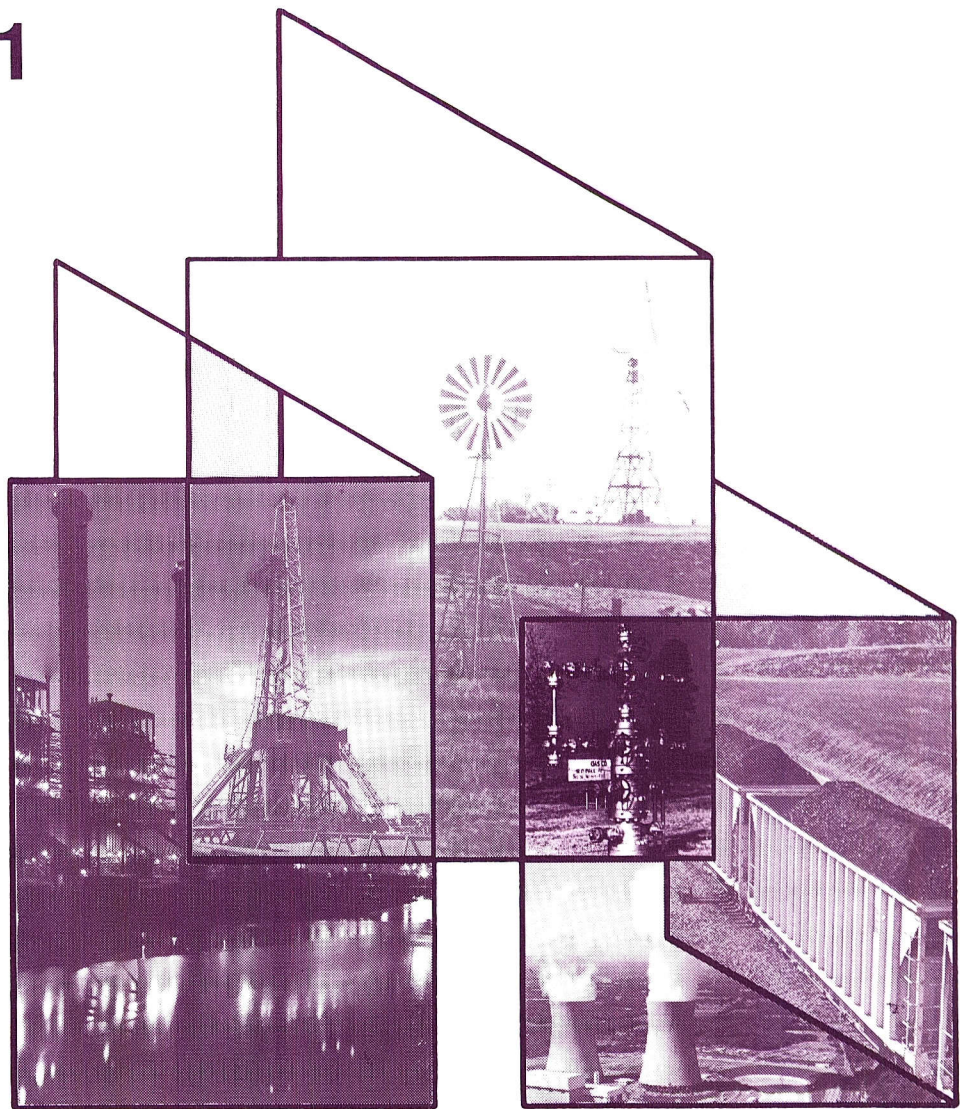


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Monthly Energy Review

August 1991



Energy Information Administration



Monthly Energy Review

The *Monthly Energy Review* presents current data on production, consumption, stocks, imports, exports, and prices of the principal energy commodities in the United States. Also included are data on international production of crude oil, consumption of petroleum products, petroleum stocks, and production of electricity from nuclear-powered facilities.

Publication of this report is in keeping with responsibilities given the Energy Information Administration in Public Law 95-91 (Section 205(a)(2)), which states:

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

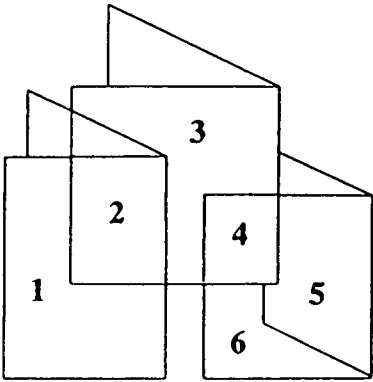
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2. This is a drilling rig typical of those used by the oil industry.
3. An innovative wind turbine can be used to generate power more efficiently than the old-fashioned windmill.
4. A gas wellhead is referred to as a Christmas tree by the industry. Photograph courtesy of the Arkansas Louisiana Gas Company.
5. Unit trains are a primary transporter of coal. Photograph courtesy of the National Coal Association.
6. The cooling towers of the Susquehanna steam electric nuclear power plant. Photograph courtesy of Pennsylvania Power and Light Co./Allegheny Electric Cooperative, Inc.

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Monthly Energy Review

August 1991

Energy Information Administration
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Additional information on all energy statistics available from the Energy Information Administration may be obtained from the National Energy Information Center 202-586-8800.

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Energy Consumption	March 1975
Nuclear Power	April 1975
The Price of Crude Oil	June 1975
U.S. Coal Resources and Reserves	July 1975
Propane, A National Energy Resource	September 1975
Short-Term Energy Supply and Demand Forecasting at FEA	October 1975
Curtailments of Natural Gas Service	January 1976
Home Heating Conservation Alternatives and the Solar Collector Industry	March 1976
Trends in United States Petroleum Imports	September 1976
Crude Oil Entitlements Program	January 1977
Motor Gasoline Supply and Demand	July 1977
Short-Term Petroleum Supply and Demand	May 1978
The Energy Requirements of U.S. Agriculture	July 1979
Three Mile Island--Possible Regulatory Responses and Their Impacts on the Nation's Short-Term Electric Utility Fuel Outlook	October 1979
Reduction in Natural Gas Requirements Due to Fuel Switching	December 1979
The Solar Collector Industry and Solar Energy	February 1980
Trends in the Installation of Energy Using Equipment in New Residential Buildings	March 1980
The Energy Information Administration's Oil and Gas Reserves Program--The First Year's Report	June 1980
Energy From Urban Waste	August 1980
Natural Gas Liquids: Revisions to 1979 Data	October 1980
EIA Weekly Petroleum Data: Data Collection and Methods of Estimation	November 1980
The Department of Energy Disclosure Policy for Individually Identifiable Information Maintained by the Energy Information Administration	December 1980
Changes in 1981 Petroleum Data Series	May 1981
Information Services of the Energy Information Administration	September 1981
An Overview of Natural Gas Markets	December 1981
The Interstate and Intrastate Natural Gas Markets	January 1982
Natural Gas Drilling and Production Under the Natural Gas Policy Act	February 1982
Impacts of Financial Constraints on the Electric Utility Industry	October 1982
The Effect of Weather on Energy Use	April 1983
Trends in U.S. Energy Since 1973	May 1983
Data Series on Petroleum Use at Electric Utilities	July 1983
Residential Energy Consumption, 1978 Through 1981	September 1983
Exploring for Oil and Gas	November 1983
The Influence of Federal Actions on Petroleum Exploration	December [2] 1983
Aggregate Statistics: Accurate or Misleading?	December [3] 1983
Estimating Well Completions	March 1985
State Motor Gasoline Taxes, 1980-1985	March 1986
The Impact of Low Oil Prices on Electric Utility Fuel Choice	June 1986
U.S. Energy Industry Financial Developments, 1986 Second Quarter	June 1986
U.S. Energy Industry Financial Developments, 1986	December 1986
Manufacturing Sector Energy Consumption, 1985 Provisional Estimates	January 1987
U.S. Energy Industry Financial Development, 1987 Second Quarter	June 1987
End-Use Consumption of Residential Energy	July 1987
The U.S. Energy Industry in 1987: A Slow Recovery	December 1987
Measures of Energy Consumption, Expenditures, and Prices	May 1988
A U.S. Perspective on Condensate	June 1988
The U.S. Energy Industry's Financial Recovery Continued in the First Half of 1988	June 1988
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Increased Refining Income Led U.S. Energy Industry Financial Recovery in 1988	December 1988
A Review of Valdez Oil Spill Market Impacts	March 1989
Monthly U.S. Crude Oil Production Estimates	March 1989
Superconductivity and Energy Production and Consumption	May 1989
Higher Prices Yield Improved Energy Industry Financial Results in the First Half of 1989	June 1989
The Future Structure of the U.S. Commercial Nuclear Power Equipment Manufacturing Industry	July 1989
Improved Energy Profits Offset by Refining Results in 1989	December 1989
Refining Results Highlight Energy Companies' First-Half Profit Performance	June 1990
U.S. Wholesale Electricity Transactions	April 1991

Highlights

“Highlights”--special features that summarize the most important information presented in selected Energy Information Administration reports--are occasionally included in this publication. The following is a complete list of all the reports that have been summarized to date.

<i>U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1981 Annual Report</i>	September 1982
<i>Energy Company Development Patterns in the Postembargo Era, Volume One</i>	November 1982
<i>Residential Energy Consumption Survey: Consumption and Expenditures</i>	January 1983
<i>Residential Energy Consumption Survey: Housing Characteristics</i>	February 1983
<i>Energy Price and Expenditure Data Report, 1970-1980</i>	July 1983
<i>Railroad Deregulation: Impact on Coal</i>	August 1983
<i>Port Deepening and User Fees: Impact on U.S. Coal Exports</i>	August 1983
<i>U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1982 Annual Report</i>	September 1983
<i>Annual Energy Review 1983</i>	February 1984
<i>State Energy Data Report, Consumption Estimates, 1960-1982</i>	March 1984
<i>Annual Energy Outlook 1983</i>	March 1984
<i>State Energy Price and Expenditure Report, 1970-1981</i>	May 1984
<i>Solar Collector Manufacturing Activity 1983</i>	June 1984
<i>Estimates of U.S. Wood Energy Consumption, 1980-1983</i>	September 1984
<i>International Energy Annual 1983</i>	September 1984
<i>Energy Conservation Indicators 1983 Annual Report</i>	November 1984
<i>Annual Energy Outlook 1984</i>	December 1984
<i>Annual Energy Review 1984</i>	January 1985
<i>Performance Profiles of Major Energy Producers 1983</i>	February 1985
<i>State Energy Price and Expenditure Report 1970-1982</i>	March 1985
<i>State Energy Data Report, Consumption Estimates, 1960-1983</i>	April 1985
<i>Annual Outlook for U.S. Electric Power 1985</i>	June 1985
<i>Short-Term Energy Outlook, Volume 1, October 1985</i>	August 1985
<i>Analysis of Growth in Electricity Demand, 1980-1984</i>	August 1985
<i>Profiles of Foreign Direct Investment in U.S. Energy 1984</i>	November 1985
<i>Performance Profiles of Major Energy Producers 1984</i>	December 1985
<i>International Energy Annual 1985</i>	September 1986
<i>Consumption and Expenditures, April 1984 Through March 1985, Part 1: National Data</i>	April 1987
<i>Consumption and Expenditures, April 1984 Through March 1985, Part 2: Regional Data</i>	May 1987
<i>Uranium Industry Annual 1986</i>	September 1987
<i>Potential Oil Production from the Coastal Plain of the Arctic National Wildlife Refuge (Revised Edition)</i>	October 1987
<i>Profiles of Foreign Direct Investment in U.S. Energy 1986</i>	November 1987
<i>Characteristics of Commercial Buildings 1986</i>	June 1988
<i>Manufacturing Energy Consumption Survey: Consumption of Energy, 1985</i>	September 1988
<i>Profiles of Foreign Direct Investment in U.S. Energy 1987</i>	October 1988
<i>Manufacturing Energy Consumption Survey: Fuel Switching, 1985</i>	November 1988
<i>Commercial Buildings Consumption and Expenditures 1986</i>	May 1989
<i>Potential Costs of Restricting Chlorofluorocarbon Use</i>	September 1989
<i>Manufacturing Energy Consumption Survey: Changes in Energy Efficiency, 1980-1985</i>	October 1989
<i>Household Energy Consumption and Expenditures 1987, Part 1: National Data</i>	November 1989
<i>U.S. Oil and Gas Reserves by Year of Field Discovery</i>	August 1990
<i>U.S. Energy Industry Financial Developments, 1990 Fourth Quarter</i>	March 1991

Section 1. Energy Summary

The United States produced 0.8 percent less energy during the first 5 months of 1991 than during the same period in 1990, and U.S. consumption was down 0.4 percent. Net imports of all energy were 17.8 percent lower than during the first 5 months of 1990.

Energy production during May 1991 totaled 5.6 quadrillion Btu, a 0.3-percent decrease compared with the level of production during May 1990. Coal production decreased 5.4 percent, petroleum production rose 1.6 percent, and natural gas production was up 0.4 percent. All other forms of energy production combined were up 7.2 percent from the level of production during May 1990.

Energy consumption during May 1991 totaled 6.4 quadrillion Btu, 1.5 percent below the level of consumption during May 1990. Petroleum consumption decreased 4.8 percent, natural gas consumption was down 4.5 percent, and coal consumption increased 2.0 percent. Consumption of all other forms of energy combined increased 9.9 percent compared with the level 1 year earlier.

Net imports of energy during May 1991 totaled 1.2 quadrillion Btu, 9.0 percent below the level of net imports 1 year earlier. Net imports of petroleum decreased 9.7 percent, and net imports of natural gas were up 4.3 percent. Net exports of coal increased 1.0 percent compared with the level in May 1990.

Table 1.1 Energy Summary for May 1991
(Quadrillion Btu)

	May			Cumulative January Through May				
	1991	1990	Percent Change ^a	1991	1991 Daily Rate	1990	1990 Daily Rate	Percent Change ^a
Total Production^b	5.625	5.642	-0.3	28.210	0.187	28.444	0.188	-0.8
Petroleum ^c	1.520	1.496	1.6	7.486	.050	7.398	.049	1.2
Natural Gas (Dry)	1.505	1.499	.4	7.634	.051	7.661	.051	-.4
Coal	1.786	1.888	-5.4	9.108	.060	9.469	.063	-3.8
Other ^d .....	.814	.760	7.2	3.982	.026	3.915	.026	1.7
Total Consumption^b	6.413	6.510	-1.5	34.172	.226	34.311	.227	-.4
Petroleum	2.700	2.837	-4.8	13.314	.088	13.875	.092	-4.0
Natural Gas ^e	1.382	1.446	-4.5	9.246	.061	9.028	.060	2.4
Coal	1.503	1.473	2.0	7.571	.050	7.535	.050	.5
Other ^f .....	.829	.754	9.9	4.040	.027	3.873	.026	4.3
Net Imports	1.216	1.335	-9.0	5.164	.034	6.279	.042	-17.8
Petroleum ^g	1.335	1.478	-9.7	5.479	.036	6.787	.045	-19.3
Natural Gas .....	.122	.117	4.3	.621	.004	.577	.004	7.7
Coal ^h	-.256	-.254	1.0	-.994	-.007	-1.042	-.007	-4.7
Other ⁱ .....	.014	-.006	-343.7	.058	.000	-.042	.000	-237.1

^aBased on daily rates prior to rounding.

^bProduction and consumption totals exclude wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

^cIncludes crude oil, lease condensate, and natural gas plant liquids.

^dOther is hydroelectric and nuclear electric power, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

^eIncludes supplemental gaseous fuels.

^fOther 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.

^gIncludes crude oil, lease condensate, petroleum products, pentanes plus, unfinished oils, gasoline blending components, and imports of crude oil for the Strategic Petroleum Reserve.

^hMinus sign indicates exports are greater than imports.

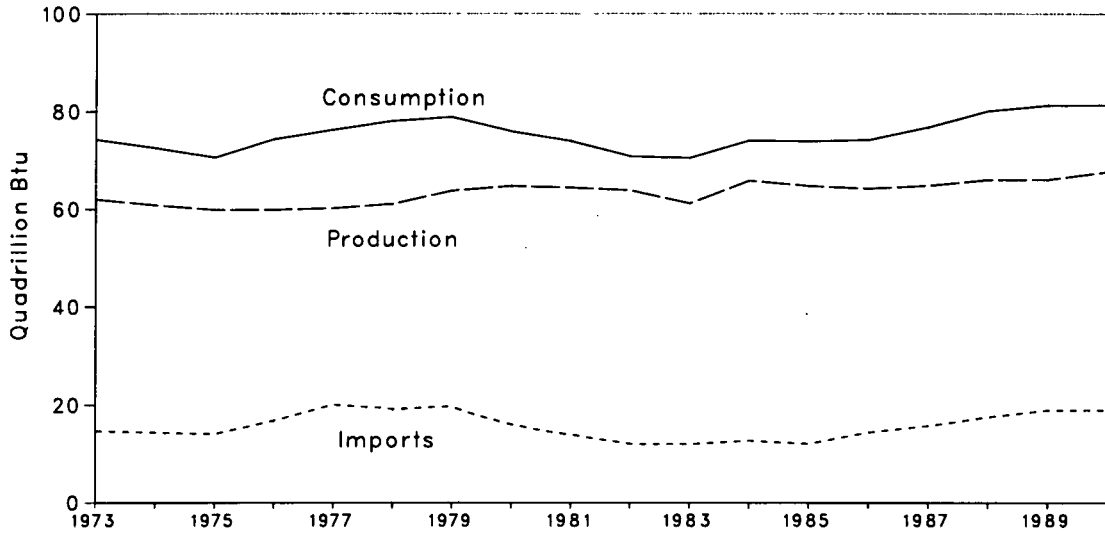
ⁱOther is net imports of electricity and coal coke.

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

Sources: Table 1.3, 1.4, and 1.5.

Figure 1.1 Energy Overview

Yearly



Monthly

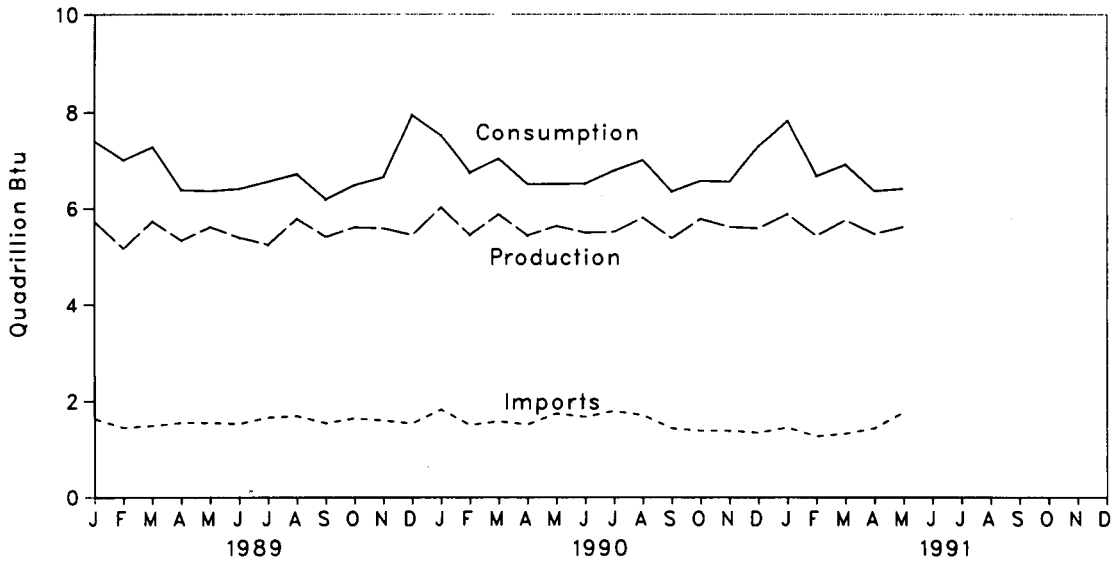


Table 1.2 Energy Overview^a
(Quadrillion Btu)

	Production ^b	Consumption ^{b c}	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	63.898	70.848	12.092	4.633	7.460
1983 Total	61.215	70.524	12.028	3.717	8.311
1984 Total	65.847	74.101	12.763	3.804	8.959
1985 Total	64.765	73.945	12.098	4.231	7.868
1986 Total	64.225	74.237	14.430	4.055	10.376
1987 Total	64.823	76.844	15.755	3.852	11.903
1988 Total	66.005	80.185	17.561	4.415	13.146
1989 January	5.731	7.391	1.642	.319	1.323
February	5.164	6.995	1.452	.337	1.116
March	5.732	7.265	1.494	.404	1.090
April	5.331	6.386	1.558	.405	1.152
May	5.614	6.363	1.556	.420	1.136
June	5.395	6.409	1.535	.440	1.095
July	5.247	6.556	1.665	.327	1.338
August	5.789	6.710	1.697	.408	1.288
September	5.410	6.191	1.550	.389	1.161
October	5.613	6.488	1.649	.419	1.230
November	5.590	6.644	1.605	.460	1.145
December	5.449	7.946	1.543	.435	1.108
Total	66.065	81.345	18.947	4.766	14.181
1990 January	6.024	R 7.527	R 1.828	R .361	R 1.467
February	5.452	R 6.741	R 1.512	R .330	1.182
March	5.883	R 7.025	R 1.587	R .428	R 1.159
April	5.441	R 6.507	R 1.523	R .387	R 1.136
May	5.642	6.510	R 1.747	R .412	R 1.335
June	5.502	R 6.518	R 1.679	R .412	R 1.267
July	5.517	R 6.780	R 1.798	R .386	R 1.412
August	5.817	R 6.995	R 1.715	R .438	R 1.277
September	5.385	R 6.356	R 1.448	R .441	R 1.007
October	5.790	R 6.575	R 1.397	R .418	R .979
November	5.624	R 6.559	R 1.395	R .459	R .936
December	5.596	R 7.299	R 1.355	R .437	R .917
Total	67.674	R 81.392	R 18.983	R 4.909	R 14.073
1991 January	R 5.895	R 7.823	1.464	R .396	R 1.067
February	R 5.441	R 6.667	1.281	R .463	R .819
March	R 5.771	R 6.904	1.336	.395	.941
April	R 5.479	R 6.366	1.446	.324	1.122
May	5.625	6.413	1.700	.485	1.216
5-Month Total	28.210	34.172	7.227	2.063	5.164
1990 5-Month Total	28.444	34.311	8.197	1.918	6.279
1989 5-Month Total	27.572	34.400	7.702	1.885	5.817

^aFor definitions, see Notes at end of section.

^bExcludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

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

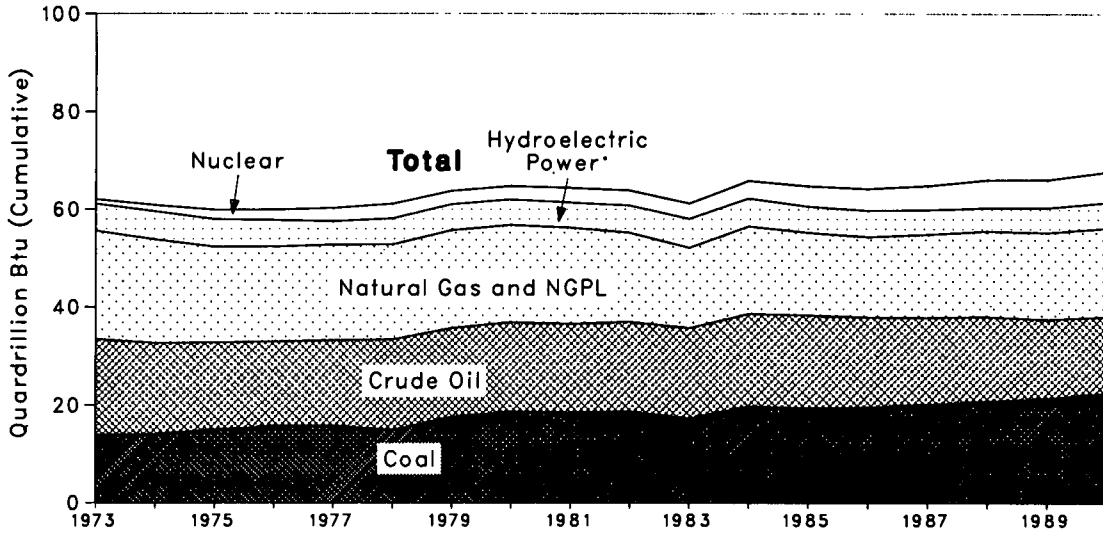
R=Revised data.

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

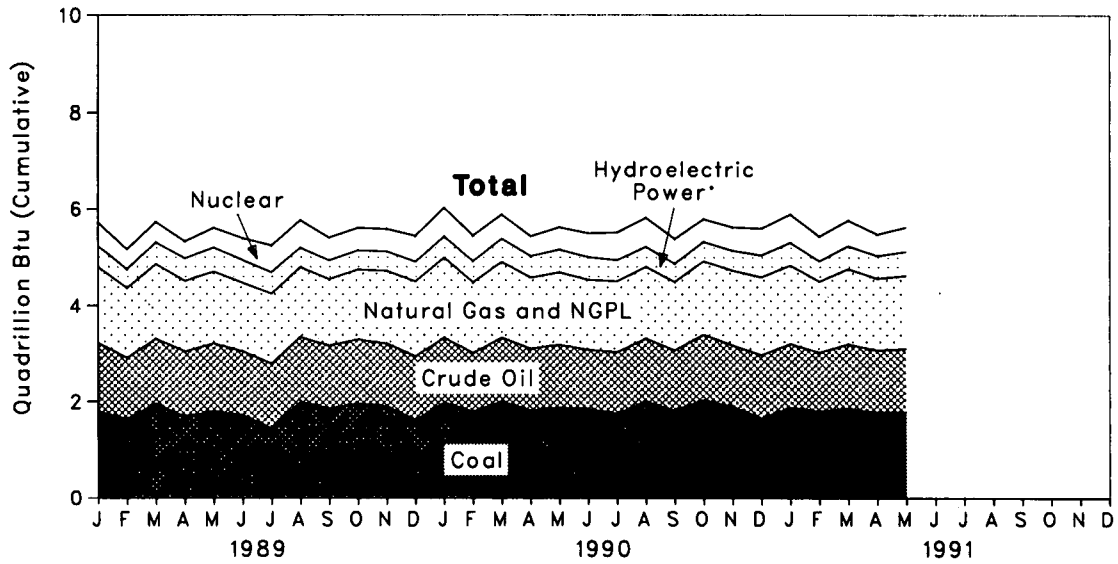
Source: Tables 1.3, 1.4, and 1.5.

Figure 1.2 Production of Energy by Source

Yearly



Monthly



*Includes other.

Table 1.3 Production of Energy by Source
(Quadrillion Btu)

	Coal	Crude Oil ^a	NGPL ^b	Natural Gas (Dry)	Hydro-electric Power ^c	Nuclear Electric Power	Other ^d	Total ^e	Year to Date
1973 Total	13.993	19.493	2.569	22.187	2.861	0.910	0.046	62.060	
1974 Total	14.074	18.575	2.471	21.210	3.177	1.272	.056	60.835	
1975 Total	14.990	17.729	2.374	19.640	3.155	1.900	.072	59.860	
1976 Total	15.654	17.262	2.327	19.480	2.976	2.111	.081	59.892	
1977 Total	15.755	17.454	2.327	19.565	2.333	2.702	.082	60.219	
1978 Total	14.910	18.434	2.245	19.485	2.937	3.024	.068	61.103	
1979 Total	17.539	18.104	2.286	20.076	2.931	2.776	.089	63.801	
1980 Total	18.597	18.249	2.254	19.908	2.900	2.739	.114	64.761	
1981 Total	18.376	18.146	2.307	19.699	2.758	3.008	.127	64.421	
1982 Total	18.639	18.309	2.191	18.255	3.266	3.131	.108	63.898	
1983 Total	17.246	18.392	2.184	16.530	3.527	3.203	.133	61.215	
1984 Total	19.719	18.848	2.274	17.931	3.348	3.553	.174	65.847	
1985 Total	19.325	18.992	2.241	16.906	2.939	4.149	.213	64.765	
1986 Total	19.510	18.376	2.149	16.471	3.017	4.471	.231	64.225	
1987 Total	20.142	17.675	2.215	17.049	2.593	4.906	.244	64.823	
1988 Total	20.737	17.279	2.260	17.519	2.314	5.661	.235	66.005	
1989 January	1.792	1.427	.197	1.579	.219	.497	.019	5.731	5.731
February	1.641	1.265	.172	1.459	.195	.415	.017	5.164	10.895
March	1.946	1.362	.196	1.547	.237	.425	.020	5.732	16.627
April	1.686	1.352	.192	1.472	.252	.359	.017	5.331	21.958
May	1.802	1.405	.192	1.492	.293	.411	.018	5.614	27.572
June	1.715	1.327	.173	1.431	.271	.461	.018	5.395	32.967
July	1.449	1.338	.183	1.459	.237	.561	.019	5.247	38.214
August	1.988	1.356	.178	1.448	.211	.589	.018	5.789	44.003
September	1.853	1.313	.170	1.378	.198	.481	.017	5.410	49.413
October	1.956	1.340	.175	1.446	.210	.467	.018	5.613	55.025
November	1.899	1.311	.170	1.506	.221	.465	.017	5.590	60.615
December	1.618	1.319	.159	1.561	.228	.545	.018	5.449	66.064
Total	21.345	16.117	2.158	17.779	2.771	5.677	.217	66.065	
1990 January	1.976	1.357	.183	1.655	.245	.591	.018	6.024	6.024
February	1.790	1.218	.168	1.472	.252	.536	.016	5.452	11.476
March	1.999	1.337	.181	1.562	.293	.494	.018	5.883	17.360
April	1.815	1.289	.171	1.473	.265	.413	.014	5.441	22.801
May	1.888	1.318	.178	1.499	.282	.461	.017	5.642	28.444
June	1.846	1.236	.167	1.450	.289	.497	.017	5.502	33.946
July	1.742	1.290	.176	1.469	.247	.575	.017	5.517	39.462
August	2.005	1.310	.187	1.481	.220	.598	.017	5.817	45.280
September	1.814	1.257	.183	1.417	.178	.520	.016	5.385	50.664
October	2.039	1.356	.198	1.521	.194	.465	.017	5.790	56.454
November	1.894	1.285	.194	1.542	.209	.483	.016	5.624	62.078
December	1.652	1.319	.190	1.615	.250	.553	.017	5.596	67.674
Total	22.461	15.571	2.174	18.155	2.924	6.186	.202	67.674	
1991 January	R 1.878	1.334	.194	1.621	.268	.583	.017	R 5.895	R 5.895
February	R 1.808	1.226	.181	1.469	.229	.513	.014	R 5.441	R 11.335
March	R 1.861	1.345	.198	1.554	.270	.527	.016	R 5.771	R 17.106
April	1.775	1.299	.190	R 1.485	.268	.447	.015	R 5.479	R 22.585
May	1.786	1.325	.195	1.505	.297	.501	.015	5.625	28.210
5-Month Total	9.108	6.529	.957	7.634	1.333	2.571	.078	28.210	
1990 5-Month Total	9.469	6.517	.880	7.661	1.337	2.495	.083	28.444	
1989 5-Month Total	8.867	6.812	.950	7.549	1.196	2.108	.091	27.572	

^aIncludes lease condensate.

^bNatural gas plant liquids.

^cIncludes electric utility and industrial production of hydroelectric power.

^dOther is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

^eExcludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

R=Revised data.

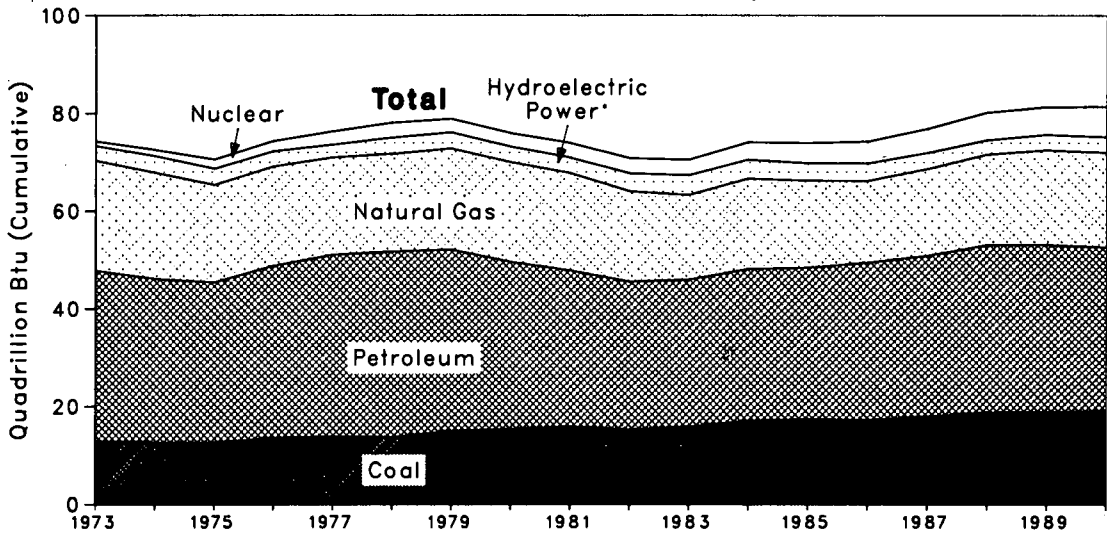
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • Coal: Tables 6.1 and A6 through A8. • Crude Oil and NGPL: Tables 3.1a and A3. • Natural Gas (Dry): Tables 4.1 and A5.

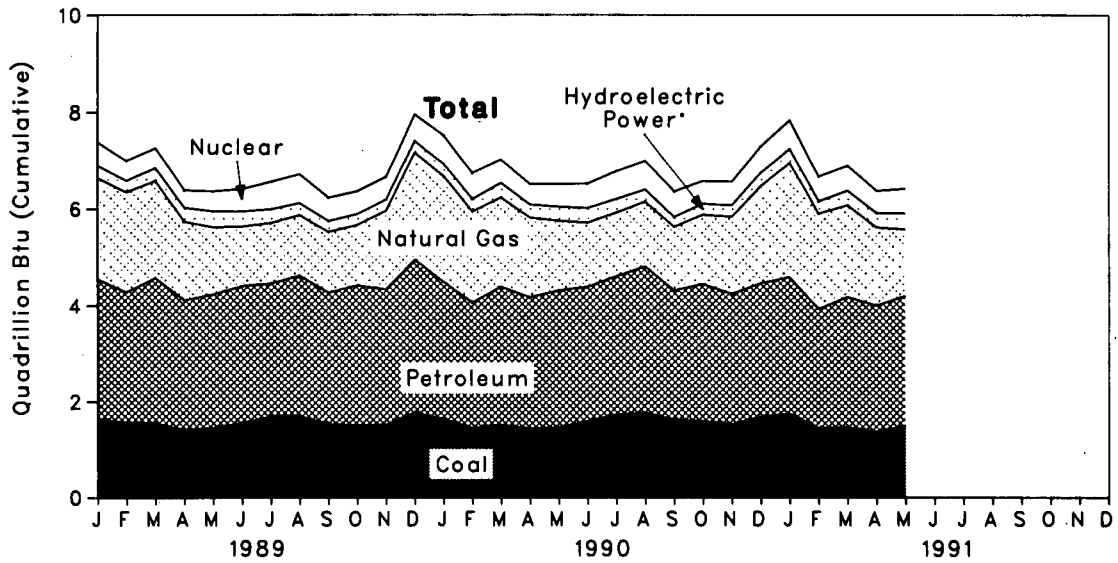
• Hydroelectric Power: Table 7.1; Section 2, "Consumption Notes and Sources," Note 7; and Table A9. • Nuclear Electric Power: Tables 7.1 and A9. • Other: Section 2, "Consumption Notes and Sources," Note 8, and Table A9.

Figure 1.3 Consumption of Energy by Source

Yearly



Monthly



*Includes other.

Table 1.4 Consumption of Energy by Source
(Quadrillion Btu)

	Coal	Natural Gas ^a	Petroleum	Hydro-electric Power ^b	Nuclear Electric Power	Other ^c	Total ^d	Year to Date
1973 Total	12.971	22.512	34.840	3.010	0.910	0.039	74.282	
1974 Total	12.663	21.732	33.455	3.309	1.272	.112	72.543	
1975 Total	12.663	19.948	32.731	3.219	1.900	.086	70.546	
1976 Total	13.584	20.345	35.175	3.068	2.111	.081	74.362	
1977 Total	13.922	19.931	37.122	2.515	2.702	.097	76.288	
1978 Total	13.765	20.000	37.965	3.141	3.024	.193	78.089	
1979 Total	15.039	20.666	37.123	3.141	2.776	.152	78.898	
1980 Total	15.423	20.394	34.202	3.118	2.739	.079	75.955	
1981 Total	15.907	19.928	31.931	3.105	3.008	.111	73.990	
1982 Total	15.322	18.505	30.231	3.572	3.131	.086	70.848	
1983 Total	15.894	17.357	30.054	3.899	3.203	.118	70.524	
1984 Total	17.070	18.507	31.051	3.757	3.553	.163	74.101	
1985 Total	17.478	17.834	30.922	3.363	4.149	.199	73.945	
1986 Total	17.262	16.708	32.196	3.385	4.471	.215	74.237	
1987 Total	18.008	17.744	32.865	3.068	4.906	.253	76.844	
1988 Total	18.846	18.552	34.222	2.639	5.661	.274	80.195	
1989 January	1.652	2.087	2.896	.234	.497	.026	7.391	7.391
February	1.561	2.071	2.714	.214	.415	.019	6.995	14.386
March	1.549	2.007	3.017	.243	.425	.023	7.265	21.651
April	1.412	1.631	2.698	.262	.359	.024	6.386	28.037
May	1.456	1.392	2.775	.306	.411	.024	6.363	34.400
June	1.561	1.238	2.840	.287	.461	.022	6.409	40.809
July	1.694	1.260	2.759	.259	.561	.022	6.556	47.365
August	1.705	1.255	2.912	.229	.589	.021	6.710	54.075
September	1.540	1.219	2.726	.207	.481	.019	6.191	60.266
October	1.514	1.381	2.902	.210	.467	.014	6.488	66.755
November	1.524	1.617	2.810	.212	.465	.016	6.644	73.399
December	1.776	2.224	3.163	.223	.545	.016	7.946	81.345
Total	18.944	19.382	34.211	2.884	5.677	.248	81.345	
1990 January	1.641	R 2.190	2.846	R .241	.591	.018	R 7.527	R 7.527
February	1.457	R 1.889	2.602	.241	.536	.016	R 6.741	14.266
March	1.519	R 1.850	2.866	R .278	.494	.019	R 7.025	R 21.293
April	1.445	R 1.654	2.724	R .258	.413	.014	R 6.507	R 27.801
May	1.473	1.446	2.837	.276	.461	.017	6.510	R 34.311
June	1.599	R 1.334	2.786	.284	.497	.018	R 6.518	R 40.828
July	1.734	1.325	2.866	.259	.575	.021	R 6.780	R 47.608
August	1.770	R 1.353	3.028	R .230	.598	.017	R 6.995	R 54.603
September	1.632	R 1.320	2.680	R .187	.520	.017	R 6.356	R 60.959
October	1.600	R 1.441	2.841	R .210	.465	.018	R 6.575	R 67.534
November	1.531	R 1.601	2.710	R .219	.483	.015	R 6.559	R 74.093
December	1.692	R 2.006	2.767	R .263	.553	.018	R 7.299	R 81.392
Total	19.094	R 19.409	33.553	R 2.944	6.186	.207	R 81.392	
1991 January	R 1.745	R 2.369	2.832	.276	.583	.018	R 7.823	R 7.823
February	R 1.458	R 1.978	2.467	.235	.513	.015	R 6.667	R 14.489
March	R 1.480	R 1.898	2.701	.280	.527	.018	R 6.904	R 21.393
April	1.387	R 1.619	2.614	.284	.447	.016	R 6.366	R 27.759
May	1.503	1.382	2.700	.311	.501	.016	6.413	34.172
5-Month Total	7.571	9.246	13.314	1.386	2.571	.083	34.172	
1990 5-Month Total	7.535	9.028	13.875	1.295	2.495	.083	34.311	
1989 5-Month Total	7.629	9.188	14.101	1.258	2.108	.116	34.400	

^aIncludes supplemental gaseous fuels.

^bIncludes electric utility and industrial production and net imports of electricity.

^cOther is net imports of coal coke and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

^dExcludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

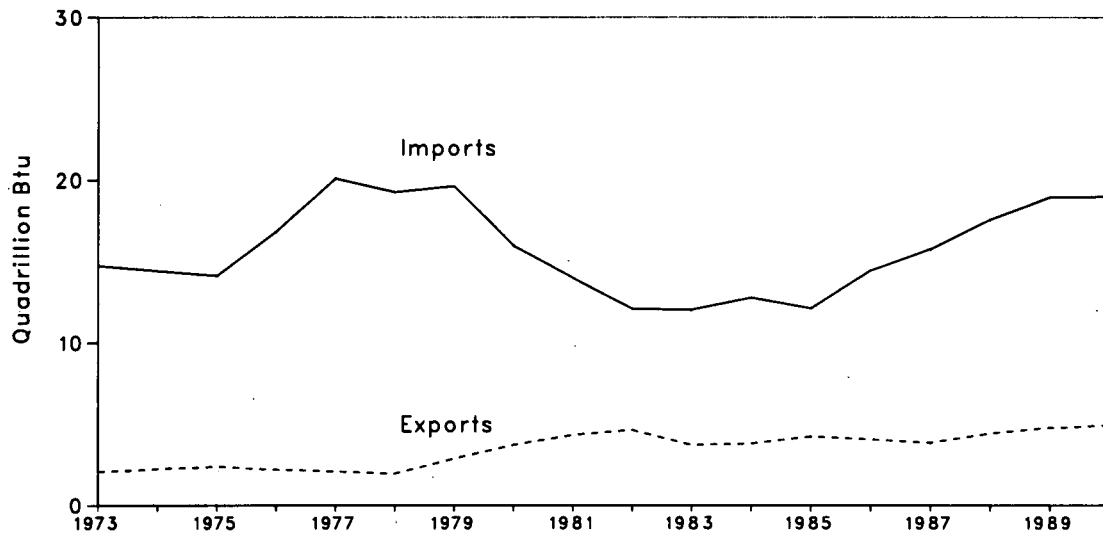
R=Revised data.

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

Sources: • Coal: Tables 6.1 and A6 through A8. • Natural Gas: Tables 4.2 and A5. • Petroleum: Tables 3.1a and A4. • Hydroelectric Power: Table 7.1; Section 2, "Consumption Notes and Sources," Note 7; and Table A9. • Nuclear Electric Power: Tables 7.1 and A9. • Other: Section 2, "Consumption Notes and Sources," Note 8, and Table A9.

Figure 1.4 Energy Imports and Exports

Yearly



Monthly



Table 1.5 Net Imports^a of Energy by Source
(Quadrillion Btu)

	Coal	Crude Oil ^b	Petroleum Products ^c	Natural Gas	Electricity ^d	Coal Coke	Total	Year to Date
1973 Total	-1.422	6.883	6.097	0.981	0.148	-0.007	12.680	
1974 Total	-1.568	7.389	5.273	.907	.133	.056	12.190	
1975 Total	-1.738	8.708	3.800	.904	.084	.014	11.752	
1976 Total	-1.567	11.221	3.982	.922	.089	.000	14.648	
1977 Total	-1.401	13.921	4.321	.981	.182	.015	18.019	
1978 Total	-1.004	13.125	3.932	.941	.204	.125	17.323	
1979 Total	-1.702	13.328	3.603	1.243	.211	.063	16.746	
1980 Total	-2.391	10.586	2.912	.957	.217	-.035	12.247	
1981 Total	-2.918	8.854	2.522	.857	.347	-.016	9.646	
1982 Total	-2.768	6.917	2.128	.898	.308	-.022	7.460	
1983 Total	-2.013	6.731	2.351	.887	.372	-.016	8.311	
1984 Total	-2.119	6.918	2.970	.792	.409	-.011	8.959	
1985 Total	-2.389	6.381	2.570	.896	.423	-.013	7.868	
1986 Total	-2.193	8.676	2.855	.686	.368	-.017	10.376	
1987 Total	-2.049	9.748	2.784	.937	.475	.009	11.903	
1988 Total	-2.446	10.698	3.308	1.221	.325	.040	13.146	
1989 January	-.163	1.012	.340	.112	.014	.007	1.323	1.323
February	-.173	.843	.321	.103	.019	.002	1.116	2.438
March	-.211	.894	.295	.102	.006	.003	1.090	3.529
April	-.234	.994	.276	.099	.010	.007	1.152	4.681
May	-.246	1.025	.238	.100	.012	.006	1.136	5.817
June	-.247	1.016	.210	.095	.016	.004	1.095	6.912
July	-.153	1.125	.248	.092	.022	.004	1.338	8.250
August	-.206	1.173	.202	.099	.018	.003	1.288	9.538
September	-.245	1.062	.224	.108	.009	.002	1.161	10.699
October	-.239	1.122	.237	.113	.000	-.004	1.230	11.929
November	-.249	1.073	.217	.115	-.009	-.001	1.145	13.074
December	-.199	.956	.221	.137	-.005	-.002	1.108	14.182
Total	-2.566	12.296	3.029	1.278	.113	.030	14.181	
1990 January	-.191	1.120	.415	R .126	-.003	.000	R 1.467	R 1.467
February	-.157	.964	.276	.110	R -.011	.000	1.182	R 2.649
March	-.220	1.102	.186	.105	R -.015	.001	R 1.159	R 3.808
April	-.220	1.016	.231	R .117	-.007	-.001	R 1.136	R 4.944
May	-.254	1.168	.310	R .117	-.006	.000	R 1.335	R 6.279
June	-.235	1.129	.266	R .111	-.005	.001	R 1.267	R 7.546
July	-.236	1.246	.272	R .115	.011	.003	R 1.412	R 8.958
August	-.261	1.176	.239	R .113	R .010	-.001	R 1.277	R 10.235
September	-.263	.997	.150	R .113	.009	.001	R 1.007	R 11.241
October	-.222	.926	.123	R .136	.015	.001	R .979	R 12.220
November	-.246	.882	.157	R .134	R .010	-.001	R .936	R 13.156
December	-.198	.820	.133	R .149	R .013	.001	R .917	R 14.073
Total	-2.704	12.545	2.757	R 1.450	R .020	.005	R 14.073	
1991 January	-.156	.967	.099	R .148	E .008	.001	R 1.067	R 1.067
February	-.202	.889	.001	R .124	E .006	.001	R .819	R 1.886
March	-.203	.920	.101	.110	E .011	.002	.941	R 2.827
April	-.176	.956	.211	.115	E .015	.001	1.122	R 3.949
May	-.256	1.146	.189	.122	E .014	.001	1.216	5.164
5-Month Total	-.994	4.878	.601	.621	E .053	.005	5.164	
1990 5-Month Total	-1.042	5.370	1.417	.577	-.043	.000	6.279	
1989 5-Month Total	-1.027	4.769	1.470	.517	.062	.025	5.817	

^aNet imports equals imports minus exports. Minus sign indicates exports are greater than imports.

^bIncludes crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.

^cIncludes petroleum products, unfinished oils, pentanes plus, and gasoline blending components.

^dAssumed to be hydroelectricity and estimated at the average input heat rate for fossil-fuel steam-electric power plant generation, which has ranged from 10.2 thousand Btu to 10.5 thousand Btu per kilowatthour since 1973. Actual rates applied in converting kilowatthours to Btu are listed by year in Table A9.

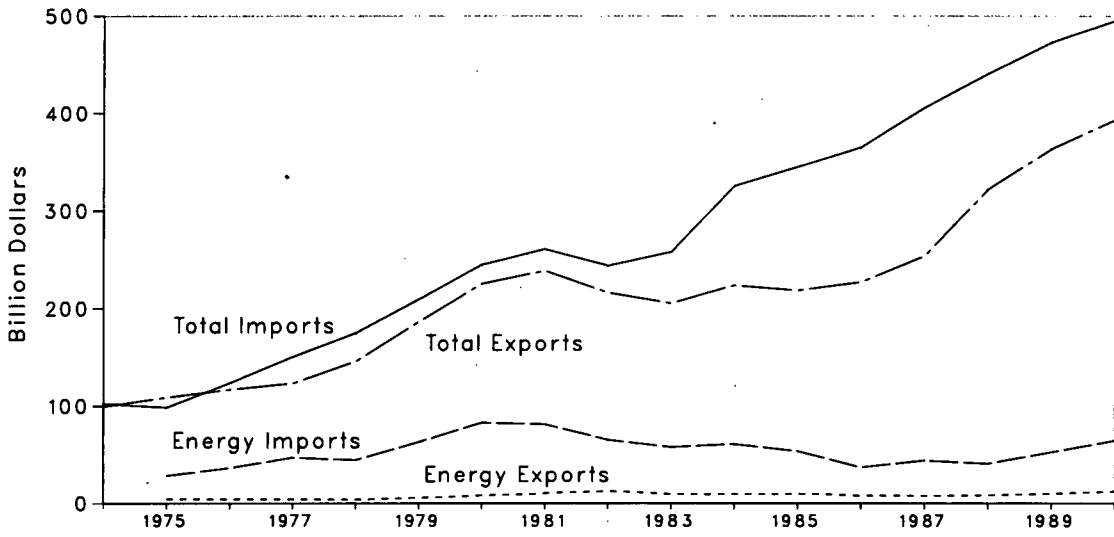
R=Revised data. E=Estimate.

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

Sources: • Coal: Tables 6.1 and A6 through A8. • Crude Oil and Petroleum Products: Tables 3.1b and A3. • Natural Gas: Tables 4.2 and A5. • Electricity: Section 2, "Consumption Notes and Sources," Note 7, and Table A9. • Coal Coke: Section 2, "Consumption Notes and Sources," Note 9, and Table A8.

Figure 1.5 Merchandise Trade Value

Yearly



Monthly

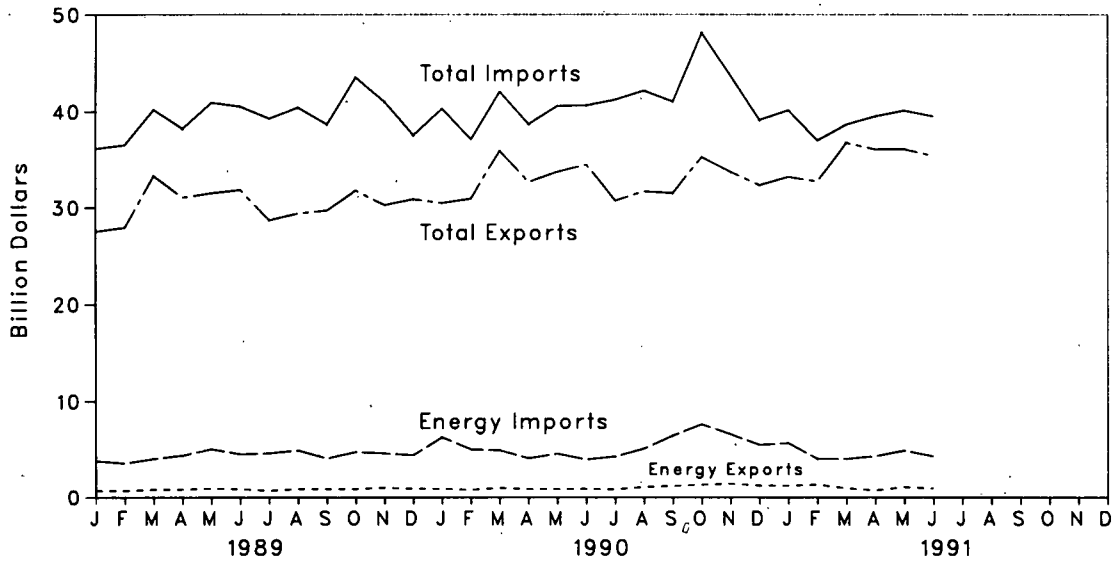


Table 1.6 Merchandise Trade Value
(Million Dollars)

	Exports			Imports			Trade Balance		
	Energy	All Other	Total	Energy	All Other	Total	Energy	All Other	Total
1974 Total	NA	NA	99,437	NA	NA	102,559	NA	NA	-3,122
1975 Total	4,470	104,386	108,856	28,325	70,178	98,503	-23,855	34,208	10,353
1976 Total	4,226	112,568	116,794	36,384	87,093	123,477	-32,158	25,475	-6,683
1977 Total	4,184	118,998	123,182	47,153	103,237	150,390	-42,969	15,761	-27,208
1978 Total	3,882	141,965	145,847	44,763	129,994	174,757	-40,881	11,971	-28,910
1979 Total	5,675	180,688	186,363	63,077	146,381	209,458	-57,402	34,307	-23,095
1980 Total	7,982	217,584	225,566	82,924	161,947	244,871	-74,942	55,637	-19,305
1981 Total	10,279	228,436	238,715	81,360	179,622	260,982	-71,081	48,814	-22,267
1982 Total	12,729	203,713	216,442	65,409	178,543	243,952	-52,680	25,170	-27,510
1983 Total	9,500	196,139	205,639	57,952	200,096	258,048	-48,452	-3,957	-52,409
1984 Total	9,311	214,665	223,976	60,980	264,746	325,726	-51,669	-50,081	-101,750
1985 Total	9,971	208,844	218,815	53,917	291,359	345,276	-43,946	-82,515	-126,461
1986 Total	8,115	219,044	227,159	37,310	328,128	365,438	-29,195	-109,084	-138,279
1987 Total	7,713	246,409	254,122	44,220	362,021	406,241	-36,507	-115,612	-152,119
1988 Total	8,235	314,191	322,426	41,042	399,910	440,952	-32,807	-85,720	-118,526
1989 January	678	26,863	27,541	3,816	32,363	36,179	-3,138	-5,501	-8,639
February	673	27,254	27,927	3,567	32,982	36,549	-2,894	-5,728	-8,622
March	783	32,460	33,243	4,024	36,173	40,197	-3,241	-3,712	-6,954
April	814	30,238	31,052	4,392	33,851	38,243	-3,578	-3,613	-7,191
May	905	30,591	31,496	5,057	35,902	40,959	-4,152	-5,311	-9,463
June	854	30,966	31,820	4,523	36,021	40,544	-3,670	-5,054	-8,724
July	676	28,032	28,708	4,629	34,661	39,290	-3,953	-6,629	-10,582
August	865	28,541	29,406	4,925	35,515	40,440	-4,060	-6,975	-11,034
September	852	28,858	29,710	4,074	34,606	38,680	-3,222	-5,749	-8,971
October	853	30,903	31,756	4,757	38,779	43,536	-3,904	-7,876	-11,780
November	990	29,289	30,279	4,616	36,417	41,033	-3,626	-7,128	-10,754
December	885	29,989	30,874	4,430	33,131	37,561	-3,545	-3,142	-6,687
Total	9,869	353,942	363,812	*52,779	420,432	473,211	*-42,910	-66,490	-109,399
1990 January	881	29,784	30,664	6,171	34,133	40,304	-5,290	-4,349	-9,640
February	781	30,181	30,962	4,938	32,174	37,112	-4,157	-1,993	-6,150
March	976	34,995	35,971	5,205	37,134	42,339	-4,229	-2,140	-6,369
April	828	31,789	32,617	4,101	35,043	39,144	-3,274	-3,253	-6,527
May	872	32,666	33,539	4,913	35,933	40,846	-4,041	-3,267	-7,308
June	866	33,604	34,470	4,286	36,660	40,946	-3,420	-3,056	-6,476
July	837	29,899	30,736	4,482	37,013	41,495	-3,645	-7,114	-10,759
August	1,055	30,668	31,723	5,601	36,631	42,232	-4,546	-5,963	-10,509
September	1,175	30,269	31,444	6,050	34,551	40,602	-4,875	-4,282	-9,157
October	1,332	33,978	35,310	6,659	40,736	47,395	-5,327	-6,758	-12,085
November	1,426	31,841	33,267	6,673	37,123	43,796	-5,247	-5,282	-10,529
December	1,204	31,685	32,889	5,581	33,519	39,100	-4,377	-1,834	-6,211
Total	12,233	381,359	393,592	64,661	430,649	495,311	-52,428	-49,290	-101,718
1991 January	1,206	31,944	33,150	5,696	34,471	40,167	-4,490	-2,527	-7,017
February	1,305	31,378	32,683	4,072	32,944	37,016	-2,767	-1,565	-4,333
March	938	35,859	36,797	4,057	34,613	38,670	-3,119	1,246	-1,873
April	732	35,378	36,110	4,340	35,189	39,529	-3,608	189	-3,419
May	1,067	R 35,069	R 36,136	4,927	R 35,195	R 40,121	-3,860	R -126	R -3,986
June	925	34,525	35,450	4,337	35,194	39,531	-3,413	-669	-4,082
6-Month Total .	6,173	204,153	210,326	27,429	207,605	235,035	-21,257	-3,452	-24,709

* Annual value is not equal to the sum of the months because some monthly revisions are not available for publication.

R=Revised data. NA=Not available.

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

Additional Notes and Sources: See end of section.

Figure 1.6 Energy Consumption per Dollar of Gross National Product

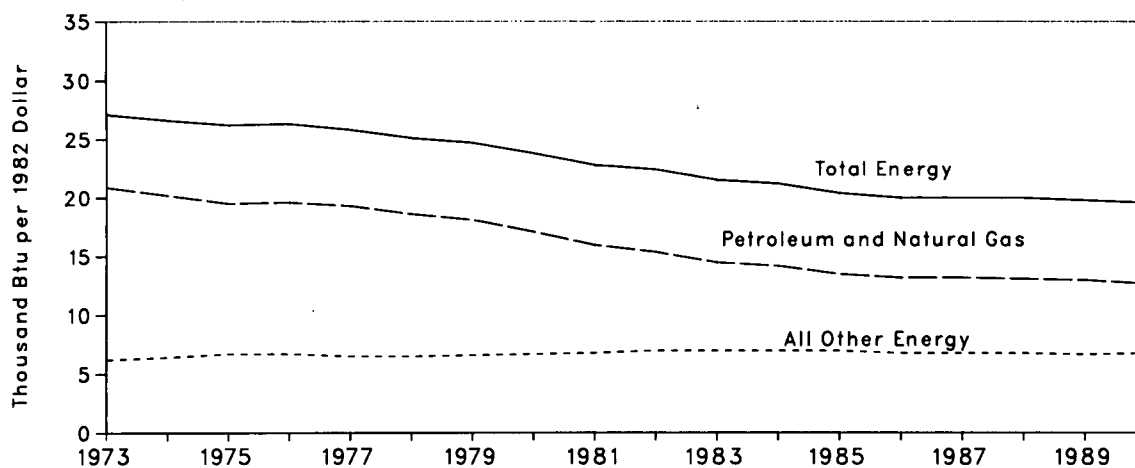


Table 1.7 Energy Consumption per Dollar of Gross National Product (Seasonally Adjusted at Annual Rates)

	Energy Consumption			Gross National Product (GNP)	Energy Consumption per Dollar of GNP		
	Petroleum and Natural Gas	Other Energy	Total ^a		Petroleum and Natural Gas	Other Energy	Total
	Quadrillion Btu				Trillion 1982 Dollars	Thousand Btu per 1982 Dollar	
1973 Year	57.352	16.930	74.282	2.744	20.9	6.2	27.1
1974 Year	55.187	17.356	72.543	2.729	20.2	6.4	26.6
1975 Year	52.678	17.868	70.546	2.695	19.5	6.6	26.2
1976 Year	55.520	18.842	74.362	2.827	19.6	6.7	26.3
1977 Year	57.053	19.235	76.288	2.959	19.3	6.5	25.8
1978 Year	57.966	20.123	78.089	3.115	18.6	6.5	25.1
1979 Year	57.789	21.109	78.898	3.192	18.1	6.6	24.7
1980 Year	54.596	21.359	75.955	3.187	17.1	6.7	23.8
1981 Year	51.859	22.131	73.990	3.249	16.0	6.8	22.8
1982 Year	48.736	22.112	70.848	3.166	15.4	7.0	22.4
1983 Year	47.411	23.113	70.524	3.279	14.5	7.0	21.5
1984 Year	49.558	24.543	74.101	3.501	14.2	7.0	21.2
1985 Year	48.756	25.189	73.945	3.619	13.5	7.0	20.4
1986 Year	48.904	25.333	74.237	3.718	13.2	6.8	20.0
1987 Year	50.609	26.235	76.844	3.845	13.2	6.8	20.0
1988 Year	52.775	27.420	80.195	4.017	13.1	6.8	20.0
1989 1st Quarter ^b	53.886	27.464	81.350	4.096	13.2	6.7	19.9
1989 2nd Quarter ^b	53.543	27.643	81.186	4.112	13.0	6.7	19.7
1989 3rd Quarter ^b	52.318	27.569	79.887	4.130	12.7	6.7	19.3
1989 4th Quarter ^b	54.631	28.323	82.954	4.133	13.2	6.9	20.1
1989 Year	53.593	27.752	81.345	4.118	13.0	6.7	19.8
1990 1st Quarter ^b	R 51.676	R 28.247	R 79.923	4.151	12.4	6.8	R 19.3
1990 2nd Quarter ^b	R 54.289	R 28.398	R 82.687	4.155	13.1	6.8	19.9
1990 3rd Quarter ^b	R 53.988	R 28.458	R 82.446	4.170	12.9	6.8	19.8
1990 4th Quarter ^b	R 51.878	R 28.620	R 80.498	4.153	12.5	6.9	19.4
1990 Year	R 52.961	R 28.431	R 81.392	4.157	12.7	6.8	19.6
1991 1st Quarter ^b	R 51.749	R 28.547	R 80.296	4.124	R 12.5	6.9	19.5

^aExcludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

^bQuarterly data are seasonally adjusted and shown at annual rates.

R=Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Yearly data may not equal average of quarters due to seasonality adjustments and independent rounding.

Sources: See end of section.

Figure 1.7 U.S. Dependence on Petroleum Net Imports

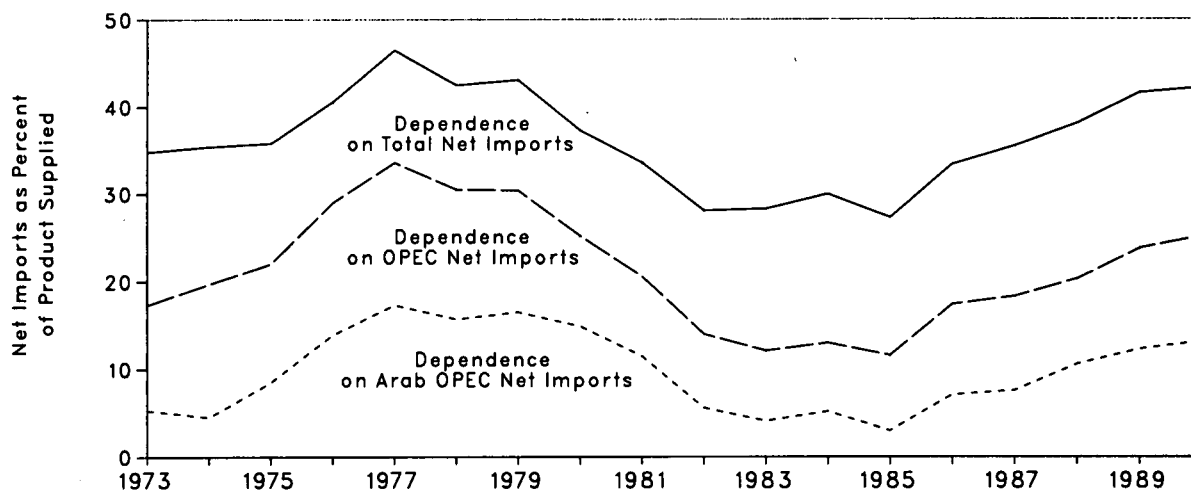


Table 1.8 U.S. Dependence on Petroleum Net Imports^a

Annual Rate	Net Imports ^b			Petroleum Products Supplied	Net Imports as Percent of U.S. Petroleum Products Supplied		
	From Arab OPEC ^c	From OPEC ^d	From All Countries		From Arab OPEC ^c	From OPEC ^d	From All Countries
	Thousand Barrels per Day				Percent		
1973 Average	914	2,991	6,025	17,308	5.3	17.3	34.8
1974 Average	752	3,277	5,892	16,653	4.5	19.7	35.4
1975 Average	1,382	3,599	5,846	16,322	8.5	22.0	35.8
1976 Average	2,423	5,063	7,090	17,461	13.9	29.0	40.6
1977 Average	3,184	6,190	8,565	18,431	17.3	33.6	46.5
1978 Average	2,962	5,747	8,002	18,847	15.7	30.5	42.5
1979 Average	3,054	5,633	7,985	18,513	16.5	30.4	43.1
1980 Average	2,549	4,293	6,365	17,056	14.9	25.2	37.3
1981 Average	1,844	3,315	5,401	16,058	11.5	20.6	33.6
1982 Average	852	2,138	4,298	15,296	5.6	14.0	28.1
1983 Average	630	1,843	4,312	15,231	4.1	12.1	28.3
1984 Average	817	2,037	4,715	15,726	5.2	13.0	30.0
1985 Average	470	1,821	4,286	15,726	3.0	11.6	27.3
1986 Average	1,160	2,828	5,439	16,281	7.1	17.4	33.4
1987 Average	1,272	3,053	5,914	16,665	7.6	18.3	35.5
1988 Average	1,837	3,513	6,587	17,283	10.6	20.3	38.1
1989 1 st Quarter	2,046	3,911	7,080	17,719	11.5	22.1	40.0
2 nd Quarter	2,055	4,015	7,084	16,885	12.2	23.8	42.0
3 rd Quarter	2,318	4,383	7,512	16,870	13.7	26.0	44.5
4 th Quarter	2,091	4,180	7,127	17,830	11.7	23.4	40.0
Average	2,128	4,124	7,202	17,325	12.3	23.8	41.8
1990 1 st Quarter	2,420	4,617	7,721	17,072	14.2	27.0	45.2
2 nd Quarter	2,245	4,397	7,733	16,952	13.2	25.9	45.6
3 rd Quarter	2,514	4,621	7,565	17,223	14.6	26.8	43.9
4 th Quarter	1,795	3,513	5,643	16,708	10.7	21.0	33.8
Average	2,243	4,285	7,161	16,968	13.2	25.2	42.2
1991 1 st Quarter	1,957	3,699	5,633	16,427	11.9	22.5	34.3

^aBeginning in October 1977, Strategic Petroleum Reserves are included.

^bNet imports is imports minus exports. Imports from members of the Organization of Petroleum Exporting Countries (OPEC) exclude indirect imports, which are petroleum products primarily from Caribbean and West European areas and refined from crude oil produced by OPEC.

^cThe Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates. Net imports from the Neutral Zone between Kuwait and Saudi Arabia are included in net imports from "Arab OPEC."

^dOPEC consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Annual averages may not equal average of quarters due to independent rounding.

Sources: See end of section.

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

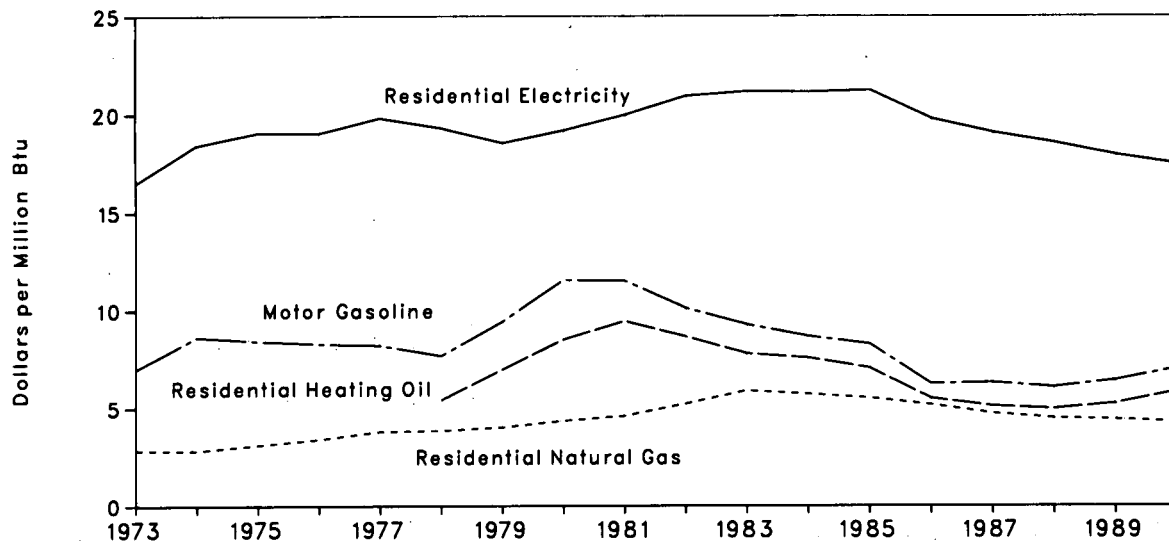


Table 1.9 Cost of Fuels to End Users in Constant (1982-84) Dollars^a

	Leaded Regular Motor Gasoline		Residential Heating Oil		Residential Natural Gas		Residential Electricity	
	Cents/Gal	\$/MMBtu	Cents/Gal	\$/MMBtu	Cents/Mcf	\$/MMBtu	Cents/kWh	\$/MMBtu
1973 Average	87.4	6.99	NA	NA	290.5	2.85	5.6	16.50
1974 Average	107.9	8.63	NA	NA	290.1	2.83	6.3	18.43
1975 Average	105.4	8.43	NA	NA	317.8	3.12	6.5	19.07
1976 Average	103.7	8.29	NA	NA	348.0	3.41	6.5	19.06
1977 Average	102.6	8.21	NA	NA	387.8	3.81	6.8	19.83
1978 Average	96.0	7.68	75.2	5.42	392.6	3.86	6.6	19.33
1979 Average	118.0	9.44	97.0	6.99	410.5	4.03	6.3	18.57
1980 Average	144.5	11.56	118.2	8.52	446.6	4.36	6.6	19.21
1981 Average	144.2	11.53	131.4	9.47	471.9	4.60	6.8	19.99
1982 Average	126.6	10.12	120.2	8.87	535.8	5.22	7.2	20.96
1983 Average	116.2	9.29	108.2	7.80	608.4	5.90	7.2	21.19
1984 Average	108.7	8.69	105.0	7.57	589.0	5.72	7.2	21.16
1985 Average	103.6	8.29	97.9	7.06	568.8	5.52	7.2	21.25
1986 Average	78.2	6.25	76.3	5.50	531.9	5.17	6.8	19.79
1987 Average	79.0	6.31	70.7	5.10	487.7	4.73	6.5	19.09
1988 Average	76.0	6.08	68.7	4.96	462.4	4.49	6.3	18.58
1989 1 st Quarter	73.1	5.85	70.5	5.08	444.5	4.32	5.9	17.34
2 nd Quarter	87.2	6.97	69.7	5.02	486.7	4.72	6.3	18.32
3 rd Quarter	83.3	6.66	65.5	4.72	555.7	5.40	6.5	18.96
4 th Quarter	77.8	6.22	74.5	5.37	448.0	4.35	6.0	17.61
Average	80.4	6.43	72.6	5.23	454.8	4.42	6.1	17.96
1990 1 st Quarter	78.5	6.28	79.5	5.73	432.8	4.20	5.8	17.02
2 nd Quarter	81.1	6.49	69.7	5.02	467.9	^R 4.54	6.1	17.98
3 rd Quarter	90.8	7.26	75.1	5.41	529.6	^R 5.14	6.3	18.34
4 th Quarter	100.7	8.06	91.8	6.62	433.1	4.20	5.9	17.17
Average	87.9	7.03	81.3	5.86	441.5	4.29	6.0	17.49
1991 1 st Quarter	84.8	6.78	81.5	5.88	412.5	4.00	5.6	16.52

^aFuel costs are calculated using the Urban Consumer Price Index (CPI) developed by the Bureau of Labor Statistics. See Note 6 at end of section.

R=Revised data. NA=Not available.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Annual averages may not equal average of quarters due to independent rounding. • Quarterly values are simple averages of the monthly data in Tables 9.4, 9.8c, 9.11, and 9.9 (Monthly Series), adjusted by the CPI. The annual values are from the four source tables, adjusted by the CPI.

Sources: See end of section.

Figure 1.9 Passenger Car Efficiency

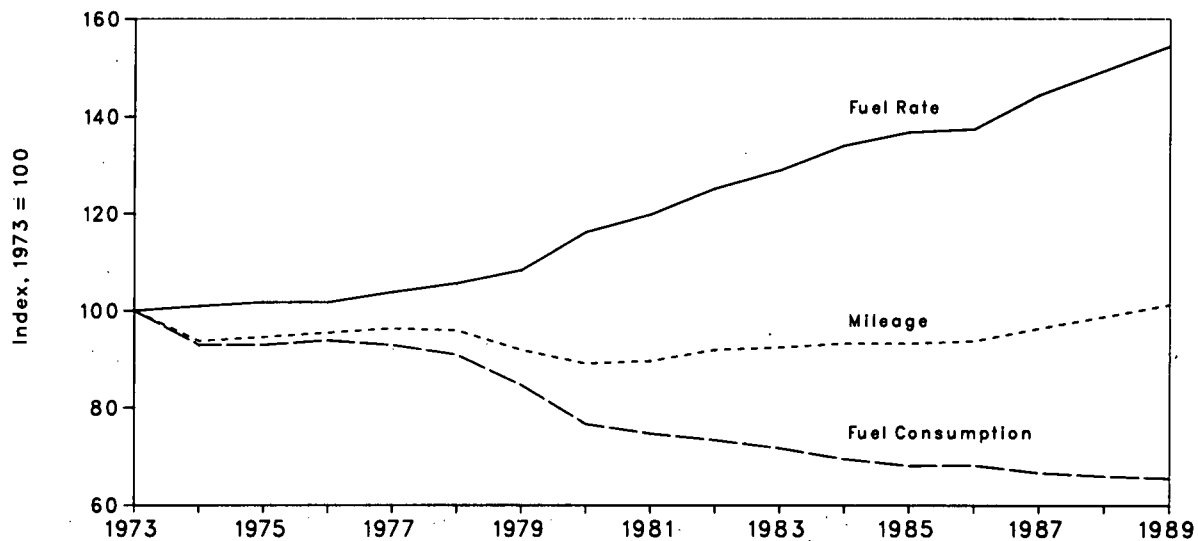


Table 1.10 Passenger Car Efficiency

	Mileage		Fuel Consumption		Fuel Rate	
	Miles per Car	Index 1973=100.0	Gallons per Car	Index 1973=100.0	Miles per Gallon	Index 1973=100.0
1973	10,256	100.0	771	100.0	13.30	100.0
1974	9,606	93.7	716	92.9	13.42	100.9
1975	9,690	94.5	716	92.9	13.52	101.7
1976	9,785	95.4	723	93.8	13.53	101.7
1977	9,879	96.3	716	92.9	13.80	103.8
1978	9,835	95.9	701	90.9	14.04	105.6
1979	9,403	91.7	653	84.7	14.41	108.3
1980	9,141	89.1	591	76.7	15.46	116.2
1981	9,186	89.6	576	74.7	15.94	119.8
1982	9,428	91.9	566	73.4	16.65	125.2
1983	9,475	92.4	553	71.7	17.14	128.9
1984	9,558	93.2	536	69.5	17.83	134.1
1985	9,560	93.2	525	68.1	18.20	136.8
1986	9,608	93.7	526	68.2	18.27	137.4
1987	9,878	96.3	514	66.7	19.20	144.4
1988	10,121	98.7	509	66.0	19.87	149.4
1989 ^a	10,382	101.2	506	65.6	20.54	154.4

^aPreliminary data.

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

Sources: Indices are prepared from statistics published by the U.S. Department of Transportation, Federal Highway Administration, Federal Highway Statistics Division. 1973 through 1985: *Highway Statistics Summary to 1985*, Table VM-201A; 1986 forward: *Highway Statistics*, Table VM-1.

Table 1.11 Population-Weighted Cooling Degree-Days

Census Divisions	July 1 through July 31					Cumulative January 1 through July 31				
	Normal ^a	1990	1991	Percent Change		Normal ^a	1990	1991	Percent Change	
				Normal to 1991	1990 to 1991				Normal to 1991	1990 to 1991
New England CT, ME, MA, NH, RI, VT	183	194	207	13.1	6.7	255	264	364	42.7	37.9
Middle Atlantic NJ, NY, PA	250	263	297	18.8	12.9	408	425	627	53.7	47.5
East North Central IL, IN, MI, OH, WI	249	223	293	17.7	31.4	456	424	700	53.5	65.1
West North Central IA, KS, MN, MO, NE, ND, SD	319	280	325	1.9	16.1	620	558	754	21.6	35.1
South Atlantic DE, FL, GA, MD and DC, NC, SC, VA, WV	404	441	462	14.4	4.8	1,039	1,198	1,323	27.3	10.4
East South Central AL, KY, MS, TN	413	416	455	10.2	9.4	924	941	1,109	20.0	17.9
West South Central AR, LA, OK, TX	561	515	550	-2.0	6.8	1,405	1,496	1,523	8.4	1.8
Mountain AZ, CO, ID, MT, NV, NM, UT, WY	324	304	317	-2.2	4.3	603	707	590	-2.2	-16.5
Pacific CA, OR, WA	195	224	165	-15.4	-26.3	277	327	212	-23.5	-35.2
U.S. Average^b	317	315	341	7.6	8.3	659	701	818	24.1	16.7

^aNormal is based on calculations of data from 1951 through 1980.

^bExcludes Alaska and Hawaii.

Source: See Note 7 at end of section.

Energy Summary Notes and Additional Sources

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. The volumetric data are converted to approximate heat contents (Btu values) of these energy sources using the conversion factors provided in the Appendix.

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

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 using the conversion factors provided in the Appendix. For further information on electricity, see "Note for imports and exports of electricity" under Note 7 of the Notes and Sources for the Consumption Section.

4. Energy Exports: Energy exports include coal, crude oil, petroleum products, natural gas, electricity produced from hydroelectric power, and coal coke. Approximate heat contents (Btu values) are derived using the conversion factors provided in the Appendix. For more information on electricity, see "Note for imports and exports of electricity" under Note 7 of the Notes and Sources for the Consumption Section.

5. Merchandise Trade Value: Import data presented are based on the customs value. That value does not include insurance and freight and is consequently lower than the cost, insurance, and freight (CIF) value, which is also reported by the Bureau of the Census. All export

data, and import data prior to 1981, are on a free alongside ship (f.a.s.) basis.

"Trade Balance" is exports minus imports; a positive balance indicates a surplus trade value and a negative balance indicates a deficit trade value. The "Energy" columns include mineral fuels, lubricants, and related material. "All Other" and "Total" columns include foreign exports (i.e., reexports) and nonmonetary gold and Department of Defense Grant-Aid shipments. The "All Other" columns are calculated by subtracting "Energy" from "Total."

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

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

1973	44.4	1989:	1st Quarter	121.7
1974	49.3		2nd Quarter	123.7
1975	53.8		3rd Quarter	124.7
1976	56.9		4th Quarter	125.9
1977	60.6		Year	124.0
1978	65.2	1990:	1st Quarter	128.0
1979	72.6		2nd Quarter	129.3
1980	82.4		3rd Quarter	131.6
1981	90.9		4th Quarter	133.7
1982	96.5		Year	130.7
1983	99.6	1991:	1st Quarter	134.8
1984	103.9			
1985	107.6			
1986	109.6			
1987	113.6			
1988	118.3			

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

There are several degree-day data bases maintained by the National Oceanic and Atmospheric Administration. The information published in the *Monthly Energy Review (MER)* 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 1980 by the U.S. Department of Commerce, Bureau of the Census. The data shown in the *MER* are available sooner than the Historical Climatology Series 5-1 and 5-2 developed by the National Climatic Center, Asheville, NC, which compiles data from some 8,000 weather stations.

Additional Sources

Merchandise Trade Value: 1974 through 1980: U.S. Department of Commerce (DOC), Bureau of the Census, "Highlights of U.S. Export and Import Trade," FT990 (January 1982), Appendix for total imports and exports. Energy imports and exports from DOC, Bureau of the Census, "Summary of U.S. Export and Import Merchandise Trade," December issues, plus Bureau of the Census reports EA691 "Exports from the Virgin Islands to Foreign Countries," and IA245V "U.S. Imports for Consumption and General Imports into the Virgin Islands." 1981 forward: DOC, Bureau of the Census, "Summary of U.S. Export and Import Merchandise Trade," most recent monthly issue.

Gross National Product: 1973 through 1989: *Economic Report of the President*, February 1991, Table B-7; 1990 forward: DOC, Bureau of Economic Analysis, *United States Department of Commerce News*, June 26, 1991, Table 2.

U.S. Dependence on Petroleum Net Imports: Imports and Products Supplied--Section 3 of this publication. Exports--1973 through 1976: U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys*. 1977 through 1980: Energy Information Administration (EIA), *Energy Data Reports*, "Petroleum Statement, Annual." 1981-1990: EIA, *Petroleum Supply Annual*. 1991 forward: EIA, *Petroleum Supply Monthly*.

Cost of Fuels to End Users in Constant (1982-84) Dollars:

- **Leaded Regular Motor Gasoline--**U.S. Department of Labor (DOL), Bureau of Labor Statistics (BLS), *Consumer Prices: Energy*, monthly.
- **Residential Heating Oil--**1983 forward: EIA, Form EIA-782-A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report" and Form EIA-782B, "Resellers/Retailers' Monthly Petroleum Product Sales Report." Prices prior to 1983 are EIA estimates using data from Form FEA-P112-M1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report" and Form EIA-9A, "No. 2 Distillate Price Monitoring Report." See Note 6 in the Notes and Sources *Monthly Energy Review* Section 9, Price, for additional information.
- **Residential Natural Gas--**Annual data from EIA, Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition." Monthly data from EIA, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."
- **Residential Electricity--**1973 through February 1980: Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 forward: FERC, Form FERC-5, "Electric Utility Company Monthly Statement."
- **Deflator--**1973 through 1989: *Economic Report of the President*, February 1991, Table B-60; 1990 forward: Council of Economic Advisers, *Economic Indicators*, January 1991, table titled, "Consumer Prices - All Urban Consumers."

Section 2. Consumption

U.S. total energy consumption in May 1991 was 6.4 quadrillion Btu. Petroleum products accounted for 42 percent¹ of the energy consumed in May 1991, while natural gas accounted for 22 percent and coal accounted for 23 percent.

Residential and commercial sector consumption was 2.1 quadrillion Btu in May 1991, up 3 percent from the May 1990 level. The sector accounted for 33 percent of May 1991 total consumption, up 1 percentage point from its 32 percent share in May 1990.

Industrial sector consumption was 2.4 quadrillion Btu in May 1991, down 4 percent from the May 1990 level. The industrial sector accounted for 38 percent of May 1991 total consumption, down 1 percentage point from its 39 percent share as in May 1990.

Transportation sector consumption of energy was 1.9 quadrillion Btu in May 1991, down 3 percent from the May 1990 level. The sector accounted for 29 percent of May 1991 total consumption, down 1 percentage point from its 30 percent share in May 1990.

Electric utility consumption of energy totaled 2.5 quadrillion Btu in May 1991, up 6 percent from the May 1990 level. Coal contributed 52 percent of the energy consumed by electric utilities in May 1991, while nuclear electric power contributed 20 percent; hydroelectric power 12 percent; natural gas 10 percent; petroleum, 5 percent; and wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, about 1 percent.

Table 2.1 Energy Consumption Summary for May 1991
(Quadrillion Btu)

Energy Source	Sector				Total
	Residential and Commercial	Industrial	Transportation	Electric Utilities	
Coal	0.007	0.211	(*)	1.284	1.503
Natural Gas ^b .....	.395	.680	0.049	.258	1.382
Petroleum Products .....	.161	.622	1.802	.115	2.700
Hydroelectric Power	-	.003	-	.308	.311
Nuclear Electric Power	-	-	-	.501	.501
Net Imports of Coal Coke	-	.001	-	-	.001
Other ^c	-	-	-	.015	.015
Primary Consumption .....	.563	1.517	1.851	2.481	6.413
Electricity .....	.466	.272	.001	-	-
Net Consumption	1.029	1.789	1.852	-	4.671
Electrical System Energy Losses	1.098	.641	.003	-	1.742
Total Consumption^d	2.127	2.430	1.855	-	6.413

*Small amounts of coal consumed for transportation are reported as industrial sector consumption.

^bIncludes supplemental gaseous fuels. Transportation sector is pipeline fuel only.

^cOther is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

^dExcludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

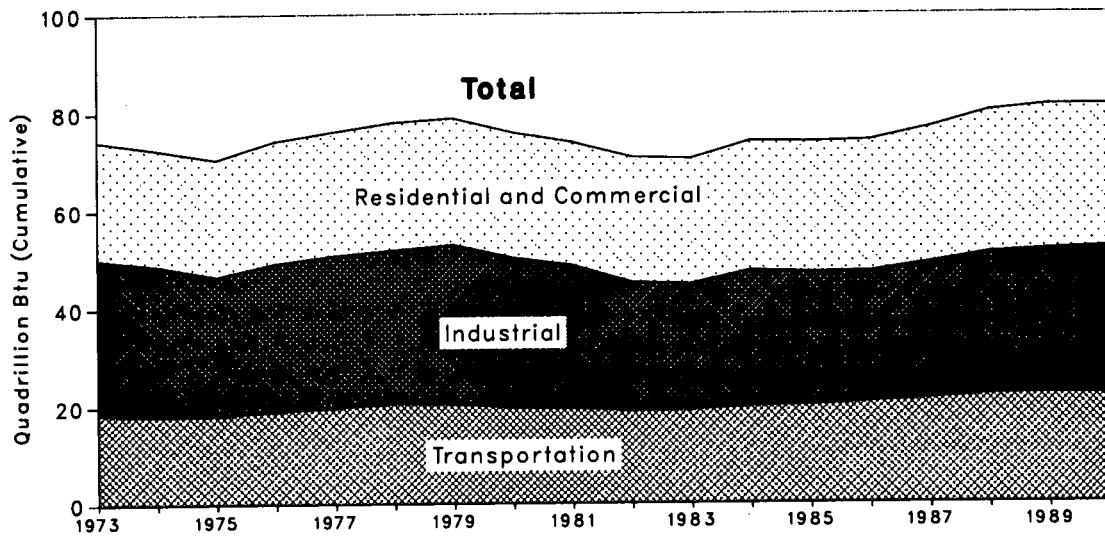
Note: Totals may not equal sum of components due to independent rounding and the use of sector-specific conversion factors for natural gas and coal.

Additional Notes and Sources: See end of section.

¹Percentage changes are based on numbers in the following tables.

Figure 2.1 Consumption of Energy by End-Use Sector

Yearly



Monthly

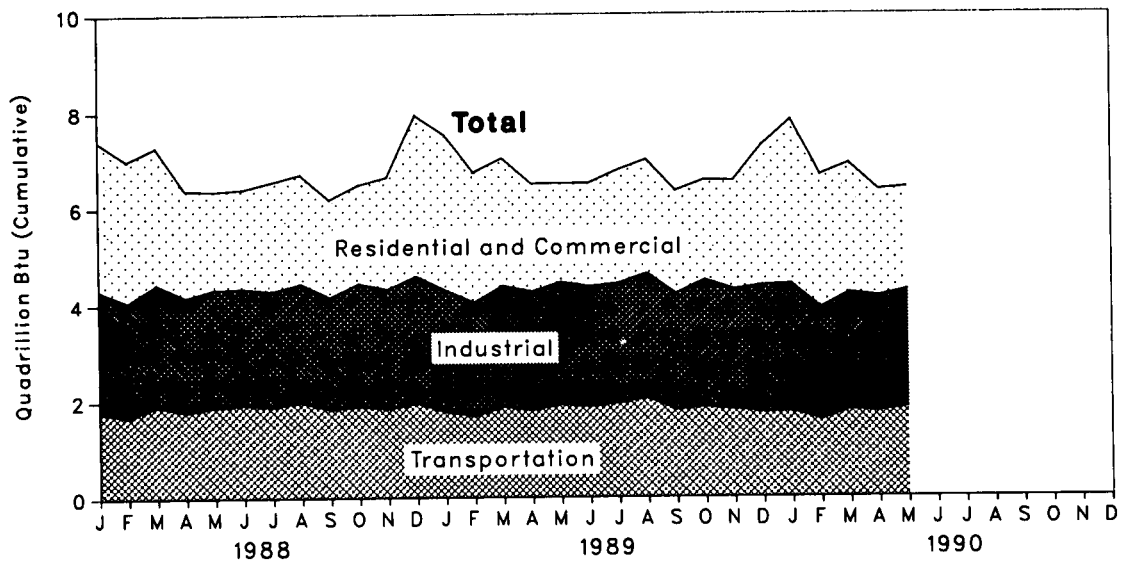


Table 2.2 Consumption of Energy by End-Use Sector
(Quadrillion Btu)

	Residential and Commercial		Industrial		Transportation		Total Net	Total Gross
	Net	Gross	Net	Gross	Net	Gross		
1973 Total	15.766	24.143	25.917	31.528	18.584	18.605	60.274	74.282
1974 Total	15.246	23.724	24.994	30.696	18.095	18.117	58.341	72.543
1975 Total	15.200	23.900	22.737	28.401	18.219	18.244	56.157	70.546
1976 Total	15.997	25.020	24.038	30.234	19.076	19.101	59.119	74.362
1977 Total	15.828	25.387	24.583	31.075	19.794	19.819	60.223	76.288
1978 Total	16.023	26.088	24.637	31.388	20.589	20.611	61.251	78.089
1979 Total	15.709	25.809	25.679	32.615	20.447	20.472	61.836	78.898
1980 Total	15.075	25.653	23.854	30.609	19.669	19.695	58.597	75.955
1981 Total	14.541	25.243	22.533	29.238	19.480	19.507	56.556	73.990
1982 Total	14.629	25.630	20.020	26.144	19.043	19.069	53.687	70.848
1983 Total	14.395	25.630	19.401	25.756	19.109	19.135	52.907	70.524
1984 Total	15.014	26.501	21.064	27.727	19.843	19.871	55.923	74.101
1985 Total	14.889	26.732	20.439	27.120	20.066	20.097	55.391	73.945
1986 Total	14.812	26.834	20.135	26.642	20.728	20.758	55.678	74.237
1987 Total	15.177	27.621	21.175	27.870	21.328	21.357	57.678	76.844
1988 Total	16.097	29.000	22.111	29.007	22.155	22.186	60.366	80.195
1989 January	1.971	3.094	1.954	2.510	1.784	1.786	5.710	7.391
February	1.895	2.936	1.839	2.377	1.678	1.681	5.413	6.995
March	1.768	2.837	1.957	2.517	1.910	1.912	5.633	7.265
April	1.304	2.233	1.819	2.368	1.786	1.788	4.905	6.386
May	1.037	2.042	1.812	2.433	1.887	1.890	4.734	6.363
June .....	.955	2.068	1.791	2.412	1.925	1.928	4.673	6.409
July .....	.973	2.268	1.754	2.389	1.894	1.897	4.623	6.556
August .....	.997	2.268	1.821	2.458	1.977	1.980	4.800	6.710
September .....	.980	2.033	1.771	2.324	1.831	1.833	4.583	6.191
October	1.061	2.049	1.951	2.546	1.893	1.895	4.903	6.488
November	1.336	2.323	1.890	2.479	1.840	1.842	5.065	6.644
December	2.074	3.352	2.008	2.641	1.946	1.949	6.032	7.946
Total	16.350	29.500	22.368	29.457	22.350	22.380	61.075	81.345
1990 January	R 2.061	R 3.224	R 1.997	R 2.520	1.779	1.781	R 5.837	R 7.527
February	1.715	R 2.702	R 1.829	R 2.355	1.682	1.685	R 5.226	R 6.741
March	R 1.592	R 2.638	R 1.937	R 2.518	1.869	1.871	R 5.396	R 7.025
April	R 1.293	R 2.242	R 1.910	R 2.468	1.797	1.799	R 4.999	R 6.507
May	1.040	2.056	R 1.922	R 2.537	1.918	1.921	4.877	6.510
June	R .961	R 2.148	R 1.847	R 2.494	1.872	1.875	R 4.681	R 6.518
July	1.016	2.345	R 1.858	R 2.488	1.941	1.944	4.817	R 6.780
August	1.036	R 2.359	R 1.926	R 2.583	2.048	2.051	R 5.013	R 6.995
September	1.016	2.139	R 1.857	R 2.416	1.797	1.800	R 4.671	R 6.356
October	1.055	R 2.079	R 2.037	R 2.632	1.863	1.866	R 4.954	R 6.575
November	R 1.288	R 2.254	R 1.929	R 2.494	1.811	1.813	R 5.026	R 6.559
December	1.748	R 2.909	R 2.027	R 2.633	1.752	1.755	R 5.529	R 7.299
Total	R 15.822	R 29.097	R 23.076	R 30.135	22.129	22.160	R 61.026	R 81.392
1991 January	R 2.177	R 3.421	R 2.056	R 2.628	1.767	1.770	R 6.004	R 7.823
February	1.776	2.757	R 1.820	R 2.316	1.589	1.592	R 5.188	R 6.667
March	R 1.622	R 2.677	R 1.864	R 2.427	1.796	1.799	R 5.283	R 6.904
April	R 1.256	2.211	R 1.840	R 2.391	1.763	1.765	R 4.858	R 6.366
May	1.029	2.127	1.789	2.430	1.852	1.855	4.671	6.413
5-Month Total	7.860	13.193	9.369	12.192	8.767	8.780	26.003	34.172
1990 5-Month Total	7.701	12.861	9.595	12.398	9.044	9.057	26.335	34.311
1989 5-Month Total	7.974	13.142	9.381	12.205	9.045	9.057	26.395	34.400

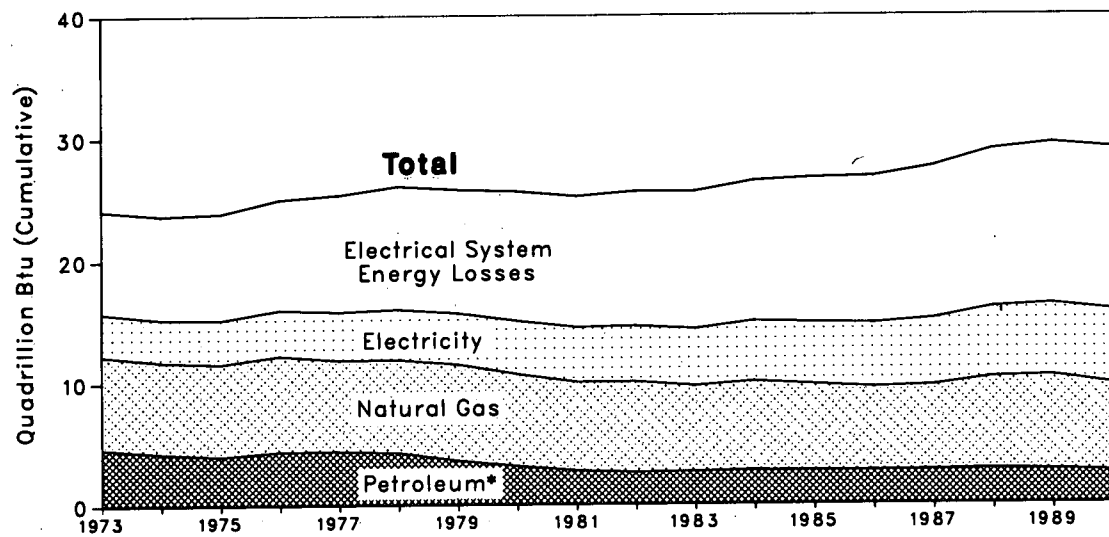
R=Revised data.

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

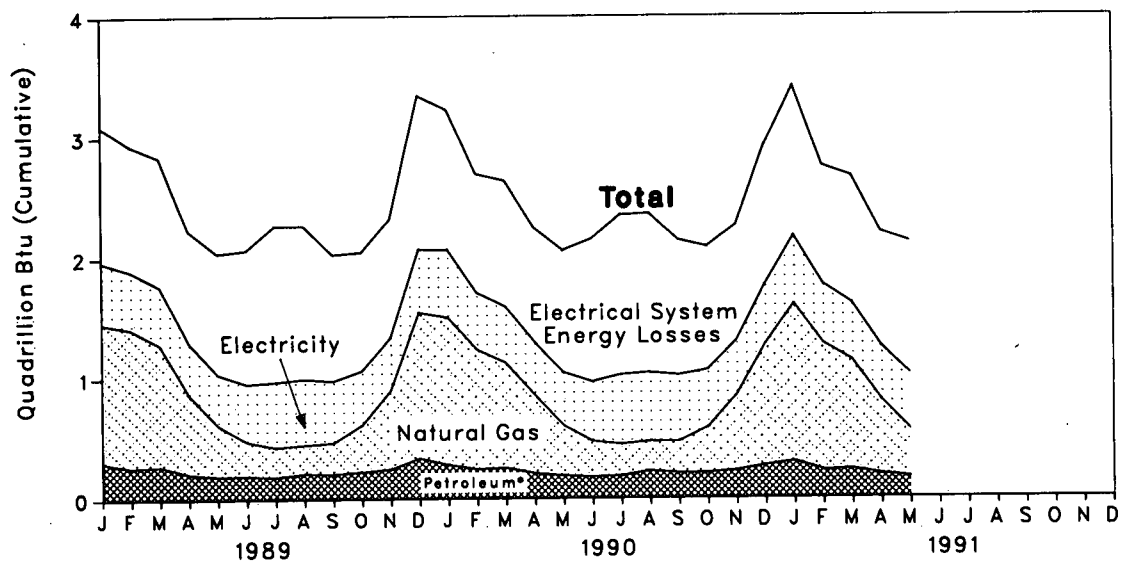
Additional Notes and Sources: See end of section.

Figure 2.2 Consumption of Energy by the Residential and Commercial Sector

Yearly



Monthly



*Includes coal.

Table 2.3 Consumption of Energy by the Residential and Commercial Sector
(Quadrillion Btu)

	Coal	Natural Gas ^a	Petroleum	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption ^b	Year to Date
1973 Total	0.254	7.626	4.391	3.495	15.766	8.377	24.143	
1974 Total .....	.257	7.518	3.996	3.475	15.246	8.478	23.724	
1975 Total .....	.209	7.581	3.805	3.604	15.200	8.700	23.900	
1976 Total .....	.203	7.866	4.181	3.747	15.997	9.023	25.020	
1977 Total .....	.205	7.461	4.206	3.955	15.828	9.559	25.387	
1978 Total .....	.214	7.624	4.070	4.116	16.023	10.065	26.088	
1979 Total .....	.187	7.891	3.448	4.184	15.709	10.101	25.809	
1980 Total .....	.145	7.540	3.035	4.355	15.075	10.578	25.653	
1981 Total .....	.167	7.243	2.634	4.497	14.541	10.703	25.243	
1982 Total .....	.187	7.427	2.449	4.566	14.629	11.001	25.630	
1983 Total .....	.192	7.024	2.498	4.680	14.395	11.235	25.630	
1984 Total .....	.209	7.292	2.585	4.928	15.014	11.487	26.501	
1985 Total .....	.176	7.079	2.573	5.061	14.889	11.843	26.732	
1986 Total .....	.176	6.825	2.576	5.235	14.812	12.022	26.834	
1987 Total .....	.162	6.954	2.618	5.443	15.177	12.443	27.621	
1988 Total .....	.168	7.513	2.693	5.724	16.097	12.903	29.000	
1989 January .....	.015	1.160	.281	.514	1.971	1.123	3.094	3.094
February .....	.016	1.156	.239	.483	1.895	1.042	2.936	6.030
March .....	.012	1.017	.255	.484	1.768	1.069	2.837	8.867
April .....	.012	.667	.192	.432	1.304	.929	2.233	11.100
May .....	.008	.428	.176	.425	1.037	1.005	2.042	13.142
June .....	.007	.285	.179	.485	.955	1.112	2.068	15.210
July .....	.012	.246	.168	.549	.973	1.295	2.268	17.478
August .....	.011	.238	.195	.553	.997	1.271	2.268	19.746
September .....	.007	.260	.194	.518	.980	1.053	2.033	21.778
October .....	.005	.392	.215	.450	1.061	.988	2.049	23.827
November .....	.013	.655	.229	.439	1.336	.988	2.323	26.151
December .....	.028	1.216	.303	.526	2.074	1.278	3.352	29.502
Total .....	.146	7.720	2.625	5.859	16.350	13.150	29.500	
1990 January .....	.017	R 1.220	.259	.565	R 2.061	1.164	R 3.224	R 3.224
February .....	.016	R 1.004	.223	.473	1.715	.986	R 2.702	R 5.926
March .....	.013	R .875	.236	.467	R 1.592	1.046	R 2.638	R 8.564
April .....	.013	R .652	.190	.439	R 1.293	R .948	R 2.242	R 10.806
May .....	.009	.416	.175	.441	1.040	1.016	2.056	R 12.861
June .....	.009	R .291	.163	.497	R .961	1.186	R 2.148	R 15.009
July .....	.013	.256	.168	.580	1.016	1.329	2.345	R 17.354
August .....	.012	.242	.209	.573	1.036	R 1.323	R 2.359	R 19.712
September .....	.010	R .260	.193	.553	1.016	1.123	2.139	R 21.852
October .....	.010	.372	.194	.479	1.055	1.024	R 2.079	R 23.930
November .....	.015	R .614	.209	.451	R 1.288	R .966	R 2.254	R 26.185
December .....	.025	.986	.240	.498	1.748	R 1.161	R 2.909	R 29.094
Total .....	.159	R 7.188	2.459	6.015	R 15.822	R 13.275	R 29.097	
1991 January	R .020	1.316	.278	.562	R 2.177	1.244	R 3.421	R 3.421
February	R .014	R 1.057	.209	.496	1.776	.981	R 2.757	R 6.178
March	R .013	.911	.223	.475	R 1.622	1.055	R 2.677	R 8.855
April .....	.013	R .618	.180	.446	R 1.256	.954	2.211	R 11.066
May .....	.007	.395	.161	.466	1.029	1.098	2.127	13.193
5-Month Total .....	.067	4.298	1.050	2.445	7.860	5.333	13.193	
1990 5-Month Total .....	.067	4.167	1.084	2.384	7.701	5.160	12.861	
1989 5-Month Total .....	.064	4.428	1.144	2.339	7.974	5.168	13.142	

^aIncludes supplemental gaseous fuels.

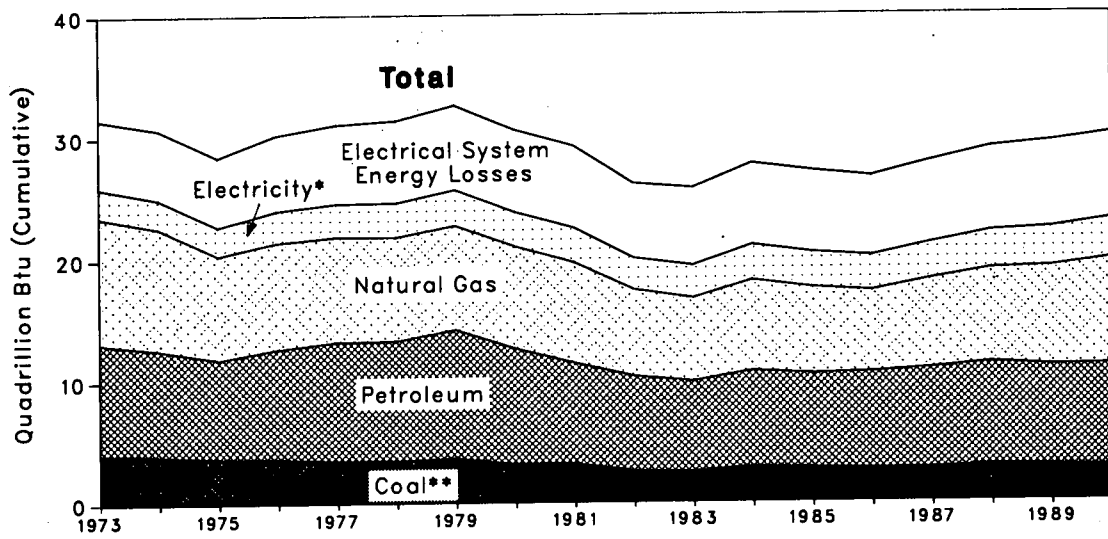
^bExcludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

R=Revised data.

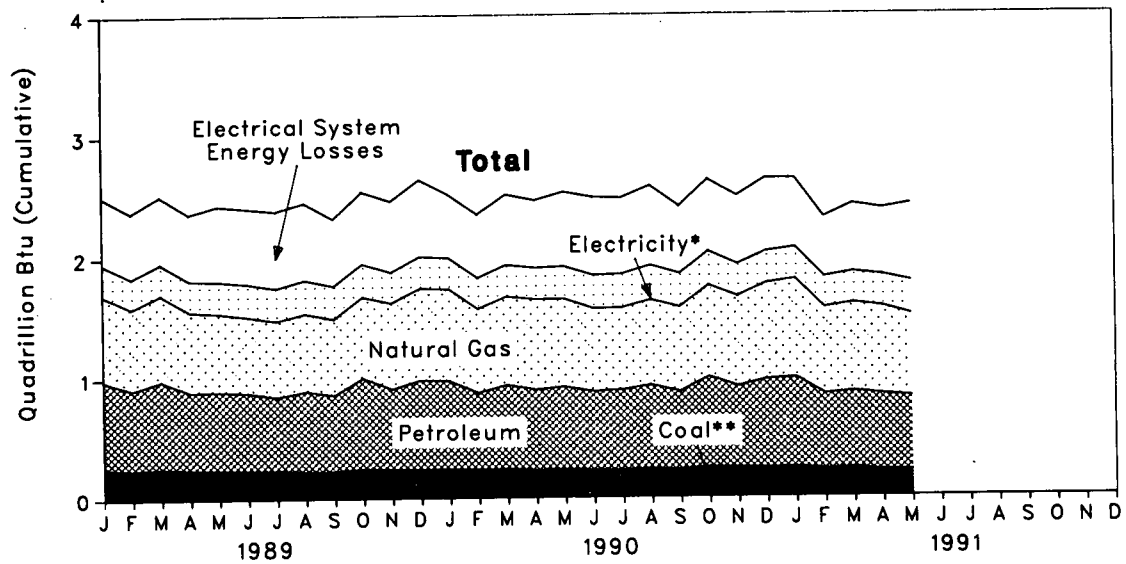
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. Additional Notes and Sources: See end of section.

Figure 2.3 Consumption of Energy by the Industrial Sector

Yearly



Monthly



*Includes hydroelectric power.
 **Includes net imports of coal coke.

Table 2.4 Consumption of Energy by the Industrial Sector
(Quadrillion Btu)

	Coal	Natural Gas ^a	Petroleum	Hydro-electric Power	Net Imports of Coal Coke	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption ^b	Year to Date
1973 Total	4.057	10.388	9.104	0.035	-0.007	2.341	25.917	5.611	31.528	
1974 Total	3.870	10.004	8.694	.033	.056	2.337	24.994	5.701	30.696	
1975 Total	3.667	8.532	8.146	.032	.014	2.346	22.737	5.664	28.401	
1976 Total	3.661	8.762	9.010	.033	.000	2.573	24.038	6.196	30.234	
1977 Total	3.454	8.635	9.774	.033	.015	2.682	24.593	6.481	31.075	
1978 Total	3.314	8.539	9.867	.032	.125	2.761	24.637	6.751	31.388	
1979 Total	3.593	8.549	10.568	.034	.063	2.873	25.679	6.935	32.615	
1980 Total	3.155	8.395	9.525	.033	-.035	2.781	23.854	6.755	30.609	
1981 Total	3.157	8.257	8.285	.033	-.016	2.817	22.533	6.705	29.238	
1982 Total	2.552	7.121	7.794	.033	-.022	2.542	20.020	6.124	26.144	
1983 Total	2.490	6.826	7.420	.033	-.016	2.648	19.401	6.356	25.756	
1984 Total	2.842	7.448	7.894	.033	-.011	2.859	21.064	6.663	27.727	
1985 Total	2.760	7.080	7.725	.033	-.013	2.855	20.439	6.681	27.120	
1986 Total	2.643	6.690	7.953	.032	-.017	2.834	20.135	6.507	26.642	
1987 Total	2.673	7.323	8.210	.032	.009	2.928	21.175	6.694	27.870	
1988 Total	2.828	7.696	8.456	.032	.040	3.059	22.111	6.895	29.007	
1989 January .....	.245	.714	.731	.003	.007	.254	1.954	.555	2.510	2.510
February .....	.236	.677	.672	.003	.002	.249	1.839	.538	2.377	4.887
March .....	.247	.716	.734	.003	.003	.254	1.957	.560	2.517	7.404
April .....	.233	.670	.650	.003	.007	.255	1.819	.549	2.368	9.772
May .....	.230	.652	.658	.003	.006	.263	1.812	.622	2.433	12.205
June .....	.226	.633	.654	.003	.004	.271	1.791	.621	2.412	14.617
July .....	.226	.632	.620	.003	.004	.269	1.754	.635	2.389	17.006
August .....	.221	.645	.673	.002	.003	.277	1.821	.637	2.458	19.464
September .....	.220	.632	.643	.002	.002	.272	1.771	.553	2.324	21.788
October .....	.249	.675	.758	.002	-.004	.271	1.951	.595	2.546	24.334
November .....	.241	.714	.672	.002	-.001	.262	1.890	.589	2.479	26.813
December .....	.237	.762	.749	.002	-.002	.261	2.008	.633	2.641	29.454
Total	2.810	8.123	8.214	.033	.030	3.158	22.368	7.089	29.457	
1990 January .....	.236	R .763	.740	.003	.000	.254	R 1.997	.524	R 2.520	R 2.520
February .....	.229	R .698	.647	.003	.000	.252	R 1.829	.526	R 2.355	R 4.875
March .....	.236	R .733	.704	.003	.001	.260	R 1.937	R .581	R 2.518	R 7.393
April .....	.225	R .750	.675	.003	-.001	.258	R 1.910	.558	R 2.468	R 9.862
May .....	.229	R .730	.693	.003	.000	.266	R 1.922	.615	R 2.537	R 12.398
June .....	.225	R .690	.657	.003	.001	.271	R 1.847	.647	R 2.494	R 14.893
July .....	.224	.682	.671	.003	.003	.275	R 1.858	.630	R 2.488	R 17.380
August .....	.228	R .706	.705	.002	-.001	.285	R 1.926	.657	R 2.583	R 19.963
September .....	.224	R .701	.654	.002	.001	.275	R 1.857	.559	R 2.416	R 22.379
October .....	.246	R .758	.753	.002	.001	.278	R 2.037	.594	R 2.632	R 25.011
November .....	.243	R .745	.676	.002	-.001	.264	R 1.929	R .565	R 2.494	R 27.505
December .....	.235	R .786	.743	.002	.001	.260	R 2.027	R .607	R 2.633	R 30.138
Total	2.780	R 8.742	8.318	.033	.005	3.199	R 23.076	R 7.060	R 30.135	
1991 January	R .230	R .815	.749	.003	.001	.258	R 2.056	.572	R 2.628	R 2.628
February	R .219	R .718	.630	.003	.001	.251	R 1.820	.496	R 2.316	R 4.944
March	R .228	R .735	.643	.003	.002	.254	R 1.864	.563	R 2.427	R 7.371
April .....	.214	R .728	.637	.003	.001	.257	R 1.840	.551	R 2.391	R 9.762
May .....	.211	.680	.622	.003	.001	.272	1.789	.641	2.430	12.192
5-Month Total	1.102	3.674	3.282	.015	.005	1.292	9.369	2.823	12.192	
1990 5-Month Total	1.155	3.675	3.459	.015	.000	1.291	9.595	2.803	12.398	
1989 5-Month Total	1.191	3.429	3.445	.015	.025	1.276	9.381	2.824	12.205	

^aIncludes supplemental gaseous fuels.

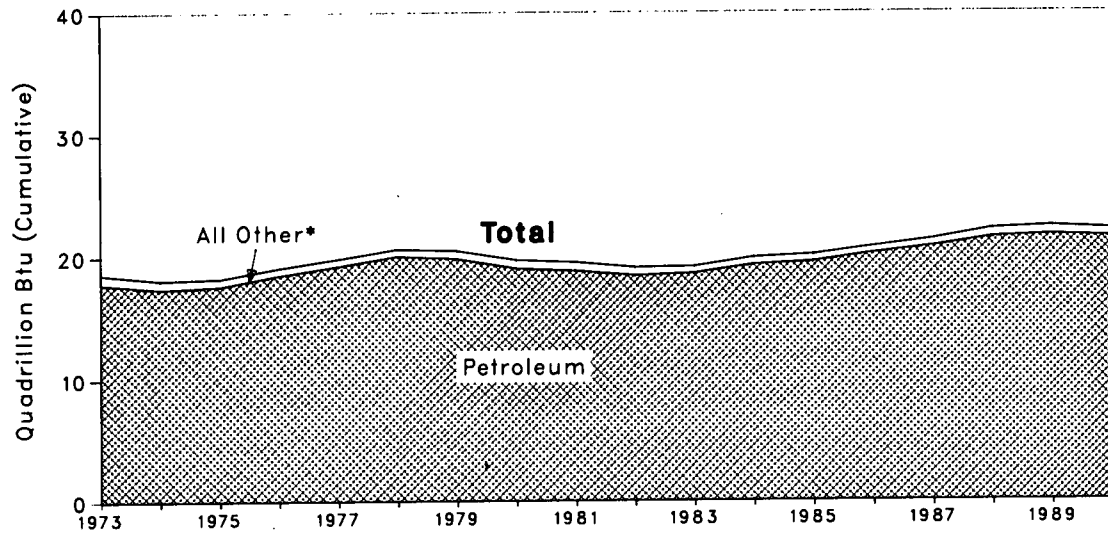
^bExcludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

R=Revised data.

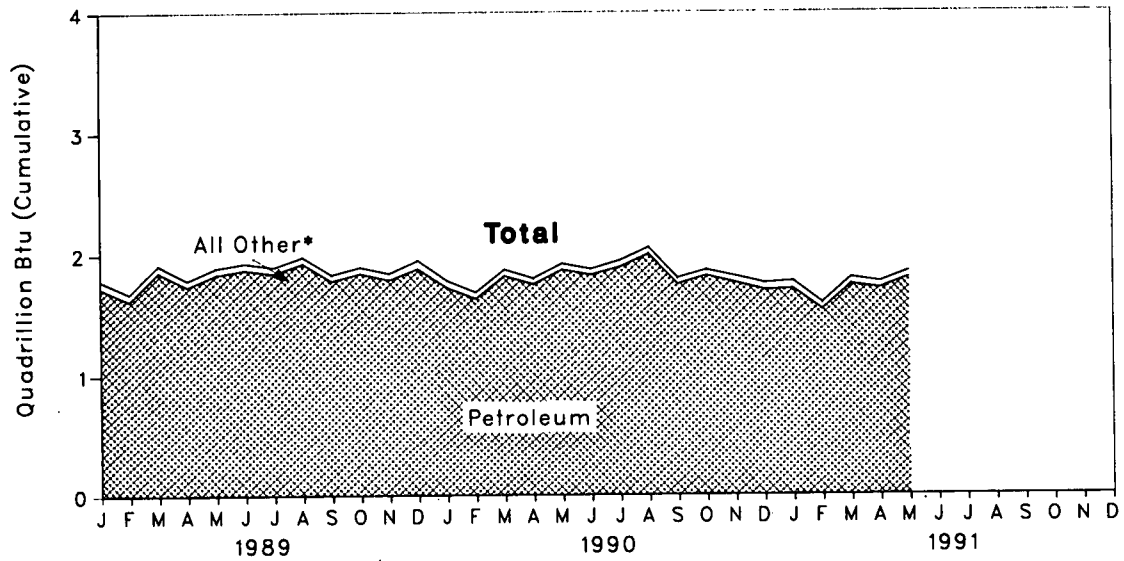
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. Additional Notes and Sources: See end of section.

Figure 2.4 Consumption of Energy by the Transportation Sector

Yearly



Monthly



*Includes coal, natural gas, electricity, and electrical system energy losses.

**Table 2.5 Consumption of Energy by the Transportation Sector
(Quadrillion Btu)**

	Coal	Natural Gas ^a	Petroleum	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption ^b	Year to Date
1973 Total	0.003	0.743	17.831	0.008	18.584	0.020	18.605	
1974 Total .....	.002	.685	17.399	.009	18.095	.022	18.117	
1975 Total .....	.001	.595	17.614	.010	18.219	.025	18.244	
1976 Total	(^c)	.559	18.506	.010	19.076	.025	19.101	
1977 Total	(^c)	.543	19.241	.010	19.794	.025	19.819	
1978 Total	(^d)	.539	20.041	.009	20.589	.022	20.611	
1979 Total	(^d)	.612	19.825	.010	20.447	.025	20.472	
1980 Total	(^d)	.650	19.008	.011	19.669	.026	19.695	
1981 Total	(^d)	.658	18.811	.011	19.480	.026	19.507	
1982 Total	(^d)	.612	18.420	.011	19.043	.026	19.069	
1983 Total	(^d)	.505	18.593	.011	19.109	.026	19.135	
1984 Total	(^d)	.545	19.286	.012	19.843	.028	19.871	
1985 Total	(^d)	.519	19.534	.013	20.066	.030	20.097	
1986 Total	(^d)	.499	20.215	.013	20.728	.030	20.758	
1987 Total	(^d)	.535	20.780	.013	21.328	.029	21.357	
1988 Total	(^d)	.632	21.510	.014	22.155	.031	22.186	
1989 January	(^d)	.059	1.724	.001	1.784	.002	1.786	1.786
February	(^d)	.059	1.618	.001	1.678	.002	1.681	3.467
March	(^d)	.056	1.853	.001	1.910	.002	1.912	5.379
April	(^d)	.050	1.734	.001	1.786	.002	1.788	7.167
May	(^d)	.053	1.834	.001	1.887	.003	1.890	9.057
June	(^d)	.052	1.873	.001	1.925	.003	1.928	10.985
July	(^d)	.052	1.841	.001	1.894	.003	1.897	12.881
August	(^d)	.052	1.925	.001	1.977	.003	1.980	14.862
September	(^d)	.049	1.780	.001	1.831	.002	1.833	16.695
October	(^d)	.050	1.841	.001	1.893	.002	1.895	18.590
November	(^d)	.052	1.787	.001	1.840	.002	1.842	20.432
December	(^d)	.067	1.878	.001	1.946	.003	1.949	22.380
Total	(^d)	.649	21.687	.014	22.350	.031	22.380	
1990 January	(^d)	.055	1.723	.001	1.779	.003	1.781	1.781
February	(^d)	.049	1.632	.001	1.682	.002	1.685	3.466
March	(^d)	.049	1.818	.001	1.869	.003	1.871	5.337
April	(^d)	.045	1.750	.001	1.797	.002	1.799	7.136
May	(^d)	.048	1.868	.001	1.918	.003	1.921	9.057
June	(^d)	.045	1.826	.001	1.872	.003	1.875	10.932
July	(^d)	.050	1.890	.001	1.941	.003	1.944	12.876
August	(^d)	.050	1.996	.001	2.048	.003	2.051	14.927
September	(^d)	.048	1.747	.001	1.797	.002	1.800	16.727
October	(^d)	.045	1.816	.001	1.863	.003	1.866	18.592
November	(^d)	.050	1.759	.001	1.811	.002	1.813	20.405
December	(^d)	.053	1.699	.001	1.752	.003	1.755	22.160
Total	(^d)	.590	21.524	.014	22.129	.031	22.160	
1991 January	(^d)	.060	1.706	.001	1.767	.003	1.770	1.770
February	(^d)	.052	1.537	.001	1.589	.002	1.592	3.361
March	(^d)	.053	1.743	.001	1.796	.003	1.799	5.160
April	(^d)	.049	1.712	.001	1.763	.002	1.765	6.925
May	(^d)	.049	1.802	.001	1.852	.003	1.855	8.780
5-Month Total	(^d)	.263	8.499	.006	8.767	.013	8.780	
1990 5-Month Total	(^d)	.247	8.791	.006	9.044	.013	9.057	
1989 5-Month Total	(^d)	.276	8.763	.005	9.045	.012	9.057	

^aPipeline fuel only, including supplemental gaseous fuels.

^bExcludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

^cLess than 0.5 trillion Btu.

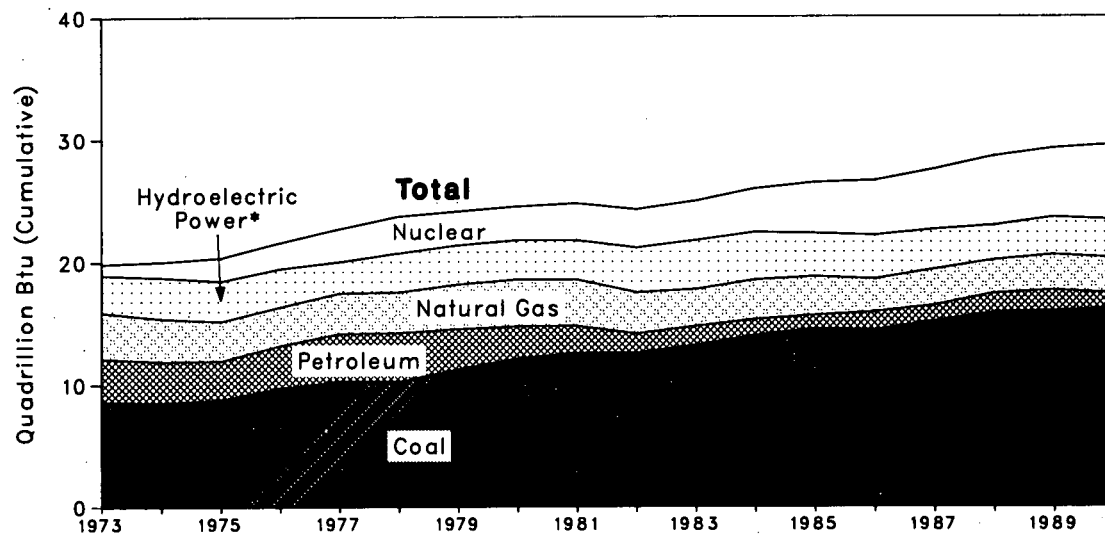
^dSince 1978, the small amounts of coal consumed for transportation have been reported as industrial sector consumption.

R=Revised data.

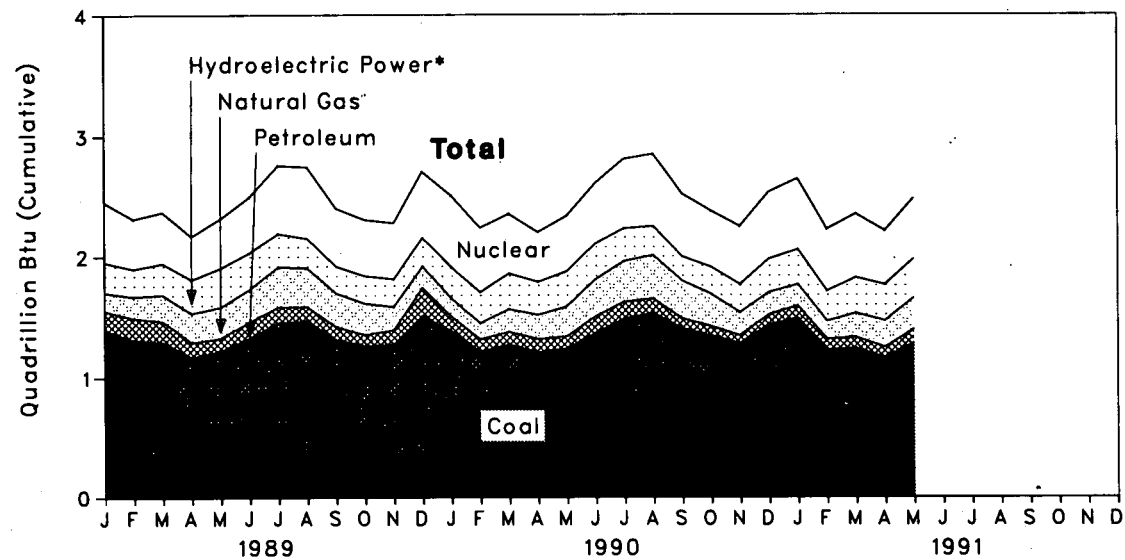
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. Additional Notes and Sources: See end of section.

Figure 2.5 Energy Input at Electric Utilities

Yearly



Monthly



*Includes other.

Table 2.6 Energy Input at Electric Utilities
(Quadrillion Btu)

	Coal	Natural Gas ^a	Petroleum ^b	Hydroelectric Power ^c	Nuclear Electric Power	Other ^d	Total	Year to Date
1973 Total	8.658	3.748	3.515	2.975	0.910	0.046	19.852	
1974 Total	8.534	3.519	3.365	3.276	1.272	.056	20.022	
1975 Total	8.786	3.240	3.166	3.187	1.900	.072	20.350	
1976 Total	9.720	3.152	3.477	3.032	2.111	.081	21.574	
1977 Total	10.262	3.284	3.901	2.482	2.702	.082	22.713	
1978 Total	10.238	3.297	3.987	3.110	3.024	.068	23.724	
1979 Total	11.260	3.613	3.283	3.107	2.776	.089	24.128	
1980 Total	12.123	3.810	2.634	3.085	2.739	.114	24.505	
1981 Total	12.583	3.768	2.202	3.072	3.008	.127	24.760	
1982 Total	12.582	3.342	1.568	3.539	3.131	.108	24.270	
1983 Total	13.213	2.998	1.544	3.866	3.203	.133	24.956	
1984 Total	14.020	3.220	1.286	3.725	3.553	.174	25.977	
1985 Total	14.542	3.160	1.090	3.330	4.149	.213	26.484	
1986 Total	14.444	2.691	1.452	3.353	4.471	.231	26.642	
1987 Total	15.173	2.935	1.257	3.035	4.906	.244	27.551	
1988 Total	15.850	2.709	1.563	2.607	5.661	.235	28.626	
1989 January	1.392	.152	.161	.231	.497	.019	2.451	2.451
February	1.309	.178	.185	.211	.415	.017	2.316	4.767
March	1.293	.218	.175	.240	.425	.020	2.371	7.138
April	1.170	.243	.121	.259	.359	.017	2.170	9.307
May	1.220	.259	.107	.302	.411	.018	2.318	11.625
June	1.327	.269	.134	.284	.461	.018	2.493	14.118
July	1.454	.331	.132	.256	.561	.019	2.752	16.870
August	1.470	.320	.118	.226	.589	.018	2.742	19.612
September	1.312	.277	.109	.205	.481	.017	2.400	22.012
October	1.263	.263	.089	.208	.467	.018	2.307	24.318
November	1.272	.195	.121	.210	.465	.017	2.281	26.599
December	1.508	.177	.233	.220	.545	.018	2.702	29.301
Total	15.988	2.882	1.685	2.852	5.677	.217	29.301	
1990 January	1.388	.151	.123	^R .238	.591	.018	2.510	2.510
February	1.215	.136	.100	.238	.536	.016	^R 2.242	4.751
March	1.272	.190	.108	^R .275	.494	.018	^R 2.358	^R 7.109
April	1.210	.206	.108	.255	.413	.014	^R 2.206	^R 9.315
May	1.239	.252	.101	.273	.461	.017	2.341	^R 11.657
June	1.365	.307	.141	.280	.497	.017	2.607	^R 14.264
July	1.495	.337	.138	.256	.575	.017	2.818	^R 17.082
August	1.528	.354	.117	.227	.598	.017	^R 2.842	19.924
September	1.398	.311	.086	.184	.520	.016	2.515	^R 22.438
October	1.346	.265	.077	.207	.465	.017	2.378	^R 24.817
November	1.276	.191	.067	^R .217	.483	.016	^R 2.250	^R 27.066
December	1.431	.181	.085	^R .260	.553	.017	2.528	^R 29.595
Total	16.162	2.881	1.251	^R 2.911	6.186	.202	^R 29.595	
1991 January	1.491	.177	.099	.273	.583	.017	2.640	2.640
February	1.224	.151	.092	.232	.513	.014	2.227	4.867
March	1.240	.198	.092	.277	.527	.016	2.351	7.218
April	1.162	.223	.085	.281	.447	.015	2.212	9.430
May	1.284	.258	.115	.308	.501	.015	2.481	11.911
5-Month Total	6.401	1.006	.483	1.371	2.571	.078	11.911	
1990 5-Month Total	6.324	.935	.540	1.280	2.495	.083	11.657	
1989 5-Month Total	6.384	1.050	.749	1.243	2.108	.091	11.625	

^aIncludes supplemental gaseous fuels.

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

^cIncludes net imports of electricity.

^dOther is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

R=Revised data.

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

Additional Notes and Sources: See end of section.

Consumption Notes and Sources

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

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

- Residential and Commercial--Private household establishments (which consume energy primarily for space heating, water heating, air conditioning, lighting, refrigeration, cooking, and clothes drying); nonmanufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included.
- Industrial--Manufacturing, construction, mining, agriculture, fishing, and forestry establishments.
- 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 Utilities--Privately and publicly owned establishments that generate electricity primarily for use by the public.

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

4. Coal: Coal is anthracite, bituminous coal, (including sub-bituminous coal), and lignite. Sources:

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

ary 1980 forward: EIA, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants" and Form EIA-6, "Coal Distribution Report."

- Coke Plants--October 1977 through December 1980: EIA, Form EIA-5/5A, "Coke and Coal Chemicals - Monthly/Annual"; January 1981 through 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 through December 1979: EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers - Upper Lake Docks"; January 1980 forward: EIA, Form EIA-6, "Coal Distribution Report."

5. Natural Gas: Natural gas consumption by end use is based on data presented in Table 4.3 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 using the conversion factors provided in the Appendix. Sources:

- 1973 through 1975: DOI, BOM, *Minerals Yearbook*, "Natural Gas" chapter.
- 1976 through 1978: EIA, *Energy Data Reports*, "Natural Gas, Annual."
- 1979: EIA, *Natural Gas Production and Consumption 1979*.
- 1980 through 1989: EIA, *Natural Gas Annual*.
- 1990 forward: EIA, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," and EIA computations.
- Electric Utilities--1973 through 1976: Form FPC-4, "Monthly Power Plant Report." 1977 through 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 through 1979 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 through 1975: DOI, BOM, *Mineral Industry Surveys*, "Petroleum Statement, Annual."
- 1976 through 1980: EIA, *Energy Data Reports*, "Petroleum Statement, Annual."
- 1981 through 1990: EIA, *Petroleum Supply Annual*.
- 1991 forward: 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**

Electric Utilities, All Periods.

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

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

Non-Electric Utilities, Annual Estimates Through 1989.

The aggregate non-electric utility use of distillate fuel is total distillate 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 distillate fuel delivered to end users, grouped into sectors from EIA's "Deliveries of Fuel Oil and Kerosene" ("Deliveries") reports (based primarily on data collected by Form EIA-821, previously Form EIA-172) as follows:

- Residential deliveries are directly from the "Deliveries" reports for 1979 through 1989. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.
- Commercial deliveries are directly from the "Deliveries" reports for 1979 through 1989. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.

- Industrial deliveries for 1979 through 1989 are the sum of deliveries for industrial, farm, oil company, off-highway, diesel, and all other uses. Prior to 1979, each year's deliveries 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.

- Transportation deliveries are the sum of deliveries for railroad, vessel bunkering, and on-highway diesel, and military uses for all years.

Non-Electric Utilities, Monthly Estimates Through 1989.

- Residential and commercial monthly consumption is estimated by allocating the annual estimates described above into months in proportion to each month's share of the year's sales of No. 2 heating oil as reported in the "Monthly Report of Heating Oil Sales" by the Ethyl Corporation from 1973 through 1980 and the American Petroleum Institute for 1981 and 1982, and the EIA, Form EIA-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, for 1983 through 1989.

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

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

Non-Electric Utilities, 1990 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 1989.

- **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 deliveries grouped into end-use

sectors from EIA's "Deliveries of Fuel Oil and Kerosene" ("Deliveries") reports (based primarily on data collected by Form EIA-821 (previously Form EIA-172) as follows:

- Residential deliveries are directly from the "Deliveries" reports for 1979 through 1989. Deliveries for 1989 are used as estimates for succeeding periods. Prior to 1979, each year's deliveries category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.
 - Commercial deliveries are directly from the "Deliveries" reports for 1979 through 1989. Deliveries for 1989 are used as estimates for succeeding periods. Prior to 1979, each year's deliveries category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.
 - Industrial deliveries are directly from the "Deliveries" reports for 1979 through 1989. Deliveries for 1989 are used as estimates for succeeding periods. Prior to 1979, each year's deliveries 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 based on data for special fuels used on highways published by the U.S. Department of Transportation, Federal Highway Administration, in *Highway Statistics*. The allocations of LPG sold for internal combustion engine use to the transportation sector range from a high of 67 percent in 1981 to a low of 33 percent in 1987.
 - LPG consumed annually by the industrial sector is estimated as the difference between LPG's total supplied and the estimated consumption 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 for use in the production of synthetic rubber; refinery fuel use; use as synthetic natural gas feedstock and use in secondary recovery projects; all farm use; LPG sold to gas utility companies for distribution through the mains; and a portion of the use of LPG as an internal combustion engine fuel.
- The sources of the annual sales data for creating annual end-use shares are:
- 1973 through 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 through 1989: American Petroleum Institute (API), "Sales of Natural Gas Liquids and Liquefied Refinery Gases" based on an LPG sales survey jointly sponsored by API, the Gas Processors Association, and the National Liquefied Petroleum Gas Association.
 - 1990 forward: The 1989 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 formed from 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**

Electric Utilities, All Periods.

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

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

Non-Electric Utilities, Annual Estimates Through 1989.

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 delivered to end users, grouped into sectors from EIA's "Deliveries of Fuel Oil and Kerosene" ("Deliveries") reports (based primarily on data collected by Form EIA-821, previously Form EIA-172) as follows:

- Commercial deliveries are directly from the "Deliveries" reports for 1979 through 1989. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares.

- Industrial deliveries for 1979 through 1989 are the sum of deliveries for industrial, oil company, and all other uses. Prior to 1979, each year's deliveries 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 deliveries are the sum of deliveries for railroad, vessel bunkering, and military uses for all years.

Non-Electric Utilities, Monthly Estimates Through 1989.

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

Ethyl Corporation for 1973 through 1980 and the American Petroleum Institute for 1981 and 1982, and the EIA, Form EIA-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, 1983 through 1989.

- Transportation monthly estimates are made by evenly distributing the annual sector estimate over the months, adjusted 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.

Non-Electric Utilities, 1990 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 1989.

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

Sources for industrial sector:

- 1973 through 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 through 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 through September 1977: Unpublished Federal Power Commission data.
- October 1977 through 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 through 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: DOE, Assistant Secretary for Fossil Energy, Form FE-781-R, "Annual Report of International Electrical Export/Import Data."
- 1990 forward: EIA estimates based on preliminary data from the National Energy Board of Canada and DOE, Assistant Secretary for Fossil Energy.

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

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

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 through 1975: DOI, BOM, *Minerals Yearbook*, "Coke and Coal Chemicals," chapter.

- 1976 through 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. For 1973 through 1983 and 1989 forward, "Monthly Series" data are used directly. For 1984 through 1988, monthly estimates are created by dividing each month's "Monthly Series" value by the "Monthly Series" total for the year and multiplying by the "Annual Series" value for the year. Kilowatt-hours are converted to Btu at the rate of 3,412 Btu per kilowatt-hour. 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 are 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 in transmission and distribution. Calculated electrical system energy losses may be less than actual losses, because primary consumption does not include the energy equivalent of utility purchases of electricity from non-electric utilities and from Canada and Mexico, although they are included in electricity sales.

Section 3. Petroleum

Total petroleum imports² averaged 7.5 million barrels per day in July 1991, 9 percent lower than³ the June 1991 rate and 17 percent lower than the July 1990 rate.

In July 1991, 16.4 million barrels per day of petroleum products were supplied for domestic use, 2 percent lower than the previous month and 4 percent lower than the July 1990 rate. Motor gasoline accounted for 46 percent of the total; distillate fuel oil, 16 percent; and residual fuel oil, 6 percent.

Motor gasoline supplied during July 1991 averaged 7.5 million barrels per day, 1 percent higher than the previous month and slightly higher than the July 1990 rate. Stocks of total motor gasoline totaled 211 million barrels at the end of July 1991, 4 million barrels below the stock level in the previous month and 7 million barrels below the level 1 year earlier.

In July 1991, 2.7 million barrels of distillate fuel oil were supplied per day, 3 percent below the June 1991 rate and 1 percent below the July 1990 rate. Distillate fuel oil ending stocks for July 1991 were 125 million barrels, 12 million barrels above the stock level in the previous month but the same stock level as 1 year earlier.

Residual fuel oil supplied in July 1991 averaged 1.0 million barrels per day, 18 percent lower than the previous month and 19 percent lower than the July 1990 rate. Residual fuel oil stocks measured 45 million barrels at the end of July 1991, 2 million barrels higher than the previous month but 4 million barrels lower than 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 April 1991.

²Total import data include imports into the Strategic Petroleum Reserve.

³Percentage changes are based on numbers shown in the following tables.

Table 3.1a Crude Oil^a and Petroleum Products Overview

	Field Production			Stock Change ^b		Petroleum Products Supplied	Ending Stocks ^c
	Total Domestic ^d	Crude Oil	Natural Gas Plant Production	Crude Oil ^e	Petroleum Products		Crude Oil ^e and Petroleum Products
							Million Barrels
Thousand Barrels per Day							Million Barrels
1973 Average	10,975	9,208	1,738	-11	146	17,308	1,008
1974 Average	10,498	8,774	1,688	62	117	16,653	1,074
1975 Average	10,045	8,375	1,633	17	15	16,322	1,133
1976 Average	9,774	8,132	1,604	39	-96	17,461	1,112
1977 Average	9,913	8,245	1,618	170	378	18,431	1,312
1978 Average	10,328	8,707	1,567	78	-172	18,847	1,278
1979 Average	10,179	8,552	1,584	148	25	18,513	1,341
1980 Average	10,214	8,597	1,573	98	42	17,056	1,392
1981 Average	10,230	8,572	1,609	290	-130	16,058	1,484
1982 Average	10,252	8,649	1,550	136	-283	15,296	1,430
1983 Average	10,299	8,688	1,559	214	-234	15,231	1,454
1984 Average	10,554	8,879	1,630	199	81	15,726	1,556
1985 Average	10,636	8,971	1,609	50	-153	15,726	1,519
1986 Average	10,289	8,680	1,551	78	124	16,281	1,593
1987 Average	10,008	8,349	1,595	128	-87	16,665	1,607
1988 Average	9,818	8,140	1,625	1	-29	17,283	1,597
1989 January	9,678	7,937	1,664	179	563	17,269	1,620
February	9,441	7,788	1,607	47	-733	17,920	1,601
March	9,284	7,575	1,650	-127	-924	17,989	1,568
April	9,501	7,772	1,674	494	413	16,624	1,596
May	9,498	7,816	1,620	271	598	16,546	1,623
June	9,188	7,624	1,507	-434	-64	17,497	1,608
July	9,055	7,444	1,541	148	1,182	16,453	1,649
August	9,106	7,544	1,504	283	-104	17,360	1,654
September	9,096	7,548	1,480	-144	577	16,795	1,667
October	8,983	7,453	1,478	73	-378	17,304	1,658
November	9,084	7,536	1,483	541	-367	17,311	1,663
December	8,734	7,337	1,343	-302	-2,335	18,858	1,581
Average	9,219	7,613	1,546	86	-129	17,325	
1990 January	9,178	7,546	1,541	273	1,284	16,964	1,630
February	9,147	7,497	1,570	-330	507	17,175	1,635
March	9,034	7,433	1,526	1,057	-823	17,087	1,642
April	8,979	7,407	1,493	26	-83	16,778	1,640
May	8,923	7,328	1,502	479	532	16,915	1,672
June	8,645	7,106	1,458	72	378	17,165	1,685
July	8,735	7,173	1,484	-154	929	17,084	1,709
August	8,931	7,287	1,575	-227	-113	18,050	1,699
September	8,891	7,224	1,597	-896	887	16,512	1,698
October	9,301	7,542	1,667	111	-879	16,934	1,674
November	9,155	7,387	1,690	-364	-322	16,695	1,654
December	9,019	7,338	1,604	-528	-544	16,494	1,621
Average	8,994	7,355	1,559	-35	142	16,988	
1991 January	E 9,135	E 7,418	1,635	-94	-1,094	16,882	1,587
February	E 9,334	E 7,548	1,690	250	-688	16,284	1,574
March	E 9,225	E 7,481	1,670	-242	-261	16,100	1,559
April	E 9,206	E 7,467	1,656	65	560	16,103	1,578
May	E 9,116	E 7,368	1,647	638	986	16,098	1,628
June	RE 8,976	RE 7,282	R 1,616	R -364	R 551	R 16,764	R 1,634
July	PE 9,099	PE 7,360	E 1,652	E -171	E 598	E 16,416	E 1,643
7-Month Average	PE 9,154	PE 7,416	E 1,652	E 10	E 100	E 16,379	
1990 7-Month Average	8,947	7,355	1,510	212	390	17,022	
1989 7-Month Average	9,377	7,707	1,609	84	160	17,176	

^aIncludes lease condensate.

^bA negative number indicates a decrease in stocks and a positive number indicates an increase.

^cStocks are totals as of end of period.

^dIncludes crude oil, natural gas plant liquids, other hydrocarbons, and alcohol.

^eIncludes stocks located in the Strategic Petroleum Reserve.

^fIncludes crude oil for storage in the Strategic Petroleum Reserve.

^gNet imports equals imports minus exports.

^hDue to a rounding difference, this value is 1,603 in the *Petroleum Supply Annual* and *Petroleum Supply Monthly*.

ⁱIn January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock change calculations. See Note 4 at end of section.

Footnotes continued on following page.

Table 3.1b Crude Oil^a and Petroleum Products Overview (Continued)

	Imports			Exports			Net Imports ^b
	Total	Crude Oil ^c	Petroleum Products	Total	Crude Oil	Petroleum Products	
	Thousand Barrels per Day						
1973 Average	6,256	3,244	3,012	231	2	229	6,025
1974 Average	6,112	3,477	2,635	221	3	218	5,892
1975 Average	6,056	4,105	1,951	209	6	204	5,846
1976 Average	7,313	5,287	2,026	223	8	215	7,090
1977 Average	8,807	6,615	2,193	243	50	193	8,565
1978 Average	8,363	6,356	2,008	362	158	204	8,002
1979 Average	8,456	6,519	1,937	471	235	236	7,985
1980 Average	6,909	5,263	1,646	544	287	258	6,365
1981 Average	5,996	4,396	1,599	595	228	367	5,401
1982 Average	5,113	3,488	1,625	815	236	579	4,298
1983 Average	5,051	3,329	1,722	739	164	575	4,312
1984 Average	5,437	3,426	2,011	722	181	541	4,715
1985 Average	5,067	3,201	1,866	781	204	577	4,286
1986 Average	6,224	4,178	2,045	785	154	631	5,439
1987 Average	6,678	4,674	2,004	764	151	613	5,914
1988 Average	7,402	5,107	2,295	815	155	661	6,587
1989							
January	8,255	5,661	2,594	761	137	624	7,494
February	8,032	5,305	2,727	875	208	666	7,157
March	7,456	5,035	2,421	860	156	704	6,596
April	8,078	5,750	2,328	810	139	670	7,268
May	7,778	5,729	2,049	791	131	661	6,986
June	7,977	5,976	2,002	975	243	732	7,002
July	8,369	6,214	2,155	780	69	711	7,589
August	8,560	6,565	1,995	967	162	805	7,593
September	8,002	6,028	1,975	655	32	623	7,347
October	8,301	6,187	2,115	791	61	730	7,511
November	8,341	6,171	2,170	975	120	855	7,366
December	7,579	5,463	2,116	1,067	247	821	6,512
Average	8,061	5,843	2,217	859	142	717	7,202
1990							
January	9,197	6,212	2,985	709	132	578	8,488
February	8,399	5,895	2,505	822	102	720	7,577
March	7,965	6,117	1,848	880	132	748	7,084
April	7,858	5,813	2,045	761	111	649	7,097
May	8,834	6,454	2,380	690	112	578	8,144
June	8,747	6,423	2,323	803	88	715	7,944
July	9,048	6,855	2,193	696	89	606	8,353
August	8,644	6,452	2,192	850	64	785	7,794
September	7,361	5,664	1,698	847	68	779	6,514
October	6,717	5,132	1,585	949	104	844	5,768
November	7,003	5,085	1,918	1,085	137	948	5,918
December	6,439	4,611	1,828	1,187	162	1,026	5,252
Average	8,018	5,894	2,123	857	109	748	7,161
1991							
January	7,066	5,303	1,763	1,199	50	1,149	5,867
February	6,844	5,498	1,346	1,441	153	1,288	5,403
March	6,550	5,129	1,421	944	136	807	5,607
April	7,374	5,523	1,851	737	162	575	6,636
May	8,496	6,387	2,109	1,149	165	984	7,347
June	^R 8,177	^R 6,317	^R 1,860	^R 921	^R 78	^R 843	^R 7,256
July	^E 7,476	^E 5,894	^E 1,582	^E 788	^E 117	^E 671	^E 6,688
7-Month Average	^E 7,431	^E 5,723	^E 1,708	^E 1,022	^E 123	^E 899	^E 6,409
1990 7-Month Average	8,583	6,259	2,324	785	110	655	7,819
1989 7-Month Average	7,991	5,670	2,321	835	154	681	7,156

Footnotes continued.

PE= Preliminary estimate. R= Revised data. E= Estimate.

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

Sources: See end of section.

Figure 3.1 Crude Oil and Natural Gas Liquids Production

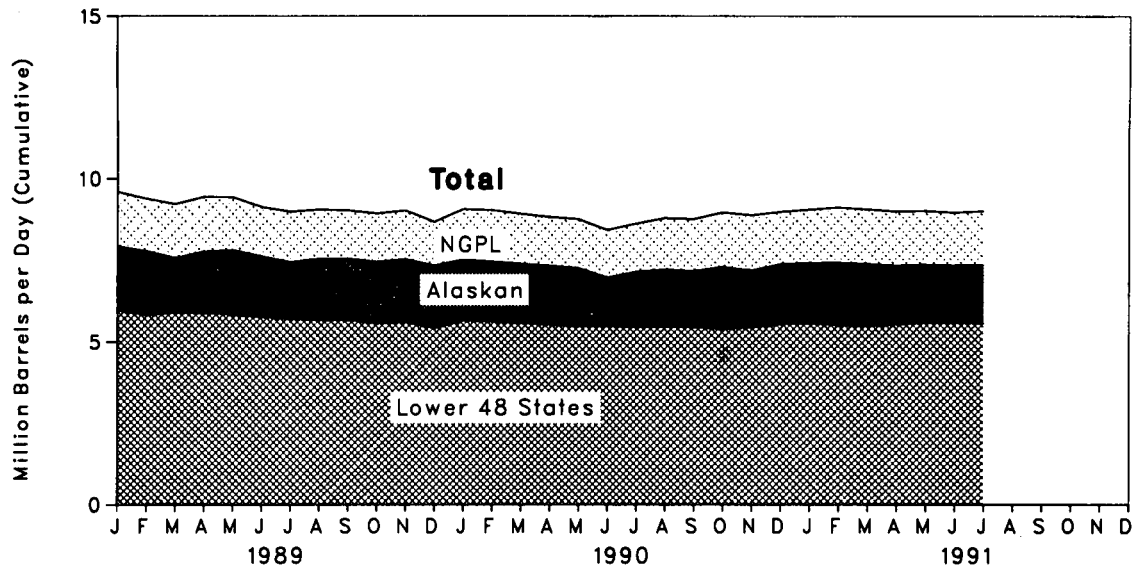


Figure 3.2 Petroleum Stocks

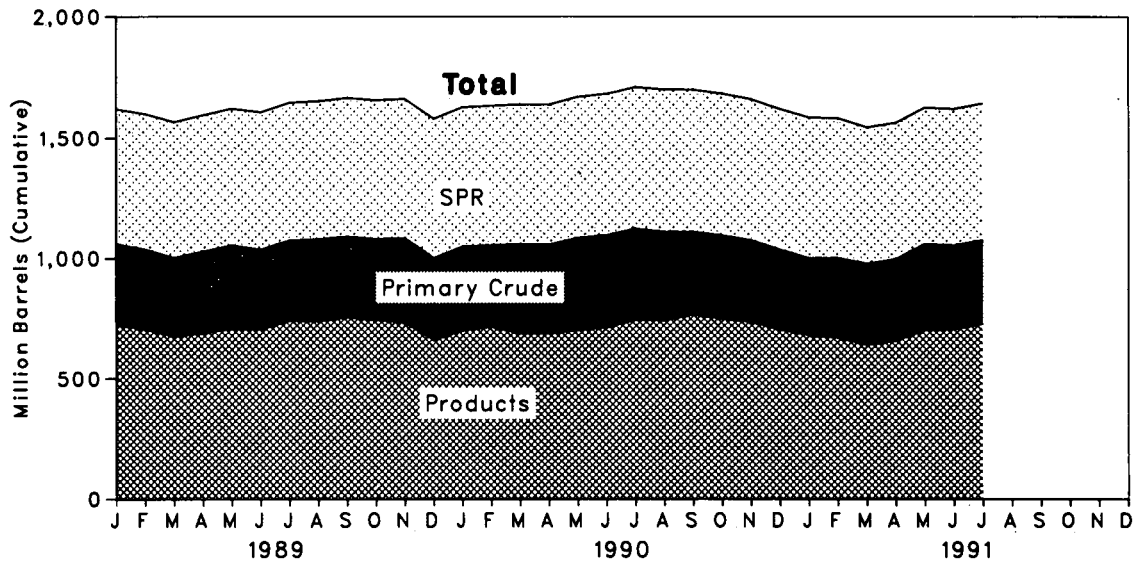


Figure 3.3 Petroleum Products Supplied and Imports

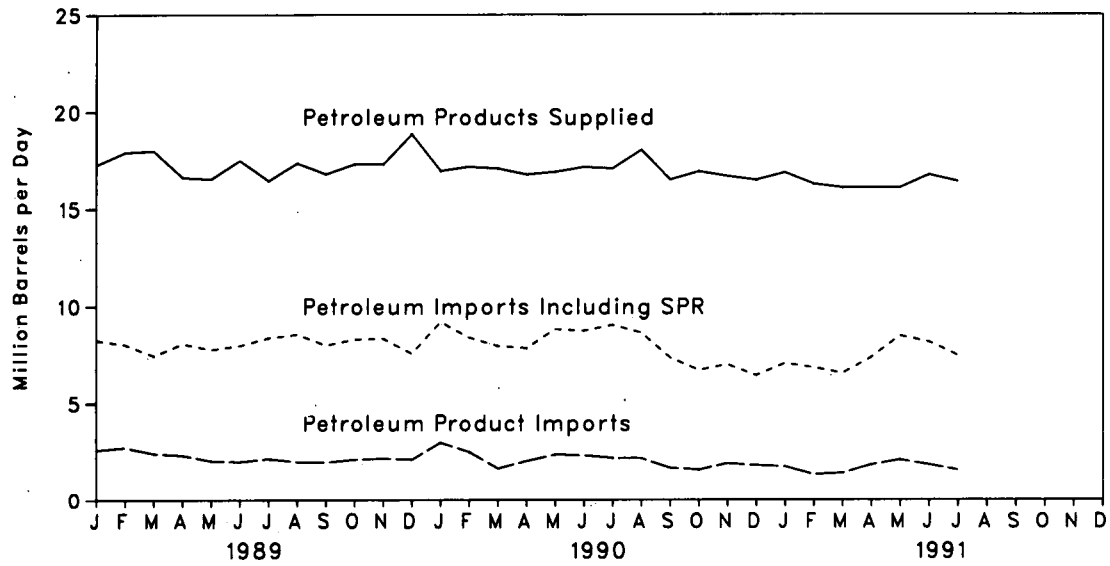


Figure 3.4 Petroleum Imports by Source

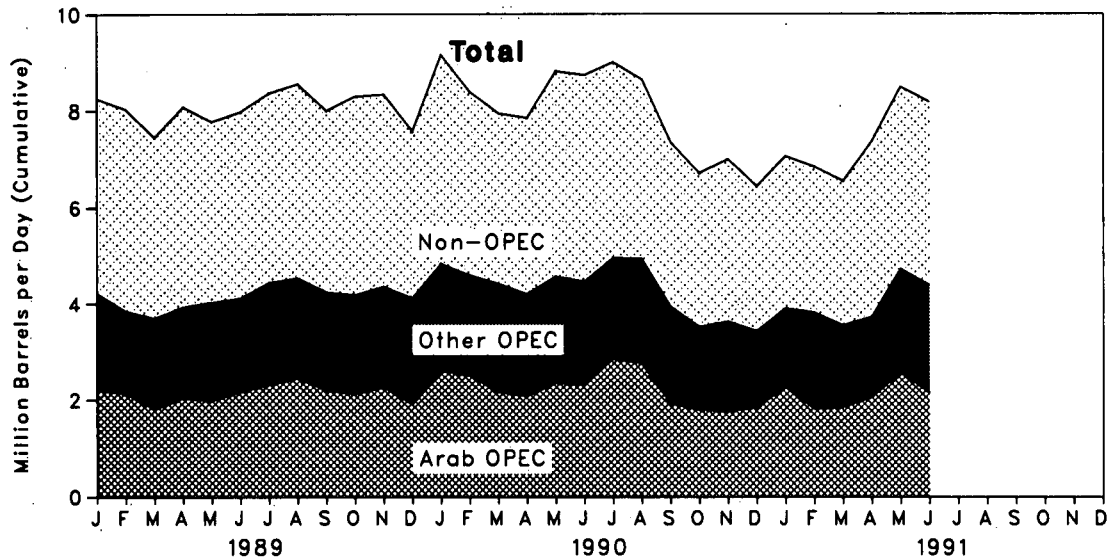


Table 3.2a Crude Oil^a Supply and Disposition
(Thousand Barrels per Day)

	Supply						Unaccounted- for Crude Oil ^b	Crude Oil Used Directly ^f
	Field Production		Imports					
	Total Domestic	Alaskan	Total	SPR ^d	Other			
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	-18	
1977 Average	8,245	464	6,615	21	6,594	-6	-14	
1978 Average	8,707	1,229	6,356	162	6,195	-57	-14	
1979 Average	8,552	1,401	6,519	67	6,452	-11	-13	
1980 Average	8,597	1,617	5,263	44	5,219	34	-13	
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	NA	
1984 Average	8,879	1,722	3,426	197	3,229	185	NA	
1985 Average	8,971	1,825	3,201	118	3,083	145	NA	
1986 Average	8,680	1,867	4,178	48	4,130	139	NA	
1987 Average	8,349	1,962	4,674	73	4,601	145	NA	
1988 Average	8,140	2,017	5,107	51	5,055	196	NA	
1989								
January	7,937	1,958	5,661	65	5,596	94	NA	
February	7,788	1,962	5,305	84	5,221	-26	NA	
March	7,575	1,686	5,035	75	4,960	426	NA	
April	7,772	1,890	5,750	59	5,690	91	NA	
May	7,816	1,973	5,729	77	5,652	280	NA	
June	7,624	1,861	5,976	55	5,920	135	NA	
July	7,444	1,725	6,214	75	6,139	426	NA	
August	7,544	1,870	6,565	32	6,533	213	NA	
September	7,548	1,875	6,028	59	5,969	121	NA	
October	7,453	1,877	6,187	37	6,149	-125	NA	
November	7,536	1,915	6,171	41	6,131	397	NA	
December	7,337	1,904	5,463	12	5,452	343	NA	
Average	7,613	1,874	5,843	56	5,787	200	NA	
1990								
January	7,546	1,864	6,212	24	6,188	178	NA	
February	7,497	1,834	5,895	12	5,883	-98	NA	
March	7,433	1,819	6,117	44	6,073	540	NA	
April	7,407	1,802	5,813	38	5,775	-9	NA	
May	7,328	1,765	6,454	89	6,365	225	NA	
June	7,106	1,612	6,423	17	6,407	349	NA	
July	7,173	1,687	6,855	0	6,855	150	NA	
August	7,287	1,727	6,452	95	6,357	259	NA	
September	7,224	1,702	5,664	0	5,664	402	NA	
October	7,542	1,884	5,132	0	5,132	382	NA	
November	7,387	1,746	5,085	0	5,085	269	NA	
December	7,338	1,838	4,611	0	4,611	409	NA	
Average	7,355	1,773	5,894	27	5,867	258	NA	
1991								
January	E 7,418	E 1,848	5,303	0	5,303	-14	NA	
February	E 7,548	E 1,908	5,498	0	5,498	424	NA	
March	E 7,481	E 1,887	5,129	0	5,129	134	NA	
April	E 7,467	E 1,798	5,523	0	5,523	294	NA	
May	E 7,368	E 1,771	6,387	0	6,387	596	NA	
June	RE 7,282	E 1,757	R 6,317	0	R 6,317	R 47	NA	
July	PE 7,360	PE 1,778	E 5,894	E 0	E 5,894	E 385	NA	
7-Month Average	PE 7,416	PE 1,820	E 5,723	E 0	E 5,723	E 265	NA	
1990 7-Month Average	7,355	1,769	6,259	32	6,227	195	NA	
1989 7-Month Average	7,707	1,864	5,670	70	5,600	208	NA	

^aIncludes lease condensate.

^bStocks are totals as of end of period.

^cA negative number indicates a decrease in stocks and a positive number indicates an increase.

^dStrategic Petroleum Reserve.

^eA balancing item.

^fBeginning in January 1983, crude oil used directly as fuel is shown as product supplied.

^gStocks of Alaskan crude oil in transit are included beginning in January 1981. See Note 5 at end of section.

^hStock change is calculated using new basis stock levels. See Note 4 at end of section.

Footnotes continued on following page.

Table 3.2b Crude Oil^a Supply and Disposition (Continued)

	Disposition						Ending Stocks ^b		
	Crude Losses	Stock Change ^c		Refinery Input	Exports	Product Supplied ^f	Total	SPR ^d	Other Primary
		SPR ^d	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	15		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	15	45	52	13,481	287		466	108	358
1981 Average	5	336	^g -46	12,470	228		594	230	363
1982 Average	3	174	-38	11,774	236		^h 644	294	^h 350
1983 Average	2	234	^h -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 January	(s)	65	115	13,330	137	47	895	562	334
February	(s)	85	-38	12,765	208	48	897	564	333
March	(s)	75	-202	12,963	156	45	893	566	327
April	(s)	60	434	12,956	139	23	908	568	340
May	(s)	77	194	13,405	131	19	916	570	346
June	(s)	44	-478	13,905	243	20	903	572	331
July	(s)	86	62	13,848	69	19	908	574	333
August	(s)	32	251	13,861	162	17	916	575	341
September	1	59	-203	13,791	32	18	912	577	335
October	0	37	36	13,360	61	21	914	578	336
November	(s)	41	500	13,420	120	25	930	579	351
December	(s)	12	-313	13,165	247	33	921	580	341
Average	(s)	56	30	13,401	142	28			
1990 January	(s)	24	249	13,491	132	40	930	581	349
February	0	12	-342	13,487	102	36	920	581	339
March	0	44	1,013	12,876	132	24	953	582	371
April	(s)	38	-12	13,051	111	24	954	583	370
May	0	89	389	13,386	112	30	969	586	383
June	(s)	16	56	13,689	88	29	971	587	384
July	0	0	-154	14,212	89	31	966	587	379
August	(s)	94	-321	14,142	64	18	959	590	370
September	(s)	(s)	-897	14,104	68	14	932	590	343
October	(s)	-8	120	12,825	104	15	936	589	346
November	(s)	-111	-253	12,953	137	13	925	586	339
December	(s)	-10	-517	12,708	162	15	908	586	323
Average	(s)	16	-51	13,409	109	24			
1991 January	0	0	-94	12,727	50	23	906	586	320
February	0	-147	397	13,052	153	17	913	582	331
March	(s)	-422	180	12,832	136	18	905	568	337
April	(s)	0	65	13,037	162	21	907	568	339
May	(s)	0	638	13,533	165	15	927	568	359
June	(s)	R (s)	R -364	R 13,915	R 78	R 16	R 916	568	R 348
July	^E (s)	^E (s)	^E -171	^E 13,671	^E 117	^E 18	^E 916	^E 568	^E 348
7-Month Average	^E (s)	^E -81	^E 91	^E 13,253	^E 123	^E 18			
1990 7-Month Average	(s)	32	180	13,456	110	31			
1989 7-Month Average	(s)	70	13	13,317	154	31			

Footnotes continued.

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

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

Sources: See end of section.

**Table 3.3a Crude Oil and Petroleum Product Imports
(Thousand Barrels per Day)**

	Imports from OPEC Sources ^a										
	Algeria	Libya	Saudi Arabia ^b	United Arab Emirates	Indonesia	Iran	Nigeria	Venezuela	Other OPEC ^b	Total OPEC ^c	Total Arab OPEC ^d
1973 Average	136	164	486	71	213	223	459	1,135	106	2,993	915
1974 Average	190	4	461	74	300	469	713	979	88	3,280	752
1975 Average	282	232	715	117	390	280	762	702	122	3,601	1,383
1976 Average	432	453	1,230	254	539	298	1,025	700	134	5,066	2,424
1977 Average	559	723	1,380	335	541	535	1,143	690	287	6,193	3,185
1978 Average	649	654	1,144	385	573	555	919	646	226	5,751	2,963
1979 Average	636	658	1,356	281	420	304	1,080	690	212	5,637	3,058
1980 Average	488	554	1,261	172	348	9	857	481	130	4,300	2,551
1981 Average	311	319	1,129	81	366	0	620	406	90	3,323	1,848
1982 Average	170	26	552	92	248	35	514	412	97	2,146	854
1983 Average	240	0	337	30	338	48	302	422	144	1,862	632
1984 Average	323	1	325	117	343	10	216	548	166	2,049	819
1985 Average	187	4	168	45	314	27	293	605	187	1,830	472
1986 Average	271	0	685	44	318	19	440	793	265	2,837	1,162
1987 Average	295	0	751	61	285	98	535	804	231	3,060	1,274
1988 Average	300	0	1,073	29	205	* (s)	618	794	501	3,520	1,839
1989 January	335	0	1,449	59	218	0	782	941	429	4,212	2,219
February	310	0	1,290	17	292	0	567	775	593	3,845	2,126
March	272	0	1,108	64	167	0	702	909	471	3,693	1,805
April	235	0	1,226	14	128	0	750	831	743	3,927	2,030
May	272	0	1,155	61	264	0	789	853	630	4,025	1,977
June	205	0	1,249	17	138	0	864	778	856	4,106	2,164
July	263	0	1,182	0	113	0	1,094	794	992	4,437	2,308
August	216	0	1,316	44	115	0	946	834	1,060	4,531	2,453
September	256	0	1,109	20	113	0	867	914	957	4,236	2,195
October	250	0	1,158	14	167	0	713	1,004	872	4,177	2,122
November	323	0	1,342	0	231	0	770	924	762	4,353	2,257
December	288	0	1,115	26	263	0	915	903	602	4,111	1,905
Average	269	0	1,224	28	183	0	815	873	748	4,140	2,130
1990 January	413	0	1,214	37	153	0	830	1,155	1,063	4,865	2,605
February	282	0	1,557	18	254	0	833	898	753	4,594	2,506
March	301	0	1,157	17	138	0	1,054	893	869	4,429	2,161
April	234	0	1,149	9	88	0	969	1,005	744	4,198	2,073
May	259	0	1,225	73	85	0	1,008	1,087	836	4,574	2,349
June	333	0	1,153	20	138	0	778	1,070	969	4,460	2,318
July	308	0	1,369	13	143	0	860	1,007	1,291	4,992	2,853
August	360	0	1,189	0	69	0	881	1,014	1,408	4,921	2,757
September	279	0	1,286	0	111	0	755	1,062	452	3,944	1,915
October	173	0	1,619	0	88	0	557	982	99	3,517	1,792
November	177	0	1,581	0	72	0	574	1,142	83	3,629	1,758
December	242	0	1,587	14	45	0	499	975	65	3,428	1,843
Average	280	0	1,339	17	114	0	800	1,025	721	4,296	2,244
1991 January	327	0	1,934	0	61	0	504	1,021	53	3,899	2,261
February	246	0	1,566	0	162	0	721	959	161	3,815	1,812
March	222	0	1,623	0	93	0	523	991	96	3,548	1,845
April	282	0	1,764	0	61	0	666	846	107	3,727	2,046
May	308	0	2,258	0	111	0	860	978	204	4,719	2,566
June	304	0	1,841	0	187	0	832	1,019	199	4,382	2,145
6-Month Average	282	0	1,836	0	111	0	683	970	136	4,018	2,118
1990 6-Month Average	304	0	1,238	29	141	0	914	1,020	874	4,521	2,334
1989 6-Month Average	272	0	1,246	39	200	0	744	850	619	3,970	2,052

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

^b"Other OPEC" consists of Ecuador, Gabon, Iraq, Kuwait, and Qatar. Imports from the Neutral Zone between Kuwait and Saudi Arabia are included in imports from Saudi Arabia.

^c"Total OPEC" consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members.

^d"Total Arab OPEC" consists of Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates. Imports from the Neutral Zone are included in imports from "Total Arab OPEC."

^eA small amount of Iranian crude oil entered the United States (defined in this publication as the 50 States and the District of Columbia) 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.

Footnotes continued on following page.

Table 3.3b Crude Oil and Petroleum Product Imports (Continued)
(Thousand Barrels per Day)

	Imports from Non-OPEC Sources ^f										Total Imports
	Bahamas	Canada	Mexico	Netherlands Antilles	Trinidad and Tobago	United Kingdom	Puerto Rico	Virgin Islands	Other Non-OPEC	Total Non-OPEC	
1973 Average	174	1,325	16	585	255	15	99	329	465	3,263	6,256
1974 Average	184	1,070	8	511	251	8	90	391	340	2,832	6,112
1975 Average	152	846	71	332	242	14	90	406	300	2,454	6,056
1976 Average	118	599	87	275	274	31	88	422	353	2,247	7,313
1977 Average	171	517	179	211	289	126	105	466	550	2,614	8,807
1978 Average	160	467	318	229	253	180	94	428	484	2,612	8,363
1979 Average	147	538	439	231	190	202	92	431	548	2,819	8,456
1980 Average	78	455	533	225	176	176	88	388	491	2,609	6,909
1981 Average	74	447	522	197	133	375	62	327	534	2,672	5,996
1982 Average	65	482	685	175	112	456	50	316	627	2,968	5,113
1983 Average	125	547	826	189	96	382	40	282	701	3,189	5,051
1984 Average	88	630	748	188	94	402	42	294	902	3,388	5,437
1985 Average	40	770	816	40	113	310	28	247	873	3,237	5,067
1986 Average	37	807	699	25	125	350	21	244	1,080	3,387	6,224
1987 Average	37	848	655	29	106	352	21	272	1,296	3,617	6,678
1988 Average	32	999	747	36	97	315	22	242	1,392	3,882	7,402
1989 January	53	1,065	809	59	105	215	30	415	1,293	4,043	8,255
February	24	1,007	756	44	92	221	24	369	1,649	4,186	8,032
March	41	961	667	52	82	174	38	324	1,424	3,763	7,456
April	55	877	1,002	14	117	148	24	407	1,507	4,151	8,078
May	29	901	808	32	68	202	46	379	1,288	3,753	7,778
June	28	921	688	34	143	181	32	363	1,481	3,871	7,977
July	32	849	758	49	89	328	39	331	1,458	3,932	8,369
August	19	911	806	43	101	370	21	239	1,519	4,029	8,560
September	8	949	721	35	95	191	33	190	1,545	3,766	8,002
October	44	857	837	38	71	309	32	180	1,756	4,124	8,301
November	41	911	743	72	91	165	42	279	1,645	3,988	8,341
December	29	973	610	29	81	78	24	377	1,266	3,468	7,579
Average	34	931	767	42	94	215	32	321	1,484	3,921	8,061
1990 January	80	982	776	9	109	219	35	409	1,713	4,332	9,197
February	78	946	725	27	89	74	32	323	1,510	3,805	8,399
March	35	850	815	10	103	257	32	264	1,170	3,536	7,965
April	51	925	466	40	114	304	33	283	1,445	3,660	7,858
May	29	981	788	20	88	369	38	285	1,662	4,260	8,834
June	36	942	912	21	118	249	27	299	1,683	4,287	8,747
July	25	899	706	30	107	224	35	252	1,778	4,057	9,048
August	40	952	773	41	108	183	29	230	1,366	3,722	8,644
September	45	924	871	33	89	155	20	240	1,040	3,417	7,361
October	9	917	828	43	83	81	29	204	1,006	3,199	6,717
November	0	902	761	46	81	112	50	312	1,110	3,374	7,003
December	13	987	637	53	62	33	29	291	907	3,011	6,439
Average	37	934	755	31	96	189	32	282	1,365	3,721	8,018
1991 January	25	967	779	103	75	32	22	261	903	3,167	7,066
February	14	1,123	742	23	76	34	20	222	777	3,030	6,844
March	0	1,051	791	56	86	48	14	214	744	3,002	6,550
April	35	1,092	889	61	84	61	23	245	1,158	3,647	7,374
May	42	1,022	757	113	61	222	42	264	1,254	3,777	8,496
June	30	1,081	919	84	114	97	19	234	1,216	3,795	8,177 ^R
6-Month Average	25	1,055	813	74	82	83	23	240	1,011	3,406	7,423
1990 6-Month Average	51	938	748	21	104	248	33	310	1,530	3,983	8,504
1989 6-Month Average	38	955	788	40	101	190	32	376	1,436	3,957	7,926

Footnotes continued.

^fIncludes petroleum imported into the United States indirectly from members of OPEC, primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

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

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

Sources: See end of section.

Figure 3.5 Finished Motor Gasoline Product Supplied, Production, and Imports

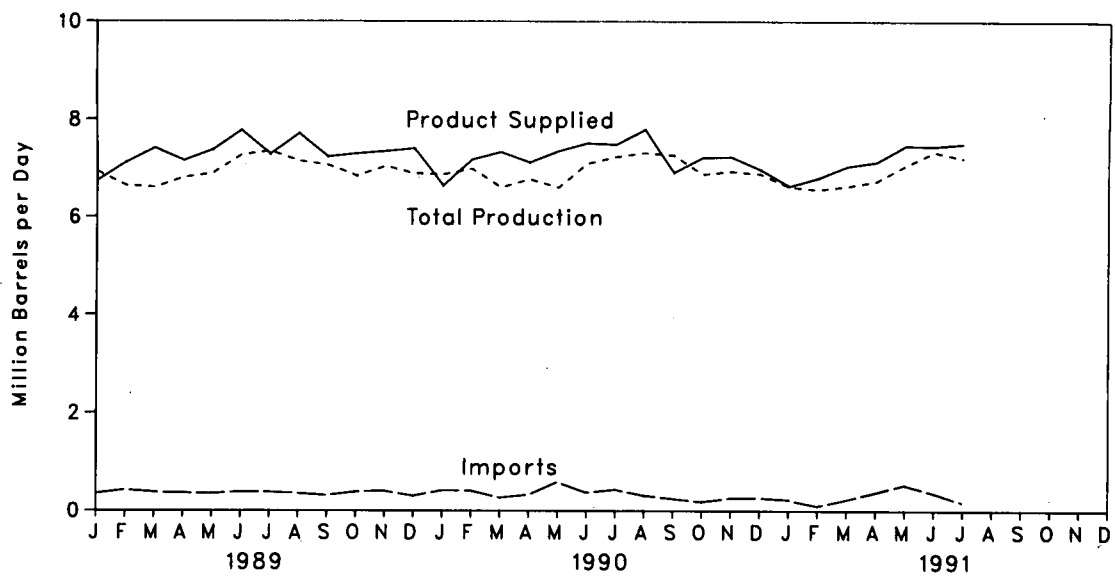


Figure 3.6 Motor Gasoline Ending Stocks

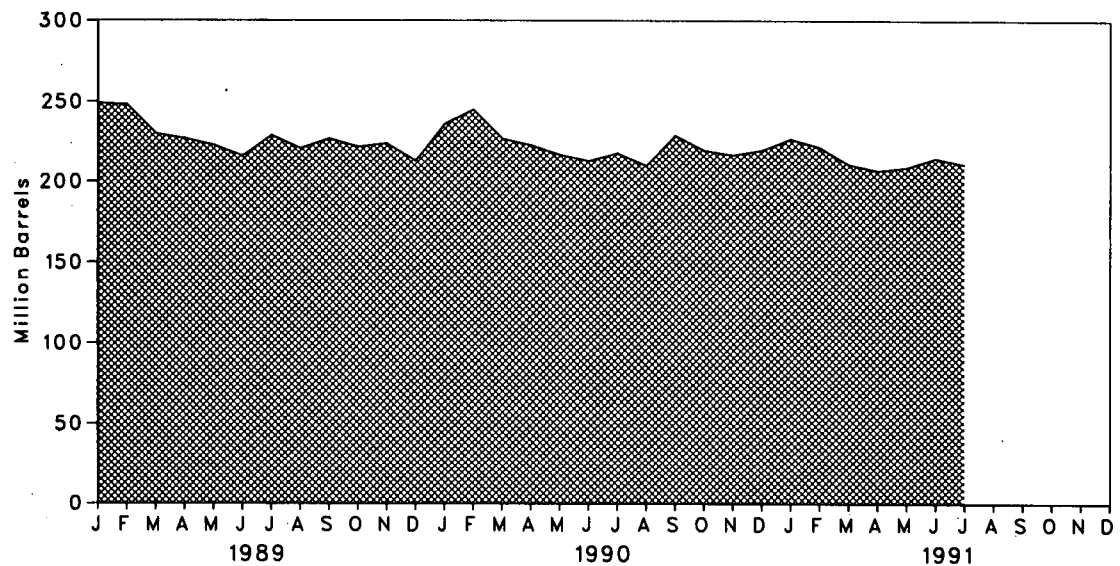


Table 3.4 Finished Motor Gasoline Supply and Disposition

	Supply		Disposition					Ending Stocks ^a	
	Total Production	Imports ^b	Stock Change ^{b c}	Exports	Product Supplied			Total Motor Gasoline ^e	Finished Motor Gasoline
					Total	Unleaded ^d	Unleaded		
	Thousand Barrels per Day						Percent of Total	Million Barrels	
1973 Average	6,535	134	-9	4	6,674			209	
1974 Average	6,360	204	24	2	6,537			218	
1975 Average	6,520	184	28	2	6,675			235	
1976 Average	6,841	131	-10	3	6,978			231	
1977 Average	7,033	217	72	2	7,177	1,976	27.5	258	
1978 Average	7,169	190	-54	1	7,412	2,521	34.0	238	
1979 Average	6,852	181	-2	(s)	7,034	2,798	39.8	237	
1980 Average	6,506	140	66	1	6,579	3,067	46.6	261	
1981 Average ^g	6,405	157	-28	2	6,588	3,264	49.5	253	
1982 Average	6,336	197	-25	20	6,539	3,409	52.1	235	
1983 Average	6,340	247	-45	10	6,622	3,647	55.1	222	186
1984 Average	6,453	299	54	6	6,693	3,987	59.6	243	205
1985 Average	6,419	381	-41	10	6,831	4,406	64.5	223	190
1986 Average	6,752	326	11	33	7,034	4,854	69.0	233	194
1987 Average	6,841	384	-15	35	7,206	5,470	75.9	226	189
1988 Average	6,956	405	3	22	7,336	5,995	81.7	228	190
1989 January	6,937	353	512	33	6,745	5,754	85.3	249	206
February	6,650	423	-70	24	7,119	6,141	86.3	248	204
March	6,612	381	-471	43	7,421	6,380	86.0	230	189
April	6,811	370	-22	46	7,157	6,248	87.3	227	188
May	6,894	355	-163	31	7,381	6,454	87.5	223	183
June	7,275	386	-180	60	7,780	6,864	88.2	216	178
July	7,360	383	390	57	7,296	6,509	89.2	229	190
August	7,155	360	-260	58	7,717	6,934	89.8	221	182
September	7,069	320	118	31	7,240	6,443	89.0	227	186
October	6,845	389	-97	29	7,302	6,642	91.0	222	183
November	7,046	406	81	18	7,353	6,756	91.9	224	185
December	6,884	306	-257	37	7,410	6,927	93.5	213	177
Average	6,963	369	-35	39	7,328	6,507	88.8		
1990 January	6,879	417	621	31	6,643	6,246	94.0	236	196
February	6,989	411	169	53	7,179	6,703	93.4	245	201
March	6,613	270	-499	45	7,338	6,894	93.9	227	186
April	6,775	328	-45	28	7,121	6,704	94.1	223	184
May	6,610	585	-189	25	7,358	6,937	94.3	217	178
June	7,101	376	-93	52	7,519	7,099	94.4	213	176
July	7,238	432	133	41	7,496	7,090	94.6	218	180
August	7,326	313	-233	77	7,796	7,383	94.7	210	172
September	7,274	254	511	103	6,914	6,589	95.3	229	188
October	6,880	192	-244	90	7,226	6,883	95.3	220	180
November	6,940	259	-108	66	7,241	6,940	95.8	217	177
December	6,887	264	119	53	6,978	6,713	96.2	220	181
Average	6,959	342	10	55	7,235	6,850	94.7		
1991 January	6,629	227	164	50	6,643	6,361	95.8	227	187
February	6,573	106	-229	102	6,806	6,592	96.9	222	181
March	6,642	235	-267	97	7,047	6,737	95.6	211	173
April	6,742	371	-77	53	7,137	6,860	96.1	207	170
May	7,063	528	56	59	7,475	7,195	96.3	209	172
June	R 7,351	R 371	R 159	R 99	R 7,465	R 7,193	R 96.4	R 215	R 177
July	E 7,218	E 178	E -156	E 38	E 7,514	E 7,232	E 96.2	E 211	E 172
7-Month Average	E 6,891	E 290	E -48	E 71	E 7,159	E 6,884	E 96.2		
1990 7-Month Average	6,885	403	12	39	7,236	6,811	94.1		
1989 7-Month Average	6,937	378	1	42	7,272	6,336	87.1		

^aStocks are totals as of end of period.

^bBeginning in 1981, excludes blending components.

^cA negative number indicates a decrease in stocks and a positive number indicates an increase.

^dIncludes gasohol.

^eIncludes motor gasoline blending components.

^fIn January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock change calculations. See Note 4 at end of section.

^gBeginning in January 1981, survey forms were modified. See Notes 1 and 2 at end of section.

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

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

Sources: See end of section.

Figure 3.7 Distillate Fuel Oil Product Supplied, Production, and Imports

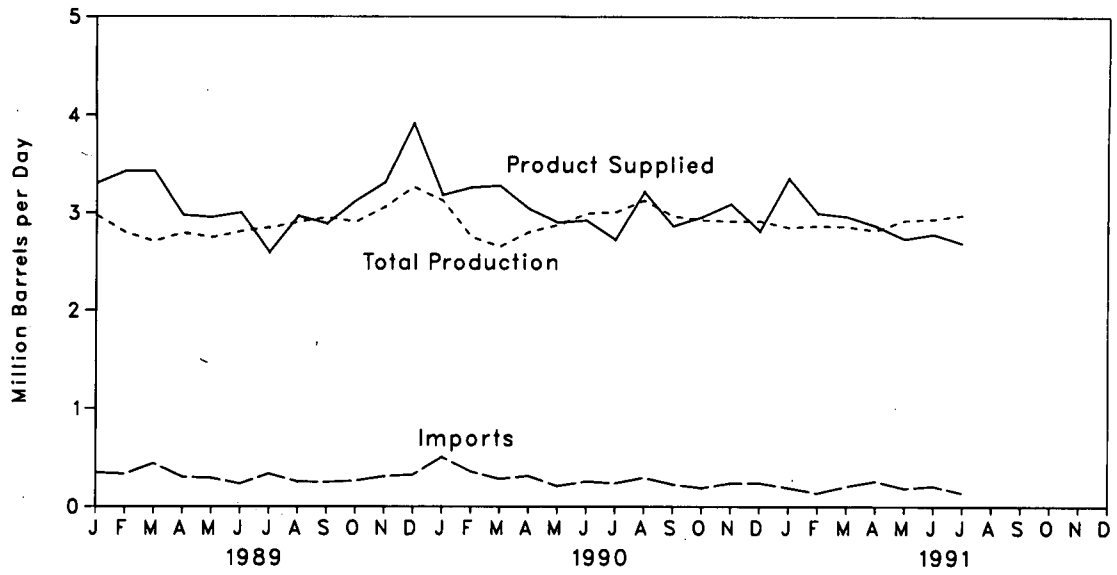


Figure 3.8 Distillate Fuel Oil Ending Stocks

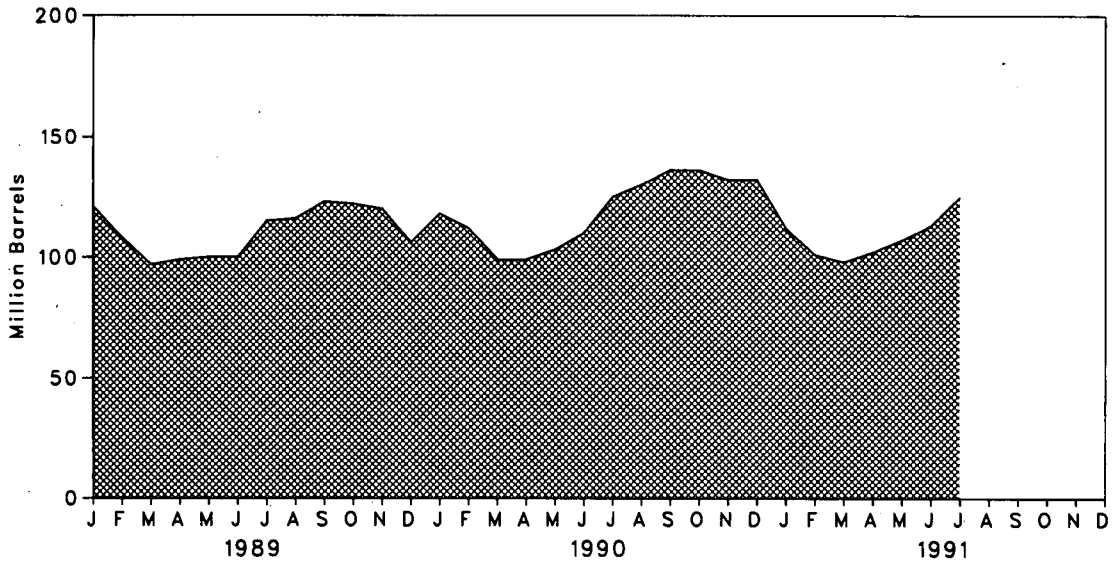


Table 3.5 Distillate Fuel Oil Supply and Disposition

	Supply			Disposition			Ending Stocks ^c
	Total Production	Imports	Crude Used Directly ^a	Stock Change ^b	Exports	Product Supplied ^a	
	Thousand Barrels per Day							Million Barrels
1973 Average	2,822	392	2	115	9	3,092	196
1974 Average	2,669	289	2	9	2	2,948	^d 200
1975 Average	2,654	155	2	^d -41	1	2,851	209
1976 Average	2,924	146	1	-62	1	3,133	186
1977 Average	3,278	250	1	176	1	3,352	250
1978 Average	3,167	173	1	-93	3	3,432	216
1979 Average	3,153	193	1	34	3	3,311	229
1980 Average	2,662	142	1	-64	3	2,866	^d 205
1981 Average^a	2,613	173	10	^d -38	5	2,829	192
1982 Average	2,606	93	10	-35	74	2,671	^d 179
1983 Average	2,456	174	NA	^d -124	64	2,690	140
1984 Average	2,681	272	NA	57	51	2,845	161
1985 Average	2,687	200	NA	-48	67	2,868	144
1986 Average	2,798	247	NA	31	100	2,914	155
1987 Average	2,731	255	NA	-56	66	2,976	134
1988 Average	2,859	302	NA	-30	69	3,122	124
1989							
January	2,974	346	NA	-93	110	3,303	121
February	2,797	331	NA	-463	164	3,427	108
March	2,713	439	NA	-352	76	3,428	97
April	2,789	301	NA	60	56	2,975	99
May	2,750	290	NA	35	51	2,954	100
June	2,809	233	NA	(s)	39	3,002	100
July	2,848	334	NA	498	89	2,596	115
August	2,907	254	NA	41	154	2,966	116
September	2,952	249	NA	231	81	2,889	123
October	2,906	261	NA	-50	90	3,127	122
November	3,063	307	NA	-64	123	3,311	120
December	3,266	324	NA	-454	130	3,914	106
Average	2,899	306	NA	-49	97	3,157	
1990							
January	3,130	505	NA	388	62	3,185	118
February	2,753	357	NA	-215	65	3,260	112
March	2,657	281	NA	-415	75	3,277	99
April	2,803	308	NA	9	59	3,043	99
May	2,874	209	NA	108	75	2,900	103
June	2,996	257	NA	246	84	2,923	110
July	3,008	236	NA	487	30	2,726	125
August	3,131	293	NA	156	51	3,218	130
September	2,968	226	NA	207	123	2,864	136
October	2,928	190	NA	8	150	2,960	136
November	2,915	238	NA	-129	188	3,094	132
December	2,917	239	NA	-7	347	2,816	132
Average	2,925	278	NA	73	109	3,021	
1991							
January	2,851	190	NA	-648	332	3,356	112
February	2,867	138	NA	-388	393	3,000	101
March	2,862	206	NA	-96	198	2,966	98
April	2,822	258	NA	130	81	2,869	102
May	2,924	185	NA	156	218	2,735	107
June	^R 2,940	^R 209	NA	^R 216	^R 150	^R 2,783	113
July	^E 2,980	^E 140	NA	^E 365	^E 65	^E 2,690	^E 125
7-Month Average	^E 2,893	^E 190	NA	^E -35	^E 204	^E 2,914	
1990 7-Month Average	2,890	307	NA	91	64	3,042	
1989 7-Month Average	2,812	325	NA	-40	83	3,094	

^aBeginning in January 1983, product supplied for distillate fuel oil does not include crude oil used directly.

^bA negative number indicates a decrease in stocks and a positive number indicates an increase.

^cStocks are totals as of end of period.

^dIn January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock change calculations. See Note 4 at end of section. Due to a rounding difference, the 1975 stock change value is -40 in the *Petroleum Supply Annual* and the *Petroleum Supply Monthly*.

^eBeginning in January 1981, survey forms were modified. See Note 1 at end of section.

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

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

Sources: See end of section.

Figure 3.9 Residual Fuel Oil Product Supplied, Production, and Imports

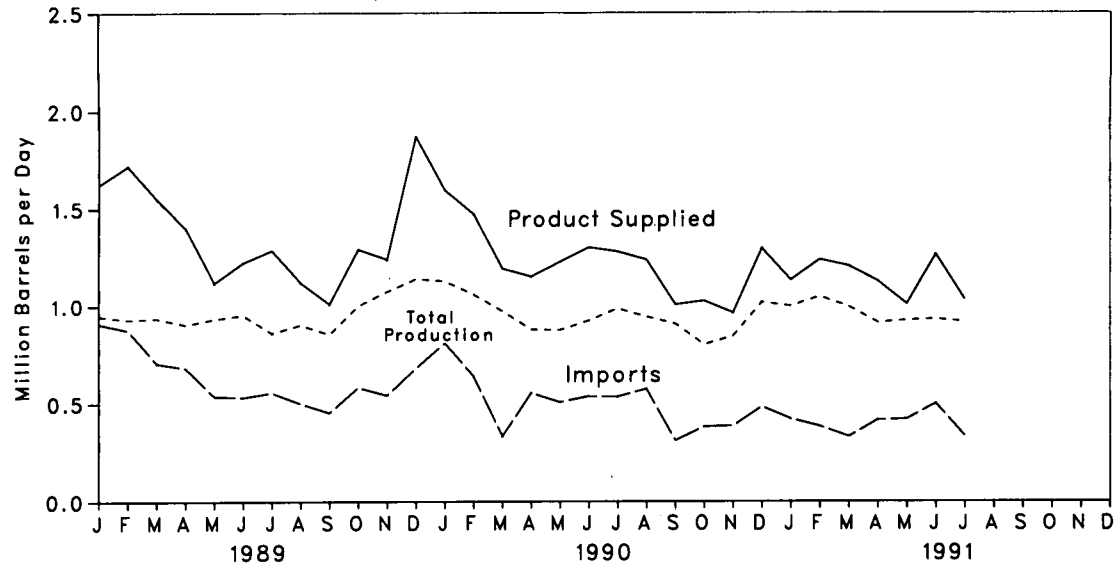


Figure 3.10 Residual Fuel Oil Ending Stocks

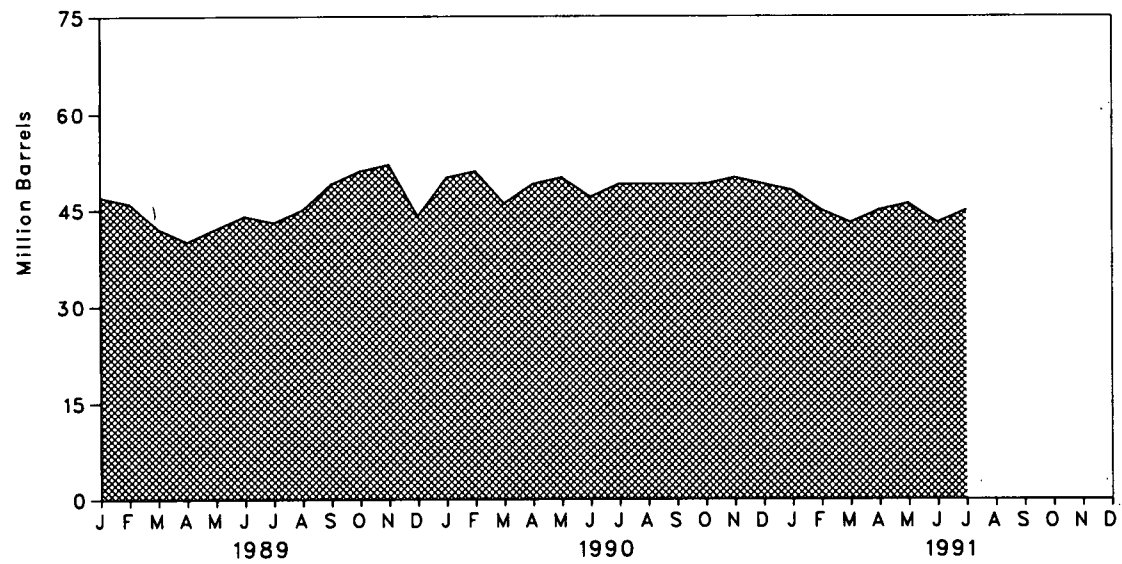


Table 3.6 Residual Fuel Oil Supply and Disposition

	Supply			Disposition			Ending Stocks ^c
	Total Production	Imports	Crude Used Directly ^a	Stock Change ^b	Exports	Product Supplied ^a	
	Thousand Barrels per Day							Million Barrels
1973 Average	971	1,853	17	-5	23	2,822	53
1974 Average	1,070	1,587	13	17	14	2,639	^d 60
1975 Average	1,235	1,223	15	^d -2	15	2,462	74
1976 Average	1,377	1,413	17	-5	12	2,801	72
1977 Average	1,754	1,359	13	48	6	3,071	90
1978 Average	1,687	1,355	13	1	13	3,023	90
1979 Average	1,687	1,151	12	15	9	2,826	96
1980 Average	1,580	939	12	-10	33	2,508	^d 92
1981 Average ^e	1,321	800	48	^d -37	118	2,088	78
1982 Average	1,070	776	48	-32	209	1,716	^d 66
1983 Average	852	699	NA	^d -55	185	1,421	49
1984 Average	891	681	NA	12	190	1,369	53
1985 Average	882	510	NA	-7	197	1,202	50
1986 Average	889	669	NA	-8	147	1,418	47
1987 Average	885	565	NA	(s)	186	1,264	47
1988 Average	926	644	NA	-8	200	1,378	45
1989 January	949	909	NA	84	151	1,623	47
February	930	877	NA	-58	146	1,719	46
March	937	706	NA	-128	220	1,551	42
April	904	681	NA	-52	236	1,401	40
May	934	538	NA	77	276	1,119	42
June	953	533	NA	54	208	1,223	44
July	862	556	NA	-44	176	1,286	43
August	903	501	NA	58	225	1,121	45
September	856	454	NA	162	137	1,010	49
October	1,001	583	NA	50	243	1,292	51
November	1,075	543	NA	48	330	1,240	52
December	1,140	680	NA	-275	226	1,870	44
Average	954	629	NA	-2	215	1,370	
1990 January	1,163	825	NA	205	186	1,597	50
February	1,060	663	NA	36	214	1,474	51
March	976	335	NA	-158	277	1,192	46
April	882	559	NA	90	200	1,151	49
May	884	507	NA	22	141	1,227	50
June	926	485	NA	-98	207	1,302	47
July	987	536	NA	72	171	1,280	49
August	944	574	NA	-1	280	1,238	49
September	909	313	NA	15	200	1,007	49
October	799	383	NA	-3	160	1,028	49
November	846	387	NA	25	243	965	50
December	1,021	484	NA	-50	259	1,296	49
Average	950	504	NA	13	211	1,229	
1991 January	1,000	422	NA	-32	320	1,133	48
February	1,049	384	NA	-106	299	1,239	45
March	997	331	NA	-55	178	1,206	43
April	915	416	NA	58	145	1,128	45
May	926	420	NA	36	300	1,010	46
June	^R 933	^R 499	NA	^R -78	^R 245	^R 1,265	^R 43
July	^E 919	^E 334	NA	^E 25	^E 195	^E 1,032	^E 45
7-Month Average	^E 962	^E 400	NA	^E -21	^E 240	^E 1,143	
1990 7-Month Average	982	557	NA	24	199	1,316	
1989 7-Month Average	924	684	NA	-9	203	1,414	

^aBeginning in January 1983, product supplied for residual fuel oil does not include crude oil used directly.

^bA negative number indicates a decrease in stocks and a positive number indicates an increase.

^cStocks are totals as of end of period.

^dIn January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock change calculations. See Note 4 at end of section.

^eBeginning in January 1981, survey forms were modified. See Note 1 at end of section.

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

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

Sources: See end of section.

Figure 3.11 Jet Fuel Product Supplied, Production, and Imports

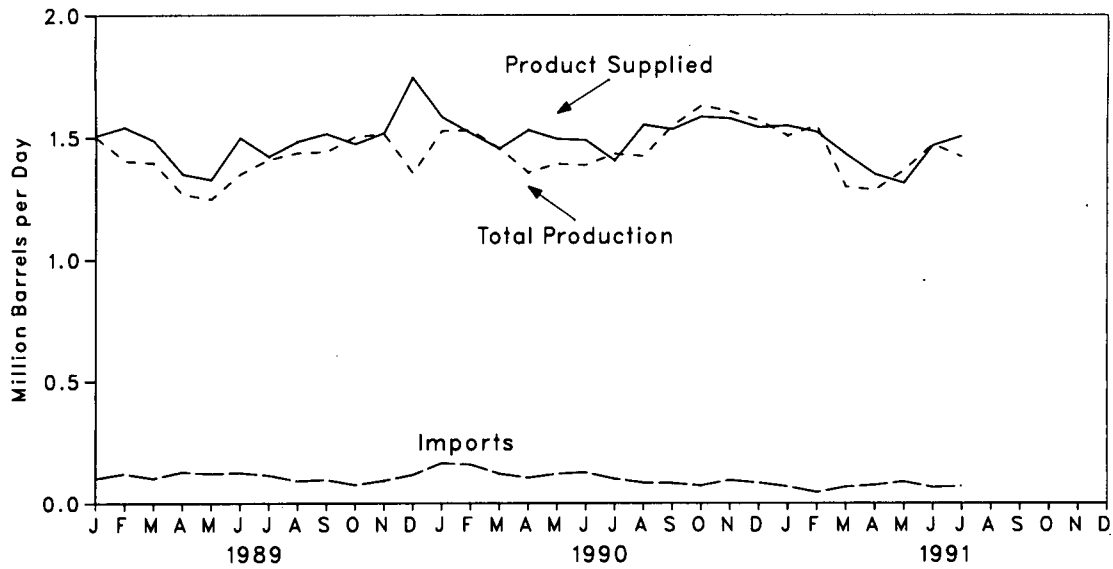


Figure 3.12 Jet Fuel Ending Stocks

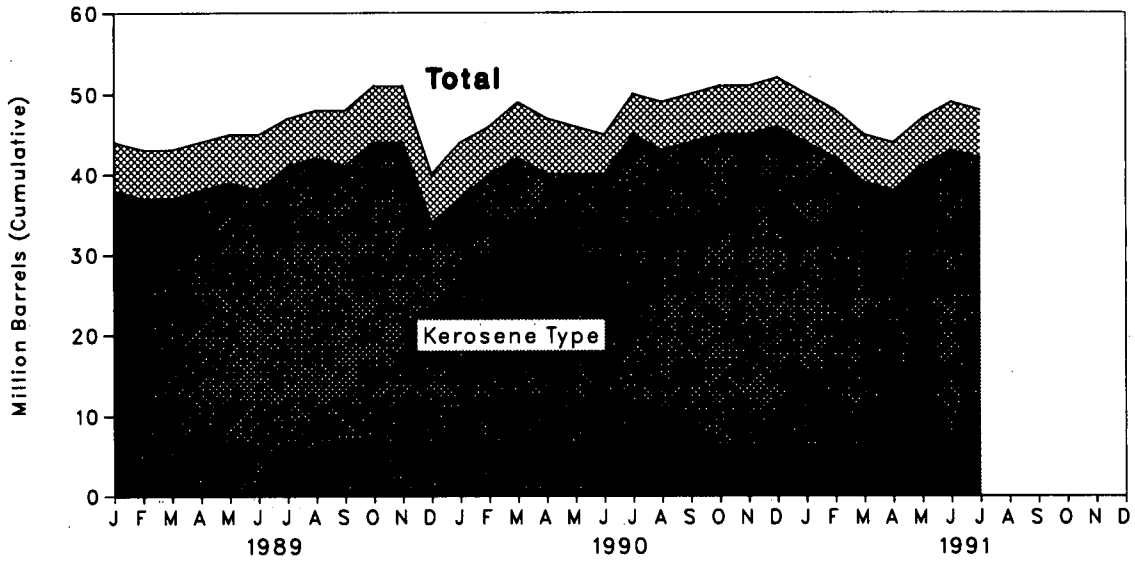


Table 3.7 Jet Fuel Supply and Disposition

	Supply			Disposition				Ending Stocks ^a	
	Production		Imports	Stock Change ^b	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	^c 29	^c 24
1975 Average	871	691	133	^c 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	^c 42	^c 36
1981 Average	968	775	38	^c -4	2	1,007	809	41	34
1982 Average	978	778	29	-12	6	1,013	804	^c 37	^c 31
1983 Average	1,022	817	29	^c (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 January	1,503	1,312	101	21	75	1,508	1,334	44	38
February	1,404	1,214	120	-40	21	1,542	1,342	43	37
March	1,396	1,188	101	-2	11	1,488	1,277	43	37
April	1,270	1,074	127	31	16	1,351	1,150	44	38
May	1,249	1,031	120	40	1	1,328	1,103	45	39
June	1,350	1,139	124	-27	1	1,500	1,286	45	38
July	1,410	1,194	113	90	11	1,422	1,219	47	41
August	1,437	1,237	90	28	15	1,484	1,260	48	42
September	1,442	1,218	95	-13	34	1,516	1,316	48	41
October	1,504	1,300	74	74	30	1,474	1,252	50	44
November	1,514	1,305	91	34	52	1,519	1,337	51	44
December	1,354	1,149	115	-335	59	1,745	1,541	41	34
Average	1,403	1,197	106	-8	27	1,489	1,284		
1990 January	1,527	1,340	163	76	30	1,584	1,404	43	37
February	1,530	1,330	158	120	50	1,519	1,316	47	40
March	1,457	1,256	120	92	30	1,455	1,289	49	42
April	1,357	1,179	103	-91	19	1,531	1,335	47	40
May	1,392	1,194	119	8	8	1,495	1,313	47	40
June	1,388	1,214	125	13	10	1,490	1,320	47	40
July	1,434	1,307	99	117	10	1,406	1,259	51	45
August	1,424	1,250	83	-82	37	1,552	1,363	48	43
September	1,548	1,339	81	48	47	1,534	1,329	50	44
October	1,630	1,463	71	39	77	1,585	1,406	51	45
November	1,606	1,445	93	-19	141	1,578	1,369	50	45
December	1,570	1,411	82	51	60	1,541	1,378	52	46
Average	1,488	1,311	108	31	43	1,522	1,340		
1991 January	1,508	1,353	67	-46	73	1,548	1,367	50	44
February	1,548	1,384	44	-91	159	1,523	1,342	48	42
March	1,299	1,157	65	-109	40	1,433	1,279	45	39
April	1,286	1,135	73	-29	38	1,350	1,195	44	38
May	1,365	1,190	87	104	35	1,314	1,123	47	41
June	^R 1,473	^R 1,300	^R 64	^R 56	^R 13	^R 1,468	^R 1,282	^R 49	^R 43
July	^E 1,422	^E 1,254	^E 68	^E -26	^E 11	^E 1,506	^E 1,336	^E 47	^E 42
7-Month Average	^E 1,413	^E 1,252	^E 67	^E -19	^E 51	^E 1,448	^E 1,274		
1990 7-Month Average	1,440	1,260	126	48	22	1,497	1,319		
1989 7-Month Average	1,369	1,164	115	17	19	1,447	1,243		

^aStocks are totals as of end of period.

^bA negative number indicates a decrease in stocks and a positive number indicates an increase.

^cIn January 1975, 1981, and 1983, a new stock basis was established affecting stocks reported and stock change calculations. See Note 4 at end of section.

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

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

Sources: See end of section.

Figure 3.13 Liquefied Petroleum Gases Product Supplied, Production, and Imports

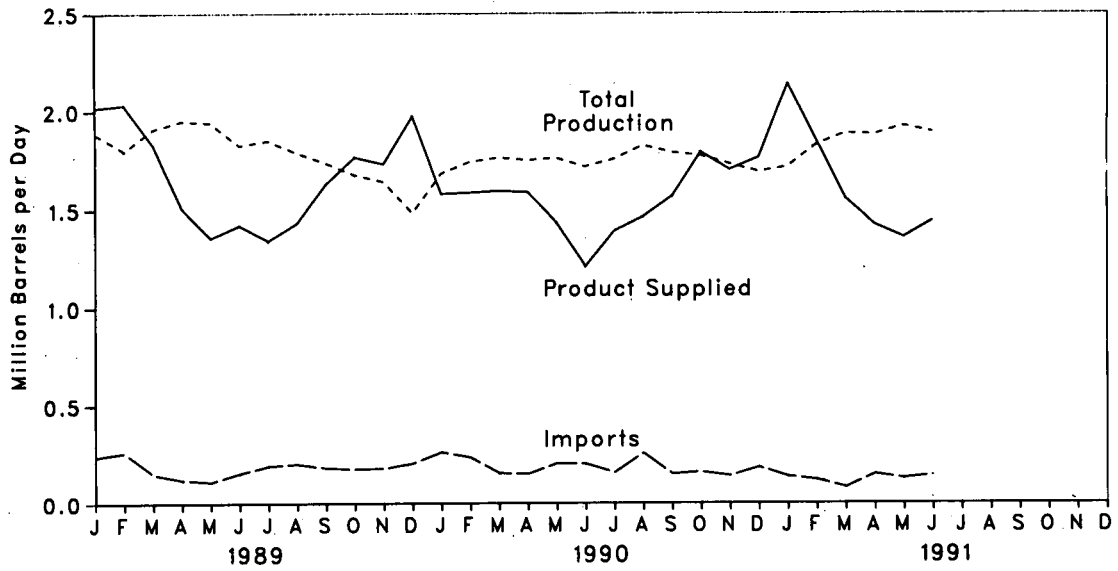


Figure 3.14 Liquefied Petroleum Gases Ending Stocks

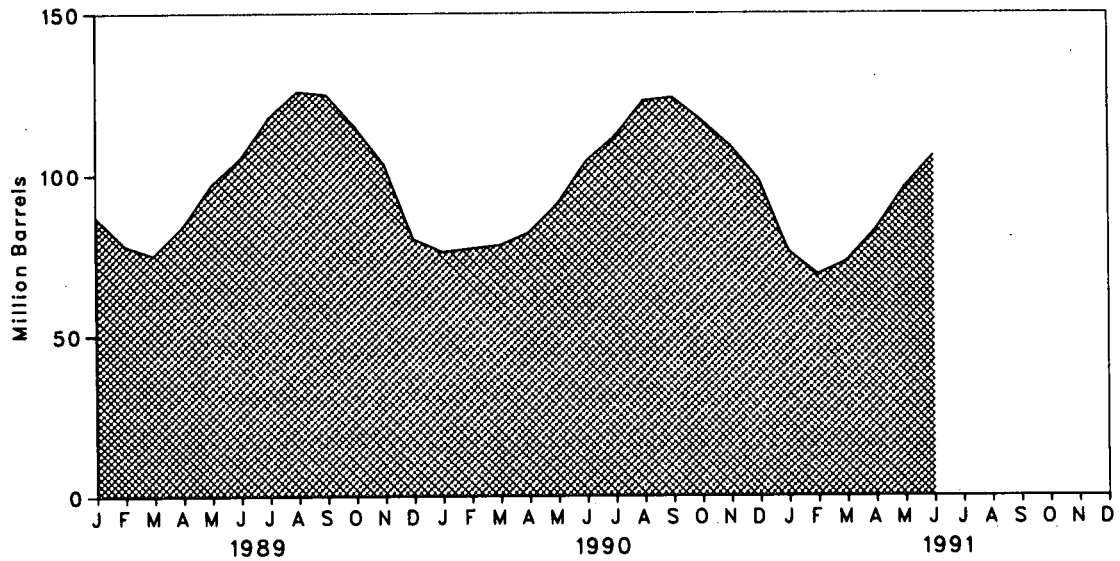


Table 3.8 Liquefied Petroleum Gases^a Supply and Disposition

	Supply		Disposition				Ending Stocks ^c
	Total Production	Imports	Stock Change ^b	Refinery Inputs	Exports	Product Supplied	
	Thousand Barrels per Day							Million Barrels
1973 Average	1,600	132	35	220	27	1,449	99
1974 Average	1,565	123	38	220	25	1,406	^d 113
1975 Average	1,527	112	^d 35	246	26	1,333	125
1976 Average	1,535	130	-24	260	25	1,404	116
1977 Average	1,566	161	55	233	18	1,422	136
1978 Average	1,537	123	-12	239	20	1,413	132
1979 Average	1,556	217	-70	236	15	1,592	111
1980 Average	1,535	216	27	233	21	1,469	^d 120
1981 Average	1,571	244	^d 18	289	42	1,466	135
1982 Average	^e 1,527	226	-111	300	65	1,499	^d 94
1983 Average	1,642	190	^d -4	253	73	1,509	^d 101
1984 Average	1,697	195	^d -19	291	48	1,572	101
1985 Average	1,704	187	-75	304	62	1,599	74
1986 Average	1,695	242	80	302	42	1,512	103
1987 Average	1,748	190	-15	304	38	1,612	97
1988 Average	1,817	209	1	321	49	1,656	97
1989							
January	1,885	239	-335	422	19	2,018	87
February	1,798	260	-333	328	31	2,032	78
March	1,909	150	-85	274	43	1,827	75
April	1,950	121	294	242	27	1,507	84
May	1,943	110	428	226	43	1,357	97
June	1,824	155	269	254	35	1,422	105
July	1,850	192	407	247	45	1,343	118
August	1,787	202	272	245	40	1,433	126
September	1,737	182	-46	303	31	1,631	125
October	1,679	176	-313	371	31	1,766	115
November	1,643	179	-389	446	33	1,732	103
December	1,483	205	-749	424	37	1,975	80
Average	1,791	181	-47	315	35	1,668	
1990							
January	1,684	261	-92	414	44	1,580	77
February	1,743	235	11	339	42	1,587	78
March	1,763	155	80	199	44	1,595	80
April	1,751	150	91	195	25	1,589	83
May	1,761	204	287	209	36	1,433	92
June	1,719	202	469	212	28	1,211	106
July	1,756	157	268	217	36	1,392	114
August	1,825	256	339	236	43	1,463	125
September	1,789	149	37	293	41	1,567	126
October	1,773	159	-243	348	38	1,790	118
November	1,731	140	-296	427	39	1,702	109
December	1,692	184	-370	427	58	1,762	98
Average	1,749	188	48	293	40	1,556	
1991							
January	1,716	137	-700	359	56	2,139	76
February	1,829	119	-267	304	60	1,850	69
March	1,887	81	121	234	56	1,556	73
April	1,881	149	353	224	31	1,423	83
May	1,924	127	425	221	45	1,360	96
June	1,894	143	324	238	32	1,443	106
6-Month Average	1,855	126	45	263	47	1,627	
1990 6-Month Average	1,737	201	142	261	37	1,499	
1989 6-Month Average	1,886	172	43	291	33	1,691	

^aIncludes ethane, propane, normal butane, and isobutane.

^bA negative number indicates a decrease in stocks and a positive number indicates an increase.

^cStocks are totals as of end of period.

^dIn January 1975, 1981, 1983, and 1984, a new stock basis was established affecting stocks reported and stock change calculations. See Note 4 at end of section.

^eDue to a rounding difference, this value is 1,528 in the *Petroleum Supply Annual* and the *Petroleum Supply Monthly*.

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

Sources: See end of section.

Table 3.9 Other Petroleum Products^a Supply and Disposition

	Supply		Disposition				Ending Stocks ^c
	Total Production	Imports	Stock Change ^b	Refinery Inputs	Exports	Products Supplied	
Thousand Barrels per Day							Million Barrels
1973 Average	2,833	290	1	750	162	2,211	179
1974 Average	2,722	269	25	665	172	2,129	^d 188
1975 Average	2,547	144	^d -6	537	158	2,001	188
1976 Average	2,725	129	(s)	524	172	2,158	188
1977 Average	2,939	130	20	514	164	2,371	195
1978 Average	3,076	80	-12	492	165	2,511	191
1979 Average	3,141	116	24	352	208	2,673	200
1980 Average	2,957	130	15	310	197	2,566	^d 205
1981 Average	2,771	188	^d -42	723	197	2,081	241
1982 Average	2,475	305	-68	787	205	1,857	^d 216
1983 Average	2,437	382	^d -6	712	236	1,877	^d 217
1984 Average	2,500	503	^d -32	791	236	2,007	198
1985 Average	2,532	550	22	886	227	1,947	206
1986 Average	2,704	504	-15	888	291	2,045	201
1987 Average	2,737	543	-1	829	264	2,187	200
1988 Average	2,773	645	22	799	294	2,303	208
1989 January	2,696	646	375	706	236	2,024	220
February	2,553	717	231	726	281	2,032	226
March	2,671	644	114	660	311	2,230	230
April	2,683	727	102	808	290	2,210	233
May	2,882	635	181	688	258	2,391	239
June	3,025	571	-179	838	388	2,549	233
July	3,044	576	-159	955	333	2,491	228
August	2,998	587	-244	893	313	2,623	221
September	2,986	675	125	737	309	2,490	224
October	2,687	632	-42	730	308	2,323	223
November	2,608	645	-77	900	299	2,131	221
December	2,409	486	-266	918	332	1,910	213
Average	2,771	627	12	797	305	2,285	
1990 January	2,567	814	86	735	225	2,335	215
February	2,781	680	387	654	298	2,122	226
March	2,670	687	78	795	276	2,207	229
April	2,774	596	-138	869	318	2,320	224
May	2,847	756	295	544	292	2,471	234
June	2,907	879	-160	919	334	2,692	229
July	3,146	732	-148	958	317	2,752	224
August	3,097	673	-291	998	297	2,766	215
September	3,029	674	68	760	265	2,611	217
October	2,848	590	-436	1,211	329	2,334	204
November	2,788	800	206	1,010	270	2,102	210
December	2,644	575	-288	1,172	249	2,087	201
Average	2,842	705	-32	887	289	2,402	
1991 January	2,640	720	167	835	317	2,041	207
February	2,683	555	391	723	275	1,849	218
March	2,585	504	145	832	239	1,873	223
April	2,735	584	125	790	228	2,176	226
May	2,884	762	209	921	327	2,190	233
June	3,032	574	-125	1,102	304	2,325	229
6-Month Average	2,760	618	150	869	282	2,077	
1990 6-Month Average	2,756	736	89	753	290	2,360	
1989 6-Month Average	2,754	656	138	737	294	2,241	

^aIncludes pentanes plus, other hydrocarbons and alcohol, unfinished oil, gasoline blending components, and all finished petroleum products except finished motor gasoline, distillate fuel oil, residual fuel oil, jet fuel, and liquefied petroleum gases.

^bA negative number indicates a decrease in stocks and a positive number indicates an increase.

^cStocks are totals as of end of period.

^dIn January 1975, 1981, 1983, and 1984, a new stock basis was established affecting stocks reported and stock change calculations. See Note 4 at end of this section.

(s)=Less than 500 barrels per day.

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

Sources: See end of section.

Petroleum Notes and Sources

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 industry publications such 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.

Every 3 years an extensive survey is conducted to update the frames completely. The updating involves consolidating information from every known source including State agencies, Federal agencies (e.g., Environmental Protection Agency, Corps of Engineers, Census Bureau, etc.), and private industry directories. The effort also includes the evaluation of the impact of potential frame changes on the historical time series of data published from these respondents. The results of this frame study are usually implemented in January to provide a full year under the same frame.

2. **Motor Gasoline:** Beginning in January 1981, the EIA expanded its universe to include non-refinery blenders; redefined motor gasoline into two categories (finished leaded and finished unleaded); and separated blending components from finished motor gasoline as a reporting category. Also, survey forms were modified to describe refinery operations more accurately. For further details, see the EIA, *Petroleum Supply Monthly*.

3. **Distillate and Residual Fuel Oils:** The requirement to report crude oil burned on leases and pipelines as either distillate or residual fuel oil has been eliminated. Prior to January 1981, the refinery input of unfinished oils number typically exceeded the number for available supply of unfinished oils. That discrepancy was assumed to be due to the redesignation of distillate and residual fuel oils received as such, but used as an unfinished oil input 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. For further details, see the EIA, *Petroleum Supply Monthly*.

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

- Crude Oil: 1982--645 (Total) and 351 (Other Primary).
- Crude Oil and Petroleum Products: 1974--1,121; 1980--1,425; and 1982--1,461.
- Motor Gasoline: 1974--225; 1980--263; 1982--244 (Total) and 202 (Finished).
- Distillate Fuel Oil: 1974--224; 1980--205; and 1982--186.
- Residual Fuel Oil: 1974--75; 1980--91; and 1982--69.
- Jet Fuel: 1974--30 (Total) and 24 (Kerosene Type); 1980-- 42 (Total) and 36 (Kerosene Type); and 1982--39 (Total) and 32 (Kerosene Type).
- Liquefied Petroleum Gases: 1974--113; 1980--128; and 1982--102.
- Other Petroleum Products: 1974--190; 1980--207; and 1982--219.
- Stock change calculations beginning in 1975, 1981, and 1983, were made 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 "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.
- Other Petroleum Products: 1983--210.

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).

Sources

- 1973 through 1976: U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "PAD Districts Supply/Demand, Annual."
- 1977 through 1980: Energy Information Administration (EIA), *Energy Data Reports*, "Petroleum Statement, Annual" and "PAD Districts Supply/Demand, Annual" and unleaded gasoline data from *Monthly Petroleum Statistics Report*.
- 1981 through 1990: EIA, *Petroleum Supply Annual*.
- January 1991 through June 1991: Detailed Statistics in appropriate issues of the *Petroleum Supply Monthly*.
- July 1991: Estimates based on EIA weekly data (except domestic crude oil production).
- January 1991 through July 1991: Domestic crude oil production estimate based on historical statistics from State conservation agencies and the Minerals Management Service of the U.S. Department of the Interior.

Section 4. Natural Gas

Total dry natural gas production in the United States during June 1991 was an estimated 1.4 trillion cubic feet, 1 percent higher than the previous June. Dry natural gas production during the first half of 1991 was 8.8 trillion cubic feet, slightly lower than the first half of 1990.

Consumption of natural and supplemental gas in June 1991 was 1.2 trillion cubic feet, 1 percent below the level in June 1990. Consumption of natural and supplemental gas during the first half of 1991 was 10 trillion cubic feet, 1 percent above the first half of 1990.

Deliveries to residential consumers in May 1991 (latest data available) were 230 billion cubic feet, 7 percent lower than the previous May. Total deliveries to in-

dustrial consumers during May 1991 were 558 billion cubic feet, 8 percent lower than the previous May.

Imports of natural gas in June 1991 were 125 billion cubic feet, 7 percent higher than the previous June. Imports of natural gas during the first half of 1991 were 782 billion cubic feet, 6 percent higher than imports during the first half of 1990.

Stocks of working gas⁴ in underground natural gas storage reservoirs at the end of June 1991 totaled 2.5 trillion cubic feet, 4 percent above the level of stocks available 1 year earlier. Net injections into storage during June 1991 were 287 billion cubic feet, 1 percent less than during the previous June.

⁴Gas available for withdrawal.

Table 4.1 Natural Gas Production
(Billion Cubic Feet)

	Gross Withdrawals ^a	Repressuring ^b	Nonhydrocarbon Gases Removed ^c	Vented and Flared ^d	Marketed Production (Wet) ^e	Extraction Loss	Total Dry Gas Production ^f
1973 Total	24,067	1,171	NA	248	22,648	917	21,731
1974 Total	22,850	1,080	NA	169	21,601	887	20,713
1975 Total	21,104	861	NA	134	20,109	872	19,236
1976 Total	20,944	859	NA	132	19,952	854	19,098
1977 Total	21,097	935	NA	137	20,025	863	19,163
1978 Total	21,309	1,181	NA	153	19,974	852	19,122
1979 Total	21,883	1,245	NA	167	20,471	808	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	20,210	1,388	208	93	18,520	762	17,758
1983 Total	18,597	1,458	222	95	16,822	790	16,033
1984 Total	20,192	1,630	224	108	18,230	838	17,392
1985 Total	19,534	1,915	326	95	17,198	816	16,382
1986 Total	19,063	1,838	337	98	16,791	800	15,991
1987 Total	20,056	2,208	376	124	17,349	812	16,536
1988 Total	20,922	2,478	460	143	17,841	816	17,026
1989 January	1,866	219	34	11	1,602	70	1,532
February	1,712	193	29	11	1,479	64	1,415
March	1,809	197	31	13	1,568	68	1,500
April	1,737	203	29	12	1,493	65	1,428
May	1,770	214	31	12	1,513	66	1,447
June	1,683	192	28	12	1,451	63	1,388
July	1,720	199	30	12	1,479	64	1,415
August	1,715	207	28	12	1,468	63	1,404
September	1,644	207	28	12	1,397	60	1,337
October	1,719	211	29	12	1,467	64	1,403
November	1,784	214	31	12	1,527	66	1,461
December	1,850	219	33	12	1,586	72	1,514
Total	21,009	2,475	362	142	18,029	785	17,245
1990 January	1,936	205	32	15	1,684	79	1,605
February	1,714	180	27	9	1,498	70	1,428
March	1,836	207	30	10	1,589	74	1,515
April	1,739	201	29	10	1,499	70	1,429
May	1,774	203	35	11	1,525	71	1,454
June	1,705	191	29	10	1,475	69	1,406
July	1,729	194	30	10	1,495	70	1,425
August	1,743	196	31	10	1,506	70	1,436
September	1,670	189	30	10	1,441	67	1,374
October	1,783	197	31	10	1,545	70	1,475
November	1,815	203	32	11	1,569	73	1,496
December	1,901	213	34	11	1,643	77	1,566
Total	21,345	2,379	370	127	18,469	860	17,609
1991 January	1,902	213	34	11	1,644	72	1,572
February	1,722	192	30	10	1,490	65	1,425
March	1,823	204	32	11	1,576	69	1,507
April	R 1,742	E 195	E 31	E 10	R 1,506	E 66	R 1,440
May	E 1,764	E 197	E 31	E 10	E 1,526	E 66	E 1,460
June	E 1,722	E 193	E 30	E 10	E 1,489	E 65	E 1,424
6-Month Total	E 10,675	E 1,194	E 188	E 62	E 9,232	E 403	E 8,828
1990 6-Month Total	10,704	1,187	182	65	9,270	433	8,837
1989 6-Month Total	10,577	1,218	182	71	9,106	396	8,710

^aGas withdrawn from gas and oil wells.

^bThe injection of natural gas into oil and gas formations for pressure maintenance and cycling purposes.

^cSee Note 1 at end of section.

^dVented: 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.

^eGross Withdrawals minus Repressuring, Nonhydrocarbon Gases Removed, and Vented and Flared. See Note 2 at end of section.

^fMarketed Production (Wet) minus Extraction Loss.

^gMay include unknown quantities of nonhydrocarbon gases.

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

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

Sources: • 1973 through 1987: Energy Information Administration (EIA), *Natural Gas Annual 1988, Volume II*, Table 1. • 1988 forward: EIA, *Natural Gas Monthly*, August 1991, Table 1.

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

	Supply					Total Supply/ Disposition ^c	Disposition		
	Total Dry Gas Production	Withdrawals from Storage ^a	Supplemental Gaseous Fuels ^b	Imports ^b	Balancing Item ^d		Additions to Storage ^a	Exports ^b	Consumption ^b
1973 Total	• 21,731	1,533	NA	1,033	-196	24,101	1,974	77	22,049
1974 Total	• 20,713	1,701	NA	959	-289	23,084	1,784	77	21,223
1975 Total	• 19,236	1,760	NA	953	-235	21,714	2,104	73	19,538
1976 Total	• 19,098	1,921	NA	964	-216	21,767	1,756	65	19,946
1977 Total	• 19,163	1,750	NA	1,011	-41	21,883	2,307	56	19,521
1978 Total	• 19,122	2,158	NA	966	-287	21,958	2,278	53	19,627
1979 Total	• 19,683	2,047	NA	1,253	-372	22,591	2,295	56	20,241
1980 Total	19,403	1,972	155	985	-640	21,875	1,949	49	19,877
1981 Total	19,181	1,930	176	904	-500	21,691	2,228	59	19,404
1982 Total	17,758	2,164	145	933	-475	20,525	2,472	52	18,001
1983 Total	16,033	2,270	132	918	^d -641	18,712	1,822	55	16,835
1984 Total	17,392	2,098	110	843	^d -143	20,300	2,295	55	17,951
1985 Total	16,382	2,397	126	950	-356	19,499	2,163	55	17,281
1986 Total	15,991	1,837	113	750	-427	18,266	1,984	61	16,221
1987 Total	16,536	1,905	101	993	-359	19,176	1,911	54	17,211
1988 Total	17,026	2,270	101	1,294	-376	20,315	2,211	74	18,030
1989 January	1,532	426	11	119	-4	2,084	53	7	2,024
February	1,415	614	10	110	-101	2,048	32	7	2,009
March	1,500	369	10	113	72	2,064	106	11	1,947
April	1,428	138	8	110	93	1,777	184	11	1,582
May	1,447	44	8	108	77	1,684	326	8	1,350
June	1,388	20	7	104	72	1,591	381	9	1,201
July	1,415	29	8	101	55	1,608	377	9	1,222
August	1,404	29	8	108	39	1,588	362	9	1,217
September	1,337	39	7	117	16	1,516	325	9	1,182
October	1,403	96	9	123	-57	1,574	225	10	1,339
November	1,461	227	9	123	-139	1,681	105	8	1,568
December	1,514	821	12	145	-275	2,217	52	8	2,157
Total	17,245	2,850	107	1,382	-149	21,435	2,529	107	18,799
1990 January	1,605	339	11	R 140	R 134	R 2,229	91	R 14	R 2,124
February	1,428	324	9	R 118	R 31	R 1,910	70	R 8	R 1,832
March	1,515	256	10	R 116	R 32	R 1,929	124	R 11	R 1,794
April	1,429	140	9	R 123	R 92	1,793	183	R 6	R 1,604
May	1,454	45	8	R 123	R 68	R 1,698	289	R 6	1,403
June	1,406	42	7	R 117	R 55	R 1,627	327	R 6	R 1,294
July	1,425	27	9	R 120	R 34	R 1,615	325	R 5	1,285
August	1,436	37	8	R 118	R 39	R 1,638	321	R 5	R 1,312
September	1,374	36	8	R 120	R 33	R 1,571	284	R 7	R 1,280
October	1,475	61	8	R 142	-68	R 1,618	214	R 6	R 1,398
November	1,496	144	9	R 140	R -94	R 1,695	136	R 6	R 1,553
December	1,566	467	11	R 156	R -175	R 2,025	72	R 7	R 1,946
Total	17,609	1,918	105	R 1,532	R 183	R 21,347	2,436	R 86	R 18,825
1991 January	1,572	R 632	10	156	R -7	R 2,363	R 57	R 8	R 2,298
February	1,425	R 360	9	131	R 59	R 1,984	58	R 7	R 1,919
March	1,507	R 262	10	119	R 50	R 1,948	R 98	9	R 1,841
April	R 1,440	R 83	9	123	R 135	R 1,790	R 212	8	R 1,570
May	E 1,460	R 31	9	128	R 24	R 1,652	R 306	6	R 1,340
June	E 1,424	20	8	125	-51	1,526	307	8	1,211
6-Month Total	E 8,828	1,388	55	782	210	11,263	1,038	46	10,179
1990 6-Month Total	8,837	1,146	54	737	412	11,186	1,084	51	10,051
1989 6-Month Total	8,710	1,611	54	664	209	11,248	1,082	53	10,113

*Data for 1980 through 1989 include underground storage and liquefied natural gas storage. All other data include underground storage only. Computation procedures are discussed in Note 8 at end of section.

^bSee Notes at end of section.

^cData for 1978 forward do not include in-transit receipts and deliveries.

^dSee Note 7 at end of section.

*May include unknown quantities of nonhydrocarbon gases.

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

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

Sources: • 1973 through 1987: Energy Information Administration (EIA), *Natural Gas Annual 1988, Volume II*, Tables 2 and 12. • 1988 forward: EIA, *Natural Gas Monthly*, August 1991, Table 2.

**Table 4.3 Natural Gas^a Consumption by End-Use Sector
(Billion Cubic Feet)**

	Lease and Plant Fuel	Pipeline Fuel ^b	Delivered to Consumers				Total Consumption	
			Residential	Commercial	Industrial	Electric Utilities		Total
1973 Total	1,496	728	4,879	2,597	8,689	3,660	19,825	22,049
1974 Total	1,477	669	4,786	2,556	8,292	3,443	19,077	21,223
1975 Total	1,396	583	4,924	2,508	6,968	3,158	17,558	19,538
1976 Total	1,634	548	5,051	2,668	6,964	3,081	17,764	19,946
1977 Total	1,659	533	4,821	2,501	6,815	3,191	17,329	19,521
1978 Total	1,648	530	4,903	2,601	6,757	3,188	17,449	19,627
1979 Total	1,499	601	4,965	2,786	6,899	3,491	18,141	20,241
1980 Total	1,026	635	4,752	2,811	7,172	3,682	18,216	19,877
1981 Total	928	642	4,546	2,520	7,128	3,640	17,834	19,404
1982 Total	1,109	596	4,633	2,606	5,831	3,226	16,295	18,001
1983 Total	978	490	4,381	2,433	5,643	2,911	15,367	16,835
1984 Total	1,077	529	4,555	2,524	6,154	3,111	16,345	17,951
1985 Total	966	504	4,433	2,432	5,901	3,044	15,811	17,281
1986 Total	923	485	4,314	2,318	5,579	2,602	14,814	16,221
1987 Total	1,149	519	4,315	2,430	5,953	2,844	15,542	17,211
1988 Total	1,096	614	4,630	2,670	6,383	2,636	16,320	18,030
1989 January	95	57	751	376	598	147	1,872	2,024
February	88	57	742	380	570	172	1,864	2,009
March	93	54	645	342	602	211	1,800	1,947
April	88	49	414	233	563	235	1,445	1,582
May	89	51	256	159	544	251	1,210	1,350
June	86	50	155	121	529	260	1,065	1,201
July	88	50	129	110	525	320	1,084	1,222
August	87	50	121	110	539	310	1,080	1,217
September	82	48	139	113	532	268	1,052	1,182
October	87	49	228	152	568	254	1,203	1,339
November	90	50	405	231	603	189	1,428	1,568
December	97	65	790	391	643	171	1,995	2,157
Total	1,070	630	4,777	2,719	6,816	2,787	17,099	18,799
1990 January	111	53	R 785	R 399	R 630	146	R 1,960	R 2,124
February	99	48	R 639	R 335	R 579	132	R 1,685	R 1,832
March	105	48	R 549	301	R 607	184	R 1,641	R 1,794
April	99	44	R 398	R 235	R 629	199	R 1,461	R 1,604
May	101	47	247	R 156	R 608	244	1,255	1,403
June	97	44	R 160	123	R 573	297	R 1,153	R 1,294
July	97	49	126	R 122	565	326	1,139	1,285
August	98	49	121	115	R 587	342	R 1,165	R 1,312
September	95	47	R 132	121	R 585	301	R 1,138	R 1,280
October	99	44	R 212	150	R 637	256	R 1,255	R 1,398
November	104	49	373	R 222	R 619	185	R 1,400	R 1,553
December	109	51	626	331	R 654	175	R 1,786	R 1,946
Total	1,214	573	R 4,369	R 2,610	R 7,272	2,786	R 17,037	R 18,825
1991 January	109	58	847	431	R 682	171	R 2,131	R 2,298
February	99	50	R 669	R 358	R 598	146	R 1,770	R 1,919
March	104	51	R 576	309	R 609	192	R 1,686	R 1,841
April	100	48	375	226	R 607	215	R 1,422	R 1,570
May	102	48	230	153	558	249	1,190	R 1,340
5-Month Total	514	255	2,696	1,477	3,053	973	8,199	8,968
1990 5-Month Total	515	240	2,619	1,427	3,053	904	8,002	8,757
1989 5-Month Total	453	268	2,809	1,490	2,877	1,016	8,191	8,912

^aIncludes supplemental gaseous fuels.

^bNatural gas consumed in the operation of pipelines, primarily in compressors.

R=Revised data.

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

Sources: • 1973 through 1987: Energy Information Administration (EIA), *Natural Gas Annual 1988, Volume II*, Table 3. • 1988 forward: EIA, *Natural Gas Monthly*, August 1991, Table 3.

Table 4.4 Underground Storage of Natural Gas
(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 ^a	Volume	Percent	Injections ^b	Withdrawals ^b	Net ^c
1973 Total	2,864	2,034	4,898	305	17.6	1,974	1,533	442
1974 Total	2,912	2,050	4,962	16	.8	1,784	1,701	84
1975 Total	3,162	2,212	5,374	162	7.9	2,104	1,760	344
1976 Total	3,323	1,926	5,250	-286	-12.9	1,756	1,921	-165
1977 Total	3,391	2,475	5,866	549	28.5	2,307	1,750	557
1978 Total	3,473	2,547	6,020	72	2.9	2,278	2,158	120
1979 Total	3,553	2,753	6,306	207	8.1	2,295	2,047	248
1980 Total	3,642	2,655	6,297	-99	-3.6	1,896	1,910	-14
1981 Total	3,752	2,817	6,569	162	6.1	2,180	1,887	293
1982 Total	3,808	3,071	6,879	255	9.0	2,399	2,094	308
1983 Total	3,847	2,595	6,442	-476	-15.5	1,700	2,142	-442
1984 Total	3,830	2,876	6,706	281	10.8	2,252	2,064	188
1985 Total	3,842	2,607	6,448	-270	-9.4	2,128	2,359	-231
1986 Total	3,819	2,749	6,567	142	5.5	1,952	1,812	140
1987 Total	3,792	2,756	6,548	7	.3	1,887	1,881	6
1988 Total	3,800	2,850	6,650	94	3.4	2,174	2,244	-69
1989 January	3,798	2,509	6,307	281	12.6	53	418	-365
February	3,801	1,994	5,796	168	9.2	32	602	-570
March	3,801	1,776	5,578	94	5.6	106	362	-256
April	3,801	1,823	5,624	54	3.0	181	138	43
May	3,802	2,062	5,863	34	1.7	321	44	277
June	3,802	2,374	6,176	82	3.6	375	20	355
July	3,802	2,644	6,446	77	3.0	371	29	341
August	3,802	2,938	6,740	103	3.6	356	29	328
September	3,802	3,187	6,990	67	2.2	320	39	281
October	3,792	3,268	7,061	25	.8	221	96	124
November	3,809	3,199	7,008	28	.9	105	223	-118
December	3,812	2,513	6,325	-337	-11.8	52	805	-752
Total						2,493	2,804	-311
1990 January	3,818	2,265	6,083	-243	-9.7	91	339	-248
February	3,814	2,013	5,827	19	.9	70	324	-253
March	3,818	1,878	5,695	101	5.7	124	256	-131
April	3,839	1,932	5,771	109	6.0	183	140	43
May	3,823	2,159	5,982	97	4.7	289	45	245
June	3,844	2,454	6,297	79	3.3	327	42	285
July	3,850	2,747	6,597	103	3.9	325	27	298
August	3,851	2,995	6,846	57	1.9	321	37	283
September	3,852	3,267	7,119	80	2.5	284	36	248
October	3,852	3,426	7,277	158	4.8	214	61	153
November	3,868	3,417	7,285	218	6.8	136	144	-8
December	3,868	3,009	6,876	496	19.7	72	467	-395
Total						2,436	1,918	520
1991 January	R 3,831	R 2,262	R 6,094	R -3	R -.1	R 57	R 632	R -576
February	R 3,889	R 2,080	R 5,969	R 67	R 3.3	R 60	R 360	R -300
March	R 3,865	R 1,912	R 5,777	R 34	R 1.8	R 98	R 262	R -164
April	R 3,878	R 2,039	R 5,917	R 107	R 5.5	R 212	R 83	R 129
May	R 3,914	R 2,278	R 6,192	R 119	R 5.5	R 306	R 31	R 276
June	3,935	2,549	6,484	95	3.9	307	20	287

^aTotal underground storage capacity at the end of each calendar year (in billion cubic feet): 1975--6,280 (first data available); 1976--6,544; 1977--6,678; 1978--6,890; 1979--6,929; 1980--7,434; 1981--7,805; 1982--7,915; 1983--7,985; 1984--8,043; 1985--8,087; 1986--8,145; 1987 and 1988--8,124; and 1989--8,124. Current capacity is 8,125.

^bFor 1980 through 1989, data differ from those shown on Table 4.2, which includes liquefied natural gas storage for that period.

^cPositive numbers indicate injections are greater than withdrawals. Negative numbers indicate withdrawals are greater than injections. Net injections or withdrawals may not equal the difference between applicable ending stocks. See Note 8 at end of section.

R=Revised data.

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

Sources: • **Storage Activity**—1973 through 1975: Energy Information Administration (EIA), *Natural Gas Annual 1988, Volume II*, Table 9. 1976 through 1979: EIA, *Natural Gas Production and Consumption 1979*, Table 1. 1980 through 1988: EIA, *Natural Gas Annual 1988, Volume II*, Table 11. 1989 forward: EIA, *Natural Gas Monthly*, August 1991, Table 17. • **Other Data**—1973: American Gas Association (AGA), *Gas Facts, 1972 Data*, Table 57, and *Gas Facts, 1973 Data*, Table 57. 1974: AGA, *Gas Facts, 1974 Data*, Table 40. 1975 and 1976: Federal Energy Administration, Form FEA-G318-M-O, and Federal Power Commission (FPC), Form FPC-8. 1977 and 1978: EIA, Form FEA-G318-M-O, and Federal Energy Regulatory Commission (FERC), Form FERC-8. 1979 through 1987: EIA, Form EIA-191, and FERC, Form FERC-8. 1988 forward: EIA, *Natural Gas Monthly*, August 1991, Table 17.

Figure 4.1 Natural Gas Consumption, Production, and Imports

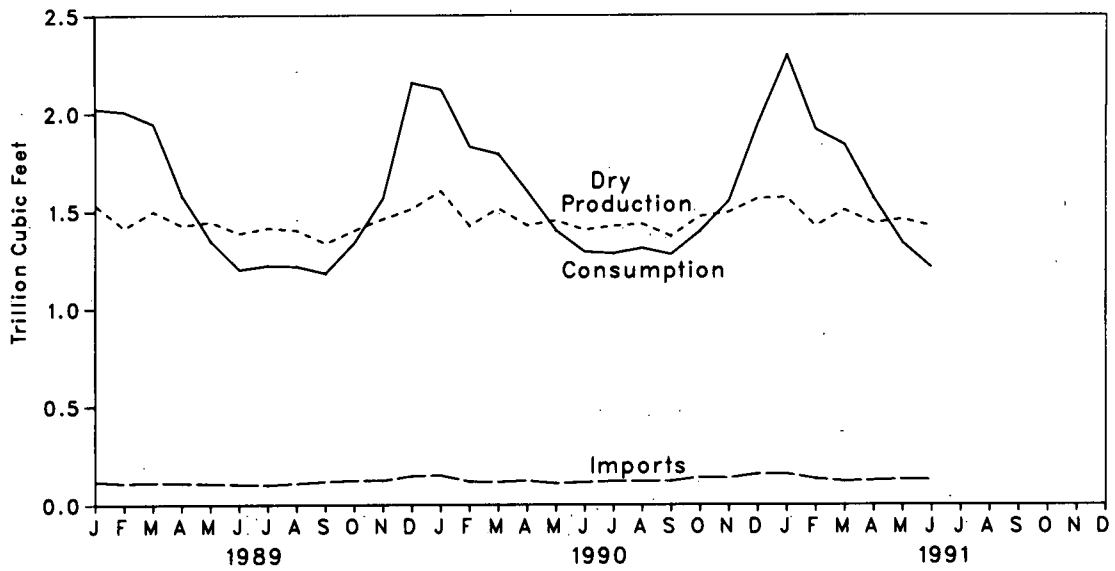
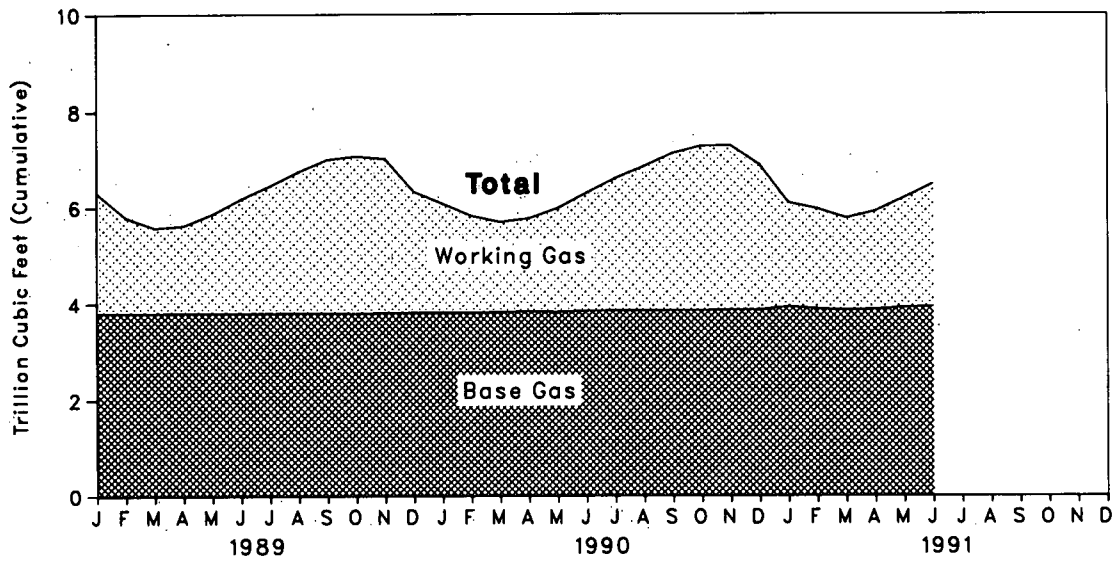


Figure 4.2 Natural Gas In Storage, End of Period



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) 1989*. Data are not available for periods prior to 1980. Monthly data are reported by three States and computed for six States. Monthly data are preliminary until after publication of the EIA *NGA*. Differences between annual data published in the EIA *NGA* and the sum of the preliminary monthly data (January-December) are allocated proportionally to the months to create final monthly data. For further information on methods of estimating preliminary monthly data, see the EIA *Natural Gas Monthly (NGM)*.

2. Production: Annual data. Final annual data are from the EIA *NGA*.

Estimated monthly data. Data for the two most recent months presented are estimated. Some of the data for earlier months are also estimated or computed. For a discussion of computation and estimation procedures, see the EIA *NGM*.

Preliminary monthly data. Monthly data are considered preliminary until after publication of the EIA *NGA*. Preliminary monthly data are gathered from reports to the Interstate Oil Compact Commission and the U.S. Minerals Management Service. Volumetric data are converted, as necessary, to a standard 14.73 psia 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 liquids constituents at natural gas processing plants.

Annual data for extraction loss are from the EIA *NGA* for which they have been estimated based on 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 based on 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 based on total natural gas disposition data from the EIA *NGA*.

4. Supplemental Gaseous Fuels: Supplemental gaseous fuels are mainly synthetic natural gas, propane-air, and refinery gas. Other gases may also be included such as coke oven gas, biomass gas, manufactured gas, and air injected 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 imported natural gas via pipeline from Mexico (until 1984) and Canada and liquefied natural gas (LNG) (except in 1986) via tanker from Algeria. One shipment of LNG was received in December 1986 from Indonesia. The United States exports natural gas via pipeline to Mexico and Canada and LNG via tanker to Japan.

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

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

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

Final data are from the EIA *NGA*. Monthly data are considered preliminary until after publication of the EIA *NGA*. For more detailed information on the methods of estimating preliminary and final monthly data, see the EIA *NGM*.

7. Balancing Item: The balancing item for natural gas represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas disposition. The differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperature and pressure bases and converted to a standard temperature and pressure base;

the effect of variations in company accounting and billing practices; differences between billing cycle and calendar period time frames; and imbalances resulting from the merger of data reporting systems which vary in scope, format, definitions, and type of respondents.

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

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

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

Monthly underground storage data are collected from the Forms FERC-8 (interstate data) and EIA-191 (intrastate data). Monthly data are revised after publication of the EIA *Underground Natural Gas Storage in the United States* for that heating year (April through March). In addition, 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 through 1989 include both underground and liquefied natural gas (LNG) storage. Annual data on LNG additions and withdrawals are from Form EIA-176. Monthly data are estimated by computing the ratio of each month's underground storage additions and withdrawals to annual underground storage additions and withdrawals and applying the ratio to the annual LNG data.

Section 5. Oil and Gas Resource Development

A total of 105 seismic exploration crews were active in July 1991, 24 fewer than a year earlier. Of the total, 89 were land crews and 16 were aboard marine vessels. The number of land crews was down by 16, and the number of operating marine vessels decreased by 8 vessels from the July 1990 count.

The July 1991 rotary rig count of 844 was 3 percent lower than in the previous month and 16 percent lower than in July 1990. Of the total number of rigs in operation, 764 were onshore and 80 were offshore. The number of onshore rigs was down 15 percent from the number in July 1990, and the number of offshore rigs was down 26 percent.

Exploratory and development wells drilled during June 1991 totaled an estimated 2,160, 10 percent higher than the previous month but 10 percent lower than the June 1990 total. Oil wells drilled were 850, 6 percent lower than the level in June 1990, and gas wells drilled totaled 760, down 11 percent from the June 1990 total. Total footage drilled in June 1991 was 10.06 million feet, up 5 percent from the total in May 1991 but down 11 percent from the total in June 1990.

Figure 5.1 Seismic Crews, Rotary Rigs, and Footage Drilled

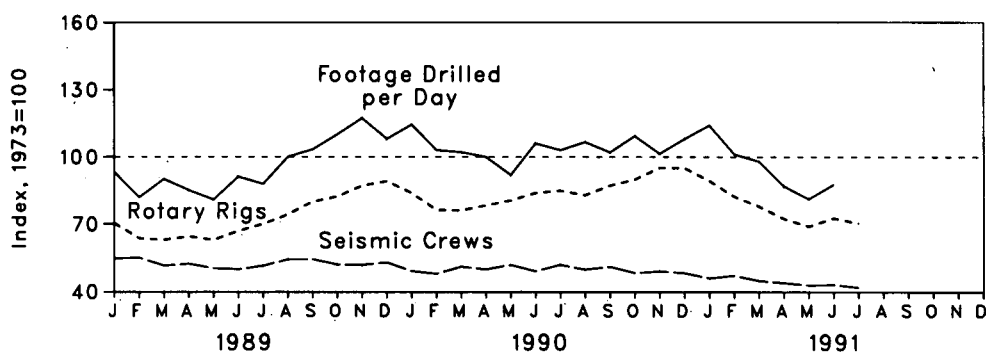


Figure 5.2 Oil and Gas Exploratory and Development Wells Drilled

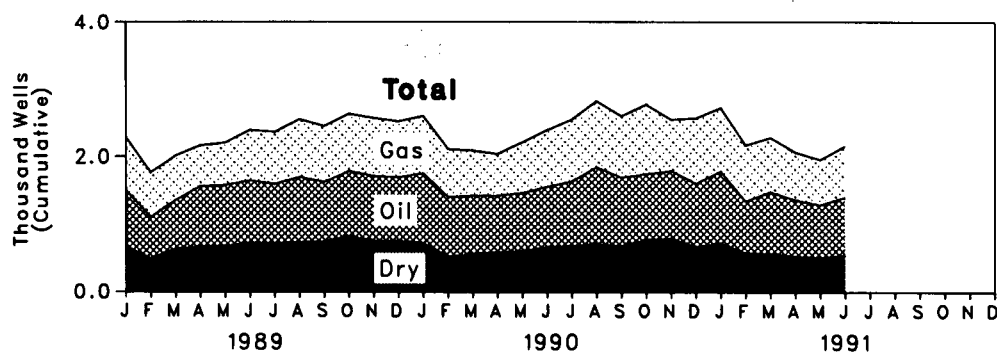


Table 5.1 Seismic Crews and Rotary Rigs

	Crews Engaged in Seismic Exploration			Rotary Rigs in Operation ^a		
	Offshore	Onshore	Total	Offshore	Onshore	Total
	Monthly Average			Weekly Average		
1973 Average	23	227	250	84	1,110	1,194
1974 Average	31	274	305	94	1,378	1,472
1975 Average	30	254	284	106	1,554	1,660
1976 Average	25	237	262	129	1,529	1,658
1977 Average	27	281	308	167	1,834	2,001
1978 Average	25	327	352	185	2,074	2,259
1979 Average	30	370	400	207	1,970	2,177
1980 Average	37	493	530	231	2,678	2,909
1981 Average	44	637	681	256	3,714	3,970
1982 Average	57	531	588	243	2,862	3,105
1983 Average	47	426	473	199	2,033	2,232
1984 Average	49	445	494	213	2,215	2,428
1985 Average	45	333	378	206	1,774	1,980
1986 Average	24	176	201	99	865	964
1987 Average	24	153	176	95	841	936
1988 Average	29	153	182	123	813	936
1989 January	25	112	137	110	731	841
February	23	115	138	95	667	762
March	21	108	129	93	660	753
April	22	109	131	92	679	771
May	22	104	126	92	662	754
June	22	102	124	103	692	795
July	22	107	129	114	718	832
August	26	110	136	114	772	886
September	24	114	138	107	848	955
October	21	109	130	106	878	984
November	20	109	129	119	922	1,041
December	20	112	132	117	948	1,065
Average	23	109	132	105	764	869
1990 January	20	103	123	113	885	998
February	20	100	120	105	806	911
March	21	107	128	108	797	905
April	24	101	125	111	824	935
May	25	104	129	120	841	961
June	23	100	123	113	886	999
July	24	105	129	108	902	1,010
August	23	102	125	108	879	987
September	25	101	126	107	935	1,042
October	23	98	121	99	974	1,073
November	23	100	123	106	1,031	1,137
December	23	98	121	101	1,035	1,136
Average	23	102	125	108	902	1,010
1991 January	22	92	114	91	977	1,068
February	21	97	118	88	896	984
March	24	88	112	81	848	929
April	23	87	110	95	770	865
May	22	85	107	98	721	819
June	21	87	108	93	774	867
July	16	89	105	80	764	844
7-Month Average	21	89	110	86	820	906
1990 7-Month Average	22	103	125	111	851	962
1989 7-Month Average	22	108	130	100	689	789

^aMonthly data are averages of 4- or 5-week reporting periods, not calendar months.

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

Sources • Crews Engaged in Seismic Exploration: Society of Exploration Geophysicists, "Monthly Seismic Crew Count" and annual reports in *Geophysics: The Leading Edge of Exploration*. • Rotary Rigs in Operation: Hughes Tool Company, "Rotary Rigs Running--by State."

Table 5.2 Oil and Gas Exploratory and Development Wells

	Wells Drilled				Footage Drilled Million Feet
	Oil	Gas	Dry	Total	
	Thousand Wells				
1973 Total	10.25	6.98	10.47	27.69	139.42
1974 Total	13.66	7.17	12.21	33.04	153.79
1975 Total	16.98	8.17	13.74	38.89	181.05
1976 Total	17.70	9.44	13.81	40.94	187.29
1977 Total	18.70	12.12	15.04	45.86	215.70
1978 Total	19.07	14.41	16.59	50.06	238.39
1979 Total	20.70	15.17	16.04	51.91	243.69
1980 Total	32.28	17.22	20.34	69.84	312.30
1981 Total	42.84	19.91	27.28	90.03	408.84
1982 Total	39.13	18.94	26.38	84.45	378.39
1983 Total	37.12	14.53	24.30	75.95	318.09
1984 Total	42.51	16.99	25.73	85.23	370.20
1985 Total	34.94	14.23	21.09	70.26	311.77
1986 Total	18.76	8.20	12.89	39.85	178.19
1987 Total	16.22	7.82	11.63	35.68	162.17
1988 Total	13.42	8.33	R 10.17	R 31.92	R 153.44
1989					
January .....	.84	.79	.66	2.28	11.19
February .....	.61	.66	.49	1.75	9.03
March .....	.70	.66	.63	2.00	9.63
April .....	.89	.61	.66	2.17	10.03
May .....	.90	.63	.67	2.20	10.03
June	R .84	R .73	R .71	R 2.29	R 10.62
July .....	.88	.77	.71	2.35	10.61
August .....	.99	.86	.73	2.59	11.39
September .....	.85	.83	.74	2.43	11.34
October .....	.96	.85	.82	2.63	12.05
November .....	.96	R .84	.75	R 2.55	R 12.04
December .....	.94	.83	.75	2.53	12.43
Total	R 10.37	R 9.06	R 8.33	R 27.77	R 130.40
1990					
January	1.03	.85	.72	2.59	13.12
February .....	.88	.71	.52	2.11	10.78
March .....	.86	.67	.56	2.08	10.58
April .....	.83	.62	.59	2.04	10.14
May .....	.86	.75	.60	2.21	10.87
June	R .90	R .85	R .67	R 2.41	R 11.35
July .....	.95	.92	.68	2.55	11.61
August	1.13	.98	.71	2.82	12.01
September	1.01	.91	.68	2.61	11.76
October	1.14	1.03	.77	2.95	13.27
November	1.00	.76	.79	2.55	11.63
December	R 1.02	R .86	R .69	R 2.56	R 12.61
Total	R 11.60	R 9.92	R 7.97	R 29.49	R 139.72
1991					
January	1.06	.94	.72	2.71	13.49
February .....	.76	.83	.58	2.16	10.83
March .....	.91	.80	.57	2.28	11.55
April .....	.83	.71	.53	2.07	10.27
May .....	.78	.67	.51	1.96	9.61
June .....	.85	.76	.55	2.16	10.06
6-Month Total	5.19	4.71	3.45	13.35	65.81
1990 6-Month Total	5.35	4.44	3.66	13.45	66.84
1989 6-Month Total	4.78	4.08	3.83	12.69	60.54

R=Revised data.

Notes: • Includes exploratory and development wells; excludes service wells, stratigraphic tests, and core tests. • Geographic coverage is the 50 States and the District of Columbia. • Totals and averages may not equal sum of components due to subsequent revisions and independent rounding. • Due to the method of estimation, data shown on this page are frequently revised. See end of section.

Sources: Energy Information Administration computations based on well reports submitted to the American Petroleum Institute by the Petroleum Information Corporation.

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 March 1985, the *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 com-

pletions 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 March 1985 are Energy Information Administration-generated (EIA) estimates produced by statistically imputing well counts and footage based on the partial data available from the API.

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

Section 6. Coal

Coal production in June 1991 totaled 79 million short tons, 7 percent⁵ lower than the 85 million short tons produced in June 1990. Coal production for January through June 1991 totaled 496 million short tons, 4 percent lower than the 518 million short tons produced during the same period in 1990.

Electric utility coal consumption in May 1991 totaled 61 million short tons, 4 percent higher than the 59 million short tons consumed in May 1990.

Electric utility coal stocks were 165 million short tons at the end of May 1991, compared with 162 million short tons at the end of May 1990.

Exports of coal in May 1991 totaled 10 million short tons, 2 percent above the level in May 1990. Coal imports for May 1991 totaled 248 thousand short tons, 103 thousand short tons higher than imports for May 1990.

⁵Calculated values are computed using unrounded data.

Figure 6.1 Coal Production, Consumption, and Exports

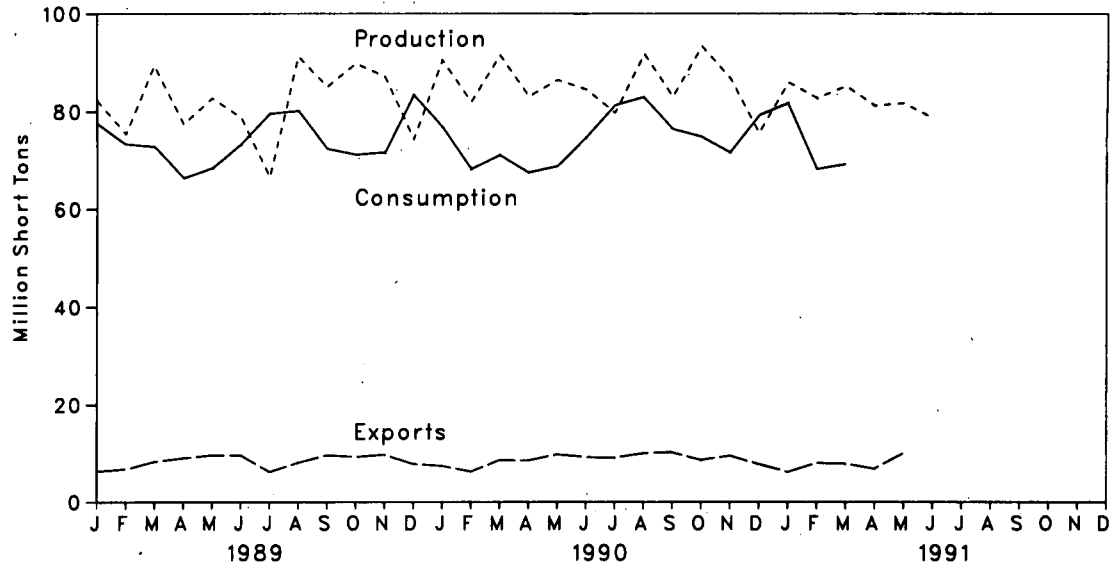


Figure 6.2 Coal Stocks, End of Period

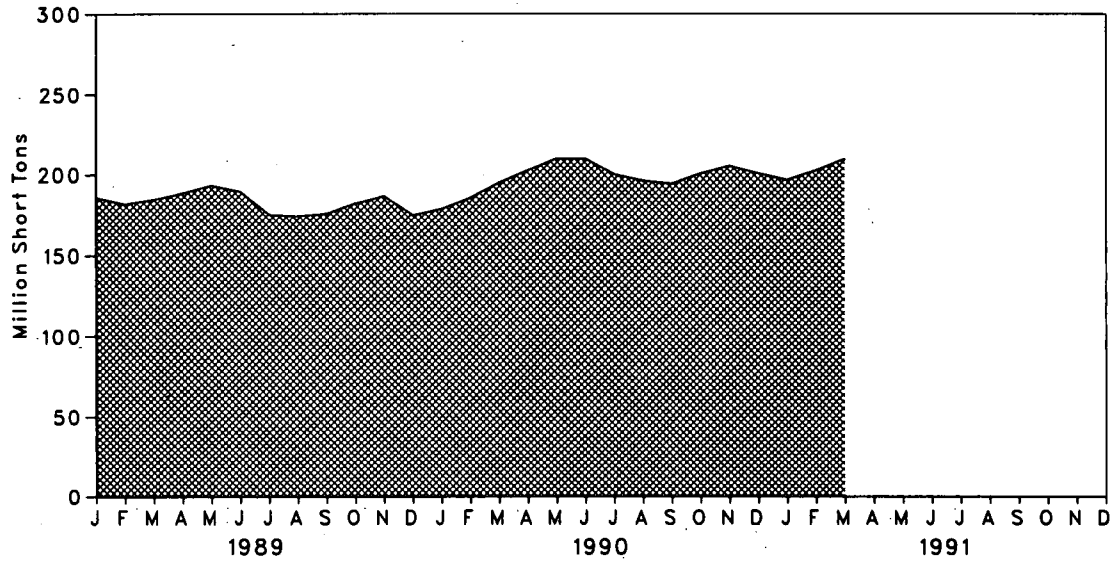


Table 6.1 Coal Overview
(Thousand Short Tons)

	Production	Consumption	Imports ^a	Exports	Stocks ^b
1973 Total	598,568	562,584	127	53,587	NA
1974 Total	610,023	558,402	2,080	60,661	NA
1975 Total	654,641	562,640	940	66,309	NA
1976 Total	684,913	603,790	1,203	60,021	NA
1977 Total	697,205	625,291	1,647	54,312	NA
1978 Total	670,164	625,225	2,953	40,714	NA
1979 Total	781,134	680,524	2,059	66,042	202,472
1980 Total	829,700	702,729	1,194	91,742	228,407
1981 Total	823,775	732,628	1,043	112,541	209,423
1982 Total	838,111	706,910	742	106,277	232,037
1983 Total	782,091	736,671	1,271	77,772	202,585
1984 Total	895,921	791,291	1,286	81,483	231,300
1985 Total	883,638	818,049	1,952	92,680	203,367
1986 Total	890,315	804,312	2,212	85,518	207,319
1987 Total	918,762	836,941	1,747	79,607	213,780
1988 Total	950,265	883,664	2,134	95,023	188,831
1989 January	82,331	77,638	66	6,306	185,952
February	75,414	73,391	131	6,748	181,866
March	89,421	72,834	334	8,375	184,630
April	77,456	66,355	158	9,104	188,578
May	82,776	68,438	312	9,685	193,282
June	78,795	73,372	218	9,657	189,507
July	66,601	79,619	375	6,209	175,341
August	91,349	80,170	247	8,122	174,372
September	85,115	72,413	303	9,661	176,013
October	89,873	71,200	160	9,293	182,271
November	87,236	71,653	245	9,768	186,815
December	74,363	83,478	303	7,888	175,087
Total	980,729	890,559	2,851	100,815	
1990 January	90,551	76,890	175	7,447	178,857
February	82,012	68,252	268	6,243	185,776
March	91,596	71,171	292	8,693	195,112
April	83,164	67,690	182	8,590	202,460
May	86,507	69,007	144	9,827	208,968
June	84,584	74,908	348	9,316	208,871
July	79,809	81,260	200	9,194	199,995
August	91,838	82,951	120	10,065	196,323
September	83,107	76,469	194	10,238	194,398
October	93,418	74,982	284	8,756	200,602
November	86,772	71,729	224	9,621	205,332
December	75,676	79,247	268	7,813	200,626
Total	1,029,035	894,556	2,699	105,804	
1991 January	R 86,058	81,734	263	6,214	196,651
February	R 82,835	68,309	429	8,127	202,570
March	R 85,271	69,321	246	7,977	209,852
April	81,311	NA	198	6,917	NA
May	81,816	NA	248	10,018	NA
June	78,764	NA	NA	NA	NA
6-Month Total	496,056	NA	NA	NA	
1990 6-Month Total	518,415	427,919	1,409	50,116	
1989 6-Month Total	486,192	432,028	1,219	49,874	

^aIncludes Puerto Rico.

^bStocks 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 data. NA=Not available.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1988 are final. Subsequent data are preliminary.

• Totals may not equal sum of components due to independent rounding. • See Notes 1, 2, and 3 at end of section for methodology used to calculate production, consumption, and stocks.

Sources: • Production: 1973 through 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—See Table 6.2.

• Imports and Exports—U.S. Department of Commerce, Bureau of the Census, Monthly Reports IM-145 (Imports) and EM-522 (Exports).

• Stocks—See Table 6.3.

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

	Electric Utilities	Industrial		Residential and Commercial	Total
		Coke Plants	Other Industrial Including Transportation		
1973 Total	389,212	94,101	68,154	11,117	562,584
1974 Total	391,811	90,191	64,983	11,417	558,402
1975 Total	405,962	83,598	63,670	9,410	562,640
1976 Total	448,371	84,704	61,799	8,916	603,790
1977 Total	477,126	77,739	61,472	8,954	625,291
1978 Total	481,235	71,394	63,085	9,511	625,225
1979 Total	527,051	77,368	67,717	8,388	680,524
1980 Total	569,274	66,657	60,347	6,452	702,729
1981 Total	596,797	61,015	67,395	7,422	732,628
1982 Total	593,666	40,908	64,096	8,240	706,910
1983 Total	625,211	37,033	65,979	8,448	736,671
1984 Total	664,399	44,022	73,744	9,128	791,291
1985 Total	693,841	41,056	75,372	7,779	818,049
1986 Total	685,056	36,006	75,583	7,667	804,312
1987 Total	717,894	36,957	75,175	6,914	836,941
1988 Total	758,372	41,910	76,252	7,130	883,664
1989 January	66,767	3,568	6,671	632	77,638
February	62,784	3,295	6,619	693	73,391
March	62,005	3,722	6,595	512	72,834
April	56,144	3,613	6,088	511	66,355
May	58,527	3,525	6,050	336	68,438
June	63,635	3,368	6,073	296	73,372
July	69,720	3,527	5,875	496	79,619
August	70,493	3,336	5,891	449	80,170
September	62,910	3,320	5,865	318	72,413
October	60,561	3,599	6,829	210	71,200
November	61,006	3,301	6,815	530	71,653
December	72,336	3,195	6,764	1,184	83,478
Total	766,888	41,369	76,134	6,167	890,559
1990 January	66,290	3,354	6,533	713	76,890
February	57,996	3,025	6,576	656	68,252
March	60,748	3,369	6,504	551	71,171
April	57,776	3,357	6,025	532	67,690
May	59,140	3,501	6,007	360	69,007
June	65,167	3,331	6,037	373	74,908
July	71,376	3,275	6,075	535	81,260
August	72,942	3,397	6,113	498	82,951
September	66,727	3,276	6,056	409	76,469
October	64,264	3,450	6,853	413	74,982
November	60,916	3,351	6,838	624	71,729
December	68,335	3,139	6,713	1,059	79,247
Total	771,678	39,824	76,330	6,724	894,556
1991 January	71,190	3,031	6,651	862	81,734
February	58,443	2,566	6,695	605	68,309
March	59,195	2,985	6,601	541	69,321
April	55,483	NA	NA	NA	NA
May	61,298	NA	NA	NA	NA
5-Month Total	305,609	NA	NA	NA	NA
1990 5-Month Total	301,951	16,604	31,644	2,812	353,010
1989 5-Month Total	306,226	17,723	32,022	2,684	358,655

^aSee Note 2 at end of section.

NA=Not available.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1988 are final. Subsequent data are preliminary.

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

Sources: • **Electric Utilities, 1973 through September 1977**—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977 forward**—Energy Information Administration (EIA), Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report." • **Coke Plants, 1973 through September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977 through 1980**—EIA, Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual." **1981 through 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 through September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977 through 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." • **Residential and Commercial, 1973 through 1976**—DOI, BOM, *Minerals Yearbook*. **January through September 1977**—DOI, BOM, Form 6-1400, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." **October 1977 through 1979**—EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." **1980 forward**—EIA, Form EIA-6, "Coal Distribution Report."

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

	Consumer				Producers and Distributors	Total ^a
	Electric Utilities	Coke Plants	Other Industrial	Total ^a		
1973 Year	86,967	6,998	10,370	104,335	NA	NA
1974 Year	83,509	6,209	6,605	96,323	NA	NA
1975 Year	110,724	8,797	8,529	128,050	NA	NA
1976 Year	117,436	9,902	7,100	134,438	NA	NA
1977 Year	133,219	12,816	11,083	157,098	NA	NA
1978 Year	128,225	8,278	9,048	145,551	NA	NA
1979 Year	159,714	10,155	11,777	181,646	20,826	202,472
1980 Year	183,010	9,067	11,951	204,028	24,379	228,407
1981 Year	168,893	6,475	9,906	185,274	24,149	209,423
1982 Year	181,132	4,642	9,479	195,253	36,784	232,037
1983 Year	155,598	4,346	8,710	168,654	33,931	202,585
1984 Year	179,727	6,166	11,317	197,210	34,090	231,300
1985 Year	156,376	3,420	10,438	170,234	33,133	203,367
1986 Year	161,806	2,992	10,429	175,226	32,093	207,319
1987 Year	170,797	3,884	10,777	185,459	28,321	213,780
1988 Year	146,507	3,137	8,768	158,413	30,418	188,831
1989 January	142,538	3,264	8,073	153,876	32,076	185,952
February	137,363	3,391	7,378	148,132	33,734	181,866
March	139,036	3,518	6,683	149,238	35,392	184,630
April	144,674	3,466	6,679	154,819	33,759	188,578
May	151,067	3,413	6,675	161,155	32,127	193,282
June	148,981	3,361	6,671	159,013	30,494	189,507
July	134,865	3,476	7,054	145,395	29,946	175,341
August	133,948	3,591	7,436	144,975	29,397	174,372
September	135,640	3,707	7,818	147,165	28,848	176,013
October	142,280	3,426	7,666	153,372	28,899	182,271
November	147,207	3,145	7,515	157,866	28,949	186,815
December	135,860	2,864	7,363	146,087	29,000	175,087
1990 January	137,465	3,123	7,237	147,824	31,033	178,857
February	142,218	3,382	7,110	152,711	33,066	185,776
March	149,388	3,641	6,984	160,013	35,099	195,112
April	155,962	3,674	7,127	166,763	35,698	202,460
May	161,695	3,706	7,270	172,672	36,296	208,968
June	160,823	3,739	7,413	171,976	36,895	208,871
July	152,982	3,387	7,810	164,179	35,816	199,995
August	150,123	3,255	8,206	161,585	34,738	196,323
September	149,013	3,124	8,603	160,739	33,659	194,398
October	155,191	3,192	8,640	167,023	33,579	200,602
November	159,895	3,260	8,678	171,834	33,499	205,332
December	155,163	3,329	8,716	167,208	33,418	200,626
1991 January	148,736	3,262	8,226	160,224	36,428	196,651
February	152,202	3,196	7,735	163,133	39,437	202,570
March	157,031	3,130	7,245	167,406	42,446	209,852
April	162,804	NA	NA	NA	NA	NA
May	165,483	NA	NA	NA	NA	NA

^aExcludes stocks held at retail dealers for consumption by the residential and commercial sector.
NA=Not available.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1988 are final. Subsequent data are preliminary.
• Totals may not equal sum of components due to independent rounding.

Sources: • **Electric Utilities, 1973 through September 1977**—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook and Minerals Industry Surveys*. **October 1977 forward**—Energy Information Administration (EIA), Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report." • **Coke Plants, 1973 through September 1977**—DOI, BOM, *Minerals Yearbook and Minerals Industry Surveys*. **October 1977 through 1980**—EIA, Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual." **1981 through 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 through September 1977**—DOI, BOM, *Minerals Yearbook and Minerals Industry Surveys*. **October 1977 through 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." • **Residential and Commercial, 1973 through 1976**—DOI, BOM, *Minerals Yearbook*. **January through September 1977**—DOI, BOM, Form 6-1400, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." **October 1977 through 1979**—EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." **1980 forward**—EIA, Form EIA-6, "Coal Distribution Report." • **Producers and Distributors**—EIA, Form EIA-6, "Coal Distribution Report."

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 using the average number of tons of coal per railcar loaded reported in the most recent "Quarterly Freight Commodity Statistics" from the Interstate Commerce Commission. If an average coal tonnage per railcar loaded is not available for a specific railroad, the national average is used. To derive the estimate of total weekly production, the total rail tonnage for the week is divided by the ratio of quarterly production shipped by rail and total quarterly production. Data for the corresponding quarter of previous years are used to derive this ratio. This method insures that the seasonal variations are preserved in the production estimates.

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

2. Consumption: Coal consumption data are reported by major end-use sector.

- **Electric Utilities--**Both monthly and quarterly consumption data for electric utility plants are directly from reported data.
- **Coke Plants--**Prior to 1980, monthly coke plant consumption data were directly from reported data. From 1980 forward, coke plant consumption estimates were derived by proportioning reported quarterly data 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 using monthly ratios of raw steel production data from the American Iron and

Steel Institute. The ratios are the monthly raw steel production from open hearth and basic oxygen process furnaces as a proportion of the quarterly production from those kinds of furnaces.

- **Other Industrial--**Prior to 1978, monthly consumption data for the other industrial sector (i.e., all industrial users minus coke plants) were derived by using reported data to modify baseline consumption figures from the most recent Bureau of the Census Annual Survey of Manufactures or Census of Manufactures. For 1978 and 1979, monthly estimates were derived from data reported on Forms EIA-3 and EIA-6. From 1980 forward, monthly figures were estimated by proportioning quarterly data 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 were included where appropriate. Starting in January 1988, monthly consumption for the other industrial sector is estimated from reported quarterly data 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 (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, using the 1977 proportion as the weights.
- **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 forward, monthly estimates were derived by proportioning reported quarterly data 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 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 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 directly from reported data.

3. Stocks: Coal stocks data are reported by major end-use sector.

- **Electric Utilities--**Both monthly and quarterly stocks at electric utility plants are directly from reported data.
- **Coke Plants--**Prior to 1980, monthly stocks at coke plants were directly from reported data. From 1980 forward, coke plant stocks are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks. Quarterly stocks are directly from data reported on Form EIA-5.
- **Other Industrial--**Prior to 1978, stocks for the other industrial sector were derived by using reported data to modify baseline figures from a one-time Bureau of Mines survey of consumers.

For 1978 through 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 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.

- **Producers and Distributors--**Quarterly stocks at producers and distributors are 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 directly from data reported monthly by the Bureau of the Census.

5. Additional Information: More information concerning coal production, consumption, and stocks data and estimation procedures may be obtained in EIA's *Quarterly Coal Report*.

Section 7. Electric Utilities

During May 1991, electric utilities generated 234 billion kilowatthours of electricity, 5 percent⁶ above the May 1990 generation level. Coal-fired generation totaled 124 billion kilowatthours, 3 percent above the May 1990 level. Nuclear generation totaled 47 billion kilowatthours, 9 percent above the level 1 year earlier. Hydroelectric generation totaled 28 billion kilowatthours, 5 percent above the May 1990 level. Natural gas-fired generation was 23 billion kilowatthours, 2 percent higher than the May 1990 level. Petroleum-fired generation totaled 11 billion kilowatthours, 16 percent above the level 1 year earlier.

Sales of electricity to all ultimate consumers in the United States in May 1991 were 217 billion kilowatthours, 4 percent higher than the May 1990 level. Sales to industrial consumers totaled 80 billion kilowatthours in May 1991, 2 percent higher than the level a year earlier. Sales to residential consumers during May 1991 were 67 billion kilowatthours, 7 percent above the level of sales during the previous May. Com-

mercial sales were 61 billion kilowatthours, 3 percent above the amount sold to commercial consumers 1 year earlier. In May 1991, other sales totaled 8 billion kilowatthours, 9 percent above the May 1990 level.

Coal consumed at electric utilities during May 1991 was 61 million short tons, 4 percent higher than the May 1990 level. Petroleum (excluding petroleum coke) consumed at electric utilities during May 1991 was 18 million barrels, 15 percent above the May 1990 level. Natural gas consumed at electric utilities during May 1991 was 249 billion cubic feet, 2 percent above the May 1990 consumption level.

On May 31, 1991, electric utility stocks of all types of coal totaled 165 million short tons, 2 percent higher than the level on May 31, 1990. Stocks of petroleum (excluding petroleum coke) on May 31, 1991, totaled 73 million barrels, 1 percent above the level on May 31, 1990.

⁶Percentage changes are based on numbers shown in the following tables.

Table 7.1 Net Generation of Electricity by Electric Utilities
(Million Kilowatthours)

	Coal	Petroleum ^a	Natural Gas ^b	Nuclear Electric Power	Hydro-electric Power	Other ^c	Total
1973 Total	847,851	314,343	340,858	83,479	272,083	2,294	1,860,710
1974 Total	828,433	300,931	320,065	113,976	301,032	2,703	1,867,140
1975 Total	852,786	289,095	299,778	172,505	300,047	3,437	1,917,649
1976 Total	944,391	319,988	294,824	191,104	283,707	3,883	2,037,696
1977 Total	985,219	358,179	305,505	250,883	220,475	4,063	2,124,323
1978 Total	975,742	365,060	305,391	276,403	280,419	3,315	2,206,331
1979 Total	1,075,037	303,525	329,485	255,155	279,783	4,387	2,247,372
1980 Total	1,161,562	245,994	346,240	251,116	276,021	5,506	2,266,439
1981 Total	1,203,203	206,421	345,777	272,674	260,684	6,054	2,294,812
1982 Total	1,192,004	146,797	305,260	282,773	309,213	5,164	2,241,211
1983 Total	1,259,424	144,499	274,098	293,677	332,130	6,456	2,310,285
1984 Total	1,341,681	119,808	297,394	327,634	321,150	8,638	2,416,304
1985 Total	1,402,128	100,202	291,946	383,691	281,149	10,724	2,469,841
1986 Total	1,385,831	136,585	248,508	414,038	290,844	11,503	2,487,310
1987 Total	1,463,781	118,493	272,621	455,270	249,695	12,267	2,572,127
1988 Total	1,540,653	148,900	252,801	526,973	222,940	11,984	2,704,250
1989 January	135,181	15,332	14,014	46,328	20,930	961	232,747
February	127,187	17,748	16,672	38,725	18,620	874	219,826
March	126,725	16,667	20,072	39,636	22,642	1,000	226,742
April	115,451	11,561	22,571	33,495	24,077	886	208,042
May	119,108	9,939	23,747	38,339	28,049	942	220,124
June	128,615	12,591	24,680	42,976	25,882	945	235,689
July	138,638	12,081	30,351	52,331	22,671	977	257,050
August	141,901	10,983	29,709	54,948	20,187	959	258,687
September	126,898	10,072	25,515	44,837	18,919	909	227,150
October	122,393	8,263	24,664	43,558	20,076	956	219,910
November	124,338	11,343	18,107	43,399	21,186	927	219,300
December	147,227	21,737	16,496	50,784	21,823	972	259,038
Total	1,553,661	158,318	266,598	529,355	265,063	11,309	2,784,304
1990 January	132,672	11,515	13,687	55,119	23,412	933	237,339
February	115,898	9,385	12,450	49,963	24,151	861	212,708
March	122,958	10,172	17,647	46,087	28,042	948	225,854
April	117,278	10,141	18,991	38,516	25,387	775	211,088
May	119,785	9,442	22,867	42,945	27,001	868	222,908
June	132,461	13,353	28,285	46,332	27,621	883	248,935
July	144,225	12,824	30,969	53,645	23,658	907	266,228
August	147,135	11,020	32,603	55,758	21,048	919	268,483
September	135,345	7,981	28,213	48,485	16,971	875	237,869
October	130,282	7,225	24,381	43,395	18,605	905	224,794
November	123,841	6,221	17,647	45,034	19,993	860	213,596
December	136,576	7,902	16,326	51,582	23,952	919	237,257
Total	1,558,457	117,182	264,067	576,862	279,839	10,651	2,807,058
1991 January	141,877	9,206	16,165	54,369	25,671	897	247,984
February	117,536	8,685	13,731	47,863	21,918	764	210,497
March	118,066	8,815	18,432	49,121	25,820	863	221,117
April	112,177	8,032	20,569	41,662	25,687	809	208,936
May	123,664	10,999	23,309	46,755	28,457	808	233,991
5-Month Total	613,119	45,737	92,206	239,770	127,552	4,140	1,122,525
1990 5-Month Total	608,593	50,655	85,643	232,630	127,992	4,384	1,109,897
1989 5-Month Total	623,652	71,249	97,077	196,523	114,318	4,663	1,107,482

^aIncludes fuel oil Nos. 2, 4, 5, and 6, crude oil, kerosene, and petroleum coke.

^bIncludes supplemental gaseous fuels.

^cOther is electricity produced from geothermal, wood, waste, wind, photovoltaic, and solar thermal energy sources connected to electric utility distribution systems.

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

Sources: • 1973 through September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977 through 1981: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1982 forward: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

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

	Residential		Commercial		Industrial		Other ^b		Total	
	Monthly Series ^c	Annual Series	Monthly Series ^c	Annual Series	Monthly Series ^c	Annual Series	Monthly Series ^c	Annual Series	Monthly Series ^c	Annual Series
1973 Total	579,231		388,266		686,085		59,326		1,712,909	
1974 Total	578,184		384,826		684,875		58,039		1,705,924	
1975 Total	588,140		403,049		687,680		66,222		1,747,091	
1976 Total	606,452		425,094		754,069		69,631		1,855,246	
1977 Total	645,239		446,514		786,037		70,571		1,948,361	
1978 Total	674,466		461,163		809,078		73,215		2,017,922	
1979 Total	682,819		473,307		841,903		73,070		2,071,099	
1980 Total	717,495		488,155		815,067		73,732		2,094,449	
1981 Total	722,265		514,338		825,743		84,756		2,147,103	
1982 Total	729,520		526,397		744,949		85,575		2,086,441	
1983 Total	750,948		543,788		775,999		80,219		2,150,955	
1984 Total	777,654	780,092	578,281	582,621	840,588	837,836	81,849	85,248	2,278,372	2,285,796
1985 Total	790,977	793,934	608,968	605,989	824,523	836,772	85,075	87,279	2,309,543	2,323,974
1986 Total	817,663	819,088	641,469	630,520	808,292	830,531	83,409	88,615	2,350,835	2,368,753
1987 Total	849,613	850,410	673,707	660,433	845,266	858,233	86,854	88,196	2,455,440	2,457,272
1988 Total	892,125	892,866	697,711	699,100	895,751	896,498	82,362	89,598	2,567,949	2,578,062
1989 January	85,075		58,324		74,590		7,597		225,587	
February	78,158		56,433		73,175		7,190		214,956	
March	77,215		57,453		74,448		7,484		216,600	
April	64,698		55,210		74,923		7,094		201,926	
May	61,108		58,428		77,119		7,278		201,933	
June	71,675		62,969		79,379		7,758		221,781	
July	85,596		67,624		79,011		8,033		240,263	
August	86,143		68,187		81,240		8,046		243,615	
September	78,725		65,532		79,845		7,824		231,926	
October	65,136		59,352		79,421		7,592		211,500	
November	64,844		56,716		76,788		7,394		205,742	
December	85,605		61,001		76,437		7,777		230,820	
Total	903,979	905,525	725,229	725,861	926,376	925,659	91,066	89,765	2,646,651	2,646,809
1990 January	95,245		62,633		74,539		7,992		240,409	
February	74,340		57,166		74,070		7,515		213,090	
March	71,742		58,253		76,263		7,516		213,774	
April	65,067		56,595		75,665		7,324		204,651	
May	62,763		59,092		78,173		7,725		207,753	
June	73,688		64,694		80,047		7,932		226,361	
July	90,629		71,121		80,540		8,652		250,942	
August	88,278		71,286		83,438		8,502		251,504	
September	86,014		69,346		81,051		8,136		244,548	
October	69,413		63,219		81,324		7,785		221,741	
November	66,275		58,763		77,045		7,298		209,381	
December	78,285		60,595		76,208		7,272		222,359	
Total	921,739	NA	752,763	NA	938,362	NA	93,649	NA	2,706,512	NA
1991 January	93,890		63,265		75,678		7,953		240,787	
February	79,607		58,542		73,466		7,474		219,090	
March	74,055		58,102		74,372		7,513		214,041	
April	66,172		57,145		75,421		7,647		206,386	
May	67,301		61,136		79,694		8,446		216,576	
5-Month Total	381,025		298,190		378,631		39,034		1,096,879	
1990 5-Month Total ..	369,157		293,739		378,709		38,072		1,079,677	
1989 5-Month Total ..	366,254		283,849		374,255		36,643		1,061,002	

^aElectricity sales to all ultimate consumers.

^bIncludes sales of electricity to Government, railways, street lighting authorities, and sales not included elsewhere.

^cAnnual totals are the sums of the monthly values.

NA=Not available.

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

Sources: **Monthly Series:** • 1973 through September 1977: Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income." • October 1977 through February 1980: Energy Information Administration (EIA), Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income." • March 1980 through 1982: Federal Energy Regulatory Commission, Form FERC-5, "Electric Utility Company Monthly Statement." • 1983 through 1986: EIA, Form EIA-826, "Electric Utility Company Monthly Statement." • 1987 forward: EIA, Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." • Data through 1988 reflect revisions received on subsequent form submissions. **Annual Series:** EIA, Form EIA-861, "Annual Electric Utility Report."

Figure 7.1 Coal Consumed to Produce Electricity

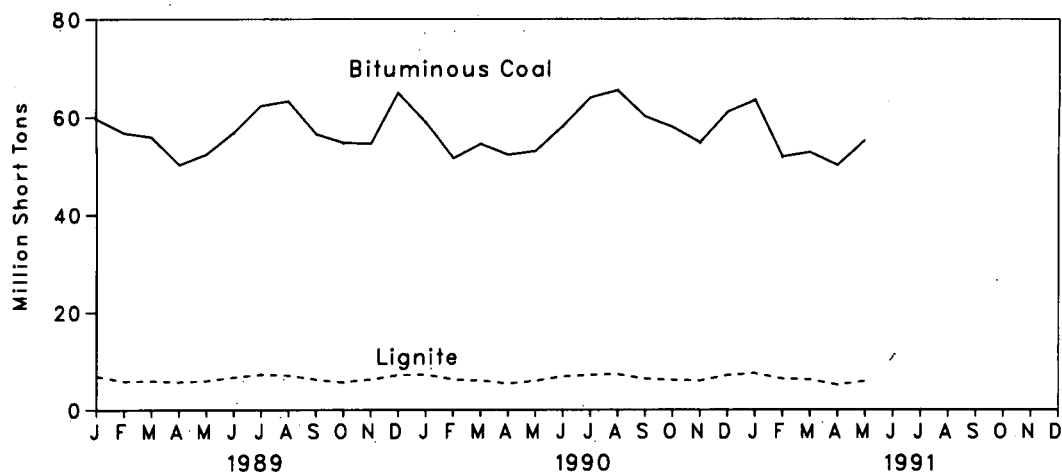


Figure 7.2 Petroleum Consumed to Produce Electricity

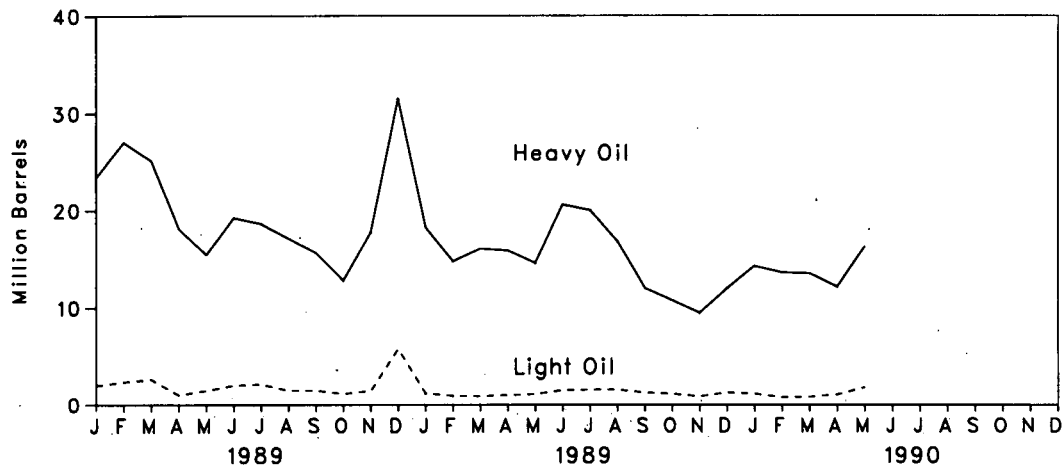


Figure 7.3 Natural Gas Consumed to Produce Electricity

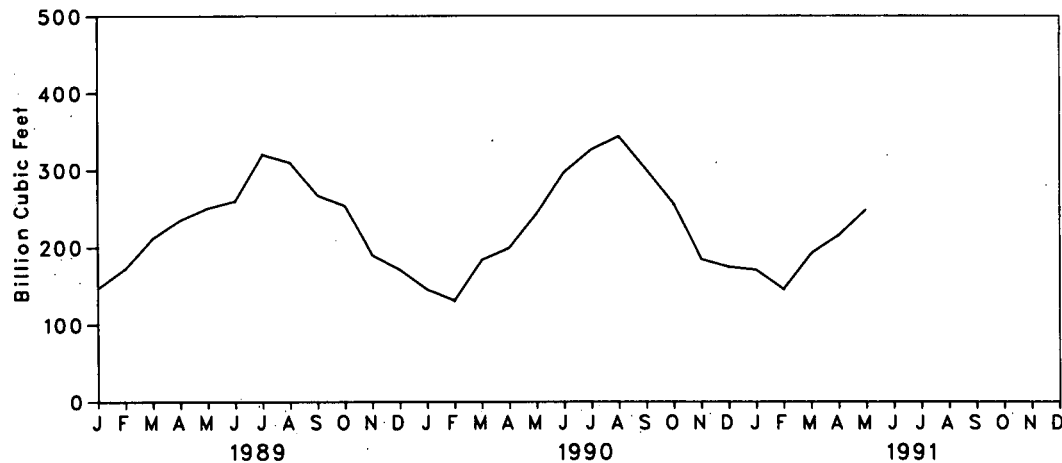


Table 7.3 Fossil Fuels Consumed by Electric Utilities To Generate Electricity

	Coal				Petroleum				Natural Gas ^c
	Anthra-cite	Bituminous Coal	Lignite	Total	Heavy Oil ^a	Light Oil ^b	Total Liquids	Petroleum Coke	
	Thousand Short Tons				Thousand Barrels			Thousand Short Tons		Million Cubic Feet
1973 Total	1,443	376,975	10,794	389,212	(^d)	(^d)	560,248	507	3,660,172
1974 Total	1,498	378,643	11,870	391,811	(^d)	(^d)	536,274	625	3,443,428
1975 Total	1,480	388,523	15,960	405,962	(^d)	(^d)	506,128	70	3,157,669
1976 Total	1,350	425,205	21,817	448,371	(^d)	(^d)	555,920	68	3,080,868
1977 Total	1,425	451,051	24,650	477,126	(^d)	(^d)	623,705	98	3,191,200
1978 Total	1,064	448,763	31,407	481,235	(^d)	(^d)	635,839	398	3,188,363
1979 Total	1,046	488,129	37,876	527,051	(^d)	(^d)	523,297	268	3,490,523
1980 Total	951	526,680	41,642	569,274	391,163	29,051	420,214	179	3,681,595
1981 Total	1,221	550,784	44,792	596,797	329,798	21,313	351,111	139	3,640,154
1982 Total	1,075	543,346	49,245	593,666	234,434	15,337	249,771	149	3,225,518
1983 Total	1,036	570,108	54,067	625,211	228,984	16,512	245,497	261	2,910,767
1984 Total	1,070	606,339	56,990	664,399	189,289	15,190	204,479	252	3,111,342
1985 Total	1,033	631,885	60,923	693,841	158,779	14,635	173,414	231	3,044,083
1986 Total	829	616,134	68,093	685,056	216,156	14,326	230,482	313	2,602,370
1987 Total	972	647,824	69,098	717,894	184,011	15,367	199,378	348	2,844,051
1988 Total	1,063	681,048	76,260	758,372	229,327	18,769	248,096	409	2,635,613
1989 January	98	59,707	6,962	66,767	23,425	2,055	25,479	47	147,141
February	75	56,764	5,945	62,784	27,056	2,427	29,483	33	172,379
March	82	55,937	5,986	62,005	25,133	2,691	27,824	35	211,095
April	96	50,259	5,789	56,144	18,144	1,045	19,190	38	234,726
May	98	52,420	6,009	58,527	15,448	1,522	16,970	36	250,555
June	75	56,841	6,719	63,635	19,253	2,070	21,322	38	259,941
July	97	62,322	7,302	69,720	18,643	2,180	20,822	58	319,709
August	95	63,278	7,121	70,493	17,133	1,530	18,663	58	309,597
September	81	56,533	6,295	62,910	15,642	1,526	17,168	54	267,545
October	87	54,775	5,699	60,561	12,807	1,180	13,987	39	254,074
November	85	54,628	6,294	61,006	17,762	1,484	19,247	33	188,924
December	81	65,040	7,215	72,336	31,514	5,781	37,295	50	171,326
Total	1,049	688,504	77,335	766,888	241,980	25,481	267,451	517	2,787,012
1990 January	92	58,978	7,220	66,290	18,294	1,234	19,528	40	145,641
February	85	51,598	6,313	57,996	14,769	974	15,743	62	131,593
March	91	54,557	6,101	60,748	16,068	916	16,984	62	183,982
April	81	52,319	5,376	57,776	15,882	1,035	16,917	61	198,996
May	90	53,062	5,988	59,140	14,586	1,146	15,732	77	243,760
June	90	58,184	6,892	65,167	20,619	1,555	22,174	66	297,052
July	96	64,097	7,183	71,376	20,041	1,615	21,655	74	325,760
August	93	65,532	7,317	72,942	16,835	1,618	18,454	72	342,469
September	84	60,187	6,455	66,727	12,037	1,318	13,354	79	300,596
October	82	58,002	6,181	64,264	10,772	1,186	11,958	86	256,480
November	71	54,802	6,043	60,916	9,473	910	10,383	61	184,820
December	75	61,129	7,132	68,335	11,979	1,313	13,292	78	175,003
Total	1,031	692,447	78,201	771,678	181,354	14,821	196,175	819	2,786,153
1991 January	74	63,563	7,553	71,190	14,264	1,189	15,453	74	171,140
February	68	51,919	6,456	58,443	13,595	798	14,393	57	145,947
March	93	52,847	6,255	59,195	13,513	848	14,361	73	191,879
April	92	50,172	5,219	55,483	12,142	1,098	13,240	72	215,213
May	73	55,300	5,926	61,298	16,311	1,821	18,132	75	249,071
5-Month Total	400	273,801	31,408	305,609	69,825	5,754	75,579	350	973,250
1990 5-Month Total	439	270,514	30,998	301,951	79,598	5,306	84,904	303	903,972
1989 5-Month Total	450	275,087	30,689	306,226	109,207	9,740	118,946	188	1,015,897

^aHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils.

^bLight oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

^cIncludes supplemental gaseous fuels.

^dPrior to 1980, petroleum consumption data were not disaggregated by type of fuel. Disaggregation by prime mover type is provided in Table 7.5.

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

Sources: • 1973 through September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977 through 1981: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1982 forward: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

Figure 7.4 Coal Stocks at Electric Utilities, End of Period

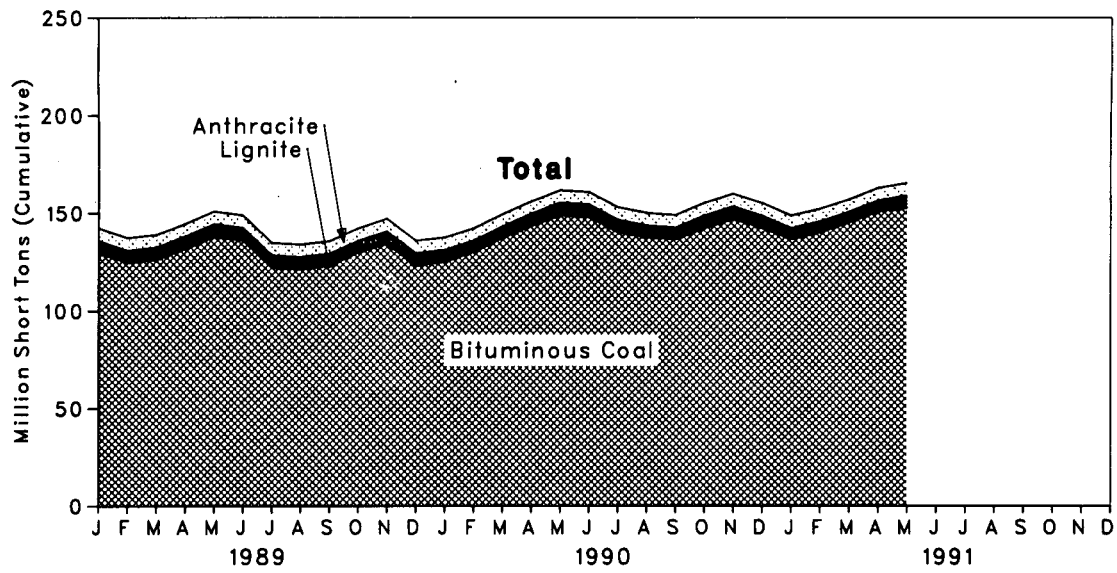


Figure 7.5 Petroleum Stocks at Electric Utilities, End of Period

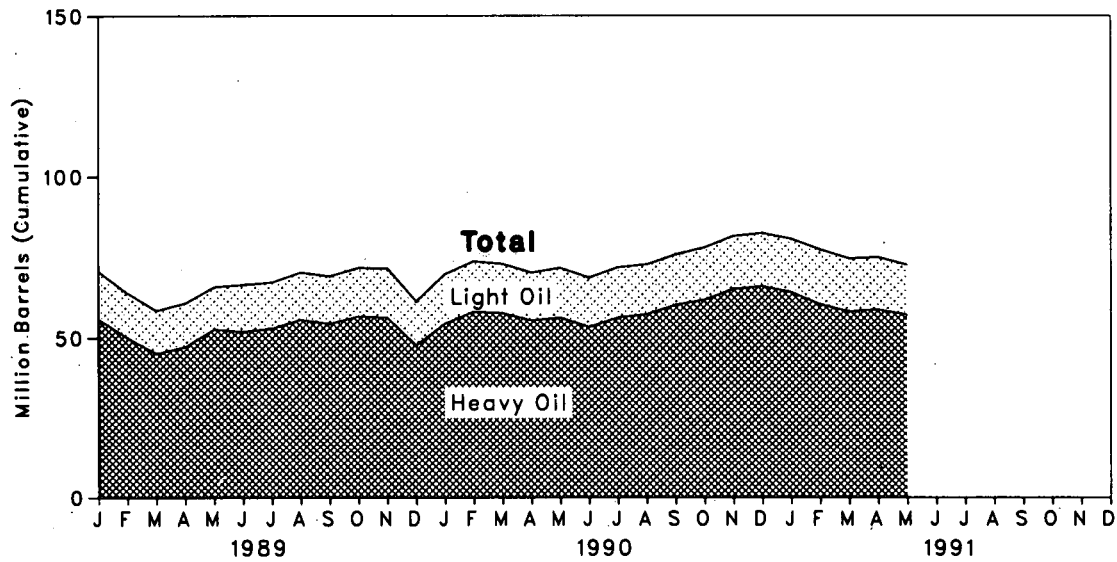


Table 7.4 Coal and Petroleum Stocks at Electric Utilities, End of Period

	Coal				Petroleum			
	Anthracite	Bituminous Coal	Lignite	Total	Heavy Oil ^a	Light Oil ^b	Total Liquids	Petroleum Coke
	Thousand Short Tons				Thousand Barrels			Thousand Short Tons
1973 Year	1,066	84,941	961	86,967	(^c)	(^c)	89,216	312
1974 Year	930	81,712	867	83,509	(^c)	(^c)	112,917	35
1975 Year	982	107,927	1,815	110,724	(^c)	(^c)	125,257	31
1976 Year	1,000	114,130	2,306	117,436	(^c)	(^c)	121,696	32
1977 Year	2,321	128,210	2,688	133,219	(^c)	(^c)	144,031	44
1978 Year	2,178	123,020	3,027	128,225	(^c)	(^c)	118,788	198
1979 Year	3,274	152,981	3,459	159,714	(^c)	(^c)	131,422	183
1980 Year	4,741	174,154	4,115	183,010	105,351	30,023	135,374	52
1981 Year	5,537	158,258	5,098	168,893	102,042	26,094	128,136	42
1982 Year	6,080	170,480	4,573	181,132	95,515	23,369	118,884	41
1983 Year	6,507	145,250	3,841	155,598	70,573	18,801	89,375	55
1984 Year	6,710	167,118	5,899	179,727	68,503	19,116	87,619	50
1985 Year	7,189	142,144	7,043	156,376	57,304	16,386	73,689	49
1986 Year	7,099	148,665	6,042	161,806	56,841	16,269	73,111	40
1987 Year	6,940	156,670	7,187	170,797	55,069	15,759	70,827	51
1988 Year	6,561	133,434	6,512	146,507	54,187	15,099	69,285	86
1989 January	6,513	129,937	6,088	142,538	55,845	14,809	70,654	58
February	6,494	124,652	6,217	137,363	50,063	13,980	64,043	56
March	6,475	126,195	6,367	139,036	45,142	13,370	58,513	62
April	6,447	131,750	6,477	144,674	47,237	13,607	60,844	102
May	6,416	137,884	6,767	151,067	52,595	13,279	65,873	64
June	6,427	136,126	6,428	148,981	51,922	14,621	66,544	77
July	6,413	122,227	6,226	134,865	52,883	14,405	67,289	81
August	6,440	121,281	6,227	133,948	55,608	14,724	70,332	69
September	6,437	122,912	6,291	135,640	54,346	14,825	69,171	92
October	6,437	129,679	6,164	142,280	56,660	15,090	71,750	107
November	6,423	134,309	6,475	147,207	56,258	15,332	71,590	115
December	6,403	122,967	6,490	135,860	47,446	13,824	61,270	105
1990 January	6,360	124,936	6,169	137,465	54,365	15,410	69,775	114
February	6,315	129,981	5,922	142,218	58,169	15,622	73,791	108
March	6,294	137,216	5,879	149,388	57,728	15,249	72,977	104
April	6,298	143,355	6,308	155,962	55,419	14,837	70,256	93
May	6,315	148,823	6,557	161,695	56,321	15,432	71,753	102
June	6,376	148,023	6,424	160,823	53,347	15,356	68,703	110
July	6,420	140,211	6,352	152,982	56,294	15,618	71,911	109
August	6,441	137,477	6,206	150,123	57,357	15,468	72,826	113
September	6,486	136,500	6,027	149,013	60,274	15,574	75,848	95
October	6,513	142,220	6,459	155,191	61,835	16,142	77,977	83
November	6,528	146,866	6,501	159,895	65,160	16,411	81,571	84
December	6,499	142,428	6,237	155,163	67,030	16,471	83,501	94
1991 January	6,470	136,584	5,681	148,736	64,240	16,450	80,690	103
February	6,442	140,184	5,576	152,202	60,470	16,882	77,352	111
March	6,384	145,073	5,574	157,031	58,220	16,385	74,605	101
April	6,347	150,766	5,690	162,804	58,835	16,173	75,008	90
May	6,387	152,539	6,556	165,483	57,232	15,495	72,727	81

^aHeavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils.

^bLight oil includes Grade No. 2 heating oil, kerosene, and jet fuel.

^cPrior to 1980, petroleum stock data were not disaggregated by type of fuel. Disaggregation by prime mover type is provided in Table 7.5.

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

Sources: • 1973 through September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977 through 1981: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1982 forward: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

**Table 7.5 Petroleum Consumption and Stocks at Electric Utilities by Prime Mover Type
(Thousand Barrels)**

	Petroleum Consumption			Petroleum Stocks, End of Period		
	Steam Plants	GT/IC ^a	Total Liquids	Steam Plants	GT/IC ^a	Total Liquids
1973 Total	513,190	47,058	560,248	79,121	10,095	89,216
1974 Total	483,146	53,128	536,274	97,718	15,199	112,917
1975 Total	467,221	38,907	506,128	108,825	16,432	125,257
1976 Total	514,077	41,843	555,920	106,993	14,703	121,696
1977 Total	574,869	48,837	623,705	124,750	19,281	144,031
1978 Total	588,319	47,520	635,839	102,402	16,386	118,788
1979 Total	492,606	30,691	523,297	111,121	20,301	131,422
1980 Total	401,863	18,351	420,214	117,227	18,147	135,374
1981 Total	339,680	11,431	351,111	112,380	15,756	128,136
1982 Total	243,537	6,234	249,771	105,287	13,597	118,884
1983 Total	237,845	7,652	245,497	78,285	11,090	89,375
1984 Total	197,050	7,429	204,479	76,836	10,784	87,619
1985 Total	166,842	6,572	173,414	64,704	8,985	73,689
1986 Total	222,500	7,983	230,482	64,258	8,853	73,111
1987 Total	190,818	8,560	199,378	61,705	9,123	70,827
1988 Total	235,817	12,279	248,096	60,311	8,974	69,285
1989 January	24,273	1,206	25,479	61,627	9,027	70,654
February	27,981	1,502	29,483	55,683	8,360	64,043
March	25,900	1,924	27,824	50,500	8,013	58,513
April	18,652	538	19,190	52,789	8,055	60,844
May	16,014	957	16,970	57,994	7,879	65,873
June	19,832	1,490	21,322	57,610	8,934	66,544
July	19,233	1,590	20,822	58,368	8,921	67,289
August	17,623	1,040	18,663	61,248	9,085	70,332
September	16,126	1,041	17,168	60,233	8,938	69,171
October	13,334	653	13,987	62,708	9,042	71,750
November	18,371	875	19,247	62,610	8,980	71,590
December	32,975	4,320	37,295	53,309	7,962	61,270
Total	250,315	17,136	267,451			
1990 January	18,900	628	19,528	60,421	9,353	69,775
February	15,194	549	15,743	64,454	9,337	73,791
March	16,541	442	16,984	63,746	9,231	72,977
April	16,364	554	16,917	61,314	8,942	70,256
May	15,113	619	15,732	62,341	9,412	71,753
June	21,145	1,028	22,174	59,397	9,306	68,703
July	20,514	1,141	21,655	62,386	9,525	71,911
August	17,333	1,121	18,454	63,380	9,446	72,826
September	12,491	863	13,354	66,336	9,512	75,848
October	11,272	686	11,958	68,143	9,833	77,977
November	9,998	385	10,383	71,414	10,157	81,571
December	12,785	507	13,292	73,306	10,195	83,501
Total	187,651	8,523	196,175			
1991 January	14,911	542	15,453	70,434	10,257	80,690
February	14,021	372	14,393	67,337	10,015	77,352
March	14,019	342	14,361	64,748	9,857	74,605
April	12,722	518	13,240	65,389	9,619	75,008
May	16,919	1,214	18,132	63,541	9,186	72,727
5-Month Total	72,591	2,988	75,579			
1990 5-Month Total	82,113	2,792	84,904			
1989 5-Month Total	112,820	6,127	118,946			

^aGT/IC=Gas turbine and internal combustion plants.

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

Sources: • 1973 through September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977 through 1981: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1982 forward: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

Section 8. Nuclear

In May 1991, U.S. nuclear generating units produced a total of 47 terawatthours (billion kilowatthours) of electricity, 9 percent⁷ more than in May 1990. Nuclear units generated at an average capacity factor of 63.1 percent, 6 percentage points more than in May 1990. Nuclear power supplied 20.0 percent of the total electric utility-generated electricity in May 1991 compared with 19.3 percent in May 1990.

No low- or full-power licenses for nuclear power plants were issued by the Nuclear Regulatory Commission (NRC) during May 1991.

On May 31, 1991, there were 111 operable nuclear generating units in the United States, with a collective net

summer generating capability of 99.6 million kilowatts of electricity (MWe). Of the 111 operable units, 29 units generated at less than 25 percent of capacity due to maintenance, refueling or repair outage; 19 of those units generated no electricity during the month. Two operable units, Browns Ferry 1 and 3, have been shut down since March 1985. Each unit had a capacity of 1,065 MWe.

As of May 31, there were 119 domestic nuclear generating units in all stages of construction and operation. The aggregate net design capacity of operable units was 101.6 million kilowatts. The total net design capacity of the 8 uncompleted units is 9.7 million kilowatts.

⁷Percentage changes are based on numbers shown in the following tables.

Figure 8.1 Nuclear and Total Net Generation of Electricity

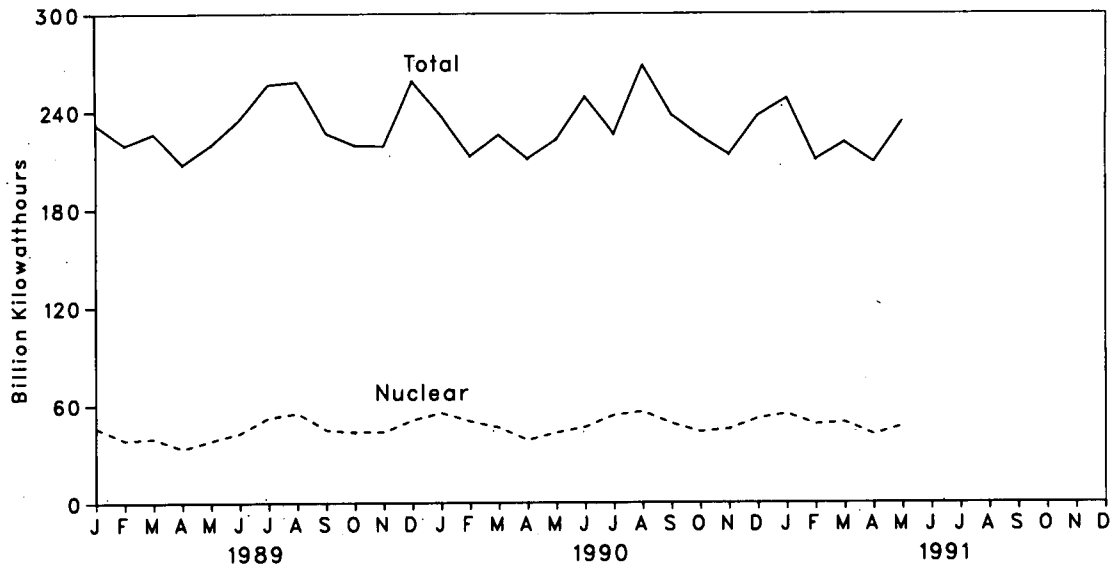


Figure 8.2 Nuclear Power Plants' Capacity Factor and Share of Total Net Generation

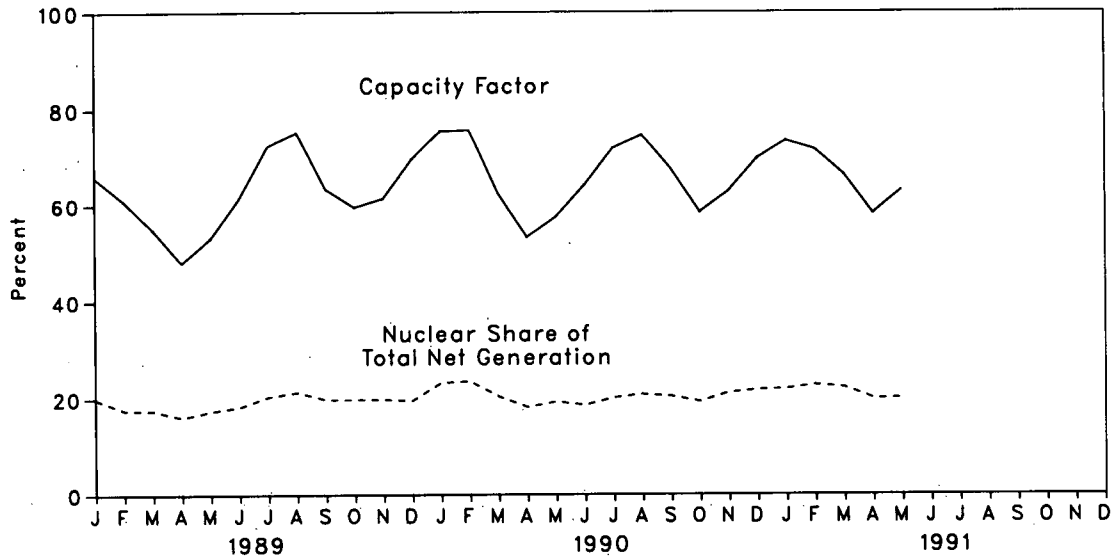


Table 8.1 Nuclear Power Plant Operations

	Operable Units ^{a b}	Nuclear Electricity Net Generation	Nuclear Portion of Domestic Electricity Net Generation	Net Summer Capability of Operable Units ^c	Capacity Factor ^d
	Number	Million Kilowatthours	Percent	Million Kilowatts	Percent
1973 Year	39	83,479	4.5	22.615	53.7
1974 Year	48	113,976	6.1	31.803	47.9
1975 Year	54	172,505	9.0	37.161	56.0
1976 Year	61	191,104	9.4	43.657	54.9
1977 Year	65	250,883	11.8	46.202	63.4
1978 Year	70	276,403	12.5	50.709	64.7
1979 Year	68	255,155	11.4	49.630	56.5
1980 Year	70	251,116	11.0	51.668	56.4
1981 Year	74	272,674	11.9	55.914	58.4
1982 Year	77	282,773	12.6	59.927	56.7
1983 Year	80	293,677	12.7	63.009	54.4
1984 Year	86	327,634	13.6	69.652	56.3
1985 Year	95	383,691	15.5	79.397	58.0
1986 Year	100	414,038	16.6	85.241	56.9
1987 Year	107	455,270	17.7	93.583	57.4
1988 Year	108	526,973	19.5	94.695	63.5
1989 January	108	46,328	19.9	94.695	65.8
February	108	38,725	17.6	94.695	60.9
March	110	39,636	17.5	97.031	54.9
April	110	33,495	16.1	97.031	48.0
May	110	38,339	17.4	97.031	53.1
June	110	42,976	18.2	97.031	61.5
July	110	52,331	20.4	97.323	72.3
August	110	54,948	21.2	98.161	75.2
September	110	44,837	19.7	98.161	63.4
October	110	43,558	19.8	98.161	59.6
November	110	43,399	19.8	98.161	61.4
December	110	50,784	19.6	98.161	69.5
Year	110	529,355	19.0	98.161	62.2
1990 January	110	55,119	23.2	98.161	75.5
February	110	49,963	23.5	98.161	75.7
March	111	46,087	20.4	99.311	62.4
April	112	38,516	18.2	100.461	53.3
May	112	42,945	19.3	100.461	57.5
June	112	46,332	18.6	100.461	64.1
July	112	53,645	20.1	100.461	71.8
August	112	55,758	20.8	100.461	74.6
September	111	48,485	20.4	99.588	67.5
October	111	43,395	19.3	99.588	58.5
November	111	45,034	21.1	99.588	62.8
December	111	51,582	21.7	99.588	69.6
Year	111	576,862	20.6	99.588	66.1
1991 January	111	54,369	21.9	99.588	73.4
February	111	47,863	22.7	99.588	71.5
March	111	49,121	22.2	99.588	66.3
April	111	41,662	19.9	99.588	58.2
May	111	46,755	20.0	99.588	63.1
5-Month Total	111	239,770	21.4	99.588	66.5
1990 5-Month Total	112	232,630	21.0	100.461	64.6
1989 5-Month Total	110	196,523	17.7	97.031	56.4

^aAt end of period.

^bSee Note 1 at end of section.

^cFor the definition of net summer capability, see Note 3 at end of section.

^dFor an explanation of the method of calculating the capacity factor, see Note 4 at end of section.

Note: Geographic coverage is the 50 States and the District of Columbia. Nuclear electricity net generation totals may not equal sum of components due to independent rounding.

Sources: See end of section.

Table 8.2 Status of Nuclear Generating Units^a

	Licensed for Operation		Construction Permits		On Order	Announced	Total	Total Design Capacity ^d
	Operable ^b	In Startup ^c	Granted	Pending				
	Number of Units								Million Kilowatts
1973 Year	39	3	51	58	48	20	219	212
1974 Year	48	5	58	80	28	16	235	234
1975 Year	54	2	69	73	19	19	236	236
1976 Year	61	0	72	66	16	19	234	236
1977 Year	65	1	80	52	13	9	220	220
1978 Year	70	0	90	32	9	4	205	204
1979 Year	68	0	91	21	3	0	183	179
1980 Year	70	2	82	12	3	0	169	163
1981 Year	74	0	76	11	2	0	163	157
1982 Year	77	2	60	3	2	0	144	135
1983 Year	80	3	53	0	2	0	138	129
1984 Year	86	6	38	0	2	0	132	123
1985 Year	95	3	30	0	2	0	130	121
1986 Year	100	7	19	0	2	0	128	119
1987 Year	107	4	14	0	2	0	127	119
1988 Year	108	3	12	0	0	0	123	115
1989 January	108	3	12	0	0	0	123	115
February	108	3	12	0	0	0	123	115
March	110	2	11	0	0	0	123	115
April	110	1	11	0	0	0	122	114
May	110	1	11	0	0	0	122	114
June	110	1	11	0	0	0	122	114
July	110	2	10	0	0	0	122	114
August	110	1	10	0	0	0	121	113
September	110	1	10	0	0	0	121	113
October	110	1	10	0	0	0	121	113
November	110	1	10	0	0	0	121	113
December	110	1	10	0	0	0	121	113
1990 January	110	1	10	0	0	0	121	113
February	110	2	9	0	0	0	121	113
March	111	1	9	0	0	0	121	113
April	112	0	9	0	0	0	121	113
May	112	0	9	0	0	0	121	113
June	112	0	9	0	0	0	121	113
July	112	0	9	0	0	0	121	113
August	112	0	9	0	0	0	121	113
September	111	0	9	0	0	0	120	113
October	111	0	9	0	0	0	120	113
November	111	0	9	0	0	0	120	113
December	111	0	8	0	0	0	119	111
1991 January	111	0	8	0	0	0	119	111
February	111	0	8	0	0	0	119	111
March	111	0	8	0	0	0	119	111
April	111	0	8	0	0	0	119	111
May	111	0	8	0	0	0	119	111

^aAt end of period.
^bSee Note 1 at end of section.
^cSee Note 2 at end of section.
^dNet design electrical rating (DER) is used because many of the units were canceled prior to being assigned a net summer capability.
 See Note 3 at end of section.
^eShoreham received a full-power license in April 1989. Because the unit is not currently scheduled to operate, it is deleted from the total.
^fAs of September 1990, Rancho Seco is deleted from this category, because the unit is not currently scheduled to operate.
 Note: Geographic coverage is the 50 States and the District of Columbia.
 Sources: See end of section.

Nuclear Notes and Sources

Notes

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

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

In addition, six units have been retired and therefore removed from the operable category. Those units are: Peach Bottom 1 (40 MWe) and Indian Point 1 (265 MWe), both retired in 1974; Humboldt Bay (65 MWe), officially retired in 1976; Dresden 1 (200 MWe), retired in August 1979; LaCrosse (51 MWe), retired in May 1987; and Fort Saint Vrain (217 MWe), retired in August 1989.

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

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

(a) **Net Summer Capability**--The steady hourly output that generating equipment is expected to supply to sys-

tem 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 the unit, specified by the utility and used for plant design.

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

Sources

Table 8.1

Operable Units: 1973 through 1982--U.S. Department of Energy (DOE), Office of Nuclear Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones." 1983 forward--Nuclear Regulatory Commission (NRC), "Licensed Operating Reactors" (NUREG-0020).

Nuclear Electricity Net Generation: 1973 through September 1977--Federal Power Commission (FPC), Form FPC-4, "Monthly Power Plant Report." October 1977 through 1981--Federal Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." 1982 forward--Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report."

Nuclear Portion of Domestic Electricity Net Generation: Calculated from data in Table 7.1.

Net Summer Capability of Operable Units: 1973 through 1982--Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones." 1983 forward--EIA, Form EIA-860, "Annual Electric Generation Report."

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

Table 8.2

Licensed for Operation: 1973 through 1982--DOE, Office of Nuclear Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Mile-

stones." 1983 forward-NRC, "Licensed Operating Reactors" (NUREG-0020).

Construction Permits, On Order, and Announced: 1973 through 1982- Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones"; EIA, Office of Coal, Nuclear, Electric and Alternate Fuels, "Nuclear Steam-Electric Units That Have Been in Operation as of 1957-1989"; EIA, Office of Coal, Nuclear, Electric and Alternate Fuels, "Nuclear Plant Cancellations: Causes, Costs, and Consequences"; and Utility Data Institute, Inc., "U.S. Nuclear Plant Statistics, 1987." 1983 forward-NRC, "Summary Information Report" (NUREG-0871); NRC, "Licensed Operating Reactors" (NUREG-0020); and various journals.

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

Section 9. Price

Crude Oil. The average price of domestic crude oil purchased at the wellhead was \$16.32 per barrel in May 1991, 18 percent above the level in May 1990. The refiner acquisition cost of imported crude oil in May 1991 was \$18.14 per barrel, 13 percent above the May 1990 level. The cost of domestic crude oil in May 1991 was \$18.97, 15 percent more than the May 1990 average.

Motor Gasoline. The national city average retail price of unleaded regular gasoline at all types of stations was \$1.16 per gallon in June 1991, 7 percent higher than the price in June 1990. The price of unleaded premium gasoline averaged \$1.34 per gallon in June 1991, 5 percent higher than the price in June 1990.

Residual Fuel Oil. The average price, excluding taxes, of residual fuel oil sold to end users in May 1991 was 31 cents per gallon, 3 percent higher than the previous month's price but 9 percent below the May 1990 average. The average resale price, excluding taxes, of residual fuel oil in May 1991 was 30 cents per gallon, 6 percent higher than the April 1991 average but 1 percent lower than the price 1 year earlier.

Aviation Fuel. The average price, excluding taxes, of aviation gasoline sold to end users in May 1991 was \$1.05 per gallon, 4 percent higher than the previous month and 2 percent higher than in May 1990. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in May 1991 was 60 cents per gallon, 2 percent higher than the previous month's price and 3 percent higher than the May 1990 average.

No. 2 Distillate Fuel Oil. The May 1991 national average price, excluding taxes, of heating oil sold to residential customers was 93 cents per gallon, 5 percent below the April 1991 price but 2 percent higher than the May 1990 price. The average price of No. 2 fuel oil sold to all end users was 59 cents per gallon in May 1991, 5 percent below the April 1991 price but 2 percent higher than the May 1990 price.

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

The mean price of electricity sold to all ultimate consumers in the United States in May 1991 was 6.7 cents per kilowatthour, 3 percent above the May 1990 mean price. The price of electricity sold to residential consumers in May 1991 averaged 8.2 cents per kilowatthour, 3 percent higher than the price 1 year earlier. The price of electricity sold to commercial consumers averaged 7.5 cents per kilowatthour in May 1991, 3 percent above the May 1990 price. The price of electricity sold to other consumers in May 1991 averaged 6.3 cents per kilowatthour, 2 percent above the May 1990 price. The price of electricity sold to industrial users in May 1991 averaged 4.8 cents per kilowatthour, 4 percent above the price 1 year earlier.

Natural Gas. In April 1991, the average wellhead price of natural gas was \$1.47 per thousand cubic feet, 2 percent below the April 1990 price.

The average price of natural gas delivered to electric utility plants was \$2.10 per thousand cubic feet in April 1991, 8 percent below the April 1990 price. The average price of natural gas used by residential consumers in May 1991 was \$6.28 per thousand cubic feet, 5 percent above the May 1990 price. The average price of natural gas used by commercial consumers in May 1991 was \$4.71 per thousand cubic feet, 2 percent above the May 1990 price. The average price of natural gas used by industrial consumers in May 1991 was \$2.38 per thousand cubic feet, 10 percent below the May 1990 price.

Figure 9.1 Crude Oil Prices

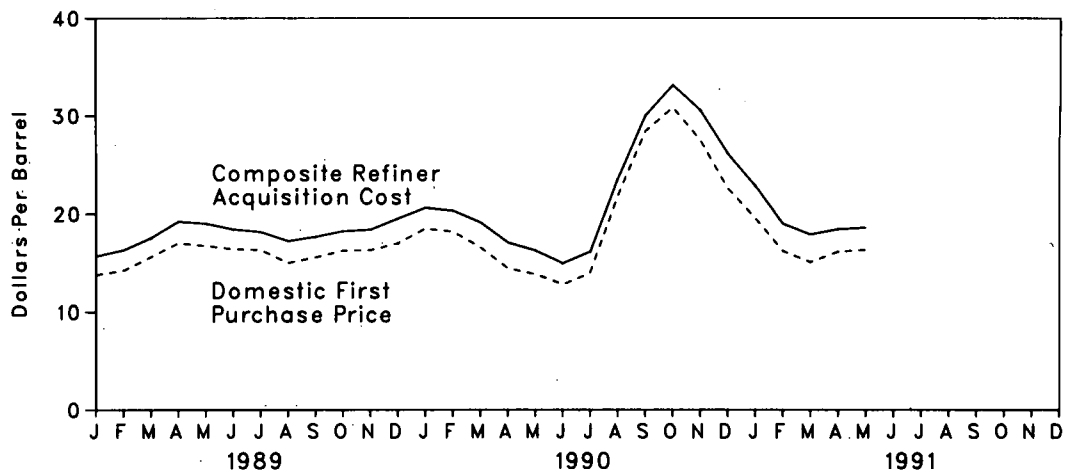


Figure 9.2 Refiner Sales Prices to End Users: Motor Gasoline, Diesel Fuel, and Jet Fuel

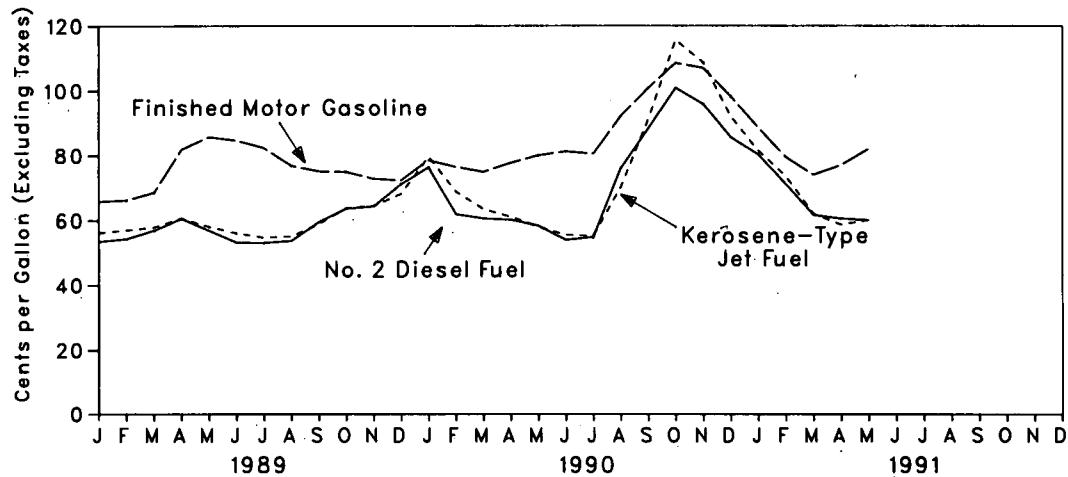


Figure 9.3 Refiner Sales Prices to End Users: No. 2 Fuel Oil, Propane, and Residual Fuel Oil

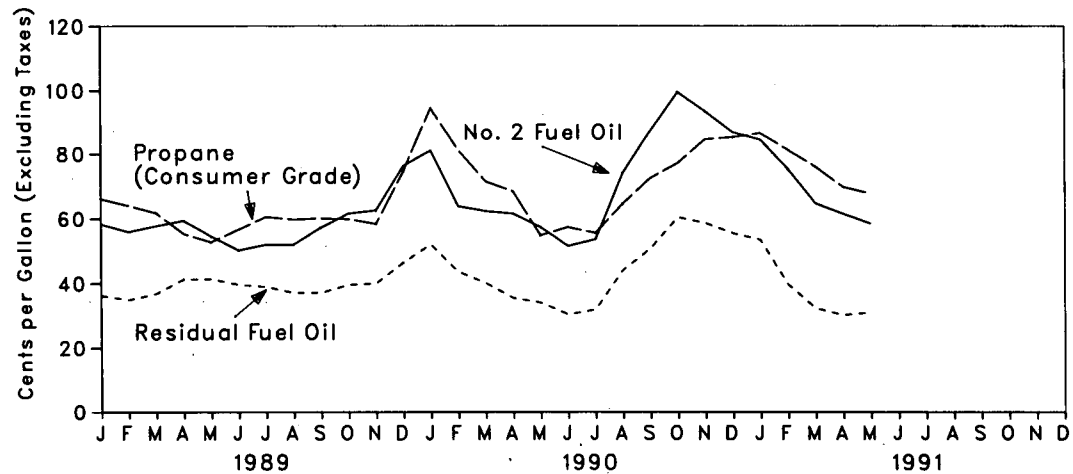


Table 9.1 Crude Oil Price Summary
(Dollars per Barrel)

	Domestic First Purchase Price ^a	F.O.B. Cost of Imports ^b	Landed Cost of Imports ^c	Refiner Acquisition Cost ^d		
				Domestic	Imported	Composite
1973 Average	3.89	° 5.21	° 6.41	4.17	4.08	4.15
1974 Average	6.87	10.91	12.32	7.18	12.52	9.07
1975 Average	7.67	11.18	12.70	8.39	13.93	10.38
1976 Average	8.19	12.15	13.32	8.84	13.48	10.89
1977 Average	8.57	13.24	14.36	9.55	14.53	11.96
1978 Average	9.00	13.29	14.35	10.61	14.57	12.46
1979 Average	12.64	20.07	21.45	14.27	21.67	17.72
1980 Average	21.59	32.37	33.67	24.23	33.89	28.07
1981 Average	31.77	35.15	36.47	34.33	37.05	35.24
1982 Average	28.52	32.02	33.18	31.22	33.55	31.87
1983 Average	26.19	27.81	28.93	28.87	29.30	28.99
1984 Average	25.88	27.60	28.54	28.53	28.88	28.63
1985 Average	24.09	25.84	26.67	26.66	26.99	26.75
1986 Average	12.51	12.52	13.49	14.82	14.00	14.55
1987 Average	15.40	16.89	17.65	17.76	18.13	17.90
1988 Average	12.58	13.25	14.08	14.74	14.56	14.67
1989 January	13.80	14.67	15.68	15.50	16.04	15.73
February	14.24	15.49	16.41	16.11	16.61	16.32
March	15.65	16.73	17.47	17.34	17.77	17.52
April	17.04	18.23	18.97	18.91	19.59	19.22
May	16.76	17.51	18.33	19.01	19.05	19.03
June	16.42	16.80	17.61	18.56	18.27	18.43
July	16.32	16.47	17.39	18.32	17.99	18.18
August	15.01	16.12	16.83	17.23	17.23	17.23
September	15.58	16.49	17.28	17.70	17.62	17.66
October	16.25	17.10	17.93	18.20	18.29	18.24
November	16.30	17.34	18.16	18.45	18.32	18.39
December	17.01	18.80	19.54	19.16	20.05	19.54
Average	15.86	16.89	17.68	17.87	18.08	17.97
1990 January	18.50	18.84	19.82	20.75	20.51	20.64
February	18.18	18.01	18.97	20.75	19.84	20.35
March	16.58	16.91	17.96	19.32	18.94	19.14
April	14.52	14.94	15.98	17.37	16.71	17.06
May	13.82	14.57	15.36	16.46	16.03	16.26
June	12.79	13.81	14.93	15.07	14.89	14.98
July	14.02	16.52	17.65	15.87	16.45	16.15
August	21.85	23.83	24.64	23.00	24.26	23.57
September	28.44	28.98	29.38	30.16	29.82	30.01
October	30.87	30.75	31.47	33.32	32.98	33.18
November	27.53	27.84	28.57	30.75	30.40	30.61
December	22.63	23.24	24.12	26.46	25.84	26.21
Average	20.03	20.39	21.16	22.60	21.78	22.23
1991 January	19.58	19.94	20.89	23.25	22.41	22.90
February	16.22	16.31	17.26	19.53	18.30	19.02
March	15.08	R 15.88	R 17.16	18.12	17.59	17.89
April	16.14	R 16.64	R 17.85	R 18.56	18.27	R 18.43
May	16.32	16.58	17.84	18.97	18.14	18.59

^aSee Note 1 at end of section.

^bSee Note 2 at end of section.

^cSee Note 3 at end of section.

^dSee Note 4 at end of section.

^eBased on October, November, and December data only.

R=Revised data. E=Estimate.

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

Sources: See end of section.

Table 9.2 F.O.B. Cost of Crude Oil Imports from Selected Countries^a
(Dollars per Barrel)

	Algeria	Indonesia	Iran	Mexico	Nigeria	Saudi Arabia	United Kingdom	Venezuela	Other Countries	Arab OPEC ^b	Total OPEC ^c
1973 Average ^d ..	7.23	5.67	4.24	NA	7.81	3.25	NA	5.39	4.84	4.06	5.43
1974 Average	13.23	11.99	10.85	W	12.44	10.17	NA	10.71	10.02	10.96	11.33
1975 Average	11.93	12.55	10.81	11.44	11.82	10.87	NA	11.04	10.86	11.18	11.34
1976 Average	13.05	12.76	11.61	12.22	13.08	11.62	W	11.39	11.92	12.06	12.23
1977 Average	14.35	13.57	12.68	13.42	14.44	12.38	14.11	12.63	13.19	13.13	13.29
1978 Average	14.12	13.61	12.65	13.24	14.05	12.70	13.82	12.38	13.35	13.28	13.31
1979 Average	20.53	19.03	22.93	20.27	21.69	17.28	21.70	16.90	21.10	19.27	19.88
1980 Average	38.67	32.17	NA	31.06	35.93	28.17	34.36	24.81	34.34	31.57	32.21
1981 Average	39.08	35.62	(*)	33.01	38.31	32.60	36.06	28.95	36.69	34.79	35.17
1982 Average	34.20	35.11	30.97	28.08	35.13	33.73	33.42	23.74	31.96	33.84	33.48
1983 Average	30.09	29.92	28.39	25.20	29.81	27.53	29.91	21.48	27.96	28.28	28.46
1984 Average	28.34	29.13	27.42	26.39	29.51	27.67	28.87	24.23	27.79	27.79	27.79
1985 Average	26.89	27.12	W	25.33	28.04	22.04	27.64	23.64	26.12	24.34	25.67
1986 Average	13.62	13.19	W	11.84	14.35	11.36	13.84	10.92	13.32	11.59	12.21
1987 Average	16.79	17.40	W	16.36	18.47	15.12	18.28	15.08	17.11	15.80	16.43
1988 Average	W	13.81	(*)	12.18	15.16	12.16	14.80	12.96	13.45	12.57	13.43
1989 January	W	14.52	(*)	13.98	16.11	W	W	13.10	15.05	14.91	14.77
February	W	17.14	(*)	14.25	17.15	W	16.33	14.00	15.83	16.35	15.98
March	W	17.05	(*)	14.98	18.37	W	W	16.62	17.29	17.45	17.37
April	W	17.78	(*)	17.44	19.81	W	W	17.77	18.75	16.85	18.35
May	W	W	(*)	16.95	18.60	W	W	16.78	17.97	15.98	17.28
June	W	17.78	(*)	16.62	17.68	15.54	W	15.42	17.12	16.01	16.49
July	W	17.61	(*)	16.41	17.67	W	17.66	14.34	16.74	15.66	16.02
August	W	W	(*)	15.22	17.25	W	17.11	15.82	16.08	15.91	16.36
September	W	16.37	(*)	15.37	18.00	W	17.22	16.02	16.62	16.50	16.68
October	W	16.35	(*)	16.12	18.99	W	17.78	15.45	17.37	17.05	17.20
November	W	17.28	(*)	16.44	19.11	18.09	18.37	15.56	17.45	17.53	17.52
December	W	W	(*)	17.74	19.93	W	19.57	19.32	18.43	18.70	19.24
Average	W	17.01	(*)	15.96	18.31	16.29	17.89	16.09	17.12	16.72	17.06
1990 January	W	19.25	(*)	18.03	21.22	W	21.00	16.73	19.20	18.03	18.71
February	W	19.43	(*)	16.68	20.41	W	W	16.01	18.36	16.64	18.11
March	W	18.98	(*)	16.24	18.41	W	W	15.95	16.82	14.98	16.85
April	W	17.38	(*)	13.30	16.79	12.37	16.13	15.57	14.77	13.24	15.10
May	W	16.19	(*)	12.11	16.50	12.97	15.69	14.60	14.39	12.82	14.78
June	W	15.20	(*)	10.68	15.58	W	W	13.11	13.92	14.63	14.58
July	W	15.06	(*)	12.84	17.12	W	15.10	16.66	17.80	20.27	18.17
August	W	19.12	(*)	21.16	25.65	29.70	21.18	24.33	22.63	28.34	25.39
September	W	W	(*)	27.04	32.74	W	33.05	27.71	30.02	27.46	29.06
October	W	35.41	(*)	29.15	37.31	28.73	32.53	26.39	33.13	29.85	30.39
November	W	W	(*)	27.23	33.56	24.11	W	22.96	29.56	25.51	27.30
December	W	W	(*)	22.58	29.38	14.41	W	20.41	25.32	16.17	21.87
Average	W	21.29	(*)	19.25	22.52	20.48	23.43	19.55	19.93	18.96	20.45
1991 January	W	W	(*)	19.39	24.68	12.69	W	17.04	21.22	16.04	19.45
February	W	20.82	(*)	13.62	20.48	14.06	W	14.50	17.12	14.56	16.73
March	W	W	(*)	13.59	19.44	W	24.50	14.90	16.18	^R 15.21	^R 16.47
April	W	16.80	(*)	^R 15.34	^R 19.12	15.56	W	^R 15.38	^R 16.90	^R 16.05	^R 16.99
May	W	W	(*)	15.24	19.40	15.18	W	14.84	17.09	15.74	16.87

^aThe 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.

^bThe Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

^c"Total OPEC" consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members. The cost of imports from the Neutral Zone between Kuwait and Saudi Arabia is included in the cost of imports from "Total OPEC."

^dBased on October, November, and December data only.

^eNo data reported.

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

Notes: • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices after 1980 reflect the period of loading. • Annual averages are averages of the monthly prices, including prices not published, weighted by volume. • Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported.

Sources: See end of section.

Table 9.3 Landed Cost of Crude Oil Imports from Selected Countries^a
(Dollars per Barrel)

	Algeria	Canada	Indonesia	Iran	Mexico	Nigeria	Saudi Arabia	United Kingdom	Venezuela	Other Countries	Arab OPEC ^b	Total OPEC ^c
1973 Average ^d ..	8.39	5.33	7.22	6.48	NA	9.08	5.37	NA	5.99	6.99	5.92	6.85
1974 Average	13.97	11.48	13.20	12.48	W	13.16	11.63	NA	11.25	12.93	12.39	12.49
1975 Average	12.86	12.84	13.83	12.51	12.61	12.70	12.50	NA	12.36	12.66	12.71	12.70
1976 Average	13.90	13.36	13.85	12.86	12.64	13.81	13.06	W	11.89	13.36	13.31	13.32
1977 Average	15.24	14.13	14.65	13.86	13.82	15.29	13.69	14.83	13.11	14.56	14.30	14.35
1978 Average	14.93	14.41	14.65	13.89	13.56	14.88	13.94	14.53	12.84	14.58	14.36	14.34
1979 Average	21.88	20.22	20.63	24.21	20.77	22.97	18.95	22.97	17.65	22.86	20.79	21.29
1980 Average	37.92	30.11	33.92	NA	31.77	37.15	29.80	35.68	25.92	36.15	32.97	33.56
1981 Average	40.46	32.32	37.31	(*)	33.70	39.66	34.20	37.29	29.91	38.54	36.22	36.60
1982 Average	35.35	27.15	36.70	32.46	28.63	36.16	34.99	34.25	24.93	34.03	35.15	34.81
1983 Average	31.26	25.63	31.57	29.81	25.78	30.85	29.27	30.87	22.94	29.68	29.87	29.84
1984 Average	29.06	26.56	30.87	28.70	26.85	30.36	29.20	29.45	25.19	29.21	29.10	29.06
1985 Average	27.51	25.71	28.67	25.79	25.63	28.98	24.72	28.36	24.43	27.33	25.90	26.86
1986 Average	14.82	13.43	14.63	12.38	12.17	15.29	12.84	14.63	11.52	14.25	13.14	13.46
1987 Average	17.87	17.04	18.49	18.28	16.69	19.32	16.81	18.78	15.76	18.30	17.32	17.64
1988 Average	W	13.50	15.15	(*)	12.58	15.88	13.37	15.82	13.66	14.45	13.60	14.18
1989 January	W	14.47	16.30	(*)	14.48	17.54	15.90	17.17	14.05	15.88	15.73	15.98
February	W	14.97	17.86	(*)	14.55	18.19	16.60	17.88	14.62	17.22	16.52	16.74
March	W	15.88	18.67	(*)	15.37	19.32	17.00	17.90	17.30	18.34	17.33	17.80
April	22.13	17.42	19.11	(*)	17.78	20.53	18.95	20.00	18.45	19.36	18.90	19.23
May	W	17.81	19.37	(*)	17.35	19.65	17.43	20.04	17.32	18.79	17.58	18.15
June	W	17.69	18.92	(*)	16.99	18.90	16.84	18.74	16.13	17.96	17.01	17.45
July	W	17.89	18.92	(*)	16.84	18.68	16.72	18.81	15.13	17.44	16.73	17.13
August	W	16.62	W	(*)	15.62	18.01	16.42	18.20	16.50	16.89	16.45	16.86
September	W	17.00	17.82	(*)	15.76	18.72	16.84	18.11	16.67	17.54	16.97	17.29
October	W	17.44	17.70	(*)	16.52	19.82	17.90	18.71	16.13	18.27	17.82	17.97
November	18.55	17.08	18.16	(*)	16.85	20.14	18.08	19.31	16.38	18.74	18.16	18.27
December	W	17.49	19.20	(*)	18.01	20.98	19.28	20.32	20.16	19.84	19.52	19.93
Average	19.13	16.81	18.35	(*)	16.35	19.19	17.34	18.74	16.78	18.08	17.41	17.78
1990 January	W	18.52	20.86	(*)	18.48	22.36	19.18	21.56	17.86	20.50	19.36	19.79
February	W	18.52	21.21	(*)	17.13	21.46	18.32	W	16.69	19.59	18.28	18.99
March	W	17.30	20.65	(*)	16.64	19.69	16.67	20.71	16.64	18.28	16.69	17.72
April	W	15.65	18.98	(*)	13.83	18.06	14.58	17.92	16.30	16.19	14.74	15.86
May	W	15.52	17.83	(*)	12.78	17.53	14.21	17.12	15.47	15.38	14.13	15.21
June	W	14.00	16.43	(*)	11.23	16.63	16.04	17.01	14.00	15.25	15.45	15.47
July	17.67	15.03	15.96	(*)	13.37	18.04	19.89	16.68	17.40	18.57	19.85	19.01
August	W	21.26	20.23	(*)	21.50	26.71	28.72	23.80	25.08	23.23	26.94	26.31
September	W	27.80	25.50	(*)	27.38	33.41	29.83	30.26	28.56	29.46	29.89	30.09
October	W	31.04	36.61	(*)	29.61	37.72	30.46	33.75	27.00	34.51	30.75	31.08
November	W	28.60	W	(*)	27.69	34.55	27.25	W	23.77	30.42	27.51	28.19
December	W	23.60	28.53	(*)	23.00	30.45	21.05	W	21.30	27.59	21.49	23.38
Average	W	20.51	22.42	(*)	19.63	23.38	21.89	22.68	20.31	20.55	20.71	21.28
1991 January	W	20.81	W	(*)	19.98	26.00	18.56	W	18.35	24.07	18.98	20.21
February	W	17.05	22.61	(*)	14.23	21.66	16.15	W	15.76	19.42	16.26	17.43
March	W	15.20	20.03	(*)	14.15	20.60	R 17.07	25.77	16.18	R 18.59	R 17.22	R 17.88
April	W	R 16.26	R 18.80	(*)	R 15.85	20.31	R 17.79	R 20.56	R 16.34	R 18.76	R 17.89	R 18.32
May	W	16.28	W	(*)	15.76	20.54	17.31	20.21	15.89	19.50	17.49	18.08

^aSee Note 3 at end of section.

^bThe Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

^c"Total OPEC" consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members. The cost of imports from the Neutral Zone between Kuwait and Saudi Arabia is included in the cost of imports from "Total OPEC."

^dBased on October, November, and December data only.

*No data reported.

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

Notes: • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices after 1980 reflect the period of loading. • Annual averages are averages of the monthly prices, including prices not published, weighted by volume. • Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported.

Sources: See end of section.

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

	Leaded Regular	Unleaded Regular	Unleaded Premium	Average for All Types ^b
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 ^c	131.1	137.8	^d 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 January	87.6	91.8	109.1	94.4
February	88.6	92.6	110.0	95.5
March	90.7	94.0	111.5	97.4
April	104.7	106.5	122.1	109.8
May	109.8	111.9	127.8	115.2
June	109.3	111.4	127.8	115.0
July	107.5	109.2	126.4	113.2
August	103.4	105.7	123.3	109.6
September	100.7	102.9	121.3	107.3
October	100.1	102.7	120.9	107.1
November	97.5	99.9	118.7	104.6
December	96.1	98.0	117.0	103.0
Average	99.8	102.1	119.7	106.0
1990 January	100.6	104.2	123.0	109.0
February	101.1	103.7	122.7	108.6
March	99.9	102.3	121.8	107.6
April	102.7	104.4	123.3	109.6
May	104.4	106.1	124.8	111.4
June	107.7	108.8	127.1	114.0
July	108.9	108.4	127.2	113.9
August	119.8	119.0	136.9	124.6
September	129.7	129.4	146.7	134.7
October	135.4	137.8	155.4	143.1
November	135.1	137.7	155.9	143.2
December	133.5	135.4	153.7	141.0
Average	114.9	116.4	134.9	121.7
1991 January	124.6	124.7	143.1	130.4
February	113.7	114.3	132.1	119.8
March	104.7	108.2	126.4	113.8
April	106.2	110.4	128.1	115.9
May	NA	115.6	133.1	120.9
June	NA	116.0	133.8	121.4

^aSee Note 5 at end of section.

^bAlso includes types of gasoline not shown separately.

^cIn 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.

^dBased on September through December data only.

NA=Not available.

Notes: • Geographic coverage for 1973 through 1977 is 56 urban areas. Geographic coverage for 1978 forward is 85 urban areas. • Annual values shown in this table are calculated by the Energy Information Administration as simple averages of monthly data.

Sources: See end of section.

Table 9.5 Refiner Sales 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 January	38.8	41.7	29.1	30.5	32.8	35.4
February	37.0	39.8	30.5	29.9	33.2	34.3
March	38.8	42.0	28.1	29.7	32.1	36.1
April	44.1	46.6	34.2	34.9	38.1	40.3
May	43.6	46.5	34.7	36.3	37.6	40.5
June	39.3	42.8	33.9	36.2	35.5	39.1
July	39.0	42.1	34.0	35.5	35.7	38.5
August	37.3	39.6	33.0	34.5	34.4	36.8
September	38.2	40.2	32.3	34.2	35.1	36.5
October	40.2	43.2	34.5	35.9	36.9	38.8
November	40.5	44.1	34.2	36.2	36.6	39.3
December	47.7	53.4	38.3	39.5	42.1	45.7
Average	40.7	43.6	33.1	34.4	36.0	38.5
1990 January	56.0	60.0	41.9	45.1	48.1	52.0
February	44.6	51.3	34.7	37.2	38.2	43.6
March	39.8	45.3	31.2	35.4	34.4	40.1
April	36.1	39.6	31.1	32.5	33.3	35.5
May	34.2	37.9	28.5	31.4	30.5	34.1
June	31.4	34.2	24.8	27.6	27.2	30.4
July	33.4	36.3	25.3	28.3	29.1	31.9
August	49.5	50.7	41.1	39.5	44.4	44.1
September	56.8	59.4	46.1	46.2	50.8	50.7
October	63.4	68.6	53.1	54.6	57.3	60.5
November	63.3	66.5	49.7	53.9	55.6	58.7
December	56.6	62.2	44.1	50.2	48.6	55.5
Average	47.1	50.4	37.2	39.9	41.2	44.4
1991 January	51.4	59.4	48.7	49.7	49.7	53.4
February	34.9	43.7	32.3	37.1	33.4	39.7
March	36.2	38.2	24.2	28.2	28.2	32.3
April	33.6	37.6	R 25.8	27.1	R 28.7	R 30.2
May	36.5	36.6	27.8	27.6	30.3	31.0

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and electric utilities, as well as commercial customers. • Geographic coverage is the 50 States and the District of Columbia. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration estimates. See Note 6 at end of section.

Sources: See end of section.

Table 9.6 Refiner Sales Prices of Petroleum Products for Resale
(Cents per Gallon, Excluding Taxes)

	Finished Motor Gasoline ^a	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 January	56.3	84.8	56.2	63.1	53.2	51.1	24.0
February	57.4	86.0	55.4	59.5	51.1	52.8	22.7
March	61.2	86.6	56.5	61.3	54.4	56.0	22.5
April	74.0	94.2	59.5	60.3	56.5	59.5	22.7
May	76.3	101.8	56.6	55.9	52.6	54.0	22.1
June	73.8	101.3	54.4	53.8	49.6	50.8	21.4
July	69.0	100.9	53.5	57.0	50.4	50.5	20.7
August	62.7	97.7	54.5	59.9	51.2	52.4	21.7
September	65.7	96.2	58.6	63.6	56.4	58.5	23.1
October	64.2	93.3	63.2	67.5	60.1	62.2	24.4
November	61.4	92.5	63.4	68.5	60.4	62.0	24.3
December	61.6	92.8	67.3	81.7	72.8	68.4	36.4
Average	65.4	95.0	58.3	66.9	56.5	56.7	24.7
1990 January	69.2	96.8	77.0	87.0	73.8	69.3	54.5
February	67.2	95.0	66.9	67.9	57.7	57.1	34.0
March	66.3	93.8	61.7	64.8	57.9	57.7	27.1
April	69.7	96.4	59.9	62.4	57.5	57.5	25.2
May	72.6	97.4	57.4	59.2	54.5	55.4	24.0
June	72.2	99.6	54.8	53.9	49.4	50.5	24.9
July	70.6	100.2	56.0	57.1	51.9	52.0	27.3
August	85.6	110.4	71.3	80.7	72.1	73.7	36.3
September	95.0	122.3	93.2	100.4	85.2	87.3	43.6
October	98.6	127.9	114.4	115.6	95.0	99.4	53.5
November	95.4	126.2	107.0	106.5	90.7	93.6	50.5
December	80.3	116.1	90.1	92.6	80.9	79.8	44.7
Average	78.6	106.3	77.3	83.9	69.7	69.4	38.7
1991 January	76.1	110.8	82.2	87.9	76.3	75.5	42.2
February	68.0	104.1	73.8	75.7	67.8	67.4	31.6
March	67.2	97.4	62.2	66.0	59.6	57.7	31.3
April	70.7	97.8	58.8	62.8	57.2	57.4	31.6
May	74.2	99.1	60.8	60.0	56.0	57.2	31.7

*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 those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and electric utilities, as well as residential and commercial customers.

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

Sources: See end of section.

Table 9.7 Refiner Sales Prices of Petroleum Products to End Users
(Cents per Gallon, Excluding Taxes)

	Finished Motor Gasoline ^a	Finished Aviation Gasoline	Kerosene-Type Jet Fuel	Kerosene	No. 2 Fuel Oil	No. 2 Diesel Fuel	Propane (Consumer Grade)
1978 Average	48.4	51.6	38.7	42.1	40.0	37.7	33.5
1979 Average	71.3	68.9	54.7	58.5	51.6	58.5	35.7
1980 Average	103.5	108.4	86.8	90.2	78.8	81.8	48.2
1981 Average	114.7	130.3	102.4	112.3	91.4	99.5	58.5
1982 Average	106.0	131.2	96.3	108.9	90.5	94.2	59.2
1983 Average	95.4	125.5	87.8	96.1	91.6	82.6	70.9
1984 Average	90.7	123.4	84.2	103.6	91.6	82.3	73.7
1985 Average	91.2	120.1	79.6	103.0	84.9	78.9	71.7
1986 Average	82.4	101.1	52.9	79.0	56.0	47.8	74.5
1987 Average	66.9	90.7	54.3	77.0	58.1	55.1	70.1
1988 Average	67.3	89.1	51.3	73.8	54.4	50.0	71.4
1989 January	65.6	89.2	56.2	71.4	56.7	53.5	65.6
February	66.1	89.7	57.0	72.2	55.6	54.3	66.8
March	68.4	90.6	57.9	67.6	57.1	57.0	63.8
April	81.7	99.1	60.8	66.2	59.2	61.0	55.9
May	85.5	107.0	58.1	59.7	54.8	57.1	55.4
June	84.5	107.1	56.2	53.9	50.3	53.4	49.0
July	82.0	105.5	54.7	55.3	51.9	53.1	54.9
August	76.6	101.9	55.1	58.0	52.7	53.7	57.4
September	74.9	100.7	58.9	66.8	57.3	59.5	59.0
October	74.7	100.4	63.8	73.6	61.7	63.7	59.9
November	72.7	98.6	64.4	77.7	62.6	64.5	58.4
December	72.1	97.3	68.1	90.0	76.0	71.3	74.4
Average	75.6	99.5	59.2	70.9	58.7	58.5	61.5
1990 January	78.6	102.0	79.7	99.9	81.0	76.4	94.5
February	76.5	102.4	68.9	81.2	63.9	61.9	81.2
March	75.0	100.9	63.5	82.3	62.4	60.6	71.5
April	77.8	101.4	61.1	74.2	61.6	60.2	68.5
May	80.1	103.5	58.1	65.4	57.4	58.4	54.8
June	81.3	104.0	55.6	58.5	51.5	54.0	57.4
July	80.6	103.6	55.3	59.3	53.6	54.9	55.6
August	92.2	112.6	70.3	87.4	74.1	76.1	64.7
September	100.9	125.4	91.2	101.8	87.3	88.4	72.5
October	108.6	134.4	115.8	118.7	99.5	101.0	77.1
November	107.1	131.7	108.8	116.7	93.5	96.0	84.6
December	98.4	122.5	92.2	112.1	86.9	85.8	85.3
Average	88.2	111.9	76.7	90.2	73.2	72.5	74.7
1991 January	88.7	112.1	81.6	105.0	84.5	80.4	86.6
February	79.6	106.4	73.7	93.5	75.3	71.3	81.3
March	74.1	101.3	62.1	88.8	64.8	61.7	76.0
April	^R 77.1	101.1	58.7	73.8	^R 61.6	60.6	69.8
May	82.1	105.3	60.1	69.3	58.5	60.1	67.8

*See Note 5 at end of section.

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and electric utilities, as well as residential and commercial customers.

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

Sources: See end of section.

**Table 9.8a Sales Prices of No. 2 Distillate to Residences,
Northeastern States
(Cents per Gallon, Excluding Taxes)**

	Maine	New Hampshire	Vermont	Massachusetts	Rhode Island	Connecticut	New York	New Jersey	Pennsylvania
1978 Average	48.6	50.3	50.8	48.8	50.7	50.1	50.1	49.6	48.8
1979 Average	68.8	72.5	72.5	70.9	72.8	72.0	71.2	71.0	69.8
1980 Average	96.3	100.4	101.5	97.8	101.1	98.3	98.2	97.9	96.4
1981 Average	120.4	123.7	125.4	121.3	123.8	121.7	123.2	121.5	118.1
1982 Average	115.5	117.4	120.1	117.6	120.1	118.3	120.5	117.4	113.7
1983 Average	102.8	104.1	112.9	109.1	110.5	109.1	112.1	107.9	105.8
1984 Average	103.9	108.4	111.9	111.6	111.4	112.1	115.5	111.0	107.9
1985 Average	99.7	102.4	107.7	107.0	106.7	108.0	111.3	105.9	102.3
1986 Average	74.4	75.9	86.6	82.1	82.8	89.0	91.1	90.2	81.4
1987 Average	74.7	76.5	81.1	80.6	82.5	83.4	85.2	84.3	76.9
1988 Average	77.7	78.2	82.6	82.1	83.6	85.3	86.3	84.8	77.8
1989 January	85.6	83.0	86.0	87.1	87.5	88.4	91.0	87.3	81.6
February	87.4	83.8	86.9	86.3	88.3	88.7	92.2	87.0	82.2
March	88.3	84.8	87.8	88.1	90.0	89.8	93.4	88.9	83.2
April	87.4	83.2	87.5	87.8	89.9	89.4	93.8	87.8	83.2
May	81.0	83.1	86.4	86.8	88.8	88.1	92.9	87.2	82.2
June	73.5	79.5	84.3	83.4	87.6	85.6	92.0	83.0	77.6
July	72.1	77.8	82.9	81.1	85.4	84.9	90.9	82.3	74.1
August	70.0	78.2	82.0	81.1	84.1	84.6	90.1	80.1	72.6
September	74.6	79.4	82.6	84.9	86.5	85.2	86.6	81.8	74.2
October	82.7	83.2	85.3	88.5	90.3	88.9	91.0	87.3	78.9
November	86.7	87.5	86.1	91.1	92.3	90.3	93.7	89.7	81.6
December	106.0	112.1	109.8	115.2	114.0	112.5	113.0	108.5	103.1
Average	89.4	89.3	90.5	92.6	93.9	92.9	95.8	91.8	85.1
1990 January	115.4	118.6	121.5	116.9	122.6	119.8	122.2	117.3	113.7
February	84.8	96.0	98.4	99.7	98.5	100.8	103.1	99.5	93.4
March	83.4	92.9	95.6	98.6	97.3	97.7	101.6	98.5	90.3
April	82.9	89.9	94.2	95.1	95.9	96.3	100.2	96.5	87.6
May	81.0	86.9	91.7	92.4	93.9	92.7	99.2	94.4	84.4
June	76.2	82.8	86.9	88.9	89.1	87.0	94.8	88.6	78.3
July	74.2	80.7	85.4	88.0	86.9	85.4	93.3	85.4	74.3
August	97.7	99.2	97.4	102.3	102.3	104.1	102.6	102.1	92.5
September	118.3	110.9	114.6	117.1	115.8	114.7	116.3	114.3	108.9
October	126.0	120.0	124.1	126.7	120.0	128.2	128.8	126.9	122.6
November	116.3	116.0	123.4	122.7	119.8	128.1	127.8	125.8	120.0
December	113.4	110.8	119.6	120.0	114.9	124.7	126.5	120.9	119.3
Average	98.4	102.9	107.0	108.3	108.5	109.7	112.4	108.6	102.5
1991 January	114.4	107.2	117.5	117.2	112.9	122.6	123.7	119.7	117.7
February	105.9	100.7	111.3	111.3	109.5	116.0	119.7	113.3	110.9
March	95.4	90.5	104.0	102.7	101.6	109.0	112.8	104.3	101.8
April	87.1	83.9	98.3	96.1	94.6	101.4	^R 106.7	^R 97.6	^R 95.5
May	81.9	80.8	93.4	91.7	89.7	96.5	101.1	93.5	89.9

See footnotes at end of Table 9.8c.

**Table 9.8b Sales Prices of No. 2 Distillate to Residences,
Selected South Atlantic and Midwestern States
(Cents per Gallon, Excluding Taxes)**

	Delaware	District of Columbia	Maryland	Virginia	West Virginia	Ohio	Michigan	Indiana	Illinois	Wisconsin	Minnesota
1978 Average	47.8	50.7	49.2	49.1	46.2	47.4	47.9	48.5	46.5	44.7	47.8
1979 Average	68.2	74.2	70.1	70.4	65.1	68.6	70.9	72.7	68.8	67.3	72.4
1980 Average	95.4	102.6	97.9	98.5	92.2	91.9	97.8	99.6	95.8	91.5	99.9
1981 Average	117.3	127.4	121.4	120.5	115.0	113.2	118.3	118.5	114.9	109.1	118.4
1982 Average	111.3	124.5	117.1	117.7	109.3	110.2	113.9	114.3	110.9	107.8	115.1
1983 Average	108.0	117.0	110.3	108.7	101.0	101.3	106.4	100.7	100.4	101.2	103.1
1984 Average	109.6	118.7	113.5	110.5	102.1	102.1	105.0	103.1	100.1	101.0	104.1
1985 Average	104.6	114.3	108.8	106.3	98.0	99.7	102.1	99.1	97.5	98.3	101.9
1986 Average	85.0	93.1	91.4	86.6	74.6	77.7	81.0	74.8	NA	75.6	79.2
1987 Average	79.3	91.8	86.6	79.5	76.4	74.7	77.5	75.4	79.8	75.1	74.6
1988 Average	80.1	91.6	87.0	80.5	74.2	74.7	77.5	75.4	77.6	73.9	73.5
1989 January	82.4	94.0	88.1	82.6	75.8	77.5	76.8	77.8	76.6	73.9	75.3
February	81.8	95.1	88.8	82.3	76.2	76.7	79.3	77.0	75.8	74.0	75.7
March	82.9	96.0	89.4	82.5	76.7	77.5	80.1	77.6	76.6	75.6	77.1
April	84.8	95.4	90.3	82.1	77.0	79.4	81.5	79.7	79.8	76.3	82.3
May	83.4	92.1	89.6	81.5	77.4	78.5	81.2	78.1	78.5	78.0	82.1
June	80.3	92.0	88.4	79.6	80.9	79.3	80.1	76.5	77.0	78.0	81.0
July	79.0	90.7	86.5	78.4	78.1	79.4	80.3	77.0	74.5	75.7	80.8
August	78.8	90.1	85.7	77.9	73.6	78.1	79.1	76.5	78.4	75.4	79.4
September	78.8	91.4	83.1	79.7	79.3	77.5	82.9	80.1	77.5	76.5	80.7
October	82.4	92.0	88.2	84.0	81.7	78.4	86.4	83.3	81.9	79.5	82.5
November	86.1	94.7	91.1	86.0	83.1	78.8	88.2	84.0	82.8	82.2	86.1
December	111.6	110.8	110.6	105.2	100.0	97.2	102.2	98.6	93.9	97.5	95.6
Average	88.2	98.6	93.8	87.0	83.0	81.6	85.3	83.2	80.9	81.1	82.4
1990 January	119.8	119.0	120.0	118.1	109.2	96.0	103.5	99.7	95.2	91.6	100.9
February	97.1	104.9	101.4	101.7	89.4	82.8	92.0	85.6	83.2	83.9	88.1
March	93.2	94.4	98.8	96.8	87.1	81.2	88.7	83.1	83.4	83.1	85.5
April	91.8	93.1	97.5	95.8	83.7	80.8	86.5	83.7	82.2	82.9	85.6
May	89.9	94.2	95.0	90.6	83.0	81.9	83.7	82.4	78.3	81.0	85.2
June	83.2	93.2	89.5	88.2	83.4	82.6	81.1	72.8	73.8	79.5	80.4
July	77.9	97.6	86.2	89.7	79.2	81.6	82.4	74.7	76.7	77.5	83.0
August	93.1	107.1	100.2	102.4	98.1	93.3	100.2	98.1	96.9	92.0	101.6
September	111.2	116.1	115.8	114.8	115.2	115.2	113.2	110.4	NA	107.0	111.7
October	122.3	134.9	130.6	128.3	124.4	120.9	123.9	123.3	117.8	117.1	121.7
November	118.8	134.3	130.4	126.1	121.7	117.0	121.0	119.1	113.1	114.8	119.7
December	113.7	128.4	125.3	122.8	112.9	111.8	113.5	111.4	105.0	108.3	111.1
Average	106.0	108.5	111.9	110.5	98.9	97.8	100.9	98.8	96.1	94.2	101.7
1991 January	113.0	124.1	122.7	117.7	110.4	105.5	109.1	105.8	102.4	102.4	105.5
February	105.4	118.6	116.1	110.5	101.2	94.5	97.0	95.4	93.0	92.3	93.6
March	98.4	112.3	107.7	102.6	90.8	85.8	90.9	87.9	85.9	87.6	87.2
April	92.3	105.6	102.8	^R 96.2	87.4	^R 83.2	90.9	^R 85.7	^R 88.3	^R 84.0	^R 87.7
May	91.4	101.2	98.8	90.9	85.5	82.8	88.5	86.1	88.5	83.0	87.6

See notes and sources at end of Table 9.8c.

**Table 9.8c Sales Prices of No. 2 Distillate to Residences,
Selected Western States and U.S. Average**
(Cents per Gallon, Excluding Taxes)

	Idaho	Washington	Oregon	Alaska	U.S. Average
1978 Average	43.6	48.6	45.8	53.2	49.0
1979 Average	62.1	69.7	68.0	68.2	70.4
1980 Average	91.6	100.8	97.3	97.8	97.4
1981 Average	110.4	116.5	111.4	118.0	119.4
1982 Average	110.4	117.6	111.6	117.4	116.0
1983 Average	101.8	109.0	103.6	108.8	107.8
1984 Average	98.5	102.6	99.3	106.9	109.1
1985 Average	97.2	101.1	97.1	108.3	105.3
1986 Average	73.8	77.5	70.4	94.9	83.6
1987 Average	68.8	79.5	72.5	86.5	80.3
1988 Average	68.8	78.5	70.9	86.9	81.3
1989 January	68.1	76.9	66.3	86.7	84.9
February	71.5	86.0	76.7	90.9	85.5
March	78.3	92.8	84.2	96.0	87.1
April	85.8	94.2	87.3	99.5	87.8
May	83.5	87.3	79.6	100.1	86.6
June	80.3	77.6	74.9	101.5	84.1
July	77.3	74.7	71.1	105.8	82.1
August	77.2	78.2	71.2	101.6	81.5
September	80.3	83.9	81.5	96.0	81.5
October	82.2	91.7	86.4	97.8	85.6
November	84.9	93.4	86.4	97.9	88.3
December	84.5	93.1	86.1	98.1	107.6
Average	77.8	96.4	80.2	96.4	90.0
1990 January	85.7	96.0	88.7	98.6	114.0
February	80.8	89.0	83.9	99.6	96.3
March	80.9	88.6	84.4	104.2	94.7
April	81.7	90.0	85.1	97.9	93.1
May	79.4	84.3	84.6	101.7	90.7
June	74.6	85.0	81.9	102.1	86.4
July	70.5	76.3	79.3	97.8	83.8
August	90.7	90.0	95.3	116.8	98.8
September	108.3	115.3	111.9	119.3	113.7
October	121.0	133.3	128.2	128.9	125.4
November	127.1	134.4	126.8	127.5	123.4
December	119.7	122.0	109.2	128.2	119.6
Average	97.4	102.7	97.0	112.6	106.2
1991 January	110.8	118.4	108.3	129.3	116.8
February	97.3	112.0	102.9	122.8	110.3
March	84.1	95.3	89.4	109.5	102.6
April	^R 83.5	94.0	^R 86.4	101.9	^R 96.9
May	84.2	94.8	86.5	101.3	92.5

Footnotes continued.

R=Revised data. NA=Not available.

Notes: • The 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 estimates. See Note 6 at end of section.

Sources: See end of section.

**Table 9.9 Retail Prices^a of Electricity
(Cents per Kilowatthour)**

	Residential		Commercial		Industrial		Other		Total ^b	
	Monthly Series ^c	Annual Series	Monthly Series ^c	Annual Series	Monthly Series ^c	Annual Series	Monthly Series ^c	Annual Series	Monthly Series ^c	Annual Series
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	7.5	7.2	7.3	7.1	5.0	4.8	6.8	5.9	6.5	6.3
1985 Average	7.8	7.4	7.5	7.3	5.2	5.0	7.0	6.1	6.7	6.4
1986 Average	7.4	7.4	7.1	7.2	4.9	4.9	6.6	6.1	6.4	6.4
1987 Average	7.4	7.4	7.0	7.1	4.7	4.8	6.6	6.2	6.3	6.4
1988 Average	7.5	7.5	7.1	7.0	4.6	4.7	6.0	6.2	6.3	6.4
1989 January	7.2		6.9		4.5		6.5		6.2	
February	7.2		7.0		4.6		6.7		6.2	
March	7.2		7.0		4.6		6.6		6.2	
April	7.5		7.1		4.6		6.5		6.3	
May	7.7		7.2		4.6		6.3		6.3	
June	8.0		7.4		4.8		5.7		6.6	
July	8.1		7.5		5.0		5.6		6.8	
August	8.1		7.5		5.0		5.6		6.8	
September	8.0		7.5		4.9		6.1		6.7	
October	7.9		7.5		4.7		6.5		6.5	
November	7.5		7.1		4.5		6.5		6.2	
December	7.3		7.0		4.6		6.6		6.3	
Average	7.6	7.6	7.2	7.2	4.7	4.7	6.2	6.2	6.4	6.5
1990 January	7.2		6.9		4.6		5.8		6.3	
February	7.5		7.1		4.6		6.0		6.3	
March	7.6		7.2		4.6		6.1		6.4	
April	7.7		7.2		4.6		6.4		6.4	
May	8.0		7.3		4.6		6.2		6.5	
June	8.1		7.5		4.8		6.4		6.7	
July	8.2		7.5		5.0		6.3		6.9	
August	8.3		7.5		5.0		6.2		6.9	
September	8.2		7.5		5.0		6.4		6.9	
October	8.1		7.6		4.8		6.3		6.7	
November	7.8		7.3		4.7		6.3		6.5	
December	7.6		7.2		4.6		6.6		6.4	
Average	7.8	NA	7.3	NA	4.8	NA	6.2	NA	6.6	NA
1991 January	7.4		7.1		4.7		6.4		6.4	
February	7.6		7.3		4.7		6.4		6.5	
March	7.8		7.3		4.7		6.4		6.6	
April	8.0		7.3		4.7		6.3		6.5	
May	8.2		7.5		4.8		6.3		6.7	
5-Month Average	7.8	NA	7.3	NA	4.7	NA	6.4	NA	6.5	NA
1990 5-Month Average	7.6		7.2		4.6		6.1		6.4	
1989 5-Month Average	7.3		7.0		4.6		6.5		6.2	

^aPrices are calculated by dividing revenue by sales. Revenue may not correspond to sales for a particular month because of utility billing and accounting procedures. This could result in uncharacteristic increases or decreases in the monthly prices. See Note 7 at end of section.

^bAverage price for total sales to ultimate consumers.

^cAnnual values are the sum of the monthly revenue divided by the sum of the monthly sales. Data through 1979 cover privately owned electric utilities in Classes A and B. Data for 1980 through 1985 cover selected privately owned electric utilities in Class A whose electric operating revenue was \$100 million or more during the previous year. See Note 7 at end of section.

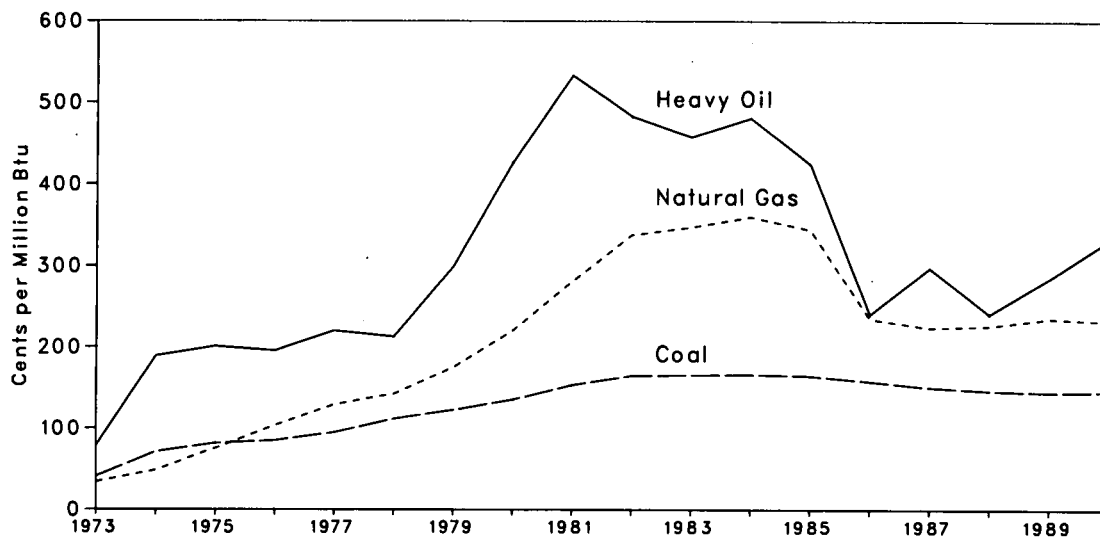
NA=Not available.

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

Sources: See end of section.

Figure 9.4 Cost of Fossil Fuels Delivered to Steam-Electric Utility Plants

Yearly



Monthly

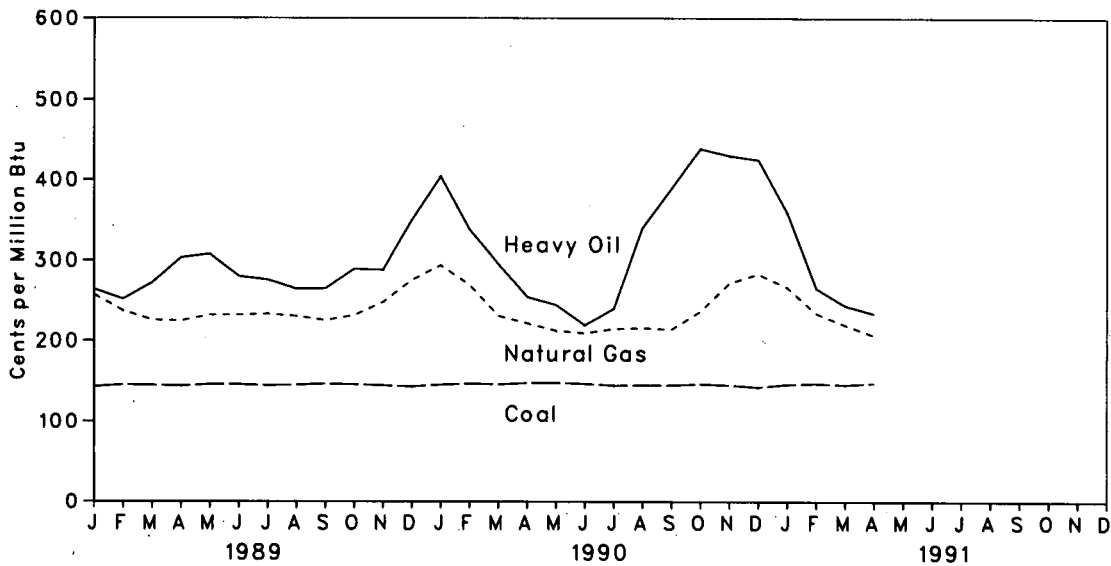


Table 9.10 Quantity and Cost of Fossil-Fuel Receipts at Steam-Electric Utility Plants^a

	Coal		Petroleum				Gas ^b		All Fossil Fuels ^c
	Quantity (thousand short tons)	Cost (cents per million Btu)	Heavy Oil ^c		Total ^{c d}		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	220.8
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	2,387,522	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									
January	62,443	142.7	25,855	264.1	26,516	267.4	124,572	257.5	164.8
February	56,634	145.0	20,489	251.9	21,179	256.0	150,950	237.2	164.6
March	63,218	144.4	22,427	271.8	23,199	276.0	180,668	225.7	165.0
April	62,076	143.6	19,831	303.0	20,292	305.6	207,401	224.6	166.7
May	64,796	145.3	20,569	307.2	21,211	310.1	226,859	232.0	169.7
June	61,272	145.5	18,677	279.9	19,354	283.5	234,010	232.1	168.5
July	55,429	144.1	19,778	275.6	20,364	278.6	285,117	233.3	172.2
August	70,147	144.7	19,701	264.2	20,563	268.9	282,481	230.6	166.6
September	64,539	146.0	14,967	264.8	15,609	270.6	239,696	225.4	164.9
October	66,578	145.4	15,779	289.1	16,495	295.6	230,629	231.6	166.1
November	65,570	144.2	16,862	288.0	17,602	294.5	162,361	248.1	164.9
December	60,515	142.8	22,734	350.2	24,040	359.0	147,763	275.4	176.7
Year	753,217	144.5	237,668	284.6	246,422	289.3	2,472,506	235.5	167.5
1990									
January	67,637	145.0	26,481	403.8	27,416	409.5	126,832	293.8	182.6
February	62,280	146.4	19,190	338.2	19,683	340.7	113,436	269.3	171.0
March	67,518	145.5	15,028	295.2	15,499	299.3	165,802	231.0	162.9
April	63,888	147.1	13,521	254.7	13,978	260.5	180,912	221.9	161.9
May	64,958	147.5	15,003	244.8	15,551	250.8	220,164	212.4	162.2
June	63,604	146.3	18,065	219.4	18,609	224.1	267,993	209.3	161.7
July	63,427	144.3	22,150	239.9	22,788	243.8	294,672	214.6	164.5
August	70,571	144.5	18,768	341.0	19,320	346.2	304,424	215.9	169.1
September	65,728	144.6	13,452	389.5	13,968	397.5	268,756	214.2	168.4
October	69,159	146.1	13,254	438.8	13,970	452.4	225,850	236.8	173.1
November	65,401	144.8	13,378	430.0	13,901	439.0	164,781	271.8	173.9
December	62,386	142.4	13,923	424.7	14,625	434.0	156,263	283.3	174.3
Year	786,557	145.4	202,214	331.9	209,309	338.3	2,489,885	232.1	168.8
1991									
January	63,356	145.7	11,478	359.5	12,325	373.8	164,872	266.8	170.2
February	61,059	146.9	10,417	265.6	10,887	275.7	137,559	234.7	161.3
March	63,537	145.4	11,269	244.2	11,667	251.2	182,833	220.0	159.2
April	60,747	147.3	13,119	234.2	13,468	239.5	203,862	206.7	160.3
4 Months	248,700	146.3	46,283	274.7	48,347	284.5	689,125	230.2	162.7
1990 4 Months	261,322	146.0	74,220	337.5	76,576	342.1	586,982	249.1	169.7
1989 4 Months	244,371	143.9	88,602	272.0	91,184	275.5	663,591	233.9	165.3

^aData through 1982 cover all steam-electric utility plants with a generator nameplate capacity of 25 megawatts or greater. From 1974 through 1982, data include peaking units. Beginning with 1983, data cover steam-electric utility plants with a generator nameplate capacity of 50 megawatts or greater. Data for 1991 cover all electric generating plants with steam-electric and combined-cycle units that have a total generator nameplate capacity of 50 megawatts or greater.

^bIncludes supplemental gaseous fuels.

^cHeavy fuel oil includes fuel oils No. 4, No. 5, and No. 6 and topped crude oil. The weighted averages for petroleum and all fossil fuels include both heavy and light oil (No. 2 fuel (oil, kerosene, and jet fuel) prices. Data do not include petroleum coke.

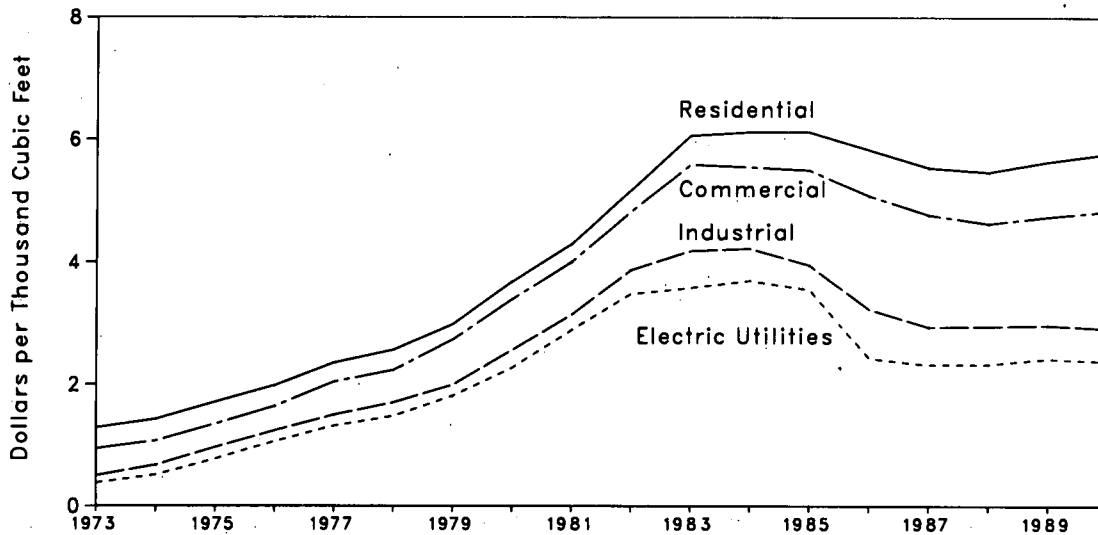
^dData for 1973 through 1982 do not include small quantities of refined motor oil, bunker oil, and liquefied petroleum gas.

Note: Geographic coverage — 1973 through 1981: the Lower-48 States and the District of Columbia. 1982 forward: the 50 States and the District of Columbia.

Sources: See end of section.

Figure 9.5 Natural Gas Prices

Yearly



Monthly

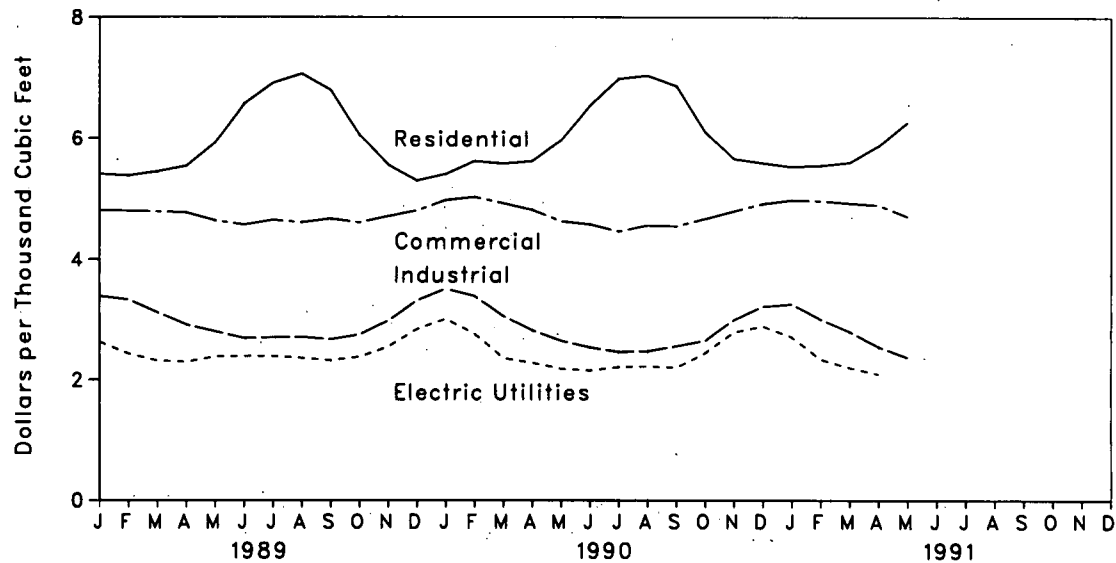


Table 9.11 Natural Gas Prices^a
(Dollars per Thousand Cubic Feet)

	Wellhead	Major Interstate Pipeline Companies		City Gate	Delivered to Consumers ^b °				
		Imports	Purchases from Producers		Residential	Commercial	Industrial	Electric Utilities ^d	Average
1973 Average	0.22	NA	NA	NA	1.29	0.94	0.50	0.38	0.73
1974 Average .....	.30	NA	NA	NA	1.43	1.07	.67	.51	.89
1975 Average .....	.44	NA	NA	NA	1.71	1.35	.96	.77	1.19
1976 Average .....	.58	NA	NA	NA	1.98	1.64	1.24	1.06	1.47
1977 Average .....	.79	NA	NA	NA	2.35	2.04	1.50	1.32	1.78
1978 Average .....	.91	2.21	0.83	NA	2.56	2.23	1.70	1.48	1.98
1979 Average	1.18	2.60	1.22	NA	2.98	2.73	1.99	1.81	2.34
1980 Average	1.59	4.42	1.83	NA	3.68	3.39	2.56	2.27	2.91
1981 Average	1.98	4.84	2.15	NA	4.29	4.00	3.14	2.89	3.51
1982 Average	2.46	4.94	2.72	NA	5.17	4.82	3.87	3.48	4.32
1983 Average	2.59	4.51	2.93	NA	6.06	5.59	4.18	3.58	4.82
1984 Average	2.66	4.08	2.91	3.95	6.12	5.55	4.22	3.70	4.85
1985 Average	2.51	3.19	2.85	3.75	6.12	5.50	3.95	3.55	4.72
1986 Average	1.94	2.53	2.39	3.22	5.83	5.08	3.23	2.43	4.13
1987 Average	1.67	2.17	2.10	2.87	5.54	4.77	2.84	2.32	4.05
1988 Average	1.69	2.00	2.13	2.92	5.47	4.63	2.95	2.33	4.09
1989 January	1.99	1.77	2.35	3.17	5.41	4.81	3.39	2.63	4.67
February	1.81	2.20	2.16	3.10	5.38	4.80	3.33	2.44	4.60
March	1.69	1.99	2.14	2.89	5.45	4.79	3.12	2.32	4.46
April	1.56	2.01	2.19	2.83	5.54	4.77	2.91	2.31	4.18
May	1.61	2.00	2.11	2.94	5.93	4.64	2.80	2.39	3.94
June	1.65	2.04	2.05	2.98	6.58	4.57	2.69	2.40	3.72
July	1.65	1.88	2.00	3.08	6.92	4.65	2.70	2.40	3.59
August	1.61	2.27	2.11	3.04	7.07	4.61	2.71	2.38	3.57
September	1.55	2.02	2.08	2.99	6.80	4.67	2.67	2.33	3.67
October	1.58	2.17	2.13	2.84	6.06	4.61	2.75	2.39	3.66
November	1.66	2.13	2.23	2.98	5.56	4.71	2.98	2.56	4.30
December	1.92	2.08	2.39	3.10	5.30	4.81	3.32	2.85	4.61
Average	1.69	2.04	2.18	3.01	5.64	4.74	2.97	2.42	4.22
1990 January	2.22	2.04	2.42	3.24	5.41	4.98	3.51	3.01	4.76
February	1.85	2.25	2.17	3.10	5.62	R 5.05	R 3.39	2.76	4.81
March	1.56	1.99	1.94	2.94	5.58	4.93	R 3.06	2.37	4.49
April	1.50	2.00	2.17	2.83	5.62	4.82	R 2.82	2.29	R 4.21
May	1.47	2.08	1.98	2.81	R 5.98	R 4.63	R 2.65	2.19	3.83
June	1.49	1.91	2.18	3.00	6.55	4.58	R 2.54	2.16	R 3.52
July	1.50	1.88	2.00	3.03	R 7.01	4.46	2.47	2.22	3.39
August	1.51	1.93	1.86	2.91	7.04	4.56	R 2.48	2.23	3.35
September	1.57	1.89	1.93	2.92	R 6.86	4.55	R 2.56	2.21	3.46
October	1.79	1.90	2.18	2.81	6.11	4.67	R 2.65	2.45	R 3.81
November	1.99	2.21	2.45	3.14	5.66	4.80	R 3.00	2.79	R 4.34
December	2.07	2.27	2.58	3.19	5.59	4.92	R 3.22	2.89	R 4.66
Average	1.72	2.03	2.19	3.03	5.77	4.83	R 2.90	2.38	4.19
1991 January	1.95	2.24	2.23	3.08	5.53	4.98	3.26	2.71	4.76
February	1.57	2.12	1.98	2.94	5.55	4.97	R 3.01	2.35	4.65
March	1.46	1.94	2.06	2.78	5.60	4.93	R 2.80	2.21	4.44
April	1.47	2.05	1.91	2.75	5.88	R 4.90	2.55	2.10	4.15
May	NA	2.00	2.04	2.77	6.28	4.71	2.38	NA	NA
5-Month Average	NA	2.07	2.04	2.90	5.66	4.93	2.83	NA	NA
1990 5-Month Average	1.72	2.07	2.14	3.02	5.58	4.92	3.12	2.46	4.49
1989 5-Month Average	1.73	1.99	2.19	3.01	5.48	4.78	3.13	2.40	4.43

^aPrices shown on this page are intended to include all taxes. See Note 8 at end of section.

^bIncludes supplemental gaseous fuels.

^cPrices for 1987 forward represent natural gas delivered and sold to residential, commercial, industrial, and electric utility consumers. They do not include the price of natural gas delivered to industrial and commercial consumers on behalf of third parties. Volumes of natural gas delivered on behalf of third parties are included in the consumption data shown in Table 4.3. Additional information is available in the Energy Information Administration *Natural Gas Monthly*, Appendix C.

^dData through December 1982 cover all steam-electric utility plants with a capacity of 25 megawatts or greater. From 1974 through 1982, data include peaking units. Beginning with January 1983, data cover steam-electric utility plants with a capacity of 50 megawatts or greater.

R=Revised data. NA=Not available.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1988 final. Subsequent data are preliminary. • Wellhead annual and year-to-date prices are simple averages of the monthly prices; all other annual and year-to-date prices are volume-weighted averages of the monthly prices.

Sources: See end of section.

Price Notes and Sources

Notes

1. The average domestic first purchase price represents the average price at which all domestic crude oil is purchased. Prior to February 1976, the price represented an estimate of the average of posted prices; beginning with February 1976, the price represents an average of actual first purchase prices. The data series was previously called "Actual Domestic Wellhead Price."

2. F.O.B. literally means "Free on Board." It denotes a transaction whereby the seller makes the product available with an agreement on a given port at a given price; it is the responsibility of the buyer to arrange for the transportation and insurance.

3. The landed cost of imported crude oil from selected countries does not represent the total cost of all imported crude. Prior to March 1975, imported crude costs to U.S. company-owned refineries in the Caribbean were not included in the landed cost, and costs of crude oil from countries that export only small amounts to the United States were also excluded. Beginning in March 1975, however, coverage was expanded to include U.S. company-owned refineries in the Caribbean. Landed costs do not include supplemental fees.

4. Beginning with January 1981, refiner acquisition costs of crude oil are from data collected on Form EIA-14, "Refiners' Monthly Cost Report." These prices were previously published from data collected on Form ERA-49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report." Form ERA-49 was discontinued with the decontrol of crude oil on January 28, 1981. Crude oil purchases and costs are defined for Form EIA-14 in accordance with conventions used for Form ERA-49. Also, the respondents for the two forms are essentially the same. However, due to possible different interpretations of the filing requirements and a different method for handling prior period adjustments, care must be taken in comparing the data collected on the two forms.

The refiner acquisition cost of crude oil is the average price paid by refiners for crude oil booked into their refineries in accordance with accounting procedures generally accepted and consistently and historically applied by the refiners concerned. Domestic crude oil is that oil produced in the United States or from the outer continental shelf as defined in 43 USC Section 1331. Imported crude oil is either that oil reported on Form ERA-51, "Transfer Pricing Report," or any crude oil that is not domestic oil. The composite cost is the weighted average of domestic and imported crude oil costs.

Crude oil costs and volumes reported on Form ERA-49 excluded unfinished oils but included the Strategic Petroleum Reserve (SPR). Crude oil costs and volumes reported on Form FEA-P110-M-1 included unfinished oils but excluded SPR. Imported averages derived from Form ERA-49 exclude oil purchased for SPR, whereas the composite averages derived from Form ERA-49 include SPR. None of the prices derived from Form EIA-14 include either unfinished oils or SPR.

5. Several different series of motor gasoline prices are published in this section. U.S. City Average Retail Prices of Motor Gasoline are calculated monthly by the Bureau of Labor Statistics during the development of the Consumer Price Index (CPI). These prices include all Federal, State, and local taxes paid at the time of sale. For the period 1974 through 1977, prices were collected in 56 urban areas. For the period 1978 forward, prices were collected from a new sample of service stations in 85 urban areas selected to represent all urban consumers-about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-serve).

Refiner and Gas Plant Operator Sales Prices of Finished Motor Gasoline for Resale and to End Users are determined by the Energy Information Administration (EIA) in a monthly survey of refiners and gas plant operators (Form EIA-782A). The prices do not include any Federal, State, or local taxes paid at the time of sale. Estimates of prices prior to January 1983 are based on Form FEA-P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices," and also exclude all Federal, State, or local taxes paid at the time of sale. Sales for Resale are those made to purchasers who are other-than-ultimate consumers. Sales to End Users are sales made directly to the consumer of the product, including bulk consumers such as agriculture, industry, and utilities, as well as residential and commercial consumers.

6. Starting in January 1983, Form EIA-782, "Monthly Petroleum Product Sales Report," replaced 10 previous surveys. Every attempt was made to continue the most important price series. However, prices published through December 1982 and those published since January 1983 do not necessarily form continuous data series due to changes in survey forms, definitions, instructions, populations, samples, processing systems, and statistical procedures. To provide historical data, continuous series were generated for annual data 1978 through 1982 and 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 for product and sales type matching and for discontinuity due to other factors. An important difference between the previous

and present prices is the distinction between wholesale and resale and between retail and end user. The resale category continues to include sales among resellers. However, bulk sales to utility, industrial, and commercial accounts previously included in the wholesale category are now counted as made to end users. The end-user category continues to include retail sales through company owned and operated outlets but also includes the bulk utility, industrial, and commercial sales. Additional information may be found in "Estimated Historic Time Series for the EIA-782," a feature article reprinted from the December 1983 [3] *Petroleum Marketing Monthly* published by EIA.

7. National average electricity prices are shown in two data series. The "Annual Series" is based on data from more than 3,000 publicly and privately owned electric utilities that report on Form EIA-861, "Annual Electric Utility Report." The "Monthly Series" is based on data from over 200 utilities statistically chosen as a stratified sample of the utilities that report on Form EIA-861. The selected utilities report monthly on Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions," formerly the "Electric Utility Company Monthly Statement." Annual values shown for the monthly series are the sum of the monthly revenue divided by the sum of the monthly sales. Prior to January 1986, only privately owned utilities were included in the monthly survey and the sample was chosen using cut-off rather than stratification techniques.

8. Natural gas prices are intended to include all taxes. Instructions on the data collection forms specifically direct that all U.S., State, and local taxes, surcharges, and/or adjustments billed to consumers are to be included. However, sales and other taxes itemized on consumers' bills are sometimes excluded by the reporting utilities.

Sources

Petroleum and Petroleum Products:

- **Domestic First Purchase Prices--1973:** Bureau of Mines, *Minerals Yearbook*, "Crude Oil and Petroleum Products" chapter. 1974 through January 1976: Federal Energy Administration (FEA), Form FEA-90, "Crude Petroleum Production Monthly Report"; February 1976 through September 1979: FEA, Form FEA-P124, "Domestic Crude Oil Purchaser's Report"; October 1979 through 1982: Economic Regulatory Administration, Form ERA-182, "Domestic Crude Oil First Purchase Report"; 1983 forward: Energy Information Administration (EIA), Form EIA-182, "Domestic Crude Oil First Purchase Report."
- **F.O.B. and Landed Costs of Crude Oil Imports--**October 1973 through September 1977, FEA, Form FEA-F701-M-0, "Transfer Pricing Report"; October 1977 through January 1979: EIA, Form FEA-F701-M-0, "Transfer Pricing Report"; February 1979 through September 1982: EIA, Form ERA-51, "Transfer Pricing Report"; October 1982 through June 1984: EIA, Form EP-51, "Monthly Foreign Crude Oil Transaction Report"; July 1984 forward: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report."
- **Refiner Acquisition Costs--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 through January 1976: FEA, Form FEO-96, "Monthly Cost Allocation Report"; February 1976 through September 1977: FEA, Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report"; October 1977 through June 1978: EIA, Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report"; July 1978 through 1980: EIA, Form ERA-49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report"; 1981 forward: EIA, Form EIA-14, "Refiners' Monthly Cost Report."
- **U.S. City Average Retail Prices of Motor Gasoline--Monthly Data:** U.S. Department of Labor, Bureau of Labor Statistics (BLS), *Consumer Prices: Energy*, except for leaded regular in January 1983; unleaded regular in September 1982, January 1983, March 1983, and October 1988; unleaded premium in September 1981 through December 1982; and average for all types in September 1982, January 1983, and October 1988, which include revisions from the BLS database. Annual Data: 1973 - *Platt's Oil Price Handbook and Oilmanac*, 1974, 51st Edition. 1974 forward - calculated by EIA as the simple averages of monthly data.
- **No. 2 Distillate to Residences--1978 through 1982:** EIA estimates using data from Form FEA-P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report" and EIA, Form EIA-9A, "No. 2 Distillate Price Monitoring Report." See Note 6 on the previous page for additional information on the estimated data. 1983 forward: EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report" and EIA, Form EIA-782B, "Reseller/Retailers' Monthly Petroleum Product Sales Report."
- **All Other Petroleum Products--1978 through 1982:** EIA estimates using data from Form FEA-302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices." See Note 6 on the previous page for additional information on the estimated data. 1983 forward: EIA, Form

Natural Gas:

- **Average Wellhead Price**--Annual data through 1982: EIA, *Natural Gas Annual 1973 through 1987*, EIA, Form EIA-627, "Annual Quantity and Value of Natural Gas Report," and the U.S. Department of the Interior, Minerals Management Service. Monthly data from January 1990 forward and the 1990 average are estimated primarily on the basis of values reported by State agencies in Mississippi, New Mexico, Oklahoma, and Texas. These States together account for almost 50 percent of total U.S. marketed production. The monthly and annual estimates are adjusted to conform with final reported annual data.
- **Imports and Purchases from Producers by Major Interstate Pipeline Companies**--Form FERC-11, "Natural Gas Pipeline Company Monthly Statement."
- **City Gate**--October 1983 forward: EIA, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."
- **Residential, Commercial, Industrial and Consumer Average**--Annual data from EIA, Form EIA-176 "Annual Report of Natural and Supplemental Gas

Supply and Disposition." Monthly data from EIA, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers." Monthly data are adjusted to conform to final reported annual data.

- **Electric Utilities Average**--EIA, Form FPC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Electricity:

- **Cost of Fossil Fuels**--EIA, Form FPC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."
- **Retail Prices**-- *Monthly Series* - 1973 through September 1977: Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income"; October 1977 through February 1980: EIA, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 through December 1982: EIA, Form FERC-5, "Electric Utility Company Monthly Statement"; January 1983 through December 1986: EIA, Form EIA-826, "Electric Utility Company Monthly Statement"; January 1987 forward: EIA, Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." *Annual Series* - 1984 forward: EIA, *Electric Power Annual 1988*, Table 18.

Section 10. International

Crude Oil Production. World crude oil production during May 1991 was 59 million barrels per day, down 0.1 million barrels per day from the level in the previous month.

Organization of Petroleum Exporting Countries (OPEC) production during May 1991 averaged 23 million barrels per day, down 0.1 million barrels per day from the level during the previous month. Production by the Arab members of OPEC during May 1991 averaged 13 million barrels per day, down 0.1 million barrels per day from the April 1991 level. During May 1991, production increased in Iraq by 150 thousand barrels per day and decreased in the United Arab Emirates by 200 thousand barrels per day. Production was unchanged in Algeria, Kuwait, Libya, Qatar, and Saudi Arabia. Among the non-Arab members of OPEC, production during May 1991 was unchanged in Indonesia, Iran, Nigeria, and Venezuela.

Among the non-OPEC nations, production during May 1991 increased in Canada by 55 thousand barrels per day. Production decreased in the United Kingdom by 130 thousand barrels per day, in the United States by 99 thousand barrels per day, and in Mexico by 5 thousand barrels per day. Production was unchanged in China and the U.S.S.R.

Petroleum Consumption. In February 1991, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 38.7 million barrels per day, 1 percent lower than the level in February 1990. Consumption was lower in the United States by 5 percent but higher in Japan by 4 percent compared with levels 1 year earlier. In February 1991, consumption in all European OECD countries combined was 13.6 million barrels per day, 4 percent higher than in the previous February 1990. Consumption was higher in Italy by 5 percent, lower in Canada and the United Kingdom by 8 percent and 2 percent, respectively, compared with levels 1 year earlier. Consumption was unchanged in France com-

pared with levels 1 year earlier. Through December 1990, data for Germany are for the former West Germany only. Beginning with January 1991, data for Germany are for the unified Germany, i.e., the former East Germany plus West Germany.

Petroleum Stocks. For all OECD countries, petroleum stocks at the end of February 1991 totaled 3.5 billion barrels, 1 percent lower than the ending stock level in February 1990. Stocks were lower in the United States and Japan by 4 percent and less than 1 percent, respectively, compared with levels 1 year earlier. In February 1991, stock levels in all European OECD countries was 1.2 billion barrels, 2 percent higher than in the previous February. Stocks were higher in Italy by 7 percent, higher in France and United Kingdom by 1 percent, and unchanged in Canada compared with levels 1 year earlier. Through December 1990, data for Germany are for the former West Germany only. Beginning with January 1991, data for Germany are for the unified Germany, i.e., the former East Germany plus West Germany.

Nuclear Electricity Generation. Based on *Nucleonics Week* information for May 1991, the 20 reporting countries with nuclear capacity generated 136 gross terawatt-hours (billion kilowatt-hours) of nuclear-generated electricity, 2 percent more than in May 1990.

On April 12, 1991, Japan's Tomari 2, a 579 gross-megawatt-electric (MWe) unit became commercially operable. In France, Cattenom 4, a 1,300 MWe pressurized-water reactor, was connected to the grid on May 27, 1991.

As of May 31, 1991, there were 354 operable nuclear generating units (not including Cattenom 4) in the 20 reporting countries. The units had a collective gross generating capacity of 297.0 gigawatts (million kilowatts). The 111 U.S. units accounted for 106.0 gross gigawatts, 35.7 percent of the total reported nuclear generating capacity.

Table 10.1a World Crude Oil^a Production
(Thousand Barrels per Day)

	Algeria	Iraq	Kuwait ^b	Libya	Qatar	Saudi Arabia ^b	United Arab Emirates	Arab OPEC ^c	Indonesia	Iran	Nigeria	Venezuela
1973 Average	1,097	2,018	3,020	2,175	570	7,596	1,533	18,009	1,339	5,861	2,054	3,366
1974 Average	1,009	1,971	2,546	1,521	518	8,480	1,679	17,724	1,375	6,022	2,255	2,976
1975 Average	983	2,262	2,084	1,480	438	7,075	1,664	15,985	1,307	5,350	1,783	2,346
1976 Average	1,075	2,415	2,145	1,933	497	8,577	1,936	18,579	1,504	5,883	2,067	2,294
1977 Average	1,152	2,348	1,969	2,083	445	9,245	1,999	19,221	1,686	5,663	2,085	2,238
1978 Average	1,231	2,563	2,131	1,983	487	8,301	1,831	18,525	1,635	5,242	1,897	2,165
1979 Average	1,224	3,477	2,500	2,092	508	9,532	1,831	21,163	1,591	3,168	2,302	2,356
1980 Average	1,106	2,514	1,656	1,787	472	9,900	1,709	19,144	1,577	1,662	2,055	2,168
1981 Average	1,002	1,000	1,125	1,140	405	9,815	1,474	15,961	1,605	1,380	1,433	2,102
1982 Average	987	1,012	823	1,150	330	6,483	1,250	12,035	1,339	2,214	1,295	1,895
1983 Average	968	1,005	1,064	1,105	295	5,086	1,149	10,672	1,343	2,440	1,241	1,801
1984 Average	1,014	1,209	1,157	1,087	394	4,663	1,146	10,670	1,412	2,174	1,388	1,798
1985 Average	1,037	1,433	1,023	1,059	301	3,388	1,193	9,434	1,325	2,250	1,495	1,677
1986 Average	945	1,690	1,419	1,034	308	4,870	1,330	11,596	1,390	2,035	1,467	1,787
1987 Average	1,048	2,079	1,585	972	293	4,265	1,541	11,783	1,343	2,298	1,341	1,752
1988 Average	1,040	2,685	1,492	1,175	346	5,086	1,565	13,389	1,342	2,240	1,450	1,903
1989 January	1,090	2,650	1,250	1,097	400	4,918	1,735	13,140	1,401	2,800	1,454	1,862
February	1,090	2,650	1,350	1,097	420	4,673	1,650	12,929	1,401	2,850	1,454	1,862
March	1,090	2,650	1,390	1,097	340	4,515	1,675	12,757	1,401	3,200	1,604	1,862
April	1,090	2,750	1,695	1,149	330	4,914	1,705	13,633	1,401	2,900	1,654	1,862
May	1,090	2,750	2,005	1,149	410	5,022	1,705	14,131	1,401	2,500	1,654	1,862
June	1,090	2,700	2,105	1,149	420	4,825	1,975	14,264	1,401	2,800	1,754	1,913
July	1,110	2,850	1,905	1,149	400	4,923	1,921	14,258	1,384	2,800	1,854	1,875
August	1,110	3,000	1,905	1,149	400	5,022	1,961	14,546	1,434	3,000	1,754	1,926
September ..	1,110	2,900	1,905	1,149	400	5,218	2,156	14,838	1,384	2,850	1,754	1,926
October	1,110	3,000	1,905	1,149	400	5,317	2,256	15,136	1,434	2,950	1,654	1,977
November ...	1,110	2,950	2,095	1,201	380	5,701	2,356	15,792	1,434	2,800	1,854	1,977
December ...	1,110	3,000	2,090	1,201	395	5,696	2,406	15,897	1,434	2,900	1,854	1,977
Average	1,100	2,822	1,802	1,145	391	5,064	1,960	14,284	1,409	2,863	1,693	1,907
1990 January	1,160	2,900	1,995	1,200	370	5,595	2,055	15,275	1,250	2,700	1,750	1,990
February	1,160	2,900	1,995	1,350	380	5,695	2,030	15,510	1,250	3,000	1,750	2,140
March	1,160	2,900	2,175	1,300	400	5,825	2,055	15,815	1,350	3,000	1,750	2,040
April	1,160	2,950	1,950	1,250	400	5,950	2,100	15,760	1,400	2,900	1,850	2,040
May	1,160	3,100	1,950	1,250	365	5,450	2,110	15,385	1,350	3,200	1,750	2,040
June	1,160	3,200	1,755	1,250	365	5,455	2,050	15,235	1,350	3,100	1,750	2,040
July	1,160	3,400	1,850	1,250	370	5,450	2,050	15,530	1,380	3,050	1,750	2,040
August	1,160	1,000	100	1,400	400	5,850	1,650	11,560	1,450	3,300	1,850	2,090
September ..	1,190	500	100	1,400	400	7,740	2,200	13,530	1,470	3,300	1,900	2,290
October	1,210	450	75	1,550	400	7,810	2,310	13,805	1,475	3,000	1,950	2,275
November ...	1,210	425	75	1,500	400	8,310	2,375	14,295	1,500	3,200	1,950	2,320
December ...	1,210	425	75	1,500	370	8,570	2,450	14,600	1,550	3,300	1,950	2,340
Average	1,175	2,008	1,170	1,350	385	6,477	2,120	14,685	1,399	3,088	1,829	2,137
1991 January	1,210	250	50	1,500	350	8,140	2,500	14,000	1,600	3,200	1,950	2,390
February	1,210	0	0	1,500	390	8,200	2,525	13,825	1,600	3,300	1,950	2,390
March	1,210	0	0	1,450	390	8,000	2,550	13,600	1,600	3,400	1,950	2,390
April	1,210	200	0	1,450	390	7,400	2,550	13,200	1,600	3,300	1,950	2,340
May	1,210	350	0	1,450	390	7,400	2,350	13,150	1,600	3,300	1,950	2,340
5-Mo. Avg. ..	1,210	163	10	1,470	382	7,823	2,494	13,552	1,600	3,300	1,950	2,370

^aIncludes lease condensate; excludes natural gas plant liquids.

^bIncludes about one-half of the production in the Kuwait-Saudi Arabia Neutral Zone from 1973 through July 1990. Kuwait Neutral Zone output was discontinued following Iraq's invasion of Kuwait on August 2, 1990. In May 1991, therefore, total production in the Kuwait-Saudi Arabia Neutral Zone was negligible.

^cThe Arab members of the Organization of Petroleum Exporting Countries (OPEC) are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates. Production in the Neutral Zone between Kuwait and Saudi Arabia is included in "Arab OPEC" production.

Footnotes continued on following page.

Table 10.1b World Crude Oil^a Production (Continued)
(Thousand Barrels per Day)

	Total OPEC ^d	Persian Gulf Nations ^e	Canada	Mexico	United Kingdom	United States	China	U.S.S.R.	Other ^f	Market Economies ^g	World
1973 Average	30,988	20,668	1,798	465	2	9,208	1,090	8,329	3,804	45,805	55,684
1974 Average	30,729	21,292	1,551	571	2	8,774	1,315	8,856	3,862	45,021	55,660
1975 Average	27,154	18,934	1,430	705	12	8,375	1,490	9,472	4,139	41,338	52,777
1976 Average	30,737	21,514	1,314	831	245	8,132	1,670	9,985	4,355	45,132	57,269
1977 Average	31,299	21,725	1,321	981	768	8,245	1,874	10,485	4,616	46,745	59,589
1978 Average	29,875	20,606	1,316	1,209	1,082	8,707	2,082	10,950	4,782	46,497	60,003
1979 Average	30,998	21,066	1,500	1,461	1,568	8,552	2,122	11,187	5,089	48,725	62,477
1980 Average	26,985	17,961	1,435	1,936	1,622	8,597	2,114	11,460	5,204	45,355	59,353
1981 Average	22,843	15,245	1,285	2,313	1,811	8,572	2,012	11,552	5,390	41,784	55,778
1982 Average	19,145	12,156	1,271	2,748	2,065	8,649	2,045	11,815	5,646	39,069	53,184
1983 Average	17,891	11,081	1,356	2,689	2,291	8,688	2,120	11,684	6,248	38,703	52,967
1984 Average	17,857	10,784	1,438	2,780	2,480	8,879	2,296	11,576	6,897	39,893	54,203
1985 Average	16,634	9,630	1,471	2,745	2,530	8,971	2,505	11,250	7,540	39,463	53,646
1986 Average	18,734	11,696	1,474	2,435	2,539	8,880	2,620	11,540	7,850	41,282	55,872
1987 Average	18,846	12,103	1,535	2,548	2,406	8,349	2,690	11,690	8,242	41,507	56,306
1988 Average	20,785	13,457	1,616	2,512	2,232	8,140	2,730	11,823	8,669	43,562	58,507
1989 January	21,134	13,787	1,580	2,531	1,815	7,937	2,790	11,595	9,123	43,734	58,505
February	20,943	13,636	1,570	2,501	1,765	7,788	2,790	11,595	9,071	43,252	58,023
March	21,276	13,814	1,540	2,541	1,810	7,575	2,790	11,595	9,299	43,655	58,426
April	21,922	14,337	1,555	2,526	1,710	7,772	2,690	11,480	9,204	44,289	58,858
May	22,001	14,435	1,560	2,526	1,555	7,816	2,700	11,480	9,141	44,219	58,778
June	22,614	14,868	1,600	2,526	1,366	7,624	2,700	11,425	8,984	44,334	58,838
July	22,653	14,842	1,535	2,521	1,753	7,444	2,740	11,425	9,274	44,800	59,344
August	23,182	15,327	1,540	2,521	1,840	7,544	2,770	11,425	9,418	45,659	60,239
September	23,274	15,472	1,580	2,466	1,950	7,548	2,805	11,314	9,407	45,828	60,333
October	23,724	15,871	1,525	2,516	2,045	7,453	2,830	11,239	9,581	46,451	60,912
November	24,420	16,324	1,595	2,516	1,965	7,536	2,770	11,239	9,634	47,273	61,674
December	24,605	16,529	1,545	2,476	1,875	7,337	2,745	11,239	9,499	46,944	61,320
Average	22,655	14,945	1,560	2,513	1,788	7,613	2,760	11,420	9,305	45,047	59,614
1990 January	23,505	15,658	1,460	2,515	1,924	7,546	2,800	11,260	9,524	46,083	60,535
February	24,200	16,041	1,480	2,515	1,824	7,497	2,780	10,898	9,601	46,726	60,796
March	24,515	16,396	1,585	2,505	1,949	7,433	2,750	11,260	9,687	47,283	61,685
April	24,510	16,291	1,530	2,505	1,929	7,407	2,750	11,074	9,711	47,196	61,417
May	24,255	16,216	1,510	2,480	1,899	7,328	2,750	10,905	9,718	46,794	60,846
June	24,025	15,967	1,490	2,460	1,844	7,106	2,760	10,732	9,607	46,140	60,024
July	24,300	16,211	1,525	2,480	1,755	7,173	2,720	10,645	9,526	46,368	60,125
August	20,820	12,342	1,525	2,530	1,635	7,287	2,755	10,527	9,543	42,948	56,622
September	23,060	14,282	1,530	2,620	1,765	7,224	2,815	10,439	9,738	45,545	59,191
October	23,090	14,088	1,580	2,640	1,870	7,542	2,780	10,173	9,855	46,200	59,530
November	23,855	14,827	1,550	2,660	1,832	7,387	2,805	10,121	10,140	47,042	60,350
December	24,330	15,232	1,575	2,660	1,682	7,338	2,765	10,149	10,076	47,277	60,575
Average	23,700	15,289	1,529	2,548	1,825	7,355	2,769	10,681	9,728	46,295	60,135
1991 January	23,730	14,532	1,580	2,660	1,667	E 7,418	2,735	10,340	R 10,118	R 46,813	R 60,248
February	23,660	14,455	1,560	2,674	1,897	E 7,548	2,765	9,640	R 10,152	R 47,129	R 59,896
March	23,535	R 14,383	1,560	2,669	2,056	E 7,481	2,780	10,055	R 10,144	R 47,083	R 60,280
April	22,985	R 13,881	1,510	2,655	1,512	E 7,467	2,780	10,000	R 10,086	R 45,853	R 58,995
May	22,915	13,831	1,565	2,650	1,382	E 7,368	2,780	10,000	10,268	45,786	58,928
5-Mo. Avg.	23,362	14,214	1,555	2,661	1,700	E 7,455	2,768	10,014	10,154	46,526	59,670

Footnotes continued.

^d"Total OPEC" consists of Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Production from the Neutral Zone between Kuwait and Saudi Arabia is included in "Total OPEC" production.

^eThe 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" production.

^fOther is a calculated total derived from the difference between World and the sum of production in Total OPEC, Canada, Mexico, the United Kingdom, the United States, China, and the U.S.S.R.

^gWorld excluding Albania, Bulgaria, Cambodia, China, Cuba, Czechoslovakia, East Germany, Hungary, Laos, Mongolia, North Korea, Poland, Romania, U.S.S.R., Vietnam, and Yugoslavia.

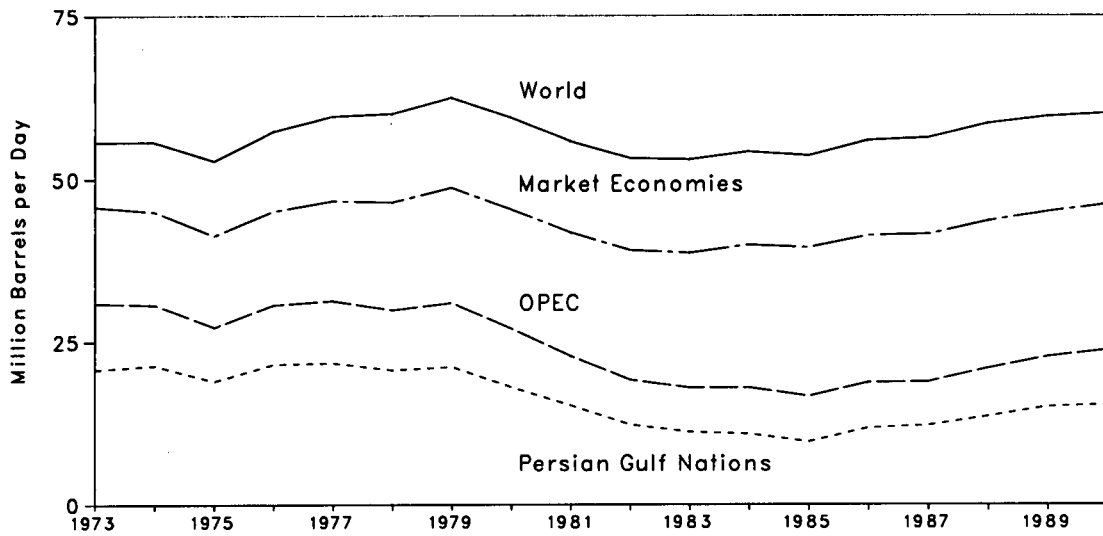
R=Revised data. E=Estimate.

Notes: • U.S. geographic coverage is the 50 States and the District of Columbia. • Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available.

Sources: • **United States**—1973 through 1990: Energy Information Administration (EIA), *Petroleum Supply Annual*. 1991 forward: EIA, *Petroleum Supply Monthly*. • **Other Countries**—1973 through 1989 annual data: EIA, *International Energy Annual*. 1990 annual data: average of monthly data. Monthly data: *Petroleum Intelligence Weekly*, the *Oil and Gas Journal*, and other industry sources. • **World**—1973 through 1989 annual data: *International Energy Annual*. 1990 annual data: average of monthly data. 1989 monthly data: EIA, Office of Energy Markets and End Use, *International Energy Database*. 1990 forward monthly data: EIA, *International Petroleum Statistics Report*, sum of all countries' monthly data.

Figure 10.1 World Crude Oil Production

Yearly



Monthly

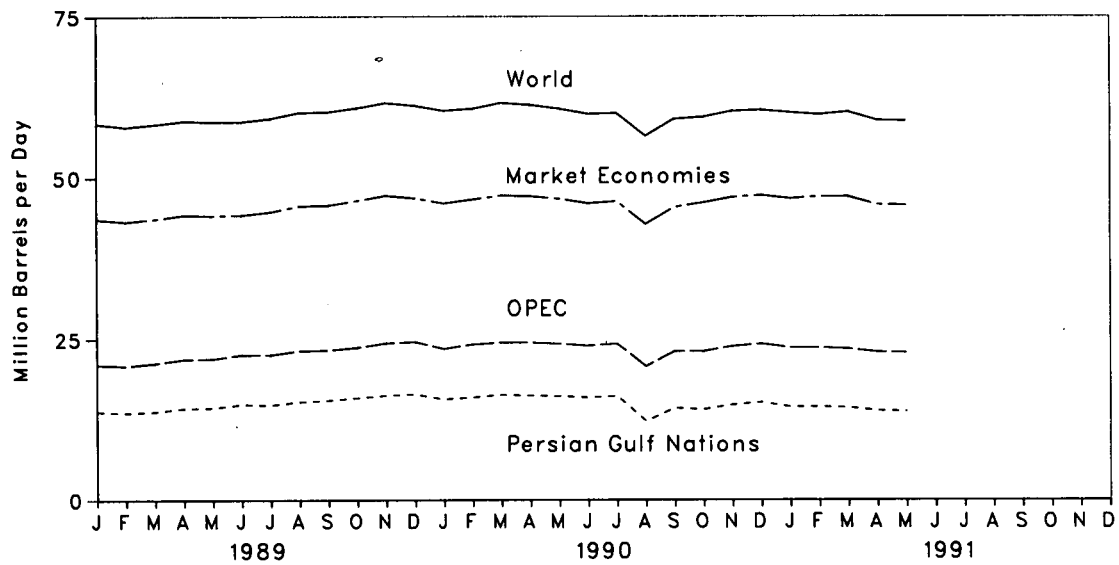
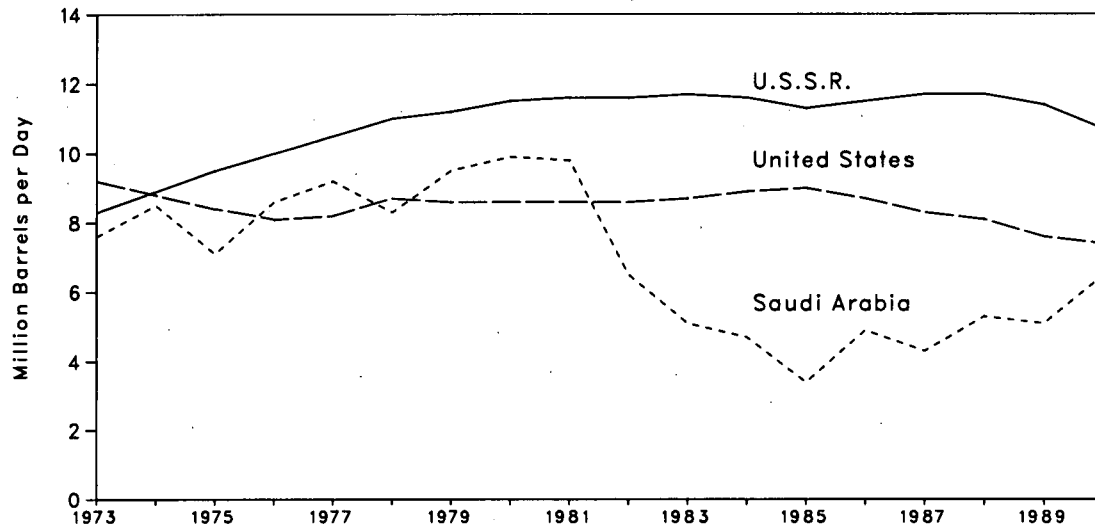


Figure 10.2 Crude Oil Production In Selected Countries

Yearly



Monthly

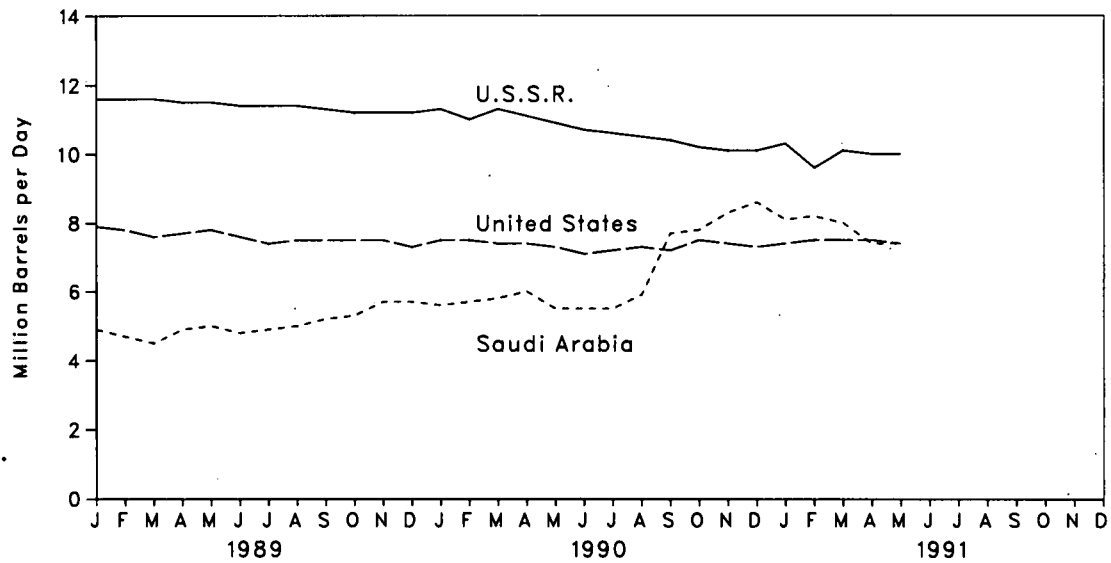


Figure 10.3 Petroleum Consumption in OECD Countries

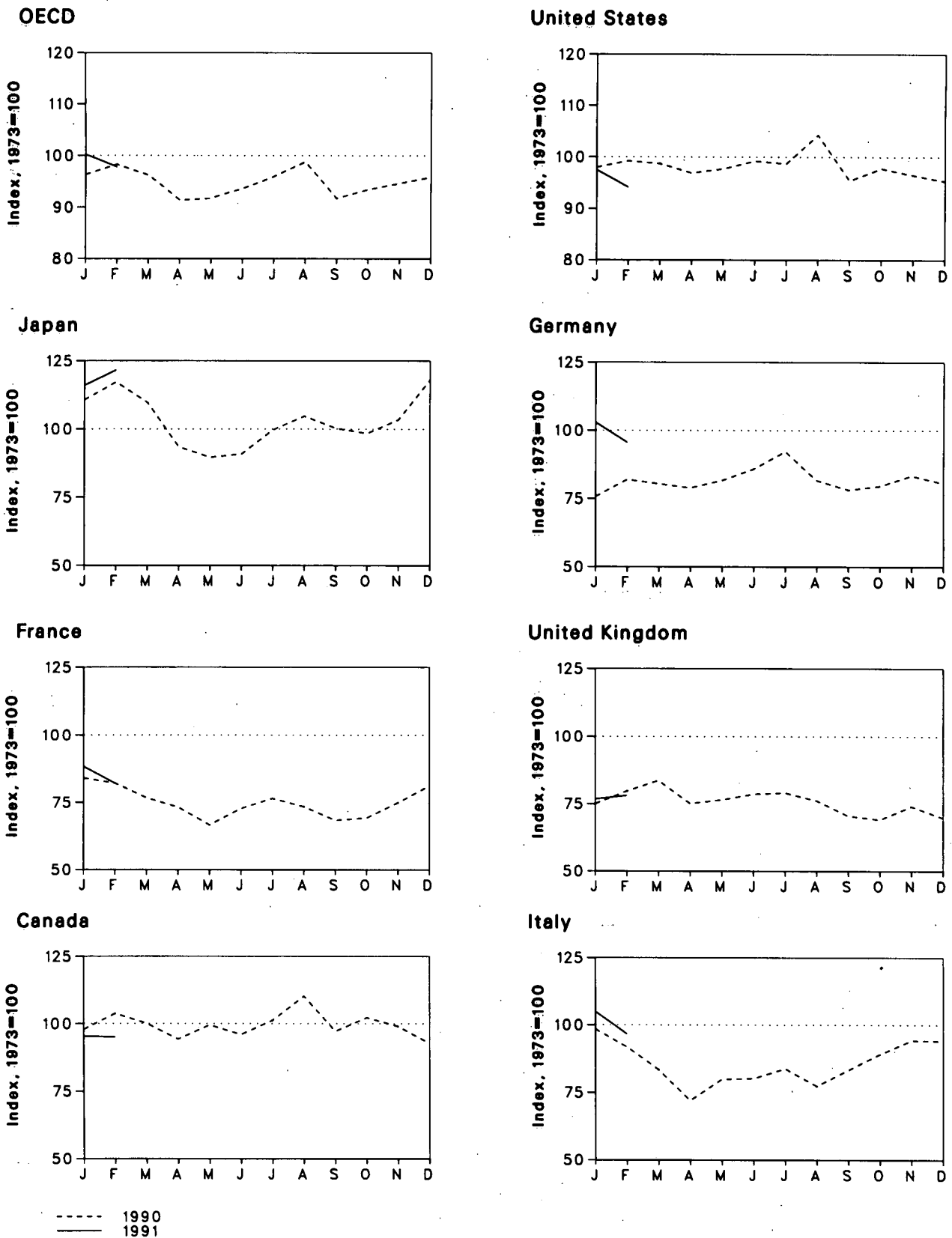


Table 10.2 Petroleum Consumption in OECD Countries^a
(Thousand Barrels per Day)

	Canada	France	Germany ^b	Italy	Japan	United Kingdom	United States	OECD Europe ^c	Other OECD ^d	OECD ^a
1973 Average	1,729	2,601	3,055	2,068	4,949	2,341	17,308	14,925	988	39,900
1974 Average	1,779	2,447	2,748	2,004	4,864	2,210	16,653	13,988	1,095	38,379
1975 Average	1,779	2,252	2,650	1,855	4,621	1,911	16,322	13,217	1,041	36,980
1976 Average	1,818	2,420	2,877	1,971	4,837	1,892	17,461	14,124	1,119	39,358
1977 Average	1,850	2,294	2,865	1,897	4,880	1,905	18,431	13,916	1,160	40,237
1978 Average	1,902	2,408	2,927	1,952	4,945	1,938	18,847	14,290	1,204	41,187
1979 Average	1,971	2,463	3,003	2,039	5,050	1,971	18,513	14,667	1,178	41,379
1980 Average	1,873	2,256	2,707	1,934	4,960	1,725	17,056	13,634	1,072	38,595
1981 Average	1,768	2,023	2,449	1,874	4,848	1,590	16,058	12,515	1,080	36,269
1982 Average	1,578	1,880	2,372	1,781	4,582	1,590	15,296	12,053	1,008	34,517
1983 Average	1,448	1,835	2,324	1,750	4,395	1,531	15,231	11,765	954	33,793
1984 Average	1,472	1,754	2,322	1,646	4,576	1,849	15,726	11,736	989	34,500
1985 Average	1,504	1,775	2,338	1,717	4,384	1,634	15,726	11,681	976	34,271
1986 Average	1,506	1,772	2,498	1,738	4,439	1,649	16,281	12,102	951	35,279
1987 Average	1,548	1,789	2,424	1,855	4,484	1,603	16,665	12,255	958	35,911
1988 Average	1,693	1,797	2,422	1,836	4,752	1,697	17,283	12,427	939	37,093
1989 January	R 1,690	R 1,924	R 1,880	R 2,029	R 5,225	R 1,702	17,269	R 12,204	R 903	R 37,291
February	R 1,771	R 2,090	R 2,173	R 2,133	R 5,607	R 1,770	17,920	R 12,976	R 1,044	R 39,317
March	R 1,701	1,946	R 2,256	R 1,929	5,571	R 1,796	17,989	R 12,848	R 957	R 39,067
April	R 1,643	1,719	R 2,150	R 1,743	R 4,583	R 1,733	16,624	R 11,883	R 982	R 35,716
May	R 1,692	1,623	R 2,129	R 1,782	R 4,361	R 1,651	16,546	R 11,713	R 1,029	R 35,341
June	R 1,672	R 1,763	R 2,238	R 1,874	R 4,457	R 1,694	17,497	R 12,319	R 1,048	R 36,994
July	R 1,652	R 1,669	R 2,326	R 1,655	4,570	R 1,602	16,453	R 11,625	R 991	R 35,292
August	R 1,841	R 1,652	R 2,503	R 1,727	4,586	R 1,723	17,360	R 12,355	R 1,036	R 37,178
September	R 1,693	R 1,847	R 2,440	R 1,907	R 4,632	R 1,713	16,795	R 12,611	R 910	R 36,641
October	R 1,741	R 1,956	R 2,439	R 2,049	R 4,747	R 1,780	17,304	R 13,021	R 938	R 37,752
November	R 1,790	2,015	R 2,521	R 2,158	R 5,321	R 1,886	17,311	R 13,582	R 983	R 38,987
December	R 1,908	R 2,096	R 2,306	R 2,194	R 6,162	R 1,808	18,858	R 13,230	R 989	R 41,147
Average	R 1,733	R 1,857	R 2,280	R 1,930	R 4,983	R 1,738	17,325	R 12,531	R 984	R 37,556
1990 January	R 1,672	R 2,035	R 2,208	R 2,115	R 5,614	R 1,726	16,964	R 12,876	R 973	R 38,100
February	R 1,771	R 1,988	R 2,390	R 1,970	R 5,944	R 1,834	17,175	R 13,036	R 998	R 38,924
March	R 1,708	R 1,858	R 2,343	R 1,790	R 5,562	R 1,924	17,087	R 12,621	R 1,083	R 38,062
April	R 1,609	R 1,772	R 2,299	R 1,547	R 4,737	R 1,729	16,778	R 12,088	R 967	R 36,179
May	R 1,698	R 1,613	R 2,382	R 1,715	R 4,543	R 1,759	16,915	R 12,121	R 1,037	R 36,315
June	R 1,638	R 1,761	R 2,504	R 1,721	R 4,606	R 1,809	17,165	R 12,629	R 1,021	R 37,060
July	R 1,727	R 1,853	R 2,688	R 1,799	R 5,055	R 1,819	17,084	R 13,070	R 1,012	R 37,948
August	R 1,880	R 1,779	R 2,383	R 1,663	R 5,307	R 1,752	18,050	R 12,758	R 1,127	R 39,122
September	R 1,659	R 1,655	R 2,280	R 1,790	R 5,086	R 1,822	16,512	R 12,037	R 1,011	R 36,305
October	R 1,745	R 1,676	R 2,320	R 1,913	R 4,992	R 1,590	16,934	R 12,254	R 1,044	R 36,969
November	R 1,690	R 1,813	R 2,434	R 2,024	R 5,246	R 1,706	16,695	R 12,761	R 1,034	R 37,425
December	R 1,584	R 1,968	R 2,353	R 2,021	R 5,985	R 1,607	16,494	R 12,773	R 1,067	R 37,902
Average	R 1,698	R 1,814	R 2,382	R 1,839	R 5,221	R 1,739	16,988	R 12,589	R 1,032	R 37,527
1991 January	R 1,628	R 2,137	R 2,999	R 2,252	R 5,880	R 1,768	16,882	R 14,210	R 1,061	R 39,661
February	1,623	1,986	2,788	2,076	6,169	1,797	16,284	13,610	1,032	38,717
2-Mo. Average	1,626	2,065	2,899	2,168	6,017	1,782	16,598	13,925	1,047	39,213

^aThe Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, and the United States, as well as "OECD Europe" and "Other OECD."

^bThrough 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.

^c"OECD Europe" prior to January 1991 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.

^d"Other OECD" consists of Australia, New Zealand, and the U.S. Territories.

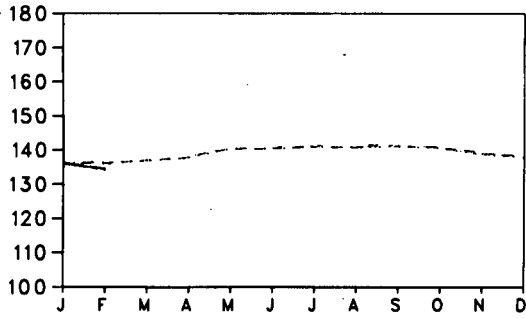
R=Revised data.

Notes: • U.S. geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Data through 1988 are final. Subsequent data are preliminary.

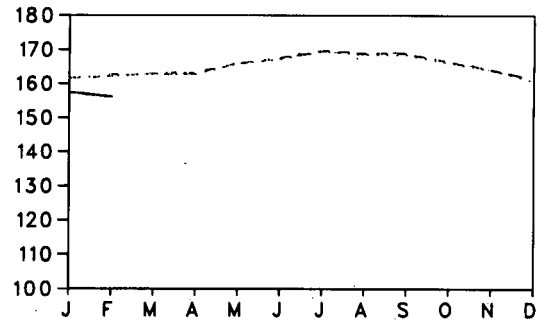
Sources: • United States—Table 3.1a. • All Other Data: 1973 through 1979—International Energy Agency, *Annual Oil and Gas Statistics of OECD Countries*. 1980 forward—International Energy Agency, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances of OECD Countries*.

Figure 10.4 Petroleum Stocks in OECD Countries, End of Period

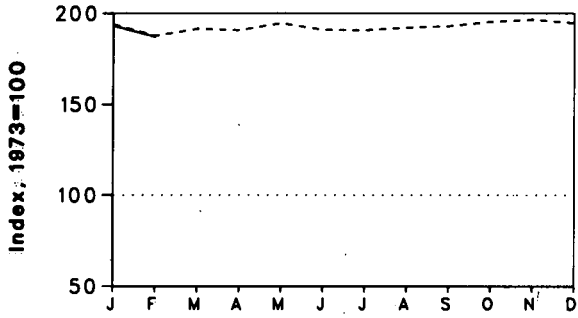
OECD



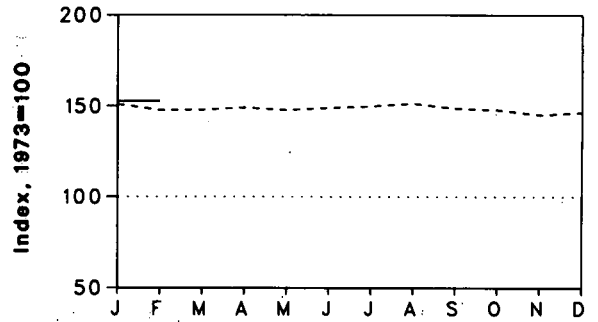
United States



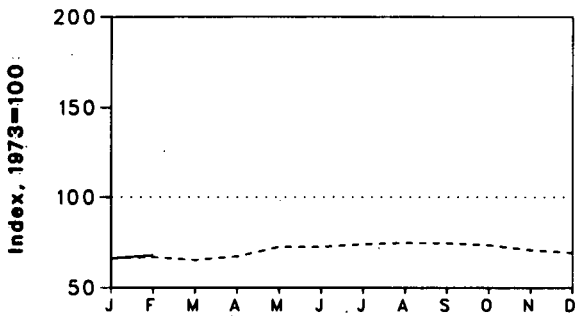
Japan



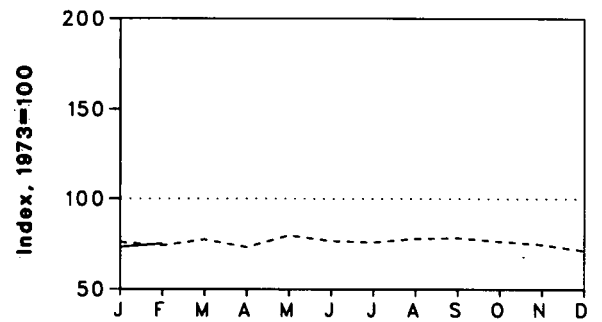
Germany



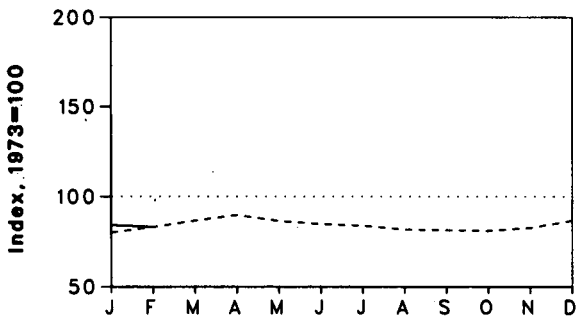
France



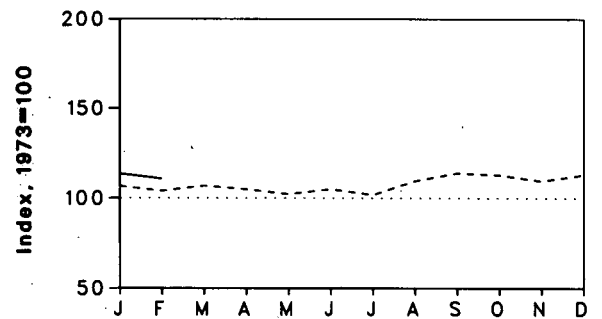
United Kingdom



Canada



Italy



--- 1990
 — 1991

**Table 10.3 Petroleum Stocks^a in OECD Countries,^b End of Period
(Million Barrels)**

	Canada	France	Germany ^c	Italy	Japan	United Kingdom	United States	OECD Europe ^d	Other OECD ^e	OECD ^b
1973 Year	140	201	181	152	303	156	1,008	1,070	67	2,588
1974 Year	145	249	213	167	370	^R 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	3,382
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	72	3,474
1988 Year	116	140	266	155	538	112	1,597	1,118	71	3,440
1989 January	117	138	277	159	547	121	1,620	1,133	69	3,486
February	116	129	272	154	548	121	1,601	1,103	69	3,437
March	111	123	270	148	552	115	1,568	1,085	68	3,384
April	118	131	271	152	549	114	1,596	1,091	71	3,425
May	117	132	272	152	553	121	1,623	1,111	73	3,476
June	119	128	269	154	557	112	1,608	1,096	71	3,450
July	125	133	270	155	557	119	1,649	1,120	70	3,521
August	123	135	271	165	567	118	1,654	1,133	72	3,549
September	121	135	274	165	572	120	1,667	1,137	66	3,563
October	117	134	272	165	580	117	1,658	1,121	70	3,547
November	121	139	267	163	588	117	1,663	1,125	75	3,571
December	114	138	271	164	577	118	1,581	1,133	71	3,476
1990 January	112	^R 133	273	162	588	119	1,630	1,128	68	^R 3,527
February	116	134	267	158	569	116	1,635	^R 1,135	74	^R 3,529
March	121	^R 131	268	163	581	121	1,642	^R 1,126	71	3,541
April	126	135	270	159	578	114	1,640	1,145	77	3,566
May	121	^R 146	268	155	590	125	1,672	1,173	77	3,633
June	119	146	270	160	579	120	1,685	1,174	75	^R 3,632
July	117	149	271	155	578	119	1,709	1,171	71	3,648
August	114	150	274	167	583	122	1,699	1,176	72	3,644
September	114	150	269	173	585	123	1,698	1,179	73	3,648
October	113	148	268	172	592	119	1,674	^R 1,184	76	^R 3,640
November	116	142	263	167	596	117	1,654	^R 1,151	72	^R 3,589
December	^R 121	139	^R 265	172	^R 590	^R 112	1,621	^R 1,163	73	^R 3,569
1991 January	118	133	^R 276	173	585	114	1,587	^R 1,158	72	^R 3,520
February	116	136	276	169	567	117	1,574	1,153	71	3,482

^aPetroleum 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 the United States), rail and truck cars, sea-going ships' bunkers, service stations, retail stores, and tankers at sea.

^bThe Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, and the United States, as well as "OECD Europe" and "Other OECD."

^cThrough 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.

^d"OECD Europe" prior to January 1991 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.

^e"Other OECD" consists of Australia, New Zealand, and the U.S. Territories.

R=Revised data.

Notes: • U.S. geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • In the United States in January 1975, 1981, and 1983, numerous respondents were added to bulk terminal and pipeline surveys affecting subsequent stocks reported. Using the new basis, the 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 1988 are final. Subsequent data are preliminary.

Sources: • United States—Table 3.1a. • All Other Data—International Energy Agency, *Quarterly Oil Statistics* and *Monthly Oil Statistics*.

Table 10.4a Nuclear Electricity Gross Generation by Reporting Countries^a
(Billion Kilowatthours)

	Argen- tina	Belgium	Brazil	Canada	Finland	France	India	Italy	Japan	Nether- lands	Paki- stan
1973 Total	0.0	0.0	0.0	15.3	0.0	14.7	2.5	3.1	9.4	1.1	0.5
1974 Total	1.0	.1	.0	15.4	.0	14.7	1.9	3.4	18.9	3.3	.6
1975 Total	2.5	6.8	.0	13.2	.0	18.3	2.5	3.8	21.3	3.3	.5
1976 Total	2.6	10.0	.0	18.0	.0	15.8	3.2	3.8	36.6	3.9	.5
1977 Total	1.6	11.9	.0	26.6	2.7	17.9	2.8	3.4	28.2	3.7	.3
1978 Total	2.9	12.5	.0	33.0	3.3	30.6	2.3	4.5	53.1	4.1	.2
1979 Total	2.7	11.4	.0	38.4	6.7	39.9	3.2	2.6	62.0	3.5	(s)
1980 Total	2.3	12.5	.0	40.4	7.0	61.2	2.9	2.2	82.8	4.2	.1
1981 Total	2.8	12.8	.0	43.3	14.5	105.2	3.1	2.7	86.0	3.7	.2
1982 Total	1.9	15.6	.1	42.6	16.5	108.9	2.2	6.8	104.5	3.9	.1
1983 Total	3.4	24.1	.2	53.0	17.4	144.2	2.9	5.8	109.1	3.6	.2
1984 Total	4.5	27.7	2.1	53.8	18.5	191.2	4.1	6.9	127.2	3.8	.3
1985 Total	5.8	34.5	3.4	62.9	18.8	224.0	4.5	7.0	152.0	3.9	.3
1986 Total	5.7	38.6	.1	74.6	18.8	254.3	5.1	8.7	164.8	4.2	.5
1987 Total	5.2	41.9	1.0	80.6	19.4	265.5	5.5	.2	182.8	3.6	.3
1988 Total	5.1	43.1	.3	85.6	19.3	274.9	6.1	.0	173.6	3.7	.2
1989 January .....	.5	4.1	.2	8.1	1.8	30.5	.3	.0	15.2	.4	.0
February .....	.4	3.4	.2	6.9	1.6	27.1	.3	.0	14.4	(s)	.0
March .....	.5	3.6	.2	7.7	1.8	27.8	.3	.0	16.2	.2	.0
April .....	.4	3.0	.3	7.3	1.7	25.5	.4	.0	13.3	.4	.0
May .....	.5	3.0	(s)	6.2	1.2	23.2	.4	.0	13.8	.4	.0
June .....	.5	3.0	.2	5.8	1.6	23.9	.4	.0	14.3	.4	.0
July .....	.5	3.2	.2	7.1	1.4	23.7	.3	.0	17.4	.4	.0
August	(s)	3.7	.0	6.9	1.5	21.0	.2	.0	18.1	.4	.0
September .....	.5	3.3	.2	6.6	1.3	22.6	.3	.0	15.5	.4	.0
October .....	.5	3.6	.0	6.6	1.4	24.6	.4	.0	14.8	.4	(s)
November .....	.5	3.6	.0	6.3	1.7	24.9	.5	.0	14.7	.4	(s)
December .....	.4	3.6	.0	7.6	1.8	27.8	.4	.0	16.0	.4	(s)
Total	5.0	41.2	1.6	83.2	18.8	302.5	4.0	.0	183.7	4.0	.1
1990 January .....	.5	3.9	.1	7.3	1.8	28.7	.4	.0	15.0	.3	(s)
February .....	.4	3.5	.2	5.8	1.6	23.5	.5	.0	12.0	(s)	(s)
March .....	.7	4.2	.0	6.2	1.7	25.8	.5	.0	14.6	(s)	(s)
April .....	.6	3.6	.1	5.8	1.7	26.6	.5	.0	15.6	(s)	(s)
May .....	.6	2.9	R .2	4.4	1.3	23.9	.4	.0	16.6	.4	.1
June .....	.7	2.9	.2	5.1	1.3	23.3	.4	.0	16.0	.3	.1
July .....	.7	3.5	.1	6.6	1.6	23.9	.5	.0	18.5	.4	.1
August .....	.7	3.7	.3	6.2	1.2	23.3	.5	.0	19.2	.4	.1
September .....	.5	3.3	.1	5.5	1.4	26.5	.5	.0	15.8	.4	(s)
October .....	.6	3.4	.2	7.1	1.8	27.6	.5	.0	15.8	.4	.0
November .....	.7	3.6	.3	7.0	1.7	25.8	.5	.0	14.8	.4	(s)
December .....	.7	4.3	.2	7.2	1.8	30.4	.6	.0	16.7	.4	(s)
Total	7.4	42.7	R 2.0	75.8	18.9	316.4	5.9	.0	191.9	3.5	.4
1991 January	R .6	4.2	.2	7.6	1.8	33.5	.5	.0	18.0	.3	(s)
February	R .6	3.9	.2	7.4	1.6	30.0	.4	.0	14.0	.2	(s)
March	R .6	4.2	.2	7.8	1.8	28.4	.6	.0	15.6	.1	(s)
April .....	.7	3.5	.2	6.7	1.4	25.3	.4	.0	13.4	.2	(s)
May	E .3	3.4	.2	6.7	1.5	25.3	.4	.0	12.6	.4	.1
5-Month Total	E 2.8	19.2	1.1	36.2	8.0	142.6	2.3	.0	73.6	1.2	.2
1990 5-Month Total	2.8	18.1	.7	29.4	8.1	128.6	2.3	.0	73.8	.8	.1
1989 5-Month Total	2.3	17.2	.9	36.2	8.1	134.1	1.6	.0	72.9	1.3	.0

^aFigures are for gross generation, as opposed to net generation. Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves.

^bMonthly data for the United Kingdom are totals for 4- or 5-week reporting periods, not calendar months.

^cTotal equals all countries with nuclear generating capacity except Bulgaria, China, Cuba, Czechoslovakia, the German Democratic Republic, Hungary, North Korea, Poland, Romania, the U.S.S.R., and Yugoslavia.

^dSome Central Electricity Generating Board figures were unavailable for March 1988. This number does not reflect the total generation for March.

^eTotal nuclear generation for August 1990 forward is not equal to the sum of the generation from the reporting countries listed because Mexico, which began generating nuclear electricity in August 1990, is not shown separately in the table.

R=Revised data. E=Estimate. (s)=Less than 0.05 billion kilowatthours.

Footnotes continued on following page.

Table 10.4b Nuclear Electricity Gross Generation by Reporting Countries^a
(Continued)
(Billion Kilowatthours)

	South Africa	South Korea	Spain	Sweden	Switzerland	Taiwan	United Kingdom ^b	West Germany	Total ^c Excluding U.S.	United States	Total ^c
1973 Total	0.0	0.0	6.5	2.1	6.2	0.0	28.2	11.9	101.4	87.8	189.3
1974 Total .....	.0	.0	7.2	2.3	7.0	.0	33.8	12.0	121.7	124.3	246.0
1975 Total .....	.0	.0	7.5	12.0	7.7	.0	30.5	21.7	151.8	182.3	334.1
1976 Total .....	.0	.0	7.6	16.0	7.9	.0	36.8	24.5	187.1	201.8	388.9
1977 Total .....	.0	.1	6.5	19.9	8.1	.1	38.1	36.0	207.8	264.2	472.0
1978 Total .....	.0	2.3	7.6	23.8	8.3	2.7	36.6	35.7	263.5	292.4	555.9
1979 Total .....	.0	3.2	6.7	21.0	11.8	6.3	38.5	42.2	300.1	270.6	570.7
1980 Total .....	.0	3.5	5.2	26.7	14.3	8.2	37.2	43.7	354.3	265.4	619.8
1981 Total .....	.0	2.9	9.4	37.7	15.2	10.7	38.9	53.4	442.4	288.5	730.9
1982 Total .....	.0	3.8	8.8	38.8	15.0	13.1	44.1	63.4	489.9	298.6	788.5
1983 Total .....	.0	9.0	10.7	40.4	15.5	18.9	49.6	65.8	573.9	313.6	887.5
1984 Total	4.2	11.8	23.1	51.3	16.3	24.3	54.1	92.6	717.7	343.8	1,061.5
1985 Total	5.7	16.5	28.0	58.6	22.4	28.7	59.6	125.8	862.4	402.6	1,265.0
1986 Total	9.3	26.1	37.5	69.9	22.5	26.9	58.2	118.9	944.8	432.9	1,377.8
1987 Total	6.6	37.8	41.2	67.2	23.0	33.1	56.2	130.2	R 1,001.2	R 479.5	R 1,480.7
1988 Total	11.1	38.7	49.2	69.4	22.7	29.9	59.4	145.2	1,037.5	554.1	1,591.6
1989 January	1.1	3.4	4.9	7.2	2.3	2.4	6.8	13.5	102.7	48.7	151.4
February .....	.5	3.7	4.2	6.5	2.1	1.8	6.3	13.5	92.9	40.8	133.7
March .....	.6	4.4	4.2	6.7	2.3	1.7	6.7	14.8	99.8	41.8	141.6
April .....	.7	3.7	4.8	5.6	2.2	2.2	5.9	13.4	90.9	35.3	126.2
May .....	.7	3.8	4.7	3.9	2.0	2.1	5.7	11.1	82.7	40.8	123.5
June	1.1	3.4	4.2	3.3	1.2	2.0	6.7	9.6	81.6	45.1	126.7
July	1.1	4.0	5.4	2.6	1.1	2.7	4.8	8.7	84.4	55.2	139.7
August	1.1	4.9	5.2	3.3	1.0	2.9	4.8	11.4	86.4	57.6	144.0
September	1.3	4.1	4.6	5.0	1.9	2.5	6.6	11.4	88.2	47.0	135.2
October	1.3	4.5	4.7	6.8	2.3	2.7	5.2	13.5	93.2	45.7	138.8
November	1.2	3.6	4.6	7.0	2.2	2.6	5.3	14.2	93.2	45.6	138.8
December	1.1	3.6	4.7	7.5	2.3	2.8	6.9	14.4	101.3	53.3	154.6
Total	11.7	47.2	56.1	65.6	22.8	28.3	71.6	149.5	1,097.1	557.0	1,654.1
1990 January .....	.6	4.0	5.4	7.4	2.3	2.6	6.0	15.4	101.7	57.7	159.4
February .....	.5	4.6	4.5	6.6	2.1	2.1	5.8	12.8	86.6	52.3	138.8
March .....	.5	4.8	4.5	6.4	2.3	2.6	6.2	13.2	94.2	48.4	142.6
April .....	.6	4.3	4.8	5.4	2.2	2.2	5.2	12.8	92.1	40.6	132.7
May	1.2	4.0	4.1	4.8	2.1	2.8	5.2	12.2	R 87.2	45.1	R 132.3
June	1.2	4.4	3.5	4.3	1.3	2.9	5.2	9.8	82.9	48.5	131.4
July	1.1	5.1	4.4	2.7	1.7	3.5	4.3	10.0	88.9	54.7	143.6
August .....	.8	5.2	5.0	4.2	1.0	3.4	4.9	9.3	• 89.7	57.9	• 147.6
September .....	.6	4.2	4.1	5.2	1.9	3.0	5.9	9.6	• 88.9	51.1	• 140.0
October .....	.6	4.4	3.9	6.7	2.3	3.0	4.8	13.0	• 96.4	45.6	• 142.0
November .....	.5	4.0	4.7	7.0	2.2	2.3	6.4	13.9	• 96.3	47.4	• 143.7
December .....	.6	3.8	5.4	7.4	2.3	2.4	6.9	15.2	• 106.8	54.2	• 161.0
Total	8.9	52.9	54.2	68.2	23.6	32.9	66.6	147.2	R• 1,111.6	603.4	R• 1,715.0
1991 January .....	.6	4.1	5.3	7.6	2.3	2.4	6.4	15.2	R• 111.1	56.6	R• 167.7
February .....	.5	4.5	4.6	6.9	2.1	2.2	6.7	13.6	R• 99.8	50.2	R• 150.0
March	1.1	4.5	4.3	7.6	2.3	2.9	6.7	14.3	R• 103.3	51.6	R• 154.9
April .....	.7	4.1	4.2	6.9	2.2	2.5	5.0	12.5	• 90.3	43.8	• 134.1
May .....	.7	4.1	4.8	5.7	2.0	2.8	4.5	10.6	E• 86.3	49.2	E• 135.6
5-Mo. Total ...	3.6	21.3	23.1	34.6	10.8	12.8	29.2	66.1	E• 490.9	251.4	E• 742.3
1990 5-Mo. Total ...	3.5	21.7	23.2	30.6	10.9	12.3	28.3	66.4	461.8	244.0	705.8
1989 5-Mo. Total ...	3.6	19.1	22.9	30.0	10.8	10.2	31.4	66.4	468.9	207.5	676.4

Footnotes continued.

Notes: • U.S. geographic coverage is the 50 States and the District of Columbia. • Monthly data may not sum to annual totals due to independent rounding, and precommercial generation is included in the annual totals but not in the monthly data. Data for countries may not sum to world totals due to independent rounding.

Source: *Nucleonics Week* (New York: McGraw-Hill Publishing Company).

Appendix. Conversion Factors

Using Conversion Factors

Physical conversion factors can be used to compare energy quantities expressed in units of volume and weight. For example, 6.65 barrels of crude oil weighs approximately 1 short ton, as indicated in Table A1.

However, the heat content of a "short ton" of crude oil is greater than the heat content of a short ton of coal. The heat content, measured in British thermal units (Btu), of a given quantity of energy can be calculated using the thermal conversion factors presented in Tables A2 through A9.

Based on the thermal conversion factor shown for crude oil (production) in Table A2, a short ton of crude oil has a heat content of approximately 39 million Btu (6.65 barrels \times 5.8 million Btu per barrel = 38.57 million Btu, which rounds to 39). As calculated from the thermal conversion factor for coal (production) in Table A6, a short ton of coal has a heat content of 22

million Btu (1 short ton \times 21.922 million Btu per short ton = 21.922 million Btu, which rounds to 22). A short ton of crude oil, therefore, has a heat content almost two times greater than does a short ton of coal.

The thermal conversion factors in Tables A2 through A9 are computed from final annual data. When the current year's final data are not yet available for publication, thermal conversion factors for the current year are computed from the best available data and are labeled "preliminary." The source of each factor is described in a section entitled "Thermal Conversion Factor Source Documentation," which follows Table A9 in this appendix.

Thermal conversion factors for hydrocarbon mixes (Table A2) 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. Physical Conversion Factors for Energy Units

Unit	Equivalent	
Crude Oil (Average Gravity)		
1 U.S. barrel	42	U.S. gallons
1 short ton	6.65	barrels
1 metric ton	7.33	barrels
Coal		
1 short ton	2,000	pounds
1 long ton	2,240	pounds
1 metric ton	2,204.62	pounds
1 metric ton	1,000	kilograms
Uranium		
1 short ton U ₃ O ₈	0.769	metric ton of uranium
1 short ton UF ₆	0.613	metric ton of uranium
1 metric ton UF ₆	0.676	metric ton of uranium
Wood (Average Dry Hardwood)		
1 cord	1.25	short tons
1 cord	128	cubic feet
1 cubic foot	0.028	cubic meters

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

Table A2. 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 ^a	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 ^b	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

^a60 percent butane and 40 percent propane.

^b70 percent ethane and 30 percent propane.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

Table A3. Approximate Heat Content of Crude Oil,^a Crude Oil and Products, and Natural Gas Plant Liquids
(Million Btu per Barrel)

	Crude Oil Only			Crude Oil and Products		Natural Gas Plant Liquids
	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 ^b	5.800	5.938	5.800	5.852	5.833	3.821
1991 ^b	5.800	5.938	5.800	5.852	5.833	3.821

^aIncludes lease condensate.

^bPreliminary.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

Table A4. Approximate Heat Content of Petroleum Product Weighted Averages^a
(Million Btu per Barrel)

	Consumption					Imports	Exports	LPG Consumption
	Residential and Commercial	Industrial	Transportation	Electric Utilities	Total			
1973	5.387	5.568	5.395	6.245	5.515	5.983	5.752	3.746
1974	5.377	5.538	5.394	6.238	5.504	5.959	5.773	3.730
1975	5.358	5.528	5.392	6.250	5.494	5.935	5.747	3.715
1976	5.383	5.538	5.395	6.251	5.504	5.980	5.743	3.711
1977	5.389	5.555	5.400	6.249	5.518	5.908	5.796	3.677
1978	5.382	5.553	5.404	6.251	5.519	5.955	5.814	3.669
1979	5.471	5.418	5.428	6.258	5.494	5.811	5.864	3.680
1980	5.468	5.376	5.440	6.254	5.479	5.748	5.841	3.674
1981	5.409	5.313	5.432	6.258	5.448	5.659	5.837	3.643
1982	5.392	5.263	5.422	6.258	5.415	5.664	5.829	3.615
1983	5.286	5.273	5.415	6.255	5.406	5.677	5.800	3.614
1984	5.261	5.253	5.424	6.251	5.395	5.613	5.867	3.599
1985	5.203	5.258	5.424	6.247	5.387	5.572	5.819	3.603
1986	5.238	5.330	5.425	6.257	5.418	5.624	5.839	3.640
1987	5.245	5.285	5.427	6.249	5.403	5.599	5.860	3.659
1988	5.216	5.293	5.430	6.250	5.410	5.618	5.842	3.652
1989	5.151	5.287	5.434	6.241	5.410	5.641	5.869	3.683
1990 ^b	5.142	5.321	5.437	6.247	5.411	5.614	5.838	3.625
1991 ^b	5.142	5.321	5.437	6.247	5.411	5.614	5.838	3.625

^aWeighted averages of the products included in each category are calculated using heat content values shown in Table A1.

^bPreliminary.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

Table A5. Approximate Heat Content of Natural Gas
(Btu per Cubic Foot)

	Production		Consumption			Imports	Exports
	Dry	Marketed (Wet)	Non-Electric Utility Users	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	1,030	1,034	1,031	1,004	1,019
1990 ^a	1,031	1,107	1,030	1,034	1,031	1,004	1,019
1991 ^a	1,031	1,107	1,030	1,034	1,031	1,004	1,019

^aPreliminary.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

Table A6. Approximate Heat Content of Coal
(Million Btu per Short Ton)

	Production	Consumption					Imports	Exports
		Residential and Commercial	Coke Plants	Other Industrial ^a	Electric Utilities ^b	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 ^c	21.827	23.574	26.801	22.428	20.945	21.344	25.000	26.197
1991 ^c	21.827	23.574	26.801	22.428	20.945	21.344	25.000	26.197

^aIncludes transportation.

^bData 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.

^cPreliminary.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

Table A7. Approximate Heat Content of Bituminous Coal and Lignite
(Million Btu per Short Ton)

	Production	Consumption					Imports	Exports
		Residential and Commercial	Coke Plants	Other Industrial ^a	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 ^b	21.823	22.755	26.800	22.407	20.951	21.340	25.000	26.202
1991 ^b	21.823	22.755	26.800	22.407	20.951	21.340	25.000	26.202

^aIncludes transportation.

^bPreliminary.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

Table A8. Approximate Heat Content of Anthracite and Coal Coke
(Million Btu per Short Ton)

	Anthracite					Coal Coke Imports and Exports
	Production	Consumption			Imports and Exports	
		Non-Electric Utility Users	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 ^a	23.385	27.751	16.108	22.731	25.400	24.800
1991 ^a	23.385	27.751	16.108	22.731	25.400	24.800

^aPreliminary.
Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

Table A9. Approximate Heat Rates for Electricity
(Btu per Kilowatthour)

	By Type of Generation			Electricity Consumption
	Fossil Fuel Steam-Electric Power Plant Generation ^a	Nuclear Power Plant Generation	Geothermal Energy Power Plant Generation	
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	10,323	10,843	21,303	3,412
1985	10,339	10,813	21,263	3,412
1986	10,261	10,799	21,263	3,412
1987	10,253	10,776	21,263	3,412
1988	10,235	10,743	21,096	3,412
1989	10,331	10,724	21,096	3,412
1990 ^b	10,331	10,724	21,096	3,412
1991 ^b	10,331	10,724	21,096	3,412

^aThis thermal conversion factor is used for hydroelectric power generation and for wood and waste, wind, photovoltaic, and solar thermal energy consumed at electric utilities.

^bPreliminary.

Sources: See "Thermal Conversion Factor Source Documentation," which follows this table.

Thermal Conversion Factor Source Documentation

Approximate Heat Content of Petroleum Products

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 as published for "Gasoline, Aviation" 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 as published 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."

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 as published 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 as published 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 as published for "Jet Fuel, Commercial" by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American En-*

ergy 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 as published for "Jet Fuel, Military" 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.

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, Statement, Annual, 1956*.

Motor Gasoline. EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel as published 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 Gasoline. EIA adopted the thermal conversion factor of 4.620 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

Pentanes Plus. EIA assumed the thermal conversion factor to be 4.620 million Btu per barrel or equal to that for natural gasoline. See "Natural Gasoline."

Petrochemical Feedstocks, Naphtha Less Than 401 Degrees Fahrenheit. Assumed by EIA to be 5.248 million Btu per barrel, equal to the thermal conversion factor for special naphtha. See "Special Naphtha."

Petrochemical Feedstocks, Oils Equal to or Greater Than 401 Degrees Fahrenheit. Assumed by EIA to be 5.825 million Btu per barrel, equal to the thermal conversion factor for distillate fuel oil. See "Distillate Fuel Oil."

Petrochemical Feedstocks, Still Gas. Assumed by EIA to be 6.000 million Btu per barrel, equal to the thermal conversion factor for still gas. See "Still Gas."

Petroleum Coke. EIA adopted the thermal conversion factor of 6.024 million Btu per barrel as reported in Btu per short ton in the Bureau of Mines internal mem-

Approximate Heat Content of Fuels

Petroleum

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 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."

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.

Petroleum Products, 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. 1973-1989: 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

orandum *Bureau of Mines Standard Average Heating Value of Various Fuels*, adopted January 3, 1950. The Bureau of Mines calculated this factor by dividing the 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.

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 as published in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

Residual Fuel Oil. EIA adopted the thermal conversion factor of 6.287 million Btu per barrel as reported in the Bureau of Mines internal memorandum *Bureau of Mines Standard Average Heating Values of Various Fuels*, adopted January 3, 1950.

Road Oil. EIA adopted the Bureau of Mines thermal conversion factor of 6.636 million Btu per barrel which was assumed to be equal to that of asphalt (see "Asphalt") and was first published by the Bureau of Mines in the *Petroleum Statement, Annual, 1970*.

Special Naphtha. EIA adopted the Bureau of Mines thermal conversion factor of 5.248 million Btu per barrel which was assumed to be equal to that of total gasoline (aviation and motor) factor and was first published in the *Petroleum Statement, Annual, 1970*.

Still Gas. EIA adopted the Bureau of Mines estimated thermal conversion factor of 6.000 million Btu per barrel and first published in the *Petroleum Statement, Annual, 1970*.

Unfinished Oil. EIA assumed the thermal conversion factor to be 5.825 million Btu per barrel or equal to that for distillate fuel oil (see "Distillate Fuel Oil") and first published in the *Annual Report to Congress, Volume 3, 1977*.

Unfractionated Stream. EIA assumed the thermal conversion factor to be 5.418 million Btu per barrel or equal to that for plant condensate (see "Plant Condensate") and first published in the *Annual Report to Congress, Volume 2, 1981*.

Waxes. EIA adopted the thermal conversion factor of 5.537 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

is estimated in the State Energy Data System as documented in the *State Energy Data Report*. 1990 forward: EIA, Integrated Modeling Data System output for the *Monthly Energy Review* (March 1991).

Petroleum Products, Consumption by Industrial Users. 1973-1989: 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 States Energy Data System as documented in the *State Energy Data Report*. 1990 forward: EIA, Integrated Modeling Data System output for the *Monthly Energy Review* (March 1991).

Petroleum Products, Consumption by Residential and Commercial Users. 1973-1989: 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*. 1990 forward: EIA, Integrated Modeling Data System output for the *Monthly Energy Review* (March 1991).

Petroleum Products, Consumption by Transportation Users. 1973-1989: 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*. 1990 forward: EIA, Integrated Modeling Data System output for the *Monthly Energy Review* (March 1991).

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.

Petroleum Products, 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.

Natural Gas

Natural Gas, 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: 1980-1984: EIA *Natural Gas Annual 1988, Volume II*, Table 15. 1985-1989: EIA, *Natural Gas Annual 1989*, Table B1. 1990 forward: Estimated to be the same as 1989.

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 Non-Electric Utility Users. Calculated annually by EIA by dividing the heat content of natural gas consumed by non-electric utility consumers by the quantity of non-electric utility natural gas consumed. Data are from Forms EIA-176, FERC-423, EIA-759, and predecessor forms.

Natural Gas, Exports. Calculated annually by EIA by dividing the heat content of exported natural gas by the quantity of natural gas exported, both reported on Form FPC-14.

Natural Gas, Imports. Calculated annually by EIA by dividing the heat content of imported natural gas by the quantity of natural gas imported, both reported on Form FPC-14.

Natural Gas Production, Dry. Assumed by EIA to be equal to the thermal conversion factor for the consumption of dry natural gas. See "Natural Gas, Consumption."

Natural Gas Production, Marketed (Wet). Calculated annually by EIA by adding the heat content of dry natural gas production and the total heat content of natural gas plant liquids production and dividing this sum by the total quantity of marketed (wet) natural gas production.

Coal and Coal Coke

Anthracite, Consumption. Calculated annually by EIA by dividing the sum of the heat content of anthracite consumed by electric utilities and non-electric utilities 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 Non-Electric Utility Users. 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 non-electric utility anthracite consumption 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, 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 based on 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 their 1974-1982 period. 1974 forward: Calculated annually by EIA 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 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 6-1919-Q) contained a heat value equal to 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 the consumption sector. Producers' stock changes and unaccounted for were assumed to have the same conversion factor as 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 Non-Electric Utility Users. Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite consumed by non-electric utility users 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 Fuel Steam-Electric Power 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. EIA has selected a rate 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. 1973-1988: 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 1988*, Table 11. 1989: Prepublished data. 1990 forward: Estimated to be the same as 1989.

Geothermal Energy Power Plant Generation.

1973-1981: Calculated annually by EIA by weighting the average annual heat rates of operating geothermal units by the installed nameplate capacities as reported on Form FPC-12. 1982 forward: Estimated annually by EIA based on an informal survey of relevant plants.

Nuclear Power Plant Generation. Calculated annually by EIA by dividing the total heat content consumed in reactors at nuclear plants by the total (net) electricity generated by nuclear plants. The heat content and electricity generation are reported on Form FERC-1, Form EIA-412, and predecessor forms. The factors, beginning with 1982 data, are published in the following EIA reports -- 1982: *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants 1982*, page 215. 1983-1988: *Electric Plant Cost and Power Production Expenses 1988*, Table 15. 1989: Prepublished data. 1990 forward: Estimated to be the same as 1989.

Glossary

Anthracite: A hard, black, lustrous coal containing a high percentage of fixed carbon and a low percentage of volatile matter. It is often referred to as hard coal. It includes meta-anthracite and semianthracite and conforms to ASTM Specification D388 for anthracite.

ASTM: The acronym for the American Society for Testing and Materials.

Base 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 coal that is high in carbonaceous matter having a volatility greater than anthracite and a calorific value greater than lignite. In the United States, it is often referred to as soft coal. In this report, "bituminous coal" conforms to ASTM Specification D388 for bituminous and subbituminous coal. It is used primarily for electricity generation, coke production, and space heating.

British Thermal Unit (Btu): The amount of energy required to raise the temperature of 1 pound of water 1 °F at or near 39.2 °F. One Btu is equivalent to about 252 International Steam Table calories. An average Btu content of fuel is a heat value per unit quantity of fuel as determined from tests of fuel samples.

Butane: A normally gaseous, paraffinic hydrocarbon (C_4H_{10}) extracted from natural gas or refinery gas streams. It includes isobutane (branch-chain) and normal butane (straight-chain) and is covered by ASTM Specification 1835 and Natural Gas Processors Specifications for commercial butane. It is used primarily for blending into high-octane gasoline, for residential and commercial heating, and for industrial purposes, especially the manufacture of chemicals and synthetic rubber.

Butylene: A normally gaseous, olefinic hydrocarbon (C_4H_8) recovered from refinery processes. Quantities are included with "normal butane" data.

City Gate Price of Natural Gas: Price of natural gas at the point it is transferred from a pipeline company to a local distribution company.

Coal: Includes all ranks of coal--anthracite, bituminous coal, subbituminous coal, and lignite--conforming to ASTM Specification D388.

Coal Coke: The strong, porous residue, consisting of carbon and mineral ash, that is formed when the volatile constituents of bituminous coal are driven off by heat in the absence of or in a limited supply of air. It is used primarily in blast furnaces for smelting ores, especially iron ore.

Commercial Sector: Nonmanufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included. (For allocation of individual fuels to end-use sectors, see the Notes and Sources for Section 2.)

Crude Oil Average Domestic First Purchase Price: 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; after February 1976, the price represents an average of actual first purchase prices. This price is frequently called the wellhead price.

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. Liquids produced at natural gas processing plants and mixed with crude oil are excluded where identifiable.

Crude Oil Refinery Input: Total crude oil (including lease condensate) input to crude oil distillation units and other processing units.

Crude Oil Stocks: Stocks of crude oil and lease condensate held at refineries, in pipelines, at pipeline terminals, and on leases.

Degree-Day Normals: Simple arithmetic averages of monthly or annual degree-days over a long period of time (usually the 30-year period 1951-1980). These may

be simple degree-day normals or population-weighted degree-day normals.

Degree-Days, Cooling: 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: 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 these 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 composed of from three to eight States. The regions 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 these products are then summed to arrive at the national population-weighted degree-day figure.

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: Light fuel oils distilled during the refining process and 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. Included are products known as No. 1, No. 2, and No. 4 fuel oils, and No. 1, No. 2, and No. 4 diesel fuels, conforming to ASTM Specifications D396 or D975, respectively. No. 1 fuel oil is a light distillate fuel oil used in vaporizing pot-type burners. No. 2 fuel oil is used in atomizing-type burners for domestic heating or for moderate capacity commercial-industrial burner units. No. 4 fuel oil is a blend of distillate fuel oil and residual fuel oil that is used in commercial burner installations not equipped with preheating facilities; it is used extensively in industrial plants. Diesel fuel oils are used in compression-ignition engines.

Dry Hole: An exploratory or development well found to be incapable of producing either oil or gas in suffi-

cient quantities to justify completion as an oil or gas well.

Electrical System Energy Losses: The amount of energy lost during generation, transmission, and distribution of electricity, including plant use and unaccounted for electrical energy.

Electricity Generation: Net electricity (gross electricity output measured at the generator terminals, minus power plant use) generated at electric utilities. Excluded industrial electricity generation. International data are gross electricity output.

Electricity Sales: The gross electricity output measured at the generator terminals, minus power plant use and transmission and distribution losses. Included in each end-use sector are the following: commercial sales of electricity to businesses that generally require less than 1,000 kilowatts of service; industrial sales of electricity to businesses that generally require more than 1,000 kilowatts of service; residential sales of electricity to residences for household purposes; "other" sales of electricity to government, railways, street lighting authorities, and sales not elsewhere included.

Electric Utility: A corporation, person, agency, authority, or other entity that owns or operates facilities for the generation, transmission, distribution, or sale of electricity, primarily for use by the public.

Electric Utility Sector: Privately and publicly owned establishments that generate electricity primarily for use by the public.

Ethane: A normally gaseous, paraffinic hydrocarbon (C_2H_6) extracted from natural gas or refinery gas streams. It is used primarily as petrochemical feedstock for production of chemicals and plastic materials.

Ethylene: A normally gaseous, olefinic hydrocarbon (C_2H_4) recovered from refinery processes. Quantities are included with "ethane" data.

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, Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

F.o.b. (free on board) Price of Imported Crude Oil: The f.o.b. price is the price actually charged at the producing country's port of loading. The reported price includes deductions for any rebates and discounts and additions of premiums where applicable; it should be the actual price paid with no adjustments for credit terms.

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.

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 (as used at electric utilities): Hot water or steam, extracted from geothermal reservoirs in the earth's crust, which is supplied to steam turbines at electric utilities that drive generators to produce electricity.

Gross Energy Consumption: Total energy use including electrical system energy losses.

Gross National Product (GNP): The total value of goods and services produced by the Nation's economy, before deduction of depreciation charges and other allowances for capital consumption. It includes the total purchases of goods and services by private consumers and government, gross private domestic capital investment, and net foreign trade.

Gross Wet Gas Withdrawal: Full well stream volume, including all natural gas plant liquid and nonhydrocarbon gases, but excluding lease condensate. Also includes amounts delivered as royalty payments or consumed in field operations.

Hydroelectric Power: Electricity generated by an electric power plant whose turbines are driven by falling water.

Imports: Receipts of goods into the 50 States and the District of Columbia from foreign countries, Puerto Rico, the Virgin Islands, and other U.S. possessions and territories. (See **Petroleum Imports**.)

Industrial Sector: Manufacturing, construction, mining, agriculture, fishing and forestry establishments. (For allocation of individual fuels to end-use sectors, see the Notes and Sources for Section 2.)

Isobutane: See **Butane**.

Landed Cost of Crude Oil Imports: The price of imported crude oil at the port of discharge. It includes the purchase price at the foreign port plus charges for transporting and insuring the crude oil from the purchase point to the port of discharge. It does not include import tariffs or fees, wharfage charges, or demurrage costs. Coverage includes the United States and its territories.

Lease and Plant Fuel: Natural gas used in lease operations, as gas processing plant fuel, and as net used for gas lift.

Lease Condensate: A natural gas liquid recovered from gas-well gas (associated and nonassociated) in lease separators or natural gas field facilities. Lease condensate consists primarily of pentanes and heavier hydrocarbons. Generally, it is blended with crude oil for refining.

Lignite: A brownish-black coal of low rank with high inherent moisture and volatile matter. It is also referred to as brown coal. It conforms to ASTM Specification D388 for lignite and is used almost exclusively for electric power generation.

Liquefied Petroleum Gases (LPG): Ethane, propane, normal butane, ethane-propane mixtures, propane-butane mixtures, and isobutane produced at natural gas processing plants, including plants that fractionate raw natural gas plant liquids. LPG also included liquefied refinery gases (ethylene, propylene, butylene, and isobutylene produced from crude oil at refineries).

Motor Gasoline, Finished: A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that have been blended to form a fuel suitable for use in spark-ignition engines and conforming to ASTM Specification D439. Included are finished leaded gasoline, finished unleaded gasoline, and gasohol. Excluded are blendstock that has not been blended into finished motor gasoline and alcohol that has not been blended into gasohol.

Motor Gasoline, Leaded Premium: A gasoline having an antiknock index of 93 with the use of lead additives or which contains more than 0.05 grams of lead per gallon or more than 0.005 grams of phosphorus per gallon. Includes gasohol.

Motor Gasoline, Leaded Regular: A gasoline having an antiknock index of 89 with the use of lead additives or which contains more than 0.05 grams of lead per gallon or more than 0.005 grams of phosphorus per gallon.

Motor Gasoline, Total: Includes finished leaded motor gasoline (premium and regular), finished unleaded motor gasoline (premium and regular), motor gasoline blending components, and gasohol.

Motor Gasoline, Unleaded Premium: A gasoline having an antiknock index of 90 containing not more than 0.05 grams of lead per gallon and not more than 0.005 grams of phosphorus per gallon. Includes gasohol.

Motor Gasoline, Unleaded Regular: A gasoline having an antiknock index of 87 containing not more than 0.05 grams of lead per gallon and not more than 0.005 grams of phosphorus per gallon.

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 Plant Liquids (NGPL): Those natural gas liquids that are recovered from natural gas processing plants, and in some situations, from natural gas field facilities, as well as those that are extracted by fractionators. Natural gas plant liquids are defined according to the published specifications of the ASTM and the Gas Processors Association and are classified 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 annual 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, as well as the U.S. Geological Survey (through 1981) and the U.S. Minerals Management Service (from 1982 forward). 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.

An estimate of the U.S. natural gas price is made each month based on monthly natural gas prices from four States: Mississippi, New Mexico, Oklahoma, and Texas.

Net Generation of Electricity: 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.

Net Consumption of Energy: Total energy use excluding electrical system energy losses.

Normal Butane: See Butane.

Nuclear Energy: 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.

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.

Organization for Economic Cooperation and Development (OECD): Current members: Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States and its territories (Guam, Puerto Rico, and the Virgin Islands).

Organization of the Petroleum Exporting Countries (OPEC): Current members: Algeria, Ecuador, Gabon,

Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela.

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

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 solid residue that is the final product of the condensation process in cracking. It consists of aromatic hydrocarbons very poor in hydrogen. Calcination of petroleum coke can yield almost pure carbon or artificial graphite suitable for production of carbon or graphite electrodes, structural graphite, motor brushes, dry cells, and similar products. This product is reported as marketable or catalyst coke.

Petroleum Imports: Imports of petroleum into the 50 States and the District of Columbia from foreign countries, 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: Petroleum products are 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, naphtha less than 401 °F end-point, other oils equal to or greater than 401 °F end-point, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

Petroleum Products Supplied: Total petroleum products supplied is the sum of all petroleum products supplied. For each product, the amount supplied is calculated by summing production, crude oil burned directly, imports, and net withdrawals from primary stocks and subtracting exports.

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

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.

Propane: A normally gaseous, paraffinic hydrocarbon (C_3H_8). It is extracted from natural gas or refinery gas streams, and includes all products covered by Gas Processors Association Specifications for commercial propane and HD-5 propane and ASTM Specification D1835. Propane is used primarily for residential and commercial heating and cooling, and also as a fuel for transportation. Industrial uses of propane include use as a petrochemical feedstock.

Propylene: A normally gaseous, olefinic hydrocarbon (C_3H_6) recovered from refinery processes. Quantities are included with "propane" data.

Refiner Acquisition Cost: 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.

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, geothermal, wind, photovoltaic, and solar thermal energy.

Reservoir Repressuring: The injection of natural gas into oil and gas reservoir formations for pressure maintenance and cycling.

Residential Sector: Private household establishments, which consume energy primarily for space heating, water heating, air conditioning, lighting, refrigeration, cooking, and clothes drying. (For allocation of individual fuels to end-use sectors, see the Notes and Sources for Section 2.)

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 and electricity generation. Imports of residual fuel oil include imported crude oil burned as fuel.

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

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

Subbituminous Coal: A dull black coal of rank intermediate between lignite and bituminous coal. It conforms to ASTM Specification D388 for subbituminous coal, and is used almost exclusively for electric power generation. In this report, quantities are included with "bituminous coal" data.

Supplemental Gaseous Fuels: Consist primarily of synthetic natural gas, propane-air, and refinery (still) gas. May also include coke oven gas, biomass gas, manufactured gas, and air injected for Btu stabilization.

Synthetic Natural Gas (SNG): A product resulting from the manufacture, conversion, or reforming of hydrocarbons that may be easily substituted for, or interchanged with, pipeline-quality natural gas.

Transportation Sector: 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: Represents the arithmetic difference between the indicated demand for crude oil and the total disposition of crude oil. Indicated demand is the sum of crude oil production and imports less changes in crude oil stocks. Total 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.

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.

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 (see **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. Included are round wood (cord wood), limb wood, wood chips, bark, sawdust, forest residues, charcoal, pulp waste, and spent pulping liquor.

Working Gas: The volume of gas in an underground storage reservoir above the designed level of the base. 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 season.

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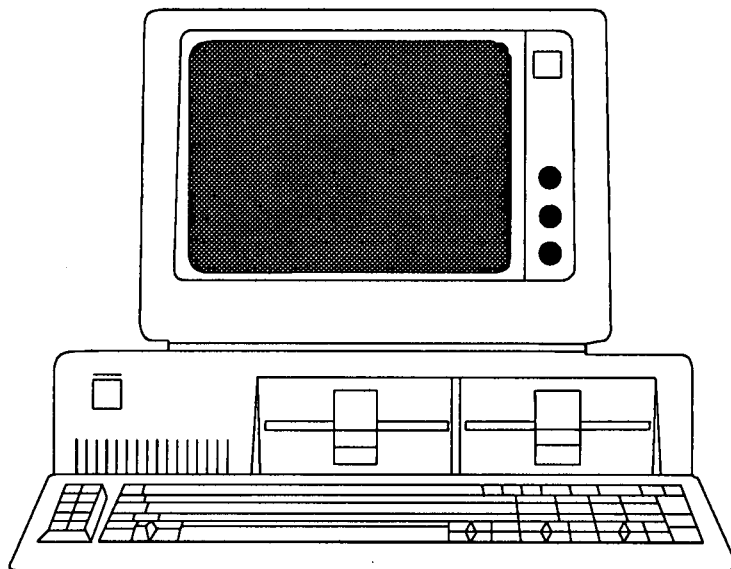
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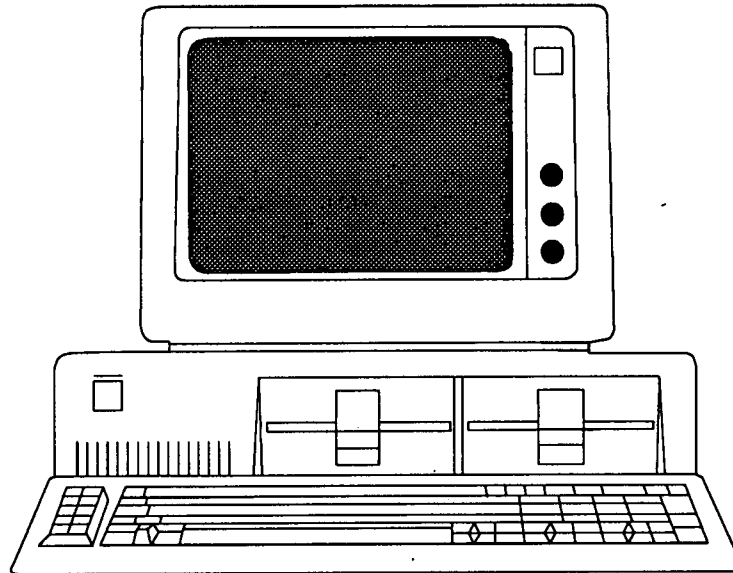
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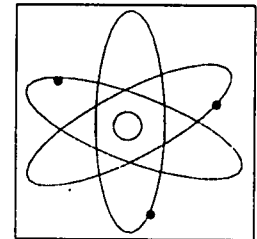
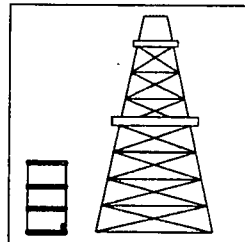
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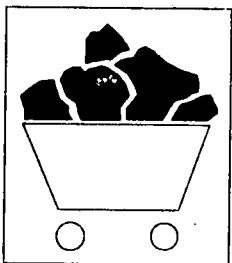
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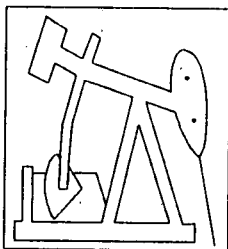
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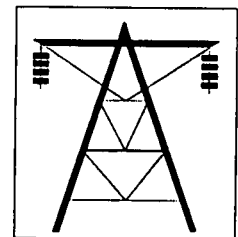
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