</sup> <b>7,975</b>	<sup>E</sup> <b>303</b>	<sup>E</sup> <b>6</b>	<sup>E</sup> <b>120</b>	<sup>E</sup> <b>8,151</b>	<sup>E</sup> <b>208</b>	<sup>E</sup> <b>164</b>	<b>NA</b>
<b>1997 8-Month Average</b> .....	<b>7,760</b>	<b>331</b>	<b>-30</b>	<b>121</b>	<b>8,001</b>	<b>187</b>	<b>150</b>	<b>13</b>
<b>1996 8-Month Average</b> .....	<b>7,615</b>	<b>364</b>	<b>-26</b>	<b>103</b>	<b>7,902</b>	<b>191</b>	<b>155</b>	<b>12</b>

<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 and gasohol, 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

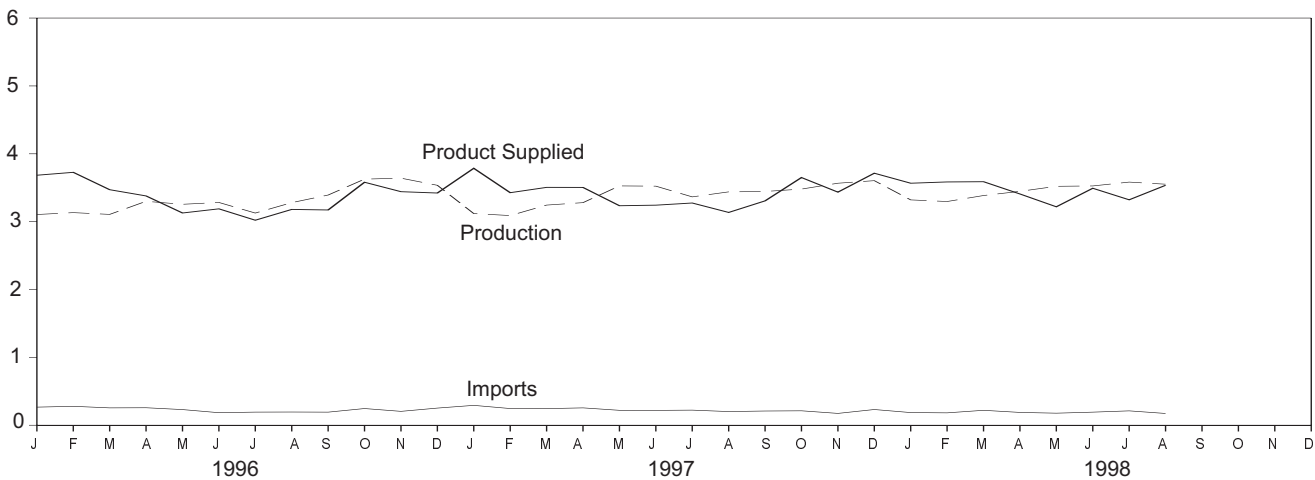
imbalance of motor gasoline blending components. See Note 2 at end of section.  
<sup>h</sup> See Note 1 at end of section.  
<sup>R</sup>=Revised. <sup>NA</sup>=Not available. <sup>E</sup>=Estimate. (s)=Less than 500 barrels per day.  
 Note: Geographic coverage is the 50 States and the District of Columbia.  
 Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S4. • **1981 forward:** EIA, *Petroleum Supply Monthly*, September 1998, Table S4.

**Figure 3.3 Distillate Fuel**  
(Million Barrels per Day, Except as Noted)

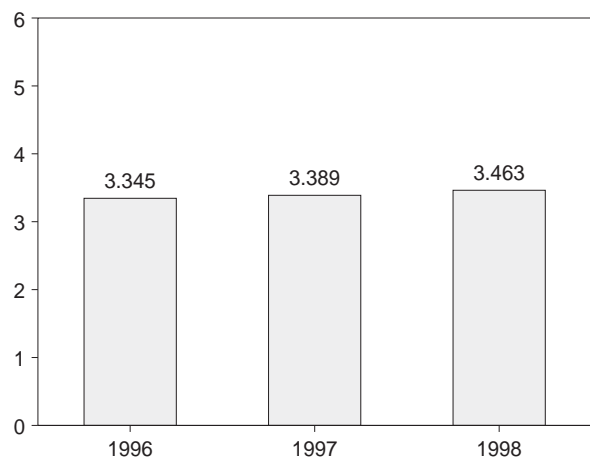
Overview, 1973-1997



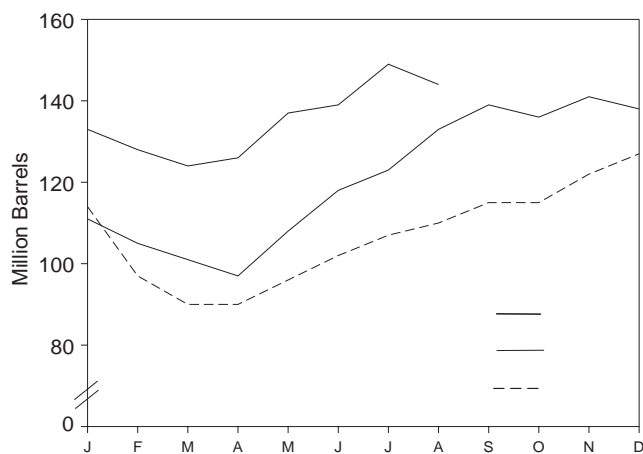
Overview, Monthly



Product Supplied, January-August



Stocks, End of Month



Source: Table 3.5.

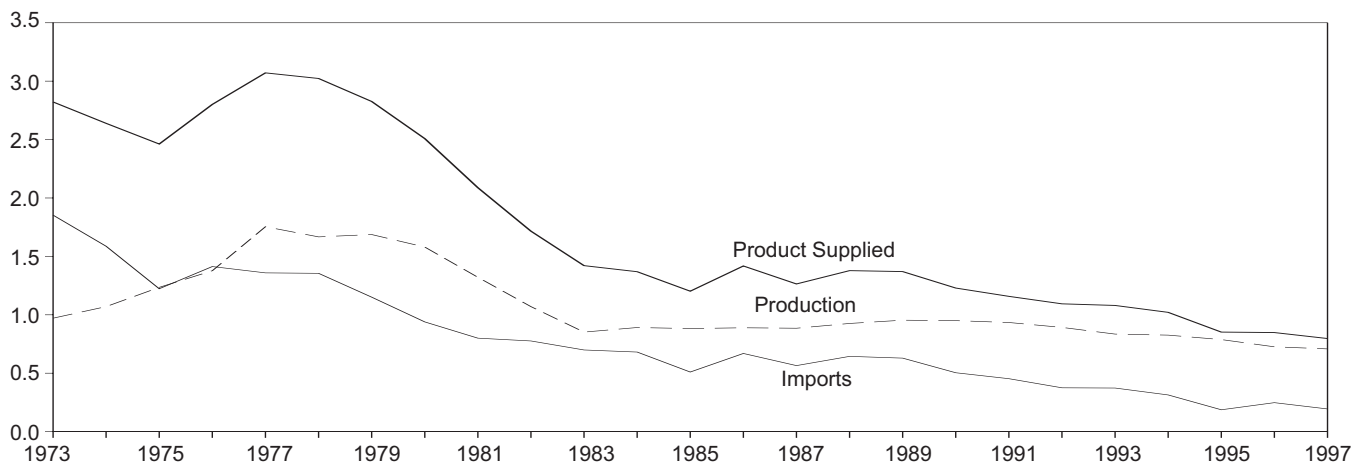
**Table 3.5 Distillate Fuel Oil Supply and Disposition**

	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	<sup>e</sup> 10	2	2,948	<sup>f</sup> 200	NA	NA
1975 Average	2,654	155	2	<sup>e,f</sup> -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	<sup>f</sup> 205	NA	NA
1981 Average <sup>g</sup>	2,613	173	10	<sup>f</sup> -38	5	2,829	192	NA	NA
1982 Average	2,606	93	10	-35	74	2,671	<sup>f</sup> 179	NA	NA
1983 Average	2,456	174	-	<sup>f</sup> -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 Average	2,974	216	-	-8	219	2,979	141	NA	NA
1993 Average	3,132	184	-	1	274	3,041	141	<sup>964</sup>	<sup>977</sup>
1994 Average	3,205	203	-	12	234	3,162	145	73	73
1995 Average	3,155	193	-	-41	183	3,207	130	67	63
<b>1996</b>									
January	3,105	267	-	-528	216	3,684	114	58	55
February	3,133	279	-	-570	256	3,727	97	53	44
March	3,107	256	-	-247	139	3,471	90	49	40
April	3,300	258	-	13	166	3,379	90	52	38
May	3,256	231	-	182	176	3,128	96	57	39
June	3,283	185	-	198	81	3,189	102	60	41
July	3,127	194	-	166	134	3,021	107	62	45
August	3,280	195	-	112	182	3,180	110	62	49
September	3,392	193	-	157	256	3,172	115	64	51
October	3,627	246	-	-8	300	3,581	115	60	54
November	3,641	205	-	234	171	3,442	122	65	57
December	3,536	253	-	160	206	3,422	127	68	58
Average	<b>3,316</b>	<b>230</b>	-	<b>-10</b>	<b>190</b>	<b>3,365</b>	<b>127</b>	<b>68</b>	<b>58</b>
<b>1997</b>									
January	3,119	293	-	-508	133	3,786	111	60	51
February	3,090	246	-	-197	107	3,427	105	56	49
March	3,244	245	-	-137	120	3,505	101	58	43
April	3,280	256	-	-134	166	3,504	97	59	39
May	3,527	220	-	359	153	3,235	108	63	45
June	3,523	219	-	326	174	3,243	118	65	53
July	3,365	223	-	161	151	3,275	123	64	59
August	3,439	202	-	320	185	3,136	133	69	64
September	3,445	210	-	189	160	3,306	139	69	70
October	3,480	213	-	-89	133	3,650	136	63	73
November	3,566	175	-	156	149	3,435	141	68	73
December	3,604	232	-	-70	192	3,714	138	68	70
Average	<b>3,392</b>	<b>228</b>	-	<b>32</b>	<b>152</b>	<b>3,435</b>	<b>138</b>	<b>68</b>	<b>70</b>
<b>1998</b>									
January	3,321	187	-	-192	133	3,566	133	68	65
February	3,297	183	-	-183	79	3,585	128	65	63
March	3,385	220	-	-113	129	3,589	124	63	61
April	3,447	189	-	42	186	3,408	126	63	63
May	3,521	178	-	359	121	3,219	137	69	68
June	3,526	193	-	78	149	3,492	139	70	69
July	<sup>R</sup> 3,583	<sup>R</sup> 212	-	<sup>R</sup> 312	<sup>R</sup> 161	<sup>R</sup> 3,322	<sup>R</sup> 149	<sup>R</sup> 76	<sup>R</sup> 73
August	<sup>E</sup> 3,552	<sup>E</sup> 174	-	<sup>E</sup> 7	<sup>E</sup> 182	<sup>E</sup> 3,536	<sup>E</sup> 144	<sup>E</sup> 68	<sup>E</sup> 76
8-Month Average	<sup>E</sup> <b>3,456</b>	<sup>E</sup> <b>192</b>	-	<sup>E</sup> <b>41</b>	<sup>E</sup> <b>143</b>	<sup>E</sup> <b>3,463</b>	<sup>E</sup> <b>144</b>	<sup>E</sup> <b>68</b>	<sup>E</sup> <b>76</b>
<b>1997 8-Month Average</b>	<b>3,326</b>	<b>238</b>	-	<b>26</b>	<b>149</b>	<b>3,389</b>	<b>133</b>	<b>69</b>	<b>64</b>
<b>1996 8-Month Average</b>	<b>3,199</b>	<b>233</b>	-	<b>-82</b>	<b>168</b>	<b>3,345</b>	<b>110</b>	<b>62</b>	<b>49</b>

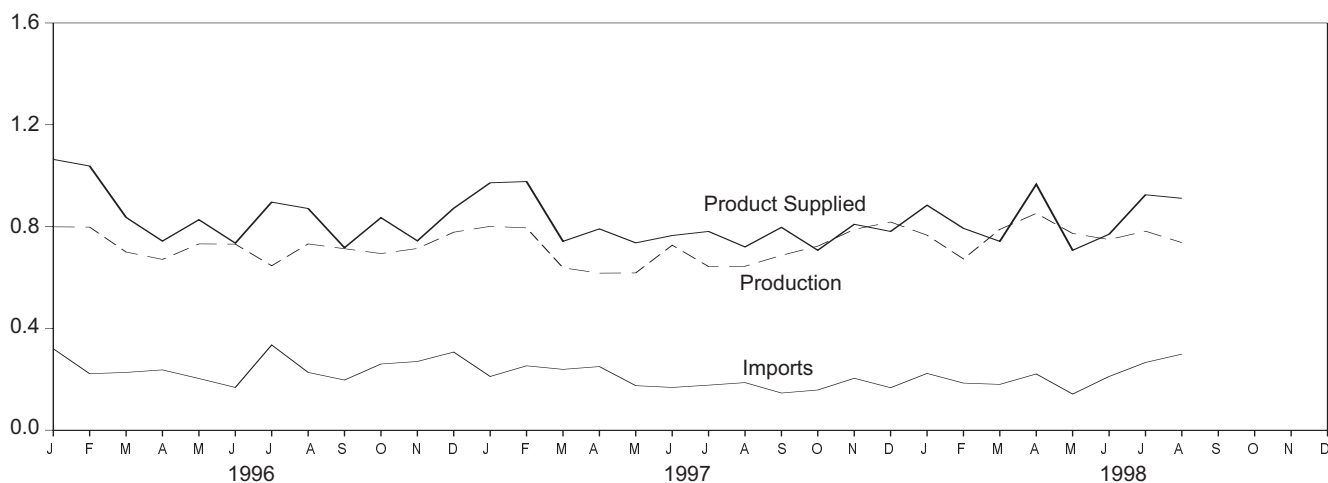
<sup>a</sup> Stocks are totals as of end of period.  
<sup>b</sup> Beginning in January 1983, crude oil used directly as distillate fuel oil is reported as crude oil product supplied on Table 3.2b rather than as distillate fuel oil product supplied.  
<sup>c</sup> A negative number indicates a decrease 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. NA=Not available. --=Not applicable. E=Estimate.  
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S5. • **1981 forward:** EIA, *Petroleum Supply Monthly*, September 1998, Table S5.

**Figure 3.4 Residual Fuel**  
(Million Barrels per Day, Except as Noted)

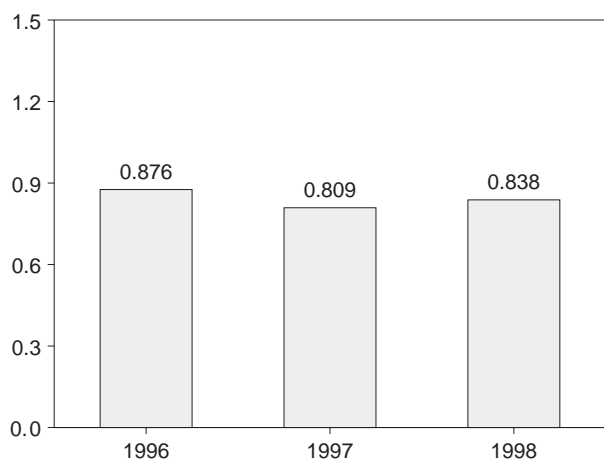
Overview, 1973-1997



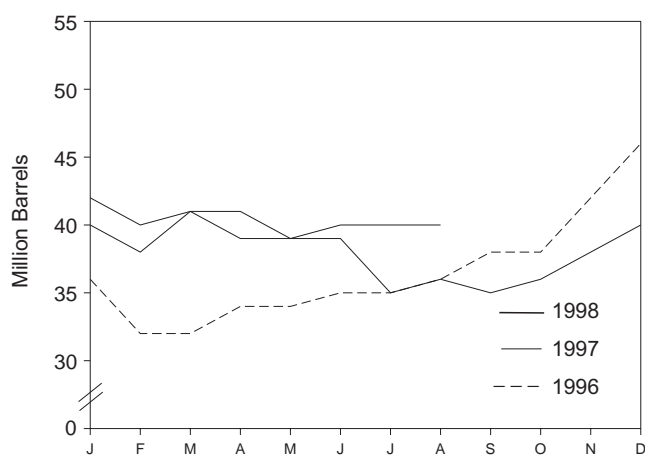
Overview, Monthly



Product Supplied, January-August



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						
<b>1973 Average</b> .....	971	1,853	17	-5	23	2,822	53
<b>1974 Average</b> .....	1,070	1,587	13	17	14	2,639	<sup>d</sup> 60
<b>1975 Average</b> .....	1,235	1,223	15	<sup>d</sup> -2	15	2,462	74
<b>1976 Average</b> .....	1,377	1,413	17	-5	12	2,801	72
<b>1977 Average</b> .....	1,754	1,359	13	48	6	3,071	90
<b>1978 Average</b> .....	1,667	1,355	13	1	13	3,023	90
<b>1979 Average</b> .....	1,687	1,151	12	15	9	2,826	96
<b>1980 Average</b> .....	1,580	939	12	-10	33	2,508	<sup>d</sup> 92
<b>1981 Average<sup>e</sup></b> .....	1,321	800	48	<sup>d</sup> -37	118	2,088	78
<b>1982 Average</b> .....	1,070	776	48	-32	209	1,716	<sup>d</sup> 66
<b>1983 Average</b> .....	852	699	-	<sup>d</sup> -55	185	1,421	49
<b>1984 Average</b> .....	891	681	-	12	190	1,369	53
<b>1985 Average</b> .....	882	510	-	-7	197	1,202	50
<b>1986 Average</b> .....	889	669	-	-8	147	1,418	47
<b>1987 Average</b> .....	885	565	-	(s)	186	1,264	47
<b>1988 Average</b> .....	926	644	-	-8	200	1,378	45
<b>1989 Average</b> .....	954	629	-	-2	215	1,370	44
<b>1990 Average</b> .....	950	504	-	13	211	1,229	49
<b>1991 Average</b> .....	934	453	-	4	226	1,158	50
<b>1992 Average</b> .....	892	375	-	-20	193	1,094	43
<b>1993 Average</b> .....	835	373	-	4	123	1,080	44
<b>1994 Average</b> .....	826	314	-	-6	125	1,021	42
<b>1995 Average</b> .....	788	187	-	-13	136	852	37
<b>1996</b> January .....	799	320	-	-54	108	1,064	36
February .....	798	222	-	-132	114	1,038	32
March .....	700	227	-	-4	95	836	32
April .....	671	237	-	69	96	743	34
May .....	732	203	-	18	89	827	34
June .....	731	168	-	21	144	735	35
July .....	646	335	-	-3	88	896	35
August .....	732	227	-	32	56	871	36
September .....	713	197	-	68	125	717	38
October .....	694	260	-	16	104	835	38
November .....	714	270	-	139	101	744	42
December .....	778	307	-	112	102	872	46
<b>Average</b> .....	<b>726</b>	<b>248</b>	<b>-</b>	<b>24</b>	<b>102</b>	<b>848</b>	<b>46</b>
<b>1997</b> January .....	801	211	-	-131	171	972	42
February .....	795	253	-	-66	137	977	40
March .....	638	239	-	46	89	742	41
April .....	617	250	-	-29	105	791	41
May .....	618	175	-	-44	102	736	39
June .....	727	168	-	(s)	130	765	39
July .....	643	177	-	-119	159	781	35
August .....	644	187	-	31	80	720	36
September .....	687	146	-	-54	91	797	35
October .....	723	158	-	41	133	707	36
November .....	789	204	-	61	122	809	38
December .....	818	167	-	83	120	781	40
<b>Average</b> .....	<b>708</b>	<b>194</b>	<b>-</b>	<b>-15</b>	<b>120</b>	<b>797</b>	<b>40</b>
<b>1998</b> January .....	766	223	-	-25	131	884	40
February .....	673	185	-	-55	120	793	38
March .....	789	180	-	93	135	742	41
April .....	852	221	-	-60	168	966	39
May .....	773	142	-	-18	227	707	39
June .....	749	211	-	38	152	770	40
July .....	<sup>R</sup> 782	<sup>R</sup> 266	-	<sup>R</sup> (s)	<sup>R</sup> 124	<sup>R</sup> 925	<sup>R</sup> 40
August .....	<sup>E</sup> 737	<sup>E</sup> 299	-	<sup>E</sup> 4	<sup>E</sup> 121	<sup>E</sup> 911	<sup>E</sup> 40
<b>8-Month Average</b> .....	<sup>E</sup> <b>766</b>	<sup>E</sup> <b>217</b>	<b>-</b>	<sup>E</sup> <b>-2</b>	<sup>E</sup> <b>147</b>	<sup>E</sup> <b>838</b>	<sup>E</sup> <b>40</b>
<b>1997 8-Month Average</b> .....	<b>684</b>	<b>207</b>	<b>-</b>	<b>-39</b>	<b>122</b>	<b>809</b>	<b>36</b>
<b>1996 8-Month Average</b> .....	<b>726</b>	<b>243</b>	<b>-</b>	<b>-6</b>	<b>98</b>	<b>876</b>	<b>36</b>

<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.

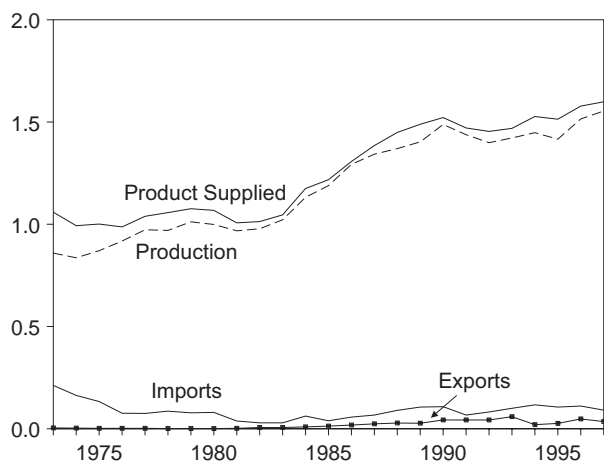
R=Revised. - =Not applicable. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.

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

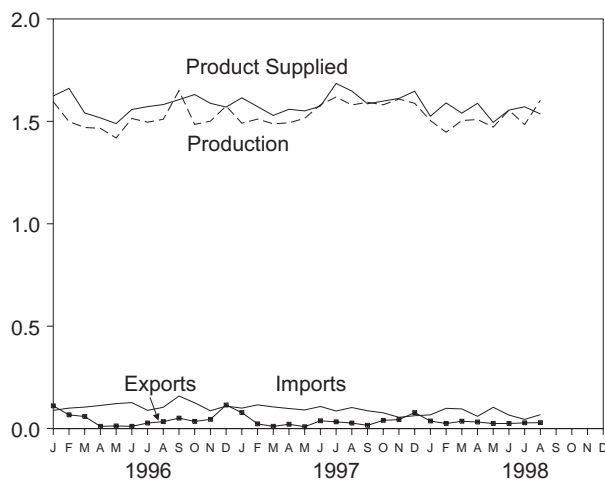
Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S6. • **1981 forward:** EIA, *Petroleum Supply Monthly*, September 1998, Table S6.

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

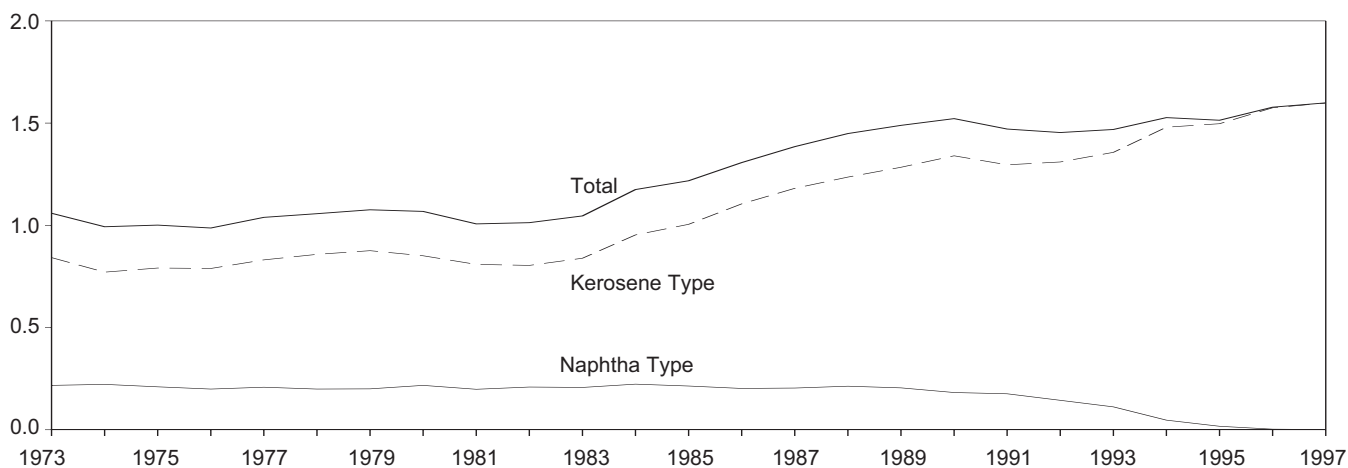
Overview, 1973-1997



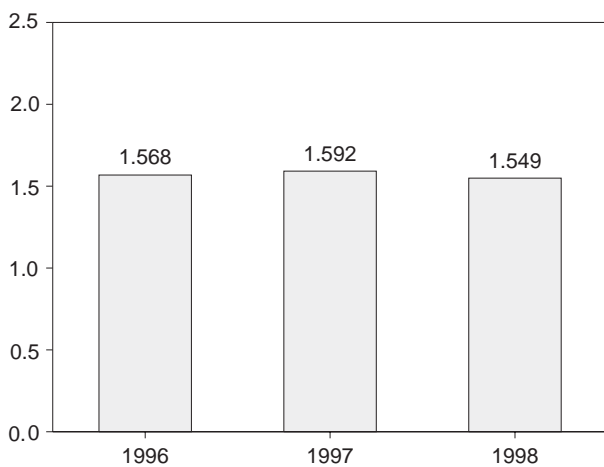
Overview, Monthly



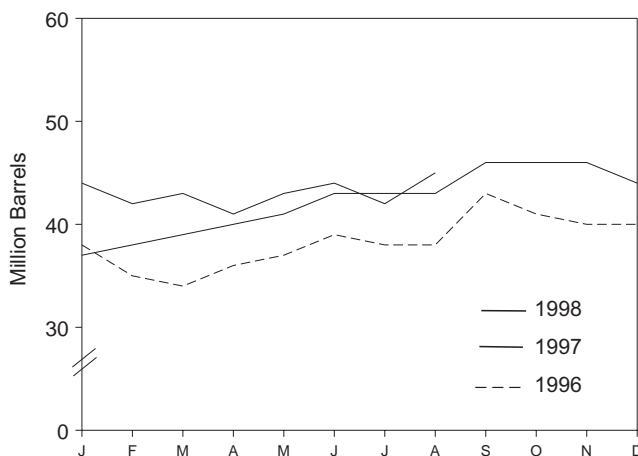
Product Supplied by Type, 1973-1997



Product Supplied, January-August



Stocks, End of Month



Note: Because vertical scales differ, graphs should not be compared.  
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	Kerosene Type
	Thousand Barrels per Day							Million Barrels	
1973 Average	859	679	212	8	4	1,059	842	29	23
1974 Average	836	641	163	2	3	993	771	<sup>c</sup> 29	<sup>c</sup> 24
1975 Average	871	691	133	<sup>c</sup> 2	2	1,001	791	30	25
1976 Average	918	731	76	5	2	987	789	32	26
1977 Average	973	787	75	7	2	1,039	831	35	28
1978 Average	970	791	86	-2	1	1,057	858	34	28
1979 Average	1,012	835	78	13	1	1,076	876	39	33
1980 Average	999	811	80	10	1	1,068	851	<sup>c</sup> 42	<sup>c</sup> 36
1981 Average	968	775	38	<sup>c</sup> -4	2	1,007	809	41	34
1982 Average	978	778	29	-12	6	1,013	804	<sup>c</sup> 37	<sup>c</sup> 31
1983 Average	1,022	817	29	<sup>c</sup> (s)	6	1,046	839	39	32
1984 Average	1,132	919	62	9	9	1,175	953	42	35
1985 Average	1,189	983	39	-4	13	1,218	1,005	40	34
1986 Average	1,293	1,097	57	25	18	1,307	1,105	50	43
1987 Average	1,343	1,138	67	(s)	24	1,385	1,181	50	42
1988 Average	1,370	1,164	90	-17	28	1,449	1,236	44	38
1989 Average	1,403	1,197	106	-8	27	1,489	1,284	41	34
1990 Average	1,488	1,311	108	31	43	1,522	1,340	52	46
1991 Average	1,438	1,274	67	-9	43	1,471	1,296	49	44
1992 Average	1,399	1,254	82	-16	43	1,454	1,310	43	39
1993 Average	1,422	1,309	100	-7	59	1,469	1,357	40	38
1994 Average	1,448	1,410	117	18	20	1,527	1,480	47	46
1995 Average	1,416	1,407	106	-19	26	1,514	1,497	40	39
1996 January	1,596	1,593	89	-49	111	1,624	1,607	38	38
February	1,499	1,495	100	-129	67	1,661	1,658	35	35
March	1,470	1,468	105	-24	59	1,541	1,547	34	34
April	1,466	1,464	113	51	11	1,517	1,515	36	35
May	1,419	1,418	122	39	13	1,489	1,467	37	37
June	1,514	1,512	127	71	11	1,558	1,556	39	39
July	1,496	1,493	89	-14	27	1,572	1,569	38	38
August	1,510	1,507	104	-2	34	1,582	1,580	38	38
September	1,650	1,647	159	152	51	1,606	1,604	43	43
October	1,485	1,484	126	-55	35	1,631	1,636	41	41
November	1,501	1,500	87	-45	45	1,588	1,588	40	40
December	1,575	1,574	110	(s)	115	1,570	1,573	40	40
Average	1,515	1,513	111	(s)	48	1,578	1,575	40	40
1997 January	1,491	1,491	100	-101	78	1,615	1,614	37	37
February	1,511	1,510	116	31	23	1,572	1,571	38	38
March	1,488	1,487	106	55	11	1,529	1,528	39	39
April	1,493	1,492	98	11	21	1,559	1,558	40	40
May	1,515	1,514	91	46	9	1,551	1,551	41	41
June	1,581	1,580	108	77	38	1,574	1,573	43	43
July	1,619	1,618	86	-14	33	1,685	1,685	43	43
August	1,580	1,579	103	7	27	1,648	1,648	43	43
September	1,593	1,592	87	78	16	1,586	1,585	46	46
October	1,581	1,580	77	19	40	1,599	1,599	46	46
November	1,609	1,608	55	8	44	1,612	1,612	46	46
December	1,588	1,588	63	-75	78	1,647	1,647	44	44
Average	1,554	1,554	91	11	35	1,599	1,598	44	44
1998 January	1,504	1,503	67	9	37	1,525	1,524	44	44
February	1,447	1,447	99	-70	25	1,590	1,590	42	42
March	1,504	1,503	96	24	36	1,540	1,547	43	43
April	1,509	1,508	60	-51	32	1,588	1,588	41	41
May	1,472	1,471	104	55	25	1,495	1,497	43	43
June	1,555	1,555	66	42	25	1,555	1,555	44	44
July	<sup>R</sup> 1,484	<sup>R</sup> 1,483	45	<sup>R</sup> -71	<sup>R</sup> 28	<sup>R</sup> 1,571	<sup>R</sup> 1,573	<sup>R</sup> 42	<sup>R</sup> 42
August	<sup>E</sup> 1,603	<sup>E</sup> 1,603	<sup>E</sup> 68	<sup>E</sup> 106	<sup>E</sup> 29	<sup>E</sup> 1,536	<sup>E</sup> 1,536	<sup>E</sup> 45	<sup>E</sup> 44
8-Month Average	<sup>E</sup> 1,510	<sup>E</sup> 1,510	<sup>E</sup> 75	<sup>E</sup> 6	<sup>E</sup> 30	<sup>E</sup> 1,549	<sup>E</sup> 1,551	<sup>E</sup> 45	<sup>E</sup> 44
1997 8-Month Average	1,535	1,534	101	14	30	1,592	1,591	43	43
1996 8-Month Average	1,496	1,494	106	-7	42	1,568	1,562	38	38

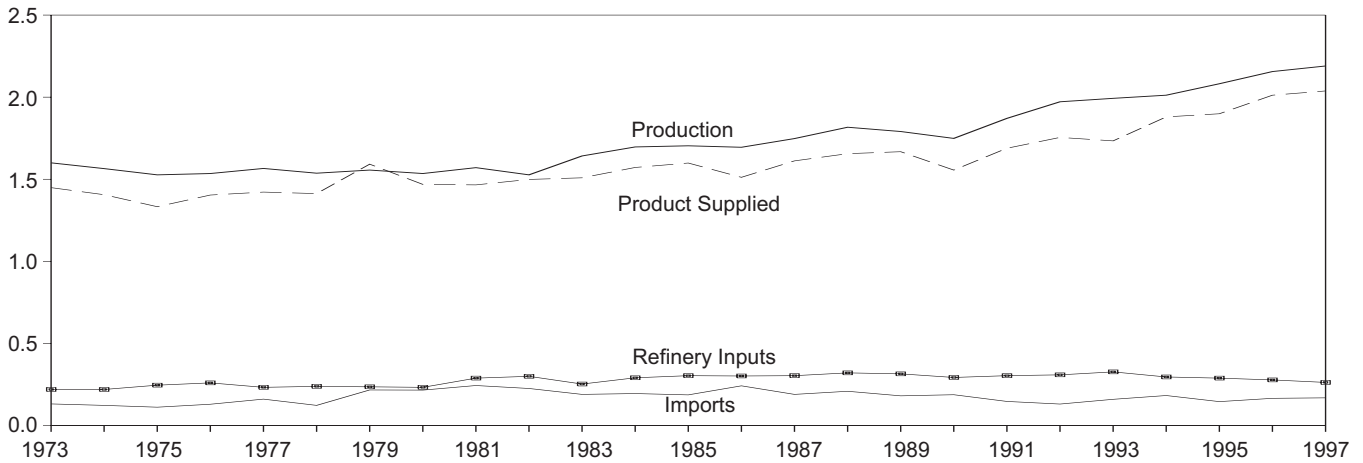
<sup>a</sup> Stocks are totals as of end of period.  
<sup>b</sup> A negative number indicates a decrease in stocks and a positive number indicates an increase.  
<sup>c</sup> See Note 4 at end of section.  
R=Revised. E=Estimate. (s)=Less than +500 barrels per day and greater

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*, September 1998, Table S7.

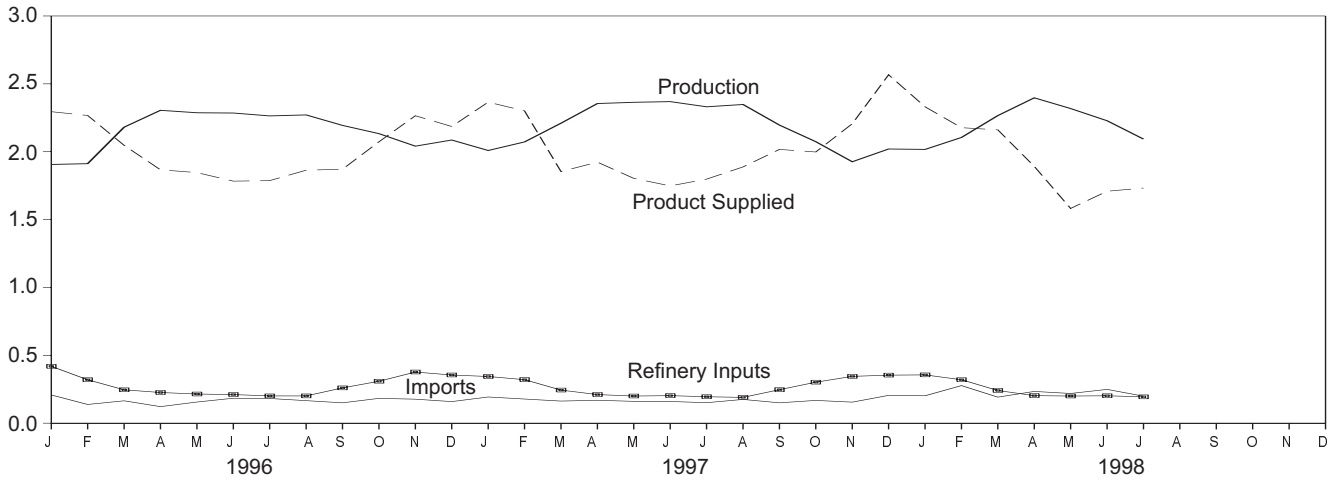


**Figure 3.6 Liquefied Petroleum Gases**  
(Million Barrels per Day, Except as Noted)

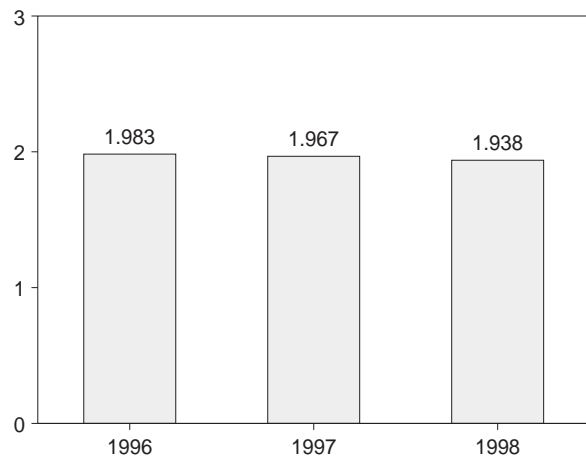
Overview, 1973-1997



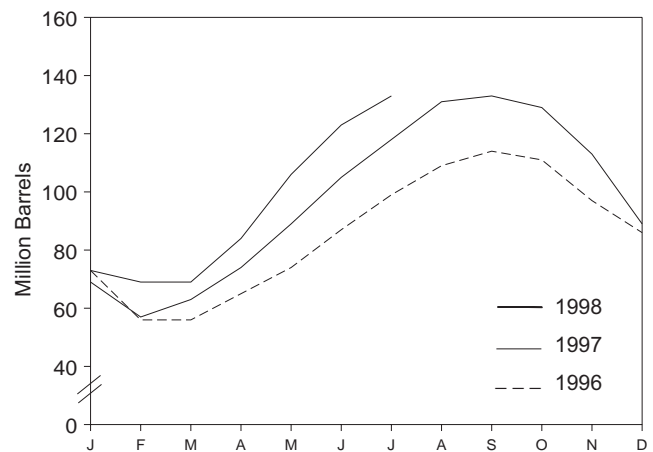
Overview, Monthly



Product Supplied, January-July



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						
<b>1973 Average</b> .....	1,600	132	35	220	27	1,449	99
<b>1974 Average</b> .....	1,565	123	38	220	25	1,406	<sup>c</sup> 113
<b>1975 Average</b> .....	1,527	112	<sup>c</sup> 35	246	26	1,333	125
<b>1976 Average</b> .....	1,535	130	-24	260	25	1,404	116
<b>1977 Average</b> .....	1,566	161	55	233	18	1,422	136
<b>1978 Average</b> .....	1,537	123	-12	239	20	1,413	<sup>c</sup> 132
<b>1979 Average</b> .....	1,556	217	<sup>c</sup> -70	236	15	1,592	111
<b>1980 Average</b> .....	1,535	216	27	233	21	1,469	<sup>c</sup> 120
<b>1981 Average</b> .....	1,571	244	<sup>c</sup> 18	289	42	1,466	135
<b>1982 Average</b> .....	<sup>d</sup> 1,527	226	-111	300	65	1,499	<sup>c</sup> 94
<b>1983 Average</b> .....	1,642	190	<sup>c</sup> -4	253	73	1,509	<sup>c</sup> 101
<b>1984 Average</b> .....	1,697	195	<sup>c</sup> -19	291	48	1,572	101
<b>1985 Average</b> .....	1,704	187	-75	304	62	1,599	74
<b>1986 Average</b> .....	1,695	242	80	302	42	1,512	103
<b>1987 Average</b> .....	1,748	190	-15	304	38	1,612	97
<b>1988 Average</b> .....	1,817	209	1	321	49	1,656	97
<b>1989 Average</b> .....	1,791	181	-47	315	35	1,668	80
<b>1990 Average</b> .....	1,749	188	48	293	40	1,556	98
<b>1991 Average</b> .....	1,871	147	-15	304	41	1,689	92
<b>1992 Average</b> .....	1,972	131	-10	309	49	1,755	89
<b>1993 Average</b> .....	1,993	160	49	327	43	1,734	106
<b>1994 Average</b> .....	2,012	183	-19	296	38	1,880	99
<b>1995 Average</b> .....	2,082	146	-17	289	58	1,899	93
<b>1996</b> January .....	1,906	208	-649	419	49	2,295	73
February .....	1,912	138	-596	320	60	2,267	56
March .....	2,181	165	15	246	38	2,047	56
April .....	2,305	122	279	226	56	1,867	65
May .....	2,287	156	315	215	67	1,846	74
June .....	2,285	184	439	211	36	1,783	87
July .....	2,264	182	385	201	72	1,787	99
August .....	2,271	166	321	201	50	1,864	109
September .....	2,194	150	165	260	47	1,871	114
October .....	2,133	183	-103	309	37	2,073	111
November .....	2,041	177	-466	377	41	2,265	97
December .....	2,086	159	-352	355	56	2,186	86
<b>Average</b> .....	<b>2,156</b>	<b>166</b>	<b>-19</b>	<b>278</b>	<b>51</b>	<b>2,012</b>	<b>86</b>
<b>1997</b> January .....	2,009	193	-543	344	36	2,365	69
February .....	2,072	178	-450	321	78	2,301	57
March .....	2,210	163	214	244	62	1,854	63
April .....	2,355	169	349	211	41	1,923	74
May .....	2,364	161	481	200	40	1,804	89
June .....	2,369	160	534	203	43	1,748	105
July .....	2,331	151	433	195	56	1,798	118
August .....	2,348	175	408	190	37	1,888	131
September .....	2,196	150	54	247	29	2,017	133
October .....	2,074	168	-100	302	42	1,998	129
November .....	1,926	155	-535	345	66	2,206	113
December .....	2,020	205	-770	354	74	2,567	89
<b>Average</b> .....	<b>2,190</b>	<b>169</b>	<b>9</b>	<b>263</b>	<b>50</b>	<b>2,038</b>	<b>89</b>
<b>1998</b> January .....	2,017	202	-522	356	53	2,331	73
February .....	2,105	277	-166	320	52	2,177	69
March .....	2,266	192	16	241	41	2,161	69
April .....	2,397	234	497	203	39	1,892	84
May .....	2,318	219	723	200	31	1,582	106
June .....	2,228	249	538	202	28	1,709	123
July .....	2,093	199	331	194	34	1,732	133
<b>7-Month Average</b> .....	<b>2,204</b>	<b>224</b>	<b>205</b>	<b>245</b>	<b>40</b>	<b>1,938</b>	<b>133</b>
<b>1997 7-Month Average</b> .....	<b>2,246</b>	<b>168</b>	<b>151</b>	<b>245</b>	<b>50</b>	<b>1,967</b>	<b>118</b>
<b>1996 7-Month Average</b> .....	<b>2,164</b>	<b>165</b>	<b>30</b>	<b>262</b>	<b>54</b>	<b>1,983</b>	<b>99</b>

<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,

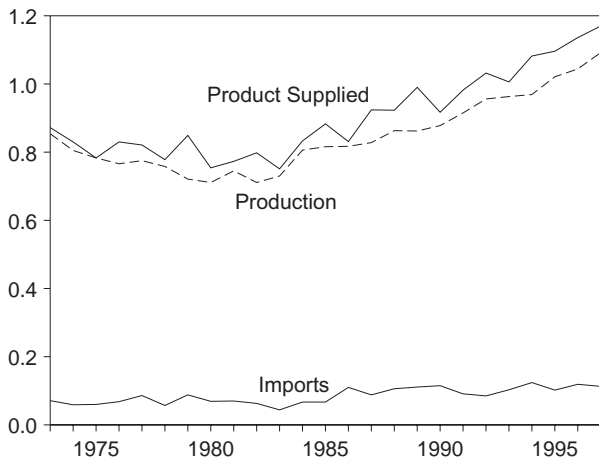
propylene, normal butane, butylene, isobutane and isobutylene.

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

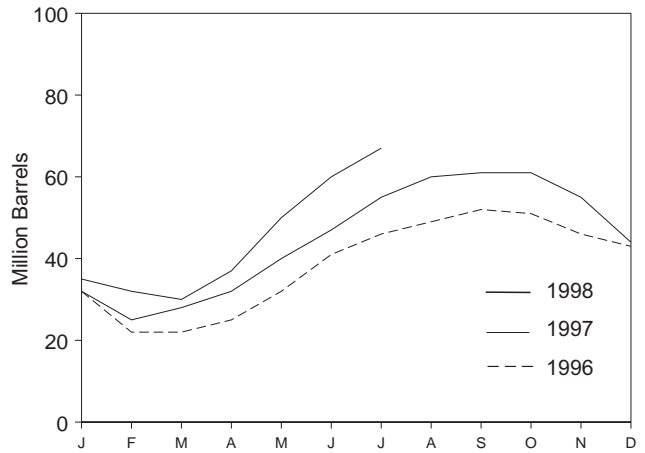
Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S8. • **1981 forward:** EIA, *Petroleum Supply Monthly*, September 1998, Table S9.

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

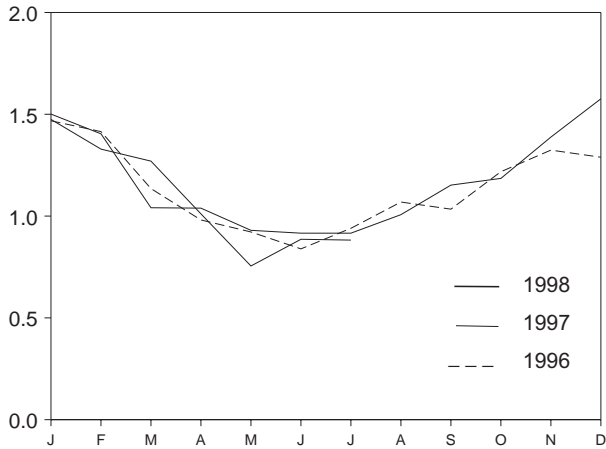
Overview, 1973-1997



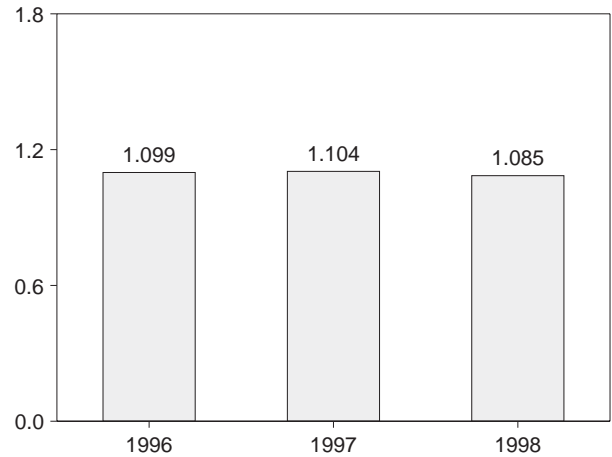
Stocks, End of Month



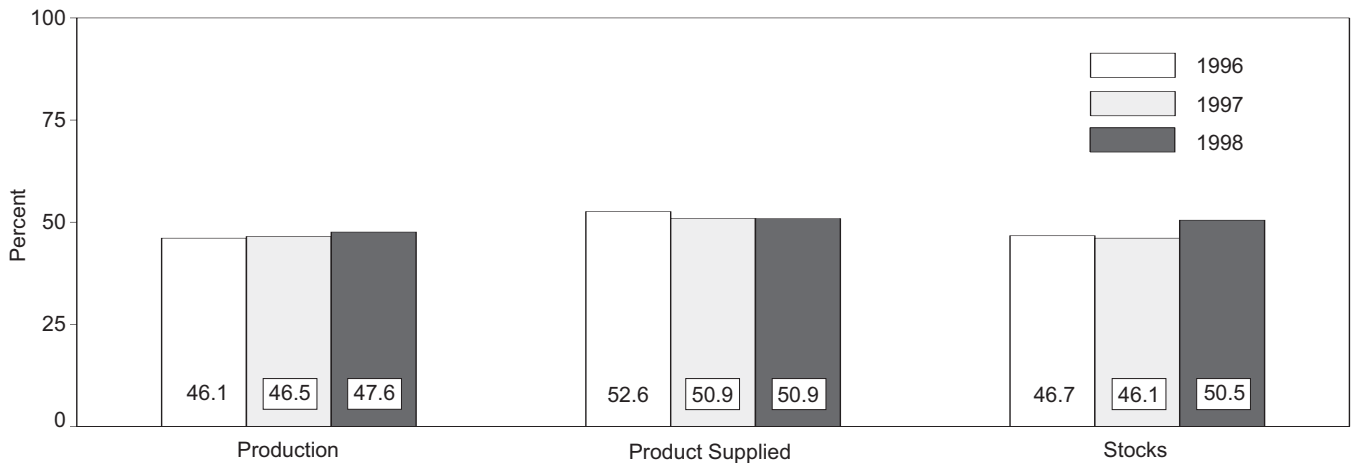
Product Supplied, Monthly



Product Supplied, January-July



Share of Liquefied Petroleum Gases, July



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>
	Total Production	Imports	Stock Change <sup>a</sup>	Refinery Inputs	Exports	Product Supplied	
	Thousand Barrels per Day						
<b>1973 Average</b> .....	854	71	30	8	15	872	65
<b>1974 Average</b> .....	805	59	11	9	14	830	69
<b>1975 Average</b> .....	783	60	36	11	13	783	82
<b>1976 Average</b> .....	766	68	-22	12	13	830	74
<b>1977 Average</b> .....	775	86	21	10	10	821	81
<b>1978 Average</b> .....	758	57	15	13	9	778	<sup>c</sup> 87
<b>1979 Average</b> .....	721	88	<sup>c</sup> -61	14	8	849	64
<b>1980 Average</b> .....	711	69	4	12	10	754	<sup>c</sup> 65
<b>1981 Average</b> .....	745	70	<sup>c</sup> 18	5	18	773	76
<b>1982 Average</b> .....	711	63	-59	4	31	798	<sup>c</sup> 54
<b>1983 Average</b> .....	730	44	<sup>c</sup> -24	4	43	751	<sup>c</sup> 48
<b>1984 Average</b> .....	806	67	<sup>c</sup> 7	4	30	833	58
<b>1985 Average</b> .....	816	67	-50	3	48	883	39
<b>1986 Average</b> .....	817	110	64	4	28	831	63
<b>1987 Average</b> .....	828	88	-41	8	24	924	48
<b>1988 Average</b> .....	863	106	7	8	31	923	50
<b>1989 Average</b> .....	862	111	-52	11	24	990	32
<b>1990 Average</b> .....	878	115	48	(s)	28	917	49
<b>1991 Average</b> .....	915	91	-3	(s)	28	982	48
<b>1992 Average</b> .....	956	85	-24	(s)	33	1,032	39
<b>1993 Average</b> .....	963	103	34	(s)	26	1,006	51
<b>1994 Average</b> .....	969	124	-13	0	24	1,082	46
<b>1995 Average</b> .....	1,021	102	-10	0	38	1,096	43
<b>1996</b> January .....	995	151	-353	0	30	1,468	32
February .....	1,001	106	-347	0	39	1,415	22
March .....	1,043	116	-1	0	25	1,135	22
April .....	1,047	78	114	0	31	981	25
May .....	1,048	104	209	0	21	922	32
June .....	1,031	122	293	0	21	839	41
July .....	1,043	114	188	0	29	940	46
August .....	1,051	126	83	0	24	1,069	49
September .....	1,057	95	97	0	21	1,034	52
October .....	1,058	151	-37	0	29	1,218	51
November .....	1,063	147	-148	0	34	1,324	46
December .....	1,093	122	-106	0	31	1,289	43
<b>Average</b> .....	<b>1,044</b>	<b>119</b>	<b>(s)</b>	<b>0</b>	<b>28</b>	<b>1,136</b>	<b>43</b>
<b>1997</b> January .....	1,039	149	-340	0	28	1,501	32
February .....	1,044	126	-276	0	42	1,404	25
March .....	1,059	114	92	0	40	1,041	28
April .....	1,112	109	150	0	32	1,039	32
May .....	1,114	92	252	0	23	930	40
June .....	1,110	88	250	0	31	916	47
July .....	1,083	87	231	0	24	916	55
August .....	1,095	108	172	0	24	1,007	60
September .....	1,110	89	30	0	16	1,152	61
October .....	1,110	122	17	0	29	1,185	61
November .....	1,099	114	-223	0	48	1,388	55
December .....	1,127	159	-342	0	53	1,576	44
<b>Average</b> .....	<b>1,092</b>	<b>113</b>	<b>3</b>	<b>0</b>	<b>32</b>	<b>1,170</b>	<b>44</b>
<b>1998</b> January .....	1,062	139	-303	0	29	1,475	35
February .....	1,066	204	-87	0	28	1,329	32
March .....	1,089	132	-77	0	28	1,270	30
April .....	1,091	183	241	0	22	1,011	37
May .....	1,068	136	427	0	22	755	50
June .....	1,050	179	329	0	13	886	60
July .....	997	124	222	0	17	882	67
<b>7-Month Average</b> .....	<b>1,060</b>	<b>156</b>	<b>109</b>	<b>0</b>	<b>23</b>	<b>1,085</b>	<b>67</b>
<b>1997 7-Month Average</b> .....	<b>1,080</b>	<b>109</b>	<b>54</b>	<b>0</b>	<b>31</b>	<b>1,104</b>	<b>55</b>
<b>1996 7-Month Average</b> .....	<b>1,030</b>	<b>113</b>	<b>16</b>	<b>0</b>	<b>28</b>	<b>1,099</b>	<b>46</b>

<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*, September 1998, 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						
<b>1973 Average</b> .....	2,833	290	1	750	162	2,211	179
<b>1974 Average</b> .....	2,722	269	25	665	172	2,129	<sup>c</sup> 188
<b>1975 Average</b> .....	2,547	144	<sup>c</sup> -6	537	158	2,001	188
<b>1976 Average</b> .....	2,725	129	(s)	524	172	2,158	188
<b>1977 Average</b> .....	2,939	130	20	514	164	2,371	195
<b>1978 Average</b> .....	3,076	80	-12	492	165	2,511	191
<b>1979 Average</b> .....	3,141	116	24	352	208	2,673	200
<b>1980 Average</b> .....	2,957	130	15	310	197	2,566	<sup>c</sup> 205
<b>1981 Average</b> .....	2,771	188	<sup>c</sup> -42	723	197	2,081	241
<b>1982 Average</b> .....	2,475	305	-68	787	205	<sup>d</sup> 1,857	<sup>c</sup> 216
<b>1983 Average</b> .....	2,437	382	<sup>c</sup> -6	712	236	1,877	<sup>c</sup> 217
<b>1984 Average</b> .....	2,500	503	<sup>c</sup> -32	791	236	2,007	198
<b>1985 Average</b> .....	2,532	550	22	886	227	1,947	206
<b>1986 Average</b> .....	2,704	504	-15	888	291	2,045	201
<b>1987 Average</b> .....	2,737	543	-1	829	264	2,187	200
<b>1988 Average</b> .....	2,773	645	22	799	294	2,303	208
<b>1989 Average</b> .....	2,771	627	12	797	305	2,285	213
<b>1990 Average</b> .....	2,842	705	-32	887	289	2,402	201
<b>1991 Average</b> .....	2,826	675	18	936	277	2,269	208
<b>1992 Average</b> .....	2,928	707	-3	906	263	2,470	<sup>c</sup> 207
<b>1993 Average</b> .....	<sup>e</sup> 3,035	770	<sup>c</sup> -2	1,081	<sup>e</sup> 300	<sup>e</sup> 2,426	206
<b>1994 Average</b> .....	2,973	761	24	861	329	2,518	215
<b>1995 Average</b> .....	3,031	708	-23	958	348	2,457	206
<b>1996</b> January .....	2,833	873	448	613	335	2,311	220
February .....	2,817	745	-18	872	388	2,320	219
March .....	2,983	820	122	759	315	2,607	223
April .....	3,108	828	174	841	421	2,500	228
May .....	3,128	852	-45	1,010	427	2,588	227
June .....	3,227	923	-203	1,207	399	2,748	221
July .....	3,223	862	-170	1,131	361	2,764	216
August .....	3,332	907	-311	1,289	448	2,812	206
September .....	3,306	751	-56	1,083	410	2,620	204
October .....	3,146	1,068	-84	1,023	323	2,952	202
November .....	3,093	928	-34	1,113	366	2,576	201
December .....	3,088	982	42	1,224	321	2,485	202
<b>Average</b> .....	<b>3,108</b>	<b>879</b>	<b>-11</b>	<b>1,014</b>	<b>376</b>	<b>2,608</b>	<b>202</b>
<b>1997</b> January .....	2,945	1,154	354	831	403	2,511	213
February .....	2,953	1,010	239	944	332	2,448	220
March .....	3,078	955	514	697	391	2,431	236
April .....	3,136	1,054	-122	1,203	395	2,715	232
May .....	3,329	1,156	127	1,089	446	2,823	236
June .....	3,355	936	-468	1,345	417	2,997	222
July .....	3,402	903	-214	1,069	380	3,069	215
August .....	3,426	886	-83	994	460	2,940	213
September .....	3,390	836	101	841	450	2,834	216
October .....	3,227	957	-87	915	381	2,976	213
November .....	3,078	754	-7	919	369	2,551	213
December .....	3,113	744	3	981	396	2,476	213
<b>Average</b> .....	<b>3,204</b>	<b>945</b>	<b>30</b>	<b>985</b>	<b>402</b>	<b>2,733</b>	<b>213</b>
<b>1998</b> January .....	3,030	765	369	695	370	2,361	226
February .....	3,042	760	396	623	360	2,422	237
March .....	3,023	736	245	751	358	2,405	245
April .....	3,138	916	-133	1,195	360	2,634	241
May .....	3,263	974	-84	1,143	377	2,801	238
June .....	3,298	940	-146	1,118	412	2,855	234
July .....	3,451	799	-252	1,142	431	2,930	226
<b>7-Month Average</b> .....	<b>3,180</b>	<b>842</b>	<b>53</b>	<b>955</b>	<b>381</b>	<b>2,632</b>	<b>226</b>
<b>1997 7-Month Average</b> .....	<b>3,173</b>	<b>1,025</b>	<b>62</b>	<b>1,024</b>	<b>395</b>	<b>2,716</b>	<b>215</b>
<b>1996 7-Month Average</b> .....	<b>3,047</b>	<b>844</b>	<b>45</b>	<b>918</b>	<b>378</b>	<b>2,550</b>	<b>216</b>

<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 alcohol, unfinished oils, gasoline blending components, and all finished petroleum products except finished motor gasoline, distillate fuel oil, residual fuel oil, jet fuel, liquefied petroleum gases, and crude oil that is used as fuel. • 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*, September 1998, 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 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 unfin-

ished 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 (Total) and 214 (Finished); 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 August 1998 was forecast as 1.6 trillion cubic feet, 1 percent higher than production during the previous August. During the first 8 months of 1998, natural gas production was estimated as 12.7 trillion cubic feet, 1 percent higher than the first 8 months of 1997.

Consumption of natural and supplemental gas in August 1998 was forecast as 1.6 trillion cubic feet, 2 percent higher than the level in August 1997.

Deliveries to residential consumers in August 1998 were forecast as 120 billion cubic feet, 3 percent above the previous August's deliveries. Total deliveries to industrial consumers during August 1998 were forecast as 708 bil-

lion cubic feet, 1 percent lower than the previous August's level.

Net imports of natural gas in August 1998 were forecast as 244 billion cubic feet, 7 percent higher than net imports in the previous August.

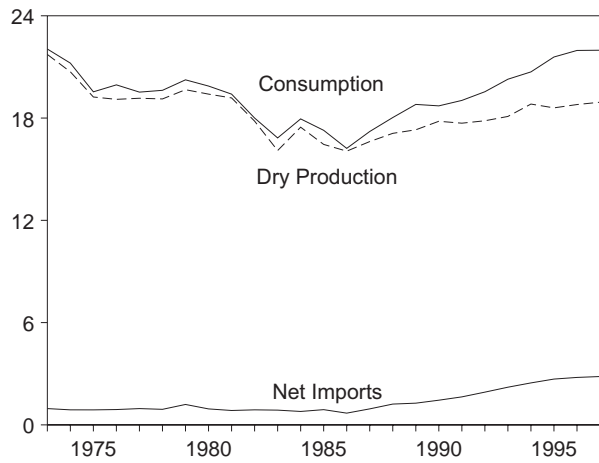
Stocks of working gas<sup>1</sup> in underground natural gas storage reservoirs at the end of August 1998 were forecast as 2.7 trillion cubic feet, 17 percent above the level of stocks available 1 year earlier. Net injections to storage during August 1998 were forecast as 275 billion cubic feet, 15 percent lower than the amount of net injections during the previous August.

<sup>1</sup>Gas available for withdrawal.

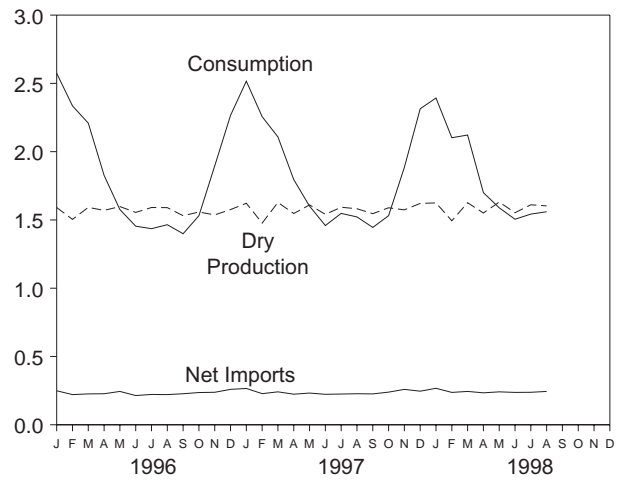


**Figure 4.1 Natural Gas**  
(Trillion Cubic Feet)

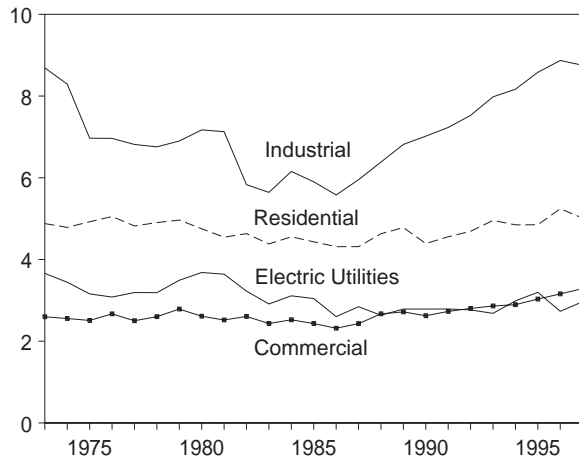
Overview, 1973-1997



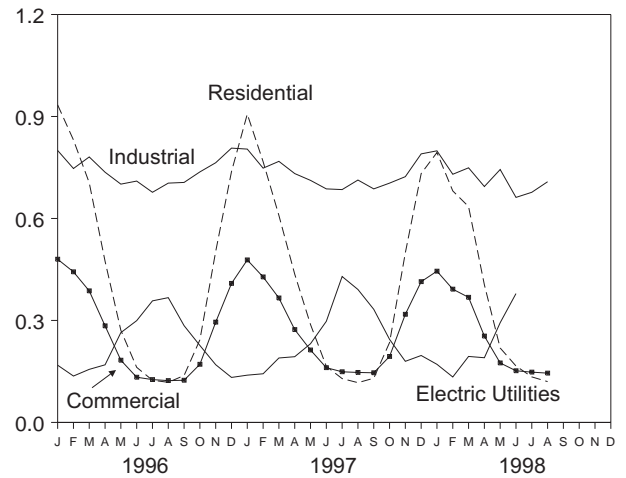
Overview, Monthly



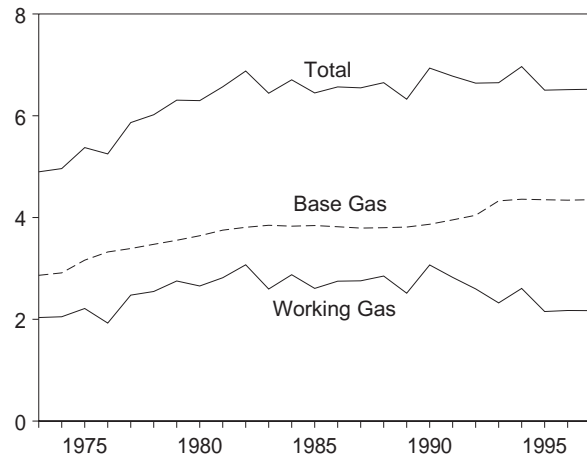
Consumption by Sector, 1973-1997



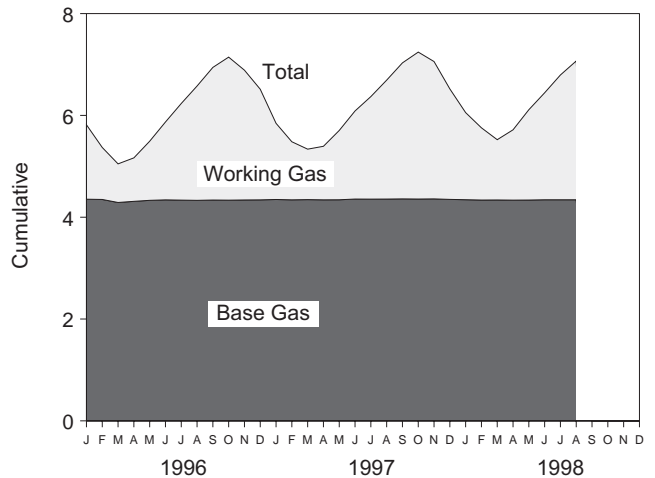
Consumption by Sector, Monthly



Underground Storage, End of Year, 1973-1997



Underground Storage, End of Month



Note: Because vertical scales differ, graphs should not be compared.  
Sources: Tables 4.1, 4.3, 4.4, and 4.5.

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

	Dry Gas Production <sup>a</sup>	Supplemental Gaseous Fuels <sup>b</sup>	Net Imports <sup>c</sup>	Net Withdrawals From Storage <sup>d</sup>	Balancing Item <sup>e</sup>	Consumption <sup>f</sup>
<b>1973 Total</b> .....	921,731	NA	956	-442	-196	22,049
<b>1974 Total</b> .....	920,713	NA	882	-84	-289	21,223
<b>1975 Total</b> .....	919,236	NA	880	-344	-235	19,538
<b>1976 Total</b> .....	919,098	NA	899	165	-216	19,946
<b>1977 Total</b> .....	919,163	NA	955	-557	-41	19,521
<b>1978 Total</b> .....	919,122	NA	913	-120	-287	19,627
<b>1979 Total</b> .....	919,663	NA	1,198	-248	-372	20,241
<b>1980 Total</b> .....	19,403	155	936	23	-640	19,877
<b>1981 Total</b> .....	19,181	176	845	-297	-500	19,404
<b>1982 Total</b> .....	17,820	145	882	-308	9-537	18,001
<b>1983 Total</b> .....	16,094	132	864	447	9-703	16,835
<b>1984 Total</b> .....	17,466	110	788	-197	-217	17,951
<b>1985 Total</b> .....	16,454	126	894	235	-428	17,281
<b>1986 Total</b> .....	16,059	113	689	-147	-493	16,221
<b>1987 Total</b> .....	16,621	101	939	-6	-444	17,211
<b>1988 Total</b> .....	17,103	101	1,220	59	-453	18,030
<b>1989 Total</b> .....	17,311	107	1,275	326	-218	18,801
<b>1990 Total</b> .....	17,810	123	1,447	-513	-149	18,716
<b>1991 Total</b> .....	17,698	113	1,644	80	-500	19,035
<b>1992 Total</b> .....	17,840	118	1,921	173	-508	19,544
<b>1993 Total</b> .....	18,095	119	2,210	-36	-110	20,279
<b>1994 Total</b> .....	18,821	111	2,462	-286	-400	20,708
<b>1995 Total</b> .....	18,599	110	2,687	415	-230	21,581
<b>1996 January</b> .....	1,591	12	249	723	-2	2,574
February .....	1,504	11	221	462	138	2,335
March .....	1,592	11	226	333	46	2,209
April .....	1,570	9	227	-119	139	1,826
May .....	1,598	6	244	-339	67	1,576
June .....	1,555	8	214	-388	65	1,454
July .....	1,591	8	222	-382	-3	1,436
August .....	1,590	8	221	-358	4	1,465
September .....	1,531	8	227	-379	12	1,399
October .....	1,558	9	236	-210	-62	1,531
November .....	1,537	10	238	272	-161	1,896
December .....	1,576	10	259	387	34	2,266
<b>Total</b> .....	<b>18,793</b>	<b>109</b>	<b>2,784</b>	<b>2</b>	<b>279</b>	<b>21,967</b>
<b>1997 January</b> .....	E 1,622	E 13	R 266	684	R -68	R 2,516
February .....	E 1,477	E 11	R 228	358	R 181	2,256
March .....	E 1,628	E 10	R 241	155	R 74	R 2,108
April .....	E 1,547	E 9	R 224	-58	R 73	R 1,795
May .....	E 1,610	E 9	R 232	-321	R 70	1,601
June .....	E 1,541	E 7	R 223	-364	R 52	R 1,459
July .....	E 1,593	E 8	R 225	-281	R 2	R 1,548
August .....	E 1,582	E 9	R 227	-322	R 26	R 1,522
September .....	E 1,546	E 7	R 226	-336	0	R 1,445
October .....	E 1,589	E 9	R 239	-211	R -95	R 1,531
November .....	E 1,574	E 11	R 259	189	R -148	1,885
December .....	RE 1,621	E 12	246	533	R -98	2,314
<b>Total</b> .....	RE <b>18,930</b>	E <b>116</b>	R <b>2,837</b>	<b>27</b>	R <b>69</b>	<b>21,979</b>
<b>1998 January</b> .....	E 1,625	E 12	267	466	R 23	R 2,393
February .....	E 1,494	E 10	237	299	R 63	R 2,102
March .....	RE 1,626	E 11	244	241	-1	R 2,122
April .....	RE 1,551	E 9	RE 234	-198	R 105	R 1,700
May .....	E 1,631	E 8	RE 241	-393	R 103	R 1,589
June .....	E 1,553	E 7	E 237	R -323	R 31	RE 1,505
July .....	F 1,611	F 9	F 238	RF -350	RF 35	F 1,543
August .....	F 1,603	F 9	F 244	F -275	F -21	F 1,560
<b>8-Month Total</b> .....	E <b>12,694</b>	E <b>76</b>	E <b>1,941</b>	E <b>-533</b>	E <b>337</b>	E <b>14,516</b>
<b>1997 8-Month Total</b> .....	E <b>12,601</b>	E <b>77</b>	<b>1,866</b>	<b>-149</b>	<b>410</b>	<b>14,804</b>
<b>1996 8-Month Total</b> .....	<b>12,591</b>	<b>73</b>	<b>1,825</b>	<b>-69</b>	<b>454</b>	<b>14,874</b>

<sup>a</sup> "Marketed Production (Wet)" minus "Extraction Loss." See Table 4.2.

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

<sup>c</sup> "Imports" minus "Exports." See Table 4.3.

<sup>d</sup> "Withdrawals" minus "Injections." Data for 1980-1996 cover underground storage and liquefied natural gas storage. All other time periods cover underground storage only. See also Note 8 at end of section.

<sup>e</sup> See Note 7 at end of section. Since 1980, excludes transit shipments that cross the U.S.-Canada border (i.e., natural gas delivered to its destination via the other country).

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

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

R=Revised. NA=Not available. E=Estimate. F=Forecast.

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

Sources: • **1973-1991:** Energy Information Administration (EIA), *Natural Gas Annual 1996*, Table 100. • **1992 forward:** EIA, *Natural Gas Monthly*, August 1998, Table 2, except for Balancing Item and Consumption, which incorporate the most current electric utilities data from Table 4.4 of this report. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 9 at end of section.

**Table 4.2 Natural Gas Production**  
(Billion Cubic Feet)

	Gross Withdrawals <sup>a</sup>	Repressuring <sup>b</sup>	Nonhydrocarbon 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	<sup>h</sup> 22,648	917	<sup>h</sup> 21,731
1974 Total	22,850	1,080	NA	169	<sup>h</sup> 21,601	887	<sup>h</sup> 20,713
1975 Total	21,104	861	NA	134	<sup>h</sup> 20,109	872	<sup>h</sup> 19,236
1976 Total	20,944	859	NA	132	<sup>h</sup> 19,952	854	<sup>h</sup> 19,098
1977 Total	21,097	935	NA	137	<sup>h</sup> 20,025	863	<sup>h</sup> 19,163
1978 Total	21,309	1,181	NA	153	<sup>h</sup> 19,974	852	<sup>h</sup> 19,122
1979 Total	21,883	1,245	NA	167	<sup>h</sup> 20,471	808	<sup>h</sup> 19,663
1980 Total	21,870	1,365	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	17,810
1991 Total	21,750	2,772	276	170	18,532	835	17,698
1992 Total	22,132	2,973	280	168	18,712	872	17,840
1993 Total	22,726	3,103	414	227	18,982	886	18,095
1994 Total	23,581	3,231	412	228	19,710	889	18,821
1995 Total	23,744	3,565	388	284	19,506	908	18,599
1996 January	2,052	310	44	26	1,673	81	1,591
February	1,941	294	41	24	1,580	77	1,504
March	2,054	313	45	23	1,674	81	1,592
April	2,003	289	42	22	1,650	80	1,570
May	2,025	281	42	23	1,679	81	1,598
June	1,962	276	36	16	1,634	79	1,555
July	2,008	271	42	24	1,672	81	1,591
August	2,021	281	45	24	1,671	81	1,590
September	1,958	283	44	22	1,609	78	1,531
October	2,011	306	44	23	1,638	79	1,558
November	1,984	299	47	23	1,615	78	1,537
December	2,032	307	46	23	1,656	80	1,576
Total	24,052	3,510	518	272	19,751	958	18,793
1997 January	<sup>E</sup> 2,094	<sup>E</sup> 327	<sup>E</sup> 41	<sup>E</sup> 21	<sup>E</sup> 1,704	<sup>E</sup> 83	<sup>E</sup> 1,622
February	<sup>E</sup> 1,910	<sup>E</sup> 301	<sup>E</sup> 38	<sup>E</sup> 19	<sup>E</sup> 1,553	<sup>E</sup> 75	<sup>E</sup> 1,477
March	<sup>E</sup> 2,098	<sup>E</sup> 322	<sup>E</sup> 43	<sup>E</sup> 23	<sup>E</sup> 1,711	<sup>E</sup> 83	<sup>E</sup> 1,628
April	<sup>E</sup> 1,985	<sup>E</sup> 296	<sup>E</sup> 42	<sup>E</sup> 21	<sup>E</sup> 1,626	<sup>E</sup> 79	<sup>E</sup> 1,547
May	<sup>E</sup> 2,070	<sup>E</sup> 313	<sup>E</sup> 42	<sup>E</sup> 21	<sup>E</sup> 1,693	<sup>E</sup> 82	<sup>E</sup> 1,610
June	<sup>E</sup> 1,975	<sup>E</sup> 294	<sup>E</sup> 40	<sup>E</sup> 21	<sup>E</sup> 1,620	<sup>E</sup> 79	<sup>E</sup> 1,541
July	<sup>E</sup> 2,032	<sup>E</sup> 295	<sup>E</sup> 42	<sup>E</sup> 22	<sup>E</sup> 1,674	<sup>E</sup> 81	<sup>E</sup> 1,593
August	<sup>E</sup> 2,009	<sup>E</sup> 283	<sup>E</sup> 42	<sup>E</sup> 22	<sup>E</sup> 1,663	<sup>E</sup> 81	<sup>E</sup> 1,582
September	<sup>E</sup> 1,983	<sup>E</sup> 295	<sup>E</sup> 42	<sup>E</sup> 21	<sup>E</sup> 1,625	<sup>E</sup> 79	<sup>E</sup> 1,546
October	<sup>E</sup> 2,054	<sup>E</sup> 318	<sup>E</sup> 44	<sup>E</sup> 23	<sup>E</sup> 1,669	<sup>E</sup> 81	<sup>E</sup> 1,589
November	<sup>E</sup> 2,026	<sup>E</sup> 308	<sup>E</sup> 43	<sup>E</sup> 22	<sup>E</sup> 1,654	<sup>E</sup> 80	<sup>E</sup> 1,574
December	<sup>RE</sup> 2,106	<sup>E</sup> 334	<sup>E</sup> 44	<sup>E</sup> 24	<sup>RE</sup> 1,704	<sup>E</sup> 83	<sup>RE</sup> 1,621
Total	<sup>RE</sup> 24,342	<sup>E</sup> 3,685	<sup>E</sup> 503	<sup>E</sup> 258	<sup>RE</sup> 19,895	<sup>E</sup> 965	<sup>RE</sup> 18,930
1998 January	<sup>RE</sup> 2,107	<sup>E</sup> 331	45	<sup>E</sup> 22	<sup>E</sup> 1,708	<sup>E</sup> 83	<sup>E</sup> 1,625
February	<sup>RE</sup> 1,923	<sup>E</sup> 293	41	<sup>E</sup> 19	<sup>E</sup> 1,570	<sup>E</sup> 76	<sup>E</sup> 1,494
March	<sup>RE</sup> 2,096	<sup>E</sup> 320	<sup>E</sup> 45	<sup>E</sup> 22	<sup>RE</sup> 1,709	<sup>E</sup> 83	<sup>RE</sup> 1,626
April	<sup>RE</sup> 1,980	<sup>RE</sup> 285	<sup>E</sup> 43	<sup>E</sup> 21	<sup>RE</sup> 1,631	<sup>RE</sup> 79	<sup>RE</sup> 1,551
May	<sup>RE</sup> 2,094	<sup>RE</sup> 314	<sup>E</sup> 45	<sup>E</sup> 22	<sup>E</sup> 1,714	<sup>E</sup> 83	<sup>E</sup> 1,631
June	<sup>E</sup> 1,992	<sup>E</sup> 297	<sup>E</sup> 43	<sup>E</sup> 21	<sup>E</sup> 1,632	<sup>E</sup> 79	<sup>E</sup> 1,553
July	NA	NA	NA	NA	<sup>F</sup> 1,693	<sup>F</sup> 82	<sup>F</sup> 1,611
August	NA	NA	NA	NA	<sup>F</sup> 1,685	<sup>F</sup> 82	<sup>F</sup> 1,603
8-Month Total	NA	NA	NA	NA	<sup>E</sup> 13,342	<sup>E</sup> 647	<sup>E</sup> 12,694
1997 8-Month Total	<sup>E</sup> 16,173	<sup>E</sup> 2,430	<sup>E</sup> 331	<sup>E</sup> 169	<sup>E</sup> 13,243	<sup>E</sup> 642	<sup>E</sup> 12,601
1996 8-Month Total	16,066	2,315	338	181	13,232	642	12,591

<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. NA=Not available. E=Estimate. F=Forecast.

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

Sources: • 1973-1991: Energy Information Administration (EIA), *Natural Gas Annual 1996*, Table 99. • 1992 forward: EIA, *Natural Gas Monthly*, August 1998, Table 1. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 9 at end of section.

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

	Imports					Exports				
	Algeria <sup>a</sup>	Australia <sup>a</sup>	Canada <sup>b</sup>	Mexico <sup>b</sup>	United Arab Emirates <sup>a</sup>	Total	Canada <sup>b</sup>	Japan <sup>a</sup>	Mexico <sup>b</sup>	Total
1973 Total .....	3	0	1,028	2	0	1,033	15	48	14	77
1974 Total .....	0	0	959	(s)	0	959	13	50	13	77
1975 Total .....	5	0	948	0	0	953	10	53	9	73
1976 Total .....	10	0	954	0	0	964	8	50	7	65
1977 Total .....	11	0	997	2	0	1,011	(s)	52	4	56
1978 Total .....	84	0	881	0	0	966	(s)	48	4	53
1979 Total .....	253	0	1,001	0	0	1,253	(s)	51	4	56
1980 Total .....	86	0	797	102	0	985	(s)	45	4	49
1981 Total .....	37	0	762	105	0	904	(s)	56	3	59
1982 Total .....	55	0	783	95	0	933	(s)	50	2	52
1983 Total .....	131	0	712	75	0	918	(s)	53	2	55
1984 Total .....	36	0	755	52	0	843	(s)	53	2	55
1985 Total .....	24	0	926	0	0	950	(s)	53	2	55
1986 Total .....	0	0	749	0	0	<sup>c</sup> 750	9	50	2	61
1987 Total .....	0	0	993	0	0	993	3	49	2	54
1988 Total .....	17	0	1,276	0	0	1,294	20	52	2	74
1989 Total .....	42	0	1,339	0	0	1,382	38	51	17	107
1990 Total .....	84	0	1,448	0	0	1,532	17	53	16	86
1991 Total .....	64	0	1,710	0	0	1,773	15	54	60	129
1992 Total .....	43	0	2,094	0	0	2,138	68	53	96	216
1993 Total .....	82	0	2,267	2	0	2,350	45	56	40	140
1994 Total .....	51	0	2,566	7	0	2,624	53	63	47	162
1995 Total .....	18	0	2,816	7	0	2,841	28	65	61	154
1996 January .....	2	0	260	1	0	264	7	6	2	14
February .....	3	0	231	1	0	234	5	6	2	13
March .....	3	0	238	1	0	242	7	6	3	15
April .....	5	0	231	1	0	237	2	6	2	10
May .....	3	0	246	4	0	252	3	4	2	8
June .....	0	0	226	1	0	227	3	6	3	12
July .....	3	0	233	1	0	237	4	8	3	14
August .....	3	0	235	(s)	0	238	2	6	9	17
September .....	0	0	234	1	3	238	3	6	2	11
October .....	5	0	241	1	0	248	4	6	2	12
November .....	5	0	246	1	0	252	7	6	2	14
December .....	5	0	264	(s)	2	271	5	6	2	13
Total .....	35	0	2,883	14	5	2,937	52	68	34	153
1997 January .....	8	0	<sup>R</sup> 267	<sup>R</sup> 2	2	<sup>R</sup> 278	4	6	2	12
February .....	8	0	<sup>R</sup> 230	<sup>R</sup> 3	0	<sup>R</sup> 241	5	6	2	12
March .....	3	0	<sup>R</sup> 251	3	0	<sup>R</sup> 257	9	6	1	16
April .....	3	0	<sup>R</sup> 235	(s)	0	<sup>R</sup> 238	5	6	3	14
May .....	3	2	<sup>R</sup> 234	2	0	<sup>R</sup> 242	4	4	2	10
June .....	5	0	<sup>R</sup> 225	2	0	<sup>R</sup> 232	3	4	3	10
July .....	5	0	<sup>R</sup> 229	1	0	<sup>R</sup> 236	3	4	3	10
August .....	8	0	<sup>R</sup> 237	(s)	0	<sup>R</sup> 245	4	8	6	18
September .....	5	2	<sup>R</sup> 232	(s)	0	<sup>R</sup> 239	3	4	6	13
October .....	5	0	<sup>R</sup> 246	1	0	<sup>R</sup> 252	2	6	4	12
November .....	8	5	<sup>R</sup> 258	2	0	<sup>R</sup> 272	6	6	2	13
December .....	8	0	253	2	0	263	7	6	4	17
Total .....	66	10	<sup>R</sup> 2,899	<sup>R</sup> 17	2	<sup>R</sup> 2,994	56	62	38	157
1998 January .....	10	0	273	(s)	0	283	5	7	4	17
February .....	8	2	235	3	0	248	4	4	3	11
March .....	5	0	258	(s)	0	264	8	7	4	19
April .....	3	0	<sup>R</sup> 242	<sup>RE</sup> 3	0	<sup>RE</sup> 248	<sup>E</sup> 6	6	<sup>RE</sup> 2	<sup>RE</sup> 14
May .....	8	0	<sup>E</sup> 245	<sup>RE</sup> 1	0	<sup>E</sup> 254	<sup>E</sup> 6	2	<sup>RE</sup> 5	<sup>RE</sup> 13
June .....	5	2	<sup>E</sup> 246	<sup>E</sup> 0	0	<sup>E</sup> 254	<sup>E</sup> 6	6	<sup>E</sup> 5	<sup>E</sup> 17
6-Month Total .....	38	5	<sup>E</sup> 1,500	<sup>E</sup> 7	0	<sup>E</sup> 1,550	<sup>E</sup> 35	32	<sup>E</sup> 24	<sup>E</sup> 91
1997 6-Month Total .....	28	2	1,444	11	2	1,488	31	30	13	74
1996 6-Month Total .....	15	0	1,430	10	0	1,454	27	32	14	73

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

<sup>b</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>c</sup> Includes 2 billion cubic feet of liquefied natural gas from Indonesia.

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

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

Sources: • 1973-1991: Energy Information Administration (EIA), Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas."  
• 1992 forward: EIA, *Natural Gas Monthly*, August 1998, 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	Vehicles	Electric Utilities		
<b>1973 Total</b> .....	1,496	728	4,879	2,597	8,689	NA	3,660	19,825	22,049
1974 Total .....	1,477	669	4,786	2,556	8,292	NA	3,443	19,077	21,223
1975 Total .....	1,396	583	4,924	2,508	6,968	NA	3,158	17,558	19,538
1976 Total .....	1,634	548	5,051	2,668	6,964	NA	3,081	17,764	19,946
1977 Total .....	1,659	533	4,821	2,501	6,815	NA	3,191	17,329	19,521
1978 Total .....	1,648	530	4,903	2,601	6,757	NA	3,188	17,449	19,627
1979 Total .....	1,499	601	4,965	2,786	6,899	NA	3,491	18,141	20,241
1980 Total .....	1,026	635	4,752	2,611	7,172	NA	3,682	18,216	19,877
1981 Total .....	928	642	4,546	2,520	7,128	NA	3,640	17,834	19,404
1982 Total .....	1,109	596	4,633	2,606	5,831	NA	3,226	16,295	18,001
1983 Total .....	978	490	4,381	2,433	5,643	NA	2,911	15,367	16,835
1984 Total .....	1,077	529	4,555	2,524	6,154	NA	3,111	16,345	17,951
1985 Total .....	966	504	4,433	2,432	5,901	NA	3,044	15,811	17,281
1986 Total .....	923	485	4,314	2,318	5,579	NA	2,602	14,814	16,221
1987 Total .....	1,149	519	4,315	2,430	5,953	NA	2,844	15,542	17,211
1988 Total .....	1,096	614	4,630	2,670	6,383	NA	2,636	16,320	18,030
1989 Total .....	1,070	629	4,781	2,718	6,816	NA	2,787	17,102	18,801
1990 Total .....	1,236	660	4,391	2,623	7,018	(s)	2,787	16,820	18,716
1991 Total .....	1,129	601	4,556	2,729	7,231	(s)	2,789	17,305	19,035
1992 Total .....	1,171	588	4,690	2,803	7,527	1	2,766	17,786	19,544
1993 Total .....	1,172	624	4,956	2,862	7,981	1	2,682	18,483	20,279
1994 Total .....	1,124	685	4,848	2,895	8,167	2	2,987	18,899	20,708
1995 Total .....	1,220	700	4,850	3,031	8,580	3	3,197	19,660	21,581
<b>1996</b> January .....	106	85	934	480	800	NA	168	2,382	2,574
February .....	101	77	831	443	747	NA	137	2,157	2,335
March .....	106	72	705	387	781	NA	156	2,030	2,209
April .....	104	59	474	284	736	NA	170	1,663	1,826
May .....	106	50	271	183	701	NA	264	1,420	1,576
June .....	102	46	162	133	710	NA	299	1,305	1,454
July .....	105	46	124	126	677	NA	358	1,285	1,436
August .....	105	47	118	123	704	NA	367	1,312	1,465
September .....	102	45	138	124	706	NA	285	1,253	1,399
October .....	104	49	243	171	737	NA	226	1,378	1,531
November .....	103	62	503	295	764	NA	170	1,732	1,896
December .....	105	74	738	409	807	NA	132	2,086	2,266
<b>Total</b> .....	<b>1,250</b>	<b>711</b>	<b>5,241</b>	<b>3,158</b>	<b>8,870</b>	<b>3</b>	<b>2,732</b>	<b>20,005</b>	<b>21,967</b>
<b>1997</b> January .....	<sup>E</sup> 107	<sup>R</sup> 82	<sup>R</sup> 907	478	<sup>R</sup> 804	NA	139	<sup>R</sup> 2,328	<sup>R</sup> 2,516
February .....	<sup>E</sup> 97	73	767	428	748	NA	143	2,086	2,256
March .....	<sup>E</sup> 107	68	<sup>R</sup> 609	366	768	NA	190	<sup>R</sup> 1,933	<sup>R</sup> 2,108
April .....	<sup>E</sup> 102	58	<sup>R</sup> 436	273	<sup>R</sup> 732	NA	193	<sup>R</sup> 1,635	<sup>R</sup> 1,795
May .....	<sup>E</sup> 106	52	<sup>R</sup> 288	213	<sup>R</sup> 712	NA	232	1,443	1,601
June .....	<sup>E</sup> 101	47	<sup>R</sup> 165	161	<sup>R</sup> 687	NA	297	<sup>R</sup> 1,310	<sup>R</sup> 1,459
July .....	<sup>E</sup> 105	50	<sup>R</sup> 129	<sup>R</sup> 149	<sup>R</sup> 685	NA	429	<sup>R</sup> 1,393	<sup>R</sup> 1,548
August .....	<sup>E</sup> 104	49	<sup>R</sup> 117	<sup>R</sup> 147	<sup>R</sup> 713	NA	391	<sup>R</sup> 1,368	<sup>R</sup> 1,522
September .....	<sup>E</sup> 102	47	<sup>R</sup> 130	<sup>R</sup> 146	687	NA	333	<sup>R</sup> 1,296	<sup>R</sup> 1,445
October .....	<sup>E</sup> 105	50	<sup>R</sup> 235	<sup>R</sup> 194	<sup>R</sup> 704	NA	244	<sup>R</sup> 1,377	<sup>R</sup> 1,531
November .....	<sup>E</sup> 104	61	499	<sup>R</sup> 318	<sup>R</sup> 723	NA	180	1,720	1,885
December .....	<sup>E</sup> 107	75	732	<sup>R</sup> 414	790	NA	197	<sup>R</sup> 2,133	2,314
<b>Total</b> .....	<sup>RE</sup> <b>1,245</b>	<b>712</b>	<sup>R</sup> <b>5,014</b>	<sup>R</sup> <b>3,286</b>	<sup>R</sup> <b>8,753</b>	<b>NA</b>	<b>2,968</b>	<sup>R</sup> <b>20,022</b>	<b>21,979</b>
<b>1998</b> January .....	<sup>E</sup> 107	<sup>R</sup> 78	794	445	<sup>R</sup> 799	NA	171	<sup>R</sup> 2,209	<sup>R</sup> 2,393
February .....	<sup>E</sup> 98	68	<sup>R</sup> 681	392	<sup>R</sup> 730	NA	134	<sup>R</sup> 1,936	<sup>R</sup> 2,102
March .....	<sup>E</sup> 107	69	<sup>R</sup> 635	368	<sup>R</sup> 749	NA	194	<sup>R</sup> 1,946	<sup>R</sup> 2,122
April .....	<sup>RE</sup> 102	55	<sup>R</sup> 405	<sup>R</sup> 254	694	NA	190	<sup>R</sup> 1,543	<sup>R</sup> 1,700
May .....	<sup>RE</sup> 107	<sup>RE</sup> 51	<sup>R</sup> 219	<sup>R</sup> 175	<sup>R</sup> 744	NA	293	<sup>R</sup> 1,431	<sup>R</sup> 1,589
June .....	<sup>F</sup> 100	<sup>F</sup> 46	<sup>F</sup> 166	<sup>F</sup> 152	<sup>F</sup> 662	NA	<sup>R</sup> 379	<sup>RF</sup> 1,360	<sup>RF</sup> 1,505
July .....	<sup>F</sup> 103	<sup>F</sup> 50	<sup>F</sup> 134	<sup>F</sup> 148	<sup>F</sup> 677	NA	NA	<sup>F</sup> 1,389	<sup>F</sup> 1,543
August .....	<sup>F</sup> 103	<sup>F</sup> 48	<sup>F</sup> 120	<sup>F</sup> 145	<sup>F</sup> 708	NA	NA	<sup>F</sup> 1,409	<sup>F</sup> 1,560
<b>8-Month Total</b> .....	<sup>E</sup> <b>828</b>	<sup>E</sup> <b>466</b>	<sup>E</sup> <b>3,154</b>	<sup>E</sup> <b>2,079</b>	<sup>E</sup> <b>5,762</b>	<b>NA</b>	<b>NA</b>	<sup>E</sup> <b>13,223</b>	<sup>E</sup> <b>14,516</b>
<b>1997 8-Month Total</b> .....	<sup>E</sup> <b>829</b>	<b>479</b>	<b>3,418</b>	<b>2,215</b>	<b>5,849</b>	<b>NA</b>	<b>2,015</b>	<b>13,496</b>	<b>14,804</b>
<b>1996 8-Month Total</b> .....	<b>836</b>	<b>482</b>	<b>3,620</b>	<b>2,159</b>	<b>5,857</b>	<b>NA</b>	<b>1,919</b>	<b>13,554</b>	<b>14,874</b>

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

R=Revised. NA=Not available. E=Estimate. F=Forecast. (s)=Less than 500 million cubic feet.

Notes: • Natural gas includes supplemental gaseous fuels. • Totals may not equal sum of components due to independent rounding.

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

Sources: • **1973-1991:** Energy Information Administration (EIA), *Natural Gas Annual 1996*, Table 101. • **1992 forward:** EIA, *Natural Gas Monthly*, August 1998, Table 3, except for the electric utilities values, which come from Table 7.3 of this report, and columns 8 and 9, which incorporate the values from column 7. Forecast values are derived from EIA's Short-Term Integrated Forecasting System.

**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	Withdrawals	Injections	Net <sup>b,c</sup>
<b>1973 Total</b> .....	2,864	2,034	4,898	305	17.6	1,533	1,974	-442
<b>1974 Total</b> .....	2,912	2,050	4,962	16	.8	1,701	1,784	-84
<b>1975 Total</b> .....	3,162	2,212	5,374	162	7.9	1,760	2,104	-344
<b>1976 Total</b> .....	3,323	1,926	5,250	-286	-12.9	1,921	1,756	165
<b>1977 Total</b> .....	3,391	2,475	5,866	549	28.5	1,750	2,307	-557
<b>1978 Total</b> .....	3,473	2,547	6,020	72	2.9	2,158	2,278	-120
<b>1979 Total</b> .....	3,553	2,753	6,306	207	8.1	2,047	2,295	-248
<b>1980 Total</b> .....	3,642	2,655	6,297	-99	-3.6	1,910	1,896	14
<b>1981 Total</b> .....	3,752	2,817	6,569	162	6.1	1,887	2,180	-293
<b>1982 Total</b> .....	3,808	3,071	6,879	255	9.0	2,094	2,399	-306
<b>1983 Total</b> .....	3,847	2,595	6,442	-476	-15.5	2,142	1,700	442
<b>1984 Total</b> .....	3,830	2,876	6,706	281	10.8	2,064	2,252	-188
<b>1985 Total</b> .....	3,842	2,607	6,448	-270	-9.4	2,359	2,128	231
<b>1986 Total</b> .....	3,819	2,749	6,567	142	5.5	1,812	1,952	-140
<b>1987 Total</b> .....	3,792	2,756	6,548	7	.3	1,881	1,887	-6
<b>1988 Total</b> .....	3,800	2,850	6,650	94	3.4	2,244	2,174	69
<b>1989 Total</b> .....	3,812	2,513	6,325	-337	-11.8	2,804	2,491	313
<b>1990 Total</b> .....	3,868	3,068	6,936	555	22.1	1,934	2,433	-499
<b>1991 Total</b> .....	3,954	2,824	6,778	-244	-8.0	2,689	2,608	80
<b>1992 Total</b> .....	4,044	2,597	6,641	-227	-8.0	2,724	2,555	168
<b>1993 Total</b> .....	4,327	2,322	6,649	-275	-10.6	2,717	2,760	-43
<b>1994 Total</b> .....	4,360	2,606	6,966	284	12.2	2,508	2,796	-288
<b>1995 Total</b> .....	4,349	2,153	6,503	-453	-17.4	2,974	2,566	408
<b>1996</b> January .....	4,354	1,462	5,817	-583	-28.5	749	49	700
February .....	4,349	1,021	5,369	-521	-33.8	544	97	447
March .....	4,290	758	5,048	-574	-43.1	403	80	323
April .....	4,312	854	5,166	-525	-38.1	112	227	-115
May .....	4,332	1,161	5,493	-507	-30.4	45	373	-328
June .....	4,341	1,529	5,870	-485	-24.1	35	410	-375
July .....	4,336	1,898	6,234	-404	-17.5	49	418	-370
August .....	4,332	2,245	6,577	-250	-10.0	54	400	-346
September .....	4,338	2,605	6,943	-197	-7.0	32	398	-366
October .....	4,335	2,810	7,145	-186	-6.2	73	276	-203
November .....	4,339	2,549	6,889	-179	-6.6	354	90	264
December .....	4,341	2,173	6,513	19	.9	461	86	374
<b>Total</b> .....	<b>4,341</b>	<b>2,173</b>	<b>6,513</b>	<b>19</b>	<b>.9</b>	<b>2,911</b>	<b>2,906</b>	<b>6</b>
<b>1997</b> January .....	4,348	1,496	5,844	34	2.3	752	69	684
February .....	4,342	1,140	5,482	120	11.7	413	55	358
March .....	4,346	991	5,337	233	30.7	285	131	155
April .....	4,342	1,051	5,393	197	23.1	146	205	-58
May .....	4,343	1,362	5,705	201	17.3	41	362	-321
June .....	4,357	1,730	6,087	201	13.2	41	405	-364
July .....	4,356	2,014	6,369	116	6.1	78	359	-281
August .....	4,357	2,336	6,693	92	4.1	56	378	-322
September .....	4,360	2,672	7,032	67	2.6	44	380	-336
October .....	4,358	2,886	7,244	75	2.7	84	295	-211
November .....	4,360	2,698	7,058	149	5.9	302	113	189
December .....	4,350	2,170	6,520	-2	-1	579	45	533
<b>Total</b> .....	<b>4,350</b>	<b>2,170</b>	<b>6,520</b>	<b>-2</b>	<b>-1</b>	<b>2,823</b>	<b>2,796</b>	<b>27</b>
<b>1998</b> January .....	4,344	1,711	6,055	215	14.4	534	68	466
February .....	4,338	1,418	5,756	278	24.4	373	74	299
March .....	4,339	1,184	5,523	193	19.5	377	136	241
April .....	4,336	1,381	5,718	330	31.4	78	277	-198
May .....	4,338	1,773	6,111	412	30.2	42	435	-393
June .....	<sup>R</sup> 4,343	<sup>R</sup> 2,101	<sup>R</sup> 6,444	<sup>R</sup> 371	<sup>R</sup> 21.4	52	375	<sup>R</sup> -323
July .....	<sup>RF</sup> 4,343	<sup>RF</sup> 2,451	<sup>RF</sup> 6,794	<sup>RF</sup> 437	<sup>RF</sup> 21.7	NA	NA	<sup>RF</sup> -350
August .....	<sup>F</sup> 4,343	<sup>F</sup> 2,726	<sup>F</sup> 7,069	<sup>F</sup> 389	<sup>F</sup> 16.7	NA	NA	<sup>F</sup> -275

<sup>a</sup> For total underground storage capacity at the end of each calendar year, see Note 8 at end of section.

<sup>b</sup> For 1980-1996, data differ from those shown on Table 4.1, which includes liquefied natural gas storage for that period.

<sup>c</sup> Positive numbers indicate that withdrawals are greater than injections. Negative numbers indicate that injections are greater than withdrawals. Net withdrawals or injections may not equal the difference between applicable

ending stocks. See Note 8 at end of section.

R=Revised. F=Forecast.

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

Sources: See end of section.



## 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) 1992*. Data are not available 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 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, refin-

ery 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 and Mexico. Liquefied natural gas (LNG) arrives via tanker from Algeria and United Arab Emirates. 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 EIA 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 Federal Energy Regulatory Commission (FERC) Forms FERC-8 (interstate data) and EIA-191 (intrastate 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 1980-1996 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.

Total underground storage capacity at the end of each calendar year since 1975 (first year data were available), in billion cubic feet, was:

1975	6,280	1986	8,145
1976	6,544	1987	8,124
1977	6,678	1988	8,124
1978	6,890	1989	8,124
1979	6,929	1990	8,125
1980	7,434	1991	7,993
1981	7,805	1992	7,932
1982	7,915	1993	7,989
1983	7,985	1994	8,043
1984	8,043	1995	7,953
1985	8,087	1996	7,980

Current capacity is 7,980 billion cubic feet.

**9. Forecast Values:** Data values preceded by "F" in this section are forecast values. They are derived from EIA's Short-Term Integrated Forecasting System (STIFS). The model is driven primarily by data and assumptions about

key macroeconomic variables, the world oil price, and weather. The natural gas forecast relies on other variables as well, such as gas wellhead prices, electric power generation by other sources, and U.S. gas import capacity. Each month, EIA staff review the model output and make adjustments, if appropriate, based on their knowledge of developments in the natural gas industry.

The STIFS model results are published quarterly in EIA's *Short-Term Energy Outlook*, which is available from the National Energy Information Center (202-586-8800) and accessible on the world wide web at <http://www.eia.doe.gov>. Documentation for the model and instructions for downloading and operating it on a personal computer are provided.

## Sources for Table 4.5

### Storage Activity

**1973-1975 :** Energy Information Administration (EIA) *Natural Gas Annual 1994, Volume 2*, Table 9.

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

**1980-1991:** EIA, *Historical Natural Gas Annual 1930 Through 1995*, Table 11.

**1992 forward:** EIA, *Natural Gas Monthly*, August 1998, Table 9. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 9 on this page.

### 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-O, "Underground Gas Storage Report," and Federal Power Commission (FPC), Form FPC-8, "Underground Gas Storage Report."

**1977 and 1978:** EIA, Form FEA-G-318-M-O, "Underground Gas Storage Report," and Federal Energy Regulatory Commission (FERC), Form FERC-8, "Underground Gas Storage Report."

**1979-1991:** EIA, Form EIA-191, "Underground Gas Storage Report," and FERC, Form FERC-8, "Underground Gas Storage Report."

**1992 forward:** EIA, *Natural Gas Monthly*, August 1998, Table 9. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 9 on this page.



# Section 5. Oil and Gas Resource Development

The August 1998 rotary rig count of 792 was 3 percent lower than the count in July and 20 percent lower than the count in August 1997. Of the total number of rigs in operation in August 1998, 674 were onshore and 118 were offshore. The number of onshore rigs fell 22 percent and the number of offshore rigs was down 6 percent from their August 1997 values.

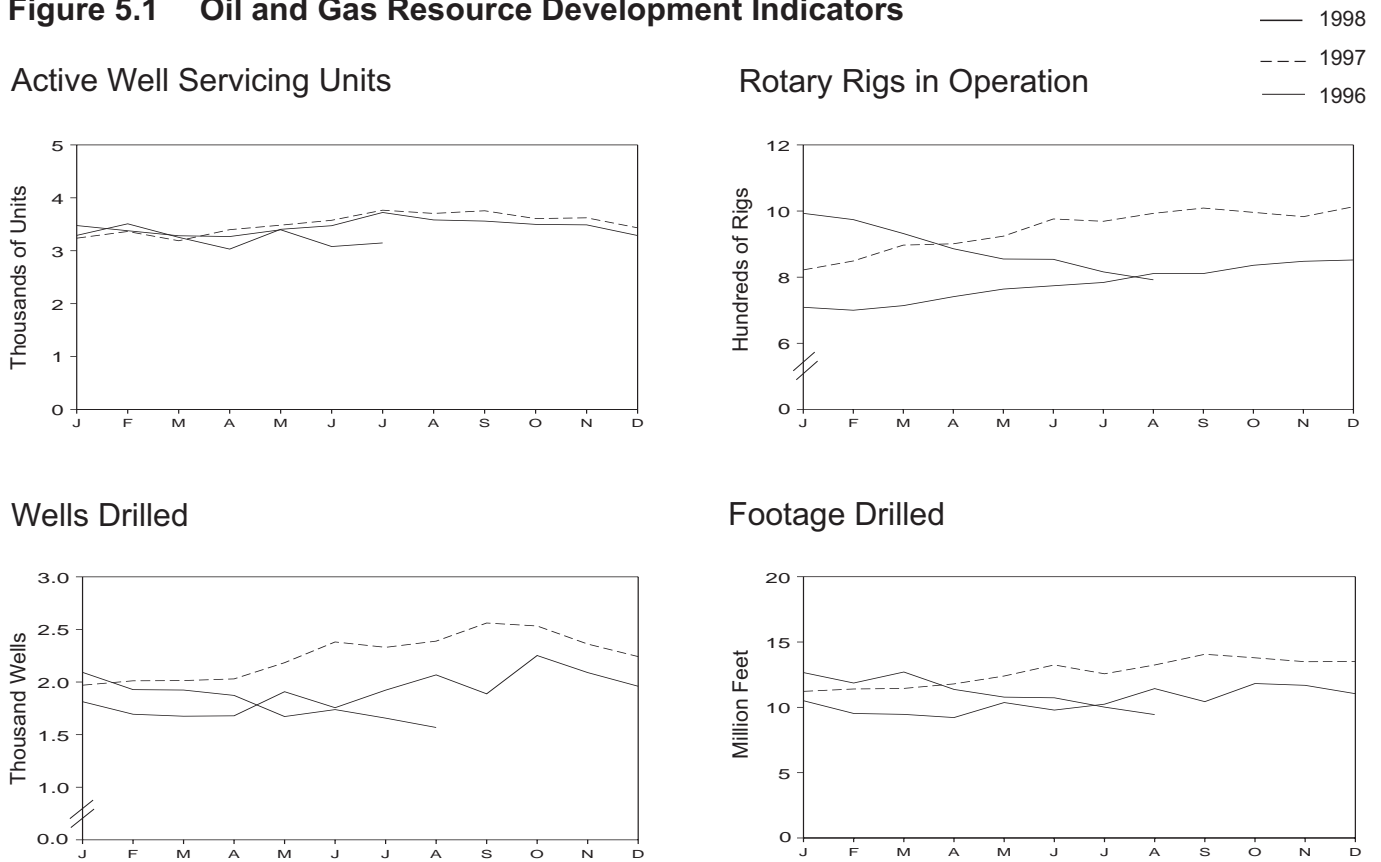
Total footage drilled in August 1998 was 9.4 million feet, down 6 percent from the footage drilled in July 1998 and down 29 percent from that drilled in August 1997.

The estimated number of exploratory and development gas and oil wells drilled during August 1998 was 1,222, 9

percent lower than the number drilled in July 1998 and 35 percent lower than the number drilled in August 1997. The estimated number of oil wells drilled was 424, and the estimated number of gas wells was 798, 52 percent lower and 21 percent lower, respectively, than their August 1997 levels. The estimated number of dry holes drilled in August 1998 was 346, up 9 percent from the number drilled in July 1998 but down 31 percent from the number drilled in August 1997.

Data for well servicing units active in August 1998, were not available at time of publication.

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



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		Total <sup>b</sup>		
				Offshore	Onshore	Oil	Gas			
	Monthly Average			Weekly Average					Thousand Feet	Number
<b>1973 Average</b> .....	23	227	250	84	1,110	NA	NA	1,194	138,223	NA
<b>1974 Average</b> .....	31	274	305	94	1,378	NA	NA	1,472	153,374	NA
<b>1975 Average</b> .....	30	254	284	106	1,554	NA	NA	1,660	180,494	NA
<b>1976 Average</b> .....	25	237	262	129	1,529	NA	NA	1,658	186,982	2,601
<b>1977 Average</b> .....	27	281	308	167	1,834	NA	NA	2,001	215,866	2,828
<b>1978 Average</b> .....	25	327	352	185	2,074	NA	NA	2,259	238,669	2,988
<b>1979 Average</b> .....	30	370	400	207	1,970	NA	NA	2,177	244,798	3,399
<b>1980 Average</b> .....	37	493	530	231	2,678	NA	NA	2,909	314,654	4,089
<b>1981 Average</b> .....	44	637	681	256	3,714	NA	NA	3,970	413,112	4,850
<b>1982 Average</b> .....	57	531	588	243	2,862	NA	NA	3,105	378,295	4,248
<b>1983 Average</b> .....	47	426	473	199	2,033	NA	NA	2,232	317,986	3,732
<b>1984 Average</b> .....	49	445	494	213	2,215	NA	NA	2,428	371,392	4,663
<b>1985 Average</b> .....	45	333	378	206	1,774	NA	NA	1,980	313,045	4,716
<b>1986 Average</b> .....	24	176	200	99	865	NA	NA	964	181,856	3,036
<b>1987 Average</b> .....	24	153	177	95	841	NA	NA	936	162,178	3,060
<b>1988 Average</b> .....	29	153	182	123	813	554	354	936	156,354	3,341
<b>1989 Average</b> .....	23	109	132	105	764	453	401	869	134,439	3,391
<b>1990 Average</b> .....	23	102	125	108	902	532	464	1,010	153,701	3,658
<b>1991 Average</b> .....	19	85	104	81	779	482	351	860	143,021	3,331
<b>1992 Average</b> .....	12	64	76	52	669	373	331	721	121,124	2,732
<b>1993 Average</b> .....	16	63	79	82	672	373	364	754	134,580	3,158
<b>1994 Average</b> .....	NA	NA	NA	102	673	335	427	775	124,403	2,961
<b>1995 Average</b> .....	NA	NA	NA	101	622	323	385	723	117,078	3,043
<b>1996</b> January .....	NA	NA	NA	111	598	295	406	709	10,507	3,290
February .....	NA	NA	NA	102	598	283	411	700	9,532	3,509
March .....	NA	NA	NA	96	618	286	421	714	9,462	3,253
April .....	NA	NA	NA	113	628	286	446	741	9,218	3,031
May .....	NA	NA	NA	116	648	288	467	764	10,368	3,405
June .....	NA	NA	NA	112	662	298	471	774	9,790	3,473
July .....	NA	NA	NA	107	677	290	488	784	10,242	3,723
August .....	NA	NA	NA	108	703	297	488	811	<sup>R</sup> 11,436	3,582
September .....	NA	NA	NA	109	702	301	505	811	10,436	3,560
October .....	NA	NA	NA	108	728	328	499	836	11,823	3,498
November .....	NA	NA	NA	107	741	363	482	848	11,686	3,489
December .....	NA	NA	NA	116	736	361	489	852	11,046	3,287
<b>Average</b> .....	NA	NA	NA	108	671	306	464	779	<sup>R</sup> 125,546	3,425
<b>1997</b> January .....	NA	NA	NA	110	712	342	478	822	11,224	3,237
February .....	NA	NA	NA	107	742	356	492	849	11,405	3,364
March .....	NA	NA	NA	127	770	377	518	897	11,449	3,189
April .....	NA	NA	NA	126	775	373	526	901	11,794	3,398
May .....	NA	NA	NA	120	804	379	541	924	12,398	3,483
June .....	NA	NA	NA	121	855	396	577	976	13,248	3,575
July .....	NA	NA	NA	125	844	382	584	969	<sup>R</sup> 12,569	3,766
August .....	NA	NA	NA	125	868	409	581	993	<sup>R</sup> 13,242	3,705
September .....	NA	NA	NA	128	881	392	614	1,009	14,062	3,755
October .....	NA	NA	NA	121	875	390	602	996	13,792	3,607
November .....	NA	NA	NA	126	857	354	625	983	13,493	3,622
December .....	NA	NA	NA	129	884	361	648	1,013	13,512	3,433
<b>Average</b> .....	NA	NA	NA	122	821	376	564	943	<sup>R</sup> 152,188	3,510
<b>1998</b> January .....	NA	NA	NA	133	860	380	609	993	12,661	3,476
February .....	NA	NA	NA	139	835	380	589	974	<sup>R</sup> 11,863	3,378
March .....	NA	NA	NA	136	796	327	601	932	12,705	3,283
April .....	NA	NA	NA	138	748	291	591	886	11,372	3,268
May .....	NA	NA	NA	133	722	272	580	855	10,781	3,396
June .....	NA	NA	NA	128	726	267	585	854	10,731	3,079
July .....	NA	NA	NA	121	695	264	549	816	10,017	3,147
August .....	NA	NA	NA	118	674	226	565	792	9,447	NA
<b>8-Month Average</b> ...	NA	NA	NA	130	757	301	583	888	89,577	NA
<b>1997 8-Month Average</b> ...	NA	NA	NA	120	796	377	537	916	97,329	3,465
<b>1996 8-Month Average</b> ...	NA	NA	NA	108	643	290	451	751	80,555	3,408

<sup>a</sup> Rotary rigs in operation are reported weekly. Monthly data are averages of 4- or 5- week reporting periods, not calendar months. Multi-month data are averages of the reported data over the covered months, *not* averages of the weekly data. Annual data are averages over 52- or 53- weeks, not calendar years. Published data are rounded to the nearest whole number.

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

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

<sup>d</sup> See Glossary.

R=Revised. NA=Not available.

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:** By Site - Baker Hughes, Inc., Houston, Texas, *Rotary Rigs Running-by State*. By Type - Baker Hughes, Inc., Houston, Texas, weekly phone recording. • **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:** Association of Energy Service Companies, Dallas, Texas, *Field Reports*.

**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	642	1,067	5,952	7,661	9,525	5,866	4,368	19,759	10,167	6,933	10,320	27,420
1974 Total	859	1,190	6,833	8,882	12,788	5,948	5,283	24,019	13,647	7,138	12,116	32,901
1975 Total	982	1,248	7,129	9,359	15,966	6,879	6,517	29,362	16,948	8,127	13,646	38,721
1976 Total	1,086	1,346	6,772	9,204	16,602	8,063	6,986	31,651	17,688	9,409	13,758	40,855
1977 Total	1,164	1,548	7,283	9,995	17,581	10,574	7,702	35,857	18,745	12,122	14,985	45,852
1978 Total	1,171	1,771	7,965	10,907	18,010	12,642	8,586	39,238	19,181	14,413	16,551	50,145
1979 Total	1,321	1,907	7,437	10,665	19,530	13,347	8,662	41,539	20,851	15,254	16,099	52,204
1980 Total	1,764	2,081	9,039	12,884	30,875	15,252	11,599	57,726	32,639	17,333	20,638	70,610
1981 Total	2,636	2,514	12,349	17,499	40,962	17,652	15,440	74,054	43,598	20,166	27,789	91,553
1982 Total	2,431	2,125	11,247	15,803	36,768	16,854	14,972	68,594	39,199	18,979	26,219	84,397
1983 Total	2,023	1,593	10,148	13,764	35,097	12,971	14,005	62,073	37,120	14,564	24,153	75,837
1984 Total	2,197	1,521	11,278	14,996	40,408	15,606	14,403	70,417	42,605	17,127	25,681	85,413
1985 Total	1,679	1,189	8,924	11,792	33,439	12,979	12,132	58,550	35,118	14,168	21,056	70,342
1986 Total	1,084	793	5,549	7,426	18,013	7,719	7,112	32,844	19,097	8,512	12,661	40,270
1987 Total	925	753	5,049	6,727	15,239	7,302	6,052	28,593	16,164	8,055	11,101	35,320
1988 Total	855	730	4,691	6,276	12,781	7,825	5,350	25,956	13,636	8,555	10,041	32,232
1989 Total	607	707	3,924	5,238	9,597	8,832	4,264	22,693	10,204	9,539	8,188	27,931
1990 Total	653	691	3,715	5,059	11,545	10,353	4,594	26,492	12,198	11,044	8,309	31,551
1991 Total	593	538	3,312	4,443	11,177	8,988	4,287	24,452	11,770	9,526	7,599	28,895
1992 Total	496	424	2,510	3,430	8,261	7,785	3,608	19,654	8,757	8,209	6,118	23,084
1993 Total	500	544	2,470	3,514	7,865	9,461	3,825	21,151	8,365	10,005	6,295	24,665
1994 Total	566	720	2,400	3,686	6,124	8,818	2,879	17,821	6,690	9,538	5,279	21,507
1995 Total	541	567	2,198	3,306	7,086	7,770	2,877	17,733	7,627	8,337	5,075	21,039
1996 January	55	61	170	286	563	678	286	1,527	618	739	456	1,813
February	44	47	137	228	591	655	220	1,466	635	702	357	1,694
March	41	31	160	232	565	656	222	1,443	606	687	382	1,675
April	32	39	162	233	608	617	221	1,446	640	656	383	1,679
May	42	60	202	304	676	687	241	1,604	718	747	443	1,908
June	36	48	179	263	600	647	246	1,493	636	695	425	1,756
July	40	63	204	307	656	716	244	1,616	696	779	448	1,923
August	44	42	211	297	711	776	284	1,771	755	818	495	2,068
September	34	35	162	231	622	756	279	1,657	656	791	441	1,888
October	46	43	195	284	768	889	311	1,968	814	932	506	2,252
November	35	40	188	263	734	809	284	1,827	769	849	472	2,090
December	32	51	160	243	726	739	252	1,717	758	790	412	1,960
Total	481	560	2,130	3,171	7,820	8,625	3,090	19,535	8,301	9,185	5,220	22,706
1997 January	37	58	155	250	679	774	267	1,720	716	832	422	1,970
February	28	R 29	162	R 219	736	R 789	268	R 1,793	764	R 818	430	R 2,012
March	32	39	146	217	766	788	243	1,797	798	827	389	2,014
April	37	44	150	231	803	714	282	1,799	840	758	432	2,030
May	38	R 39	164	R 241	887	R 802	254	R 1,943	925	R 841	418	R 2,184
June	43	R 34	166	R 243	954	R 886	298	R 2,138	997	920	464	2,381
July	40	R 43	145	R 228	R 879	R 908	R 315	R 2,102	R 919	R 951	R 460	R 2,330
August	30	30	R 180	R 240	R 851	R 974	324	R 2,149	R 881	R 1,004	R 504	R 2,389
September	37	55	221	313	877	1,079	292	2,248	914	1,134	513	2,561
October	26	45	228	299	840	1,106	288	2,234	866	1,151	516	2,533
November	35	61	178	274	807	974	306	2,087	842	1,035	484	2,361
December	35	57	184	276	771	917	278	1,966	806	974	462	2,242
Total	418	R 534	R 2,079	R 3,031	R 9,850	R 10,711	R 3,415	R 23,976	R 10,268	R 11,245	R 5,494	R 27,007
1998 January	48	47	138	233	760	R 857	R 242	R 1,859	808	R 904	R 380	R 2,092
February	24	33	119	176	R 665	R 791	R 296	R 1,752	R 689	R 824	R 415	R 1,928
March	35	35	125	195	708	R 799	222	R 1,729	743	R 834	347	R 1,924
April	27	33	111	171	637	848	217	1,702	664	881	328	1,873
May	R 17	35	R 146	R 198	R 559	R 658	R 257	R 1,474	R 576	R 693	R 403	R 1,672
June	28	34	R 128	R 190	R 499	846	R 203	R 1,548	R 527	880	331	R 1,738
July	23	36	R 118	R 177	R 429	853	R 198	R 1,480	R 452	889	316	R 1,657
August	15	28	115	158	409	770	231	1,410	424	798	346	1,568
8-Month Total	217	281	1,000	1,498	4,666	6,422	1,866	12,954	4,883	6,703	2,866	14,452
1997 8-Month Total	285	316	1,268	1,869	6,555	6,635	2,251	15,441	6,840	6,951	3,519	17,310
1996 8-Month Total	334	391	1,425	2,150	4,970	5,432	1,964	12,366	5,304	5,823	3,389	14,516

R=Revised.

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

Sources: Energy Information Administration computations, which are based on well reports submitted 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 (EIA) estimates produced by statistically imputing well counts and footage based on the partial data available from the API. These estimates are subject to continuous revision as new data, some of which pertain to earlier months and years, become available. Additional information about the EIA estimation methodology may be found in “Estimating Well Completions,” the feature article published in the March 1985 *MER*.

**Users of the well completion and footage figures published by the Energy Information Administration (EIA) prior to August 1998 should be aware that these data have been revised.** The published well completion and footage figures are produced by the Well Completion Estimation Procedure (WELCOM) based on drilling records provided under contract to the EIA. Problems in the files received by EIA necessitated revision of the historical series for well completions and footage drilled. Queries regarding this matter may be directed to William Trapmann (202-586-6408 or [william.trapmann@eia.doe.gov](mailto:william.trapmann@eia.doe.gov)).

## Section 6. Coal

Coal production in August 1998 totaled 93 million short tons, 4 percent higher than the 90 million short tons produced in August 1997.

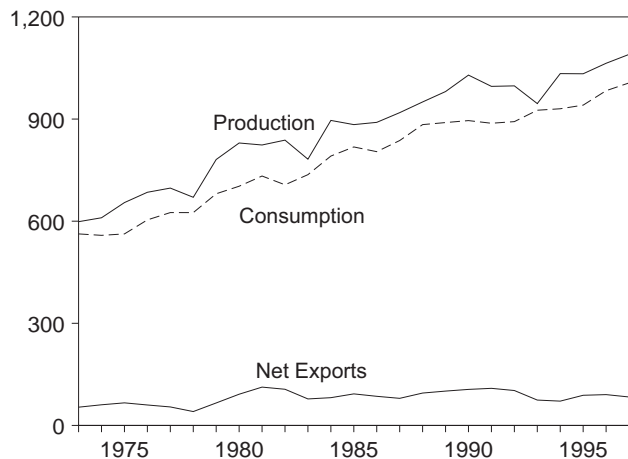
Electric utility coal consumption in June 1998 totaled 79 million short tons, 7 percent higher than the consumption level in June 1997. Electric utility coal stocks were 118

million short tons at the end of June 1998, 2 percent below the 121 million short tons at the end of June 1997.

Coal exports in June 1998 totaled 7 million short tons, 2 percent lower than exports in June 1997. Coal imports in June 1998 totaled 925 thousand short tons, 54 percent higher than imports in June 1997.

**Figure 6.1 Coal**  
(Million Short Tons)

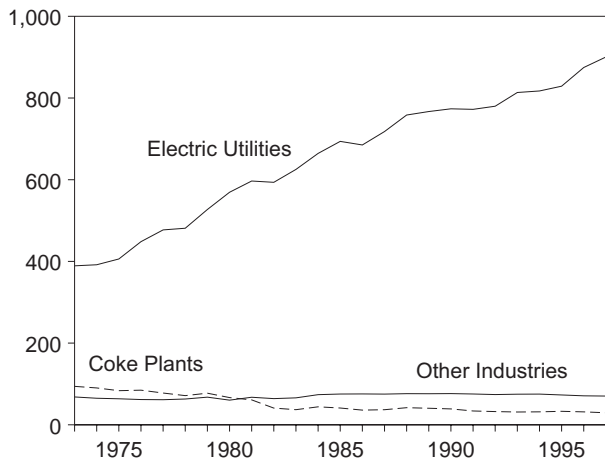
Overview, 1973-1997



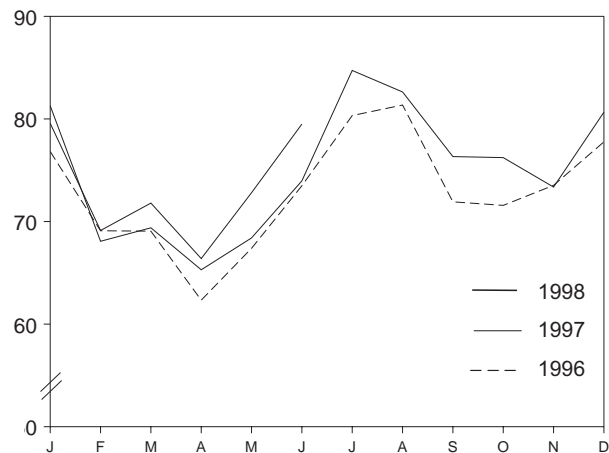
Overview, Monthly



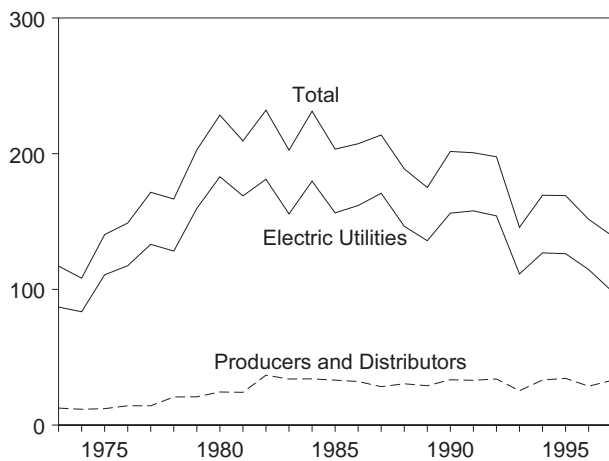
Consumption by Sector, 1973-1997



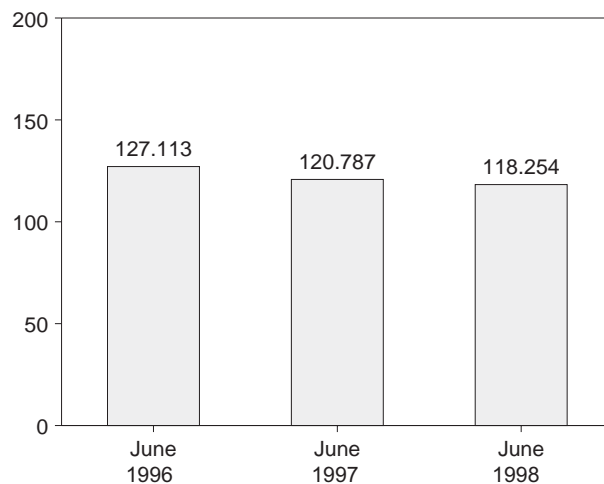
Consumption by Electric Utilities, Monthly



Stocks, End of Year, 1973-1997



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>
<b>1973 Total</b> .....	<b>598,568</b>	<b>562,584</b>	<b>127</b>	<b>53,587</b>	<b>117,155</b>
<b>1974 Total</b> .....	<b>610,023</b>	<b>558,402</b>	<b>2,080</b>	<b>60,661</b>	<b>108,237</b>
<b>1975 Total</b> .....	<b>654,641</b>	<b>562,640</b>	<b>940</b>	<b>66,309</b>	<b>140,391</b>
<b>1976 Total</b> .....	<b>684,913</b>	<b>603,790</b>	<b>1,203</b>	<b>60,021</b>	<b>148,899</b>
<b>1977 Total</b> .....	<b>697,205</b>	<b>625,291</b>	<b>1,647</b>	<b>54,312</b>	<b>171,543</b>
<b>1978 Total</b> .....	<b>670,164</b>	<b>625,225</b>	<b>2,953</b>	<b>40,714</b>	<b>166,606</b>
<b>1979 Total</b> .....	<b>781,134</b>	<b>680,524</b>	<b>2,059</b>	<b>66,042</b>	<b>202,812</b>
<b>1980 Total</b> .....	<b>829,700</b>	<b>702,730</b>	<b>1,194</b>	<b>91,742</b>	<b>228,407</b>
<b>1981 Total</b> .....	<b>823,775</b>	<b>732,627</b>	<b>1,043</b>	<b>112,541</b>	<b>209,423</b>
<b>1982 Total</b> .....	<b>838,112</b>	<b>706,911</b>	<b>742</b>	<b>106,277</b>	<b>232,038</b>
<b>1983 Total</b> .....	<b>782,091</b>	<b>736,672</b>	<b>1,271</b>	<b>77,772</b>	<b>202,584</b>
<b>1984 Total</b> .....	<b>895,921</b>	<b>791,296</b>	<b>1,286</b>	<b>81,483</b>	<b>231,300</b>
<b>1985 Total</b> .....	<b>883,638</b>	<b>818,049</b>	<b>1,952</b>	<b>92,680</b>	<b>203,367</b>
<b>1986 Total</b> .....	<b>890,315</b>	<b>804,231</b>	<b>2,212</b>	<b>85,518</b>	<b>207,319</b>
<b>1987 Total</b> .....	<b>918,762</b>	<b>836,941</b>	<b>1,747</b>	<b>79,607</b>	<b>213,780</b>
<b>1988 Total</b> .....	<b>950,265</b>	<b>883,642</b>	<b>2,134</b>	<b>95,023</b>	<b>188,831</b>
<b>1989 Total</b> .....	<b>980,729</b>	<b>889,699</b>	<b>2,851</b>	<b>100,815</b>	<b>175,087</b>
<b>1990 Total</b> .....	<b>1,029,076</b>	<b>895,480</b>	<b>2,699</b>	<b>105,804</b>	<b>201,629</b>
<b>1991 Total</b> .....	<b>995,984</b>	<b>887,621</b>	<b>3,390</b>	<b>108,969</b>	<b>200,682</b>
<b>1992 Total</b> .....	<b>997,545</b>	<b>892,421</b>	<b>3,803</b>	<b>102,516</b>	<b>197,685</b>
<b>1993 Total</b> .....	<b>945,424</b>	<b>925,944</b>	<b>7,309</b>	<b>74,519</b>	<b>145,742</b>
<b>1994 Total</b> .....	<b>1,033,504</b>	<b>930,201</b>	<b>7,584</b>	<b>71,359</b>	<b>169,358</b>
<b>1995 Total</b> .....	<b>1,032,974</b>	<b>940,880</b>	<b>7,201</b>	<b>88,547</b>	<b>169,083</b>
<b>1996</b> January .....	83,814	86,453	524	6,743	160,869
February .....	84,533	78,406	715	6,892	159,056
March .....	91,409	78,501	474	6,880	161,343
April .....	89,124	71,042	172	7,330	170,131
May .....	89,525	76,076	790	7,663	175,099
June .....	84,748	82,147	591	8,046	171,623
July .....	89,262	89,111	802	7,877	163,853
August .....	95,083	90,041	620	7,412	160,665
September .....	87,773	80,505	649	8,214	161,368
October .....	94,752	80,672	642	8,077	164,013
November .....	86,905	82,897	668	7,976	159,145
December .....	86,928	87,485	479	7,361	151,627
<b>Total</b> .....	<b>1,063,856</b>	<b>983,334</b>	<b>7,126</b>	<b>90,473</b>	<b>151,627</b>
<b>1997</b> January .....	R 92,828	90,646	409	7,298	146,120
February .....	R 88,441	77,116	338	5,778	149,806
March .....	R 92,812	78,629	585	6,936	158,215
April .....	R 88,429	73,917	528	6,657	164,365
May .....	R 94,783	76,973	580	7,195	171,107
June .....	R 86,924	82,366	599	6,751	170,117
July .....	R 89,195	93,165	781	6,807	158,185
August .....	R 89,742	91,017	620	8,551	151,383
September .....	R 92,713	84,769	820	6,997	148,943
October .....	R 95,010	85,026	564	7,446	147,282
November .....	R 83,728	82,471	607	6,609	143,603
December .....	R 95,328	90,111	1,054	6,521	139,717
<b>Total</b> .....	<b>R 1,089,932</b>	<b>1,006,206</b>	<b>7,487</b>	<b>83,545</b>	<b>139,717</b>
<b>1998</b> January .....	97,318	88,274	705	6,980	139,935
February .....	86,473	77,569	447	5,217	144,955
March .....	95,400	80,384	687	6,097	148,114
April .....	R 90,876	E 74,761	792	6,466	E 160,556
May .....	R 89,514	E 80,958	475	7,415	E 163,563
June .....	R 91,223	E 87,728	925	6,619	E 161,962
July .....	92,420	NA	NA	NA	NA
August .....	93,428	NA	NA	NA	NA
<b>8-Month Total</b> .....	<b>736,651</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>1997 8-Month Total</b> .....	<b>723,153</b>	<b>663,829</b>	<b>4,441</b>	<b>55,972</b>	<b>151,383</b>
<b>1996 8-Month Total</b> .....	<b>707,498</b>	<b>651,776</b>	<b>4,687</b>	<b>58,844</b>	<b>160,665</b>

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

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

Notes: • Data through 1995 are final. Subsequent data are preliminary.

• For methodology used to calculate production, consumption, and stocks, see Notes 1, 2, and 3 at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.



**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		
<b>1973 Total</b> .....	11,117	94,101	68,154	389,212	562,584
<b>1974 Total</b> .....	11,417	90,191	64,983	391,811	558,402
<b>1975 Total</b> .....	9,410	83,598	63,670	405,962	562,640
<b>1976 Total</b> .....	8,916	84,704	61,799	448,371	603,790
<b>1977 Total</b> .....	8,954	77,739	61,472	477,126	625,291
<b>1978 Total</b> .....	9,511	71,394	63,085	481,235	625,225
<b>1979 Total</b> .....	8,388	77,368	67,717	527,051	680,524
<b>1980 Total</b> .....	6,452	66,657	60,347	569,274	702,730
<b>1981 Total</b> .....	7,421	61,014	67,395	596,797	732,627
<b>1982 Total</b> .....	8,240	40,908	64,097	593,666	706,911
<b>1983 Total</b> .....	8,448	37,033	65,980	625,211	736,672
<b>1984 Total</b> .....	9,130	44,022	73,745	664,399	791,296
<b>1985 Total</b> .....	7,779	41,056	75,372	693,841	818,049
<b>1986 Total</b> .....	7,667	35,924	75,583	685,056	804,231
<b>1987 Total</b> .....	6,914	36,957	75,175	717,894	836,941
<b>1988 Total</b> .....	7,130	41,888	76,252	758,372	883,642
<b>1989 Total</b> .....	6,167	40,508	76,134	766,888	889,699
<b>1990 Total</b> .....	6,724	38,877	76,330	773,549	895,480
<b>1991 Total</b> .....	6,094	33,854	75,405	772,268	887,621
<b>1992 Total</b> .....	6,153	32,366	74,042	779,860	892,421
<b>1993 Total</b> .....	6,221	31,323	74,892	813,508	925,944
<b>1994 Total</b> .....	6,013	31,740	75,179	817,270	930,201
<b>1995 Total</b> .....	5,807	33,011	73,055	829,007	940,880
<b>1996</b> January .....	697	2,714	6,217	76,824	86,453
February .....	578	2,523	6,202	69,103	78,406
March .....	526	2,721	6,194	69,061	78,501
April .....	496	2,611	5,601	62,334	71,042
May .....	381	2,669	5,636	67,390	76,076
June .....	324	2,686	5,651	73,487	82,147
July .....	443	2,708	5,630	80,330	89,111
August .....	424	2,676	5,584	81,357	90,041
September .....	335	2,631	5,617	71,922	80,505
October .....	342	2,572	6,183	71,575	80,672
November .....	663	2,519	6,183	73,531	82,897
December .....	797	2,675	6,244	77,769	87,485
<b>Total</b> .....	<b>6,006</b>	<b>31,706</b>	<b>70,941</b>	<b>874,681</b>	<b>983,334</b>
<b>1997</b> January .....	769	2,515	6,073	81,288	90,646
February .....	559	2,394	6,088	68,076	77,116
March .....	474	2,681	6,085	69,389	78,629
April .....	534	2,412	5,675	65,296	73,917
May .....	352	2,533	5,684	68,402	76,973
June .....	314	2,422	5,667	73,963	82,366
July .....	466	2,403	5,570	84,727	93,165
August .....	400	2,438	5,548	82,631	91,017
September .....	335	2,498	5,604	76,332	84,769
October .....	358	2,340	6,096	76,232	85,026
November .....	611	2,360	6,138	73,362	82,471
December .....	832	2,449	6,169	80,661	90,111
<b>Total</b> .....	<b>6,006</b>	<b>29,443</b>	<b>70,396</b>	<b>900,361</b>	<b>1,006,206</b>
<b>1998</b> January .....	684	2,343	5,675	79,571	88,274
February .....	559	2,220	5,664	69,127	77,569
March .....	559	2,375	5,650	71,800	80,384
April .....	<sup>E</sup> 495	<sup>E</sup> 2,457	<sup>E</sup> 5,417	66,392	<sup>E</sup> 74,761
May .....	<sup>E</sup> 401	<sup>E</sup> 2,128	<sup>E</sup> 5,620	72,809	<sup>E</sup> 80,958
June .....	<sup>E</sup> 435	<sup>E</sup> 2,284	<sup>E</sup> 5,510	79,499	<sup>E</sup> 87,728
<b>6-Month Total</b> .....	<sup>E</sup> <b>3,133</b>	<sup>E</sup> <b>13,807</b>	<sup>E</sup> <b>33,536</b>	<b>439,198</b>	<sup>E</sup> <b>489,674</b>
<b>1997 6-Month Total</b> .....	<b>3,003</b>	<b>14,957</b>	<b>35,273</b>	<b>426,414</b>	<b>479,647</b>
<b>1996 6-Month Total</b> .....	<b>3,003</b>	<b>15,923</b>	<b>35,500</b>	<b>418,198</b>	<b>472,624</b>

<sup>E</sup>=Estimate.

Notes: • For sector-specific reporting and estimating information, see Note 2 at end of section. • Data through 1994 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent

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

Sources: See end of section.

**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 <sup>a</sup>		
1973 Year .....	6,998	10,370	86,967	104,625	12,530	117,155
1974 Year .....	6,209	6,605	83,509	96,603	11,634	108,237
1975 Year .....	8,797	8,529	110,724	128,283	12,108	140,391
1976 Year .....	9,902	7,100	117,436	134,678	14,221	148,899
1977 Year .....	12,816	11,063	133,219	157,318	14,225	171,543
1978 Year .....	8,278	9,048	128,225	145,911	20,695	166,606
1979 Year .....	10,155	11,777	159,714	181,986	20,826	202,812
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 .....	4,346	8,710	155,598	168,654	33,931	202,584
1984 Year .....	6,166	11,317	179,727	197,211	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	170,797	185,459	28,321	213,780
1988 Year .....	3,137	8,768	146,507	158,413	30,418	188,831
1989 Year .....	2,864	7,363	135,860	146,087	29,000	175,087
1990 Year .....	3,329	8,716	156,166	168,210	33,418	201,629
1991 Year .....	2,773	7,061	157,876	167,711	32,971	200,682
1992 Year .....	2,597	6,965	154,130	163,692	33,993	197,685
1993 Year .....	2,401	6,716	111,341	120,458	25,284	145,742
1994 Year .....	2,657	6,585	126,897	136,139	33,219	169,358
1995 Year .....	2,632	5,702	126,304	134,639	34,444	169,083
1996 January .....	2,616	5,278	117,728	125,622	35,247	160,869
February .....	2,600	4,855	115,553	123,007	36,049	159,056
March .....	2,583	4,431	117,478	124,492	36,851	161,343
April .....	2,589	4,476	126,051	133,116	37,015	170,131
May .....	2,595	4,521	130,803	137,919	37,179	175,099
June .....	2,601	4,565	127,113	134,280	37,344	171,623
July .....	2,672	4,810	120,215	127,697	36,156	163,853
August .....	2,743	5,055	117,899	125,697	34,968	160,665
September .....	2,814	5,301	119,473	127,588	33,780	161,368
October .....	2,765	5,430	123,749	131,944	32,069	164,013
November .....	2,716	5,559	120,512	128,787	30,359	159,145
December .....	2,667	5,688	114,623	122,979	28,648	151,627
1997 January .....	2,569	5,316	106,621	114,506	31,614	146,120
February .....	2,470	4,944	107,813	115,228	34,579	149,806
March .....	2,372	4,572	113,727	120,671	37,544	158,215
April .....	2,265	4,631	118,263	125,160	39,205	164,365
May .....	2,158	4,691	123,391	130,240	40,867	171,107
June .....	2,050	4,751	120,787	127,588	42,529	170,117
July .....	2,159	4,946	109,690	116,795	41,389	158,185
August .....	2,267	5,142	103,724	111,133	40,250	151,383
September .....	2,375	5,338	102,119	109,832	39,111	148,943
October .....	2,388	5,424	102,436	110,249	37,034	147,282
November .....	2,401	5,511	100,735	108,647	34,956	143,603
December .....	2,414	5,597	98,826	106,837	32,879	139,717
1998 January .....	2,272	5,261	100,402	107,935	32,000	139,935
February .....	2,129	4,924	103,902	110,955	34,000	144,955
March .....	1,986	4,588	107,540	114,114	34,000	148,114
April .....	E 2,156	E 4,417	115,983	E 122,556	E 38,000	E 160,556
May .....	E 1,919	E 4,566	120,078	E 126,563	E 37,000	E 163,563
June .....	E 2,178	E 4,530	118,254	E 124,962	E 37,000	E 161,962

<sup>a</sup> Includes stocks held at retail dealers for consumption by the residential and commercial sector in thousand short tons: 1973 290; 1974 280; 1975 233; 1976 240; 1977 220; 1978 360; and 1979 340.

E=Estimate.

Notes: • For sector-specific reporting and estimating information, see Note 3 at end of section. • Data through 1994 are final. Subsequent data are

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

Sources: See end of section.

## 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 Surface Transportation Board. 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 ensures 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, November, 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, monthly 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 (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, October, 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 taken 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.

## Sources for Table 6.1

### 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-545 (Exports).

### Stocks

Table 6.3.

## Sources for Table 6.2

### 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 Supplement.”

**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.”

## **Sources for Table 6.3**

### **Coke Plants**

**1973-September 1977**—U.S. Department of the Inte-

rior (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.



## Section 7. Electricity

**Electric Power Industry.** Electricity is produced by electric utilities and nonutility power producers. Electric utilities are the traditional, highly regulated part of the industry, and nonutility power producers are the unregulated, competitive part of the industry. In general, the electric power industry is moving away from regulated entities, and the nonutility power producers are expanding rapidly.

The Energy Information Administration maintains comprehensive data about electric utilities, which still account for most electric power in the country. Less information is available about nonutility power production, but some data are beginning to become available that provide perspective on the overall industry.

While little monthly data are available on the activities of nonutility power producers, some annual data can be provided. *Monthly Energy Review* Tables 7.1, 7.5, and 7.6 now provide annual data about nonutility power net generation and fossil fuel consumption.

In 1997, the total electric power industry net generation was 3.5 trillion kilowatthours of electricity. Of that sum, 3.1 trillion kilowatthours, or 88 percent, was produced by electric utilities and 0.4 trillion kilowatthours, or 12 percent, from nonutility power producers. While electric utilities relied most heavily on coal for producing power, nonutilities derived most of their power from natural gas.

**Electric Utility Net Generation.** During June 1998, electric utilities generated 291 billion kilowatthours of electricity, 9 percent higher than in June 1997. Coal-fired generation totaled 158 billion kilowatthours, 8 percent higher than the June 1997 level. Nuclear generation totaled 56 billion kilowatthours, 7 percent higher than the level 1 year earlier. Hydroelectric gen-

eration totaled 30 billion kilowatthours, 8 percent less than the June 1997 level. Natural gas-fired generation was 35 billion kilowatthours, 23 percent higher than the June 1997 level. Petroleum-fired generation totaled 12 billion kilowatthours, 81 percent above the level 1 year earlier.

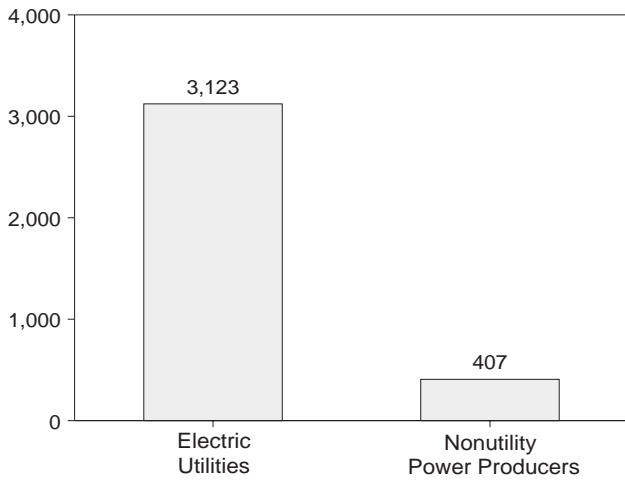
**Electric Utility Sales.** Electric utility sales of electricity to all ultimate consumers in the United States in June 1998 were 282 billion kilowatthours, 9 percent higher than sales during June 1997. Sales to industrial consumers totaled 91 billion kilowatthours in June 1998, 2 percent higher than the level of sales during the previous year. Residential sales totaled 99 billion kilowatthours in June 1998, 19 percent above the level 1 year earlier. Commercial sales totaled 84 billion kilowatthours, 7 percent higher than the level of sales during the previous year. In June 1998, other sales totaled 8 billion kilowatthours, 5 percent higher than the June 1997 level.

**Electric Utility Consumption of Fossil Fuels.** Electric utility consumption of coal during June 1998 was 79 million short tons, 7 percent higher than consumption in June 1997. Petroleum consumption (excluding petroleum coke) during June 1998 was 20 million barrels, 80 percent above the level of consumption in June 1997. During June 1998, electric utilities consumed 379 billion cubic feet of natural gas, 27 percent higher than the June 1997 consumption level.

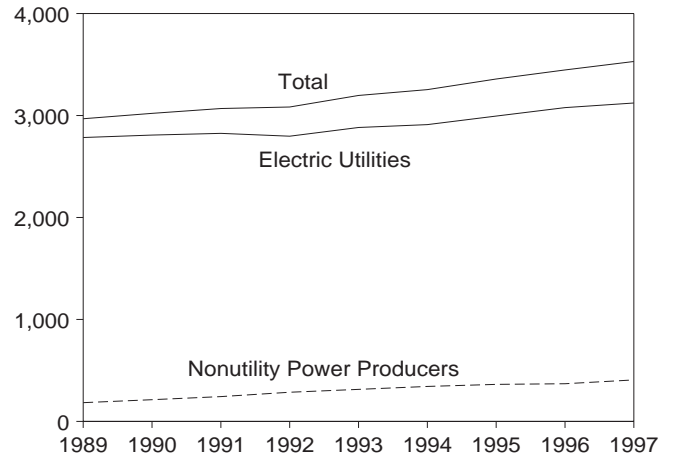
**Electric Utility Stocks of Coal and Petroleum.** On June 30, 1998, electric utility stocks of all types of coal totaled 118 million short tons, 2 percent lower than the level on June 30, 1997. Stocks of petroleum (excluding petroleum coke) on June 30, 1998, totaled 45 million barrels, 5 percent below the level on June 30, 1997.

**Figure 7.1 Electric Power Industry Net Generation**  
(Billion Kilowatthours)

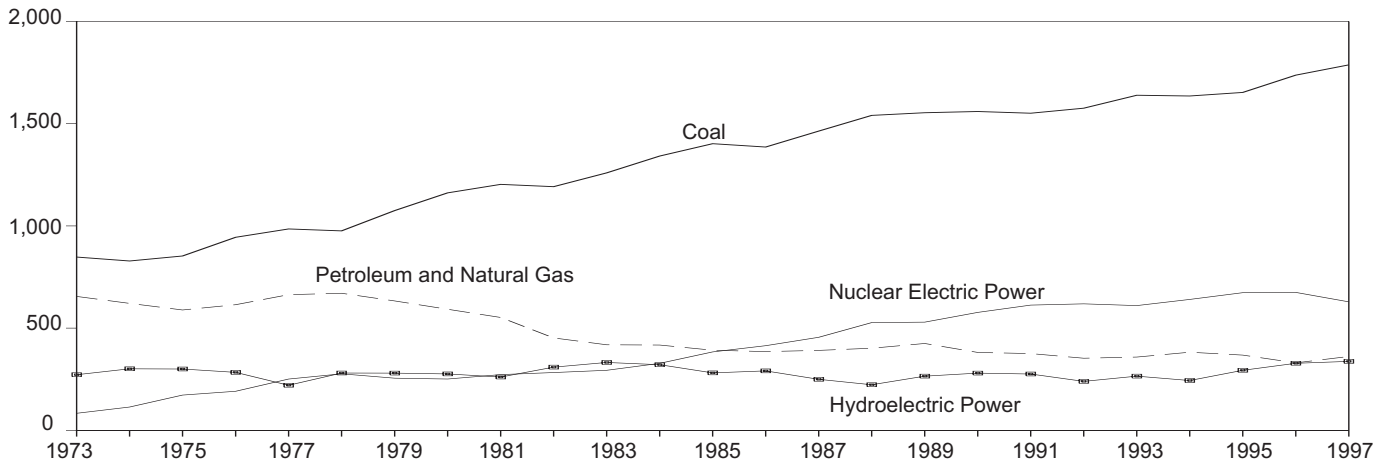
**Electric Power Industry, 1997**



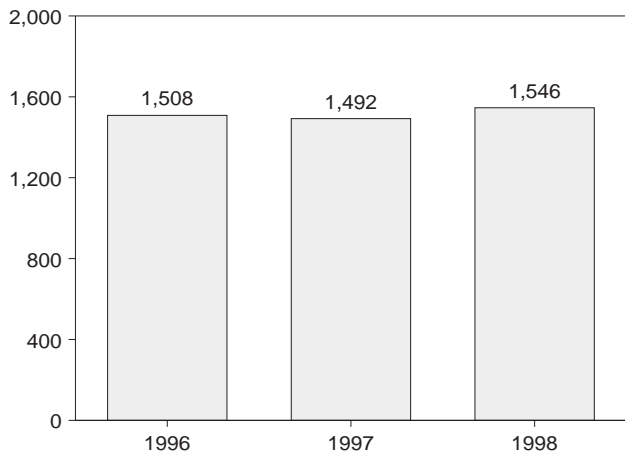
**Electric Power Industry, 1989-1997**



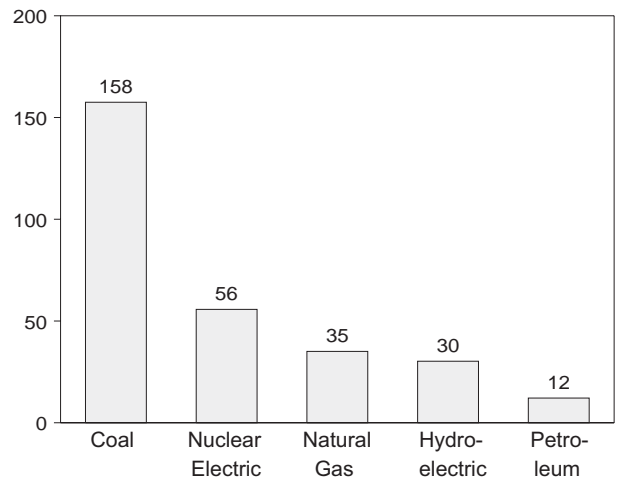
**Electric Utilities by Source, 1973-1997**



**Electric Utilities Total, January-June**



**Electric Utilities Total, June 1998**



Note: Because vertical scales differ, graphs should not be compared.  
Source: Table 7.1.



**Table 7.1 Electric Power Industry Net Generation**  
(Million Kilowatthours)

	Electric Utilities									Nonutility Power Producers	Total Electric Power Industry
	Coal	Natural Gas <sup>a</sup>	Petroleum <sup>b</sup>	Nuclear Electric Power	Hydro-electric Power	Geo-thermal Energy	Wood and Waste	Other <sup>c</sup>	Total		
<b>1973 Total</b> .....	847,651	340,858	314,343	83,479	272,083	1,966	328	0	1,860,710	NA	NA
<b>1974 Total</b> .....	828,433	320,065	300,931	113,976	301,032	2,453	251	0	1,867,140	NA	NA
<b>1975 Total</b> .....	852,786	299,778	289,095	172,505	300,047	3,246	191	0	1,917,649	NA	NA
<b>1976 Total</b> .....	944,391	294,624	319,988	191,104	283,707	3,616	266	0	2,037,696	NA	NA
<b>1977 Total</b> .....	985,219	305,505	358,179	250,883	220,475	3,582	481	0	2,124,323	NA	NA
<b>1978 Total</b> .....	975,742	305,391	365,060	276,403	280,419	2,978	338	0	2,206,331	NA	NA
<b>1979 Total</b> .....	1,075,037	329,485	303,525	255,155	279,783	3,889	498	0	2,247,372	NA	NA
<b>1980 Total</b> .....	1,161,562	346,240	245,994	251,116	276,021	5,073	433	0	2,286,439	NA	NA
<b>1981 Total</b> .....	1,203,203	345,777	206,421	272,674	260,684	5,686	368	0	2,294,812	NA	NA
<b>1982 Total</b> .....	1,192,004	305,260	146,797	282,773	309,213	4,843	321	0	2,241,211	NA	NA
<b>1983 Total</b> .....	1,259,424	274,098	144,499	293,677	332,130	6,075	379	3	2,310,285	NA	NA
<b>1984 Total</b> .....	1,341,681	297,394	119,808	327,634	321,150	7,741	886	12	2,416,304	NA	NA
<b>1985 Total</b> .....	1,402,128	291,946	100,202	383,691	281,149	9,325	1,383	16	2,469,841	NA	NA
<b>1986 Total</b> .....	1,385,831	248,508	136,585	414,038	290,844	10,308	1,177	18	2,487,310	NA	NA
<b>1987 Total</b> .....	1,463,781	272,621	118,493	455,270	249,695	10,775	1,477	14	2,572,127	NA	NA
<b>1988 Total</b> .....	1,540,653	252,801	148,900	526,973	222,940	10,300	1,674	10	2,704,250	NA	NA
<b>1989 Total</b> .....	1,553,661	266,598	158,318	529,355	265,063	9,342	1,965	3	2,784,304	183,943	2,968,247
<b>1990 Total</b> .....	1,559,606	264,089	117,017	576,862	279,926	8,581	2,067	3	2,808,151	213,046	3,021,197
<b>1991 Total</b> .....	1,551,167	264,172	111,463	612,565	275,519	8,087	2,046	4	2,825,223	243,503	3,068,526
<b>1992 Total</b> .....	1,575,895	263,872	88,916	618,776	239,559	8,104	2,093	3	2,797,219	286,148	3,083,367
<b>1993 Total</b> .....	1,639,151	258,915	99,539	610,291	265,063	7,571	1,990	4	2,882,525	314,399	3,196,924
<b>1994 Total</b> .....	1,635,493	291,115	91,039	640,440	243,693	6,941	1,988	4	2,910,712	343,087	3,253,799
<b>1995 Total</b> .....	1,652,914	307,306	60,844	673,402	293,653	4,745	1,649	15	2,994,529	363,308	3,357,837
<b>1996</b> January .....	152,401	16,055	7,872	62,942	28,831	354	148	1	268,604	NA	NA
February .....	137,501	13,327	8,244	55,928	29,850	361	136	(s)	245,347	NA	NA
March .....	138,391	15,214	6,101	55,474	32,221	339	159	1	247,900	NA	NA
April .....	125,206	16,612	3,201	50,325	30,420	385	123	1	226,273	NA	NA
May .....	134,445	25,424	3,992	55,637	31,645	258	139	2	251,543	NA	NA
June .....	146,069	28,730	5,582	57,498	30,191	387	169	2	268,626	NA	NA
July .....	158,517	34,129	7,583	60,953	27,352	555	188	2	289,279	NA	NA
August .....	161,782	35,233	6,330	61,477	24,835	574	172	1	290,404	NA	NA
September .....	142,326	27,254	4,855	54,593	20,706	496	165	1	250,397	NA	NA
October .....	142,625	21,812	3,359	50,612	21,165	531	203	1	240,308	NA	NA
November .....	145,208	16,525	4,295	52,132	21,956	538	190	(s)	240,844	NA	NA
December .....	152,983	12,414	5,933	57,159	28,798	456	174	(s)	257,917	NA	NA
<b>Total</b> .....	<b>1,737,453</b>	<b>262,730</b>	<b>67,346</b>	<b>674,729</b>	<b>327,970</b>	<b>5,234</b>	<b>1,967</b>	<b>13</b>	<b>3,077,442</b>	<b>369,656</b>	<b>3,447,098</b>
<b>1997</b> January .....	161,286	13,359	8,225	58,914	31,049	414	162	(s)	273,410	NA	NA
February .....	134,998	13,475	4,479	50,658	29,840	310	148	(s)	233,907	NA	NA
March .....	137,830	18,191	4,345	50,414	33,286	438	155	1	244,659	NA	NA
April .....	131,744	18,870	3,926	44,883	30,436	484	169	1	230,512	NA	NA
May .....	136,110	22,192	4,452	47,032	32,709	471	177	1	243,143	NA	NA
June .....	146,009	28,456	6,728	52,095	32,762	385	152	1	266,588	NA	NA
July .....	167,087	40,403	9,072	57,352	30,034	512	167	1	304,628	NA	NA
August .....	162,384	37,237	7,711	61,084	25,462	505	173	1	294,557	NA	NA
September .....	151,427	32,281	7,688	52,586	22,031	482	153	1	266,649	NA	NA
October .....	152,004	23,276	7,094	46,981	23,240	477	193	1	253,267	NA	NA
November .....	146,037	17,029	6,660	51,189	22,166	475	170	0	243,726	NA	NA
December .....	160,890	18,855	7,374	55,457	24,219	516	166	0	267,477	NA	NA
<b>Total</b> .....	<b>1,787,806</b>	<b>283,625</b>	<b>77,753</b>	<b>628,644</b>	<b>337,233</b>	<b>5,469</b>	<b>1,983</b>	<b>9</b>	<b>3,122,522</b>	<b>E 407,026</b>	<b>E 3,529,549</b>
<b>1998</b> January .....	156,540	16,306	6,468	57,889	27,518	491	172	0	265,384	NA	NA
February .....	136,324	12,861	5,733	50,999	28,814	390	145	0	235,266	NA	NA
March .....	144,152	18,751	8,689	53,711	30,391	487	169	0	256,351	NA	NA
April .....	132,153	18,455	6,833	47,503	27,376	320	167	0	232,807	NA	NA
May .....	145,271	27,164	9,531	51,496	31,020	288	182	0	264,952	NA	NA
June .....	157,503	35,082	12,149	55,732	30,248	354	129	1	291,197	NA	NA
<b>6-Month Total</b> ...	<b>871,942</b>	<b>128,620</b>	<b>49,403</b>	<b>317,330</b>	<b>175,367</b>	<b>2,331</b>	<b>963</b>	<b>2</b>	<b>1,545,957</b>	<b>NA</b>	<b>NA</b>
<b>1997 6-Month Total</b> ...	<b>847,977</b>	<b>114,543</b>	<b>32,155</b>	<b>303,996</b>	<b>190,080</b>	<b>2,502</b>	<b>962</b>	<b>5</b>	<b>1,492,219</b>	<b>NA</b>	<b>NA</b>
<b>1996 6-Month Total</b> ...	<b>834,013</b>	<b>115,362</b>	<b>34,991</b>	<b>337,803</b>	<b>183,159</b>	<b>2,083</b>	<b>875</b>	<b>7</b>	<b>1,508,293</b>	<b>NA</b>	<b>NA</b>

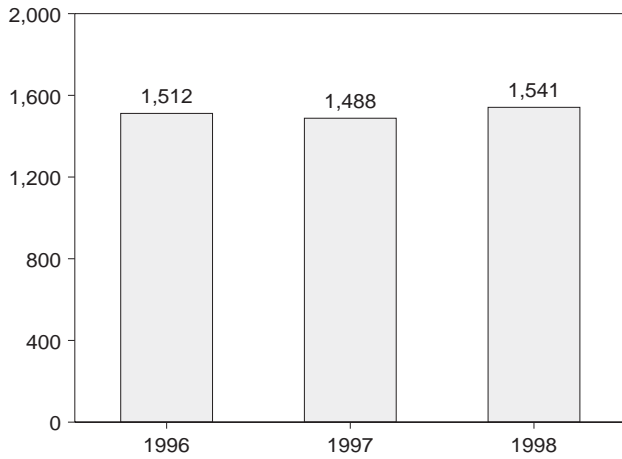
<sup>a</sup> Includes supplemental gaseous fuel.  
<sup>b</sup> Includes fuel oil nos. 1, 2, 4, 5, and 6, crude oil, kerosene, and petroleum coke.  
<sup>c</sup> "Other" is electricity produced from wind, photovoltaic, and solar thermal energy sources connected to electric utility distribution systems.

NA=Not available. E=Estimate. (s)=Less than 500 thousand kilowatthours.  
 Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
 Sources: See end of section.

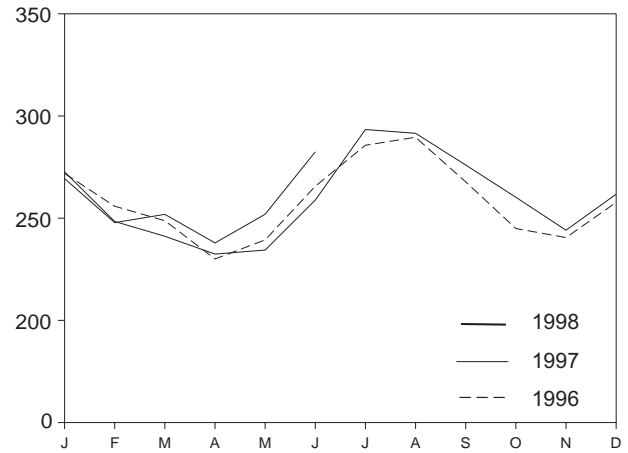
See Table 7.5 for nonutility power producers' annual net generation of electricity by source.

**Figure 7.2 Electric Utility Retail Sales of Electricity**  
(Billion Kilowatthours)

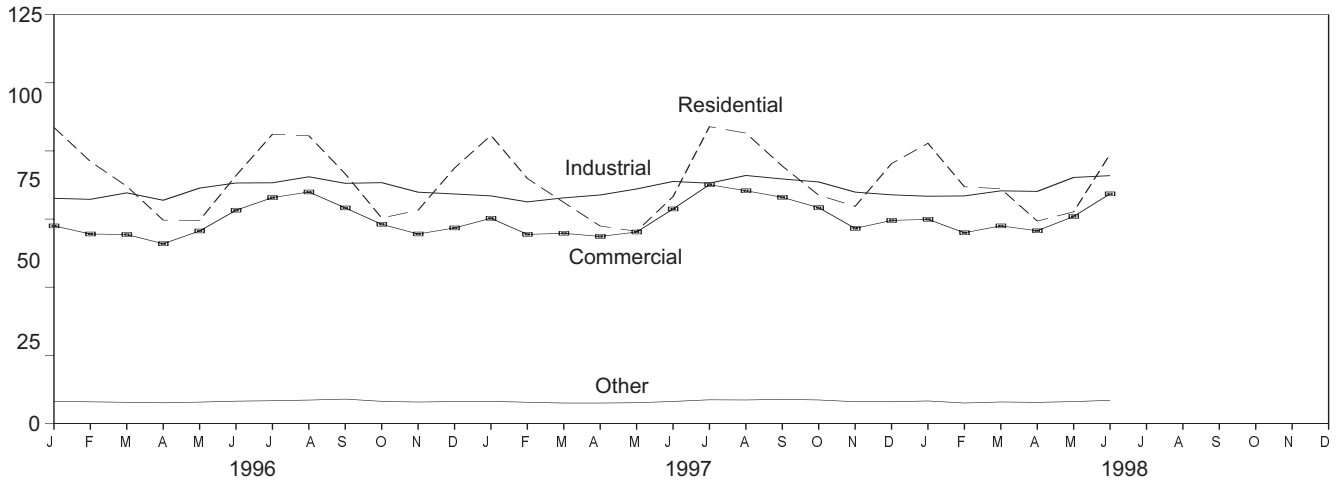
Total, January-June



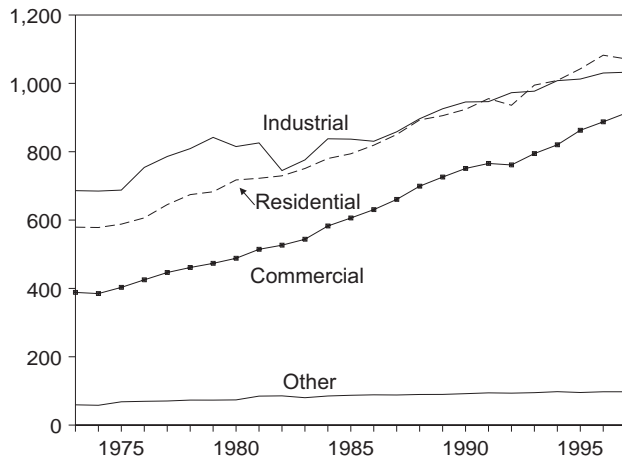
Total, Monthly



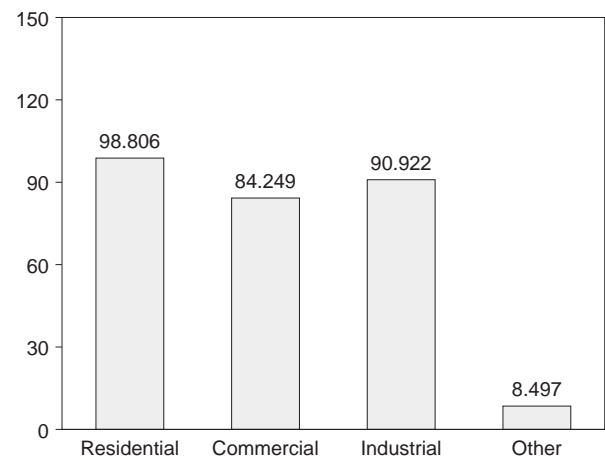
By Sector, Monthly



By Sector, 1973-1997



By Sector, June 1998



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

**Table 7.2 Electric Utility Retail Sales of Electricity by End-Use Sector**  
(Million Kilowatthours)

	Residential	Commercial	Industrial	Other <sup>a</sup>	Total
<b>1973 Total</b> .....	<b>579,231</b>	<b>388,266</b>	<b>686,085</b>	<b>59,326</b>	<b>1,712,909</b>
<b>1974 Total</b> .....	<b>578,184</b>	<b>384,826</b>	<b>684,875</b>	<b>58,039</b>	<b>1,705,924</b>
<b>1975 Total</b> .....	<b>588,140</b>	<b>403,049</b>	<b>687,680</b>	<b>68,222</b>	<b>1,747,091</b>
<b>1976 Total</b> .....	<b>606,452</b>	<b>425,094</b>	<b>754,069</b>	<b>69,631</b>	<b>1,855,246</b>
<b>1977 Total</b> .....	<b>645,239</b>	<b>446,514</b>	<b>786,037</b>	<b>70,571</b>	<b>1,948,361</b>
<b>1978 Total</b> .....	<b>674,466</b>	<b>461,163</b>	<b>809,078</b>	<b>73,215</b>	<b>2,017,922</b>
<b>1979 Total</b> .....	<b>682,819</b>	<b>473,307</b>	<b>841,903</b>	<b>73,070</b>	<b>2,071,099</b>
<b>1980 Total</b> .....	<b>717,495</b>	<b>488,155</b>	<b>815,067</b>	<b>73,732</b>	<b>2,094,449</b>
<b>1981 Total</b> .....	<b>722,265</b>	<b>514,338</b>	<b>825,743</b>	<b>84,756</b>	<b>2,147,103</b>
<b>1982 Total</b> .....	<b>729,520</b>	<b>526,397</b>	<b>744,949</b>	<b>85,575</b>	<b>2,086,441</b>
<b>1983 Total</b> .....	<b>750,948</b>	<b>543,788</b>	<b>775,999</b>	<b>80,219</b>	<b>2,150,955</b>
<b>1984 Total</b> .....	<b>780,092</b>	<b>582,621</b>	<b>837,836</b>	<b>85,248</b>	<b>2,285,796</b>
<b>1985 Total</b> .....	<b>793,934</b>	<b>605,989</b>	<b>836,772</b>	<b>87,279</b>	<b>2,323,974</b>
<b>1986 Total</b> .....	<b>819,088</b>	<b>630,520</b>	<b>830,531</b>	<b>88,615</b>	<b>2,368,753</b>
<b>1987 Total</b> .....	<b>850,410</b>	<b>660,433</b>	<b>858,233</b>	<b>88,196</b>	<b>2,457,272</b>
<b>1988 Total</b> .....	<b>892,866</b>	<b>699,100</b>	<b>896,498</b>	<b>89,598</b>	<b>2,578,062</b>
<b>1989 Total</b> .....	<b>905,525</b>	<b>725,861</b>	<b>925,659</b>	<b>89,765</b>	<b>2,646,809</b>
<b>1990 Total</b> .....	<b>924,019</b>	<b>751,027</b>	<b>945,522</b>	<b>91,988</b>	<b>2,712,555</b>
<b>1991 Total</b> .....	<b>955,417</b>	<b>765,664</b>	<b>946,583</b>	<b>94,339</b>	<b>2,762,003</b>
<b>1992 Total</b> .....	<b>935,939</b>	<b>761,271</b>	<b>972,714</b>	<b>93,442</b>	<b>2,763,365</b>
<b>1993 Total</b> .....	<b>994,781</b>	<b>794,573</b>	<b>977,164</b>	<b>94,944</b>	<b>2,861,462</b>
<b>1994 Total</b> .....	<b>1,008,482</b>	<b>820,269</b>	<b>1,007,981</b>	<b>97,830</b>	<b>2,934,563</b>
<b>1995 Total</b> .....	<b>1,042,501</b>	<b>862,685</b>	<b>1,012,693</b>	<b>95,407</b>	<b>3,013,287</b>
<b>1996</b> January .....	108,619	72,499	82,610	8,173	271,901
February .....	96,116	69,524	82,245	7,956	255,841
March .....	87,038	69,328	84,610	7,776	248,752
April .....	74,613	65,961	81,902	7,590	230,065
May .....	74,537	70,619	86,376	7,855	239,386
June .....	90,945	78,244	88,245	8,195	265,629
July .....	106,124	82,882	88,318	8,367	285,690
August .....	105,556	84,927	90,513	8,597	289,592
September .....	91,584	79,093	88,113	8,955	267,744
October .....	75,377	73,076	88,358	8,140	244,951
November .....	78,253	69,526	84,862	7,879	240,520
December .....	93,729	71,746	84,205	8,058	257,738
<b>Total</b> .....	<b>1,082,491</b>	<b>887,425</b>	<b>1,030,356</b>	<b>97,539</b>	<b>3,097,810</b>
<b>1997</b> January .....	105,713	75,289	83,506	8,138	272,646
February .....	89,890	69,385	81,306	7,805	248,385
March .....	81,094	69,779	82,774	7,508	241,155
April .....	72,450	68,630	83,840	7,507	232,427
May .....	70,493	70,237	86,049	7,624	234,403
June .....	83,249	78,713	88,794	8,094	258,851
July .....	108,895	87,625	88,171	8,699	293,389
August .....	106,543	85,386	90,983	8,634	291,546
September .....	94,422	82,986	89,714	8,866	275,988
October .....	83,784	79,181	88,622	8,648	260,235
November .....	79,672	71,580	84,885	7,990	244,127
December .....	95,365	74,492	83,894	7,991	261,742
<b>Total</b> .....	<b>1,071,569</b>	<b>913,283</b>	<b>1,032,538</b>	<b>97,504</b>	<b>3,114,894</b>
<b>1998</b> January .....	102,797	74,908	83,370	8,270	269,345
February .....	86,837	69,979	83,498	7,515	247,828
March .....	86,119	72,507	85,357	7,896	251,879
April .....	74,268	70,710	85,153	7,757	237,888
May .....	77,650	75,964	90,268	8,046	251,927
June .....	98,806	84,249	90,922	8,497	282,474
<b>6-Month Total</b> .....	<b>526,477</b>	<b>448,316</b>	<b>518,567</b>	<b>47,981</b>	<b>1,541,342</b>
<b>1997 6-Month Total</b> .....	<b>502,888</b>	<b>432,033</b>	<b>506,269</b>	<b>46,676</b>	<b>1,487,867</b>
<b>1996 6-Month Total</b> .....	<b>531,868</b>	<b>426,175</b>	<b>505,988</b>	<b>47,544</b>	<b>1,511,575</b>

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

Notes: • Totals may not equal sum of components due to independent

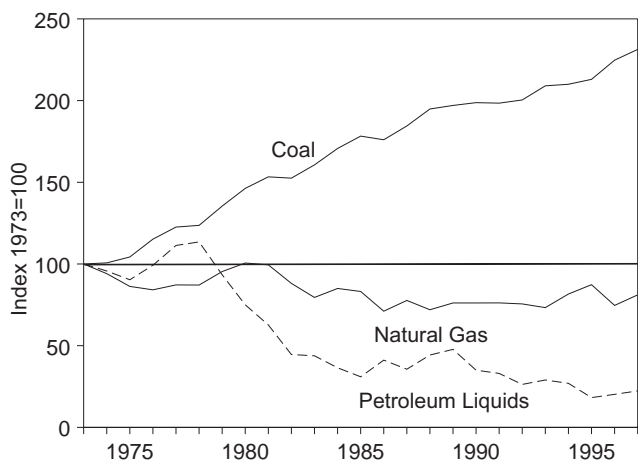
rounding. • Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

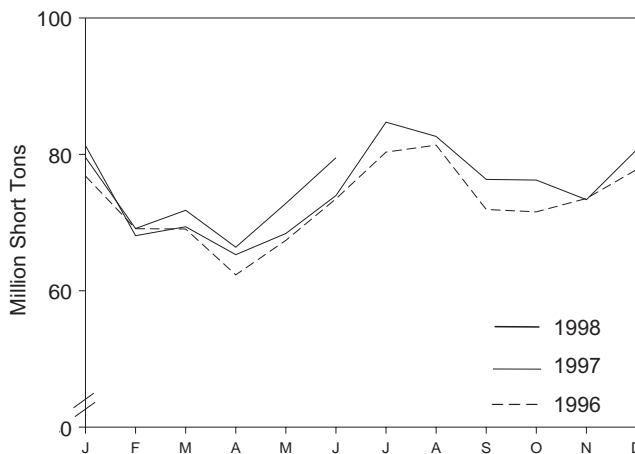
**Please Read:** This table reports electric utility retail sales of electricity. Retail sales include electricity that the utilities purchased from nonutility power producers (NUPP) for resale to the end-use sectors. It does not include NUPP-produced electricity for their own use (266,399 million kilowatthours estimated for 1997) or sold directly to other end-users (14,320 million kilowatthours estimated for 1997). See EIA's *Electric Power Annual 1996, Volume II*, the "U.S. Nonutility Power Producers" chapter for additional information.

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

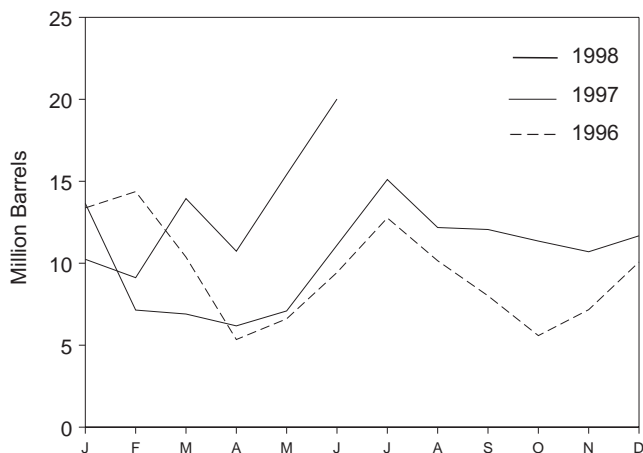
**Fuels Consumed, 1973-1997**



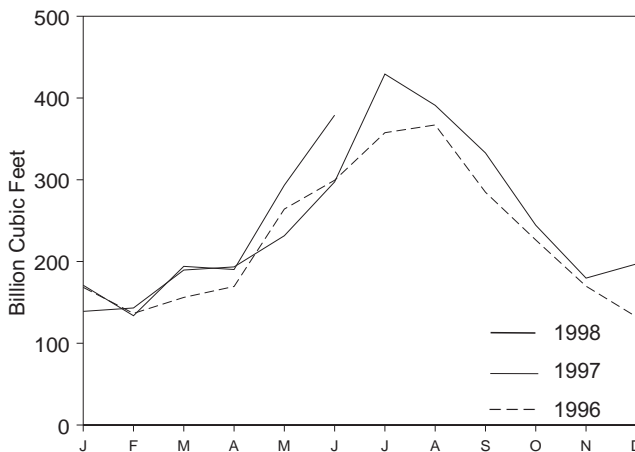
**Coal Consumed, Monthly**



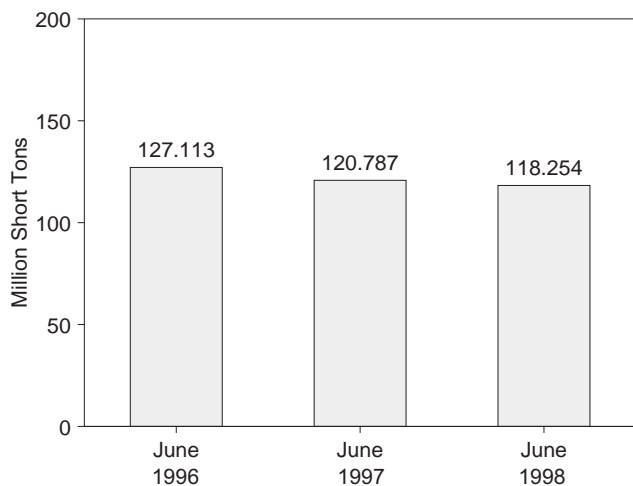
**Petroleum Liquids Consumed, Monthly**



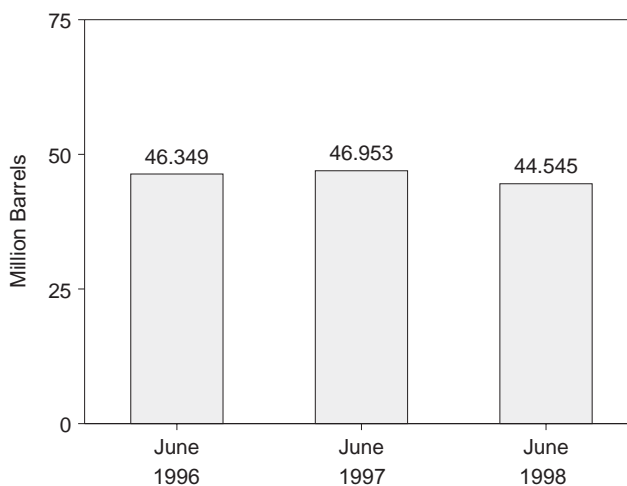
**Natural Gas Consumed, Monthly**



**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>
	Anthra- cite	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						
<b>1973 Total</b> .....	<b>1,443</b>	<b>376,975</b>	<b>10,794</b>	<b>389,212</b>	<b>NA</b>	<b>NA</b>	<b>513,190</b>	<b>47,058</b>	<b>560,248</b>	<b>507</b>	<b>3,660,172</b>
<b>1974 Total</b> .....	<b>1,498</b>	<b>378,643</b>	<b>11,670</b>	<b>391,811</b>	<b>NA</b>	<b>NA</b>	<b>483,146</b>	<b>53,128</b>	<b>536,274</b>	<b>625</b>	<b>3,443,428</b>
<b>1975 Total</b> .....	<b>1,480</b>	<b>388,523</b>	<b>15,960</b>	<b>405,962</b>	<b>NA</b>	<b>NA</b>	<b>467,221</b>	<b>38,907</b>	<b>506,128</b>	<b>70</b>	<b>3,157,669</b>
<b>1976 Total</b> .....	<b>1,350</b>	<b>425,205</b>	<b>21,817</b>	<b>448,371</b>	<b>NA</b>	<b>NA</b>	<b>514,077</b>	<b>41,843</b>	<b>555,920</b>	<b>68</b>	<b>3,080,868</b>
<b>1977 Total</b> .....	<b>1,425</b>	<b>451,051</b>	<b>24,650</b>	<b>477,126</b>	<b>NA</b>	<b>NA</b>	<b>574,869</b>	<b>48,837</b>	<b>623,705</b>	<b>98</b>	<b>3,191,200</b>
<b>1978 Total</b> .....	<b>1,064</b>	<b>448,763</b>	<b>31,407</b>	<b>481,235</b>	<b>NA</b>	<b>NA</b>	<b>588,319</b>	<b>47,520</b>	<b>635,839</b>	<b>398</b>	<b>3,188,363</b>
<b>1979 Total</b> .....	<b>1,046</b>	<b>488,129</b>	<b>37,876</b>	<b>527,051</b>	<b>NA</b>	<b>NA</b>	<b>492,606</b>	<b>30,691</b>	<b>523,297</b>	<b>268</b>	<b>3,490,523</b>
<b>1980 Total</b> .....	<b>951</b>	<b>526,680</b>	<b>41,642</b>	<b>569,274</b>	<b>391,163</b>	<b>29,051</b>	<b>401,863</b>	<b>18,351</b>	<b>420,214</b>	<b>179</b>	<b>3,681,595</b>
<b>1981 Total</b> .....	<b>1,221</b>	<b>550,784</b>	<b>44,792</b>	<b>596,797</b>	<b>329,798</b>	<b>21,313</b>	<b>339,680</b>	<b>11,431</b>	<b>351,111</b>	<b>139</b>	<b>3,640,154</b>
<b>1982 Total</b> .....	<b>1,075</b>	<b>543,346</b>	<b>49,245</b>	<b>593,666</b>	<b>234,434</b>	<b>15,337</b>	<b>243,537</b>	<b>6,234</b>	<b>249,771</b>	<b>149</b>	<b>3,225,518</b>
<b>1983 Total</b> .....	<b>1,036</b>	<b>570,108</b>	<b>54,067</b>	<b>625,211</b>	<b>228,984</b>	<b>16,512</b>	<b>237,845</b>	<b>7,652</b>	<b>245,497</b>	<b>261</b>	<b>2,910,767</b>
<b>1984 Total</b> .....	<b>1,070</b>	<b>606,339</b>	<b>56,990</b>	<b>664,399</b>	<b>189,289</b>	<b>15,190</b>	<b>197,050</b>	<b>7,429</b>	<b>204,479</b>	<b>252</b>	<b>3,111,342</b>
<b>1985 Total</b> .....	<b>1,033</b>	<b>631,885</b>	<b>60,923</b>	<b>693,841</b>	<b>158,779</b>	<b>14,635</b>	<b>166,842</b>	<b>6,572</b>	<b>173,414</b>	<b>231</b>	<b>3,044,083</b>
<b>1986 Total</b> .....	<b>829</b>	<b>616,134</b>	<b>68,093</b>	<b>685,056</b>	<b>216,156</b>	<b>14,326</b>	<b>222,500</b>	<b>7,983</b>	<b>230,482</b>	<b>313</b>	<b>2,602,370</b>
<b>1987 Total</b> .....	<b>972</b>	<b>647,824</b>	<b>69,098</b>	<b>717,894</b>	<b>184,011</b>	<b>15,367</b>	<b>190,818</b>	<b>8,560</b>	<b>199,378</b>	<b>348</b>	<b>2,844,051</b>
<b>1988 Total</b> .....	<b>1,063</b>	<b>681,048</b>	<b>76,260</b>	<b>758,372</b>	<b>229,327</b>	<b>18,769</b>	<b>235,817</b>	<b>12,279</b>	<b>248,096</b>	<b>409</b>	<b>2,635,613</b>
<b>1989 Total</b> .....	<b>1,049</b>	<b>688,504</b>	<b>77,335</b>	<b>766,888</b>	<b>241,960</b>	<b>25,491</b>	<b>250,315</b>	<b>17,136</b>	<b>267,451</b>	<b>517</b>	<b>2,787,012</b>
<b>1990 Total</b> .....	<b>1,031</b>	<b>694,317</b>	<b>78,201</b>	<b>773,549</b>	<b>181,231</b>	<b>14,823</b>	<b>187,531</b>	<b>8,523</b>	<b>196,054</b>	<b>819</b>	<b>2,787,332</b>
<b>1991 Total</b> .....	<b>994</b>	<b>691,275</b>	<b>79,999</b>	<b>772,268</b>	<b>171,157</b>	<b>13,729</b>	<b>177,286</b>	<b>7,600</b>	<b>184,886</b>	<b>722</b>	<b>2,789,014</b>
<b>1992 Total</b> .....	<b>986</b>	<b>698,626</b>	<b>80,248</b>	<b>779,860</b>	<b>135,779</b>	<b>11,556</b>	<b>141,163</b>	<b>6,172</b>	<b>147,335</b>	<b>999</b>	<b>2,765,608</b>
<b>1993 Total</b> .....	<b>951</b>	<b>732,736</b>	<b>79,821</b>	<b>813,508</b>	<b>149,287</b>	<b>13,168</b>	<b>154,905</b>	<b>7,549</b>	<b>162,454</b>	<b>1,220</b>	<b>2,682,440</b>
<b>1994 Total</b> .....	<b>1,123</b>	<b>737,102</b>	<b>79,045</b>	<b>817,270</b>	<b>134,666</b>	<b>16,338</b>	<b>140,907</b>	<b>10,097</b>	<b>151,004</b>	<b>875</b>	<b>2,987,146</b>
<b>1995 Total</b> .....	<b>978</b>	<b>749,951</b>	<b>78,078</b>	<b>829,007</b>	<b>86,584</b>	<b>15,565</b>	<b>92,131</b>	<b>10,019</b>	<b>102,150</b>	<b>761</b>	<b>3,196,507</b>
<b>1996 January</b> .....	<b>87</b>	<b>69,455</b>	<b>7,282</b>	<b>76,824</b>	<b>11,410</b>	<b>1,967</b>	<b>NA</b>	<b>NA</b>	<b>13,376</b>	<b>62</b>	<b>168,408</b>
February .....	79	62,555	6,470	69,103	11,857	2,514	NA	NA	14,370	47	136,531
March .....	88	62,534	6,439	69,061	8,782	1,593	NA	NA	10,375	39	156,076
April .....	77	57,224	5,032	62,334	4,344	1,001	NA	NA	5,346	44	169,514
May .....	87	61,321	5,981	67,390	5,256	1,354	NA	NA	6,610	49	264,183
June .....	86	66,642	6,759	73,487	8,353	1,083	NA	NA	9,436	48	299,413
July .....	89	73,036	7,204	80,330	11,444	1,322	NA	NA	12,766	71	357,600
August .....	97	74,140	7,120	81,357	9,031	1,123	NA	NA	10,154	86	367,063
September .....	97	65,500	6,325	71,922	6,821	1,193	NA	NA	8,014	71	284,744
October .....	66	65,199	6,309	71,575	4,509	1,076	NA	NA	5,585	59	226,376
November .....	63	67,059	6,409	73,531	6,055	1,113	NA	NA	7,167	51	169,829
December .....	92	70,586	7,091	77,769	8,520	1,553	NA	NA	10,073	55	132,372
<b>Total</b> .....	<b>1,009</b>	<b>795,252</b>	<b>78,421</b>	<b>874,681</b>	<b>96,382</b>	<b>16,892</b>	<b>NA</b>	<b>NA</b>	<b>113,274</b>	<b>681</b>	<b>2,732,107</b>
<b>1997 January</b> .....	<b>97</b>	<b>74,109</b>	<b>7,082</b>	<b>81,288</b>	<b>11,944</b>	<b>1,708</b>	<b>NA</b>	<b>NA</b>	<b>13,652</b>	<b>56</b>	<b>139,036</b>
February .....	86	61,786	6,204	68,076	6,282	861	NA	NA	7,143	55	143,185
March .....	89	63,573	5,728	69,389	6,050	852	NA	NA	6,902	35	189,590
April .....	93	60,372	4,831	65,296	5,121	1,060	NA	NA	6,181	103	193,416
May .....	72	62,201	6,129	68,402	6,124	967	NA	NA	7,091	135	231,548
June .....	75	67,036	6,852	73,963	9,707	1,397	NA	NA	11,104	144	297,424
July .....	91	77,514	7,122	84,727	12,502	2,605	NA	NA	15,107	144	429,286
August .....	82	75,403	7,146	82,631	10,808	1,372	NA	NA	12,180	160	391,090
September .....	85	69,710	6,537	76,332	11,005	1,053	NA	NA	12,058	161	332,781
October .....	88	69,729	6,415	76,232	10,237	1,118	NA	NA	11,354	140	244,394
November .....	67	66,904	6,392	73,362	9,647	1,053	NA	NA	10,700	135	179,723
December .....	89	73,486	7,086	80,661	10,564	1,110	NA	NA	11,674	132	196,980
<b>Total</b> .....	<b>1,014</b>	<b>821,823</b>	<b>77,524</b>	<b>900,361</b>	<b>109,989</b>	<b>15,157</b>	<b>NA</b>	<b>NA</b>	<b>125,146</b>	<b>1,400</b>	<b>2,968,453</b>
<b>1998 January</b> .....	<b>84</b>	<b>72,435</b>	<b>7,051</b>	<b>79,571</b>	<b>9,014</b>	<b>1,226</b>	<b>NA</b>	<b>NA</b>	<b>10,240</b>	<b>156</b>	<b>170,946</b>
February .....	75	63,091	5,960	69,127	8,186	933	NA	NA	9,119	122	133,700
March .....	84	66,667	5,050	71,800	12,709	1,235	NA	NA	13,944	125	194,113
April .....	75	61,587	4,730	66,392	9,723	1,011	NA	NA	10,734	143	190,266
May .....	83	67,175	5,551	72,809	13,365	2,045	NA	NA	15,410	146	293,378
June .....	74	73,534	5,890	79,499	16,804	3,213	NA	NA	20,016	167	379,024
<b>6-Month Total</b> ...	<b>476</b>	<b>404,489</b>	<b>34,233</b>	<b>439,198</b>	<b>69,800</b>	<b>9,663</b>	<b>NA</b>	<b>NA</b>	<b>79,463</b>	<b>859</b>	<b>1,361,427</b>
<b>1997 6-Month Total</b> ...	<b>512</b>	<b>389,077</b>	<b>36,826</b>	<b>426,414</b>	<b>45,227</b>	<b>6,845</b>	<b>NA</b>	<b>NA</b>	<b>52,073</b>	<b>528</b>	<b>1,194,198</b>
<b>1996 6-Month Total</b> ...	<b>505</b>	<b>379,731</b>	<b>37,962</b>	<b>418,198</b>	<b>50,002</b>	<b>9,512</b>	<b>NA</b>	<b>NA</b>	<b>59,514</b>	<b>289</b>	<b>1,194,124</b>

<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.  
 NA=Not available.

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

This table reports consumption of fossil fuels by electric utilities and does not include nonutility power producers. Please see Table 7.6 for annual consumption of fossil fuels by nonutility power producers.

**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					
<b>1973 Total</b> .....	<b>1,066</b>	<b>84,941</b>	<b>961</b>	<b>86,967</b>	<b>NA</b>	<b>NA</b>	<b>79,121</b>	<b>10,095</b>	<b>89,216</b>	<b>312</b>
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	16,432	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	16,386	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	5,098	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	19,116	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	56,841	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	86
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 Total .....	6,215	142,156	5,759	154,130	56,135	15,714	62,374	9,475	71,849	67
1993 Total .....	5,639	98,560	7,142	111,341	46,769	15,674	53,360	9,083	62,443	89
1994 Total .....	4,879	115,325	6,693	126,897	46,342	16,644	52,814	10,172	62,986	69
1995 Total .....	4,325	116,749	5,231	126,304	35,102	15,392	40,992	9,503	50,495	65
<b>1996</b> January .....	4,243	108,151	5,334	117,728	34,383	15,067	NA	NA	49,451	61
February .....	4,090	105,817	5,646	115,553	30,715	14,495	NA	NA	45,211	57
March .....	4,128	107,771	5,579	117,478	28,915	13,694	NA	NA	42,609	53
April .....	4,080	115,991	5,980	126,051	31,507	13,428	NA	NA	44,935	47
May .....	4,026	120,977	5,800	130,803	32,421	13,521	NA	NA	45,942	38
June .....	3,969	117,658	5,487	127,113	32,110	14,239	NA	NA	46,349	64
July .....	3,911	110,859	5,445	120,215	31,884	14,461	NA	NA	46,345	47
August .....	3,853	108,638	5,408	117,899	32,718	14,651	NA	NA	47,369	35
September .....	3,792	110,376	5,305	119,473	31,487	14,270	NA	NA	45,757	27
October .....	3,765	114,657	5,327	123,749	33,269	14,490	NA	NA	47,758	45
November .....	3,762	111,365	5,384	120,512	33,108	14,600	NA	NA	47,708	62
December .....	<b>3,687</b>	<b>105,807</b>	<b>5,129</b>	<b>114,623</b>	<b>32,473</b>	<b>15,216</b>	<b>NA</b>	<b>NA</b>	<b>47,690</b>	<b>91</b>
<b>1997</b> January .....	3,609	98,043	4,969	106,621	29,742	14,766	NA	NA	44,508	136
February .....	3,544	98,878	5,391	107,813	31,372	14,901	NA	NA	46,273	159
March .....	3,479	104,650	5,599	113,727	31,425	15,226	NA	NA	46,651	177
April .....	3,417	109,124	5,723	118,263	32,534	14,625	NA	NA	47,158	221
May .....	3,374	114,257	5,760	123,391	33,213	14,685	NA	NA	47,898	253
June .....	3,323	111,761	5,704	120,787	32,129	14,824	NA	NA	46,953	229
July .....	3,275	100,691	5,725	109,690	30,990	14,820	NA	NA	45,810	308
August .....	3,228	94,896	5,599	103,724	30,872	14,823	NA	NA	45,694	293
September .....	3,166	93,456	5,496	102,119	29,064	14,832	NA	NA	43,896	308
October .....	3,118	93,309	6,009	102,436	30,115	15,049	NA	NA	45,163	439
November .....	3,075	92,566	5,093	100,735	32,255	15,214	NA	NA	47,469	450
December .....	<b>3,021</b>	<b>90,905</b>	<b>4,900</b>	<b>98,826</b>	<b>33,336</b>	<b>15,456</b>	<b>NA</b>	<b>NA</b>	<b>48,792</b>	<b>469</b>
<b>1998</b> January .....	2,958	92,425	5,019	100,402	33,928	15,908	NA	NA	49,837	403
February .....	2,906	96,107	4,890	103,902	33,898	15,789	NA	NA	49,687	358
March .....	2,846	99,839	4,855	107,540	31,205	15,353	NA	NA	46,558	418
April .....	2,803	108,085	5,095	115,983	35,036	16,051	NA	NA	51,087	498
May .....	2,743	111,954	5,382	120,078	32,936	14,668	NA	NA	47,605	501
June .....	2,699	110,499	5,056	118,254	30,056	14,490	NA	NA	44,545	683

<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.

NA=Not available.

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

Sources: See end of section.

**Please Read:** This table reports stocks at electric utilities only and does not include stocks held by nonutility power producers, which are not collected by EIA. See EIA's *Electric Power Annual 1996, Volume II*, the "U.S. Nonutility Power Producers" chapter for additional information.

**Table 7.5 Nonutility Power Net Generation of Electricity**

(Million Kilowatthours)

	Coal <sup>a</sup>	Natural Gas <sup>b</sup>	Other Gas <sup>c</sup>	Petroleum <sup>d</sup>	Nuclear Electric Power <sup>e</sup>	Hydro-electric Power <sup>f</sup>	Geo-thermal Energy	Wood <sup>g</sup> and Waste <sup>h</sup>	Other <sup>i</sup>	Total
1989 Total .....	30,163	96,983	( <sup>b</sup> )	5,543	47	7,053	5,254	34,909	3,990	183,943
1990 Total .....	30,699	113,835	( <sup>b</sup> )	7,031	113	8,071	7,018	40,761	5,518	213,046
1991 Total .....	38,773	128,230	( <sup>b</sup> )	7,494	77	8,098	7,773	46,221	6,837	243,503
1992 Total .....	45,189	154,429	( <sup>b</sup> )	10,508	65	9,352	8,318	51,264	7,023	286,148
1993 Total .....	50,859	169,502	( <sup>b</sup> )	12,814	76	11,396	9,454	53,318	6,981	314,399
1994 Total .....	56,197	174,813	12,111	14,464	52	13,095	9,816	54,898	7,640	343,087
1995 Total .....	57,261	191,235	13,569	14,416	0	14,626	9,614	54,962	7,625	363,308
1996 Total .....	58,304	193,155	14,315	14,329	0	16,390	9,892	55,400	7,872	369,656
1997 Total .....	<sup>E</sup> 64,324	<sup>E</sup> 213,533	<sup>E</sup> 14,674	<sup>E</sup> 16,548	<sup>E</sup> 0	<sup>E</sup> 18,515	<sup>E</sup> 10,876	<sup>E</sup> 59,789	<sup>E</sup> 8,767	<sup>E</sup> 407,026

<sup>a</sup> Coal, anthracite culm, and coal waste.  
<sup>b</sup> "Other Gas" data are included in "Natural Gas" for 1989-1993.  
<sup>c</sup> Butane, methane, propane, waste heat, and waste gases.  
<sup>d</sup> Petroleum, petroleum coke, diesel, kerosene, petroleum sludge and tar.  
<sup>e</sup> Nuclear reactor and generator at Argonne National Laboratory used primarily for research and development in testing reactor fuels as well as for training. Generation from the unit is for internal consumption.  
<sup>f</sup> Conventional hydropower only; there are no pumped storage projects among the nonutility power producers.  
<sup>g</sup> Wood, wood waste, peat, wood liquors, railroad ties, pitch, and wood sludge.  
<sup>h</sup> Municipal solid waste, agricultural waste, straw, tires, landfill gases, and other waste.  
<sup>i</sup> Wind, photovoltaic, and solar thermal energy; and hydrogen, sulfur, batteries, chemicals, fish oil, and spent liquor.  
 E=Estimate.  
 Note: Total may not equal sum of components due to independent rounding.  
 Sources: Energy Information Administration, estimated from Form EIA-867, "Annual Nonutility Power Producer Report."

**Table 7.6 Electric Power Industry Consumption of Fossil Fuels To Generate Electricity**

	Coal			Petroleum			Natural Gas			Other Gas <sup>a</sup>
	Electric Utilities	Nonutility Power Producers <sup>b</sup>	Total	Electric Utilities <sup>c</sup>	Nonutility Power Producers <sup>d</sup>	Total	Electric Utilities <sup>e</sup>	Nonutility Power Producers	Total	Nonutility Power Producers
	Thousand Short Tons			Thousand Barrels			Million Cubic Feet			
1989 Total ....	766,888	30,762	797,650	270,038	28,377	298,415	2,787,012	1,181,015	3,968,027	1,225,951
1990 Total ....	773,549	32,300	805,849	200,152	28,980	229,132	2,787,332	1,386,741	4,174,073	1,279,176
1991 Total ....	772,268	38,113	810,381	188,494	29,509	218,003	2,789,014	1,569,850	4,358,864	1,364,697
1992 Total ....	779,860	44,607	824,467	152,329	34,626	186,955	2,765,608	1,844,857	4,610,465	1,587,632
1993 Total ....	813,508	48,343	861,851	168,556	40,142	208,698	2,682,440	2,013,788	4,696,228	1,681,916
1994 Total ....	817,270	52,261	869,531	155,377	46,630	202,007	2,987,146	2,149,246	5,136,392	1,591,051
1995 Total ....	829,007	50,328	879,335	105,956	39,219	145,175	3,196,507	2,303,944	5,500,451	1,611,993
1996 Total ....	874,681	53,202	927,883	116,680	42,926	159,606	2,732,107	2,449,996	5,182,103	1,738,362
1997 Total ....	900,361	<sup>E</sup> 57,651	958,012	132,147	<sup>E</sup> 45,805	177,952	2,968,453	<sup>E</sup> 2,721,463	5,689,916	<sup>E</sup> 1,830,382

<sup>a</sup> Butane, methane, propane, and other gases.  
<sup>b</sup> Coal, anthracite culm, and coal waste.  
<sup>c</sup> Includes petroleum coke (converted at 5 barrels per short ton).  
<sup>d</sup> Petroleum, diesel, kerosene, petroleum sludge, and tar. Does not include petroleum coke, which, in thousand barrels, was 23,700 in 1994; 20,940 in 1995; 22,420 in 1996; and an estimated 25,785 in 1997.  
<sup>e</sup> Includes supplemental gaseous fuels.  
 E=Estimate.  
 Note: Totals may not equal sum of components due to independent rounding.  
 Sources: • **Electric Utilities:** Energy Information Administration (EIA), *Electric Power Monthly*, July 1998, Table 14. • **Nonutility Power Producers:** EIA, estimated from Form EIA-867, "Annual Nonutility Power Producer Report" data.



## Sources for Table 7.1

### Electric Utilities

**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**—EIA, *Electric Power Monthly*, March 1993, Table 4, and (for geothermal energy and other) EIA, Form EIA-759, “Monthly Power Plant Report.”

**1983-1989**—EIA, *Electric Power Monthly*, March 1994, Table 4, and (for geothermal energy and other) EIA, Form EIA-759, “Monthly Power Plant Report.”

**1990 forward**—EIA, *Electric Power Monthly*, September 1998, Tables 4 and 5.

### Nonutility Power Producers

EIA, estimated from Form EIA-867, “Annual Nonutility Power Producer Report.”

### Total Electric Power Industry

Sum of Electric Utilities and Nonutility Power Producers.

## Sources for Table 7.2

**1973-September 1977**—Federal Power Commission (FPC), Form FPC-5, “Monthly Statement of Electric Operating Revenue and Income.”

**October 1977-February 1980**—Federal Energy Regulatory Commission (FERC), Form FPC-5, “Monthly Statement of Electric Operating Revenue and Income.”

**March 1980-1982**—FERC, Form FPC-5, “Electric Utility Company Monthly Statement.”

**1983**—Energy Information Administration (EIA), Form EIA-826, “Electric Utility Company Monthly Statement.”

**1984-1987**—EIA, Form EIA-861, “Annual Electric Utility Report.”

**1988 forward**—EIA, *Electric Power Monthly*, September 1998, Table 44.

## Sources for Table 7.3

### 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.”

**1980-1987**—EIA, *Electric Power Monthly*, March issues.

**1988 forward**—EIA, *Electric Power Monthly*, September 1998, Table 14.

## Sources for Table 7.4

### 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.”

**1980-1987**—EIA, *Electric Power Monthly*, March issues.

**1988 forward**—EIA, *Electric Power Monthly*, September 1998, Table 21.

## Section 8. Nuclear Energy

In June 1998, U.S. nuclear generating units produced a total of 56 net terawatthours (billion kilowatthours) of electricity, 7 percent higher than in June 1997. Nuclear units generated at an average capacity factor of 79.6 percent, 7.6 percentage points higher than in June 1997. Nuclear power supplied 19.1 percent of the total electric utility-generated electricity in June 1998 compared with 19.5 in June 1997.

On June 30, 1998, there were 105 operable nuclear generating units in the United States, with a collective net summer capability of 97.3 million kilowatts of electricity.

Of the 105 operable units, 15 units generated at less than 25 percent of capacity because of maintenance, re-

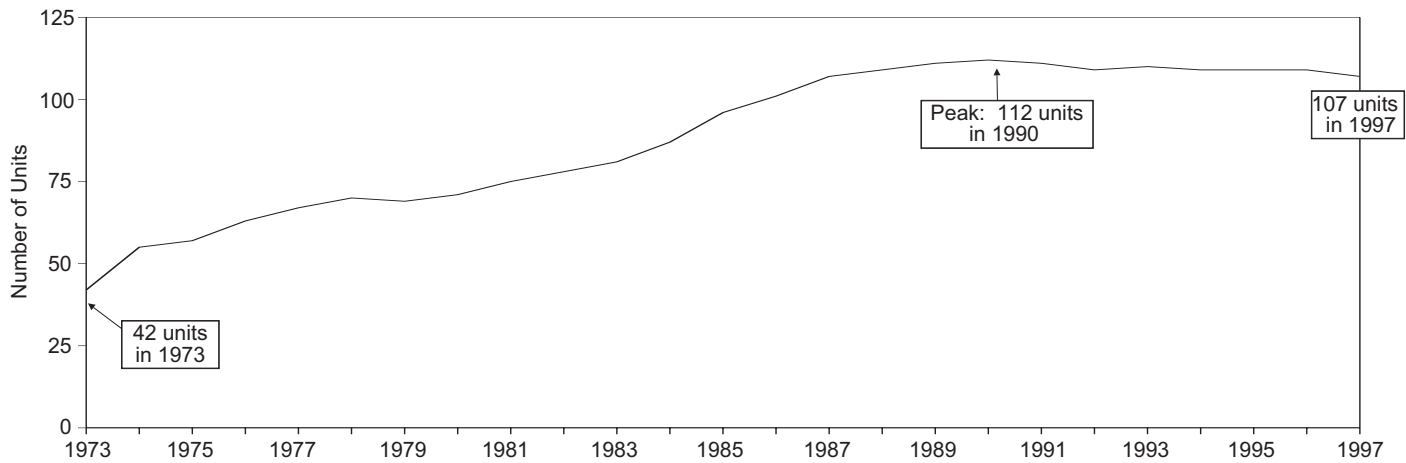
fueling, or repair outage, and 14 of the 15 units generated no electricity during the month. By comparison, a total of 58 units were reported operating at 90 percent of capacity or more in June. Of these 58 units, a total of 12 operated at 100 percent or greater (based on net summer capability).

In addition, there were 3 other units with construction permits, although construction for all 3 units has been halted. The design capacity of the 3 units with construction permits was 3.6 million kilowatts.

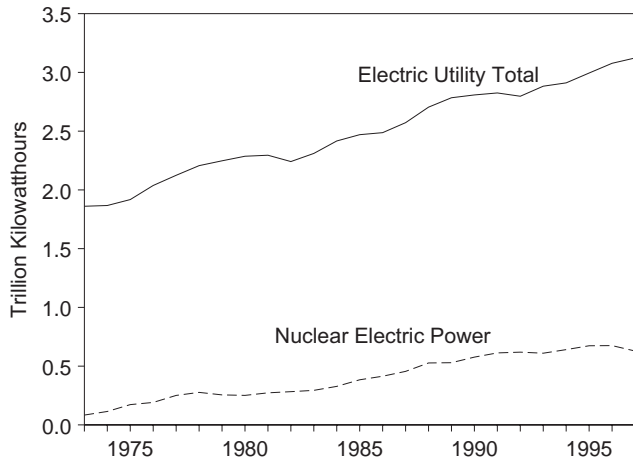
According to the Nuclear Regulatory Commission, Millstone 1 was permanently shut down in July 1998, reducing the number of total operable units to 104 in July 1998.

# Figure 8.1 Nuclear Power Plant Operations

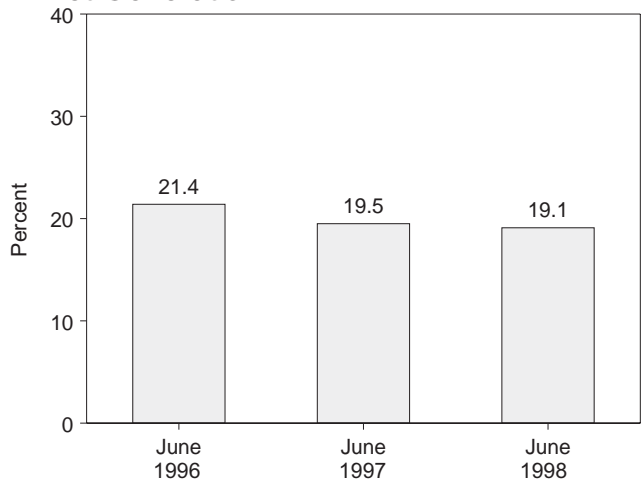
Operable Units,<sup>a</sup> End of Year, 1973-1997



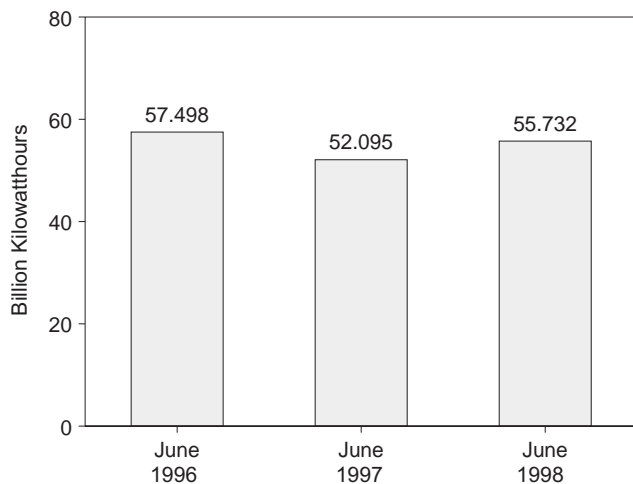
Net Generation of Electricity, 1973-1997



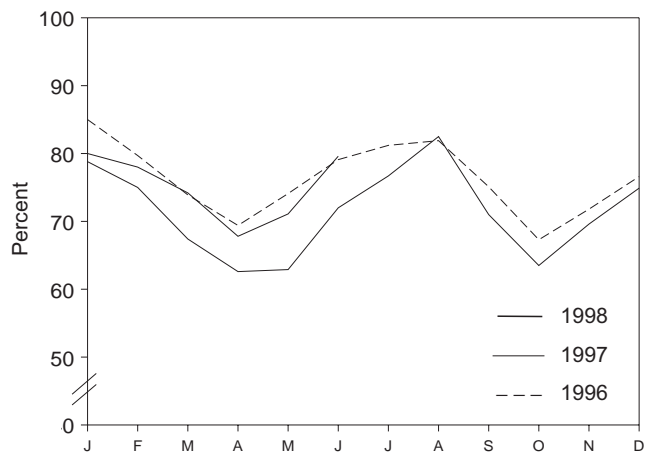
Nuclear Portion of Domestic Electricity Net Generation



Nuclear Electricity Net Generation<sup>b</sup>



Capacity Factor,<sup>b</sup> Monthly



<sup>a</sup>All units that contributed power to the commercial grid whether or not they were owned by an electric utility. See Note 1 at end of section for additional information.

<sup>b</sup>At electric utilities.

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

Sources: Tables 7.1 and 8.1.

**Table 8.1 Nuclear Power Plant Operations**

	Nuclear Electricity Net Generation <sup>a</sup>	Nuclear Share of Electric Utility Net Generation	Net Summer Capability of Operable Units <sup>a,b,c</sup>	Capacity Factor <sup>a,d</sup>
	Million Kilowatthours	Percent	Million Kilowatts	Percent
<b>1973 Year</b> .....	<b>83,479</b>	<b>4.5</b>	<b>22.683</b>	<b>53.5</b>
<b>1974 Year</b> .....	<b>113,976</b>	<b>6.1</b>	<b>31.867</b>	<b>47.8</b>
<b>1975 Year</b> .....	<b>172,505</b>	<b>9.0</b>	<b>37.267</b>	<b>55.9</b>
<b>1976 Year</b> .....	<b>191,104</b>	<b>9.4</b>	<b>43.822</b>	<b>54.7</b>
<b>1977 Year</b> .....	<b>250,883</b>	<b>11.8</b>	<b>46.303</b>	<b>63.3</b>
<b>1978 Year</b> .....	<b>276,403</b>	<b>12.5</b>	<b>50.824</b>	<b>64.5</b>
<b>1979 Year</b> .....	<b>255,155</b>	<b>11.4</b>	<b>49.747</b>	<b>58.4</b>
<b>1980 Year</b> .....	<b>251,116</b>	<b>11.0</b>	<b>51.810</b>	<b>56.3</b>
<b>1981 Year</b> .....	<b>272,674</b>	<b>11.9</b>	<b>56.042</b>	<b>58.2</b>
<b>1982 Year</b> .....	<b>282,773</b>	<b>12.6</b>	<b>60.035</b>	<b>56.6</b>
<b>1983 Year</b> .....	<b>293,677</b>	<b>12.7</b>	<b>63.009</b>	<b>54.4</b>
<b>1984 Year</b> .....	<b>327,634</b>	<b>13.6</b>	<b>69.652</b>	<b>56.3</b>
<b>1985 Year</b> .....	<b>383,691</b>	<b>15.5</b>	<b>79.397</b>	<b>58.0</b>
<b>1986 Year</b> .....	<b>414,038</b>	<b>16.6</b>	<b>85.241</b>	<b>56.9</b>
<b>1987 Year</b> .....	<b>455,270</b>	<b>17.7</b>	<b>93.583</b>	<b>57.4</b>
<b>1988 Year</b> .....	<b>526,973</b>	<b>19.5</b>	<b>94.695</b>	<b>63.5</b>
<b>1989 Year</b> .....	<b>529,355</b>	<b>19.0</b>	<b>98.161</b>	<b>62.2</b>
<b>1990 Year</b> .....	<b>576,862</b>	<b>20.5</b>	<b>99.624</b>	<b>66.0</b>
<b>1991 Year</b> .....	<b>612,565</b>	<b>21.7</b>	<b>99.589</b>	<b>70.2</b>
<b>1992 Year</b> .....	<b>618,776</b>	<b>22.1</b>	<b>98.985</b>	<b>70.9</b>
<b>1993 Year</b> .....	<b>610,291</b>	<b>21.2</b>	<b>99.041</b>	<b>70.5</b>
<b>1994 Year</b> .....	<b>640,440</b>	<b>22.0</b>	<b>99.148</b>	<b>73.8</b>
<b>1995 Year</b> .....	<b>673,402</b>	<b>22.5</b>	<b>99.515</b>	<b>77.4</b>
<b>1996 January</b> .....	<b>62,942</b>	<b>23.4</b>	<b>99.515</b>	<b>85.0</b>
February .....	55,928	22.8	100.908	79.7
March .....	55,474	22.4	100.908	73.9
April .....	50,325	22.2	100.908	69.4
May .....	55,637	22.1	100.908	74.1
June .....	57,498	21.4	100.908	79.1
July .....	60,953	21.1	100.908	81.2
August .....	61,477	21.2	100.908	81.9
September .....	54,593	21.8	100.908	75.1
October .....	50,612	21.1	100.908	67.3
November .....	52,132	21.6	100.908	71.8
December .....	57,159	22.2	100.348	76.6
<b>Year</b> .....	<b>674,729</b>	<b>21.9</b>	<b>100.348</b>	<b>76.2</b>
<b>1997 January</b> .....	<b>58,914</b>	<b>21.5</b>	<b>100.348</b>	<b>78.8</b>
February .....	50,658	21.7	100.348	75.0
March .....	50,414	20.6	100.348	67.4
April .....	44,883	19.5	100.348	62.6
May .....	47,032	19.3	100.348	62.9
June .....	52,095	19.5	100.348	72.0
July .....	57,352	18.8	100.348	76.7
August .....	61,084	20.7	99.383	82.5
September .....	52,586	19.7	99.383	71.0
October .....	46,981	18.6	99.383	63.5
November .....	51,189	21.0	99.383	69.6
December .....	55,457	20.7	99.383	74.9
<b>Year</b> .....	<b>628,644</b>	<b>20.1</b>	<b>99.383</b>	<b>71.4</b>
<b>1998 January</b> .....	<b>57,889</b>	<b>21.8</b>	<b>97.303</b>	<b>80.0</b>
February .....	50,999	21.7	97.303	78.0
March .....	53,711	21.0	97.303	74.2
April .....	47,503	20.4	97.303	67.8
May .....	51,496	19.4	97.303	71.1
June .....	55,732	19.1	97.303	79.6
<b>6-Month Total</b> .....	<b>317,330</b>	<b>20.5</b>	<b>97.303</b>	<b>75.1</b>
<b>1997 6-Month Total</b> .....	<b>303,996</b>	<b>20.4</b>	<b>100.348</b>	<b>69.8</b>
<b>1996 6-Month Total</b> .....	<b>337,803</b>	<b>22.4</b>	<b>100.908</b>	<b>76.8</b>

<sup>a</sup> At electric utilities.

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

<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 2 at end of section.

Notes: • The performance data shown in this table are based on a universe of reactor units that differs in some respects

from the reactor universe used to profile the nuclear power industry in Table 8.2. See Note 1 at end of section for further discussion. • Nuclear electricity net generation totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

**Table 8.2 Nuclear Generating Units**

	Orders <sup>a</sup>	Construction Permits <sup>b</sup>	Low Power Operating Licenses <sup>c</sup>	New Operable Units <sup>d</sup>	Shutdowns <sup>e</sup>	Total Operable Units <sup>f</sup>	Cancellations <sup>g</sup>	Cumulative Cancellations
1973 Year .....	42	14	12	15	0	42	0	7
1974 Year .....	28	23	14	15	2	55	9	16
1975 Year .....	4	9	3	2	0	57	13	29
1976 Year .....	3	9	7	7	1	63	1	30
1977 Year .....	4	15	4	4	0	67	10	40
1978 Year .....	2	13	3	4	1	70	13	53
1979 Year .....	0	2	0	0	1	69	6	59
1980 Year .....	0	0	5	2	0	71	15	74
1981 Year .....	0	0	3	4	0	75	9	83
1982 Year .....	0	0	6	4	1	78	18	101
1983 Year .....	0	0	3	3	0	81	6	107
1984 Year .....	0	0	7	6	0	87	6	113
1985 Year .....	0	0	7	9	0	96	2	115
1986 Year .....	0	0	7	5	0	101	2	117
1987 Year .....	0	0	6	8	2	107	0	117
1988 Year .....	0	0	1	2	0	109	3	120
1989 Year .....	0	0	3	4	2	111	0	120
1990 Year .....	0	0	1	2	1	112	1	121
1991 Year .....	0	0	0	0	1	111	0	121
1992 Year .....	0	0	0	0	2	109	0	121
1993 Year .....	0	0	1	1	0	110	0	121
1994 Year .....	0	0	0	0	1	109	1	122
1995 Year .....	0	0	1	0	0	109	2	124
1996 January .....	0	0	0	0	0	109	0	124
February .....	0	0	0	1	0	110	0	124
March .....	0	0	0	0	0	110	0	124
April .....	0	0	0	0	0	110	0	124
May .....	0	0	0	0	0	110	0	124
June .....	0	0	0	0	0	110	0	124
July .....	0	0	0	0	0	110	0	124
August .....	0	0	0	0	0	110	0	124
September .....	0	0	0	0	0	110	0	124
October .....	0	0	0	0	0	110	0	124
November .....	0	0	0	0	0	110	0	124
December .....	0	0	0	0	1	109	0	124
Year .....	0	0	0	1	1	109	0	124
1997 January .....	0	0	0	0	0	109	0	124
February .....	0	0	0	0	0	109	0	124
March .....	0	0	0	0	0	109	0	124
April .....	0	0	0	0	0	109	0	124
May .....	0	0	0	0	0	109	0	124
June .....	0	0	0	0	0	109	0	124
July .....	0	0	0	0	0	109	0	124
August .....	0	0	0	0	2	107	0	124
September .....	0	0	0	0	0	107	0	124
October .....	0	0	0	0	0	107	0	124
November .....	0	0	0	0	0	107	0	124
December .....	0	0	0	0	0	107	0	124
Year .....	0	0	0	0	2	107	0	124
1998 January .....	0	0	0	0	2	105	0	124
February .....	0	0	0	0	0	105	0	124
March .....	0	0	0	0	0	105	0	124
April .....	0	0	0	0	0	105	0	124
May .....	0	0	0	0	0	105	0	124
June .....	0	0	0	0	0	105	0	124
July .....	0	0	0	0	1	104	0	124

<sup>a</sup> Placement of an order by a utility or government agency for a nuclear steam supply system.

<sup>b</sup> Issuance by regulatory authority of a permit, or equivalent permission, to begin construction. Numbers reflect permits issued in a given year, not extant permits.

<sup>c</sup> Issuance by regulatory authority of license, or equivalent permission, to conduct testing but not to operate at full power.

<sup>d</sup> Issuance by regulatory authority of full-power operating license, or equivalent permission. Units generally did not begin immediate operation. See Note 1 at end of section.

<sup>e</sup> Ceased operating permanently, irrespective of intent.

<sup>f</sup> Total of units holding full-power licenses, or equivalent permission to operate, at the end of the period. See Note 1 at end of section.

<sup>g</sup> Cancellation by utilities of ordered units. Does not include three units (Bellefonte 1 and 2 and Watts Bar 2) where construction has been stopped indefinitely.

Note: This table covers all units that contributed power to the commercial grid whether or not they were owned by an electric utility. See Note 1 at end of section for additional information.

Sources: See end of section.

## Nuclear Energy Notes

1. In 1998 EIA undertook a major revision of the data categories in Table 8.2 to make them more relevant to current conditions and trends in the U.S. commercial nuclear electric power industry. To acquire the data for the revised categories it was necessary to develop a reactor unit database employing different sources than those used previously for Table 8.2 and still used for Table 8.1. Because of differences in definitions and tally protocols, the year-by-year tallies of operable reactors in the two databases diverge in some years, although this divergence does not change the overall trends.

The data in Table 8.2 apply to commercial nuclear power units, which means that the units contributed power to the commercial electricity grid whether or not they were owned by an electric utility. A total of 259 units ever ordered was identified. (Many of the orders were placed before 1973 and thus do not appear in the table. Annual data on orders and other characteristics from 1953 forward can be found in EIA's *Annual Energy Review 1997*, Tables 9.1 and 9.2.) Although most orders were placed by electric utilities, several units are or were ordered, owned, and operated wholly or in part by the Federal government, including BONUS (Boiling Nuclear Superheater Power Station), Elk River, Experimental Breeder Reactor 2, Hallam, Hanford N, Piqua, and Shippingport.

A reactor is generally defined as operable in Table 8.2 while it possessed a full-power license from the Nuclear Regulatory Commission or its predecessor the Atomic Energy Commission, or equivalent permission to operate, at the end of the year or month shown. The definition is liberal in that it does not exclude units retaining full-power licenses during long, non-routine shutdowns that for a time rendered them unable to generate electricity. For example:

- In 1985 the five then-active Tennessee Valley Authority units (Browns Ferry 1, 2, and 3 and Sequoyah 1 and 2) were shut down under a regulatory forced outage. Browns Ferry 1 remains shut down and has been defueled, while the other units were idle for several years, restarting in 1991, 1995, 1988, and 1988, respectively. All five units are counted as operable during the shutdowns.
- Shippingport was shut down from 1974 through 1976 for conversion to a light-water breeder reactor, but is counted as operable from 1957 until its retirement in 1982.

- Calvert Cliffs 2 was shut down in 1989 and 1990 for replacement of pressurizer heater sleeves but is counted as operable during those years.

Exceptions to the definition are Shoreham and Three Mile Island 2. Shoreham was granted a full-power license in April 1989, but was shut down two months later and never restarted. In 1991, the license was changed to Possession Only. Although not operable at the end of the year, Shoreham is treated as operable during 1989 and shut down in 1990, because counting it as operable and shut down in the same year would introduce a statistical discrepancy in the tallies. A major accident closed Three Mile Island 2 in 1979, and although the unit retained its full-power license for several years, it is considered permanently shut down since that year.

2. 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.

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.

### Sources for Table 8.1

**Nuclear Electricity Net Generation and Nuclear Share of Electric Utility Net Generation: 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 Generator Report," and monthly updates as appropriate.

Capacity Factor: EIA, Office of Coal, Nuclear, Electric and Alternate Fuels.

## Sources for Table 8.2

**Orders:** Energy Information Administration, *Commercial Nuclear Power 1991*, Appendix E, September 1991; Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*, 1988 edition; U.S. Atomic Energy Commission, *1973 Annual Report to Congress, Volume 2, Regulatory Activities*; various utilities. **Construction Permits:** Nuclear Regulatory Commission, *Information Digest*, 1997 edition, Appendix A; Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*, 1988 edition; various utility, Federal, and contractor officials. **Low-Power Operating Licenses:** Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*, 1988 edition; U.S. Department of

Energy, *Nuclear Reactors Built, Being Built, and Planned: 1995*; various utility, Federal, and contractor officials. **New Operable Units:** Nuclear Regulatory Commission, *Information Digest*, 1997 edition, Table 11 and Appendices A and B; various utility, Federal, and contractor officials. **Shutdowns:** Energy Information Administration, *Commercial Nuclear Power 1991*, Appendix E; Nuclear Regulatory Commission, *Information Digest*, 1997 edition, Appendix B; U.S. Department of Energy, *Nuclear Reactors Built, Being Built, and Planned: 1995*; Tennessee Valley Authority officials; various Nuclear Regulatory Commission documents. **Total Operable Units:** Running sum of new operable units minus permanent shutdowns. **Cancellations:** Energy Information Administration, *Commercial Nuclear Power 1991*, Appendix E, September 1991; Nuclear Regulatory Commission, *Information Digest*, 1997 edition, Appendix C; and Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*, 1988 edition.



## Section 9. Energy Prices

**Crude Oil.** The average price of domestic crude oil purchased at the wellhead was \$10.00 per barrel in June 1998, 37 percent lower than the level in June 1997. The refiner acquisition cost of imported crude oil in June 1998 was \$11.67 per barrel, 33 percent lower than the June 1997 level. The average cost of domestic crude oil in June 1998 was \$12.48, 32 percent lower than the June 1997 average.

**Motor Gasoline.** The national city average retail price of unleaded regular gasoline at all types of stations was \$1.08 per gallon in July 1998, 10 percent lower than the price in July 1997. The price of unleaded premium gasoline averaged \$1.27 per gallon in July 1998, 9 percent lower than the price in July 1997.

**Residual Fuel Oil.** The average price, excluding taxes, of residual fuel oil sold to end users in June 1998 was 31 cents per gallon, 2 percent lower than the previous month's price and 22 percent lower than the June 1997 average. The average resale price, excluding taxes, of residual fuel oil in June 1998 was 28 cents per gallon, 5 percent lower than the previous month's average and 24 percent lower than the price 1 year earlier.

**Aviation Fuel.** The average price, excluding taxes, of aviation gasoline sold to end users in June 1998 was 98 cents per gallon, 2 percent lower than the previous month's price and 14 percent lower than the June 1997 price. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in June 1998 was 43 cents per gallon, 8 percent lower than the previous month's price and 26 percent lower than the June 1997 average price.

**No. 2 Distillate Fuel Oil.** The June 1998 national average price, excluding taxes, of heating oil sold to residential customers was 81 cents per gallon, 4 percent lower than the previous month's price and 12 percent lower than the price 1 year earlier. The average price of No. 2 fuel oil sold to all end users was 46 cents per gallon in June 1998, 5 percent lower than the previous

month's price and 22 percent lower than the June 1997 price.

**Electricity.** The average price of electricity sold to all ultimate consumers in the United States in June 1998 was 6.98 cents per kilowatt-hour, 2 percent lower than the June 1997 mean price. The price of electricity sold to residential consumers in June 1998 averaged 8.54 cents per kilowatt-hour, 4 percent lower than the June 1997 price. The price of electricity sold to commercial consumers averaged 7.65 cents per kilowatt-hour in June 1998, 4 percent lower than the June 1997 price. The price of electricity sold to other consumers was 7.03 cents per kilowatt-hour, 2 percent lower than the June 1997 price. The price of electricity sold to industrial users in June 1998 averaged 4.66 cents per kilowatt-hour, slightly higher than the price 1 year earlier.

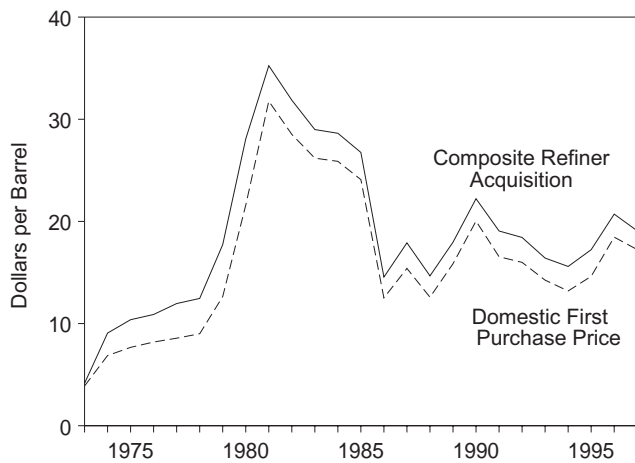
Beginning with January 1986, new series of national average price estimates were based on a statistically derived sample of both publicly and privately owned electric utilities. Previously, average price estimates were derived from selected privately owned electric utilities and were not national averages.

**Natural Gas.** The estimated average wellhead price of natural gas for May 1998 was \$1.88 per thousand cubic feet, 1 percent higher than the May 1997 price.

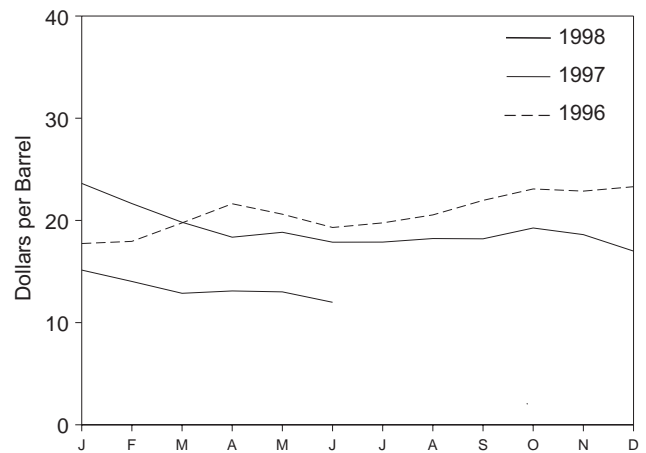
The average price of natural gas delivered to electric utility plants was \$2.59 per thousand cubic feet in April 1998 (latest date for which data are available), 11 percent above the April 1997 price. The average price of natural gas used by residential consumers in May 1998 was \$7.60 per thousand cubic feet, 11 percent higher than the May 1997 price. The average price of natural gas used by commercial consumers in May 1998 was \$5.61 per thousand cubic feet, 5 percent more than the May 1997 price. The average price of natural gas used by industrial consumers in May 1998 was \$3.12 per thousand cubic feet, 7 percent above the May 1997 price.

## Figure 9.1 Petroleum Prices

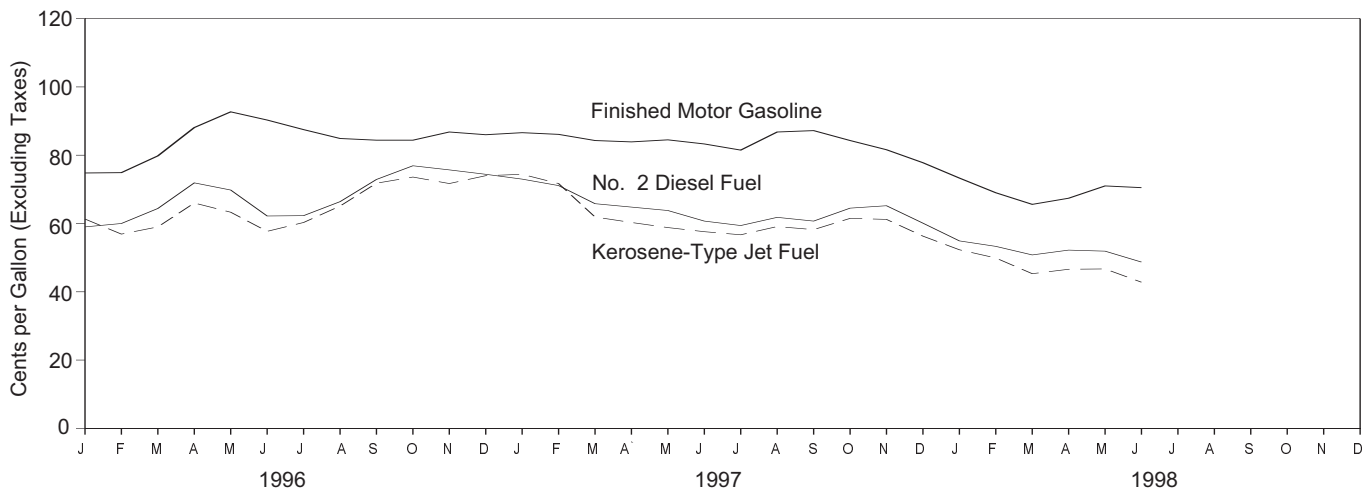
### Crude Oil Prices, 1973-1997



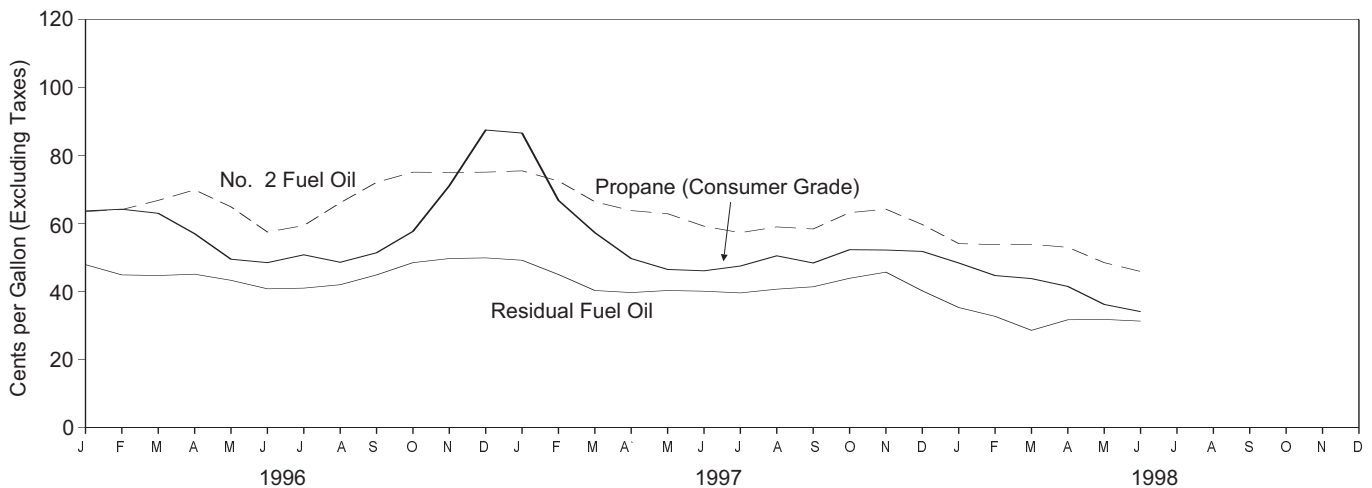
### Composite Refiner Acquisition Cost, Monthly



### 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>a</sup>		
				Domestic	Imported	Composite
<b>1973 Average</b> .....	<b>3.89</b>	<sup>e</sup> <b>5.21</b>	<sup>e</sup> <b>6.41</b>	<sup>E</sup> <b>4.17</b>	<sup>E</sup> <b>4.08</b>	<sup>E</sup> <b>4.15</b>
<b>1974 Average</b> .....	<b>6.87</b>	<b>10.91</b>	<b>12.32</b>	<b>7.18</b>	<b>12.52</b>	<b>9.07</b>
<b>1975 Average</b> .....	<b>7.67</b>	<b>11.18</b>	<b>12.70</b>	<b>8.39</b>	<b>13.93</b>	<b>10.38</b>
<b>1976 Average</b> .....	<b>8.19</b>	<b>12.15</b>	<b>13.32</b>	<b>8.84</b>	<b>13.48</b>	<b>10.89</b>
<b>1977 Average</b> .....	<b>8.57</b>	<b>13.24</b>	<b>14.36</b>	<b>9.55</b>	<b>14.53</b>	<b>11.96</b>
<b>1978 Average</b> .....	<b>9.00</b>	<b>13.29</b>	<b>14.35</b>	<b>10.61</b>	<b>14.57</b>	<b>12.46</b>
<b>1979 Average</b> .....	<b>12.64</b>	<b>20.07</b>	<b>21.45</b>	<b>14.27</b>	<b>21.67</b>	<b>17.72</b>
<b>1980 Average</b> .....	<b>21.59</b>	<b>32.37</b>	<b>33.67</b>	<b>24.23</b>	<b>33.89</b>	<b>28.07</b>
<b>1981 Average</b> .....	<b>31.77</b>	<b>35.15</b>	<b>36.47</b>	<b>34.33</b>	<b>37.05</b>	<b>35.24</b>
<b>1982 Average</b> .....	<b>28.52</b>	<b>32.02</b>	<b>33.18</b>	<b>31.22</b>	<b>33.55</b>	<b>31.87</b>
<b>1983 Average</b> .....	<b>26.19</b>	<b>27.81</b>	<b>28.93</b>	<b>28.87</b>	<b>29.30</b>	<b>28.99</b>
<b>1984 Average</b> .....	<b>25.88</b>	<b>27.60</b>	<b>28.54</b>	<b>28.53</b>	<b>28.88</b>	<b>28.63</b>
<b>1985 Average</b> .....	<b>24.09</b>	<b>25.84</b>	<b>26.67</b>	<b>26.66</b>	<b>26.99</b>	<b>26.75</b>
<b>1986 Average</b> .....	<b>12.51</b>	<b>12.52</b>	<b>13.49</b>	<b>14.82</b>	<b>14.00</b>	<b>14.55</b>
<b>1987 Average</b> .....	<b>15.40</b>	<b>16.69</b>	<b>17.65</b>	<b>17.76</b>	<b>18.13</b>	<b>17.90</b>
<b>1988 Average</b> .....	<b>12.58</b>	<b>13.25</b>	<b>14.08</b>	<b>14.74</b>	<b>14.56</b>	<b>14.67</b>
<b>1989 Average</b> .....	<b>15.86</b>	<b>16.89</b>	<b>17.68</b>	<b>17.87</b>	<b>18.08</b>	<b>17.97</b>
<b>1990 Average</b> .....	<b>20.03</b>	<b>20.37</b>	<b>21.13</b>	<b>22.59</b>	<b>21.76</b>	<b>22.22</b>
<b>1991 Average</b> .....	<b>16.54</b>	<b>16.89</b>	<b>18.02</b>	<b>19.33</b>	<b>18.70</b>	<b>19.06</b>
<b>1992 Average</b> .....	<b>15.99</b>	<b>16.77</b>	<b>17.75</b>	<b>18.63</b>	<b>18.20</b>	<b>18.43</b>
<b>1993 Average</b> .....	<b>14.25</b>	<b>14.71</b>	<b>15.72</b>	<b>16.67</b>	<b>16.14</b>	<b>16.41</b>
<b>1994 Average</b> .....	<b>13.19</b>	<b>14.18</b>	<b>15.18</b>	<b>15.67</b>	<b>15.51</b>	<b>15.59</b>
<b>1995 Average</b> .....	<b>14.62</b>	<b>15.69</b>	<b>16.78</b>	<b>17.33</b>	<b>17.14</b>	<b>17.23</b>
<b>1996</b> January .....	15.43	16.17	17.31	17.98	17.48	17.74
February .....	15.54	16.86	17.81	18.10	17.77	17.95
March .....	17.63	18.77	19.61	19.63	19.90	19.76
April .....	19.58	19.56	20.73	21.88	21.33	21.63
May .....	17.94	18.34	19.61	21.15	20.12	20.61
June .....	16.94	17.61	18.83	19.30	19.32	19.31
July .....	17.63	18.21	19.35	19.91	19.60	19.76
August .....	18.29	19.27	20.30	20.55	20.53	20.54
September .....	19.93	21.03	21.95	21.87	22.04	21.96
October .....	21.09	22.23	23.05	22.93	23.22	23.08
November .....	20.20	21.31	22.24	23.08	22.66	22.87
December .....	21.34	21.56	22.48	23.38	23.22	23.30
<b>Average</b> .....	<b>18.46</b>	<b>19.32</b>	<b>20.31</b>	<b>20.77</b>	<b>20.64</b>	<b>20.71</b>
<b>1997</b> January .....	21.76	21.31	22.31	24.29	23.05	23.62
February .....	19.38	18.99	19.98	22.47	20.92	21.65
March .....	17.85	17.11	18.45	20.57	19.16	19.82
April .....	16.64	16.20	17.52	19.01	17.85	18.36
May .....	17.24	16.81	17.87	19.20	18.54	18.84
June .....	15.90	15.99	17.12	18.45	17.38	17.87
July .....	15.91	16.38	17.28	18.35	17.48	17.88
August .....	16.21	16.68	17.78	18.59	17.96	18.23
September .....	16.44	16.76	17.85	18.49	17.96	18.20
October .....	17.68	17.26	18.51	19.73	18.88	19.26
November .....	16.84	16.13	17.35	19.23	18.08	18.61
December .....	15.06	14.21	15.70	17.92	16.16	17.00
<b>Average</b> .....	<b>17.24</b>	<b>16.94</b>	<b>18.11</b>	<b>19.67</b>	<b>18.59</b>	<b>19.08</b>
<b>1998</b> January .....	13.48	12.76	14.12	15.87	14.55	15.14
February .....	12.16	11.72	13.11	14.77	13.41	14.03
March .....	11.53	11.08	12.39	13.52	12.36	12.87
April .....	11.64	<sup>R</sup> 11.18	<sup>R</sup> 12.34	13.47	12.85	13.10
May .....	<sup>R</sup> 11.49	<sup>R</sup> 11.38	<sup>R</sup> 12.28	<sup>R</sup> 13.52	12.66	<sup>R</sup> 13.01
June .....	10.00	10.01	11.15	12.48	11.67	11.99

<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.

<sup>R</sup>=Revised. <sup>E</sup>=Estimate.

Notes: • 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 since then reflect the period of loading.

• Annual averages are the averages of the monthly prices, weighted by volume. • Geographic coverage is the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, and all U.S. Territories and Possessions.

Sources: See end of section.

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

	Selected Countries							Persian Gulf Nations <sup>a</sup>	Total OPEC <sup>b</sup>	Total Non-OPEC
	Angola	Colombia	Mexico	Nigeria	Saudi Arabia	United Kingdom	Venezuela			
<b>1973 Average<sup>c</sup></b> .....	<b>W</b>	<b>W</b>	<b>NA</b>	<b>7.81</b>	<b>3.25</b>	<b>NA</b>	<b>5.39</b>	<b>3.68</b>	<b>5.43</b>	<b>4.80</b>
1974 Average .....	11.87	W	W	12.44	10.17	NA	10.71	10.60	11.33	9.59
1975 Average .....	10.97	( <sup>d</sup> )	11.44	11.82	10.87	NA	11.04	10.88	11.34	10.62
1976 Average .....	12.02	( <sup>d</sup> )	12.22	13.08	11.62	W	11.39	11.65	12.23	11.70
1977 Average .....	13.29	( <sup>d</sup> )	13.42	14.44	12.38	14.11	12.63	12.56	13.29	12.97
1978 Average .....	13.32	( <sup>d</sup> )	13.24	14.05	12.70	13.82	12.38	12.77	13.31	13.23
1979 Average .....	19.85	( <sup>d</sup> )	20.27	21.69	17.28	21.70	16.90	18.77	19.88	20.92
1980 Average .....	33.45	W	31.06	35.93	28.17	34.36	24.81	28.92	32.21	32.85
1981 Average .....	35.55	( <sup>d</sup> )	33.01	38.31	32.60	36.06	28.95	33.00	35.17	35.12
1982 Average .....	31.86	( <sup>d</sup> )	28.08	35.13	33.73	33.42	23.74	33.55	33.48	30.58
1983 Average .....	28.14	( <sup>d</sup> )	25.20	29.81	27.53	29.91	21.48	27.70	28.46	27.20
1984 Average .....	27.46	( <sup>d</sup> )	26.39	29.51	27.67	28.87	24.23	27.48	27.79	27.45
1985 Average .....	26.30	( <sup>d</sup> )	25.33	28.04	22.04	27.64	23.64	23.31	25.67	25.96
1986 Average .....	13.30	12.34	11.84	14.35	11.36	13.84	10.92	11.35	12.21	12.87
1987 Average .....	17.27	17.84	16.36	18.47	15.12	18.28	15.08	15.97	16.43	16.99
1988 Average .....	13.70	13.61	12.18	15.16	12.16	14.80	12.96	12.38	13.43	13.05
1989 Average .....	17.66	17.89	15.96	18.31	16.29	17.89	16.09	16.61	17.06	16.72
1990 Average .....	20.23	20.75	19.26	22.46	20.36	23.43	19.55	18.54	20.40	20.32
1991 Average .....	18.47	18.49	15.37	20.29	14.62	20.81	14.91	15.22	16.99	16.77
1992 Average .....	18.41	18.02	15.26	19.98	15.85	19.61	14.39	16.35	16.87	16.66
1993 Average .....	16.23	15.87	13.74	17.79	13.77	16.64	12.46	14.21	14.78	14.65
1994 Average .....	15.40	14.99	13.68	16.32	14.12	15.66	12.21	13.97	14.00	14.34
1995 Average .....	16.58	16.73	15.64	17.40	W	16.94	13.86	W	15.36	16.02
<b>1996</b> January .....	16.95	17.73	16.52	18.63	W	W	14.12	W	15.86	16.37
February .....	17.91	18.09	16.59	18.53	W	W	15.22	W	16.89	16.81
March .....	19.78	20.02	18.39	20.44	18.29	19.42	17.78	18.62	18.77	18.77
April .....	20.96	22.65	19.63	21.49	W	W	17.99	W	18.75	20.20
May .....	19.72	20.09	17.93	20.13	W	19.02	16.35	W	17.72	18.83
June .....	18.60	19.49	17.05	19.25	17.96	W	16.08	17.70	17.21	17.94
July .....	19.72	19.72	17.85	19.90	18.48	W	16.72	18.45	17.78	18.62
August .....	20.33	20.79	18.89	21.13	20.16	18.82	17.35	20.43	18.99	19.59
September .....	22.23	22.79	20.96	22.80	20.60	W	19.66	21.01	20.57	21.55
October .....	23.05	23.57	22.40	24.71	W	W	20.29	W	21.85	22.59
November .....	22.38	23.25	20.96	24.43	21.90	22.35	19.62	22.39	21.04	21.48
December .....	23.22	24.56	21.83	24.39	19.24	W	20.41	19.99	21.01	22.04
<b>Average</b> .....	<b>20.70</b>	<b>21.33</b>	<b>19.14</b>	<b>21.27</b>	<b>19.28</b>	<b>19.43</b>	<b>17.73</b>	<b>19.30</b>	<b>18.94</b>	<b>19.65</b>
<b>1997</b> January .....	23.20	24.14	21.09	24.52	17.37	W	19.35	17.37	20.37	21.93
February .....	21.35	21.12	18.57	21.53	W	W	16.68	W	17.96	19.71
March .....	18.66	19.41	17.00	19.02	W	NA	15.50	W	16.49	17.68
April .....	17.05	17.87	15.94	17.97	15.82	W	14.81	15.95	15.92	16.44
May .....	18.25	17.92	16.84	18.99	15.60	19.03	15.27	15.67	16.27	17.33
June .....	17.84	16.87	15.70	18.22	15.26	18.09	14.66	15.11	15.61	16.36
July .....	17.72	17.72	15.99	19.12	15.24	17.40	14.99	15.33	16.04	16.65
August .....	17.96	18.42	16.29	18.98	16.89	18.17	15.33	16.47	16.37	16.96
September .....	18.15	18.52	16.02	19.35	15.33	18.44	15.25	16.15	16.51	16.99
October .....	19.33	19.52	17.51	20.03	W	W	15.81	W	16.32	18.15
November .....	18.54	18.24	16.04	19.11	W	W	14.39	W	15.00	17.02
December .....	16.58	17.18	13.79	17.39	W	W	12.51	W	13.31	14.97
<b>Average</b> .....	<b>18.81</b>	<b>18.84</b>	<b>16.73</b>	<b>19.46</b>	<b>15.17</b>	<b>18.59</b>	<b>15.33</b>	<b>15.26</b>	<b>16.27</b>	<b>17.52</b>
<b>1998</b> January .....	14.47	15.36	12.11	15.21	W	W	11.29	W	12.24	13.12
February .....	13.12	14.27	11.48	13.78	W	W	10.34	W	11.42	12.10
March .....	12.53	13.10	9.77	13.56	W	W	9.70	W	10.92	11.22
April .....	12.93	13.48	11.01	13.86	W	W	10.32	<sup>R</sup> 7.92	<sup>R</sup> 10.60	11.63
May .....	<sup>R</sup> 13.87	<sup>R</sup> 13.08	<sup>R</sup> 11.25	<sup>R</sup> 14.13	<sup>R</sup> 8.26	W	<sup>R</sup> 9.78	<sup>R</sup> 8.44	<sup>R</sup> 10.66	<sup>R</sup> 12.01
June .....	11.66	11.94	9.91	11.72	8.85	W	9.22	9.00	9.63	10.28

<sup>a</sup> Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and United Arab Emirates.

<sup>b</sup> Current members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela. Ecuador withdrew at the end of 1992 and Gabon withdrew at the end of 1994.

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

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

R=Revised. 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 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. • U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

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

	Selected Countries								Persian Gulf Nations <sup>a</sup>	Total OPEC <sup>b</sup>	Total Non-OPEC
	Angola	Canada	Colombia	Mexico	Nigeria	Saudi Arabia	United Kingdom	Venezuela			
<b>1973 Average<sup>c</sup></b> .....	W	5.33	W	NA	9.08	5.37	NA	5.99	5.91	6.85	5.64
1974 Average .....	12.48	11.48	W	W	13.16	11.63	NA	11.25	12.21	12.49	11.81
1975 Average .....	11.81	12.84	( <sup>d</sup> )	12.61	12.70	12.50	NA	12.36	12.64	12.70	12.70
1976 Average .....	12.71	13.36	( <sup>d</sup> )	12.64	13.81	13.06	W	11.89	13.03	13.32	13.35
1977 Average .....	14.04	14.13	( <sup>d</sup> )	13.82	15.29	13.69	14.83	13.11	13.85	14.35	14.42
1978 Average .....	14.07	14.41	( <sup>d</sup> )	13.56	14.88	13.94	14.53	12.84	14.01	14.34	14.38
1979 Average .....	21.06	20.22	( <sup>d</sup> )	20.77	22.97	18.95	22.97	17.65	20.42	21.29	22.10
1980 Average .....	34.76	30.11	W	31.77	37.15	29.80	35.68	25.92	30.59	33.56	33.99
1981 Average .....	36.84	32.32	( <sup>d</sup> )	33.70	39.66	34.20	37.29	29.91	34.61	36.60	36.14
1982 Average .....	33.08	27.15	( <sup>d</sup> )	28.63	36.16	34.99	34.25	24.93	34.94	34.81	31.47
1983 Average .....	29.31	25.63	( <sup>d</sup> )	25.78	30.85	29.27	30.87	22.94	29.37	29.84	28.08
1984 Average .....	28.49	26.56	( <sup>d</sup> )	26.85	30.36	29.20	29.45	25.19	29.07	29.06	28.14
1985 Average .....	27.39	25.71	( <sup>d</sup> )	25.63	28.96	24.72	28.36	24.43	25.50	26.86	26.53
1986 Average .....	14.09	13.43	12.85	12.17	15.29	12.84	14.63	11.52	12.92	13.46	13.52
1987 Average .....	18.20	17.04	18.43	16.69	19.32	16.81	18.78	15.76	17.47	17.64	17.66
1988 Average .....	14.48	13.50	14.47	12.58	15.88	13.37	15.82	13.66	13.51	14.18	13.96
1989 Average .....	18.36	16.81	18.10	16.35	19.19	17.34	18.74	16.78	17.37	17.78	17.54
1990 Average .....	21.51	20.48	22.34	19.64	23.33	21.82	22.65	20.31	20.55	21.23	20.98
1991 Average .....	19.90	17.16	19.55	15.89	21.39	17.22	21.37	15.92	17.34	18.08	17.93
1992 Average .....	19.36	17.04	18.46	15.60	20.78	17.48	20.63	15.13	17.58	17.81	17.67
1993 Average .....	17.40	15.27	16.54	14.11	18.73	15.40	17.92	13.39	15.26	15.68	15.78
1994 Average .....	16.36	14.83	15.80	14.09	17.21	15.11	16.64	13.12	15.00	15.08	15.29
1995 Average .....	17.66	16.65	17.45	16.19	18.25	16.84	17.91	14.81	16.78	16.61	16.95
<b>1996</b> January .....	18.16	16.07	18.55	16.95	19.65	17.98	18.49	15.12	17.73	17.41	17.20
February .....	18.82	16.33	18.82	17.07	19.47	18.76	19.39	16.02	18.78	18.06	17.58
March .....	20.85	18.55	20.57	18.95	21.25	19.59	19.25	18.63	19.87	19.81	19.42
April .....	21.41	21.10	23.37	20.23	22.32	20.55	20.76	19.14	20.48	20.26	21.11
May .....	20.88	20.16	21.04	18.67	21.17	19.57	21.22	17.42	19.44	19.17	19.17
June .....	19.62	19.20	20.08	17.75	20.11	18.92	20.40	17.14	18.79	18.64	19.00
July .....	20.70	19.72	20.62	18.55	20.85	19.77	19.79	17.55	19.61	19.15	19.54
August .....	21.58	20.44	21.47	19.51	21.95	20.70	20.56	18.22	20.42	20.16	20.36
September .....	23.40	21.85	23.47	21.59	23.40	21.81	21.69	20.37	21.80	21.66	22.36
October .....	23.94	22.53	24.42	22.84	25.57	22.91	23.12	20.89	22.77	22.78	23.30
November .....	23.47	21.33	23.81	21.22	25.19	22.66	24.10	20.40	22.67	22.15	22.30
December .....	24.48	21.32	25.20	22.06	25.42	21.93	24.23	21.23	22.16	22.22	22.73
<b>Average</b> .....	<b>21.86</b>	<b>19.94</b>	<b>22.02</b>	<b>19.64</b>	<b>21.95</b>	<b>20.49</b>	<b>20.88</b>	<b>18.59</b>	<b>20.44</b>	<b>20.14</b>	<b>20.46</b>
<b>1997</b> January .....	24.45	21.79	24.98	21.60	25.52	21.04	24.18	20.43	21.01	21.64	22.89
February .....	22.54	19.75	21.72	19.11	23.26	18.37	24.33	17.58	18.37	19.20	20.59
March .....	20.34	18.43	20.39	17.43	20.58	18.04	23.59	16.57	18.13	18.05	18.83
April .....	18.70	17.22	18.76	16.60	19.27	17.56	18.80	16.05	17.39	17.46	17.57
May .....	19.59	17.46	18.78	17.59	19.87	17.08	20.04	16.38	17.07	17.57	18.16
June .....	19.33	16.31	17.74	16.24	19.57	16.93	19.54	15.70	16.85	17.01	17.23
July .....	18.59	16.61	18.56	16.50	20.02	17.07	18.59	15.96	16.86	17.14	17.40
August .....	19.14	17.16	18.98	16.85	20.01	18.33	19.33	16.22	18.05	17.80	17.76
September .....	19.50	16.97	19.36	16.69	20.35	18.01	19.56	16.14	17.84	17.85	17.84
October .....	20.83	18.33	20.45	18.11	21.14	17.10	18.85	16.76	17.35	17.79	19.19
November .....	19.64	16.78	19.28	16.84	20.55	15.43	19.93	15.41	15.75	16.63	17.99
December .....	18.24	15.13	18.12	14.45	19.03	14.79	18.61	13.42	15.06	15.01	16.30
<b>Average</b> .....	<b>20.24</b>	<b>17.62</b>	<b>19.70</b>	<b>17.30</b>	<b>20.66</b>	<b>17.54</b>	<b>20.64</b>	<b>16.34</b>	<b>17.45</b>	<b>17.73</b>	<b>18.46</b>
<b>1998</b> January .....	16.14	13.25	16.39	12.69	17.00	13.43	W	12.30	13.49	13.89	14.29
February .....	14.52	12.18	15.37	12.12	15.32	13.05	15.63	11.28	13.01	12.98	13.24
March .....	14.06	11.57	13.84	10.37	14.71	12.28	14.82	10.66	12.38	12.44	12.35
April .....	14.25	11.42	14.17	11.65	14.67	<sup>R</sup> 11.31	15.19	11.16	<sup>R</sup> 11.53	<sup>R</sup> 11.98	12.67
May .....	<sup>R</sup> 14.92	<sup>R</sup> 11.28	<sup>R</sup> 13.75	<sup>R</sup> 11.76	<sup>R</sup> 14.92	<sup>R</sup> 10.79	<sup>R</sup> 14.52	<sup>R</sup> 10.47	<sup>R</sup> 10.83	<sup>R</sup> 11.74	<sup>R</sup> 12.81
June .....	13.06	10.85	12.51	10.58	13.75	10.55	12.58	9.95	10.58	10.97	11.30

<sup>a</sup> Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and United Arab Emirates.

<sup>b</sup> Current members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela. Ecuador withdrew at the end of 1992 and Gabon withdrew at the end of 1994.

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

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

<sup>R</sup>=Revised. 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. • U.S. geographic coverage is the 50 States and the District of Columbia.

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*, September 1998, Table 25.

**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 .....	85.7	90.3	NA	88.2
1980 Average .....	119.1	124.5	NA	122.1
1981 Average <sup>b</sup> .....	131.1	137.8	<sup>c</sup> 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	136.6	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 .....	99.8	102.1	119.7	106.0
1990 Average .....	114.9	116.4	134.9	121.7
1991 Average .....	NA	114.0	132.1	119.6
1992 Average .....	NA	112.7	131.6	119.0
1993 Average .....	NA	110.8	130.2	117.3
1994 Average .....	NA	111.2	130.5	117.4
1995 Average .....	NA	114.7	133.6	120.5
<b>1996</b> January .....	NA	112.9	131.7	118.6
February .....	NA	112.4	131.1	118.1
March .....	NA	116.2	134.8	121.9
April .....	NA	125.1	143.1	130.5
May .....	NA	132.3	150.7	137.8
June .....	NA	129.9	148.1	135.4
July .....	NA	127.2	145.3	132.8
August .....	NA	124.0	142.1	129.8
September .....	NA	123.4	141.7	129.3
October .....	NA	122.7	140.8	128.7
November .....	NA	125.0	142.8	130.8
December .....	NA	126.0	143.8	131.8
<b>Average .....</b>	<b>NA</b>	<b>123.1</b>	<b>141.3</b>	<b>128.8</b>
<b>1997</b> January .....	NA	126.1	144.1	131.8
February .....	NA	125.5	143.4	131.2
March .....	NA	123.5	141.5	129.3
April .....	NA	123.1	141.3	128.8
May .....	NA	122.6	140.9	128.4
June .....	NA	122.9	141.1	128.6
July .....	NA	120.5	138.8	126.3
August .....	NA	125.3	143.3	131.0
September .....	NA	127.7	145.8	133.4
October .....	NA	124.2	142.6	130.0
November .....	NA	121.3	139.7	127.1
December .....	NA	117.7	136.3	123.6
<b>Average .....</b>	<b>NA</b>	<b>123.4</b>	<b>141.6</b>	<b>129.1</b>
<b>1998</b> January .....	NA	113.1	131.9	118.6
February .....	NA	108.2	127.1	113.7
March .....	NA	104.1	122.9	109.7
April .....	NA	105.2	123.7	110.6
May .....	NA	109.2	127.5	114.6
June .....	NA	109.4	127.9	114.8
July .....	NA	107.9	126.8	113.4

<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.

<sup>c</sup> Based on 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	26.3	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	29.2	30.6	31.4	34.0
1992 Average .....	35.1	38.9	28.6	31.2	30.8	33.6
1993 Average .....	33.7	39.7	25.6	30.3	29.3	33.7
1994 Average .....	34.5	40.1	28.7	33.0	31.7	35.2
1995 Average .....	38.3	43.6	33.8	37.7	36.3	39.2
<b>1996</b> January .....	49.9	54.8	38.0	44.7	45.2	47.9
February .....	42.6	53.2	36.8	41.7	40.1	44.9
March .....	47.1	51.9	36.0	42.1	42.0	44.7
April .....	48.3	51.1	39.9	43.0	43.7	45.1
May .....	45.0	51.1	36.9	41.4	41.0	43.3
June .....	40.4	47.3	35.0	38.4	37.4	40.8
July .....	41.4	48.6	37.3	38.7	38.9	41.0
August .....	41.9	49.8	37.2	39.5	39.0	42.0
September .....	42.6	51.2	40.3	43.2	41.2	44.9
October .....	47.8	54.7	43.1	47.1	45.0	48.5
November .....	49.2	57.0	44.5	48.0	46.3	49.7
December .....	51.4	58.6	43.0	47.5	46.0	49.9
<b>Average .....</b>	<b>45.6</b>	<b>52.6</b>	<b>38.9</b>	<b>43.3</b>	<b>42.0</b>	<b>45.5</b>
<b>1997</b> January .....	46.2	58.7	39.2	46.3	42.9	49.2
February .....	43.7	54.6	35.4	41.8	39.4	45.0
March .....	39.6	49.3	34.1	37.6	35.8	40.3
April .....	37.6	46.4	35.2	37.5	36.1	39.7
May .....	36.6	45.3	35.4	38.7	35.8	40.3
June .....	39.4	44.5	34.8	38.7	36.7	40.1
July .....	38.5	44.2	35.4	38.2	36.6	39.6
August .....	39.4	44.6	37.6	39.5	38.3	40.7
September .....	40.1	46.4	37.6	40.1	38.7	41.4
October .....	44.6	48.2	39.8	42.9	42.0	43.9
November .....	46.5	51.2	41.6	43.8	43.5	45.7
December .....	38.7	48.5	32.8	37.8	35.6	40.2
<b>Average .....</b>	<b>41.5</b>	<b>48.8</b>	<b>36.6</b>	<b>40.4</b>	<b>38.7</b>	<b>42.3</b>
<b>1998</b> January .....	35.2	44.7	28.9	32.5	31.1	35.3
February .....	30.7	39.6	26.6	30.6	28.2	32.7
March .....	29.4	35.6	24.0	26.0	26.4	28.6
April .....	32.9	35.9	28.8	30.4	30.3	31.7
May .....	31.9	37.6	28.2	30.1	29.4	31.8
June .....	29.3	36.1	27.0	29.6	27.9	31.3

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and commercial consumers. • Values for the current month

are preliminary. • Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Source: EIA, *Petroleum Marketing Monthly*, September 1998, Table 19.



**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	56.5	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 Average .....	67.7	99.1	60.5	63.2	57.9	59.1	32.8
1993 Average .....	62.6	96.5	57.7	60.4	54.4	57.0	35.1
1994 Average .....	59.9	93.3	53.4	61.8	50.6	52.9	32.4
1995 Average .....	62.6	97.5	53.9	58.0	51.1	53.8	34.4
1996 January .....	61.0	94.7	60.3	65.8	56.8	56.2	41.6
February .....	61.6	96.5	57.3	65.7	58.9	57.9	44.2
March .....	67.9	100.6	59.6	68.0	62.8	61.9	41.1
April .....	76.1	107.5	65.3	75.1	67.5	70.1	37.8
May .....	78.0	110.0	62.2	66.1	61.1	66.8	36.2
June .....	73.0	107.0	57.5	59.8	53.7	59.1	36.2
July .....	72.3	105.3	59.6	61.7	57.1	60.0	36.9
August .....	71.1	107.1	64.5	66.6	62.1	64.9	38.9
September .....	71.6	106.8	71.6	75.6	68.7	71.7	45.2
October .....	72.8	107.1	73.6	80.7	72.7	75.4	51.1
November .....	74.5	108.4	72.2	79.7	71.4	73.3	57.9
December .....	73.1	107.1	73.0	79.0	71.2	71.0	67.7
Average .....	71.3	105.5	64.6	71.4	63.9	65.9	46.1
1997 January .....	74.8	109.0	73.5	77.7	69.8	69.9	59.9
February .....	73.1	108.7	71.4	73.4	64.5	67.8	44.7
March .....	71.5	107.9	61.8	63.2	57.7	62.5	41.3
April .....	70.4	108.5	60.5	62.1	58.6	61.7	37.7
May .....	71.1	108.2	59.4	61.1	58.8	60.7	36.9
June .....	68.3	105.9	58.1	57.1	54.5	56.5	36.4
July .....	67.5	104.9	56.8	56.2	53.8	55.8	35.9
August .....	75.0	108.9	59.4	60.5	55.3	58.9	37.5
September .....	72.3	108.9	58.8	60.1	54.3	57.8	39.5
October .....	68.6	104.5	61.3	63.8	59.0	61.7	41.1
November .....	65.9	102.1	61.3	62.6	58.4	61.5	39.6
December .....	61.7	99.8	55.6	57.8	53.4	55.0	37.5
Average .....	70.0	106.6	61.2	65.1	58.9	60.6	41.6
1998 January .....	57.6	96.2	53.4	52.8	48.9	49.6	35.4
February .....	55.1	92.0	50.2	51.6	47.7	48.3	33.1
March .....	52.3	90.4	45.7	47.6	44.9	45.8	31.2
April .....	54.9	90.9	46.6	46.3	44.9	48.2	30.3
May .....	57.9	94.0	46.9	45.8	43.4	47.0	29.3
June .....	55.6	91.4	43.3	43.2	39.9	43.5	26.7

<sup>a</sup> See Note 5 at end of section.

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 ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and residential and commercial

consumers. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Source: EIA, *Petroleum Marketing Monthly*, September 1998, 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)
<b>1978 Average</b> .....	48.4	51.6	38.7	42.1	40.0	37.7	33.5
<b>1979 Average</b> .....	71.3	68.9	54.7	58.5	51.6	58.5	35.7
<b>1980 Average</b> .....	103.5	108.4	86.8	90.2	78.8	81.8	48.2
<b>1981 Average</b> .....	114.7	130.3	102.4	112.3	91.4	99.5	56.5
<b>1982 Average</b> .....	106.0	131.2	96.3	108.9	90.5	94.2	59.2
<b>1983 Average</b> .....	95.4	125.5	87.8	96.1	91.6	82.6	70.9
<b>1984 Average</b> .....	90.7	123.4	84.2	103.6	91.6	82.3	73.7
<b>1985 Average</b> .....	91.2	120.1	79.6	103.0	84.9	78.9	71.7
<b>1986 Average</b> .....	62.4	101.1	52.9	79.0	56.0	47.8	74.5
<b>1987 Average</b> .....	66.9	90.7	54.3	77.0	58.1	55.1	70.1
<b>1988 Average</b> .....	67.3	89.1	51.3	73.8	54.4	50.0	71.4
<b>1989 Average</b> .....	75.6	99.5	59.2	70.9	58.7	58.5	61.5
<b>1990 Average</b> .....	88.3	112.0	76.6	92.3	73.4	72.5	74.5
<b>1991 Average</b> .....	79.7	104.7	65.2	83.8	66.5	64.8	73.0
<b>1992 Average</b> .....	78.7	102.7	61.0	78.8	62.7	61.9	64.3
<b>1993 Average</b> .....	75.9	99.0	58.0	75.4	60.2	60.2	67.3
<b>1994 Average</b> .....	73.8	95.7	53.4	66.0	57.2	55.4	53.0
<b>1995 Average</b> .....	76.5	100.5	54.0	58.9	56.2	56.0	49.2
<b>1996</b> January .....	74.8	101.2	61.3	71.8	63.5	59.0	63.7
February .....	74.9	100.6	56.9	73.4	64.1	60.0	64.2
March .....	79.8	105.0	59.0	69.0	66.8	64.4	63.0
April .....	88.1	111.4	66.0	80.5	69.9	71.9	57.0
May .....	92.7	114.4	63.3	68.4	64.9	69.8	49.5
June .....	90.3	113.5	57.7	58.5	57.5	62.2	48.5
July .....	87.5	113.7	60.3	64.6	59.4	62.3	50.8
August .....	84.9	114.4	65.1	69.5	66.1	66.4	48.6
September .....	84.4	114.3	71.8	76.4	72.1	72.9	51.4
October .....	84.4	115.0	73.6	87.1	75.1	76.9	57.7
November .....	86.8	115.1	71.7	88.7	75.0	75.7	71.1
December .....	86.0	115.3	74.0	90.7	75.1	74.4	87.5
<b>Average</b> .....	<b>84.7</b>	<b>111.6</b>	<b>65.1</b>	<b>74.0</b>	<b>67.3</b>	<b>68.1</b>	<b>60.5</b>
<b>1997</b> January .....	86.6	113.7	74.4	88.7	75.5	73.0	86.6
February .....	86.1	114.9	71.7	84.8	72.5	71.1	66.8
March .....	84.3	113.8	61.9	NA	66.4	65.8	57.3
April .....	83.9	114.7	60.3	69.8	63.8	64.8	49.7
May .....	84.5	115.7	58.8	68.4	62.9	63.8	46.5
June .....	83.3	114.6	57.6	64.3	59.2	60.7	46.1
July .....	81.5	112.5	56.7	63.1	57.3	59.4	47.5
August .....	86.8	114.6	59.1	64.9	59.0	61.8	50.5
September .....	87.2	115.6	58.2	63.4	58.4	60.7	48.4
October .....	84.3	113.9	61.5	72.8	63.2	64.5	52.3
November .....	81.6	113.0	61.2	77.9	64.2	65.2	52.2
December .....	77.8	107.7	56.3	75.1	59.7	60.1	51.8
<b>Average</b> .....	<b>83.9</b>	<b>113.8</b>	<b>61.2</b>	<b>74.4</b>	<b>63.6</b>	<b>64.2</b>	<b>55.2</b>
<b>1998</b> January .....	73.3	104.3	52.3	72.3	54.1	54.9	48.4
February .....	69.0	101.1	49.9	68.2	53.8	53.3	44.7
March .....	65.6	98.2	45.3	65.3	53.9	50.8	43.8
April .....	67.4	98.6	46.6	56.7	53.0	52.2	41.5
May .....	71.0	99.9	46.7	56.0	48.5	51.9	36.2
June .....	70.5	98.3	42.8	46.1	45.9	48.7	34.1

<sup>a</sup> See Note 5 at end of section.

NA=Not available.

Notes: • Sales to end users are those made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and residential and commercial consumers. Sales for resale are shown in Table 9.6; they are sales made to purchasers other than

ultimate consumers. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Source: EIA, *Petroleum Marketing Monthly*, September 1998, 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
<b>1978 Average</b> .....	<b>48.6</b>	<b>50.3</b>	<b>50.8</b>	<b>48.8</b>	<b>50.7</b>	<b>50.1</b>	<b>50.1</b>	<b>49.6</b>	<b>48.8</b>
<b>1979 Average</b> .....	<b>68.8</b>	<b>72.5</b>	<b>72.5</b>	<b>70.9</b>	<b>72.8</b>	<b>72.0</b>	<b>71.2</b>	<b>71.0</b>	<b>69.8</b>
<b>1980 Average</b> .....	<b>96.3</b>	<b>100.4</b>	<b>101.5</b>	<b>97.8</b>	<b>101.1</b>	<b>98.3</b>	<b>98.2</b>	<b>97.9</b>	<b>96.4</b>
<b>1981 Average</b> .....	<b>120.4</b>	<b>123.7</b>	<b>125.4</b>	<b>121.3</b>	<b>123.8</b>	<b>121.7</b>	<b>123.2</b>	<b>121.5</b>	<b>118.1</b>
<b>1982 Average</b> .....	<b>115.5</b>	<b>117.4</b>	<b>120.1</b>	<b>117.6</b>	<b>120.1</b>	<b>118.3</b>	<b>120.5</b>	<b>117.4</b>	<b>113.7</b>
<b>1983 Average</b> .....	<b>102.8</b>	<b>104.1</b>	<b>112.9</b>	<b>109.1</b>	<b>110.5</b>	<b>109.1</b>	<b>112.1</b>	<b>107.9</b>	<b>105.8</b>
<b>1984 Average</b> .....	<b>103.9</b>	<b>108.4</b>	<b>111.9</b>	<b>111.6</b>	<b>111.4</b>	<b>112.1</b>	<b>115.5</b>	<b>111.0</b>	<b>107.9</b>
<b>1985 Average</b> .....	<b>99.7</b>	<b>102.4</b>	<b>107.7</b>	<b>107.0</b>	<b>106.7</b>	<b>108.0</b>	<b>111.3</b>	<b>105.9</b>	<b>102.3</b>
<b>1986 Average</b> .....	<b>74.4</b>	<b>75.9</b>	<b>86.6</b>	<b>82.1</b>	<b>82.8</b>	<b>89.0</b>	<b>91.1</b>	<b>90.2</b>	<b>81.4</b>
<b>1987 Average</b> .....	<b>74.7</b>	<b>76.5</b>	<b>81.1</b>	<b>80.6</b>	<b>82.5</b>	<b>83.4</b>	<b>85.2</b>	<b>84.3</b>	<b>76.9</b>
<b>1988 Average</b> .....	<b>77.7</b>	<b>78.2</b>	<b>82.6</b>	<b>82.1</b>	<b>83.6</b>	<b>85.3</b>	<b>86.3</b>	<b>84.8</b>	<b>77.8</b>
<b>1989 Average</b> .....	<b>89.4</b>	<b>89.3</b>	<b>90.5</b>	<b>92.6</b>	<b>93.9</b>	<b>92.9</b>	<b>95.8</b>	<b>91.8</b>	<b>85.1</b>
<b>1990 Average</b> .....	<b>98.9</b>	<b>102.8</b>	<b>107.0</b>	<b>108.4</b>	<b>108.6</b>	<b>109.8</b>	<b>112.5</b>	<b>108.7</b>	<b>102.6</b>
<b>1991 Average</b> .....	<b>96.0</b>	<b>91.6</b>	<b>101.9</b>	<b>103.0</b>	<b>99.9</b>	<b>106.2</b>	<b>111.3</b>	<b>104.0</b>	<b>99.7</b>
<b>1992 Average</b> .....	<b>87.1</b>	<b>85.6</b>	<b>92.1</b>	<b>92.5</b>	<b>91.2</b>	<b>94.7</b>	<b>102.8</b>	<b>93.9</b>	<b>89.0</b>
<b>1993 Average</b> .....	<b>82.6</b>	<b>82.8</b>	<b>90.4</b>	<b>89.7</b>	<b>89.3</b>	<b>91.9</b>	<b>100.1</b>	<b>92.4</b>	<b>86.3</b>
<b>1994 Average</b> .....	<b>81.8</b>	<b>79.2</b>	<b>87.6</b>	<b>87.0</b>	<b>88.5</b>	<b>89.0</b>	<b>96.6</b>	<b>89.5</b>	<b>85.7</b>
<b>1995 Average</b> .....	<b>78.7</b>	<b>77.9</b>	<b>85.3</b>	<b>84.4</b>	<b>87.4</b>	<b>86.4</b>	<b>95.5</b>	<b>88.8</b>	<b>82.6</b>
<b>1996</b> January .....	93.0	89.1	92.6	92.0	94.9	94.5	102.9	97.8	92.3
February .....	93.2	90.8	93.7	93.8	95.6	96.2	104.1	100.5	93.1
March .....	96.7	93.8	97.3	99.3	99.7	99.6	106.6	103.5	95.9
April .....	98.7	96.5	100.3	101.5	98.8	102.1	109.0	105.4	97.1
May .....	95.4	93.6	98.8	95.9	94.9	96.8	105.2	98.2	92.9
June .....	90.1	87.2	92.2	87.9	88.7	88.8	101.4	91.8	83.9
July .....	87.5	83.6	88.5	87.5	87.7	84.9	97.2	89.7	79.4
August .....	89.5	85.1	89.0	89.0	88.3	84.0	93.4	90.6	82.0
September .....	96.4	91.9	94.4	93.1	96.6	92.5	99.1	97.3	88.9
October .....	101.1	99.1	100.7	103.0	104.0	103.0	107.9	105.7	99.4
November .....	103.4	99.7	101.9	103.7	104.5	105.0	111.6	108.8	102.2
December .....	105.1	101.6	103.6	105.9	106.4	108.1	114.4	111.1	104.0
<b>Average</b> .....	<b>97.2</b>	<b>94.0</b>	<b>96.9</b>	<b>97.6</b>	<b>98.6</b>	<b>98.6</b>	<b>106.3</b>	<b>102.4</b>	<b>95.3</b>
<b>1997</b> January .....	105.2	102.2	104.4	106.4	106.9	108.7	114.7	111.3	104.2
February .....	102.2	101.0	103.5	103.4	104.5	105.2	112.0	108.4	102.2
March .....	94.3	98.6	103.1	97.7	100.6	99.3	111.5	104.6	97.7
April .....	90.9	95.2	100.4	95.9	99.6	97.6	109.7	102.5	95.0
May .....	90.6	91.9	97.7	93.0	97.3	93.4	107.9	99.9	92.4
June .....	88.0	89.1	92.9	89.1	94.1	89.9	103.9	96.9	87.8
July .....	86.7	85.6	91.1	87.5	91.8	83.7	100.0	90.5	82.1
August .....	85.7	85.3	92.7	84.7	91.0	84.5	92.9	89.6	80.7
September .....	87.1	86.3	91.7	87.0	91.2	85.5	94.5	90.7	82.8
October .....	90.2	88.2	93.1	89.4	94.6	89.0	100.6	94.8	85.9
November .....	92.3	88.6	94.7	90.7	95.4	91.4	101.6	97.2	89.5
December .....	91.0	88.5	94.1	89.7	94.6	91.7	101.7	97.8	89.9
<b>Average</b> .....	<b>94.3</b>	<b>94.2</b>	<b>98.7</b>	<b>96.0</b>	<b>99.0</b>	<b>96.3</b>	<b>106.6</b>	<b>102.9</b>	<b>94.9</b>
<b>1998</b> January .....	88.7	87.4	92.9	88.8	93.4	91.4	101.4	96.2	89.2
February .....	85.7	86.7	91.7	87.6	92.6	90.0	100.8	95.4	88.5
March .....	83.0	84.4	92.2	86.6	90.2	88.6	98.3	92.6	86.3
April .....	81.6	81.3	89.1	83.4	88.9	85.7	97.1	91.3	84.0
May .....	<sup>R</sup> 80.3	79.4	86.9	81.8	<sup>R</sup> 87.2	83.2	95.0	<sup>R</sup> 89.2	82.1
June .....	78.3	74.6	84.3	78.2	83.9	78.1	92.1	84.0	75.8

R=Revised.

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*, September 1998, Table 18.

**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
<b>1978 Average</b> .....	47.8	50.7	49.2	49.1	46.2	47.4	47.9	48.5	46.5	44.7	47.8
<b>1979 Average</b> .....	68.2	74.2	70.1	70.4	65.1	68.6	70.9	72.7	68.8	67.3	72.4
<b>1980 Average</b> .....	95.4	102.6	97.9	98.5	92.2	91.9	97.8	99.6	95.8	91.5	99.9
<b>1981 Average</b> .....	117.3	127.4	121.4	120.5	115.0	113.2	118.3	118.5	114.9	109.1	118.4
<b>1982 Average</b> .....	111.3	124.5	117.1	117.7	109.3	110.2	113.9	114.3	110.9	107.8	115.1
<b>1983 Average</b> .....	106.0	117.0	110.3	108.7	101.0	101.3	106.4	100.7	100.4	101.2	103.1
<b>1984 Average</b> .....	109.6	118.7	113.5	110.5	102.1	102.1	105.0	103.1	100.1	101.0	104.1
<b>1985 Average</b> .....	104.6	114.3	108.8	106.3	98.0	99.7	102.1	99.1	97.5	98.3	101.9
<b>1986 Average</b> .....	85.0	93.1	91.4	86.6	74.6	77.7	81.0	74.8	NA	75.6	79.2
<b>1987 Average</b> .....	79.3	91.8	86.6	79.5	76.4	74.7	77.5	75.4	79.8	75.1	74.6
<b>1988 Average</b> .....	80.1	91.6	87.0	80.5	74.2	74.7	77.5	75.4	77.6	73.9	73.5
<b>1989 Average</b> .....	88.2	98.6	93.8	87.0	83.0	81.6	85.3	83.2	80.9	81.1	82.4
<b>1990 Average</b> .....	105.8	107.8	111.9	110.6	99.1	98.1	100.9	99.3	96.1	94.2	101.4
<b>1991 Average</b> .....	99.7	112.2	108.4	101.1	93.4	91.0	94.2	91.8	92.7	89.5	91.1
<b>1992 Average</b> .....	92.3	105.7	100.0	92.8	86.4	83.6	87.2	81.2	87.7	81.6	82.6
<b>1993 Average</b> .....	89.9	104.5	98.1	89.3	85.6	84.0	87.2	81.0	84.4	82.3	83.2
<b>1994 Average</b> .....	89.4	100.0	95.0	85.3	80.9	81.2	86.3	81.2	78.4	81.1	80.6
<b>1995 Average</b> .....	87.0	101.0	93.6	84.4	81.5	80.8	86.0	81.6	78.5	81.2	80.1
<b>1996</b> January .....	94.7	111.7	103.9	91.3	90.7	85.5	89.6	85.6	84.4	83.3	82.7
February .....	94.4	112.9	104.1	92.8	93.8	87.7	91.2	86.4	85.8	83.9	83.7
March .....	96.1	117.7	106.4	93.6	95.8	91.6	97.0	90.7	88.7	87.1	86.7
April .....	100.7	115.9	105.8	95.4	97.0	95.3	101.0	93.5	90.4	91.5	91.4
May .....	98.0	109.7	104.4	91.7	91.4	91.3	99.6	93.0	89.9	92.2	92.0
June .....	91.9	102.5	97.3	88.2	89.9	86.8	94.6	86.2	80.6	88.4	85.5
July .....	91.0	97.3	93.7	88.5	88.6	86.5	92.2	85.6	78.9	88.6	84.3
August .....	91.0	99.2	93.7	89.1	88.9	82.2	92.5	87.4	83.0	87.8	86.2
September .....	95.3	106.2	99.3	92.6	94.9	92.8	98.6	92.8	87.1	91.1	91.8
October .....	103.1	120.9	108.1	98.6	101.1	98.2	102.6	96.6	92.4	95.6	97.8
November .....	105.9	125.7	111.8	102.2	104.6	100.8	106.4	102.4	96.8	98.7	102.4
December .....	106.7	129.2	114.9	104.3	104.3	101.5	106.4	100.8	98.1	98.9	100.4
<b>Average</b> .....	<b>98.4</b>	<b>117.8</b>	<b>106.3</b>	<b>95.2</b>	<b>96.0</b>	<b>92.1</b>	<b>97.7</b>	<b>91.2</b>	<b>89.3</b>	<b>89.9</b>	<b>90.9</b>
<b>1997</b> January .....	106.5	130.9	117.0	105.5	103.8	100.7	105.6	100.9	98.8	98.3	99.2
February .....	104.2	127.0	115.0	102.6	101.2	98.4	104.4	97.0	93.3	96.8	96.9
March .....	99.4	122.1	108.1	100.4	98.1	92.6	NA	94.6	90.2	96.7	91.7
April .....	99.1	W	105.6	96.7	95.7	92.4	91.7	NA	83.4	92.9	89.7
May .....	95.0	108.6	101.9	89.9	92.9	90.1	90.7	88.4	79.9	93.4	89.1
June .....	89.8	99.9	98.0	87.8	90.6	86.8	88.3	84.0	79.7	90.8	87.4
July .....	87.3	99.9	96.1	85.9	87.4	83.1	84.9	79.7	78.4	86.7	84.8
August .....	87.8	W	93.8	85.2	85.0	81.7	87.4	83.6	81.2	86.5	86.0
September .....	87.8	96.6	94.5	85.2	87.5	84.3	88.3	80.2	77.4	88.0	84.9
October .....	88.1	W	97.8	90.3	88.3	88.2	88.9	84.0	82.6	89.6	87.1
November .....	92.0	W	100.3	91.8	92.2	89.3	93.6	85.0	81.6	89.7	87.0
December .....	94.3	W	100.9	92.6	93.6	85.8	88.8	81.8	82.1	88.6	84.9
<b>Average</b> .....	<b>98.0</b>	<b>117.6</b>	<b>105.8</b>	<b>94.8</b>	<b>96.2</b>	<b>91.3</b>	<b>94.2</b>	<b>86.4</b>	<b>86.3</b>	<b>93.3</b>	<b>90.2</b>
<b>1998</b> January .....	92.5	111.0	100.4	92.1	91.0	81.9	85.9	79.7	80.3	85.4	81.5
February .....	91.9	110.0	98.7	91.4	88.9	80.6	85.0	78.8	79.1	83.7	78.1
March .....	90.6	104.9	96.8	89.6	88.6	79.3	83.3	77.9	76.9	82.5	77.2
April .....	88.5	100.3	93.1	88.4	86.8	79.2	81.8	77.0	73.6	81.5	77.8
May .....	81.7	90.8	89.0	<sup>R</sup> 83.8	82.1	<sup>R</sup> 77.8	<sup>R</sup> 79.9	<sup>R</sup> 73.2	<sup>R</sup> 69.4	<sup>R</sup> 80.5	<sup>R</sup> 73.1
June .....	78.8	89.8	85.8	83.2	80.0	74.6	78.9	72.0	68.2	78.8	69.3

R=Revised. NA=Not available. W=Value withheld to avoid disclosure of individual company 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*, September 1998, Table 18.

**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
<b>1978 Average</b> .....	43.6	48.6	45.8	53.2	49.0
<b>1979 Average</b> .....	62.1	69.7	68.0	68.2	70.4
<b>1980 Average</b> .....	91.6	100.8	97.3	97.8	97.4
<b>1981 Average</b> .....	110.4	116.5	111.4	118.0	119.4
<b>1982 Average</b> .....	110.4	117.6	111.6	117.4	116.0
<b>1983 Average</b> .....	101.8	109.0	103.6	108.8	107.8
<b>1984 Average</b> .....	98.5	102.6	99.3	106.9	109.1
<b>1985 Average</b> .....	97.2	101.1	97.1	108.3	105.3
<b>1986 Average</b> .....	73.8	77.5	70.4	94.9	83.6
<b>1987 Average</b> .....	68.8	79.5	72.5	86.5	80.3
<b>1988 Average</b> .....	68.8	78.5	70.9	86.9	81.3
<b>1989 Average</b> .....	77.8	87.4	80.2	96.4	90.0
<b>1990 Average</b> .....	97.4	102.9	97.0	110.1	106.3
<b>1991 Average</b> .....	95.1	101.6	93.3	105.0	101.9
<b>1992 Average</b> .....	85.7	94.0	87.6	94.1	93.4
<b>1993 Average</b> .....	86.2	99.9	91.8	96.1	91.1
<b>1994 Average</b> .....	78.9	95.0	88.7	86.5	88.4
<b>1995 Average</b> .....	83.9	96.2	89.4	83.4	86.7
<b>1996</b> January .....	87.2	99.7	90.1	84.0	94.6
February .....	86.8	99.6	90.9	83.3	95.9
March .....	86.6	101.1	90.0	84.5	99.1
April .....	95.7	109.7	101.0	90.0	101.5
May .....	97.1	116.7	108.6	97.9	97.8
June .....	91.0	112.8	NA	96.2	91.0
July .....	92.3	103.8	96.4	92.7	87.9
August .....	98.4	99.8	94.3	92.3	88.1
September .....	101.3	115.8	109.1	95.7	94.5
October .....	97.8	116.4	108.6	96.7	102.6
November .....	98.1	115.3	107.5	96.9	105.4
December .....	95.4	114.9	105.1	96.4	107.5
<b>Average</b> .....	<b>93.3</b>	<b>108.0</b>	<b>98.9</b>	<b>90.9</b>	<b>98.9</b>
<b>1997</b> January .....	94.9	117.6	105.8	97.1	107.9
February .....	94.5	118.8	106.7	97.5	105.1
March .....	100.6	116.6	107.5	98.7	101.6
April .....	98.3	114.9	106.1	97.5	99.2
May .....	98.4	109.1	104.6	96.4	96.3
June .....	92.3	112.2	100.2	96.0	92.3
July .....	90.3	108.3	96.9	97.5	88.3
August .....	90.5	108.8	99.2	96.4	86.9
September .....	91.2	110.9	101.5	96.6	88.5
October .....	93.6	111.9	102.0	97.7	92.1
November .....	94.3	112.8	102.6	98.0	94.1
December .....	93.4	109.0	98.5	96.3	93.8
<b>Average</b> .....	<b>95.3</b>	<b>114.0</b>	<b>103.2</b>	<b>97.2</b>	<b>98.4</b>
<b>1998</b> January .....	85.0	105.7	93.6	89.9	92.5
February .....	80.8	102.4	89.3	87.1	91.5
March .....	78.6	99.6	85.8	86.2	89.6
April .....	78.3	99.9	86.2	86.6	87.6
May .....	74.4	98.9	85.2	86.1	84.8
June .....	70.0	91.5	81.8	85.8	81.1

NA=Not available.

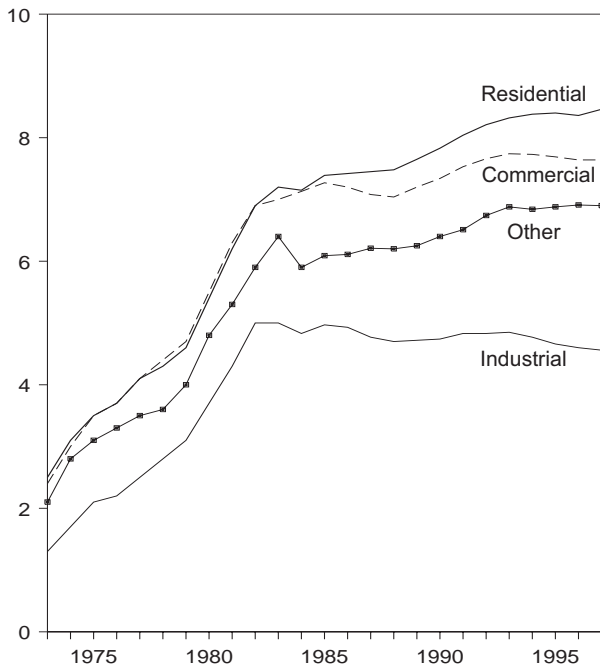
Notes: • States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. • Values for the current month are preliminary.

• Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

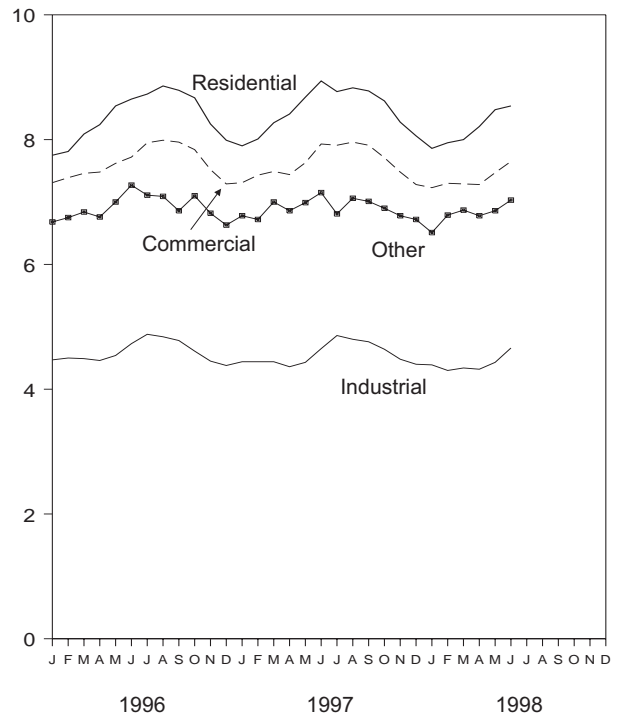
Source: EIA, *Petroleum Marketing Monthly*, September 1998, Table 18.

**Figure 9.2 Retail Prices of Electricity Sold by Electric Utilities**  
(Cents per Kilowatthour)

By Sector, 1973-1997



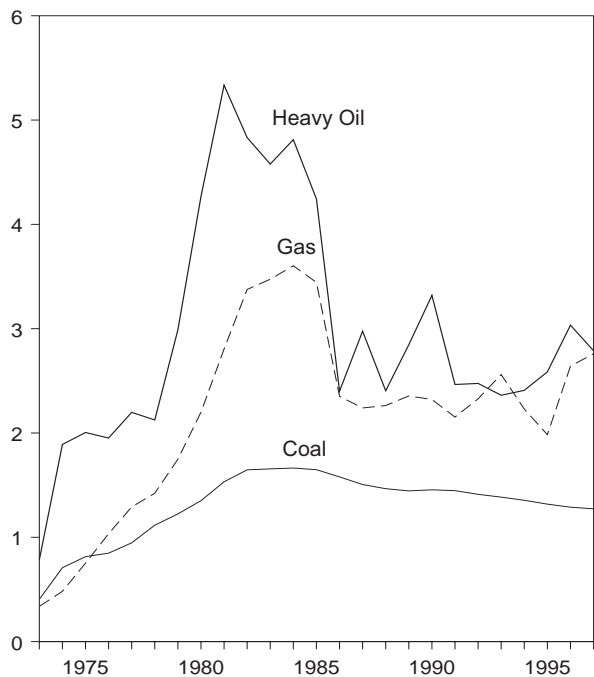
By Sector, Monthly



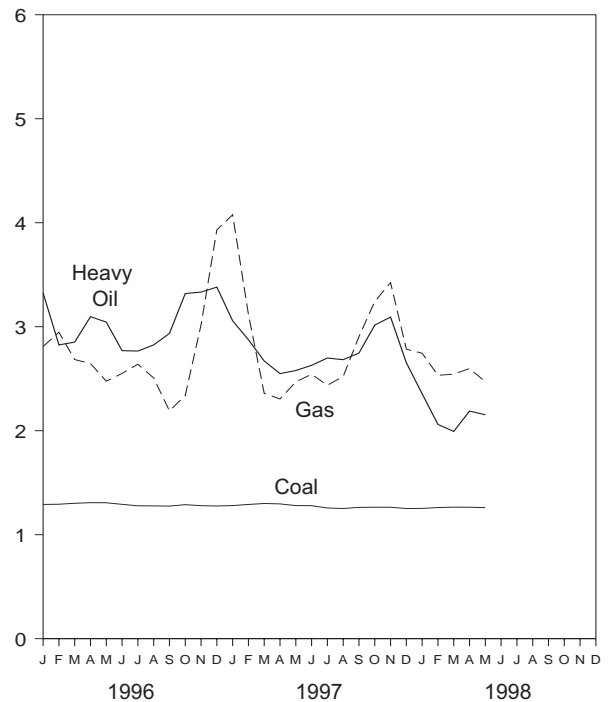
Source: Table 9.9.

**Figure 9.3 Cost of Fossil-Fuel Receipts at Steam-Electric Plants**  
(Dollars per Million Btu)

Costs, 1973-1997



Costs, Monthly



Source: Table 9.10.

**Table 9.9 Retail Prices of Electricity Sold by Electric Utilities**  
(Cents per Kilowatthour)

	Residential	Commercial	Industrial	Other	Total
1973 Average .....	2.5	2.4	1.3	2.1	2.0
1974 Average .....	3.1	3.0	1.7	2.8	2.5
1975 Average .....	3.5	3.5	2.1	3.1	2.9
1976 Average .....	3.7	3.7	2.2	3.3	3.1
1977 Average .....	4.1	4.1	2.5	3.5	3.4
1978 Average .....	4.3	4.4	2.8	3.6	3.7
1979 Average .....	4.6	4.7	3.1	4.0	4.0
1980 Average .....	5.4	5.5	3.7	4.8	4.7
1981 Average .....	6.2	6.3	4.3	5.3	5.5
1982 Average .....	6.9	6.9	5.0	5.9	6.1
1983 Average .....	7.2	7.0	5.0	6.4	6.3
1984 Average .....	7.15	7.13	4.83	5.90	6.25
1985 Average .....	7.39	7.27	4.97	6.09	6.44
1986 Average .....	7.42	7.20	4.93	6.11	6.44
1987 Average .....	7.45	7.08	4.77	6.21	6.37
1988 Average .....	7.48	7.04	4.70	6.20	6.35
1989 Average .....	7.65	7.20	4.72	6.25	6.45
1990 Average .....	7.83	7.34	4.74	6.40	6.57
1991 Average .....	8.04	7.53	4.83	6.51	6.75
1992 Average .....	8.21	7.66	4.83	6.74	6.82
1993 Average .....	8.32	7.74	4.85	6.88	6.93
1994 Average .....	8.38	7.73	4.77	6.84	6.91
1995 Average .....	8.40	7.69	4.66	6.88	6.89
1996 January .....	7.75	7.31	4.47	6.68	6.61
February .....	7.81	7.39	4.50	6.75	6.60
March .....	8.09	7.46	4.49	6.84	6.65
April .....	8.24	7.48	4.46	6.76	6.63
May .....	8.54	7.62	4.54	7.00	6.77
June .....	8.65	7.72	4.73	7.27	7.03
July .....	8.73	7.95	4.88	7.11	7.27
August .....	8.86	7.99	4.84	7.09	7.30
September .....	8.79	7.96	4.78	6.86	7.16
October .....	8.67	7.84	4.61	7.10	6.91
November .....	8.25	7.52	4.45	6.82	6.65
December .....	7.99	7.29	4.38	6.63	6.58
Average .....	8.36	7.64	4.60	6.91	6.86
1997 January .....	7.90	7.31	4.44	6.78	6.64
February .....	8.01	7.43	4.44	6.72	6.64
March .....	8.27	7.49	4.44	7.00	6.69
April .....	8.41	7.44	4.36	6.86	6.61
May .....	8.68	7.63	4.43	6.99	6.75
June .....	8.94	7.93	4.65	7.15	7.11
July .....	8.77	7.91	4.86	6.81	7.28
August .....	8.83	7.96	4.80	7.06	7.26
September .....	8.78	7.91	4.76	7.01	7.15
October .....	8.62	7.71	4.64	6.90	6.93
November .....	8.28	7.48	4.48	6.78	6.68
December .....	8.06	7.28	4.40	6.72	6.62
Average .....	8.46	7.64	4.56	6.90	6.88
1998 January .....	7.86	7.23	4.39	6.51	6.57
February .....	7.95	7.30	4.30	6.79	6.50
March .....	8.00	7.29	4.34	6.87	6.52
April .....	8.21	7.28	4.32	6.78	6.49
May .....	8.48	7.47	4.43	6.86	6.67
June .....	8.54	7.65	4.66	7.03	6.98
6-Month Average .....	8.17	7.38	4.41	6.81	6.63
1997 6-Month Average .....	8.33	7.55	4.46	6.92	6.74
1996 6-Month Average .....	8.25	7.54	4.55	6.93	6.74

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: See end of section.



**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	3,382,677	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	199.0	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 .....	476,169	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	174.9	163.9
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	225.6
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	165.6	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	175.0
1987 Year .....	721,298	150.6	187,300	297.6	194,578	301.1	2,605,191	224.0	170.6
1988 Year .....	727,775	146.6	230,234	240.5	236,924	243.9	2,362,721	226.3	164.3
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 Year .....	769,923	144.7	163,106	246.5	169,625	254.8	2,630,818	215.3	160.3
1992 Year .....	775,963	141.2	138,537	247.5	144,390	255.1	2,637,678	232.8	159.0
1993 Year .....	769,152	138.5	141,719	236.2	147,902	243.3	2,574,523	256.0	159.5
1994 Year .....	831,929	135.5	135,184	240.9	142,940	248.8	2,863,904	223.0	152.6
1995 Year .....	826,860	131.8	78,216	258.6	84,292	267.9	3,023,327	198.4	145.3
1996 January .....	67,852	129.1	13,855	332.4	14,540	337.1	155,022	281.0	155.5
February .....	66,620	129.3	6,099	282.5	7,021	300.6	131,688	294.7	148.5
March .....	69,921	130.2	9,031	285.2	9,595	296.8	149,233	268.4	149.0
April .....	70,361	130.8	8,263	309.7	8,724	319.0	160,918	264.6	150.0
May .....	72,158	130.7	5,882	304.4	6,437	317.6	251,461	247.6	151.8
June .....	69,677	129.2	8,825	277.0	9,508	288.2	285,271	255.1	155.1
July .....	75,178	127.8	10,793	276.6	11,380	284.4	346,295	263.9	158.2
August .....	78,545	127.7	10,484	282.5	10,971	290.6	346,542	250.7	154.6
September .....	72,730	127.5	5,538	293.6	5,926	307.1	269,988	219.1	145.3
October .....	75,756	128.9	5,675	331.9	6,407	354.7	217,115	233.8	146.6
November .....	71,375	127.9	6,382	333.3	7,159	354.4	162,258	301.9	151.0
December .....	72,525	127.6	8,098	338.1	8,961	355.2	128,870	393.1	156.1
Year .....	862,701	128.9	98,926	303.4	106,629	315.7	2,604,663	264.1	151.9
1997 January .....	71,929	128.0	8,817	305.7	9,658	321.0	133,720	407.7	157.7
February .....	69,229	129.1	8,959	287.5	9,346	295.3	134,664	311.8	150.6
March .....	72,369	130.0	6,796	267.1	7,157	276.2	185,340	236.0	145.5
April .....	69,815	129.6	6,379	254.9	6,730	264.8	184,908	230.5	144.3
May .....	74,929	128.0	6,476	257.9	6,966	271.2	225,841	247.0	146.6
June .....	70,479	127.9	9,253	262.9	10,010	274.4	278,304	254.3	153.2
July .....	74,065	125.7	10,818	269.9	11,689	280.4	373,646	243.7	154.6
August .....	76,352	125.2	11,049	268.3	11,618	275.5	360,018	252.2	154.0
September .....	75,091	126.3	8,880	274.7	9,332	281.3	313,132	290.5	158.3
October .....	75,593	126.4	10,161	301.6	10,715	309.1	219,342	324.3	157.0
November .....	72,558	126.4	12,218	309.3	12,818	315.4	168,754	342.4	156.4
December .....	78,179	125.2	11,101	265.4	11,750	273.3	187,065	278.4	146.9
Year .....	880,588	127.3	110,906	278.8	117,789	288.0	2,764,734	276.0	152.2
1998 January .....	79,108	125.3	9,569	235.5	10,105	242.4	164,826	274.5	142.8
February .....	70,246	126.1	8,736	206.0	9,255	214.0	122,862	253.3	139.0
March .....	75,647	126.5	10,676	199.3	11,135	204.6	181,096	254.4	142.4
April .....	74,733	126.4	11,749	218.9	12,289	225.0	186,127	259.8	144.7
May .....	76,123	126.0	11,554	215.3	12,185	221.5	252,716	247.1	146.5
5 Months .....	375,856	126.1	52,283	215.0	54,969	221.4	907,626	256.9	143.2
1997 5 Months .....	358,271	128.9	37,426	277.4	39,857	288.7	864,473	275.9	148.8
1996 5 Months .....	346,913	130.0	43,130	307.3	46,317	317.1	848,323	267.9	151.0

<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 (fuel oil nos. 1 and 2, 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,

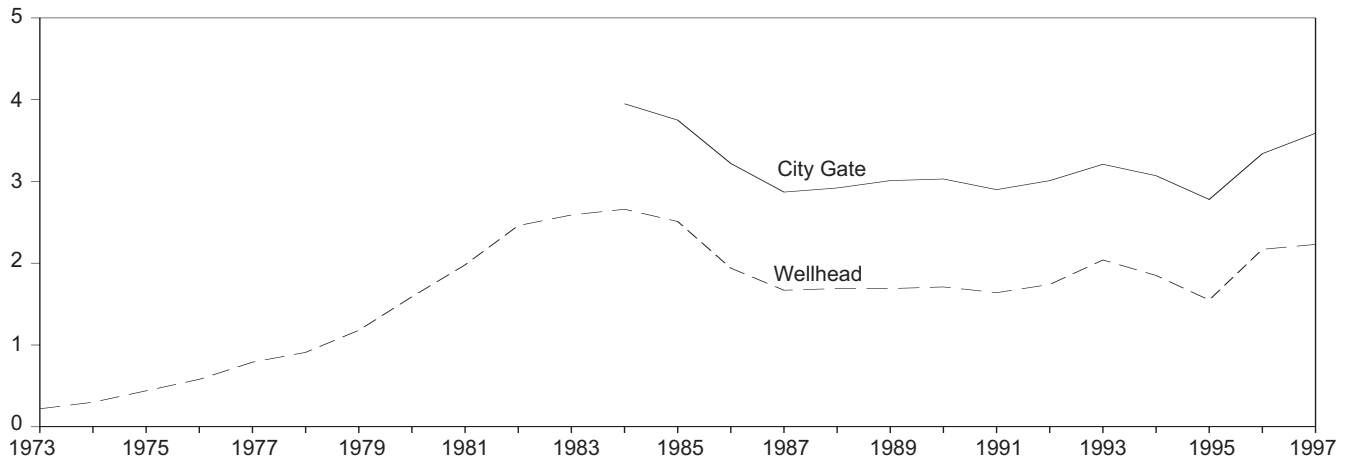
bunker oil, and liquefied petroleum gas.

Notes: • Yearly costs are averages of monthly values, weighted by quantities in Btu. • See Note 8 at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

**Figure 9.4 Natural Gas Prices**  
(Dollars per Thousand Cubic Feet)

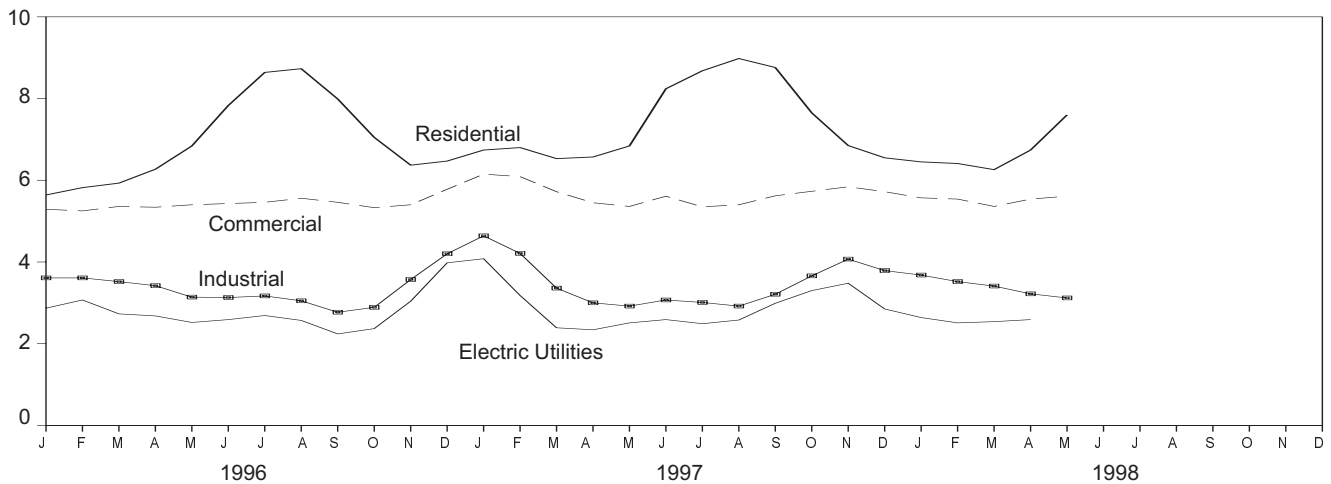
Selected Prices, 1973-1997



Delivered to Consumers, 1973-1997



Delivered to Consumers, Monthly



Note: Because vertical scales differ, graphs should not be compared.  
Source: Table 9.11.

**Table 9.11 Natural Gas Prices**

(Prices: Dollars per Thousand Cubic Feet; Share of Volume Delivered: Percentage)

	Wellhead	City Gate	Delivered to Consumers <sup>a,b</sup>						Electric Utilities <sup>c</sup>
			Residential	Commercial		Industrial			
				Price	Share of Total Volume Delivered	Price	Share of Total Volume Delivered		
<b>1973 Average</b> .....	<b>0.22</b>	<b>NA</b>	<b>1.29</b>	<b>0.94</b>	<b>NA</b>	<b>0.50</b>	<b>NA</b>	<b>0.38</b>	
1974 Average .....	.30	NA	1.43	1.07	NA	.67	NA	.51	
1975 Average .....	.44	NA	1.71	1.35	NA	.96	NA	.77	
1976 Average .....	.58	NA	1.98	1.64	NA	1.24	NA	1.06	
1977 Average .....	.79	NA	2.35	2.04	NA	1.50	NA	1.32	
1978 Average .....	.91	NA	2.56	2.23	NA	1.70	NA	1.48	
1979 Average .....	1.18	NA	2.98	2.73	NA	1.99	NA	1.81	
1980 Average .....	1.59	NA	3.68	3.39	NA	2.56	NA	2.27	
1981 Average .....	1.98	NA	4.29	4.00	NA	3.14	NA	2.89	
1982 Average .....	2.46	NA	5.17	4.82	NA	3.87	85.1	3.48	
1983 Average .....	2.59	NA	6.06	5.59	NA	4.18	80.7	3.58	
1984 Average .....	2.66	3.95	6.12	5.55	NA	4.22	74.7	3.70	
1985 Average .....	2.51	3.75	6.12	5.50	NA	3.95	68.8	3.55	
1986 Average .....	1.94	3.22	5.83	5.08	NA	3.23	59.8	2.43	
1987 Average .....	1.67	2.87	5.54	4.77	93.1	2.94	47.4	2.32	
1988 Average .....	1.69	2.92	5.47	4.63	90.8	2.95	42.6	2.33	
1989 Average .....	1.69	3.01	5.64	4.74	89.1	2.96	36.9	2.43	
1990 Average .....	1.71	3.03	5.80	4.83	86.6	2.93	35.2	2.38	
1991 Average .....	1.64	2.90	5.82	4.81	85.1	2.69	32.7	2.18	
1992 Average .....	1.74	3.01	5.89	4.88	83.2	2.84	30.3	2.36	
1993 Average .....	2.04	3.21	6.16	5.22	83.9	3.07	29.7	2.61	
1994 Average .....	1.85	3.07	6.41	5.44	79.3	3.05	25.5	2.28	
1995 Average .....	1.55	2.78	6.06	5.05	76.7	2.71	24.5	2.02	
<b>1996</b> January .....	2.05	3.14	5.64	5.29	83.2	3.61	22.0	2.87	
February .....	1.89	3.16	5.82	5.25	83.3	3.61	22.7	3.07	
March .....	1.95	3.17	5.93	5.36	81.8	3.52	22.3	2.73	
April .....	2.08	3.22	6.27	5.34	79.5	3.42	20.5	2.68	
May .....	2.01	3.18	6.84	5.40	74.6	3.14	18.7	2.52	
June .....	2.08	3.41	7.83	5.43	70.0	3.13	16.7	2.59	
July .....	2.25	3.49	8.64	5.46	67.8	3.17	18.6	2.69	
August .....	2.10	3.46	8.73	5.56	66.3	3.05	17.4	2.57	
September .....	1.85	3.05	7.99	5.46	67.1	2.77	16.9	2.24	
October .....	1.94	2.94	7.05	5.33	69.1	2.89	17.2	2.37	
November .....	2.50	3.46	6.37	5.40	75.7	3.57	18.5	3.04	
December .....	3.26	4.18	6.47	5.78	78.1	4.20	20.0	3.98	
<b>Average</b> .....	<b>2.17</b>	<b>3.34</b>	<b>6.34</b>	<b>5.40</b>	<b>77.6</b>	<b>3.42</b>	<b>19.4</b>	<b>2.69</b>	
<b>1997</b> January .....	<sup>E</sup> 3.42	4.27	6.74	6.15	77.9	4.64	19.4	4.08	
February .....	<sup>E</sup> 2.44	3.78	6.80	6.09	76.9	4.21	17.7	3.18	
March .....	<sup>E</sup> 1.61	<sup>R</sup> 3.05	6.53	5.72	73.0	3.36	17.4	2.39	
April .....	<sup>E</sup> 1.64	2.94	6.57	5.45	70.8	3.00	16.9	2.34	
May .....	<sup>E</sup> 1.87	<sup>R</sup> 3.14	<sup>R</sup> 6.84	5.36	63.8	2.92	16.6	2.51	
June .....	<sup>E</sup> 2.01	<sup>R</sup> 3.38	<sup>R</sup> 8.24	<sup>R</sup> 5.61	<sup>R</sup> 60.0	3.07	15.9	2.59	
July .....	<sup>E</sup> 1.91	<sup>R</sup> 3.50	<sup>R</sup> 8.68	<sup>R</sup> 5.35	<sup>R</sup> 58.2	3.01	14.1	2.49	
August .....	<sup>E</sup> 1.95	<sup>R</sup> 3.39	<sup>R</sup> 8.98	<sup>R</sup> 5.40	<sup>R</sup> 55.8	2.92	13.9	2.58	
September .....	<sup>E</sup> 2.22	<sup>R</sup> 3.57	<sup>R</sup> 8.76	<sup>R</sup> 5.62	<sup>R</sup> 57.5	3.21	13.8	2.99	
October .....	<sup>E</sup> 2.70	<sup>R</sup> 3.90	<sup>R</sup> 7.65	<sup>R</sup> 5.73	<sup>R</sup> 61.6	3.66	15.2	3.30	
November .....	<sup>E</sup> 2.77	<sup>R</sup> 3.92	6.85	5.84	<sup>R</sup> 67.3	4.07	<sup>R</sup> 16.2	3.48	
December .....	<sup>E</sup> 2.17	<sup>R</sup> 3.47	6.55	<sup>R</sup> 5.72	72.0	3.79	15.1	2.85	
<b>Average</b> .....	<sup>E</sup> 2.23	<sup>R</sup> 3.59	<sup>R</sup> 6.95	<sup>R</sup> 5.78	<sup>R</sup> 69.3	<b>3.54</b>	<b>16.1</b>	<b>2.81</b>	
<b>1998</b> January .....	<sup>RE</sup> 1.72	3.28	6.45	5.57	72.3	3.68	<sup>R</sup> 14.9	2.64	
February .....	<sup>E</sup> 1.64	3.08	<sup>R</sup> 6.41	5.54	70.5	3.52	15.3	2.51	
March .....	<sup>E</sup> 1.86	3.22	<sup>R</sup> 6.26	5.36	71.6	3.41	16.5	2.54	
April .....	<sup>RE</sup> 1.89	3.22	<sup>R</sup> 6.74	5.54	67.0	3.22	15.0	2.59	
May .....	<sup>E</sup> 1.88	3.12	7.60	5.61	60.3	3.12	12.4	NA	
<b>5-Month Average</b> .....	<sup>E</sup> 1.80	<b>3.19</b>	<b>6.53</b>	<b>5.51</b>	<b>69.6</b>	<b>3.40</b>	<b>14.8</b>	<b>NA</b>	
<b>1997 5-Month Average</b> .....	<sup>E</sup> 2.20	<b>3.57</b>	<b>6.70</b>	<b>5.86</b>	<b>73.8</b>	<b>3.69</b>	<b>17.6</b>	<b>2.81</b>	
<b>1996 5-Month Average</b> .....	<b>2.00</b>	<b>3.17</b>	<b>5.94</b>	<b>5.31</b>	<b>81.4</b>	<b>3.48</b>	<b>21.3</b>	<b>2.74</b>	

<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. NA=Not available. E=Estimate.

Notes: • Prices shown on this page are intended to include all taxes. See

Note 9 at end of section. • 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. • Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

## 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 April 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 Energy Information Administration (EIA) Form EIA-14, "Refiners' Monthly Cost Report." Those costs were previously published from data collected on Economic Regulatory Administration (ERA) 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. The respondents for the two forms are also 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 Federal Energy Administration (FEA) 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. From 1974-1977, prices were collected in 56 urban areas. From 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 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) and 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 sales among resellers. However, sales to bulk consumers, such as 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 sales to the bulk consumers such as agriculture, industry, and electric utilities. 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. Preliminary monthly data are based on submissions from over 250 publicly and privately owned electric utilities reporting on Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." These utilities are statistically chosen as a cutoff sample from more than 3,000 electric utilities that report annually on Form EIA-861, "Annual Electric Utility Report." Preliminary annual values are the sum of the monthly revenues divided by the sum of the monthly sales. When final Form EIA-861 annual data become available each year, their ratios to the preliminary Form EIA-826 values are used to derive adjusted final monthly values. Prior to January 1986, only privately owned electric utilities were included in the monthly survey and the sample was chosen using stratification techniques through December 1992.

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 more than 3,000 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 4.4. Additional information is available in the EIA *Natural Gas Monthly*, Appendix C.

## Sources for Table 9.1

### Domestic First Purchase Price

**1973-1976:** 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*, September 1998, Table 1.

### F.O.B. and Landed Cost of Imports

**December 1973-September 1977:** Federal Energy Administration, 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*, September 1998, 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*, September 1998, Table 1.

## Sources for Table 9.2

**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*, September 1998, Table 24.

## Sources for Table 9.9

**1973-September 1977:** Federal Power Commission (FPC), Form FPC-5, "Monthly Statement of Electric Operating Revenues and Income."

**October 1977-February 1980:** Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly Statement of Electric Operating Revenues and Income."

**March 1980-1982:** FERC, Form FERC-5, "Electric Utility Company Monthly Statement."

**1983:** Energy Information Administration (EIA), Form EIA-826, "Electric Utility Company Monthly Statement."

**1984-1986:** EIA, Form EIA-861, "Annual Electric Utility



Report.”

**1987 forward:** EIA, *Electric Power Monthly*, September 1998, Table 52.

## Sources for Table 9.10

**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.”

**1980-1986:** EIA, *Electric Power Monthly*, April issues.  
**1987 forward:** EIA, *Electric Power Monthly*, September 1998, Table 26.

## Sources for Table 9.11

### Prices, 1973-1989

**Wellhead:** Energy Information Administration (EIA), *Natural Gas Annual 1994, Volume 1*, Table 99.

**City Gate, 1984-1986:** EIA, *Natural Gas Monthly*,

December 1989, Table 4.

**City Gate, 1987-1989:** EIA, *Natural Gas Monthly*, December 1994, Table 4.

**Delivered to Consumers, 1973-1990:** EIA, *Natural Gas Annual 1996*, Table 102.

### Prices, 1991 forward

EIA, *Natural Gas Monthly*, August 1998, Table 4.

### Share of Total Volume Delivered, Annual

Calculated from EIA, *Natural Gas Annual, Volume 1*, report series, Table 1, “Summary Statistics for Natural Gas in the United States,” as total amount of natural gas delivered to the sector’s consumers minus the amount delivered for the account of others (to derive the amount on system) divided by the total amount delivered to the sector.

### Share of Total Volume Delivered, Monthly

EIA, table titled, “Percentage of Total Deliveries Represented by Onsystem Sales, by State,” in the *Natural Gas Monthly* issues as follows:

April 1988-March 1989	-	Table C-1
April 1989-December 1991	-	Table 33
January 1992-February 1993	-	Table 32
March 1993-October 1995	-	Table 28
November 1995-Present	-	Table 24

## Section 10. International Energy

**Crude Oil Production.** World crude oil production during June 1998 was 67 million barrels per day, down 0.3 million barrels per day from the level in the previous month. World crude oil production during the first 6 months of 1998 averaged 67 million barrels per day, up 1.6 million barrels per day, compared with production during the first 6 months of 1997.

Organization of Petroleum Exporting Countries (OPEC) production during June 1998 averaged 29 million barrels per day, down 0.5 million barrels per day from the level during the previous month. OPEC production during the first 6 months of 1998 averaged 29 million barrels per day, a 4-percent increase, compared with production in the previous year. During June 1998, production increased in Iran by 200 thousand barrels per day. Production decreased in Iraq by 325 thousand barrels per day, Saudi Arabia by 300 thousand barrels per day, Venezuela, the United Arab Emirates, and Indonesia each by 30 thousand barrels per day, Nigeria by 20 thousand barrels per day, and Algeria by 10 thousand barrels per day. Production remained unchanged in Kuwait, Libya, and Qatar.

Among the non-OPEC nations, production during June 1998 increased in Norway by 223 thousand barrels per day, Russia by 130 thousand barrels per day, and China by 50 thousand barrels per day. Production decreased in Mexico by 99 thousand barrels per day, the United States by 94 thousand barrels per day, Canada by 11 thousand barrels per day, and the United Kingdom by 4 thousand

barrels per day. Production remained unchanged in Egypt.

**Petroleum Consumption.** In April 1998, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 40.9 million barrels per day, 1 percent lower than the April 1997 rate. The consumption rate was higher than it was 1 year ago in Canada (+8 percent)<sup>1</sup>, France (+4 percent), Italy (+1 percent), and the United States (less than +1 percent). The consumption rate was lower in Germany (-12 percent), the United Kingdom (-5 percent), and Japan (-3 percent), compared with the rate 1 year earlier.

**Petroleum Stocks.** For all OECD countries, petroleum stocks at the end of April 1998 totaled 3.7 billion barrels, 3 percent higher than the ending stock level in April 1997. Stocks were higher in Italy and the United States (both +6 percent), Canada (+4 percent), and France (+2 percent). Stock levels were lower in Germany (-3 percent), the United Kingdom (-2 percent), and Japan (-1 percent), compared with levels 1 year earlier.

**Nuclear Electricity Generation.** Based on *Nucleonics Week*<sup>2</sup> information for June 1998, all reporting countries with nuclear capacity generated 188.4 gross terawatt-hours (one terawatt-hour equals 1 billion kilowatt-hours) of nuclear-generated electricity.

As of June 30, 1998, there were 431 operable nuclear generating units in the world.

<sup>1</sup> Percentage changes are based on unrounded data.

<sup>2</sup> A copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.



**Table 10.1a World Oil Production: OPEC Members**  
(Thousand Barrels per Day)

	Algeria	Indonesia	Iran	Iraq	Kuwait <sup>a</sup>	Libya	Nigeria	Qatar	Saudi Arabia <sup>a</sup>	United Arab Emirates	Venezuela	OPEC <sup>b</sup>
<b>1973 Average</b> .....	1,097	1,339	5,861	2,018	3,020	2,175	2,054	570	7,596	1,533	3,366	30,629
<b>1974 Average</b> .....	1,009	1,375	6,022	1,971	2,546	1,521	2,255	518	8,480	1,679	2,976	30,351
<b>1975 Average</b> .....	983	1,307	5,350	2,262	2,084	1,480	1,783	438	7,075	1,664	2,346	26,771
<b>1976 Average</b> .....	1,075	1,504	5,883	2,415	2,145	1,933	2,067	497	8,577	1,936	2,294	30,327
<b>1977 Average</b> .....	1,152	1,686	5,663	2,348	1,969	2,063	2,085	445	9,245	1,999	2,238	30,893
<b>1978 Average</b> .....	1,231	1,635	5,242	2,563	2,131	1,983	1,897	487	8,301	1,831	2,165	29,464
<b>1979 Average</b> .....	1,224	1,591	3,168	3,477	2,500	2,092	2,302	508	9,532	1,831	2,356	30,581
<b>1980 Average</b> .....	1,106	1,577	1,662	2,514	1,656	1,787	2,055	472	9,900	1,709	2,168	26,606
<b>1981 Average</b> .....	1,002	1,605	1,380	1,000	1,125	1,140	1,433	405	9,815	1,474	2,102	22,481
<b>1982 Average</b> .....	987	1,339	2,214	1,012	823	1,150	1,295	330	6,483	1,250	1,895	18,778
<b>1983 Average</b> .....	968	1,343	2,440	1,005	1,064	1,105	1,241	295	5,086	1,149	1,801	17,497
<b>1984 Average</b> .....	1,014	1,412	2,174	1,209	1,157	1,087	1,388	394	4,663	1,146	1,798	17,442
<b>1985 Average</b> .....	1,037	1,325	2,250	1,433	1,023	1,059	1,495	301	3,388	1,193	1,677	16,181
<b>1986 Average</b> .....	945	1,390	2,035	1,690	1,419	1,034	1,467	308	4,870	1,330	1,787	18,275
<b>1987 Average</b> .....	1,048	1,343	2,298	2,079	1,585	972	1,341	293	4,265	1,541	1,752	18,517
<b>1988 Average</b> .....	1,040	1,342	2,240	2,685	1,492	1,175	1,450	346	5,086	1,565	1,903	20,324
<b>1989 Average</b> .....	1,095	1,409	2,810	2,897	1,783	1,150	1,716	380	5,064	1,860	1,907	22,071
<b>1990 Average</b> .....	1,175	1,462	3,088	2,040	1,175	1,375	1,810	406	6,410	2,117	2,137	23,195
<b>1991 Average</b> .....	1,230	1,592	3,312	305	190	1,483	1,892	395	8,115	2,386	2,375	23,275
<b>1992 Average</b> .....	1,214	1,504	3,429	425	1,058	1,433	1,943	423	8,332	2,266	2,371	24,398
<b>1993 Average</b> .....	1,162	1,511	3,540	512	1,852	1,361	1,960	413	8,198	2,159	2,450	25,119
<b>1994 Average</b> .....	1,180	1,510	3,618	553	2,025	1,378	1,931	415	8,120	2,193	2,588	25,510
<b>1995 Average</b> .....	1,202	1,503	3,643	560	2,057	1,390	1,993	442	8,231	2,233	2,750	26,004
<b>1996</b> January .....	1,220	1,540	3,735	550	2,038	1,400	2,160	500	8,118	2,290	2,940	26,490
February .....	1,220	1,540	3,685	550	2,057	1,400	2,180	500	8,248	2,265	2,940	26,585
March .....	1,210	1,540	3,715	550	2,057	1,400	2,190	500	8,248	2,285	2,990	26,685
April .....	1,230	1,530	3,685	550	2,067	1,400	2,160	505	8,088	2,250	2,990	26,455
May .....	1,245	1,530	3,635	550	2,055	1,400	2,200	505	8,135	2,275	2,990	26,520
June .....	1,250	1,550	3,685	550	2,065	1,400	2,200	505	8,195	2,270	2,990	26,660
July .....	1,250	1,520	3,685	550	2,065	1,400	2,170	505	8,295	2,260	3,040	26,740
August .....	1,250	1,540	3,715	550	2,040	1,400	2,190	505	8,220	2,260	3,090	26,760
September ...	1,250	1,560	3,735	550	2,070	1,400	2,150	525	8,200	2,310	3,090	26,840
October .....	1,260	1,580	3,635	550	2,075	1,400	2,210	525	8,255	2,310	3,140	26,940
November ....	1,260	1,570	3,685	550	2,075	1,400	2,220	505	8,255	2,250	3,190	26,960
December ....	1,260	1,570	3,635	887	2,077	1,410	2,225	545	8,358	2,305	3,240	27,512
<b>Average</b> .....	1,242	1,547	3,686	579	2,062	1,401	2,188	510	8,218	2,278	3,053	26,764
<b>1997</b> January .....	1,260	1,570	3,685	1,085	2,085	1,430	2,280	585	8,265	2,300	3,190	27,735
February .....	1,270	1,590	3,685	1,125	2,077	1,430	2,310	585	8,408	2,330	3,190	28,000
March .....	1,280	1,600	3,685	1,175	2,105	1,440	2,240	585	8,515	2,360	3,200	28,185
April .....	1,280	1,560	3,685	1,275	2,107	1,450	2,310	585	8,568	2,360	3,220	28,400
May .....	1,280	1,580	3,635	1,325	2,027	1,450	2,270	605	8,548	2,210	3,240	28,170
June .....	1,260	1,530	3,735	605	2,050	1,450	2,340	690	8,540	2,325	3,260	27,785
July .....	1,280	1,530	3,685	605	2,070	1,450	2,330	685	8,560	2,325	3,270	27,790
August .....	1,280	1,530	3,685	1,515	2,070	1,450	2,350	685	8,660	2,325	3,390	28,940
September ...	1,280	1,490	3,485	1,735	2,075	1,450	2,300	685	8,665	2,325	3,430	28,920
October .....	1,280	1,490	3,635	1,625	2,075	1,450	2,400	685	8,665	2,325	3,430	29,060
November ....	1,280	1,540	3,685	1,390	2,075	1,450	2,360	705	8,615	2,305	3,460	28,865
December ....	1,290	1,540	3,685	781	2,175	1,450	2,320	705	8,725	2,310	3,490	28,471
<b>Average</b> .....	1,277	1,546	3,664	1,187	2,083	1,446	2,317	649	8,562	2,316	3,315	28,362
<b>1998</b> January .....	1,290	1,520	3,635	1,261	2,215	1,450	2,208	715	8,765	2,435	3,440	28,934
February .....	1,290	1,520	3,635	1,703	2,210	1,450	2,253	735	8,760	2,435	3,410	29,401
March .....	1,290	1,520	3,635	1,825	2,210	1,450	2,370	735	8,460	2,480	3,410	29,385
April .....	1,270	1,520	3,835	1,985	2,115	1,400	2,228	705	8,585	2,420	3,240	29,303
May .....	1,250	1,520	3,635	2,245	2,105	1,360	2,220	705	8,625	2,330	3,240	29,235
June .....	1,240	1,490	3,835	1,920	2,105	1,360	2,200	705	8,325	2,300	3,210	28,690
<b>6-Mo. Avg.</b> ..	1,272	1,515	3,701	1,824	2,160	1,411	2,247	716	8,585	2,400	3,325	29,156
<b>1997 6-Mo. Avg.</b> ..	1,272	1,572	3,685	1,100	2,075	1,442	2,291	606	8,474	2,314	3,217	28,046
<b>1996 6-Mo. Avg.</b> ..	1,229	1,538	3,690	550	2,056	1,400	2,182	503	8,171	2,273	2,974	26,566

<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 June 1998, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 550 thousand barrels per day.

<sup>b</sup> Current members of OPEC are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Ecuador and Gabon, which withdrew from OPEC membership at the end of

1992 and 1994, respectively, are excluded from all OPEC totals.

Notes: • Crude oil includes lease condensate but excludes natural gas plant liquids. • 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: See end of section.

**Table 10.1b World Oil Production: Persian Gulf Nations, Non-OPEC, and World**

(Thousand Barrels per Day)

	Persian Gulf Nations <sup>a</sup>	Selected Non-OPEC Producers									Total Non-OPEC	World
		Canada	China	Egypt	Mexico	Norway	Former U.S.S.R.	Russia	United Kingdom	United States		
1973 Average	20,668	1,798	1,090	165	465	32	8,324	NA	2	9,208	25,050	55,679
1974 Average	21,282	1,551	1,315	150	571	35	8,912	NA	2	8,774	25,366	55,716
1975 Average	18,934	1,430	1,490	235	705	189	9,523	NA	12	8,375	26,058	52,828
1976 Average	21,514	1,314	1,670	330	831	279	10,060	NA	245	8,132	27,018	57,344
1977 Average	21,725	1,321	1,874	415	981	280	10,603	NA	768	8,245	28,814	59,707
1978 Average	20,606	1,316	2,082	485	1,209	356	11,105	NA	1,082	8,707	30,694	60,158
1979 Average	21,066	1,500	2,122	525	1,461	403	11,384	NA	1,568	8,552	32,094	62,674
1980 Average	17,961	1,435	2,114	595	1,936	528	11,706	NA	1,622	8,597	32,994	59,600
1981 Average	15,245	1,285	2,012	598	2,313	501	11,850	NA	1,811	8,572	33,595	56,076
1982 Average	12,156	1,271	2,045	670	2,748	520	11,912	NA	2,065	8,649	34,703	53,481
1983 Average	11,081	1,356	2,120	727	2,689	614	11,972	NA	2,291	8,688	35,759	53,256
1984 Average	10,784	1,438	2,296	822	2,780	697	11,861	NA	2,480	8,879	37,047	54,489
1985 Average	9,630	1,471	2,505	887	2,745	788	11,585	NA	2,530	8,971	37,801	53,982
1986 Average	11,696	1,474	2,620	813	2,435	870	11,895	NA	2,539	8,680	37,952	56,227
1987 Average	12,103	1,535	2,690	896	2,548	1,022	12,050	NA	2,406	8,349	38,149	56,666
1988 Average	13,457	1,616	2,730	848	2,512	1,158	12,053	NA	2,232	8,140	38,413	58,737
1989 Average	14,837	1,560	2,757	865	2,520	1,554	11,715	NA	1,802	7,613	37,792	59,863
1990 Average	15,278	1,553	2,774	873	2,553	1,704	10,975	NA	1,820	7,355	37,371	60,566
1991 Average	14,741	1,548	2,835	874	2,680	1,890	9,992	NA	1,797	7,417	36,932	60,207
1992 Average	15,970	1,605	2,845	881	2,669	2,229	-	7,632	1,825	7,171	35,814	60,212
1993 Average	16,715	1,679	2,890	890	2,673	2,350	-	6,730	1,915	6,847	35,119	60,238
1994 Average	16,964	1,746	2,939	896	2,685	2,521	-	6,135	2,375	6,662	35,482	60,992
1995 Average	17,208	1,805	2,990	920	2,618	2,768	-	5,995	2,489	6,560	36,327	62,331
1996 January	17,265	1,788	3,115	920	2,795	3,085	-	5,839	2,600	6,495	36,964	63,455
February	17,340	1,718	3,100	920	2,800	3,165	-	5,944	2,625	6,577	37,271	63,856
March	17,390	1,814	3,050	920	2,870	2,990	-	5,830	2,570	6,571	37,019	63,704
April	17,180	1,854	3,020	920	2,860	3,160	-	5,839	2,467	6,444	37,104	63,559
May	17,190	1,768	3,195	920	2,875	2,980	-	5,866	2,512	6,394	37,037	63,558
June	17,305	1,829	3,205	920	2,880	3,150	-	5,839	2,457	6,458	37,225	63,885
July	17,395	1,808	3,150	920	2,870	3,201	-	5,813	2,537	6,338	37,236	63,976
August	17,325	1,872	3,130	920	2,830	3,022	-	5,857	2,385	6,360	36,886	63,646
September	17,425	1,854	3,140	920	2,860	3,095	-	5,826	2,517	6,482	37,271	64,111
October	17,385	1,936	3,165	920	2,860	3,005	-	5,813	2,642	6,481	37,528	64,468
November	17,355	1,889	3,190	930	2,860	3,210	-	5,909	2,743	6,476	37,966	64,926
December	17,842	1,905	3,115	930	2,900	3,198	-	5,830	2,760	6,506	37,989	65,501
Average	17,367	1,837	3,131	922	2,855	3,104	-	5,850	2,568	6,465	37,290	64,054
1997 January	18,040	1,874	3,210	885	2,940	3,268	-	E 5,789	2,693	6,402	37,941	65,676
February	18,245	1,920	3,240	885	2,970	3,263	-	E 5,729	2,660	6,514	38,041	66,041
March	18,460	1,900	3,215	890	2,970	3,063	-	E 5,772	2,638	6,452	37,833	66,018
April	18,615	1,823	3,230	890	2,945	3,388	-	E 5,893	2,515	6,441	38,171	66,571
May	18,385	1,737	3,275	880	2,990	3,194	-	E 5,902	2,315	6,474	37,738	65,908
June	17,980	1,835	3,220	870	3,005	3,025	-	E 5,902	2,135	6,442	37,343	65,128
July	17,965	1,889	3,190	880	3,035	3,194	-	E 5,923	2,447	6,409	37,786	65,576
August	18,975	1,895	3,190	870	3,080	2,890	-	E 5,945	2,407	6,347	37,534	66,474
September	19,005	1,930	3,195	860	3,105	2,927	-	E 5,958	2,483	6,486	37,907	66,827
October	19,045	1,956	3,195	860	3,087	3,209	-	E 5,954	2,610	6,467	38,301	67,361
November	18,810	1,970	3,158	860	3,085	3,192	-	E 5,945	2,602	6,459	38,342	67,207
December	18,416	1,985	3,090	860	3,056	3,229	-	E 5,893	2,700	6,531	38,536	67,007
Average	18,496	1,893	3,200	874	3,023	3,153	-	E 5,884	2,517	6,452	37,955	66,317
1998 January	19,061	1,912	3,240	860	3,085	3,293	-	RE 5,979	2,597	E 6,438	R 38,480	R 67,414
February	19,513	1,944	3,155	860	3,140	3,230	-	RE 5,997	2,583	E 6,538	R 38,544	R 67,945
March	19,380	1,952	3,170	860	3,160	3,123	-	RE 5,962	2,600	E 6,465	R 38,434	R 67,819
April	19,680	1,988	3,140	860	3,140	3,160	-	RE 5,876	2,602	E 6,484	R 38,327	R 67,630
May	19,680	R 1,943	3,210	R 870	3,149	2,917	-	RE 5,789	2,499	E 6,384	R 37,849	R 67,084
June	19,225	1,932	3,260	870	3,050	3,140	-	E 5,919	2,495	E 6,290	38,104	66,794
6-Mo. Avg.	19,421	1,945	3,196	863	3,121	3,142	-	E 5,919	2,562	E 6,432	38,286	67,442
1997 6-Mo. Avg.	18,288	1,847	3,232	883	2,970	3,199	-	E 5,832	2,492	6,453	37,842	65,888
1996 6-Mo. Avg.	17,278	1,795	3,114	920	2,847	3,087	-	5,859	2,538	6,489	37,101	63,667

<sup>a</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."

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

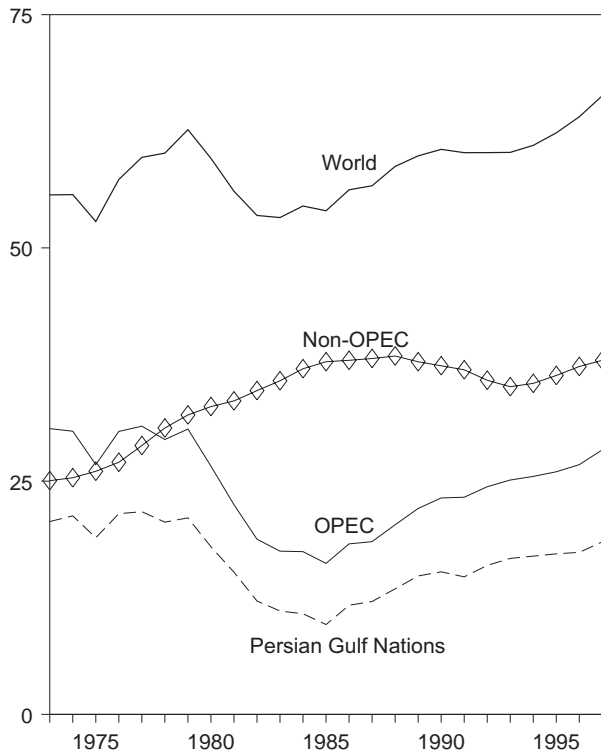
Notes: • Crude oil includes lease condensate but excludes natural gas plant liquids. • Monthly data are often preliminary figures and may not

average to the annual totals because of rounding or because updates to the preliminary monthly data are not available. • Data for countries may not sum to World totals due to independent rounding. • U.S. geographic coverage is the 50 States and the District of Columbia.

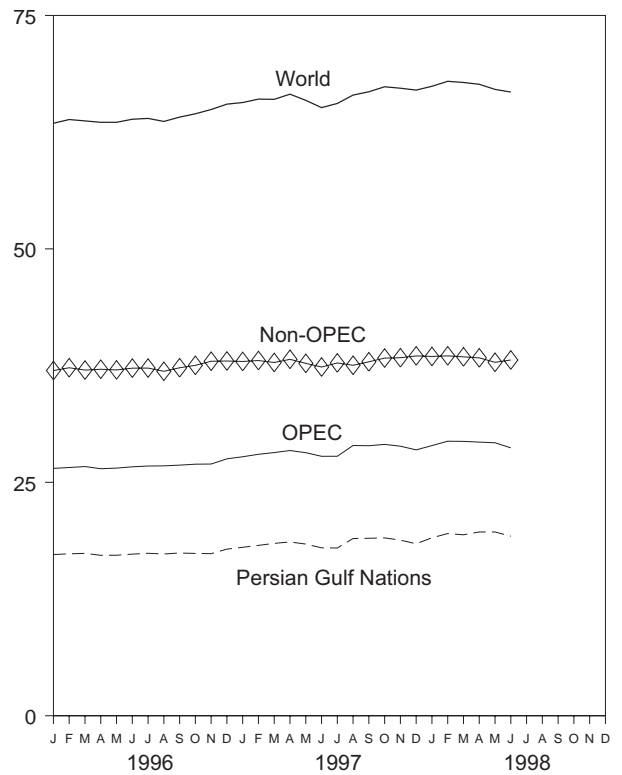
Sources: See end of section.

**Figure 10.1 Crude Oil Production**  
(Million Barrels per Day)

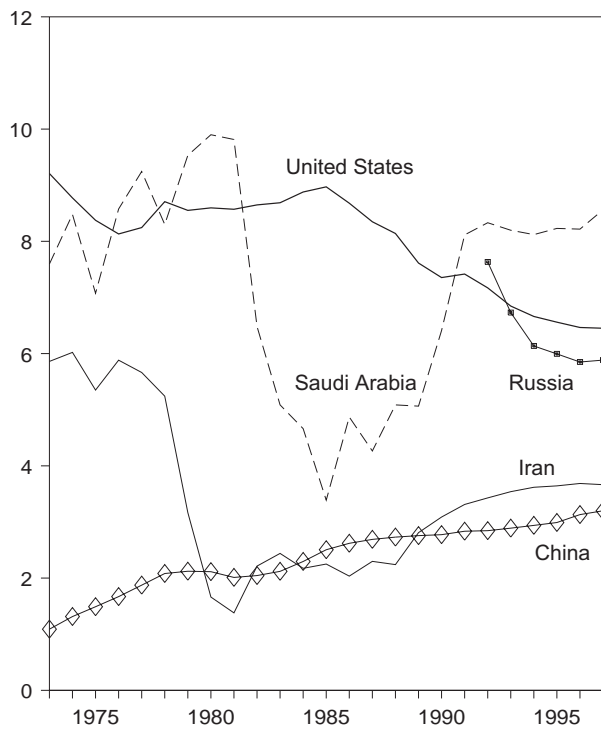
World Production, 1973-1997



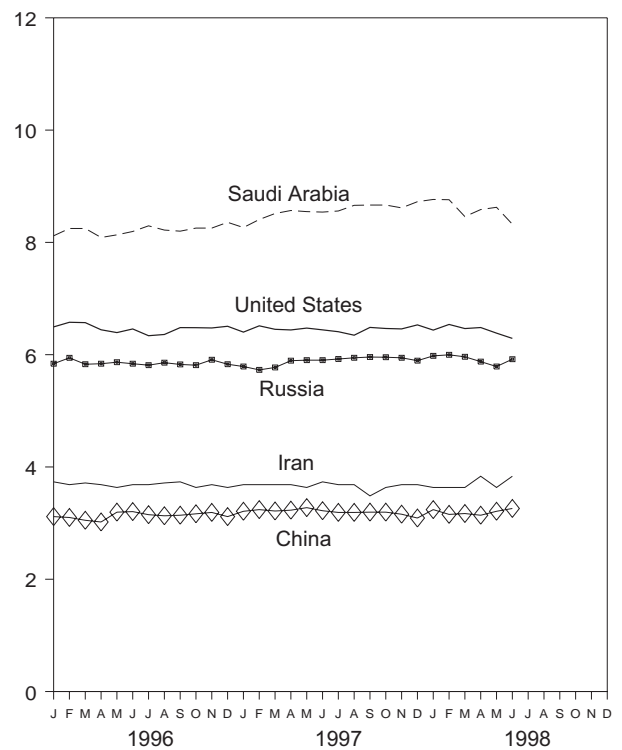
World Production, Monthly



Selected Producers, 1973-1997



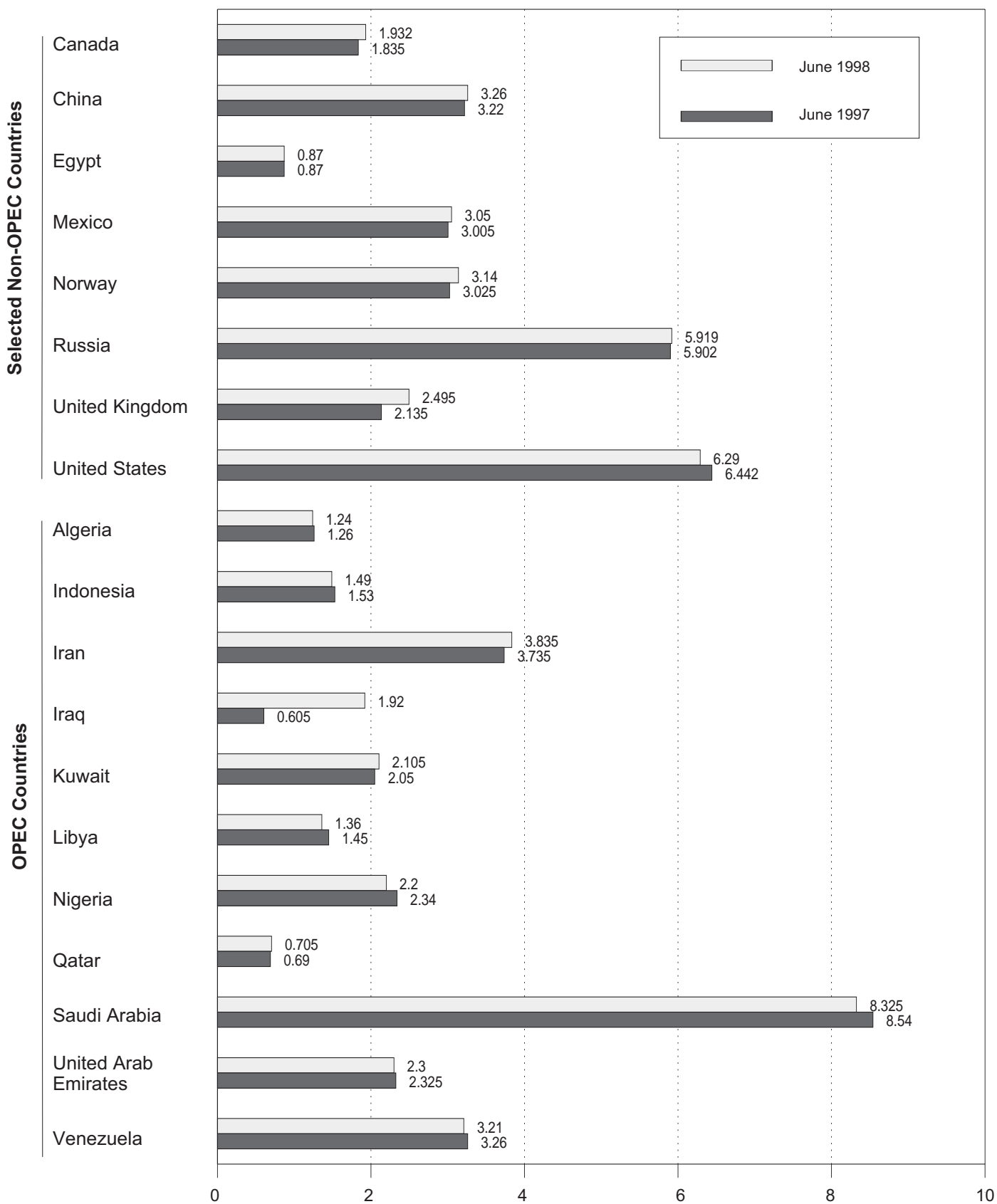
Selected Producers, Monthly



Note: OPEC is the Organization of Petroleum Exporting Countries.  
Sources: Tables 10.1a and 10.1b.

**Figure 10.2 Crude Oil Production by Selected Country**

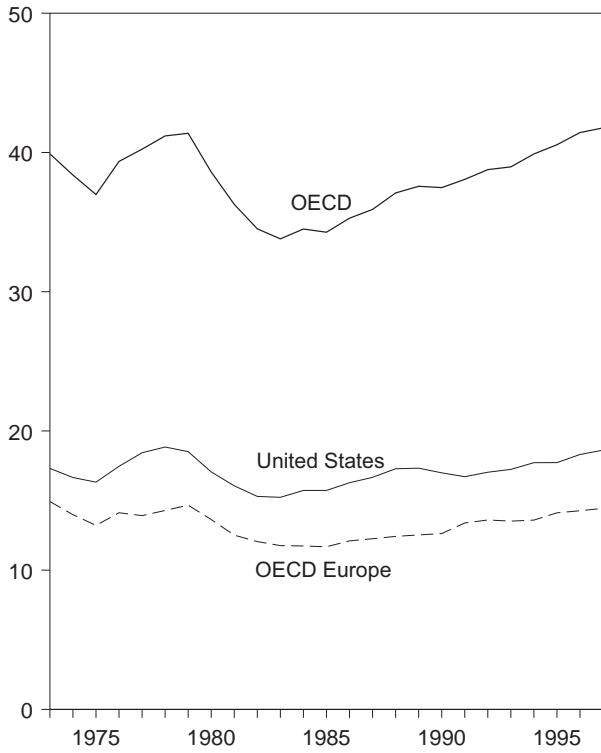
(Million Barrels per Day)



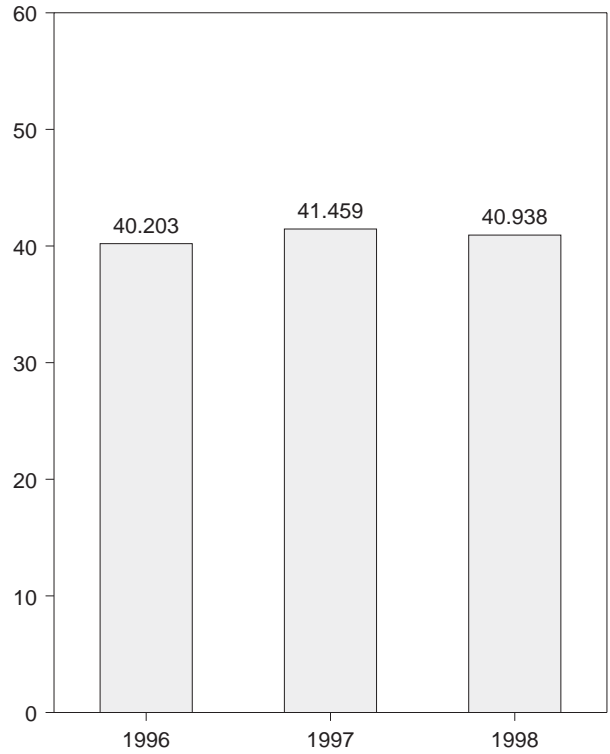
Note: OPEC is the Organization of Petroleum Exporting Countries.  
Sources: Tables 10.1a and 10.1b.

**Figure 10.3 Petroleum Consumption in OECD Countries**  
(Million Barrels per Day)

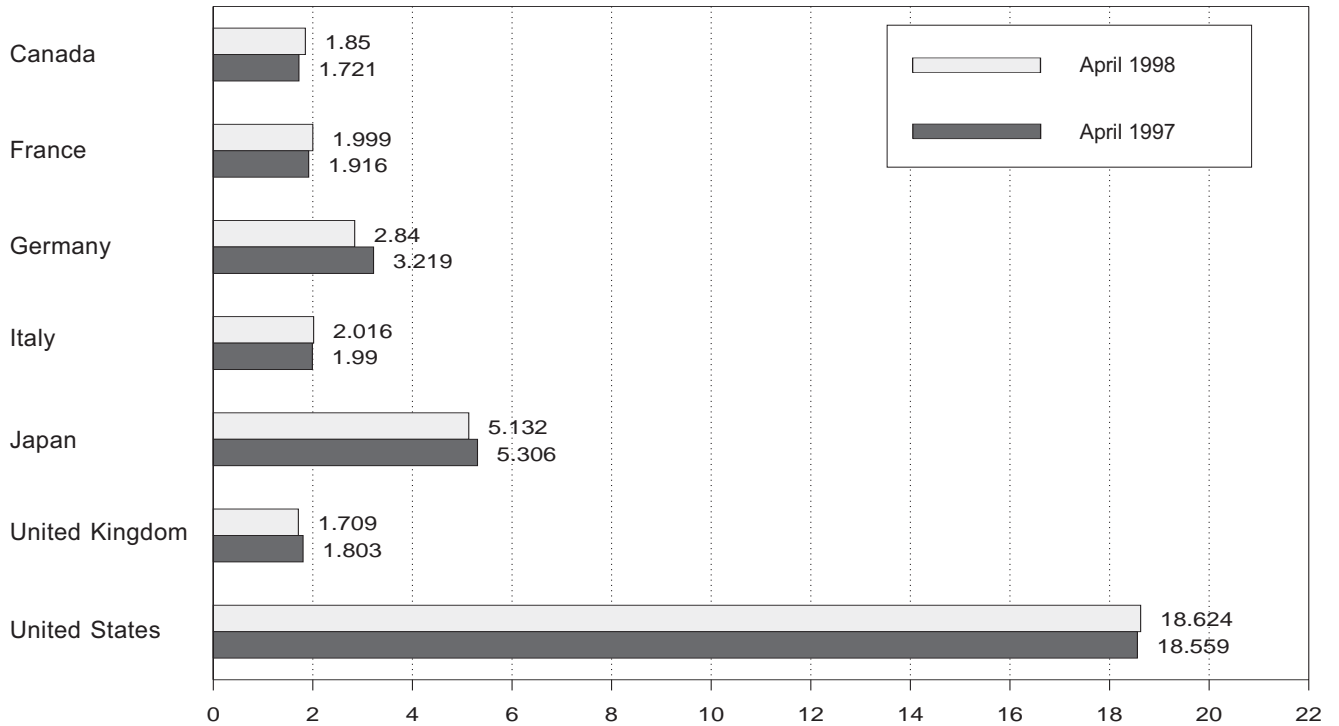
Overview, 1973-1997



OECD Total, April



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**  
(Thousand 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 <sup>d</sup>
<b>1973 Average</b> .....	1,729	2,601	3,055	2,068	4,949	2,341	17,308	14,925	988	39,900
<b>1974 Average</b> .....	1,779	2,447	2,748	2,004	4,864	2,210	16,653	13,988	1,095	38,379
<b>1975 Average</b> .....	1,779	2,252	2,650	1,855	4,621	1,911	16,322	13,217	1,041	36,980
<b>1976 Average</b> .....	1,818	2,420	2,877	1,971	4,837	1,892	17,461	14,124	1,119	39,358
<b>1977 Average</b> .....	1,850	2,294	2,865	1,897	4,880	1,905	18,431	13,916	1,160	40,237
<b>1978 Average</b> .....	1,902	2,408	2,927	1,952	4,945	1,938	18,847	14,290	1,204	41,187
<b>1979 Average</b> .....	1,971	2,463	3,003	2,039	5,050	1,971	18,513	14,667	1,178	41,379
<b>1980 Average</b> .....	1,873	2,256	2,707	1,934	4,960	1,725	17,056	13,634	1,072	38,595
<b>1981 Average</b> .....	1,768	2,023	2,449	1,874	4,848	1,590	16,058	12,515	1,080	36,269
<b>1982 Average</b> .....	1,578	1,880	2,372	1,781	4,582	1,590	15,296	12,053	1,008	34,517
<b>1983 Average</b> .....	1,448	1,835	2,324	1,750	4,395	1,531	15,231	11,765	954	33,793
<b>1984 Average</b> .....	1,472	1,754	2,322	1,646	4,576	1,849	15,726	11,736	989	34,500
<b>1985 Average</b> .....	1,504	1,775	2,338	1,717	4,384	1,634	15,726	11,681	976	34,271
<b>1986 Average</b> .....	1,506	1,772	2,498	1,738	4,439	1,649	16,281	12,102	951	35,279
<b>1987 Average</b> .....	1,548	1,789	2,424	1,855	4,484	1,603	16,665	12,255	959	35,911
<b>1988 Average</b> .....	1,693	1,797	2,422	1,836	4,752	1,697	17,283	12,427	939	37,093
<b>1989 Average</b> .....	1,733	1,857	2,280	1,930	4,983	1,738	17,325	12,531	998	37,570
<b>1990 Average</b> .....	1,690	1,818	2,382	1,872	5,140	1,752	16,988	12,629	1,027	37,475
<b>1991 Average</b> .....	1,622	1,935	2,828	1,863	5,284	1,801	16,714	13,391	1,056	38,067
<b>1992 Average</b> .....	1,643	1,926	2,843	1,937	5,446	1,803	17,033	13,605	1,041	38,768
<b>1993 Average</b> .....	1,688	1,875	2,900	1,852	5,401	1,815	17,237	13,523	1,118	38,967
<b>1994 Average</b> .....	1,727	1,833	2,879	1,841	5,674	1,837	17,718	13,597	1,174	39,890
<b>1995 Average</b> .....	1,755	1,896	2,875	2,048	5,711	1,845	17,725	14,120	1,243	40,553
<b>1996</b> January .....	1,805	1,879	2,901	2,113	6,328	1,762	18,261	14,036	1,241	41,672
February .....	1,874	2,183	3,030	2,259	6,886	1,919	18,620	15,138	1,242	43,760
March .....	1,744	1,979	2,860	2,189	6,437	1,859	18,301	14,275	1,219	41,976
April .....	1,667	1,919	2,743	1,961	5,748	1,853	17,885	13,676	1,227	40,203
May .....	1,715	1,810	2,864	1,880	5,147	1,846	17,957	13,778	1,167	39,763
June .....	1,796	1,819	2,830	1,908	5,114	1,738	18,107	13,597	1,205	39,819
July .....	1,802	1,977	2,957	2,158	5,502	1,790	18,211	14,245	1,139	40,899
August .....	1,880	1,841	3,035	1,786	5,567	1,795	18,658	13,873	1,190	41,168
September .....	1,763	1,929	3,095	2,074	5,361	1,877	17,655	14,775	1,071	40,624
October .....	1,809	1,989	2,860	2,201	5,580	1,910	19,171	14,722	1,198	42,479
November .....	1,941	1,880	2,975	2,083	6,114	1,966	18,535	14,700	1,109	42,399
December .....	1,771	2,021	2,796	2,088	6,648	1,836	18,334	14,458	1,278	42,489
<b>Average</b> .....	<b>1,797</b>	<b>1,935</b>	<b>2,911</b>	<b>2,058</b>	<b>5,867</b>	<b>1,845</b>	<b>18,309</b>	<b>14,269</b>	<b>1,191</b>	<b>41,432</b>
<b>1997</b> January .....	1,836	2,170	2,904	<sup>R</sup> 2,028	6,294	1,850	18,554	<sup>R</sup> 14,690	1,145	<sup>R</sup> 42,520
February .....	<sup>R</sup> 1,857	2,142	<sup>R</sup> 2,653	<sup>R</sup> 2,115	<sup>R</sup> 6,756	1,933	18,398	<sup>R</sup> 14,618	<sup>R</sup> 1,149	<sup>R</sup> 42,778
March .....	<sup>R</sup> 1,755	1,801	2,692	1,919	<sup>R</sup> 6,149	1,754	17,863	<sup>R</sup> 13,607	1,148	<sup>R</sup> 40,522
April .....	<sup>R</sup> 1,721	1,916	3,219	<sup>R</sup> 1,990	5,306	1,803	18,559	<sup>R</sup> 14,691	1,181	<sup>R</sup> 41,459
May .....	<sup>R</sup> 1,824	1,712	<sup>R</sup> 2,761	<sup>R</sup> 1,888	<sup>R</sup> 5,080	<sup>R</sup> 1,712	18,293	<sup>R</sup> 13,525	1,073	<sup>R</sup> 39,794
June .....	<sup>R</sup> 1,914	<sup>R</sup> 1,878	3,123	1,938	5,135	1,780	18,617	<sup>R</sup> 14,381	1,097	<sup>R</sup> 41,144
July .....	1,952	2,077	3,074	2,020	<sup>R</sup> 5,450	1,756	19,107	<sup>R</sup> 14,745	1,150	<sup>R</sup> 42,403
August .....	<sup>R</sup> 1,915	1,795	2,745	<sup>R</sup> 1,798	<sup>R</sup> 5,404	<sup>R</sup> 1,710	18,565	<sup>R</sup> 13,541	<sup>R</sup> 1,114	<sup>R</sup> 40,539
September .....	<sup>R</sup> 1,875	1,999	3,163	2,171	<sup>R</sup> 5,422	1,821	18,562	<sup>R</sup> 15,015	1,166	<sup>R</sup> 42,040
October .....	1,934	2,144	2,869	2,207	<sup>R</sup> 5,414	1,844	19,071	<sup>R</sup> 15,105	<sup>R</sup> 1,140	<sup>R</sup> 42,665
November .....	<sup>R</sup> 1,832	1,731	2,882	<sup>R</sup> 2,174	<sup>R</sup> 5,732	<sup>R</sup> 1,805	18,578	<sup>R</sup> 14,401	<sup>R</sup> 1,152	<sup>R</sup> 41,695
December .....	1,876	2,107	2,761	2,299	<sup>R</sup> 6,453	1,835	19,250	<sup>R</sup> 14,983	<sup>R</sup> 1,146	<sup>R</sup> 43,708
<b>Average</b> .....	<b>1,858</b>	<b>1,955</b>	<sup>R</sup> <b>2,904</b>	<b>2,045</b>	<b>5,711</b>	<b>1,799</b>	<b>18,620</b>	<sup>R</sup> <b>14,439</b>	<b>1,138</b>	<sup>R</sup> <b>41,766</b>
<b>1998</b> January .....	1,888	2,040	2,734	2,030	6,109	1,779	18,256	14,335	1,044	41,633
February .....	1,829	2,160	2,950	2,150	6,465	1,831	18,322	15,153	1,146	42,916
March .....	1,861	1,982	3,153	2,111	5,905	1,861	18,393	15,125	1,228	42,512
April .....	1,850	1,999	2,840	2,016	5,132	1,709	18,624	14,256	1,076	40,938
<b>4-Mo. Avg.</b> .....	<b>1,858</b>	<b>2,043</b>	<b>2,920</b>	<b>2,075</b>	<b>5,895</b>	<b>1,795</b>	<b>18,399</b>	<b>14,710</b>	<b>1,123</b>	<b>41,986</b>
<b>1997 4-Mo. Avg.</b> .....	<b>1,791</b>	<b>2,005</b>	<b>2,869</b>	<b>2,011</b>	<b>6,117</b>	<b>1,833</b>	<b>18,340</b>	<b>14,394</b>	<b>1,156</b>	<b>41,799</b>
<b>1996 4-Mo. Avg.</b> .....	<b>1,772</b>	<b>1,987</b>	<b>2,882</b>	<b>2,130</b>	<b>6,346</b>	<b>1,847</b>	<b>18,264</b>	<b>14,272</b>	<b>1,232</b>	<b>41,886</b>

<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.

<sup>d</sup> The Organization for Economic Cooperation and Development (OECD)

consists of Canada, Japan, the United States, "OECD Europe" and "Other OECD."

R=Revised.

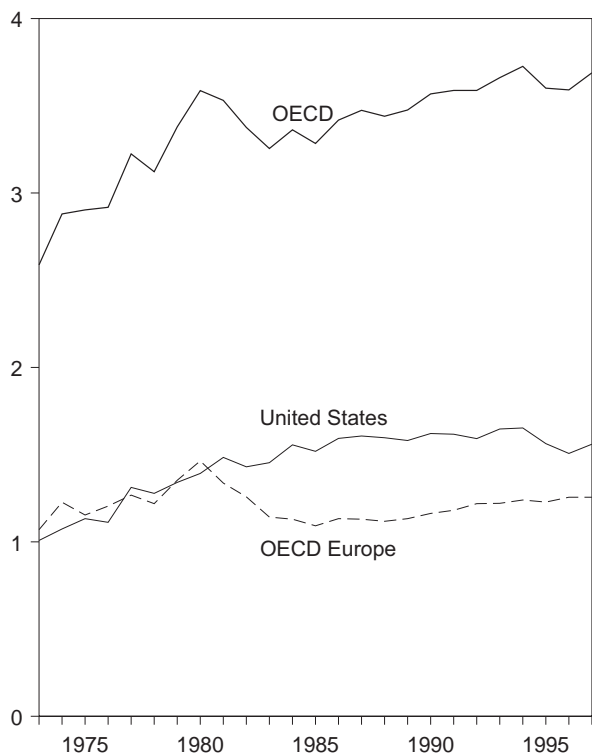
Notes: • Data through 1993 are final. Subsequent data are preliminary.  
• Totals may not equal sum of components due to independent rounding.  
• U.S. geographic coverage is the 50 States and the District of Columbia.

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*.

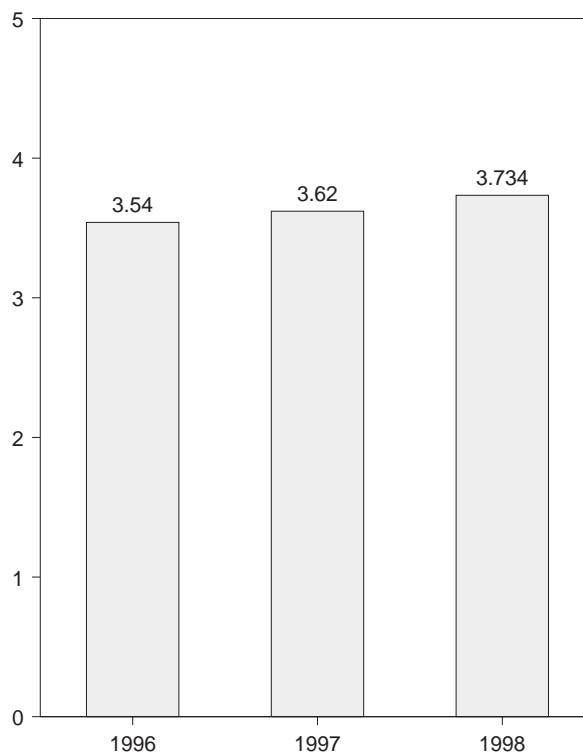
## Figure 10.4 Petroleum Stocks in OECD Countries

(Billion Barrels)

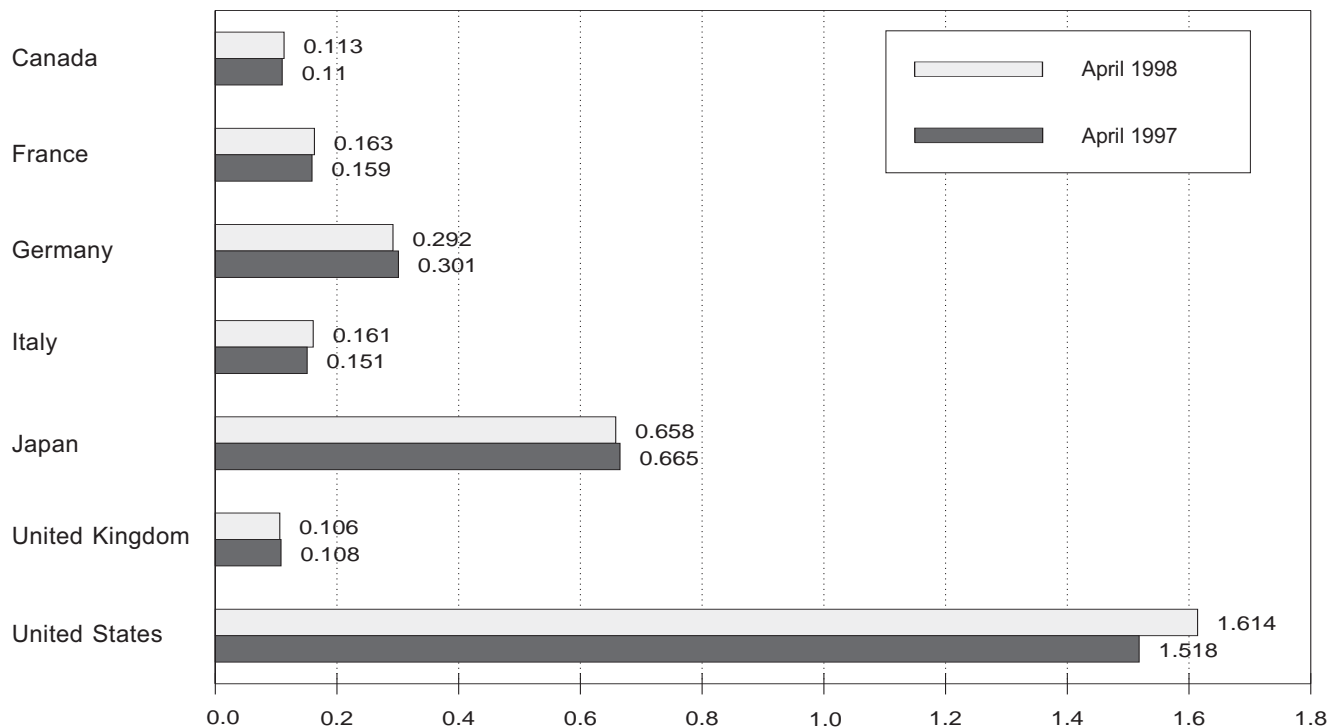
Overview, End of Year, 1973-1997



OECD Stocks, End of Month, April



By Selected Country, End of Month



Notes: • OECD is the Organization for Economic Cooperation and Development. • Because vertical scales differ, graphs should not be compared.  
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 <sup>d</sup>
<b>1973 Year</b> .....	140	201	181	152	303	156	1,008	1,070	67	2,588
1974 Year .....	145	249	213	167	370	191	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	169	1,341	1,353	75	3,379
1980 Year .....	164	243	319	170	495	168	1,392	1,464	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	3,376
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	1,092	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	71	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	3,476
1990 Year .....	121	140	265	172	590	112	1,621	1,163	73	3,568
1991 Year .....	119	153	288	160	606	119	1,617	1,181	65	3,588
1992 Year .....	107	146	310	174	603	113	1,592	1,219	67	3,588
1993 Year .....	105	158	309	163	618	118	1,647	1,221	69	3,661
1994 Year .....	119	158	312	164	645	115	1,653	1,240	69	3,726
1995 Year .....	109	159	301	162	630	107	1,563	1,228	71	3,601
<b>1996</b> January .....	104	154	301	157	638	107	1,544	1,236	73	3,596
February .....	102	156	298	156	615	103	1,500	1,224	69	3,511
March .....	109	156	296	153	627	106	1,482	1,212	70	3,500
April .....	109	165	298	150	622	109	1,502	1,236	72	3,540
May .....	107	163	295	157	641	105	1,520	1,233	75	3,575
June .....	107	160	296	158	640	104	1,546	1,229	73	3,597
July .....	110	162	297	155	637	105	1,550	1,242	83	3,621
August .....	110	160	295	159	658	101	1,545	1,237	79	3,629
September .....	113	152	295	162	664	105	1,551	1,229	83	3,641
October .....	111	156	296	155	673	104	1,538	1,237	82	3,640
November .....	105	160	297	152	665	106	1,522	1,243	81	3,616
December .....	103	158	300	152	651	108	1,507	1,256	74	3,591
<b>1997</b> January .....	106	156	306	158	650	107	1,501	1,280	80	3,617
February .....	103	159	309	156	642	105	1,482	1,270	75	3,573
March .....	107	160	312	160	650	109	1,512	1,273	76	3,617
April .....	110	159	301	151	665	108	1,518	1,248	80	3,620
May .....	104	163	311	150	664	108	1,561	1,248	81	3,658
June .....	103	153	299	151	662	111	1,575	1,230	83	3,653
July .....	105	153	303	150	670	112	1,559	1,230	81	3,645
August .....	113	158	302	151	669	108	1,570	1,253	80	3,685
September .....	108	157	291	144	682	106	1,592	1,227	77	3,687
October .....	111	152	289	144	693	106	1,598	1,231	83	3,716
November .....	111	163	291	150	699	106	1,600	1,251	76	3,736
December .....	115	164	298	147	685	105	1,560	1,256	74	3,689
<b>1998</b> January .....	112	163	298	154	673	111	1,576	1,277	78	3,716
February .....	110	161	290	155	664	108	1,572	1,273	75	3,695
March .....	116	155	285	146	655	109	1,588	1,251	73	3,683
April .....	113	163	292	161	658	106	1,614	1,274	74	3,734

<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.

<sup>d</sup> The Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, the United States, "OECD Europe" and "Other OECD."

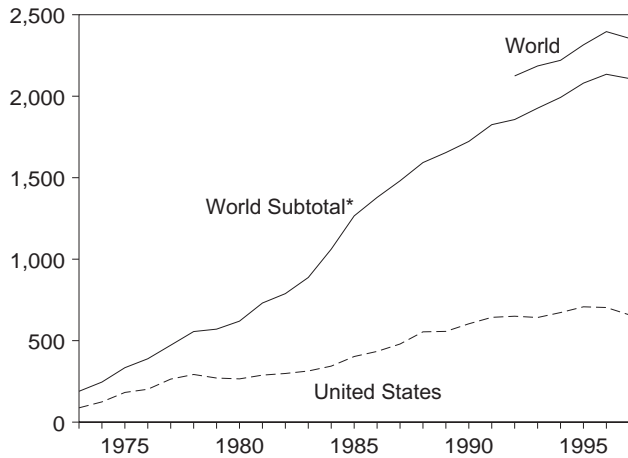
Notes: • Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all nonmilitary petroleum held for storage, regardless of

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. • 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 1995 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: • **United States:** Table 3.1a. • **All Other Data:** International Energy Agency, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances*.

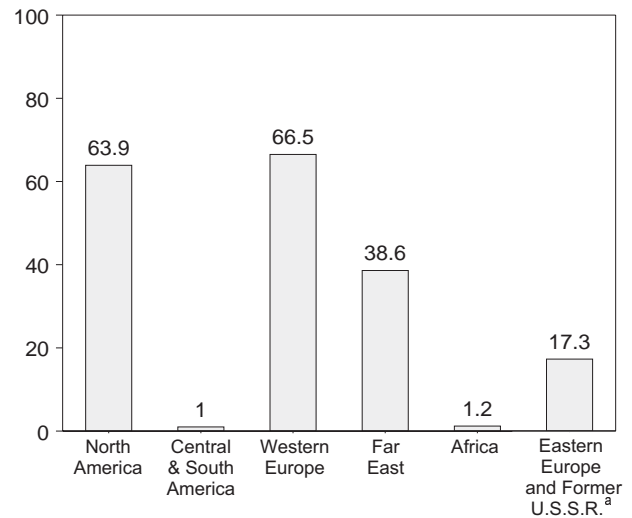
**Figure 10.5 Nuclear Electricity Gross Generation**  
(Billion Kilowatthours)

U.S. and World, 1973-1997



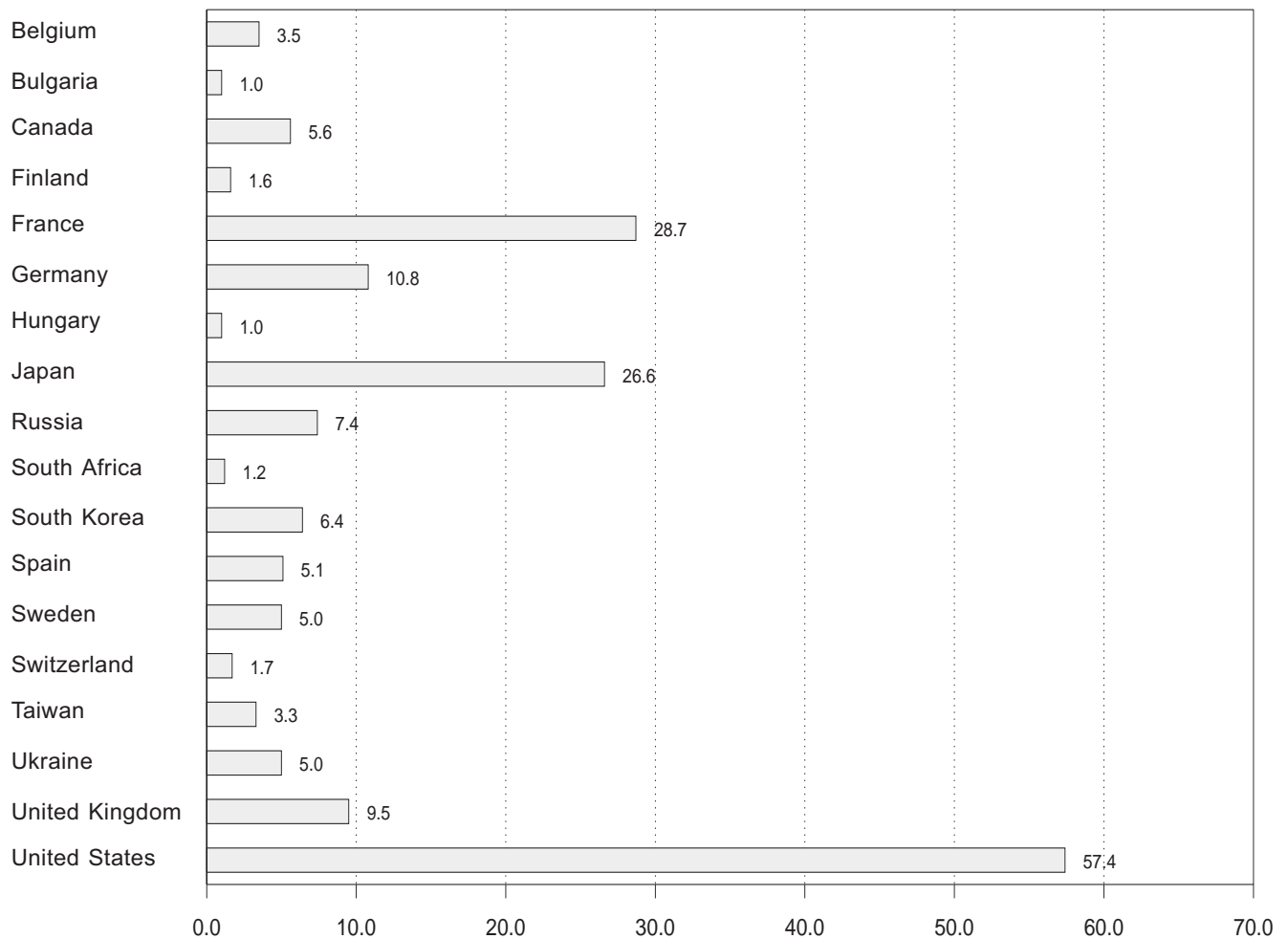
\*World excluding Eastern Europe.

By Region, June 1998



<sup>a</sup> Does not include Czech Republic or Kazakhstan. See Table 10.4e.

By Selected Country, June 1998



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 America	Central and South America	Western Europe	Far East	Africa	Subtotal	Eastern Europe and Former U.S.S.R. <sup>a</sup>	World
1973 Total	103.1	—	73.9	12.3	—	189.3	NA	NA
1974 Total	139.7	1.0	83.9	21.4	—	246.0	NA	NA
1975 Total	195.5	2.5	111.7	24.4	—	334.1	NA	NA
1976 Total	219.8	2.6	126.2	40.3	—	388.9	NA	NA
1977 Total	290.8	1.6	148.1	31.5	—	472.0	NA	NA
1978 Total	325.4	2.9	166.9	60.6	—	555.9	NA	NA
1979 Total	309.0	2.7	184.3	74.7	—	570.7	NA	NA
1980 Total	305.8	2.3	214.2	97.4	—	619.8	NA	NA
1981 Total	331.8	2.8	293.4	102.9	—	730.9	NA	NA
1982 Total	341.2	1.9	321.8	123.6	—	788.5	NA	NA
1983 Total	366.6	3.6	<sup>b</sup> 377.2	140.1	—	887.5	NA	NA
1984 Total	397.6	6.6	<sup>b</sup> 485.4	167.7	4.2	1,061.5	NA	NA
1985 Total	465.6	9.1	<sup>b</sup> 582.8	202.0	5.9	1,265.4	NA	NA
1986 Total	508.8	5.8	<sup>b</sup> 631.5	223.6	9.3	1,378.9	NA	NA
1987 Total	560.1	6.2	<sup>b</sup> 648.3	259.5	6.6	1,480.7	NA	NA
1988 Total	639.7	5.5	<sup>b</sup> 688.1	248.5	11.1	1,592.8	NA	NA
1989 Total	640.2	6.6	<sup>b</sup> 732.2	263.4	11.7	1,654.1	NA	NA
1990 Total	681.3	9.4	<sup>b</sup> 738.6	284.3	8.9	1,722.5	NA	NA
1991 Total	733.4	9.2	<sup>b</sup> 769.7	303.3	9.7	1,825.2	NA	NA
1992 Total	735.2	8.8	787.8	315.2	9.9	1,856.9	<sup>E</sup> 267.5	<sup>E</sup> 2,124.5
1993 Total	744.6	8.1	820.9	<sup>E</sup> 345.2	7.7	<sup>E</sup> 1,926.6	<sup>E</sup> 259.0	<sup>E</sup> 2,185.6
1994 Total	787.3	8.2	820.2	<sup>E</sup> 366.7	10.3	<sup>E</sup> 1,992.6	<sup>E</sup> 227.8	<sup>E</sup> 2,220.4
1995 Total	816.1	9.6	<sup>E</sup> 835.7	<sup>E</sup> 407.0	11.9	<sup>E</sup> 2,080.2	<sup>E</sup> 234.9	<sup>E</sup> 2,315.1
1996 January	<sup>E</sup> 76.0	1.0	<sup>E</sup> 83.4	<sup>C</sup> 33.4	.7	194.5	<sup>b</sup> 24.6	<sup>b</sup> 219.1
February	<sup>E</sup> 69.0	.8	<sup>E</sup> 76.2	<sup>C</sup> 30.5	.7	177.1	<sup>b</sup> 23.3	<sup>b</sup> 200.5
March	<sup>E</sup> 69.0	.8	<sup>E</sup> 77.6	<sup>C</sup> 35.0	1.1	183.5	<sup>b</sup> 24.7	<sup>b</sup> 208.1
April	61.4	.7	<sup>E</sup> 73.2	<sup>C</sup> 33.1	1.1	169.4	<sup>b</sup> 20.2	<sup>b</sup> 189.6
May	64.7	.7	<sup>E</sup> 68.1	<sup>C</sup> 33.3	1.1	168.0	<sup>b</sup> 17.2	<sup>b</sup> 185.1
June	66.7	.7	<sup>E</sup> 63.7	<sup>C</sup> 34.2	.8	166.0	<sup>b</sup> 17.6	<sup>b</sup> 183.6
July	72.0	.5	<sup>E</sup> 65.9	<sup>C</sup> 39.2	.6	178.2	<sup>b</sup> 16.7	<sup>b</sup> 194.9
August	71.5	.7	<sup>E</sup> 65.7	<sup>C</sup> 39.6	1.3	178.8	<sup>b</sup> 15.4	<sup>b</sup> 194.2
September	63.6	.8	<sup>E</sup> 69.3	<sup>C</sup> 32.7	1.3	167.7	<sup>b</sup> 14.9	<sup>b</sup> 182.6
October	61.2	1.0	<sup>E</sup> 74.4	<sup>C</sup> 31.3	1.4	169.3	<sup>b</sup> 17.4	<sup>b</sup> 186.7
November	62.4	1.1	<sup>E</sup> 77.5	<sup>C</sup> 33.0	1.4	175.4	<sup>b</sup> 19.9	<sup>b</sup> 195.3
December	<sup>E</sup> 69.0	1.2	<sup>E</sup> 84.3	<sup>C</sup> 36.9	1.1	<sup>E</sup> 192.5	<sup>b</sup> 23.3	<sup>b</sup> 215.8
Total	<sup>E</sup> 806.4	9.8	<sup>E</sup> 879.5	<sup>E</sup> 426.4	12.5	<sup>E</sup> 2,134.6	<sup>E</sup> 261.6	<sup>E</sup> 2,396.2
1997 January	<sup>E</sup> 70.8	.9	<sup>E</sup> 83.3	<sup>C</sup> 36.3	1.1	192.4	<sup>b</sup> 25.6	<sup>b</sup> 218.0
February	62.1	.9	<sup>E</sup> 74.9	<sup>C</sup> 32.6	.8	171.4	<sup>b</sup> 23.9	<sup>b</sup> 195.3
March	62.2	1.2	<sup>E</sup> 79.4	<sup>C</sup> 36.3	.7	179.7	<sup>b</sup> 24.6	<sup>b</sup> 204.3
April	56.7	1.0	<sup>E</sup> 76.7	<sup>E</sup> 35.3	1.1	170.9	<sup>b</sup> 20.2	<sup>b</sup> 191.2
May	<sup>E</sup> 56.8	.5	<sup>E</sup> 74.8	<sup>E</sup> 33.7	1.4	167.2	<sup>b</sup> 18.3	<sup>b</sup> 185.5
June	<sup>E</sup> 60.7	1.1	<sup>E</sup> 66.5	<sup>E</sup> 36.0	1.3	165.7	<sup>b</sup> 16.7	<sup>b</sup> 182.3
July	<sup>E</sup> 67.5	1.1	<sup>E</sup> 66.2	<sup>E</sup> 42.4	1.2	178.4	<sup>b</sup> 16.9	<sup>b</sup> 195.3
August	<sup>E</sup> 71.9	1.1	<sup>E</sup> 64.4	<sup>E</sup> 44.8	1.2	183.5	<sup>b</sup> 17.7	<sup>b</sup> 201.1
September	<sup>E</sup> 63.2	.8	<sup>E</sup> 67.5	<sup>E</sup> 39.9	.7	172.2	<sup>b</sup> 17.9	<sup>b</sup> 190.1
October	<sup>E</sup> 55.5	.7	<sup>E</sup> 74.5	<sup>E</sup> 38.1	.9	169.7	<sup>b</sup> 19.9	<sup>b</sup> 189.6
November	<sup>E</sup> 59.9	.7	<sup>E</sup> 76.5	<sup>E</sup> 38.6	1.3	177.0	<sup>b</sup> 20.5	<sup>b</sup> 197.5
December	<sup>E</sup> 65.6	1.0	<sup>E</sup> 81.7	<sup>E</sup> 40.2	1.4	189.9	<sup>b</sup> 24.6	<sup>b</sup> 214.5
Total	<sup>E</sup> 752.8	11.1	<sup>E</sup> 886.5	<sup>E</sup> 444.9	13.3	2,108.5	<sup>E</sup> 246.8	<sup>E</sup> 2,355.3
1998 January	<sup>E</sup> 66.1	1.0	<sup>E</sup> 84.2	<sup>E</sup> 38.4	1.3	191.0	<sup>b</sup> 24.0	<sup>b</sup> 214.9
February	<sup>E</sup> 60.2	.9	<sup>E</sup> 77.1	<sup>E</sup> 31.8	1.2	171.3	<sup>b</sup> 23.3	<sup>b</sup> 194.6
March	<sup>E</sup> 63.8	1.1	<sup>E</sup> 79.6	<sup>E</sup> 39.3	1.4	185.2	<sup>b</sup> 24.6	<sup>b</sup> 209.8
April	<sup>E</sup> 56.0	1.1	<sup>E</sup> 72.2	<sup>E</sup> 40.1	1.2	170.6	<sup>b</sup> 21.1	<sup>b</sup> 191.7
May	<sup>E</sup> 59.4	1.0	<sup>E</sup> 69.7	<sup>E</sup> 40.2	.7	171.0	<sup>b</sup> 18.9	<sup>b</sup> 189.8
June	<sup>E</sup> 63.9	<sup>E</sup> 1.0	<sup>E</sup> 66.5	<sup>E</sup> 38.6	1.2	171.1	<sup>b</sup> 17.3	<sup>b</sup> 188.4
6-Month Total	<sup>E</sup> 369.4	<sup>E</sup> 6.1	<sup>E</sup> 449.3	<sup>E</sup> 228.4	7.0	1,060.1	<sup>b</sup> 129.1	<sup>b</sup> 1,189.3
1997 6-Month Total	<sup>E</sup> 369.3	5.7	<sup>E</sup> 455.6	<sup>E</sup> 210.3	6.5	1,047.3	<sup>b</sup> 129.4	<sup>b</sup> 1,176.6
1996 6-Month Total	<sup>E</sup> 406.6	4.7	<sup>E</sup> 442.3	<sup>C</sup> 199.4	5.5	1,058.5	<sup>b</sup> 127.6	<sup>b</sup> 1,186.1

<sup>a</sup> See Table 10.4e for country-specific estimated annual generation and available monthly generation for Eastern Europe and Former U.S.S.R..

<sup>b</sup> Sum of available data only.

<sup>c</sup> Total excluding China.

NA=Not available. —=Not applicable. 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 regions may not sum to totals due to independent rounding.

Source: Based on data from *Nucleonics Week*, a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

**Table 10.4b Nuclear Electricity Gross Generation: North, Central, and South America**  
(Billion Kilowatthours)

	Canada	Mexico	United States	North America	Argentina	Brazil	Central and South America
<b>1973 Total</b> .....	15.3	—	87.8	103.1	—	—	—
<b>1974 Total</b> .....	15.4	—	124.3	139.7	1.0	—	1.0
<b>1975 Total</b> .....	13.2	—	182.3	195.5	2.5	—	2.5
<b>1976 Total</b> .....	18.0	—	201.8	219.8	2.6	—	2.6
<b>1977 Total</b> .....	26.6	—	264.2	290.8	1.6	—	1.6
<b>1978 Total</b> .....	33.0	—	292.4	325.4	2.9	—	2.9
<b>1979 Total</b> .....	38.4	—	270.6	309.0	2.7	—	2.7
<b>1980 Total</b> .....	40.4	—	265.4	305.8	2.3	—	2.3
<b>1981 Total</b> .....	43.3	—	288.5	331.8	2.8	—	2.8
<b>1982 Total</b> .....	42.6	—	298.6	341.2	1.9	0.1	1.9
<b>1983 Total</b> .....	53.0	—	313.6	366.6	3.4	.2	3.6
<b>1984 Total</b> .....	53.8	—	343.8	397.6	4.5	2.1	6.6
<b>1985 Total</b> .....	62.9	—	402.7	465.6	5.8	3.4	9.1
<b>1986 Total</b> .....	74.6	—	434.1	508.8	5.7	.1	5.8
<b>1987 Total</b> .....	80.6	—	479.5	560.1	5.2	1.0	6.2
<b>1988 Total</b> .....	85.6	—	554.1	639.7	5.1	.3	5.5
<b>1989 Total</b> .....	83.2	—	557.0	640.2	5.0	1.6	6.6
<b>1990 Total</b> .....	75.8	2.1	603.4	681.3	7.4	2.0	9.4
<b>1991 Total</b> .....	86.1	4.2	643.0	733.4	7.7	1.4	9.2
<b>1992 Total</b> .....	81.3	3.9	650.0	735.2	7.1	1.8	8.8
<b>1993 Total</b> .....	97.6	4.9	642.0	744.6	7.7	.4	8.1
<b>1994 Total</b> .....	110.7	4.2	672.4	787.3	8.2	.0	8.2
<b>1995 Total</b> .....	100.4	7.9	707.7	816.1	7.1	2.5	9.6
<b>1996</b> January .....	9.3	1.0	<sup>E</sup> 65.7	<sup>E</sup> 76.0	.7	.3	1.0
February .....	9.3	.9	<sup>E</sup> 58.8	<sup>E</sup> 69.0	.6	.2	.8
March .....	10.2	.9	<sup>E</sup> 57.8	<sup>E</sup> 69.0	.7	.1	.8
April .....	8.1	.9	52.4	61.4	.7	.0	.7
May .....	6.1	.9	57.7	64.7	.7	.0	.7
June .....	5.9	.5	60.2	66.7	.7	.0	.7
July .....	7.7	.4	63.9	72.0	.5	.0	.5
August .....	8.0	.3	63.2	71.5	.6	.1	.7
September .....	6.7	.5	56.4	63.6	.3	.4	.8
October .....	7.6	.5	53.1	61.2	.5	.4	1.0
November .....	7.8	.5	54.1	62.4	.7	.4	1.1
December .....	8.5	.7	<sup>E</sup> 59.8	<sup>E</sup> 69.0	.7	.4	1.2
<b>Total</b> .....	<b>95.2</b>	<b>7.9</b>	<sup>E</sup> <b>703.3</b>	<sup>E</sup> <b>806.4</b>	<b>7.4</b>	<b>2.4</b>	<b>9.8</b>
<b>1997</b> January .....	8.3	1.0	<sup>E</sup> 61.6	<sup>E</sup> 70.8	.7	.3	.9
February .....	8.3	.8	52.9	62.1	.7	.3	.9
March .....	8.4	1.0	52.9	62.2	.7	.4	1.2
April .....	8.4	.9	47.4	56.7	.6	.4	1.0
May .....	5.7	.9	<sup>E</sup> 50.2	<sup>E</sup> 56.8	.3	.3	.5
June .....	5.7	.9	<sup>E</sup> 54.1	<sup>E</sup> 60.7	.7	.5	1.1
July .....	6.8	.9	<sup>E</sup> 59.8	<sup>E</sup> 67.5	.7	.3	1.1
August .....	7.2	.9	<sup>E</sup> 63.8	<sup>E</sup> 71.9	.7	.5	1.1
September .....	6.1	.5	<sup>E</sup> 56.7	<sup>E</sup> 63.2	.7	.1	.8
October .....	5.7	.9	<sup>E</sup> 48.9	<sup>E</sup> 55.5	.7	.0	.7
November .....	6.5	.9	<sup>E</sup> 52.4	<sup>E</sup> 59.9	.7	.0	.7
December .....	7.2	.9	<sup>E</sup> 57.5	<sup>E</sup> 65.6	.7	.2	1.0
<b>Total</b> .....	<b>84.1</b>	<b>10.4</b>	<sup>E</sup> <b>658.3</b>	<sup>E</sup> <b>752.8</b>	<b>8.0</b>	<b>3.2</b>	<b>11.1</b>
<b>1998</b> January .....	6.1	.9	<sup>E</sup> 59.1	<sup>E</sup> 66.1	.7	.2	1.0
February .....	5.5	.8	<sup>E</sup> 53.9	<sup>E</sup> 60.2	.7	.2	.9
March .....	7.2	.9	<sup>E</sup> 55.6	<sup>E</sup> 63.8	.7	.4	1.1
April .....	6.0	.5	<sup>E</sup> 49.5	<sup>E</sup> 56.0	.7	.4	1.1
May .....	4.7	.8	<sup>E</sup> 53.9	<sup>E</sup> 59.4	.7	.3	1.0
June .....	5.6	.9	<sup>E</sup> 57.4	<sup>E</sup> 63.9	.7	<sup>E</sup> .3	<sup>E</sup> 1.0
<b>6-Month Total</b> .....	<b>35.0</b>	<b>4.9</b>	<sup>E</sup> <b>329.4</b>	<sup>E</sup> <b>369.4</b>	<b>4.2</b>	<sup>E</sup> <b>1.9</b>	<sup>E</sup> <b>6.1</b>
<b>1997 6-Month Total</b> .....	<b>44.6</b>	<b>5.5</b>	<sup>E</sup> <b>319.1</b>	<sup>E</sup> <b>369.3</b>	<b>3.6</b>	<b>2.0</b>	<b>5.7</b>
<b>1996 6-Month Total</b> .....	<b>48.9</b>	<b>5.0</b>	<sup>E</sup> <b>352.7</b>	<sup>E</sup> <b>406.6</b>	<b>4.1</b>	<b>.6</b>	<b>4.7</b>

— =Not applicable. 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 regional totals due to independent rounding. • U.S. geographic coverage is the 50 States and the District of Columbia.

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**Table 10.4c Nuclear Electricity Gross Generation: Western Europe**  
(Billion Kilowatthours)

	Belgium	Finland	France	Germany <sup>a</sup>	Italy <sup>b</sup>	Nether-lands	Slovenia	Spain	Sweden	Switzer-land	United Kingdom <sup>c</sup>	Western Europe
<b>1973 Total</b> .....	0.0	—	14.7	11.9	3.1	1.1	—	6.5	2.1	6.2	28.2	73.9
<b>1974 Total</b> .....	.1	—	14.7	12.0	3.4	3.3	—	7.2	2.3	7.0	33.8	83.9
<b>1975 Total</b> .....	6.8	—	18.3	21.7	3.8	3.3	—	7.5	12.0	7.7	30.5	111.7
<b>1976 Total</b> .....	10.0	—	15.8	24.5	3.8	3.9	—	7.6	16.0	7.9	36.8	126.2
<b>1977 Total</b> .....	11.9	2.7	17.9	36.0	3.4	3.7	—	6.5	19.9	8.1	38.1	148.1
<b>1978 Total</b> .....	12.5	3.3	30.6	35.7	4.5	4.1	—	7.6	23.8	8.3	36.6	166.9
<b>1979 Total</b> .....	11.4	6.7	39.9	42.2	2.6	3.5	—	6.7	21.0	11.8	38.5	184.3
<b>1980 Total</b> .....	12.5	7.0	61.2	43.7	2.2	4.2	—	5.2	26.7	14.3	37.2	214.2
<b>1981 Total</b> .....	12.8	14.5	105.2	53.4	2.7	3.7	—	9.4	37.7	15.2	38.9	293.4
<b>1982 Total</b> .....	15.6	16.5	108.9	63.4	6.8	3.9	—	8.8	38.8	15.0	44.1	321.8
<b>1983 Total</b> .....	24.1	17.4	144.2	65.8	5.8	3.6	NA	10.7	40.4	15.5	49.6	<sup>d</sup> 377.2
<b>1984 Total</b> .....	27.7	18.5	191.2	92.6	6.9	3.8	NA	23.1	51.3	16.3	54.1	<sup>d</sup> 485.4
<b>1985 Total</b> .....	34.5	18.8	224.0	125.8	7.0	3.9	NA	28.0	58.6	22.4	59.7	<sup>d</sup> 582.8
<b>1986 Total</b> .....	38.6	18.8	254.3	118.9	8.7	4.2	NA	37.5	69.9	22.5	58.2	<sup>d</sup> 631.5
<b>1987 Total</b> .....	41.9	19.4	265.5	130.2	.2	3.6	NA	41.2	67.2	23.0	56.2	<sup>d</sup> 648.3
<b>1988 Total</b> .....	43.1	19.3	274.9	145.2	.0	3.7	NA	50.4	69.4	22.7	59.4	<sup>d</sup> 688.1
<b>1989 Total</b> .....	41.2	18.8	302.5	149.6	.0	4.0	NA	56.1	65.6	22.8	71.6	<sup>d</sup> 732.2
<b>1990 Total</b> .....	42.7	18.9	314.1	147.2	.0	3.4	NA	54.3	68.2	23.6	66.1	<sup>d</sup> 738.6
<b>1991 Total</b> .....	42.9	19.2	331.4	147.3	.0	3.3	NA	55.6	76.8	22.9	70.4	<sup>d</sup> 769.7
<b>1992 Total</b> .....	43.5	19.0	337.6	158.8	.0	3.8	4.0	55.8	63.5	23.4	78.5	787.8
<b>1993 Total</b> .....	41.9	19.6	366.7	153.5	.0	3.9	4.0	56.1	61.4	23.3	90.4	820.9
<b>1994 Total</b> .....	40.6	19.1	359.1	151.1	.0	4.0	4.6	55.1	72.8	24.2	89.5	820.2
<b>1995 Total</b> .....	41.4	18.9	377.6	154.3	.0	4.0	4.8	54.5	69.9	24.8	<sup>E</sup> 85.5	<sup>E</sup> 835.7
<b>1996</b> January .....	4.3	1.8	38.5	15.0	.0	.4	.5	5.4	7.4	2.4	<sup>E</sup> 7.7	<sup>E</sup> 83.4
February .....	4.1	1.7	35.5	12.7	.0	.1	.5	4.9	7.2	2.3	<sup>E</sup> 7.4	<sup>E</sup> 76.2
March .....	3.9	1.8	35.8	13.1	.0	.2	.5	4.9	7.5	2.4	<sup>E</sup> 7.5	<sup>E</sup> 77.6
April .....	3.4	1.7	33.3	12.6	.0	.4	.5	4.6	7.3	2.3	<sup>E</sup> 7.0	<sup>E</sup> 73.2
May .....	3.4	1.4	30.6	12.4	.0	.4	.3	5.3	5.0	2.3	<sup>E</sup> 7.0	<sup>E</sup> 68.1
June .....	3.2	1.4	27.7	12.0	.0	.4	.0	4.6	5.8	1.6	<sup>E</sup> 7.0	<sup>E</sup> 63.7
July .....	3.3	1.6	30.0	12.6	.0	.4	.1	4.6	4.7	1.6	<sup>E</sup> 7.0	<sup>E</sup> 65.9
August .....	3.1	1.4	29.9	13.1	.0	.4	.5	4.6	4.4	1.2	<sup>E</sup> 7.0	<sup>E</sup> 65.7
September .....	3.5	1.4	30.8	13.3	.0	.4	.5	4.6	5.7	2.0	<sup>E</sup> 7.1	<sup>E</sup> 69.3
October .....	3.3	1.7	34.0	13.8	.0	.4	.5	5.1	7.0	2.2	<sup>E</sup> 6.6	<sup>E</sup> 74.4
November .....	4.0	1.8	34.8	15.1	.0	.4	.5	4.8	6.9	2.3	<sup>E</sup> 7.0	<sup>E</sup> 77.5
December .....	3.7	1.8	36.3	15.9	.0	.4	.5	5.5	7.4	2.4	<sup>E</sup> 10.4	<sup>E</sup> 84.3
<b>Total</b> .....	<b>43.3</b>	<b>19.5</b>	<b>397.0</b>	<b>161.7</b>	<b>.0</b>	<b>4.2</b>	<b>4.6</b>	<b>59.1</b>	<b>76.2</b>	<b>25.0</b>	<sup>E</sup> <b>88.8</b>	<sup>E</sup> <b>879.5</b>
<b>1997</b> January .....	4.4	1.8	37.1	16.2	.0	.3	.4	5.2	7.1	2.4	8.3	83.3
February .....	4.0	1.7	32.4	14.2	.0	.1	.4	4.6	6.8	2.2	8.6	74.9
March .....	4.4	1.9	33.8	15.3	.0	.4	.5	3.8	<sup>E</sup> 7.3	2.4	9.6	<sup>E</sup> 79.4
April .....	3.8	1.8	33.8	15.3	.0	.4	.5	4.2	7.0	2.3	<sup>E</sup> 7.7	<sup>E</sup> 76.7
May .....	4.3	1.4	<sup>E</sup> 33.8	13.4	.0	<sup>E</sup> (s)	.5	5.2	5.6	2.3	<sup>E</sup> 8.2	<sup>E</sup> 74.8
June .....	2.9	1.5	28.0	13.0	.0	.0	.3	4.8	<sup>E</sup> 5.0	1.6	9.3	<sup>E</sup> 66.5
July .....	2.9	1.9	29.2	12.9	.0	.2	.5	4.9	4.0	1.9	<sup>E</sup> 7.6	<sup>E</sup> 66.2
August .....	3.6	1.6	28.7	12.4	.0	<sup>E</sup> .2	.5	4.9	<sup>E</sup> 4.1	1.3	<sup>E</sup> 7.1	<sup>E</sup> 64.4
September .....	3.8	1.6	29.7	12.8	.0	.3	.5	4.4	4.5	2.1	<sup>E</sup> 8.0	<sup>E</sup> 67.5
October .....	4.3	2.0	33.5	14.7	.0	.3	.5	4.2	6.2	2.1	<sup>E</sup> 6.7	<sup>E</sup> 74.5
November .....	4.3	1.9	<sup>E</sup> 33.7	14.9	.0	.3	.5	4.4	6.4	2.3	<sup>E</sup> 7.8	<sup>E</sup> 76.5
December .....	4.5	2.0	35.8	15.4	.0	.4	.5	4.6	6.5	2.4	<sup>E</sup> 9.7	<sup>E</sup> 81.7
<b>Total</b> .....	<b>47.4</b>	<b>20.9</b>	<sup>E</sup> <b>389.3</b>	<b>170.4</b>	<b>.0</b>	<sup>E</sup> <b>3.1</b>	<b>5.4</b>	<b>55.4</b>	<sup>E</sup> <b>70.6</b>	<b>25.3</b>	<sup>E</sup> <b>98.8</b>	<sup>E</sup> <b>886.5</b>
<b>1998</b> January .....	4.4	2.0	37.5	15.9	.0	.3	.5	5.1	7.6	2.4	<sup>E</sup> 8.4	<sup>E</sup> 84.2
February .....	4.0	1.8	34.7	14.0	.0	.3	.4	5.1	6.7	2.2	<sup>E</sup> 8.0	<sup>E</sup> 77.1
March .....	3.7	2.0	<sup>E</sup> 34.7	14.0	.0	.4	.5	4.6	7.3	2.4	<sup>E</sup> 10.1	<sup>E</sup> 79.6
April .....	3.3	1.9	31.2	14.1	.0	.3	.3	4.4	7.2	2.1	<sup>E</sup> 7.4	<sup>E</sup> 72.2
May .....	4.0	1.4	29.9	12.2	.0	.3	<sup>E</sup> .3	4.8	6.9	2.1	<sup>E</sup> 7.6	<sup>E</sup> 69.7
June .....	3.5	1.6	28.7	10.8	.0	.1	.4	5.1	5.0	1.7	<sup>E</sup> 9.5	<sup>E</sup> 66.5
<b>6-Month Total</b> .....	<b>22.8</b>	<b>10.7</b>	<sup>E</sup> <b>196.7</b>	<b>81.0</b>	<b>.0</b>	<b>1.8</b>	<sup>E</sup> <b>2.5</b>	<b>29.1</b>	<b>40.8</b>	<b>12.9</b>	<sup>E</sup> <b>51.1</b>	<sup>E</sup> <b>449.3</b>
<b>1997 6-Month Total</b> .....	<b>23.9</b>	<b>10.0</b>	<b>198.8</b>	<b>87.4</b>	<b>.0</b>	<b>1.3</b>	<b>2.5</b>	<b>27.9</b>	<b>38.9</b>	<b>13.2</b>	<sup>E</sup> <b>51.8</b>	<sup>E</sup> <b>455.6</b>
<b>1996 6-Month Total</b> .....	<b>22.4</b>	<b>9.8</b>	<b>201.3</b>	<b>77.9</b>	<b>.0</b>	<b>1.8</b>	<b>2.1</b>	<b>29.8</b>	<b>40.1</b>	<b>13.3</b>	<sup>E</sup> <b>43.7</b>	<sup>E</sup> <b>442.3</b>

<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> In 1987, Italy's citizens voted for a nuclear power moratorium, which shut down their nuclear power plants indefinitely.

<sup>c</sup> Monthly data for the United Kingdom are totals for 4- or 5-week reporting periods, not calendar months.

<sup>d</sup> Sum of available data only

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 regional totals due to independent rounding.

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**Table 10.4d Nuclear Electricity Gross Generation: Far East and Africa**  
(Billion Kilowatthours)

	China <sup>a</sup>	India	Japan	Pakistan	South Korea	Taiwan	Far East	South Africa <sup>b</sup>
<b>1973 Total</b> .....	—	2.5	9.4	0.5	—	—	12.3	—
<b>1974 Total</b> .....	—	1.9	18.9	.6	—	—	21.4	—
<b>1975 Total</b> .....	—	2.5	21.3	.5	—	—	24.4	—
<b>1976 Total</b> .....	—	3.2	36.6	.5	—	—	40.3	—
<b>1977 Total</b> .....	—	2.8	28.2	.3	0.1	0.1	31.5	—
<b>1978 Total</b> .....	—	2.3	53.1	.2	2.3	2.7	60.6	—
<b>1979 Total</b> .....	—	3.2	62.0	(s)	3.2	6.3	74.7	—
<b>1980 Total</b> .....	—	2.9	82.8	.1	3.5	8.2	97.4	—
<b>1981 Total</b> .....	—	3.1	86.0	.2	2.9	10.7	102.9	—
<b>1982 Total</b> .....	—	2.2	104.5	.1	3.8	13.1	123.6	—
<b>1983 Total</b> .....	—	2.9	109.1	.2	9.0	18.9	140.1	—
<b>1984 Total</b> .....	—	4.1	127.2	.3	11.8	24.3	167.7	4.2
<b>1985 Total</b> .....	—	4.5	152.0	.3	16.5	28.7	202.0	5.9
<b>1986 Total</b> .....	—	5.1	164.8	.5	26.1	26.9	223.6	9.3
<b>1987 Total</b> .....	—	5.5	182.8	.3	37.8	33.1	259.5	6.6
<b>1988 Total</b> .....	—	6.1	173.6	.2	38.7	29.9	248.5	11.1
<b>1989 Total</b> .....	—	4.0	183.7	.1	47.2	28.3	263.4	11.7
<b>1990 Total</b> .....	—	6.3	191.9	.4	52.8	32.9	284.3	8.9
<b>1991 Total</b> .....	—	5.4	205.8	.4	56.3	35.3	303.3	9.7
<b>1992 Total</b> .....	—	6.3	218.0	.6	56.4	33.8	315.2	9.9
<b>1993 Total</b> .....	E 2.6	6.2	243.5	.4	58.1	34.3	E 345.2	7.7
<b>1994 Total</b> .....	E 14.2	5.0	253.8	.6	58.3	34.8	E 366.7	10.3
<b>1995 Total</b> .....	E 13.0	E 8.0	286.1	.5	64.0	35.3	E 407.0	11.9
<b>1996</b> January .....	NA	.6	24.5	(s)	5.2	3.0	C33.4	.7
February .....	NA	.7	22.2	(s)	4.8	2.7	C30.5	.7
March .....	NA	.8	25.1	(s)	6.2	2.9	C35.0	1.1
April .....	NA	.8	24.1	(s)	5.6	2.5	C33.1	1.1
May .....	NA	.6	23.5	(s)	5.8	3.3	C33.3	1.1
June .....	NA	.7	23.7	(s)	6.5	3.2	C34.2	.8
July .....	NA	.4	27.9	(s)	7.3	3.7	C39.2	.6
August .....	NA	.4	29.0	(s)	6.6	3.5	C39.6	1.3
September .....	NA	.7	22.4	(s)	6.3	3.2	C32.7	1.3
October .....	NA	.9	21.1	(s)	5.8	3.4	C31.3	1.4
November .....	NA	.8	23.0	(s)	5.9	3.3	C33.0	1.4
December .....	NA	.9	26.7	.0	6.4	3.0	C36.9	1.1
<b>Total</b> .....	E 14.3	8.3	293.2	.4	72.5	37.8	E 426.4	12.5
<b>1997</b> January .....	NA	1.0	26.1	.0	6.1	3.1	C36.3	1.1
February .....	NA	.9	22.7	(s)	6.1	2.9	C32.6	.8
March .....	NA	.9	26.2	(s)	E 6.1	3.1	C36.3	.7
April .....	.7	E .9	25.4	(s)	5.6	2.7	E 35.3	1.1
May .....	1.1	E .9	22.9	(s)	5.8	2.9	E 33.7	1.4
June .....	E 1.1	E .9	24.4	(s)	6.7	E 2.9	E 36.0	1.3
July .....	E 1.1	E .9	29.0	(s)	7.8	3.5	E 42.4	1.2
August .....	E 1.1	1.0	31.2	(s)	7.8	E 3.5	E 44.8	1.2
September .....	E 1.1	1.0	27.7	(s)	7.1	E 2.9	E 39.9	.7
October .....	E 1.1	1.0	26.9	(s)	6.1	3.0	E 38.1	.9
November .....	E 1.1	E 1.0	27.4	(s)	6.2	2.9	E 38.6	1.3
December .....	E .7	.6	28.1	(s)	7.6	3.3	E 40.2	1.4
<b>Total</b> .....	E .0	E 11.0	318.0	.4	78.9	E 36.6	E 444.9	13.3
<b>1998</b> January .....	E 1.1	E 1.0	25.2	(s)	7.3	3.7	E 38.4	1.3
February .....	E .6	1.0	21.6	(s)	5.6	3.0	E 31.8	1.2
March .....	.9	E 1.0	27.3	.0	6.7	3.4	E 39.3	1.4
April .....	1.3	E 1.0	28.2	.0	6.7	2.9	E 40.1	1.2
May .....	E 1.3	.8	28.7	(s)	6.5	3.0	E 40.2	.7
June .....	1.4	E .8	26.6	.1	6.4	3.3	E 38.6	1.2
<b>6-Month Total</b> .....	E 6.6	E 5.5	157.7	.2	39.3	19.3	E 228.4	7.0
<b>1997 6-Month Total</b> .....	E 3.0	E 5.5	147.7	.2	36.4	17.5	E 210.3	6.5
<b>1996 6-Month Total</b> .....	NA	4.3	143.1	.2	34.1	17.7	C199.4	5.5

<sup>a</sup> The total gross generation estimate for China is calculated as 5 percent more than the annual net nuclear generation reported by the International Atomic Energy Agency (IAEA) and is published in the Energy Information Administration annual reports—1993: *World Nuclear Outlook 1994*, December 1994, Table 1. 1994: *Nuclear Power Generation and Fuel Cycle Report 1996*, October 1996, Table 1. 1995 and 1996: *Nuclear Power Generation and Fuel Cycle Report 1997*, September 1997, Table D4.

<sup>b</sup> South Africa comprises all of Africa's nuclear electricity generation.

<sup>c</sup> Total excluding China.

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 regional totals due to independent rounding.

Source: • **China:** See footnote a. • **All Other:** Based on data from *Nucleonics Week*, a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

**Table 10.4e Nuclear Electricity Gross Generation: Eastern Europe and Former U.S.S.R.**  
(Billion Kilowatthours)

	Armenia <sup>a</sup>	Bulgaria	Czech Republic <sup>b</sup>	Hungary	Kazakhstan <sup>b</sup>	Lithuania <sup>b</sup>	Romania	Russia	Slovakia <sup>b</sup>	Ukraine	Eastern Europe and Former U.S.S.R. <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
1984 Total	-	NA	-	NA	NA	-	-	NA	NA	NA	NA
1985 Total	-	NA	NA	NA	NA	NA	-	NA	NA	NA	NA
1986 Total	-	NA	NA	NA	NA	NA	-	NA	NA	NA	NA
1987 Total	-	NA	NA	NA	NA	NA	-	NA	NA	NA	NA
1988 Total	-	NA	NA	NA	NA	NA	-	NA	NA	NA	NA
1989 Total	-	NA	NA	NA	NA	NA	-	NA	NA	NA	NA
1990 Total	-	NA	NA	NA	NA	NA	-	NA	NA	NA	NA
1991 Total	-	NA	NA	NA	NA	NA	-	NA	NA	NA	NA
1992 Total	-	E 12.2	E 12.9	E 13.8	E .5	E 16.4	-	E 125.6	E 11.7	E 74.6	E 267.5
1993 Total	-	14.0	E 13.2	13.8	E .4	E 12.9	-	120.4	E 11.6	E 72.7	E 259.0
1994 Total	-	14.9	E 12.7	14.0	E .4	E 7.0	-	97.7	E 12.7	68.4	E 227.8
1995 Total	-	17.2	E 12.8	14.0	E .4	E 9.7	-	98.3	E 12.0	70.4	E 234.9
1996 January	NA	2.4	NA	1.4	NA	1.6	-	10.4	NA	8.8	C24.6
February	NA	2.1	NA	1.3	NA	1.6	-	10.3	NA	8.0	C23.3
March	NA	2.3	NA	1.3	NA	1.6	-	11.2	NA	8.3	C24.7
April	NA	1.8	NA	1.1	NA	1.0	-	9.1	NA	7.2	C20.2
May	NA	1.0	NA	1.2	NA	.8	-	8.3	NA	5.8	C17.2
June	NA	1.8	NA	1.1	NA	1.0	NA	7.7	NA	6.0	C17.6
July	NA	.9	NA	1.1	NA	.9	NA	7.9	NA	6.0	C16.7
August	NA	1.0	NA	1.0	NA	.8	NA	8.4	NA	4.3	C15.4
September	NA	1.0	NA	.9	NA	.8	NA	7.3	NA	4.9	C14.9
October	NA	1.3	NA	1.2	NA	1.0	NA	8.3	NA	5.5	C17.4
November	NA	1.3	NA	1.3	NA	1.0	NA	9.2	NA	7.0	C19.9
December	NA	1.7	NA	1.4	NA	1.5	NA	10.5	NA	8.3	C23.3
Total	NA	18.7	E 13.5	14.2	E .1	E 13.6	E 1.0	108.8	E 11.8	80.0	E 261.6
1997 January	.2	1.7	NA	1.4	NA	1.5	NA	11.2	1.2	8.4	C25.6
February	.2	1.7	NA	1.2	NA	1.3	NA	9.9	1.2	8.4	C23.9
March	.3	1.8	NA	1.4	NA	1.3	NA	10.7	.9	8.4	C24.6
April	.2	1.2	NA	1.0	NA	.9	.3	8.5	.9	7.2	C20.2
May	.2	.9	NA	1.0	NA	.9	.4	7.8	.9	6.2	C18.3
June	.1	E .9	NA	1.0	NA	.8	.5	6.5	.8	6.1	C16.7
July	.1	E .9	NA	1.0	NA	.6	.5	7.2	.6	6.0	C16.9
August	.0	1.1	NA	.9	NA	.9	.4	7.5	.9	6.0	C17.7
September	.0	E 1.1	NA	1.0	NA	.9	.5	7.8	.9	5.7	C17.9
October	.0	1.1	NA	1.3	NA	1.0	.2	9.3	.9	5.9	C19.9
November	(s)	E 1.1	NA	1.3	NA	.9	.5	9.9	.9	5.7	C20.5
December	(s)	2.0	NA	1.3	NA	1.1	.5	11.5	1.2	6.9	C24.6
Total	1.4	E 15.5	NA	14.0	NA	12.1	3.9	108.1	11.0	80.8	E 246.8
1998 January	.3	1.1	NA	1.3	NA	1.3	.5	11.6	1.1	6.6	C24.0
February	.3	1.9	NA	1.2	NA	1.2	.4	10.6	.9	6.7	C23.3
March	.2	2.2	NA	1.1	NA	1.3	.5	11.1	.9	7.2	C24.6
April	.1	2.2	NA	.9	NA	1.0	.4	8.5	.9	7.1	C21.1
May	.1	2.2	NA	1.0	NA	1.1	.0	8.1	.8	5.6	C18.9
June	.1	1.0	.8	1.0	NA	.9	.3	7.4	.8	E 5.0	C17.3
6-Month Total	1.2	10.7	.8	6.5	NA	6.8	2.2	57.3	5.4	E 38.3	C129.1
1997 6-Month Total	1.3	8.1	NA	7.1	NA	6.6	1.2	54.8	5.7	44.6	C129.4
1996 6-Month Total	NA	11.5	NA	7.3	NA	7.7	NA	57.1	NA	44.0	C127.6

<sup>a</sup> According to EIA's *Nuclear Power Generation and Fuel Cycle Report 1996*, Armenia has two units; one came on line in November 1995 but no data are available prior to 1997, and the other is projected to come on line in 2001.

<sup>b</sup> The total gross generation estimate for Czech Republic, Kazakhstan, Lithuania, Slovakia, and Eastern European countries is calculated as 5 percent more than the annual net nuclear generation reported by the International Atomic Energy Agency and published in the Energy Information Administration annual reports—1992 and 1993: *World Nuclear Outlook 1994*, December 1994, Table 1. 1994: *Nuclear Power Generation and Fuel Cycle Report 1996*, October 1996, Table 1. 1995 and 1996: *Nuclear Power Generation and Fuel Cycle Report 1997*, September 1997, Table D4.

<sup>c</sup> Sum of available data only.

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 regional totals due to independent rounding.

Source: • Czech Republic, Kazakhstan, Lithuania, Slovakia, and Eastern European Countries: See footnote b. • All Other: Based on data from *Nucleonics Week*, a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.



## Sources for Tables 10.1a and 10.1b

### United States

Table 3.1a.

### Other Countries: Annual Data

**1973-1979:** Energy Information Administration (EIA), *International Energy Annual 1981*, Table 8.

**1980-1996:** Office of Energy Markets and End Use, International Energy Database, April 1998.

**1997:** Average of monthly data.

### Other Countries: Monthly Data

**1996-1998:** *Petroleum Intelligence Weekly*, the *Oil and Gas Journal*, and other industry sources.

### World: Annual Data

**1973-1979:** EIA, *International Energy Annual 1981*, Table 8.

**1980-1996:** Office of Energy Markets and End Use, International Energy Database, April 1998.

**1997:** Average of monthly data.

### World: Monthly Data

**1996-1998:** EIA, *International Petroleum Statistics Report*, sum of all countries' monthly data.

## Appendix A. Thermal Conversion Factors

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." Usually, the previous year's factor is used as the preliminary value until data become available to calculate the factor appropriate to the year. The source of each factor is described in the section entitled "Thermal Conversion Factor Source Docu-

mentation," which follows Table A8 in this appendix.

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.

**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	3.836
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	5.796

<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 .....	5.800	5.954	5.800	5.883	5.779	3.801
1994 .....	5.800	5.950	5.800	5.861	5.781	3.794
1995 .....	5.800	5.924	5.800	5.849	5.751	3.796
1996 .....	5.800	5.935	5.800	5.843	5.745	3.777
1997 .....	5.800	5.954	5.800	5.863	5.734	3.762
1998 <sup>a</sup> .....	5.800	5.954	5.800	5.863	5.734	3.762

<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 Products, Weighted Averages**  
(Million Btu per Barrel)

	Consumption					Imports	Exports	Liquefied Petroleum Gases 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 .....	5.169	5.188	5.445	6.243	5.378	5.623	5.774	3.624
1993 .....	5.148	5.200	5.438	6.241	5.379	5.620	5.777	3.606
1994 .....	5.154	5.171	5.442	6.231	5.371	5.538	5.779	3.635
1995 .....	5.126	5.141	5.444	6.210	5.358	5.511	5.746	3.623
1996 .....	5.114	5.119	5.446	6.212	5.352	5.495	5.738	3.613
1997 <sup>a</sup> .....	5.111	5.132	5.442	6.212	5.353	5.478	5.726	3.616
1998 <sup>a</sup> .....	5.111	5.132	5.442	6.212	5.353	5.478	5.726	3.616

<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	1,026	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 .....	1,030	1,110	1,031	1,022	1,030	1,011	1,018
1993 .....	1,027	1,106	1,028	1,022	1,027	1,020	1,016
1994 .....	1,028	1,105	1,029	1,022	1,028	1,022	1,011
1995 .....	1,027	1,106	1,027	1,025	1,027	1,021	1,011
1996 .....	1,027	1,109	1,027	1,024	1,027	1,022	1,011
1997 <sup>a</sup> .....	1,027	1,109	1,027	1,024	1,027	1,022	1,011
1998 <sup>a</sup> .....	1,027	1,109	1,027	1,024	1,027	1,022	1,011

<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 .....	21.388	22.994	26.800	22.123	20.639	20.983	25.000	26.335
1994 .....	21.352	23.112	26.800	22.068	20.673	21.010	25.000	26.329
1995 .....	21.277	23.118	26.800	21.950	20.495	20.845	25.000	26.180
1996 .....	21.287	23.011	26.800	22.105	20.525	20.856	25.000	26.174
1997 <sup>c</sup> .....	21.287	23.011	26.800	22.105	20.525	20.856	25.000	26.174
1998 <sup>c</sup> .....	21.287	23.011	26.800	22.105	20.525	20.856	25.000	26.174

<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 .....	21.383	22.749	26.800	22.111	20.644	20.983	25.000	26.341
1994 .....	21.347	22.683	26.800	22.046	20.681	21.011	25.000	26.335
1995 .....	21.271	22.767	26.800	21.931	20.502	20.845	25.000	26.187
1996 .....	21.281	22.649	26.800	22.087	20.532	20.857	25.000	26.181
1997 <sup>b</sup> .....	21.281	22.649	26.800	22.087	20.532	20.857	25.000	26.181
1998 <sup>b</sup> .....	21.281	22.649	26.800	22.087	20.532	20.857	25.000	26.181

<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)

	Anthracite					Coal Coke Imports and Exports
	Production	Consumption			Imports and Exports	
		Sectors Other Than Electric Utilities	Electric Utilities	Total		
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 .....	22.573	24.096	16.534	21.262	25.400	24.800
1994 .....	22.572	25.037	14.680	20.828	25.400	24.800
1995 .....	22.572	24.696	14.572	20.808	25.400	24.800
1996 .....	22.573	24.638	14.360	20.652	25.400	24.800
1997 <sup>a</sup> .....	22.573	24.638	14.360	20.652	25.400	24.800
1998 <sup>a</sup> .....	22.573	24.638	14.360	20.652	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 .....	10,406	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 .....	10,432	10,724	21,096	3,412
1990 .....	10,399	10,680	21,096	3,412
1991 .....	10,425	10,740	20,997	3,412
1992 .....	10,340	10,678	20,914	3,412
1993 .....	10,309	10,682	20,914	3,412
1994 .....	10,309	10,676	20,914	3,412
1995 .....	10,304	10,658	20,914	3,412
1996 .....	10,338	10,623	20,960	3,412
1997 <sup>b</sup> .....	10,338	10,623	20,960	3,412
1998 <sup>b</sup> .....	10,338	10,623	20,960	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 naphthas. See **Special Naphthas**.

**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 Naphthas.** 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: 1980-1989: EIA, *Natural Gas Annual 1992, Volume 2*, Table 15. 1990-1992: EIA, *Natural Gas Annual 1992, Volume 2*, Table 16. 1993 forward: 1992 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 Total 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, "Annual Report of Major Electric Utilities, Licenses, and Others;" Form EIA-412, "Annual Report of Public Electric Utilities;" 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 x 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 x 42 gallons/barrel = 420 gallons).



**Table B1. Metric Conversion Factors**

Type of Unit	U.S. Unit	multiplied by	Conversion Factor	equals	Metric Unit
<b>Mass</b>	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	.453 592 37 <sup>a</sup>	=	kilograms (kg)
	pounds uranium oxide (lb U <sub>3</sub> O <sub>8</sub> )	x	0.384 647 <sup>b</sup>	=	kilograms uranium (kgU)
	ounces, avoirdupois (avdp oz)	x	28.349 52	=	grams (g)
<b>Volume</b>	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)
	cubic inches (in <sup>3</sup> )	x	16.387 06	=	milliliters (mL)
<b>Length</b>	miles (mi)	x	1.609 344 <sup>a</sup>	=	kilometers (km)
	yards (yd)	x	0.914 4 <sup>a</sup>	=	meters (m)
	feet (ft)	x	0.304 8 <sup>a</sup>	=	meters (m)
	inches (in)	x	2.54 <sup>b</sup>	=	centimeters (cm)
<b>Area</b>	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>a</sup>	=	square meters (m <sup>2</sup> )
	square inches (in <sup>2</sup> )	x	6.451 6 <sup>b</sup>	=	square centimeters (cm <sup>2</sup> )
<b>Temperature</b>	degrees Fahrenheit (°F)	x	5/9 (after subtracting 32) <sup>a,c</sup>	=	degrees Celsius (°C)
<b>Energy</b>	British thermal units (Btu)	x	1,055.055 852 62 <sup>a,d</sup>	=	joules (J)
	calories (cal)	x	4.186 8 <sup>a</sup>	=	joules (J)
	Kilowatthours (kWh)	x	3.6 <sup>a</sup>	=	megajoules (MJ)

<sup>a</sup>Exact conversion.

<sup>b</sup>Calculated by the Energy Information Administration.

<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**

Unit Multiple	Prefix	Symbol	Unit Subdivision	Prefix	Symbol
10 <sup>1</sup>	deka	da	10 <sup>-1</sup>	deci	d
10 <sup>2</sup>	hecto	h	10 <sup>-2</sup>	centi	c
10 <sup>3</sup>	kilo	k	10 <sup>-3</sup>	milli	m
10 <sup>6</sup>	mega	M	10 <sup>-6</sup>	micro	μ
10 <sup>9</sup>	giga	G	10 <sup>-9</sup>	nano	n
10 <sup>12</sup>	tera	T	10 <sup>-12</sup>	pico	p
10 <sup>15</sup>	peta	P	10 <sup>-15</sup>	femto	f
10 <sup>18</sup>	exa	E	10 <sup>-18</sup>	atto	a
10 <sup>21</sup>	zetta	Z	10 <sup>-21</sup>	zepto	z
10 <sup>24</sup>	yotta	Y	10 <sup>-24</sup>	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**

Energy Source	Original Unit	<i>multiplied by</i>	Conversion Factor	<i>equals</i>	Final Unit
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	ords (cd)	x	1.25 <sup>b</sup>	=	shorts tons
	ords (cd)	x	128 <sup>a</sup>	=	cubic feet (ft <sup>3</sup> )

<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. Carbon Dioxide Emission Factors for Coal

Table C1 presents U.S. average carbon dioxide emission factors for coal by sector. The factors measure the emissions produced during the combustion of coal and were derived by the Energy Information Administration (EIA) from 5,426 sample analyses in EIA's Coal Analysis File. The factors are ratios of the carbon dioxide emitted to the heat content of the coal burned, assuming complete combustion. Factors vary according to the rank and geographic origin of the coal. Sectoral factors reflect the rank and origin of the coal consumed in the sector.

Factors differ among sectors and within a sector over time for several reasons:

1. A higher average emission factor in the residential and commercial sector can be attributed to the steady consumption of bituminous coal and anthracite (presumably for home heating).
2. Virtually all of the coal consumed by coke plants comes from only a few States in the Appalachian Coal Basin (West Virginia, Virginia, and eastern Kentucky). Hence, the emission factors for this sector have remained fairly constant.
3. Other industrial users of coal (not coke plants) increased consumption of low-rank, high-emission western coals, which has contributed to a rise in their average emission factor.
4. Electric utilities, which account for most U.S. coal consumption, have shifted over time away from high-rank, low-emission bituminous coal to low-rank, high-emission subbituminous coal and lignite as reflected in a gradually rising weighted-average carbon dioxide emission factor.

**Table C1. Average Carbon Dioxide Emission Factors for Coal by Sector**  
(Pounds of Carbon Dioxide per Million Btu)

Year	Residential and Commercial	Industrial		Electric Utilities	U.S. Average <sup>b</sup>
		Coke Plants <sup>a</sup>	Other Coal		
1980	210.6	205.8	205.9	206.7	206.5
1981	212.0	205.8	205.9	206.9	206.7
1982	210.4	205.7	206.0	207.0	206.9
1983	209.2	205.5	205.9	207.1	207.0
1984	209.5	205.6	206.2	207.1	207.0
1985	209.3	205.6	206.4	207.3	207.1
1986	209.2	205.4	206.5	207.3	207.1
1987	209.4	205.2	206.4	207.3	207.2
1988	209.1	205.3	206.4	207.6	207.3
1989	209.7	205.3	206.6	207.5	207.3
1990	209.5	206.2	206.8	207.6	207.4
1991	210.2	206.2	206.9	207.7	207.5
1992	211.2	206.2	207.1	207.7	207.6
1993	209.9	206.2	207.0	207.8	207.7
1994	209.8	206.3	207.2	207.9	207.8
1995	210.2	206.4	207.2	208.1	207.9
1996	209.5	206.5	207.0	208.1	208.0

<sup>a</sup>No allowances have been made for carbon retained in non-energy coal chemical byproducts from the carbonization process.

<sup>b</sup>Weighted average. The weights used are consumption values by sector.

Source: Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.



## Appendix D. 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 several categories of features on the list: “Energy Plugs” are 1-page descriptions of recently released EIA products. “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; and “Energy Snapshots” use graphics to set off key data from EIA survey reports.

Feature	Cover Date
<b>1998</b>	
Energy Plug: <i>Performance Profiles of Major Energy Producers 1996</i> .....	January 1998
Energy Plug: <i>International Energy Annual 1996</i> .....	February 1998
Energy Plug: <i>Assessment of Summer 1997 Motor Gasoline Price Increase</i> .....	April 1998
Energy Plug: <i>Deliverability on the Interstate Natural Gas Pipeline System</i> .....	May 1998
Energy Plug: <i>The Changing Structure of the Electric Power Industry: Selected Issues, 1998</i> .....	June 1998
Energy Plug: <i>Annual Energy Review 1997</i> .....	July 1998
Energy Plug: <i>State Energy Price and Expenditure Report 1995</i> .....	August 1998
Energy Plug: <i>A View of the Forest Products Industry From a Wood Energy Perspective</i> .....	August 1998
<b>1997</b>	
Energy Plug: <i>Annual Energy Outlook 1997</i> .....	January 1997
Energy Plug: <i>The Changing Structure of the Electric Power Industry: An Update</i> .....	January 1997
Energy Plug: <i>Performance Profiles of Major Energy Producers 1995</i> .....	January 1997
Energy Plug: <i>The Effects of Title IV of the Clean Air Act Amendments of 1990 on Electric Utilities: An Update</i> .....	March 1997
Energy Plug: <i>International Energy Outlook 1997</i> .....	April 1997
Energy Plug: <i>Restructuring Energy Industries: Lessons From Natural Gas</i> .....	May 1997
Energy Plug: <i>An Analysis of U.S. Propane Markets: Winter 1996-97</i> .....	June 1997
Energy Plug: <i>State Energy Price and Expenditure Report 1994</i> .....	June 1997
Energy Plug: <i>Annual Energy Review 1996</i> .....	July 1997
Energy Plug: <i>Motor Gasoline Assessment 1997</i> .....	July 1997
Energy Plug: <i>Commercial Buildings Characteristics 1995</i> .....	July 1997
Energy Plug: <i>Household Vehicles Energy Consumption 1994</i> .....	August 1997
Energy Plug: <i>Electricity Prices in a Competitive Environment</i> .....	August 1997
Energy Plug: <i>Petroleum 1996: Issues and Trends</i> .....	September 1997
Energy Plug: <i>The Intricate Puzzle of Oil and Gas “Reserves Growth”</i> .....	September 1997
Energy Plug: <i>Emissions of Greenhouse Gases in the United States 1996</i> .....	October 1997
Energy Plug: <i>Electricity Reform Abroad and U.S. Investment</i> .....	October 1997
Energy Plug: <i>Annual Energy Outlook 1998</i> .....	November 1997
Energy Plug: <i>Winter Heating Fuels Assessments</i> .....	December 1997
Energy Plug: <i>Oil and Gas Resources of the West Siberian Basin, Russia</i> .....	December 1997
<b>1996</b>	
Energy Plug: <i>Renewable Energy Annual 1995</i> .....	January 1996
Energy Plug: <i>State Energy Price and Expenditure Report 1993</i> .....	January 1996
Energy Plug: <i>Annual Energy Outlook 1996</i> .....	February 1996
Energy Plug: <i>Alternatives to Traditional Transportation Fuels 1994, Volume 1</i> .....	February 1996
Energy Snapshot: <i>Describing Current and Potential Markets for Alternative-Fuel Vehicles</i> .....	March 1996
Article: <i>Energy Equipment Choices: Fuel Costs and Other Determinants</i> .....	April 1996
Energy Plug: <i>International Energy Outlook 1996</i> .....	May 1996
Energy Plug: <i>U.S. Electric Utility Demand-Side Management: Trends and Analysis</i> .....	May 1996
Energy Plug: <i>Country Analysis Brief: Iraq</i> .....	June 1996
Energy Plug: <i>Annual Energy Review 1995</i> .....	July 1996
Energy Plug: <i>Voluntary Reporting of Greenhouse Gases 1995</i> .....	July 1996
Energy Plug: <i>Residential Lighting: Use and Potential Savings</i> .....	August 1996
Energy Plug: <i>EIA Electronic Media Meet Customer Needs</i> .....	August 1996
Energy Plug: <i>Alternatives to Traditional Transportation Fuels, Volume 2: Greenhouse Gas Emissions</i> .....	September 1996

## 1996 (Continued)

Energy Plug: <i>State Energy Data Report 1994</i> .....	October 1996
Energy Plug: <i>Privatization and the Globalization of Energy Markets</i> .....	October 1996
Energy Plug: <i>Emissions of Greenhouse Gases in the United States 1995</i> .....	October 1996
Energy Plug: <i>Nuclear Power Generation and Fuel Cycle Report 1996</i> .....	November 1996
Energy Plug: <i>Country Analysis Brief: Algeria</i> .....	November 1996
Energy Plug: <i>Denver Clean-City Fleets Survey</i> .....	November 1996
Energy Plug: <i>Natural Gas 1996: Issues and Trends</i> .....	December 1996

## 1995

Highlights: <i>Manufacturing Consumption of Energy 1991</i> .....	January 1995
Article: U.S. Wind Energy Potential: The Effect of the Proximity of Wind Resources to Transmission Lines .....	February 1995
EIA Data News: The Response Analysis Survey: Evaluating Manufacturing Energy Consumption Survey Methodology .....	March 1995
Energy Preview: Electric Utility Fleet Survey 1993, Preliminary Estimates: Assessing the Market for Alternative-Fuel Vehicles .....	April 1995
Highlights: <i>Commercial Buildings Energy Consumption and Expenditures 1992</i> .....	April 1995
Article: Measuring Dependence on Imported Oil .....	August 1995
Energy Preview: Household Energy Consumption and Expenditures 1993, Preliminary Estimates .....	August 1995
Energy Snapshot: Housing Characteristics 1993 .....	September 1995
Highlights: <i>State Energy Data Report 1993, Consumption Estimates</i> .....	October 1995
Special Communication: Results of the <i>Monthly Energy Review</i> Features Readership Survey .....	November 1995
Highlights: <i>Annual Energy Review 1994</i> .....	November 1995
Energy Preview: Alternative Fuel Providers Fleet Surveys, Preliminary Data .....	November 1995
Article: Environmental Externalities in Electric Power Markets: Acid Rain, Urban Ozone, and Climate Change .....	November 1995
Energy Preview: Alternative Fuel Providers Fleet Surveys, Preliminary Data .....	December 1995

## 1994

Energy Preview: Commercial Buildings Energy Consumption Survey, Preliminary Estimates, 1992 .....	January 1994
Highlights: <i>Household Vehicles Energy Consumption 1991</i> .....	February 1994
Highlights: <i>Energy Use and Carbon Emissions: Some International Comparisons</i> .....	April 1994
Highlights: <i>Commercial Buildings Characteristics 1992</i> .....	June 1994
Article: Demand, Supply, and Price Outlook for Reformulated Motor Gasoline 1995 .....	July 1994
Article: Commercial Nuclear Electric Power in the United States: Problems and Prospects .....	August 1994
Highlights: <i>Reducing Home Heating and Cooling Costs</i> .....	August 1994
Energy Preview: Commercial Buildings Energy Consumption and Expenditures 1992, Preliminary Estimates .....	September 1994
Article: Carbon Dioxide Emission Factors for Coal: A Summary .....	September 1994
Article: The Impact of Flow Control and Tax Reform on Ownership and Growth in the U.S. Waste-to-Energy Industry .....	September 1994
EIA Data News: Data Collection on Alternative-Fuel Vehicles .....	October 1994
Highlights: <i>Energy End-Use Intensities in Commercial Buildings</i> .....	October 1994
Article: Change in Method for Estimating Fuel Economy for the Residential Transportation Energy Consumption Survey .....	October 1994
Article: Comparability of Supply- and Consumption-Derived Estimates of Manufacturing Energy Consumption .....	October 1994
Energy Preview: Housing Characteristics 1993, Selected Preliminary Estimates .....	November 1994
Energy Preview: Propane-Provider Fleet Survey 1993, Preliminary Estimates .....	November 1994
Energy Preview: Atlanta Private Fleet Survey 1994, Preliminary Estimates .....	December 1994

## 1993

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

## 1992

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 Oxygenated 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
EIA Data News: EIA Statistics on Electric Utility Demand-Side Management .....	November 1992
Article: Energy Efficiency in the Manufacturing Sector .....	December 1992



## 1991

Highlights: *U.S. Energy Industry Financial Developments, 1990 Fourth Quarter* ..... March 1991  
Article: U.S. Wholesale Electricity Transactions ..... April 1991

## 1990

Article: Refining Results Highlight Energy Companies' First-Half Profit Performance ..... June 1990  
Highlights: *U.S. Oil and Gas Reserves by Year of Field Discovery* ..... August 1990

## 1989

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: *Commercial Buildings Consumption and Expenditures 1986* ..... 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: *Potential Costs of Restricting Chlorofluorocarbon Use* ..... September 1989  
Highlights: *Manufacturing Energy Consumption Survey: Changes in Energy Efficiency, 1980-1985* ..... October 1989  
Highlights: *Household Energy Consumption and Expenditures 1987, Part 1: National Data* ..... November 1989  
Article: Improved Energy Profits Offset by Refining Results in 1989 ..... December 1989

## 1988

Article: Measures of Energy Consumption, Expenditures, and Prices ..... May 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  
Highlights: *Characteristics of Commercial Buildings 1986* ..... June 1988  
Article: State Energy Severance Taxes, 1972-1987 ..... July 1988  
Highlights: *Manufacturing Energy Consumption Survey: Consumption of Energy, 1985* ..... September 1988  
Highlights: *Profiles of Foreign Direct Investment in U.S. Energy 1987* ..... October 1988  
Highlights: *Manufacturing Energy Consumption Survey: Fuel Switching, 1985* ..... November 1988  
Article: Increased Refining Income Led U.S. Energy Industry Financial Recovery in 1988 ..... December 1988

## 1987

Article: Manufacturing Sector Energy Consumption, 1985 Provisional Estimates ..... January 1987  
Highlights: *Consumption and Expenditures, April 1984 Through March 1985,*  
*Part 1: National Data* ..... April 1987  
Highlights: *Consumption and Expenditures, April 1984 Through March 1985,*  
*Part 2: Regional Data* ..... May 1987  
Article: U.S. Energy Industry Financial Developments, 1987 Second Quarter ..... June 1987  
Article: End-Use Consumption of Residential Energy ..... July 1987  
Highlights: *Uranium Industry Annual 1986* ..... September 1987  
Highlights: *Potential Oil Production from ANWR* ..... October 1987  
Highlights: *Profiles of Foreign Direct Investment in U.S. Energy 1986* ..... November 1987  
Article: The U.S. Energy Industry in 1987: A Slow Recovery ..... December 1987

## 1986

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  
Highlights: *International Energy Annual 1985* ..... September 1986  
Article: U.S. Energy Industry Financial Developments, 1986 ..... December 1986

## 1985

Highlights: *Annual Energy Review 1984* ..... January 1985  
Highlights: *Performance Profiles of Major Energy Producers 1983* ..... February 1985  
Article: Estimating Well Completions ..... March 1985  
Highlights: *State Energy Price and Expenditure Report 1970-1982* ..... March 1985  
Highlights: *State Energy Data Report, Consumption Estimates, 1960-1983* ..... April 1985  
Highlights: *Annual Outlook for U.S. Electric Power 1985* ..... June 1985  
Highlights: *Short-Term Energy Outlook, Volume 1, October 1985* ..... August 1985  
Highlights: Analysis of Growth in Electricity Demand, 1980-1984 ..... August 1985  
Highlights: *Profiles of Foreign Direct Investment in U.S. Energy 1984* ..... November 1985  
Highlights: *Performance Profiles of Major Energy Producers 1984* ..... December 1985

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Highlights: *Annual Energy Review 1983* ..... February 1984  
Highlights: *Annual Energy Outlook 1983* ..... March 1984  
Highlights: *State Energy Data Report, Consumption Estimates, 1960-1982* ..... March 1984  
Highlights: *State Energy Price and Expenditure Report, 1970-1981* ..... May 1984  
Highlights: Solar Collector Manufacturing Activity 1983 ..... June 1984

## 1984 (Continued)

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

## 1983

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
Highlights: <i>Energy Price and Expenditure Data Report, 1970-1980</i> .....	July 1983
Highlights: <i>Railroad Deregulation: Impact on Coal</i> .....	August 1983
Highlights: <i>Port Deepening and User Fees: Impact on U.S. Coal Exports</i> .....	August 1983
Highlights: <i>U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1982 Annual Report</i> .....	September 1983
Article: Residential Energy Consumption, 1978 Through 1981 .....	September 1983
Article: Exploring for Oil and Gas .....	November 1983
Article: The Influence of Federal Actions on Petroleum Exploration .....	December 1983[2]
Article: Aggregate Statistics: Accurate or Misleading? .....	December 1983[3]

## 1982

Article: The Interstate and Intrastate Natural Gas Markets .....	January 1982
Article: Natural Gas Drilling and Production Under the Natural Gas Policy Act .....	February 1982
Highlights: <i>U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1981 Annual Report</i> .....	September 1982
Article: Impacts of Financial Constraints on the Electric Utility Industry .....	October 1982
Highlights: <i>Energy Company Development Patterns in the Postembargo Era</i> .....	November 1982

## 1981

Article: Changes in 1981 Petroleum Data Series .....	May 1981
Article: Information Services of the Energy Information Administration .....	September 1981
Article: An Overview of Natural Gas Markets .....	December 1981

## 1980

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
Article: The Energy Information Administration's Oil and Gas Reserves Program—The First Year's Report .....	June 1980
Article: Energy From Urban Waste .....	August 1980
Article: Natural Gas Liquids: Revisions to 1979 Data .....	October 1980
Article: EIA Weekly Petroleum Data: Data Collection and Methods of Estimation .....	November 1980
Article: The Department of Energy Disclosure Policy for Individually Identifiable Information Maintained by the Energy Information Administration .....	December 1980

## 1979

Article: The Energy Requirements of U.S. Agriculture .....	July 1979
Article: Three Mile Island—Possible Regulatory Responses and Their Impacts on the Nation's Short-Term Electric Utility Fuel Outlook .....	October 1979
Article: Reduction in Natural Gas Requirements Due to Fuel Switching .....	December 1979

## 1978

Article: Short-Term Petroleum Supply and Demand .....	May 1978
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## 1977

Article: Crude Oil Entitlements Program .....	January 1977
Article: Motor Gasoline Supply and Demand .....	July 1977

## 1976

Article: Curtailments of Natural Gas Service .....	January 1976
Article: Home Heating Conservation Alternatives and the Solar Collector Industry .....	March 1976
Article: Trends in United States Petroleum Imports .....	September 1976

## 1975

Article: Energy Consumption .....	March 1975
Article: Nuclear Power .....	April 1975
Article: The Price of Crude Oil .....	June 1975
Article: U.S. Coal Resources and Reserves .....	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.

**Anthracite Culm:** Waste from Pennsylvania anthracite preparation plants, consisting of coarse rock fragments containing as much as 30 percent small-sized coal; sometimes defined as including very fine coal particles called silt. Its heat value ranges from 8 to 17 million Btu per short ton.

**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 used 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<sub>4</sub>H<sub>10</sub>). 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<sub>4</sub>H<sub>8</sub>) 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:** 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 Lading 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 aver-

ages 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, each comprising 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. It is also the amount of electric energy produced or expressed in watt-hours (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 kilowatt-hours 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:** Privately and publicly owned establishments that generate, transmit, distribute, or sell electricity primarily for use by the public and 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 kilowatt-hours, 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<sub>2</sub>H<sub>6</sub>). 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<sub>2</sub>H<sub>4</sub>) 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<sub>2</sub>H<sub>5</sub>OH) 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. It is 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:** 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:** 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 having 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 used 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 (CH<sub>3</sub>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,  $(CH_3)_3COCH_3$ , intended for motor gasoline blending. See **Oxygenates**.

**Naphtha:** A generic 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 multi-unit facility in which heat produced in one or more reactors by the fissioning of nuclear fuel is used to drive one or more steam turbines.

**Nuclear Reactor:** An apparatus in which 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):** Members are Australia, Austria, Belgium, Canada, Denmark, Faroe Islands, Finland, France, Germany, Greece, Greenland, Hawaiian Trade Zone, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States and its territories (Guam, Puerto Rico, and the Virgin Islands). In addition, Czech Republic, Hungary, Poland, and South Korea joined the OECD in 1996.

**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, 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. In-

cludes 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.

**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 may be 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<sub>3</sub>H<sub>8</sub>). It is a colorless paraffinic gas that boils at a temperature of -43.67° 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<sub>3</sub>H<sub>6</sub>) 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:** Consists 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, for 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:** 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, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, 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 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.



**Energy Plugs:**

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