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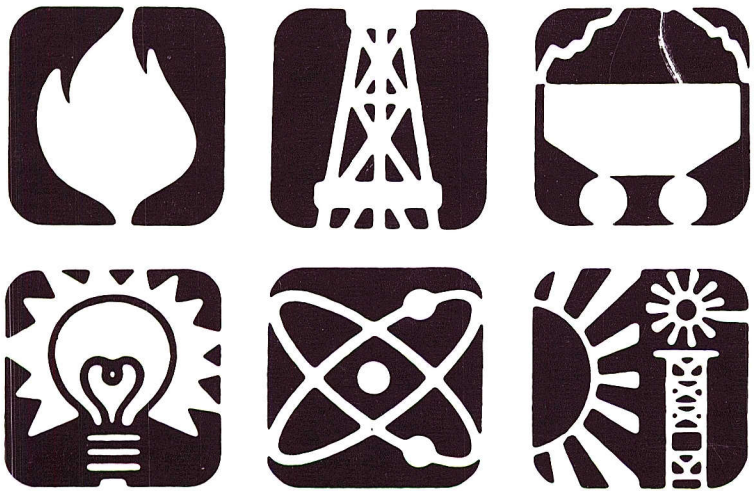
Energy Information Administration

Monthly Energy Review

October 1987



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)) that states:

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

The *Monthly Energy Review* is intended to provide timely energy information to Members of Congress, to Federal and State agencies, and to the general public.

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Monthly Energy Review

October 1987

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

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Contents

Feature Articles

Feature articles on energy-related subjects are occasionally included in this publication. The following is a complete list of all the feature articles that have been published to date.

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.

U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1981 Annual Report	September 1982
Energy Company Development Patterns in the Postembargo Era, Volume One	November 1982
Residential Energy Consumption Survey: Consumption and Expenditures	January 1983
Residential Energy Consumption Survey: Housing Characteristics	February 1983
Energy Price and Expenditure Data Report, 1970-1980	July 1983
Railroad Deregulation: Impact on Coal	August 1983
Port Deepening and User Fees: Impact on U.S. Coal Exports	August 1983
U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1982 Annual Report	September 1983
Annual Energy Review 1983	February 1984
State Energy Data Report, Consumption Estimates, 1960-1982	March 1984
Annual Energy Outlook 1983	March 1984
State Energy Price and Expenditure Report, 1970-1981	May 1984
Solar Collector Manufacturing Activity 1983	June 1984
Estimates of U.S. Wood Energy Consumption, 1980-1983	September 1984
International Energy Annual 1983	September 1984
Energy Conservation Indicators 1983 Annual Report	November 1984
Annual Energy Outlook 1984	December 1984
Annual Energy Review 1984	January 1985
Performance Profiles of Major Energy Producers 1983	February 1985
State Energy Price and Expenditure Report 1970-1982	March 1985
State Energy Data Report, Consumption Estimates, 1960-1983	April 1985
Annual Outlook for U.S. Electric Power 1985	June 1985
Short-Term Energy Outlook, Volume 1, October 1985	August 1985
Analysis of Growth in Electricity Demand, 1980-1984	August 1985
Profiles of Foreign Direct Investment in U.S. Energy 1984	November 1985
Performance Profiles of Major Energy Producers 1984	December 1985
International Energy Annual 1985	September 1986
Consumption and Expenditures, April 1984 Through March 1985, Part 1: National Data	April 1987
Consumption and Expenditures, April 1984 Through March 1985, Part 2: Regional Data	May 1987
Uranium Industry Annual 1986	September 1987

Highlights: Potential Oil Production from ANWR

The Coastal Plain of the Arctic National Wildlife Refuge is the most promising onshore petroleum frontier in the United States. Because U.S. oil reserves and production are projected to decline and imports from foreign sources are projected to increase (Table FE1), the question--to be decided by Congress--of whether to open ANWR to oil exploration has assumed special significance. This "Highlights" reviews the major findings of *Potential Oil Production from the Coastal Plain of the Arctic National Wildlife Refuge*, a service report released by the Energy Information Administration (EIA) in October 1987.

The Arctic National Wildlife Refuge (ANWR) consists of 19 million acres located in northeastern Alaska. About 8 million acres of ANWR was designated by Congress in 1980 as a wilderness area, but 1.5 million acres along the coast--the ANWR 1002 Area--was designated for further study. Although no test wells have been drilled in the 1002 Area, drilling has located a field with about 600 million barrels of recoverable oil and gas condensate on the western border. Several giant and super-giant fields, in the Prudhoe Bay area and in the Canadian Beaufort Sea and McKenzie Delta, are about 60 miles west and 150 miles east, respectively, from ANWR. Geological investigations have indicated that source and reservoir rocks are similar to those found in the prolific Prudhoe Bay area, to the west. In addition, many large subsurface structures, as well as several oil seeps and oil stained-saturated rock outcrops, are found across the 1002 Area.

Table FE1. U.S. Petroleum Production and Net Imports, 1985-2015
(Thousand Barrels per Day)

	Production of Crude Oil		Net Imports of Crude Oil and Refined Products	
Year	U.S.[a]	ANWR[b]	With ANWR[c]	Without ANWR
1985	8,971	0	(c)	4,290
1990	7,587	0	(c)	6,300
1995	6,035	0	(c)	8,160
2000	5,618	179	9,390	9,570
2005	5,022	777	9,390	10,170
2010	4,490	444	10,250	10,700
2015	4,014	234	10,940	11,170

[a]Exclusive of production from ANWR.
[b]1002 Area of the Arctic National Wildlife Refuge, base case production, under existing regulatory procedures.
[c]ANWR production under the base case does not begin until the year 2000.
Note: Estimates for 1990-2015 are projections.
Source: Energy Information Administration, *Potential Oil Production from the Coastal Plain of the Arctic National Wildlife Refuge*, revised edition, SR/RNGD/87-01 (Washington, DC, October 1987), Tables 6 and 7.

Estimates of Crude Oil

Using extensive seismic information, the Department of the Interior (DOI) identified 26 prospects potentially capable of containing--and producing--crude oil. Using this information, DOI developed a probability distribution of the oil in the ANWR 1002 Area. The DOI estimates that there is a 95-percent probability of at least 4.8 billion barrels of in-place oil, a 50-percent probability of 11.9 billion barrels, and a 5-percent probability of 29.4 billion barrels. Following a careful review of DOI's work, EIA accepted their in-place estimates as reasonable.

DOI used a computer model to assess the amount of oil that would be economically recoverable, and derived a conditional mean estimate of 3.23 billion barrels. EIA, however, considers the DOI estimate to be conservative because the model was limited to large, seismically identified structures and assumes a high area geologic and economic risk (a 19-percent chance that any of the prospects modeled contains economically recoverable oil at a minimum field size of 440 million barrels).

EIA independently estimated the economically recoverable oil from ANWR by applying a recovery efficiency of 25 percent to the DOI in-place estimates. This percentage reflects a general recognition that large deposits tend to have higher recovery efficiencies, while taking into consideration the existence of smaller deposits on the periphery of the large, identified prospects. This is consistent with an area-wide recovery efficiency of about 26 percent for all discoveries in the Prudhoe Bay area. Using that methodology yields EIA's unconditional base-case estimate of economically recoverable oil at 3.45 billion barrels, somewhat higher than the DOI conditional estimate.

Production Schedules

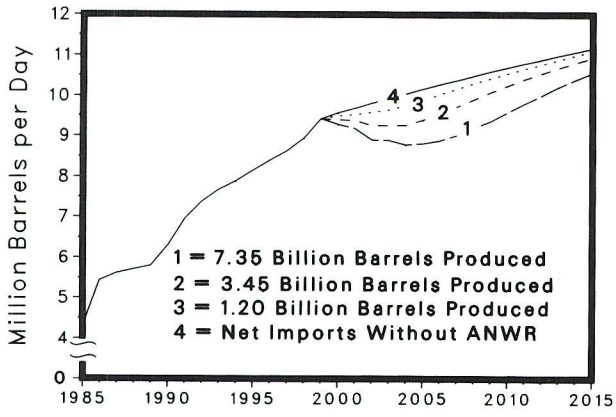
EIA has developed three alternative schedules for the initial development of the ANWR 1002 Area. All three assume the same technology for oil exploration and development. They also assume that Congress will authorize area-wide leasing in 1988 and that early discoveries of oil will equal at least 700 million barrels.

The schedules differ in their assumptions about the regulatory climate: accelerated, in which regulatory procedures are streamlined; normal, in which progress is made under existing regulatory procedures; and delayed, in which regulation and litigation extend the time required for exploration and development. In the accelerated schedule, production could begin as early as 1995. In the normal schedule, production is projected to begin in 2000, and in the delayed schedule, in 2010.

EIA also examined the likely course of production in the 1002 Area for a range of values for ultimate oil recovery. In the base case, in which recovery of 3.45 billion barrels is estimated, first-year production would total 179 thousand barrels per day, second-year production would total 313 thousand barrels per day, and peak production in the fifth year would total 789 thousand barrels per day.

In the low case (ultimate recovery of 1.20 billion barrels), the 1002 Area would reach its peak of 286 thousand barrels per day in the fourth year of production. In the high case (ultimate recovery of 7.35 billion barrels), peak production of 1.4 million barrels per day would be reached in 7 years.

Figure FE1. Projected U.S. Net Oil Imports, 1985-2015



Note: Projections assume that existing regulatory procedures, discoveries, and development provide initial production in the year 2000.
Source: Energy Information Administration, *Potential Oil Production from the Coastal Plain of the Arctic National Wildlife Refuge*, revised edition, SR/RNGD/87-01 (Washington, DC, October 1987), Figure 9.

Projected Effects on Domestic Oil Imports

A long-term decline in U.S. crude oil production is widely believed to be inevitable. At the same time, U.S. petroleum consumption is projected to increase, with the shortfall being met by rising imports. By the year 2000, net imports are projected to account for a 56-percent share of domestic consumption.

The ANWR 1002 Area has substantial potential to slow the growth in imports (Figure FE1). In the base case (ultimate recovery of 3.45 billion barrels), and under existing regulatory procedures, 1002 Area production could account for about 13 percent of total U.S. crude oil production in the years 2004 through 2006. In the high case (7.35 billion barrels), the 1002 Area could contribute at least 20 percent of total U.S. production during the years 2004 through 2010. Even in the low case (1.20 billion barrels), the 1002 Area could be expected to provide about 5 percent of total U.S. production in 2003 through 2005. Those year estimates all assume development under a "normal" scenario (existing regulatory procedures).

In the base case, and assuming a world oil price of $33 per barrel (in 1984 dollars), the displacement of oil imports with production from the 1002 Area would reduce the cost of imports by as much as $9.5 billion in 2004. An equivalent reduction in 1985 import levels would have reduced the U.S. trade deficit by about 10 percent. In the high case, the cost of imports is projected to be reduced by $16.8 billion in 2006, and in the low case by $3.4 billion in 2003 and 2004.

To Order the Report

Potential Oil Production from the Coastal Plain of the Arctic National Wildlife Refuge presents a detailed description of the petroleum geology of the ANWR 1002 Area. The 46-page report also describes both DOI's and EIA's assumptions and methods used to arrive at projections of the oil resources and potential development of the area.

A single copy of the report may be obtained free of charge by using the order form in the back of this publication.

Section 1. Energy Summary

The United States produced 0.2 percent less energy during the first 10 months of 1987 than during the same period in 1986, but U.S. consumption was up 1.3 percent. Net imports of all energy were 12.8 percent higher, with net imports of petroleum up 7.3 percent, compared with levels during the first 10 months of 1986.

Energy production during October 1987 totaled 5.5 quadrillion Btu, a 2.5-percent increase compared with the level of production during October 1986. Coal production was up 7.3 percent and natural gas production increased 3.1 percent, while petroleum production decreased 0.4 percent. All other forms of energy production combined were down 4.6 percent from the level of production during October 1986.

Energy consumption during October 1987 totaled 6.1 quadrillion Btu, 3.6 percent above the level of consumption during October 1986. Natural gas consumption increased 10.3 percent, coal consumption rose 5.5 percent, and petroleum consumption increased 1.8 percent. Consumption of all other forms of energy combined decreased 3.3 percent compared with the level 1 year earlier.

Net imports of energy during October 1987 totaled 1.1 quadrillion Btu, 16.8 percent above the level of net imports 1 year earlier. Net imports of petroleum increased 12.1 percent, while net imports of natural gas increased 15.7 percent. Net exports of coal decreased 7.8 percent compared with the level in October 1986.

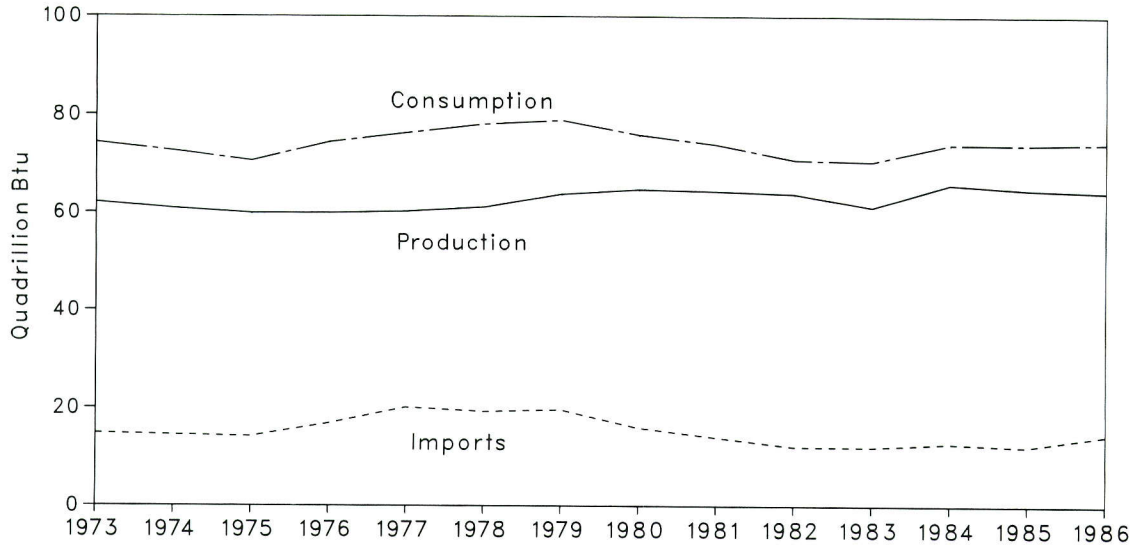
Table 1.1 Energy Summary for October 1987
(Quadrillion (10^{15}) Btu)

	October			Cumulative January Through October				
	1987	1986	Percent Change[a]	1987	1987 Daily Rate	1986	1986 Daily Rate	Percent Change[a]
Total Production[b]	**5.529**	**5.397**	**2.5**	**53.395**	**0.176**	**53.498**	**0.176**	**-0.2**
Petroleum[c]	1.681	1.688	-.4	16.487	.054	17.196	.057	-4.1
Natural Gas (Dry)	1.368	1.327	3.1	13.810	.045	13.546	.045	2.0
Coal	1.878	1.751	7.3	16.619	.055	16.362	.054	1.6
Other[d]	.603	.632	-4.6	6.479	.021	6.394	.021	1.3
Total Consumption[b]	**6.064**	**5.852**	**3.6**	**62.255**	**.205**	**61.454**	**.202**	**1.3**
Petroleum[e]	2.838	2.787	1.8	27.177	.089	26.667	.088	1.9
Natural Gas[f]	1.155	1.046	10.3	13.319	.044	13.696	.045	-2.8
Coal	1.431	1.356	5.5	14.921	.049	14.401	.047	3.6
Other[g]	.640	.662	-3.3	6.838	.022	6.689	.022	2.2
Net Imports	**1.070**	**.916**	**16.8**	**9.518**	**.031**	**8.439**	**.028**	**12.8**
Petroleum[h]	1.131	1.009	12.1	10.158	.033	9.466	.031	7.3
Natural Gas	.074	.064	15.7	.658	.002	.537	.002	22.7
Coal[i]	-.172	-.187	-7.8	-1.658	-.005	-1.858	-.006	-10.8
Other[j]	.038	.031	23.3	.359	.001	.295	.001	21.6

[a]Based on daily rates prior to rounding.
[b]Production 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.
[c]Includes crude oil, lease condensate, and natural gas plant liquids.
[d]Other is hydroelectric and nuclear electric power, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[e]Includes petroleum products.
[f]Includes supplemental gaseous fuels.
[g]Other is hydroelectric and nuclear electric power; electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy; and net imports of electricity and coal coke.
[h]Includes crude oil, lease condensate, petroleum products, pentanes plus, unfinished oils, gasoline blending components, and imports of crude oil for the Strategic Petroleum Reserve.
[i]Minus sign indicates exports are greater than imports.
[j]Other is net imports of electricity and coal coke.
Note: Totals may not equal sum of components due to independent rounding.
Sources: Energy Information Administration (EIA), *Monthly Energy Review* Section 1 and EIA calculations.

Figure 1.1 Energy Overview

Yearly



Monthly

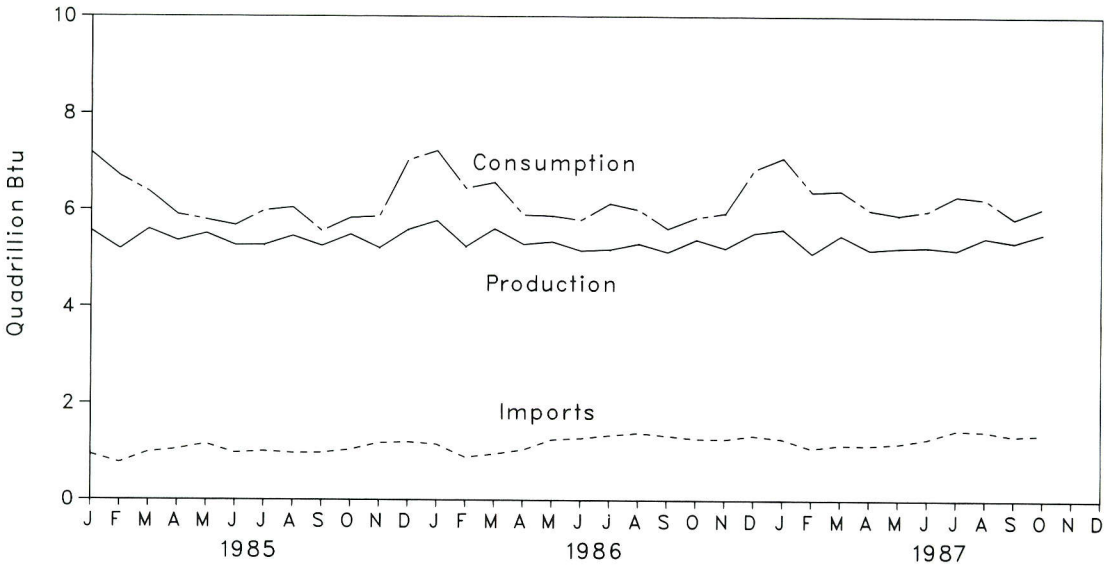


Table 1.2 Energy Overview[a]
(Quadrillion (10^{15}) Btu)

	Production[b]	Consumption[b] [c]	Imports	Exports	Net Imports
1973 Total	**62.059**	**74.282**	**14.731**	**2.051**	**12.680**
1974 Total	**60.836**	**72.543**	**14.413**	**2.223**	**12.190**
1975 Total	**59.860**	**70.545**	**14.111**	**2.359**	**11.752**
1976 Total	**59.891**	**74.362**	**16.837**	**2.188**	**14.648**
1977 Total	**60.218**	**76.289**	**20.090**	**2.071**	**18.019**
1978 Total	**61.103**	**78.089**	**19.254**	**1.931**	**17.323**
1979 Total	**63.801**	**78.897**	**19.616**	**2.870**	**16.746**
1980 Total	**64.761**	**75.955**	**15.971**	**3.723**	**12.247**
1981 Total	**64.422**	**73.991**	**13.975**	**4.329**	**9.646**
1982 Total	**63.889**	**70.838**	**12.091**	**4.632**	**7.459**
1983 Total	**61.194**	**70.500**	**12.025**	**3.716**	**8.309**
1984 Total	**65.814**	**74.064**	**12.758**	**3.804**	**8.954**
1985 January	5.564	7.187	.926	.305	.621
February	5.192	6.701	.756	.306	.450
March	5.596	6.378	.971	.318	.653
April	5.361	5.902	1.034	.332	.702
May	5.509	5.794	1.145	.381	.764
June	5.268	5.680	.960	.342	.618
July	5.276	5.982	.994	.328	.666
August	5.460	6.048	.959	.420	.539
September	5.259	5.562	.964	.364	.600
October	5.492	5.835	1.029	.365	.664
November	5.216	5.865	1.170	.406	.764
December	5.593	7.032	1.189	.368	.821
Total	**64.784**	**73.964**	**12.098**	**4.232**	**7.866**
1986 January	5.776	7.221	1.145	.320	.825
February	5.247	6.453	.875	.291	.585
March	5.613	6.574	.943	.313	.630
April	5.297	5.902	1.028	.380	.648
May	5.350	5.882	1.242	.365	.877
June	5.168	5.799	1.275	.315	.960
July	5.193	6.138	1.336	.338	.998
August	5.313	6.011	1.389	.374	1.015
September	5.143	5.622	1.333	.347	.986
October	5.397	5.852	1.268	.352	.916
November	5.223	5.945	1.261	.331	.929
December	5.534	6.848	1.336	.329	1.008
Total	**64.256**	**74.253**	**14.433**	**4.055**	**10.378**
1987 January	5.608	7.086	1.265	.302	.963
February	5.115	6.386	1.070	.291	.778
March	5.485	6.413	1.139	.318	.822
April	R 5.190	6.012	1.129	.327	.801
May	R 5.233	5.911	1.170	.301	.869
June	R 5.249	5.997	1.268	.320	.948
July	R 5.196	R 6.308	1.456	.309	1.146
August	R 5.444	R 6.241	1.438	.334	1.104
September	R 5.347	R 5.837	1.337	.321	1.016
October	5.529	6.064	1.368	.298	1.070
10-Month Total	**53.395**	**62.255**	**12.640**	**3.122**	**9.518**
1986 10-Month Total	**53.498**	**61.454**	**11.835**	**3.396**	**8.439**
1985 10-Month Total	**53.976**	**61.070**	**9.739**	**3.460**	**6.278**

[a]For definitions, see Notes at end of section.

[b]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

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

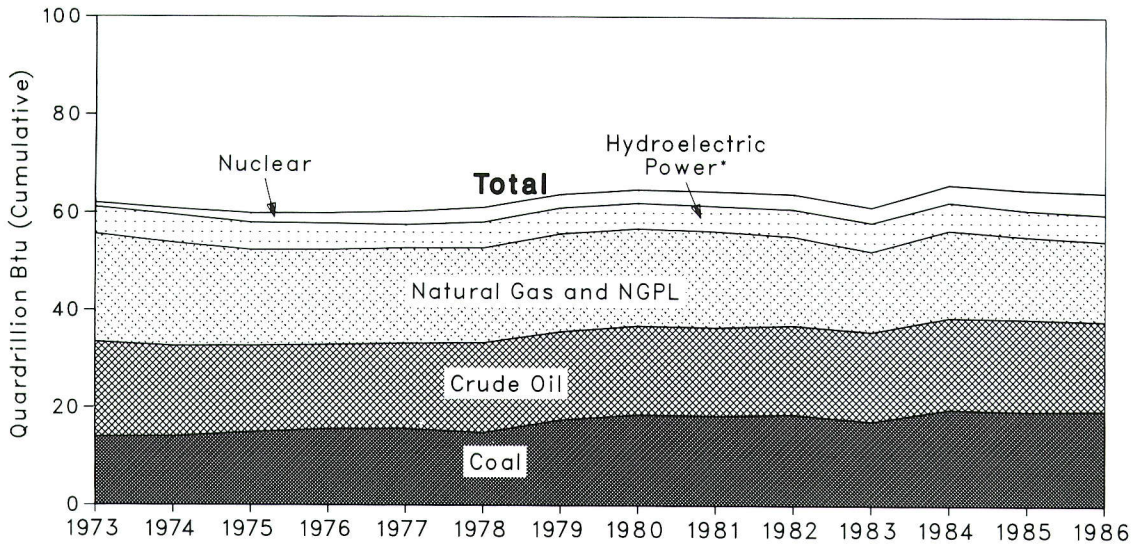
R=Revised data.

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

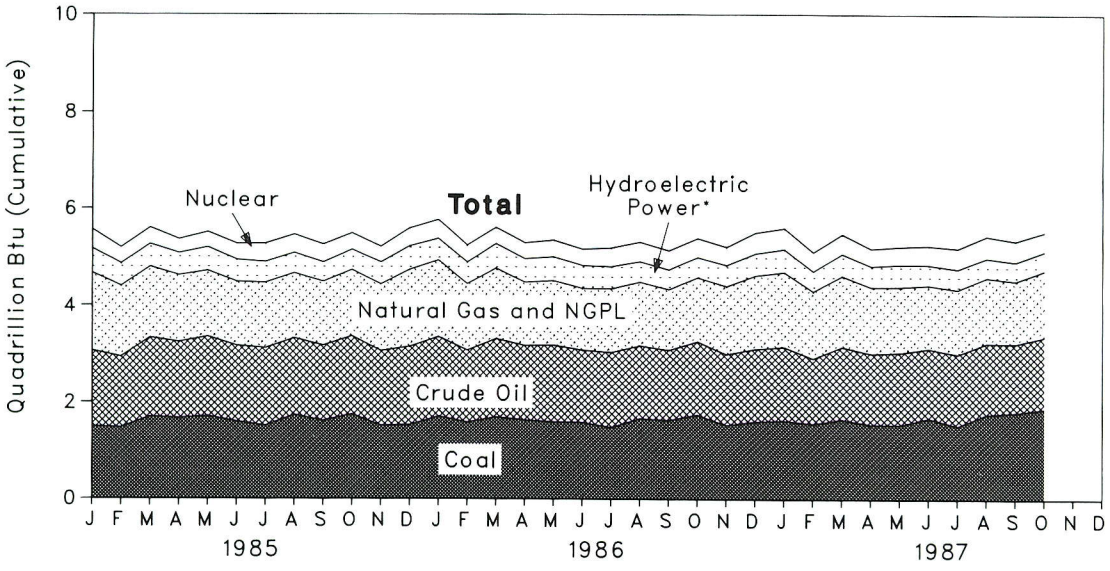
Source: Energy Information Administration calculations based on data appearing elsewhere in this publication.

Figure 1.2 Production of Energy by Source

Yearly



Monthly



*Includes other.

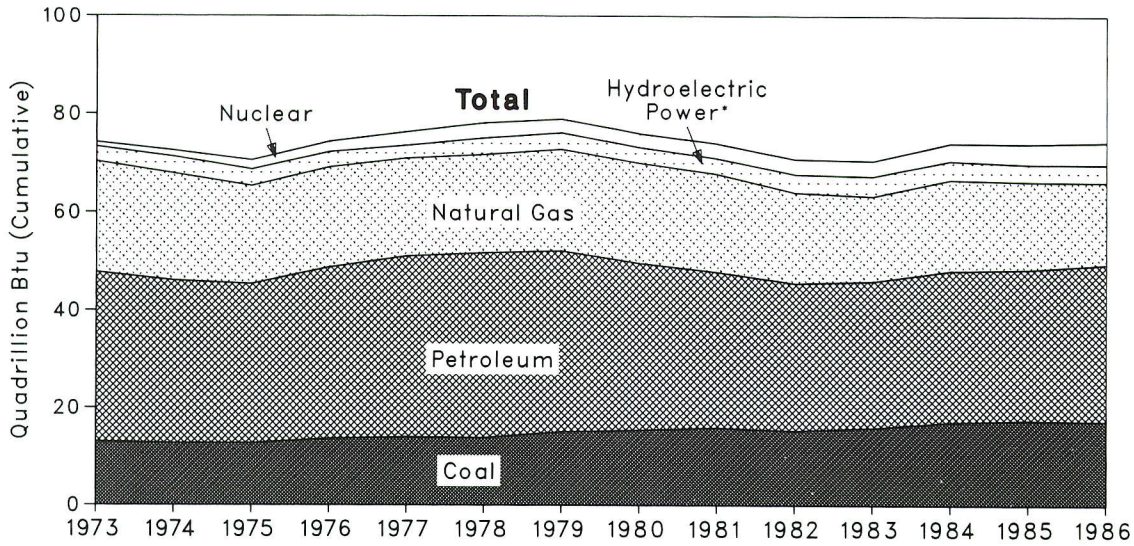
Table 1.3 Production of Energy by Source
(Quadrillion (10^{15}) Btu)

	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**	**62.059**	
1974 Total	**14.074**	**18.575**	**2.471**	**21.210**	**3.177**	**1.272**	**.056**	**60.836**	
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**	**59.891**	
1977 Total	**15.755**	**17.454**	**2.327**	**19.565**	**2.333**	**2.702**	**.082**	**60.218**	
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	**18.377**	**18.146**	**2.307**	**19.699**	**2.758**	**3.008**	**.127**	**64.422**	
1982 Total	**18.639**	**18.309**	**2.191**	**18.255**	**3.256**	**3.131**	**.108**	**63.889**	
1983 Total	**17.250**	**18.392**	**2.184**	**16.530**	**3.502**	**3.203**	**.133**	**61.194**	
1984 Total	**19.723**	**18.848**	**2.274**	**17.931**	**3.312**	**3.553**	**.174**	**65.814**	
1985 January	1.493	1.571	.192	1.610	.288	.391	.018	5.564	5.564
February	1.471	1.466	.173	1.463	.270	.333	.016	5.192	10.756
March	1.701	1.635	.189	1.460	.258	.336	.018	5.596	16.352
April	1.674	1.574	.181	1.375	.255	.286	.016	5.361	21.713
May	1.715	1.642	.188	1.360	.277	.310	.016	5.509	27.221
June	1.602	1.570	.183	1.315	.250	.333	.016	5.268	32.490
July	1.514	1.609	.185	1.346	.223	.380	.018	5.276	37.765
August	1.742	1.583	.189	1.343	.209	.376	.018	5.460	43.225
September	1.618	1.558	.180	1.316	.196	.373	.017	5.259	48.484
October	1.753	1.613	.190	1.372	.209	.337	.017	5.492	53.976
November	1.515	1.549	.190	1.376	.240	.326	.021	5.216	59.192
December	1.531	1.624	.199	1.588	.265	.365	.022	5.593	64.785
Total	**19.329**	**18.992**	**2.241**	**16.922**	**2.939**	**4.147**	**.213**	**64.784**	
1986 January	1.712	1.643	.201	1.582	.224	.391	.023	5.776	5.776
February	1.589	1.490	.180	1.373	.243	.354	.019	5.247	11.024
March	1.696	1.621	.189	1.457	.297	.333	.020	5.613	16.636
April	1.637	1.542	.173	1.309	.288	.329	.018	5.297	21.933
May	1.598	1.589	.182	1.334	.285	.345	.018	5.350	27.284
June	1.587	1.500	.171	1.276	.274	.339	.020	5.168	32.452
July	1.482	1.557	.177	1.316	.252	.388	.021	5.193	37.645
August	1.672	1.506	.170	1.317	.222	.405	.021	5.313	42.958
September	1.639	1.449	.167	1.254	.220	.396	.018	5.143	48.101
October	1.751	1.514	.174	1.327	.223	.391	.017	5.397	53.498
November	1.538	1.464	.179	1.407	.242	.378	.015	5.223	58.721
December	1.613	1.502	.185	1.517	.271	.427	.020	5.534	64.255
Total	**19.514**	**18.376**	**2.149**	**16.471**	**3.040**	**4.475**	**.232**	**64.256**	
1987 January	1.633	1.524	.187	1.545	.266	.432	.020	5.608	5.608
February	1.567	1.351	.173	1.387	.222	.396	.019	5.115	R 10.722
March	1.659	1.501	.189	1.469	.243	.403	.021	5.485	16.207
April	R 1.553	1.466	.182	1.376	.231	.362	.019	R 5.190	R 21.398
May	R 1.547	1.493	.188	1.360	.254	.371	.020	R 5.233	R 26.630
June	R 1.686	1.438	.181	1.309	.218	.395	.021	R 5.249	31.879
July	R 1.526	1.482	.187	1.339	.212	.428	.022	R 5.196	R 37.075
August	R 1.765	1.473	.186	1.359	.193	.447	.022	R 5.444	R 42.518
September	R 1.804	1.425	.181	R 1.299	.190	.429	.020	R 5.347	R 47.866
October	1.878	1.491	.189	1.368	.188	.394	.020	5.529	53.395
10-Month Total	**16.619**	**14.644**	**1.843**	**13.810**	**2.216**	**4.057**	**.205**	**53.395**	
1986 10-Month Total	**16.362**	**15.410**	**1.785**	**13.546**	**2.527**	**3.671**	**.196**	**53.498**	
1985 10-Month Total	**16.283**	**15.820**	**1.852**	**13.960**	**2.435**	**3.456**	**.170**	**53.976**	

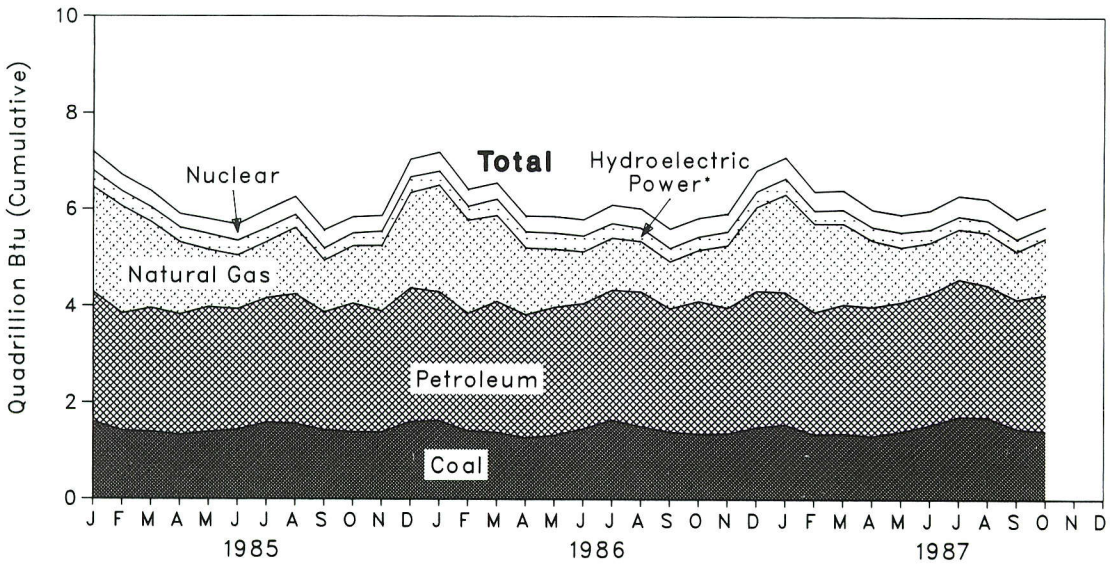
[a]Includes lease condensate.
[b]Natural gas plant liquids.
[c]Includes industrial and utility production of hydroelectric power.
[d]Other is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[e]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
R=Revised data.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Source: Energy Information Administration calculations based on data appearing elsewhere in this publication.

Figure 1.3 Consumption of Energy by Source

Yearly



Monthly



*Includes other.

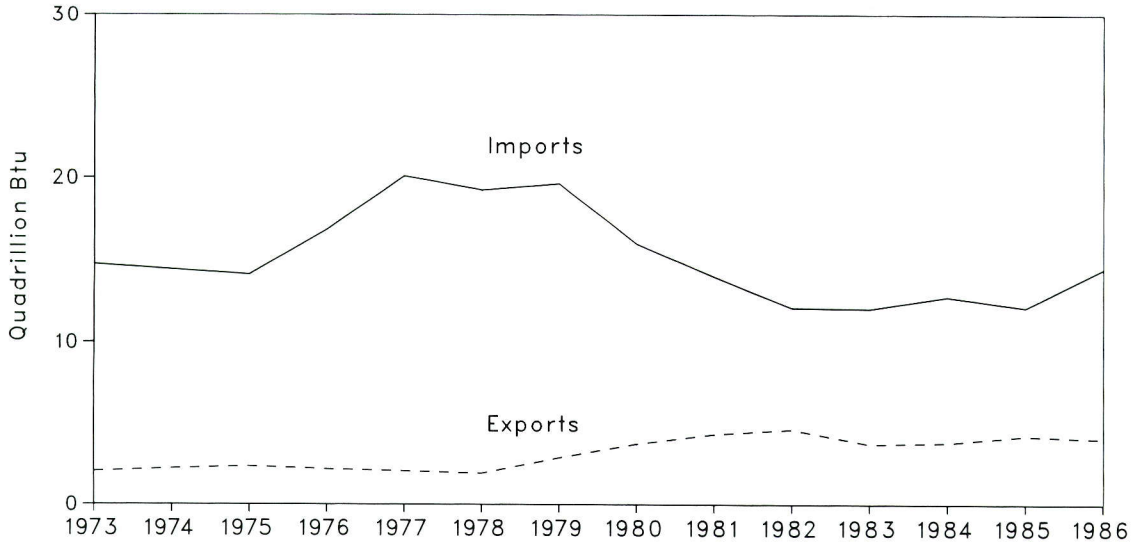
Table 1.4 Consumption of Energy by Source
(Quadrillion (10^{15}) Btu)

	Coal	Natural Gas[a]	Petro-leum	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**	**70.545**	
1976 Total	**13.584**	**20.345**	**35.175**	**3.065**	**2.111**	**.081**	**74.362**	
1977 Total	**13.922**	**19.931**	**37.122**	**2.515**	**2.702**	**.097**	**76.289**	
1978 Total	**13.765**	**20.000**	**37.965**	**3.142**	**3.024**	**.193**	**78.089**	
1979 Total	**15.039**	**20.666**	**37.123**	**3.141**	**2.776**	**.152**	**78.897**	
1980 Total	**15.423**	**20.394**	**34.202**	**3.118**	**2.739**	**.079**	**75.955**	
1981 Total	**15.908**	**19.928**	**31.931**	**3.105**	**3.008**	**.111**	**73.991**	
1982 Total	**15.322**	**18.505**	**30.231**	**3.561**	**3.131**	**.086**	**70.838**	
1983 Total	**15.898**	**17.357**	**30.054**	**3.871**	**3.203**	**.118**	**70.500**	
1984 Total	**17.074**	**18.507**	**31.051**	**3.717**	**3.553**	**.163**	**74.064**	
1985 January	1.600	2.170	2.690	.317	.391	.018	7.187	7.187
February	1.406	2.219	2.432	.295	.333	.017	6.701	13.888
March	1.386	1.776	2.567	.295	.336	.018	6.378	20.266
April	1.320	1.495	2.500	.285	.286	.016	5.902	26.168
May	1.385	1.186	2.589	.310	.310	.013	5.794	31.962
June	1.431	1.113	2.502	.287	.333	.014	5.680	37.642
July	1.585	1.157	2.577	.267	.380	.016	5.982	43.624
August	1.562	1.155	2.682	.256	.376	.017	6.048	49.672
September	1.425	1.075	2.440	.234	.373	.015	5.562	55.235
October	1.390	1.186	2.663	.245	.337	.015	5.835	61.070
November	1.386	1.356	2.505	.273	.326	.018	5.865	66.935
December	1.607	1.966	2.774	.299	.365	.021	7.032	73.966
Total	**17.482**	**17.851**	**30.922**	**3.363**	**4.147**	**.199**	**73.964**	
1986 January	1.629	2.217	2.701	.261	.391	.023	7.221	7.221
February	1.415	1.941	2.454	.271	.354	.019	6.453	13.674
March	1.385	1.783	2.732	.322	.333	.019	6.574	20.248
April	1.265	1.387	2.590	.312	.329	.018	5.902	26.150
May	1.322	1.201	2.685	.314	.345	.016	5.882	32.032
June	1.464	1.067	2.607	.302	.339	.020	5.799	37.831
July	1.648	1.062	2.737	.283	.388	.019	6.138	43.969
August	1.515	1.025	2.790	.261	.405	.016	6.011	49.980
September	1.402	.967	2.584	.255	.396	.017	5.622	55.602
October	1.356	1.046	2.787	.254	.391	.017	5.852	61.454
November	1.367	1.282	2.635	.271	.378	.012	5.945	67.399
December	1.498	1.723	2.876	.305	.427	.020	6.848	74.247
Total	**17.266**	**16.708**	**32.178**	**3.411**	**4.475**	**.215**	**74.253**	
1987 January	1.559	2.017	2.750	.308	.432	.019	7.086	7.086
February	1.354	1.827	2.535	.254	.396	.020	6.386	13.471
March	1.369	1.671	2.680	.271	.403	.019	6.413	19.884
April	1.320	1.371	2.681	.259	.362	.020	6.012	25.896
May	1.416	1.134	2.682	.287	.371	.021	5.911	31.807
June	1.550	1.048	2.732	.250	.395	.023	5.997	37.804
July	R 1.727	1.031	2.853	.247	.428	.022	R 6.308	R 44.112
August	R 1.715	1.077	2.740	.238	.447	.022	R 6.241	R 50.353
September	R 1.480	.989	2.686	.230	.429	.024	R 5.837	R 56.191
October	1.431	1.155	2.838	.223	.394	.022	6.064	62.255
10-Month Total	**14.921**	**13.319**	**27.177**	**2.568**	**4.057**	**.212**	**62.255**	
1986 10-Month Total	**14.401**	**13.696**	**26.667**	**2.835**	**3.671**	**.183**	**61.454**	
1985 10-Month Total	**14.489**	**14.531**	**25.643**	**2.791**	**3.456**	**.160**	**61.070**	

[a]Includes supplemental gaseous fuels.
[b]Includes industrial and utility production and net imports of electricity.
[c]Other is net imports of coal coke and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[d]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
R=Revised data.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Source: Energy Information Administration calculations based on data appearing elsewhere in this publication.

Figure 1.4 Energy Imports and Exports

Yearly



Monthly

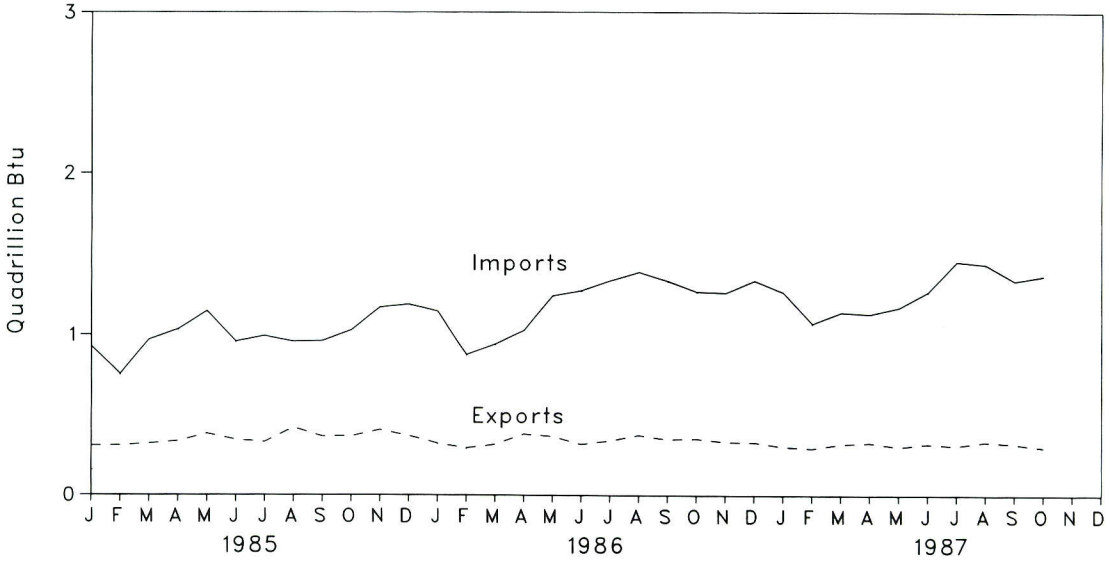


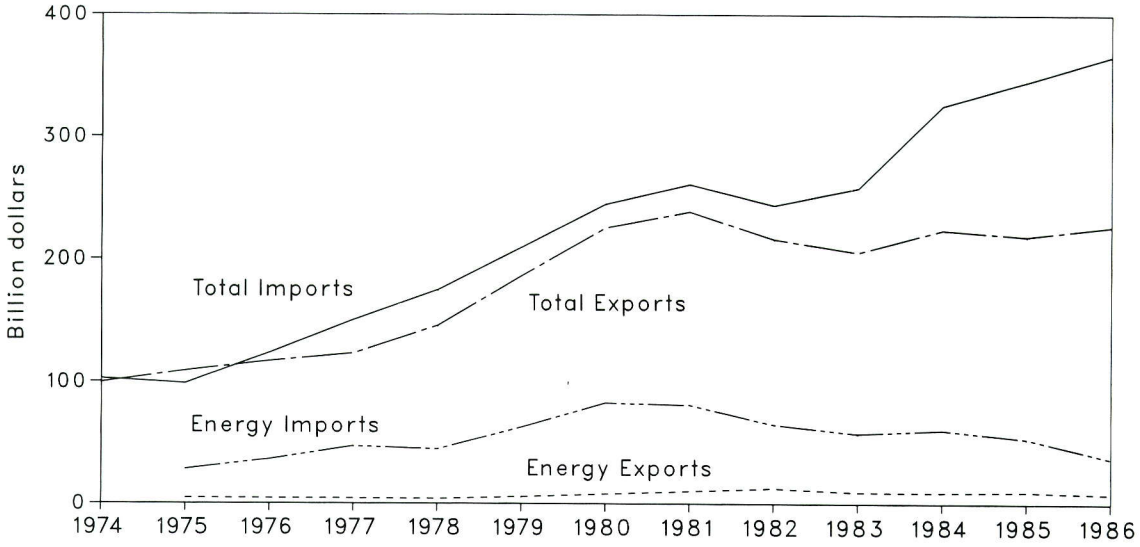
Table 1.5 Net Imports[a] of Energy by Source
(Quadrillion (10^{15}) Btu)

	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**	**.064**	**.014**	**11.752**	
1976 Total	**-1.567**	**11.221**	**3.982**	**.922**	**.089**	**0**	**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**	**.306**	**-.022**	**7.459**	
1983 Total	**-2.013**	**6.731**	**2.351**	**.887**	**.369**	**-.016**	**8.309**	
1984 Total	**-2.119**	**6.918**	**2.970**	**.792**	**.405**	**-.011**	**8.954**	
1985 January	-.150	.465	.177	.099	.030	0	.621	0.621
February	-.156	.308	.178	.094	.025	.001	.450	1.071
March	-.174	.470	.235	.084	.038	0	.653	1.724
April	-.181	.554	.228	.071	.030	.001	.702	2.427
May	-.239	.629	.271	.071	.034	-.003	.764	3.191
June	-.205	.519	.210	.060	.037	-.002	.618	3.809
July	-.188	.551	.208	.053	.044	-.002	.666	4.475
August	-.268	.520	.185	.056	.047	-.001	.539	5.014
September	-.208	.519	.196	.058	.038	-.003	.600	5.614
October	-.227	.563	.223	.071	.035	-.001	.664	6.278
November	-.211	.650	.223	.072	.033	-.003	.764	7.043
December	-.183	.633	.237	.101	.034	-.001	.821	7.863
Total	**-2.389**	**6.381**	**2.570**	**.894**	**.423**	**-.013**	**7.866**	
1986 January	-.152	.607	.240	.094	.037	0	.825	.825
February	-.130	.464	.152	.071	.028	0	.585	1.409
March	-.159	.509	.206	.050	.025	-.001	.630	2.040
April	-.213	.636	.164	.037	.025	0	.648	2.687
May	-.220	.760	.262	.049	.029	-.003	.877	3.564
June	-.188	.779	.303	.038	.028	0	.960	4.524
July	-.200	.853	.274	.042	.031	-.002	.998	5.522
August	-.199	.847	.288	.045	.039	-.006	1.015	6.537
September	-.211	.863	.250	.049	.035	0	.986	7.523
October	-.187	.782	.227	.064	.031	-.001	.916	8.439
November	-.167	.797	.210	.064	.029	-.003	.929	9.369
December	-.167	.779	.279	.084	.034	-.001	1.008	10.376
Total	**-2.193**	**8.676**	**2.855**	**.686**	**.371**	**-.017**	**10.378**	
1987 January	-.141	.785	.181	.096	E .043	-.001	.963	.963
February	-.120	.595	.194	.076	E .032	.001	.778	1.742
March	-.167	.655	.225	.082	E .028	-.002	.822	2.563
April	-.158	.686	.181	.064	E .028	0	.801	3.365
May	-.169	.764	.185	.055	E .033	0	.869	4.233
June	-.190	.828	.224	.052	E .032	.002	.948	5.181
July	-.171	.936	.286	.060	E .035	0	1.146	6.328
August	-.199	.976	.231	.052	E .045	.001	1.104	7.432
September	-.171	.880	.213	.050	E .040	.004	1.016	8.448
October	-.172	.922	.209	.074	E .036	.002	1.070	9.518
10-Month Total	**-1.658**	**8.027**	**2.132**	**.658**	**E .352**	**.007**	**9.518**	
1986 10-Month Total	**-1.858**	**7.100**	**2.366**	**.537**	**.308**	**-.013**	**8.439**	
1985 10-Month Total	**-1.995**	**5.099**	**2.110**	**.718**	**.356**	**-.010**	**6.278**	

[a]Net imports equals imports minus exports. Minus sign indicates exports are greater than imports.
[b]Includes crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.
[c]Includes petroleum products, unfinished oils, pentanes plus, and gasoline blending components.
[d]Assumed to be hydroelectricity.
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.
Source: Energy Information Administration calculations based on data appearing elsewhere in this publication.

Figure 1.5 Merchandise Trade Value

Yearly



Monthly

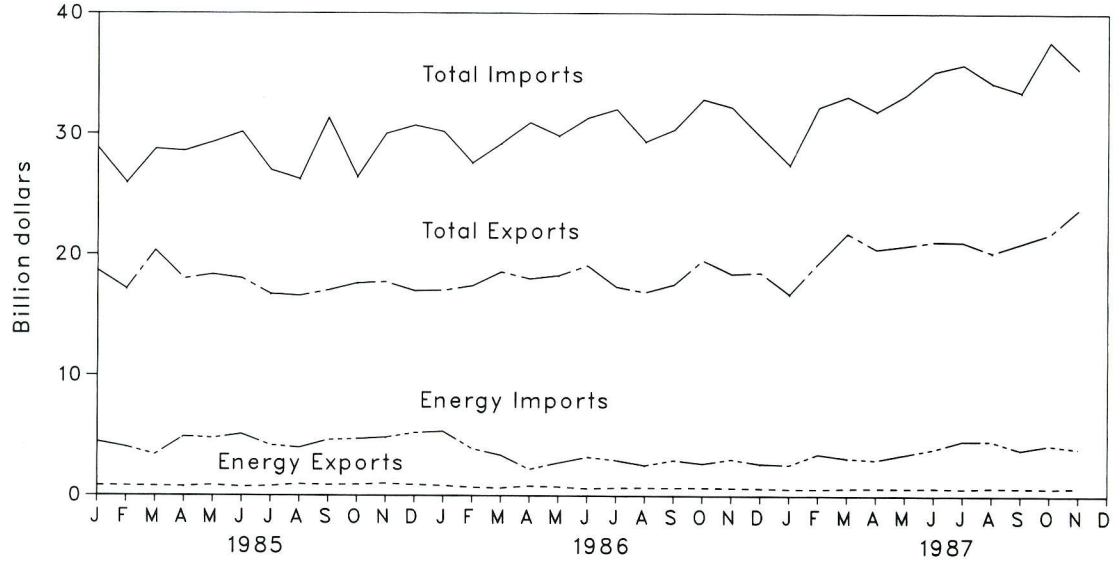


Table 1.6 Merchandise Trade Value
(Million Dollars)

	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 January	804	16,624	17,428	4,434	24,402	28,836	-3,630	-7,778	-11,408
February	786	17,060	17,846	3,989	21,952	25,941	-3,203	-4,892	-8,095
March	754	19,011	19,765	3,351	25,374	28,725	-2,597	-6,363	-8,960
April	738	17,246	17,984	4,876	23,696	28,572	-4,138	-6,450	-10,588
May	837	18,078	18,915	4,748	24,554	29,302	-3,911	-6,476	-10,387
June	708	17,360	18,068	5,088	25,048	30,136	-4,380	-7,688	-12,068
July	760	15,793	16,553	4,146	22,854	27,000	-3,386	-7,061	-10,447
August	934	15,467	16,401	3,937	22,310	26,247	-3,003	-6,843	-9,846
September	868	15,922	16,790	4,597	26,752	31,349	-3,729	-10,830	-14,559
October	903	16,965	17,868	4,699	23,730	28,429	-3,796	6,765	10,561
November	991	16,752	17,743	4,824	25,186	30,010	-3,833	-8,434	-12,267
December	888	16,529	17,417	5,228	25,500	30,728	-4,340	-8,971	-13,311
Total	**9,971**	***208,844**	***218,815**	**53,917**	**291,359**	**345,276**	**-43,946**	***-82,515**	***-126,461**
1986 January	812	16,229	17,041	5,344	24,746	30,090	-4,532	-8,517	-13,049
February	676	16,725	17,401	3,874	23,647	27,521	-3,198	-6,922	-10,120
March	622	17,935	18,557	3,331	26,072	29,403	-2,709	-8,137	-10,846
April	791	17,210	18,001	2,176	28,722	30,898	-1,385	-11,512	-12,897
May	728	17,542	18,270	2,700	27,334	30,034	-1,972	-9,791	-11,763
June	584	18,508	19,092	3,185	27,757	30,942	-2,601	-9,249	-11,850
July	653	16,693	17,346	2,933	28,915	31,848	-2,280	-12,222	-14,502
August	661	16,234	16,895	2,511	26,971	29,482	-1,850	-10,737	-12,587
September	657	16,874	17,531	2,933	27,875	30,808	-2,276	-11,001	-13,277
October	670	18,892	19,562	2,662	30,109	32,771	-1,992	-11,218	-13,210
November	641	17,770	18,411	3,014	29,399	32,413	-2,373	-11,629	-14,002
December	620	17,903	18,523	2,647	27,207	29,854	-2,027	-9,304	-11,331
Total	**8,115**	***218,693**	***226,808**	**37,310**	**328,753**	**366,063**	**-29,195**	***-110,060**	***-139,255**
1987 January	573	16,182	16,755	2,564	24,902	27,466	-1,991	-8,720	-10,711
February	564	18,796	19,360	3,440	28,867	32,307	-2,876	-10,070	-12,946
March	620	21,156	21,776	3,120	30,077	33,197	-2,500	-8,921	-11,421
April	633	19,863	20,496	2,979	29,004	31,983	-2,346	-9,141	-11,487
May	623	20,161	20,784	3,425	29,888	33,313	-2,802	-9,727	-12,529
June	654	20,472	21,126	3,895	31,371	35,266	-3,241	-10,899	-14,140
July	605	20,403	21,008	4,593	31,251	35,844	-3,988	-10,848	-14,836
August	675	19,547	20,222	4,582	29,738	34,320	-3,907	-10,191	-14,098
September	657	20,329	20,986	3,830	29,743	33,573	-3,173	-9,414	-12,587
October	630	21,122	21,752	4,240	33,474	37,714	-3,610	-12,352	-15,962
November	660	23,139	23,799	3,940	31,534	35,474	-3,280	-8,396	-11,676
11-Month Total	**6,869**	**221,195**	**228,064**	**40,608**	**329,849**	**370,457**	**-33,739**	**-108,654**	**-142,393**

*Annual export totals for 1985 and 1986 incorporate adjustments to account for undocumented U.S. exports to Canada; monthly export data for 1985 and 1986 do not incorporate similar adjustments and, consequently, do not sum to the annual totals presented here. The adjustments to the annual export data are reflected in four data series: "Exports - All Other," "Exports - Total," "Trade Balance - All Other," and "Trade Balance - Total." Beginning with January 1987, adjustments to reflect the value of undocumented U.S. exports to Canada are incorporated in the monthly data.

NA=Not available.

Notes: • In accordance with current Bureau of the Census procedures, 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 Quarterly Energy Consumption per Dollar of Gross National Product (Seasonally Adjusted at Annual Rates)

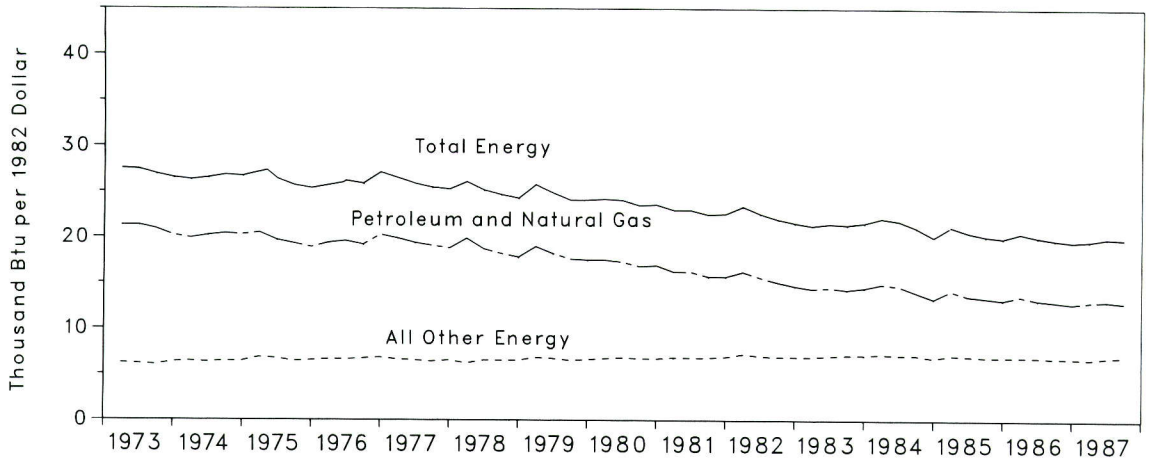


Table 1.7 Energy Consumption per Dollar of Gross National Product (Seasonally Adjusted at Annual Rates)

	Energy Consumption[a]	Gross National Product (GNP)	Energy Consumption per Dollar of GNP		
			Total Energy	Petroleum and Natural Gas	All Other Energy
	Quadrillion Btu	Trillion 1982 Dollars	Thousand Btu per 1982 Dollar		
1973 Year	**74.282**	**2.744**	**27.1**	**20.9**	**6.2**
1974 Year	**72.543**	**2.729**	**26.6**	**20.2**	**6.4**
1975 Year	**70.545**	**2.695**	**26.2**	**19.5**	**6.7**
1976 Year	**74.362**	**2.827**	**26.3**	**19.6**	**6.7**
1977 Year	**76.289**	**2.959**	**25.8**	**19.3**	**6.5**
1978 Year	**78.089**	**3.115**	**25.1**	**18.6**	**6.5**
1979 Year	**78.897**	**3.192**	**24.7**	**18.1**	**6.6**
1980 Year	**75.955**	**3.187**	**23.8**	**17.1**	**6.7**
1981 Year	**73.991**	**3.249**	**22.8**	**16.0**	**6.8**
1982 Year	**70.838**	**3.166**	**22.4**	**15.4**	**7.0**
1983 Year	**70.500**	**3.279**	**21.5**	**14.5**	**7.0**
1984 Year	**74.064**	**3.501**	**21.2**	**14.2**	**7.0**
1985 1st Quarter[b]	75.786	3.569	21.2	14.1	7.1
2nd Quarter[b]	73.886	3.587	20.6	13.6	7.0
3rd Quarter[b]	73.075	3.623	20.2	13.3	6.9
4th Quarter[b]	73.155	3.651	20.0	13.1	6.9
Year	**73.964**	**3.608**	**20.5**	**13.5**	**7.0**
1986 1st Quarter[b]	75.831	3.699	20.5	13.6	6.9
2nd Quarter[b]	74.468	3.705	20.1	13.2	6.9
3rd Quarter[b]	73.702	3.718	19.8	13.0	6.8
4th Quarter[b]	73.024	3.732	19.6	12.8	6.8
Year	**74.253**	**3.713**	**20.0**	**13.2**	**6.8**
1987 1st Quarter[b]	74.460	3.772	19.7	13.0	6.7
2nd Quarter[b]	75.880	3.795	20.0	13.1	6.9
3rd Quarter[b]	R 76.301	R 3.836	19.9	12.9	7.0

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

[b]Quarterly 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

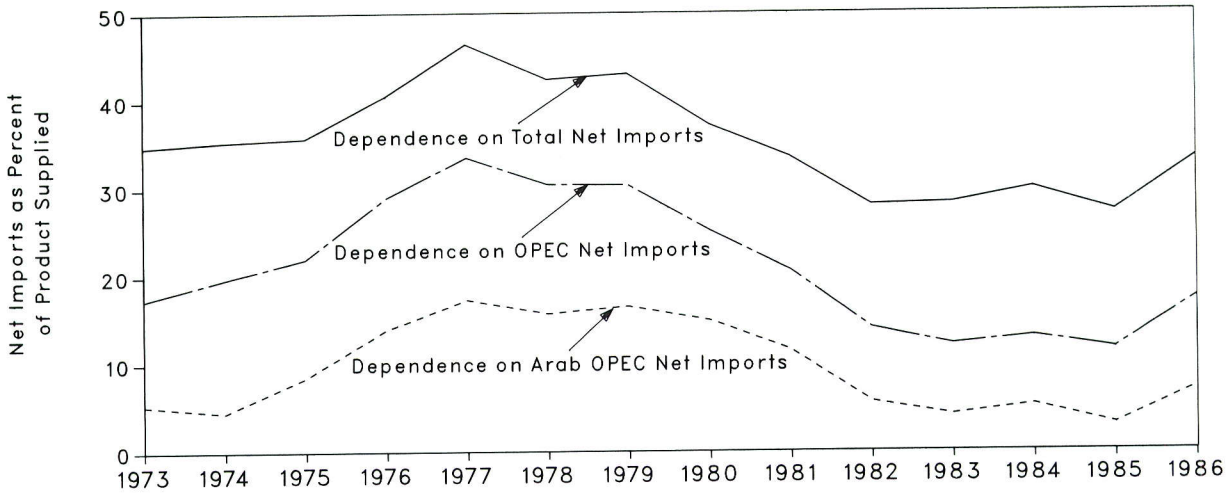


Table 1.8 U.S. Dependence on Petroleum Net Imports[a]

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**	**2,136**	**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 1st Quarter	331	1,371	3,570	15,859	2.1	8.6	22.5
2nd Quarter	529	1,857	4,625	15,486	3.4	12.0	29.9
3rd Quarter	288	1,780	4,135	15,536	1.9	11.5	26.6
4th Quarter	730	2,266	4,803	16,025	4.6	14.1	30.0
Average	**470**	**1,821**	**4,286**	**15,726**	**3.0**	**11.6**	**27.3**
1986 1st Quarter	845	2,086	4,177	16,183	5.2	12.9	25.8
2nd Quarter	1,131	2,766	5,504	15,996	7.1	17.3	34.4
3rd Quarter	1,359	3,337	6,310	16,282	8.3	20.5	38.8
4th Quarter	1,300	3,105	5,749	16,656	7.8	18.6	34.5
Average	**1,160**	**2,828**	**5,439**	**16,281**	**7.1**	**17.4**	**33.4**
1987 1st Quarter	1,067	2,551	5,041	16,344	6.5	15.6	30.8
2nd Quarter	955	2,669	5,415	16,426	5.8	16.2	33.0
3rd Quarter	1,478	3,540	6,571	16,619	8.9	21.3	39.5

[a]Beginning in October 1977, Strategic Petroleum Reserves are included.

[b]Net imports equals imports minus exports. Imports from members of the Organization of Petroleum Exporting Countries (OPEC) exclude indirect imports, which are petroleum products imported primarily from Caribbean and West European areas and refined from crude oil produced by OPEC.

[c]The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

[d]OPEC 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 (1972) Dollars

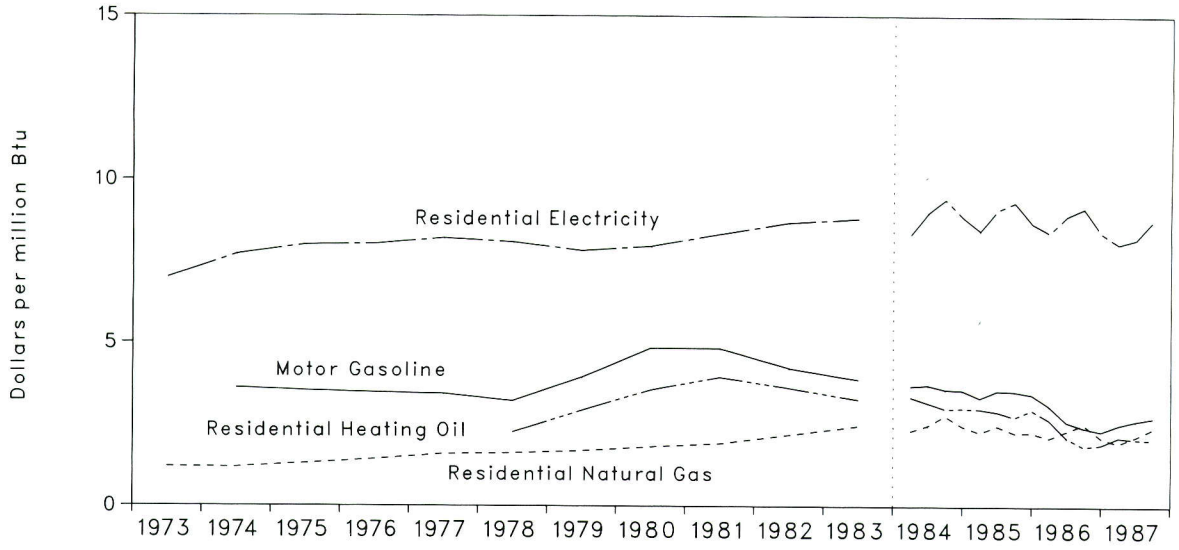


Table 1.9 Cost of Fuels to End Users in Constant (1972) Dollars[a]

	Leaded Regular Motor Gasoline		Residential Heating Oil		Residential Natural Gas		Residential Electricity[b]	
	Cent/Gal	$/MMBtu	Cent/Gal	$/MMBtu	Cent/Mcf	$/MMBtu	Cent/kWh	$/MMBtu
1973 Average	**NA**	**NA**	**NA**	**NA**	**121.4**	**1.19**	**2.39**	**7.00**
1974 Average	**45.1**	**3.61**	**NA**	**NA**	**121.3**	**1.18**	**2.63**	**7.71**
1975 Average	**44.1**	**3.53**	**NA**	**NA**	**132.9**	**1.30**	**2.73**	**8.00**
1976 Average	**43.4**	**3.47**	**NA**	**NA**	**145.5**	**1.43**	**2.74**	**8.03**
1977 Average	**42.9**	**3.43**	**NA**	**NA**	**162.2**	**1.59**	**2.80**	**8.21**
1978 Average	**40.1**	**3.21**	**31.4**	**2.26**	**164.2**	**1.62**	**2.76**	**8.09**
1979 Average	**49.4**	**3.95**	**40.6**	**2.93**	**171.8**	**1.69**	**2.67**	**7.83**
1980 Average	**60.5**	**4.84**	**49.4**	**3.56**	**186.8**	**1.82**	**2.72**	**7.97**
1981 Average	**60.4**	**4.83**	**54.9**	**3.96**	**197.3**	**1.92**	**2.85**	**8.35**
1982 Average	**53.0**	**4.24**	**50.3**	**3.63**	**224.1**	**2.19**	**2.97**	**8.70**
1983 Average	**48.6**	**3.89**	**45.3**	**3.27**	**254.5**	**2.47**	**3.01**	**8.82**
1984 Average	**45.5**	**3.64**	**43.9**	**3.17**	**246.5**	**2.39**	**3.04**	**8.91**
1985 1st Quarter	41.7	3.33	41.5	2.99	234.5	2.28	2.89	8.47
2nd Quarter	44.4	3.55	40.3	2.91	255.5	2.48	3.10	9.09
3rd Quarter	44.2	3.53	38.1	2.75	275.3	2.27	3.18	9.32
4th Quarter	43.0	3.44	41.2	2.97	234.5	2.28	2.97	8.70
Average	**43.4**	**3.47**	**41.0**	**2.96**	**238.0**	**2.31**	**3.03**	**8.88**
1986 1st Quarter	38.7	3.09	37.1	2.67	217.1	2.11	2.71	7.94
2nd Quarter	32.7	2.61	29.6	2.13	239.5	2.33	2.89	8.47
3rd Quarter	30.4	2.43	25.6	1.85	261.7	2.54	2.94	8.62
4th Quarter	29.0	2.32	26.5	1.91	218.6	2.12	2.76	8.09
Average	**32.7**	**2.61**	**32.2**	**2.32**	**222.4**	**2.16**	**2.83**	**8.29**
1987 1st Quarter	31.4	2.51	29.6	2.13	200.8	1.95	2.63	7.71
2nd Quarter	33.0	2.64	28.8	2.08	222.6	2.16	2.78	8.15
3rd Quarter	34.2	2.73	28.6	2.06	247.6	2.41	2.84	8.32

[a]Fuel costs shown on this page are calculated using the Urban Consumer Price Index developed by the Bureau of Labor Statistics. See Note 6 at end of section.

[b]Calculated from Table 9.9 "Old Series" for 1973 through 1985 and "New Series" for 1986 forward.

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.

Sources: See end of section.

Figure 1.9 Passenger Car Efficiency

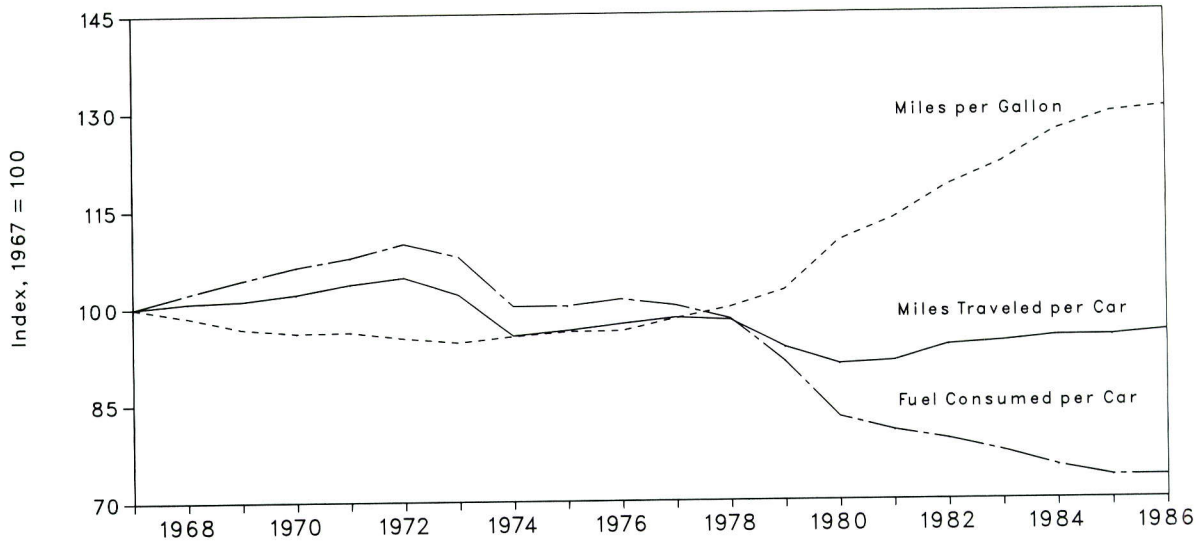


Table 1.10 Passenger Car Efficiency

	Average Fuel Consumed per Car		Average Miles Traveled per Car		Average Miles Traveled per Gallon of Fuel Consumed	
	Gallons	Index	Miles	Index	Miles	Index
1967	715	100.0	10,060	100.0	14.07	100.0
1968	731	102.2	10,144	100.8	13.87	98.6
1969	746	104.3	10,158	101.0	13.62	96.8
1970	760	106.3	10,272	102.1	13.52	96.1
1971	770	107.7	10,422	103.6	13.54	96.2
1972	785	109.8	10,521	104.6	13.40	95.2
1973	771	107.8	10,256	101.9	13.30	94.5
1974	716	100.1	9,606	95.5	13.42	95.4
1975	716	100.1	9,690	96.3	13.52	96.1
1976	723	101.1	9,785	97.3	13.53	96.2
1977	716	100.1	9,879	98.2	13.80	98.1
1978	701	98.0	9,835	97.8	14.04	99.8
1979	653	91.3	9,403	93.5	14.41	102.4
1980	591	82.7	9,141	90.9	15.46	109.9
1981	576	80.6	9,186	91.3	15.94	113.3
1982	566	79.2	9,428	93.7	16.65	118.3
1983	553	77.3	9,475	94.2	17.14	121.8
1984	536	75.0	9,558	95.0	17.83	126.7
1985	525	73.4	9,560	95.0	18.20	129.4
1986[a]	525	73.4	9,625	95.7	18.32	130.2

[a]Preliminary data.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

Table 1.11 Population-Weighted Heating Degree-Days[a]

Census Divisions	December 1 through December 31					Cumulative July 1 through December 31				
				Percent Change					Percent Change	
	Normal[b]	1986	1987	Normal to 1987	1986 to 1987	Normal[b]	1986	1987	Normal to 1987	1986 to 1987
New England CT, ME, MA, NH, RI, VT	1,098	1,016	1,012	-7.8	-0.4	2,419	2,517	2,435	0.7	-3.3
Middle Atlantic NJ, NY, PA	1,013	931	907	-10.5	-2.6	2,138	2,117	2,089	-2.3	-1.3
East North Central IL, IN, MI, OH, WI	1,126	1,054	993	-11.8	-5.8	2,361	2,400	2,312	-2.1	-3.7
West North Central IA, KS, MN, MO, NE, ND, SD	1,208	1,108	1,081	-10.5	-2.4	2,543	2,621	2,454	-3.5	-6.4
South Atlantic DE, FL, GA, MD and DC, NC, SC, VA, WV	593	551	518	-12.6	-6.0	1,146	1,030	1,103	-3.8	7.1
East South Central AL, KY, MS, TN	700	733	603	-13.9	-17.7	1,384	1,291	1,289	-6.9	-.2
West South Central AR, LA, OK, TX	506	546	469	-7.3	-13.9	893	950	834	-6.6	-12.1
Mountain AZ, CO, ID, MT, NV, NM, UT, WY	944	938	982	4.0	4.7	2,194	2,266	2,168	-1.2	-4.3
Pacific CA, OR, WA	557	535	601	7.9	12.3	1,189	1,156	1,139	-4.2	-1.5
U.S. Average[c]	**846**	**803**	**774**	**-8.5**	**-3.6**	**1,757**	**1,752**	**1,706**	**-2.9**	**-2.6**

[a]See Note 7 at end of section.
[b]Normal is based on calculations of data from 1951 through 1980.
[c]Excludes Alaska and Hawaii.
Source: See end of section.

Notes and Sources for the Energy Summary Section

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 Conversion Factors section of this publication.

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 Conversion Factors section of this publication.

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 Conversion Factors section of this publication. 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 Conversion Factors section of this publication. 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" represent general imports (i.e., entries for immediate consumption, entries into customs bonded warehouses, and entries for the Strategic Petroleum Reserve). The statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. customs territory (which includes the 50 United States, the District of Columbia, and Puerto Rico) and the Virgin Islands. The statistics exclude imports into Guam, American Samoa, and other U.S. possessions, as well as shipments between the United States and Puerto Rico and the Virgin Islands, between the United States and other U.S. possessions, and between any two of those outlying areas.

6. The Consumer Price Index: The Consumer Price Index, All Urban Consumers, All Items, for 1967=100.0 is rebased to 1972=100.0 by the Energy Information Administration. The values are:

1972	100.0	1985:	1st Quarter	253.3
1973	106.2		2nd Quarter	256.3
1974	117.9		3rd Quarter	258.3
1975	128.7		4th Quarter	260.6
1976	136.1		Year	257.1
1977	144.9	1986:	1st Quarter	261.2
1978	155.9		2nd Quarter	260.6
1979	173.5		3nd Quarter	262.5
1980	197.0		4th Quarter	264.0
1981	217.4		Year	262.1
1982	230.7	1987:	1st Quarter	267.0
1983	238.1		2nd Quarter	270.4
1984	248.3		3rd Quarter	273.4

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.

Sources

Merchandise Trade Value: 1974 through 1980: U.S. Department of Commerce, 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 U.S. Department of Commerce, 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: U.S. Department of Commerce, Bureau of the Census, "Summary of U.S. Export and Import Merchandise Trade," most recent monthly issue.

Gross National Product: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business.*

U.S. Dependence on Petroleum Net Imports: Imports and products supplied--Section 3 of this publication. Exports--1973 through 1976: Bureau of Mines, *Mineral Industry Surveys* ; 1977 through 1980: Energy Information Administration (EIA), *Energy Data Reports* , "Petroleum Statement, Annual"; 1981-1985: EIA, *Petroleum Supply Annual.* 1986: EIA, *Petroleum Supply Monthly.*

Cost of Fuels to End Users in Constant (1972) Dollars:

- Leaded Regular Motor Gasoline--Bureau of Labor Statistics (BLS).
- Residential Heating Oil--EIA, 1983 forward: EIA Form-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report" and EIA Form-782B, "Resellers/Retailers' Monthly Petroleum Product Sales Report." Prices prior to 1983 are EIA estimates using data from FEA Form P112-M1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report" and EIA Form 9-A, "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--EIA, Annual data from Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition." Monthly data from Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."
- Residential Electricity--Federal Energy Regulatory Commission (FERC), 1973 through February 1980: FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 forward: FERC Form 5, "Electric Utility Company Monthly Statement."
- Deflator (The Urban Consumer Price Index)--BLS.

Passenger Car Efficiency: Indices are prepared from statistics published by the U.S. Department of Transportation, Federal Highway Administration, Federal Highway Statistics Division, "Highway Statistics Summary to 1985," Table VM-201A and preliminary data for 1986.

Section 2. Consumption

Total U.S. energy consumption in October 1987 was 6.1 quadrillion Btu. Petroleum products accounted for 47 percent[1] of the energy consumed in October 1987, while coal accounted for 24 percent, and natural gas accounted for 19 percent.

Residential and commercial sector consumption was 2.0 quadrillion Btu in October 1987, up 4 percent from the October 1986 level. The sector accounted for 33 percent of October 1987 total consumption, about the same share as in October 1986.

Industrial sector consumption was 2.2 quadrillion Btu in October 1987, up 5 percent from the October 1986 level. The industrial sector accounted for 37 percent of October 1987 total consumption, about the same share as in October 1986.

Transportation sector consumption of energy was 1.8 quadrillion Btu in October 1987, up 3 percent from the October 1986 level. The sector consumed 30 percent of October 1987 total consumption, down 1 percent from its 31-percent share in October 1986.

Electric utility consumption of energy totaled 2.2 quadrillion Btu in October 1987, up 1 percent from the October 1986 level. Coal contributed almost 56 percent of the energy consumed by electric utilities in October 1987, while nuclear electric power contributed 18 percent; natural gas, 11 percent; hydroelectric power, 10 percent; petroleum products, about 3 percent; and wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, about 1 percent.

Table 2.1 Energy Consumption Summary for October 1987
(Quadrillion (10^{15}) Btu)

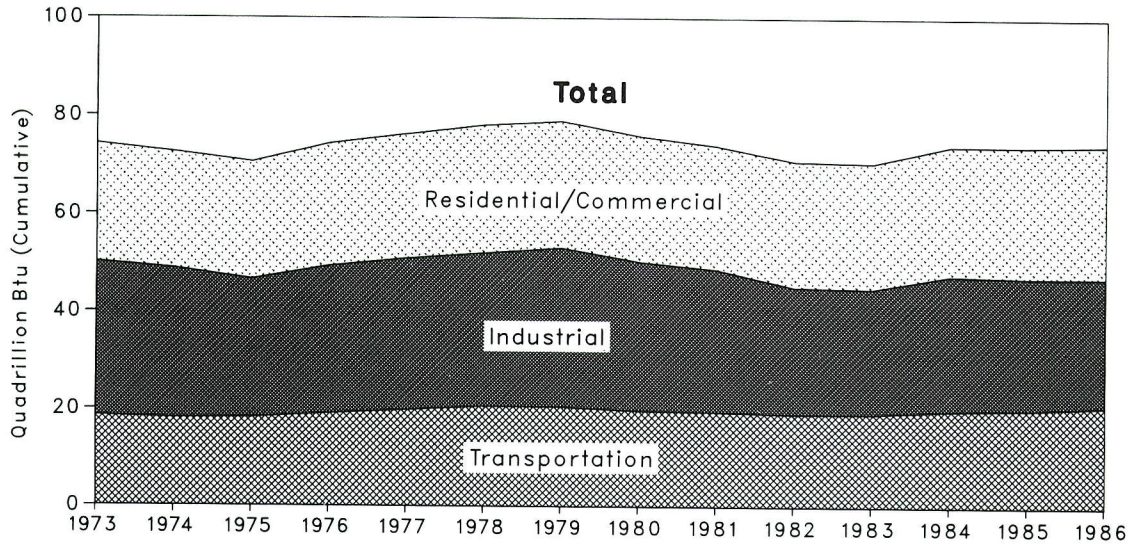
Energy Source	Sector				Total
	Residential and Commercial	Industrial	Transportation	Electric Utilities	
Coal	0.016	0.208	[a]	1.205	1.431
Natural Gas[b]	.367	.501	0.040	.246	1.155
Petroleum Products	.234	.732	1.800	.073	2.838
Hydroelectric Power	-	.002	-	.221	.223
Nuclear Electric Power	-	-	-	.394	.394
Net Imports of Coal Coke	-	.002	-	-	.002
Other[c]	-	-	-	.020	.020
Primary Consumption	**.617**	**1.446**	**1.840**	**2.160**	**6.064**
Electricity	.421	.249	.001		
Net Energy Consumption	**1.038**	**1.695**	**1.841**		**4.575**
Electrical System Energy Losses	.934	.552	.002		1.489
Total Energy Consumption[d]	**1.973**	**2.247**	**1.843**		**6.064**

[a]Small amounts of coal consumed for transportation are reported as industrial sector consumption.
[b]Includes supplemental gaseous fuels. Transportation sector is pipeline fuel only.
[c]Other is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[d]Excludes wood, waste, geothermal, wind, photovotaic, 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.
Additional Notes and Sources: See end of section.

[1]Percentage changes are calculated using unrounded data.

Figure 2.1 Consumption of Energy by End-Use Sector

Yearly



Monthly

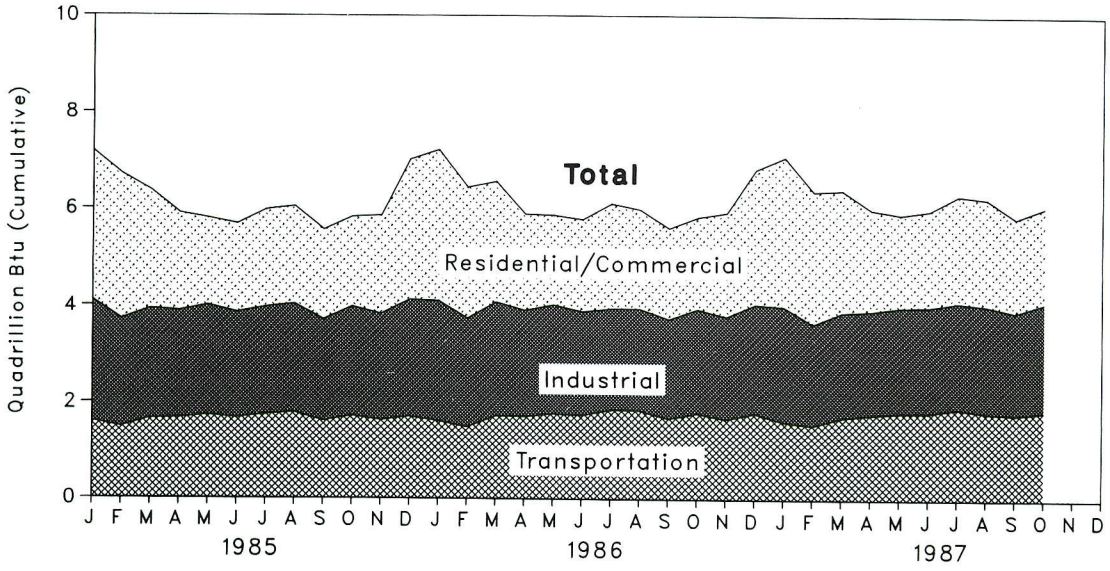


Table 2.2 Consumption of Energy by End-Use Sector
(Quadrillion (10^{15}) Btu)

	Residential and Commercial	Industrial	Transportation	Total
1973 Total	**24.142**	**31.536**	**18.595**	**74.282**
1974 Total	**23.724**	**30.697**	**18.113**	**72.543**
1975 Total	**23.900**	**28.405**	**18.240**	**70.545**
1976 Total	**25.019**	**30.240**	**19.094**	**74.362**
1977 Total	**25.387**	**31.086**	**19.808**	**76.289**
1978 Total	**26.088**	**31.411**	**20.589**	**78.089**
1979 Total	**25.809**	**32.623**	**20.464**	**78.897**
1980 Total	**25.653**	**30.607**	**19.695**	**75.955**
1981 Total	**25.244**	**29.245**	**19.496**	**73.991**
1982 Total	**25.625**	**26.136**	**19.066**	**70.838**
1983 Total	**25.617**	**25.743**	**19.133**	**70.500**
1984 Total	**26.461**	**27.721**	**19.881**	**74.064**
1985 January	3.075	2.499	1.611	7.187
February	2.980	2.233	1.488	6.701
March	2.446	2.268	1.665	6.378
April	2.014	2.213	1.680	5.902
May	1.788	2.271	1.737	5.794
June	1.817	2.181	1.681	5.680
July	2.007	2.216	1.757	5.982
August	2.009	2.241	1.797	6.048
September	1.846	2.094	1.623	5.562
October	1.853	2.255	1.728	5.835
November	2.031	2.194	1.640	5.865
December	2.899	2.413	1.717	7.032
Total	**26.764**	**27.080**	**20.123**	**73.964**
1986 January	3.117	2.481	1.623	7.221
February	2.711	2.249	1.495	6.453
March	2.494	2.351	1.732	6.574
April	1.993	2.195	1.720	5.902
May	1.856	2.249	1.781	5.882
June	1.908	2.139	1.752	5.799
July	2.177	2.091	1.863	6.138
August	2.056	2.099	1.852	6.011
September	1.879	2.051	1.689	5.622
October	1.903	2.149	1.798	5.852
November	2.149	2.115	1.680	5.945
December	2.795	2.250	1.801	6.848
Total	**27.037**	**26.419**	**20.790**	**74.253**
1987 January	3.078	2.374	1.629	7.086
February	2.737	2.094	1.552	6.386
March	2.525	2.167	1.718	6.413
April	2.100	2.140	1.775	6.012
May	1.918	2.179	1.815	5.911
June	1.984	2.188	1.820	5.997
July	R 2.204	R 2.198	1.902	R 6.308
August	R 2.199	R 2.216	1.822	R 6.241
September	R 1.933	R 2.124	1.781	R 5.837
October	1.973	2.247	1.843	6.064
10-Month Total	**22.652**	**21.927**	**17.657**	**62.255**
1986 10-Month Total	**22.094**	**22.055**	**17.305**	**61.454**
1985 10-Month Total	**21.833**	**22.473**	**16.766**	**61.070**

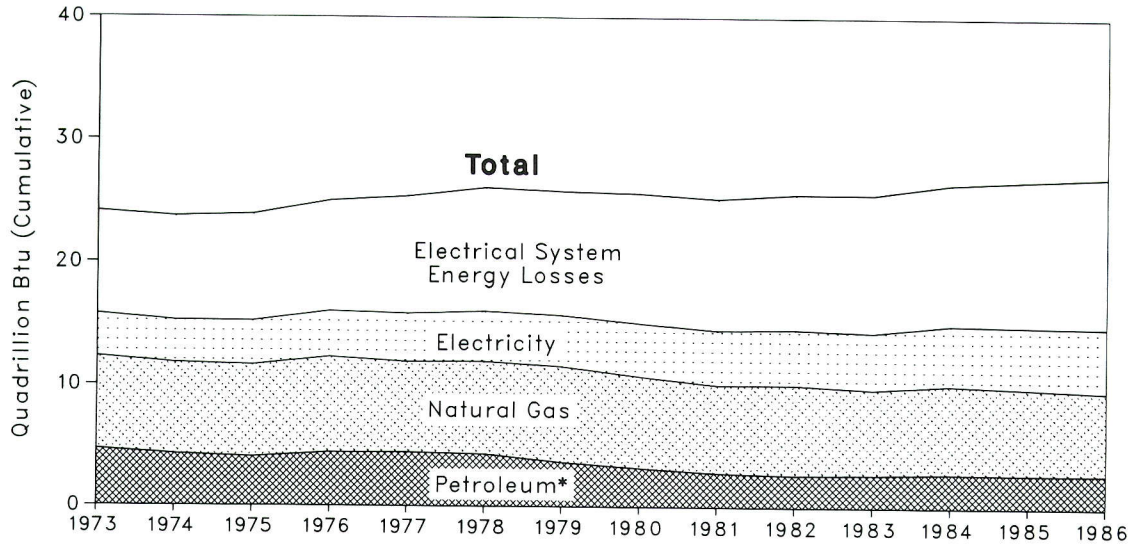
R=Revised data.

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.

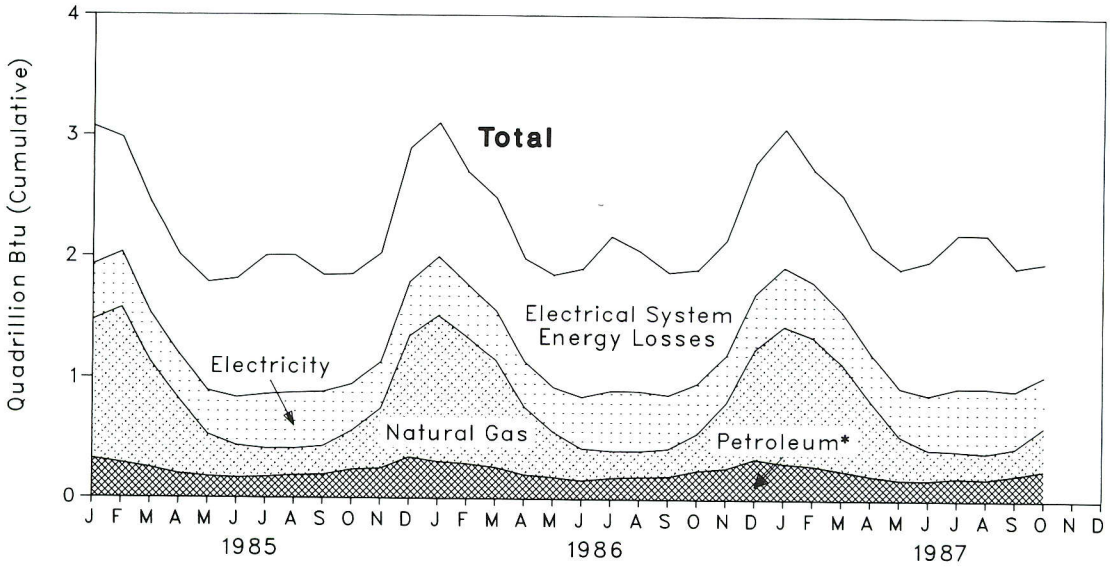
Additional Notes and Sources: See end of section.

Figure 2.2 Consumption of Energy by the Residential and Commercial Sector

Yearly



Monthly



*Includes coal.

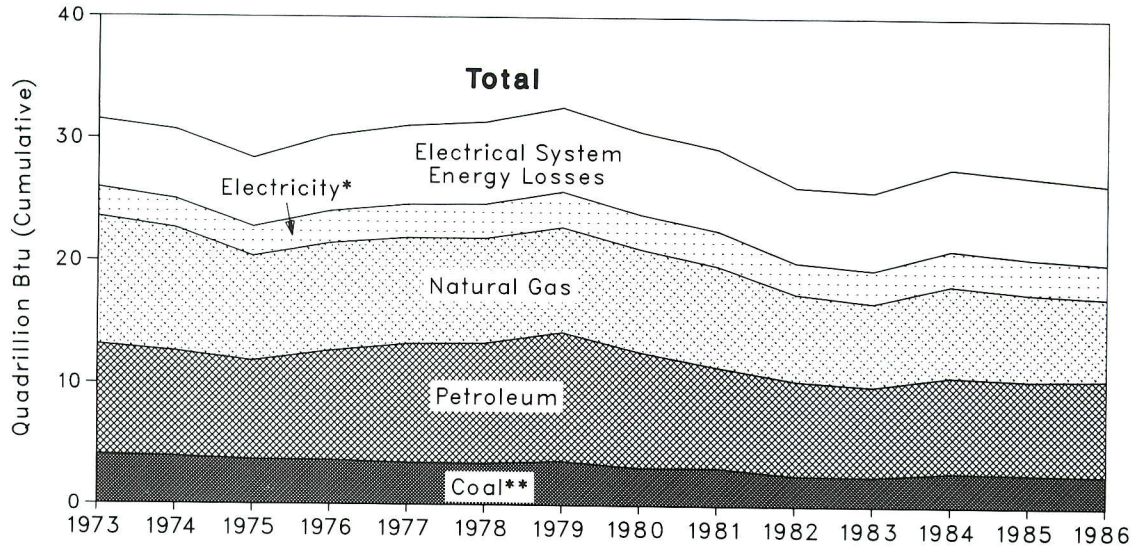
Table 2.3 Consumption of Energy by the Residential and Commercial Sector
(Quadrillion (10^{15}) Btu)

	Coal	Natural Gas[a]	Petroleum	Electricity[b]	Electrical System Energy Losses	Total[c]	Year to Date
1973 Total	**0.254**	**7.626**	**4.391**	**3.495**	**8.377**	**24.142**	
1974 Total	**.257**	**7.518**	**3.996**	**3.475**	**8.478**	**23.724**	
1975 Total	**.209**	**7.581**	**3.805**	**3.604**	**8.701**	**23.900**	
1976 Total	**.203**	**7.866**	**4.181**	**3.747**	**9.023**	**25.019**	
1977 Total	**.205**	**7.461**	**4.206**	**3.955**	**9.559**	**25.387**	
1978 Total	**.214**	**7.624**	**4.070**	**4.116**	**10.065**	**26.088**	
1979 Total	**.187**	**7.891**	**3.448**	**4.184**	**10.100**	**25.809**	
1980 Total	**.145**	**7.540**	**3.035**	**4.355**	**10.578**	**25.653**	
1981 Total	**.168**	**7.243**	**2.634**	**4.497**	**10.703**	**25.244**	
1982 Total	**.188**	**7.427**	**2.449**	**4.566**	**10.994**	**25.625**	
1983 Total	**.196**	**7.024**	**2.499**	**4.680**	**11.218**	**25.617**	
1984 Total	**.212**	**7.292**	**2.582**	**4.922**	**11.453**	**26.461**	
1985 January	.019	1.151	.299	.458	1.148	3.075	3.075
February	.017	1.289	.267	.459	.948	2.980	6.054
March	.012	.883	.233	.401	.917	2.446	8.501
April	.018	.622	.179	.372	.823	2.014	10.514
May	.011	.351	.165	.367	.894	1.788	12.302
June	.008	.265	.157	.406	.979	1.817	14.119
July	.012	.233	.160	.458	1.143	2.007	16.126
August	.011	.219	.176	.471	1.131	2.009	18.135
September	.015	.234	.177	.459	.961	1.846	19.981
October	.017	.325	.217	.391	.904	1.853	21.833
November	.017	.502	.227	.382	.903	2.031	23.864
December	.022	1.011	.316	.447	1.103	2.899	26.763
Total	**.179**	**7.085**	**2.573**	**5.072**	**11.854**	**26.764**	
1986 January	.021	1.217	.281	.488	1.110	3.117	3.117
February	.018	1.060	.268	.437	.928	2.711	5.828
March	.013	.896	.244	.410	.930	2.494	8.321
April	.019	.568	.180	.375	.850	1.993	10.314
May	.011	.378	.169	.374	.924	1.856	12.170
June	.009	.261	.145	.436	1.057	1.908	14.078
July	.011	.221	.165	.507	1.272	2.177	16.256
August	.010	.212	.174	.505	1.155	2.056	18.311
September	.014	.228	.174	.454	1.009	1.879	20.190
October	.016	.310	.220	.419	.939	1.903	22.094
November	.016	.551	.240	.392	.951	2.149	24.243
December	.021	.924	.313	.454	1.083	2.795	27.038
Total	**.180**	**6.824**	**2.573**	**5.251**	**12.209**	**27.037**	
1987 January	.017	1.140	.282	.490	1.149	3.078	3.078
February	.015	1.071	.266	.452	.934	2.737	5.815
March	.011	.895	.230	.427	.962	2.525	8.341
April	.014	.628	.187	.396	.875	2.100	10.441
May	.009	.365	.162	.404	.978	1.918	12.359
June	.007	.252	.162	.460	1.103	1.984	14.343
July	R .012	.224	.175	.529	1.264	R 2.204	R 16.547
August	R .011	.213	.168	.548	1.259	R 2.199	R 18.747
September	R .015	.227	.196	.483	1.012	R 1.933	R 20.680
October	.016	.367	.234	.421	.934	1.973	22.652
10-Month Total	**.126**	**5.384**	**2.062**	**4.611**	**10.470**	**22.652**	
1986 10-Month Total	**.142**	**5.352**	**2.021**	**4.405**	**10.175**	**22.094**	
1985 10-Month Total	**.140**	**5.573**	**2.030**	**4.243**	**9.848**	**21.833**	

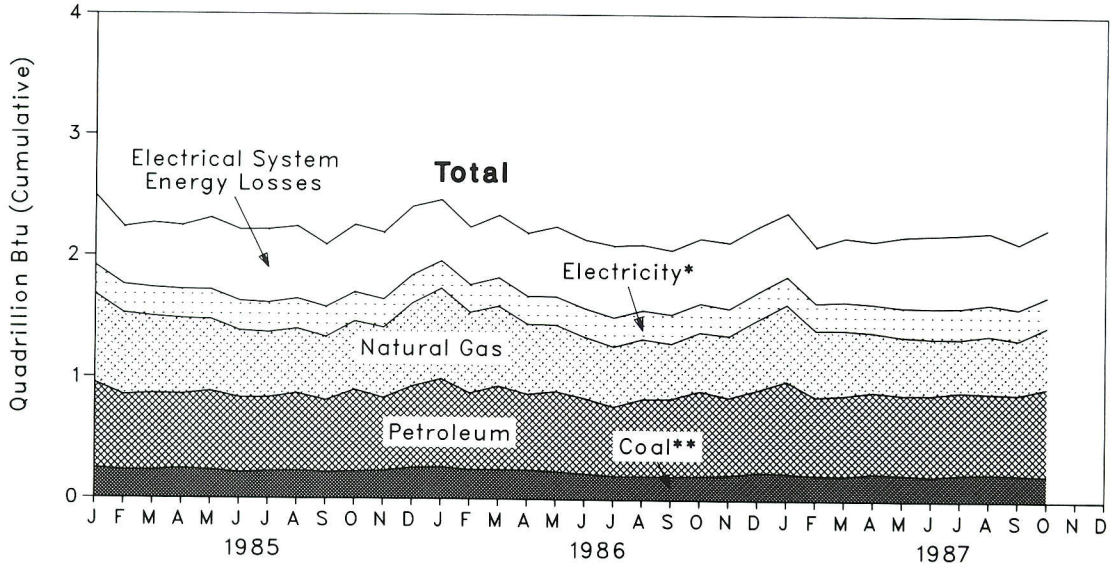
[a]Includes supplemental gaseous fuels.
[b]Includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[c]Excludes wood, waste, geothermal wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
R=Revised data.
Notes: • 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.

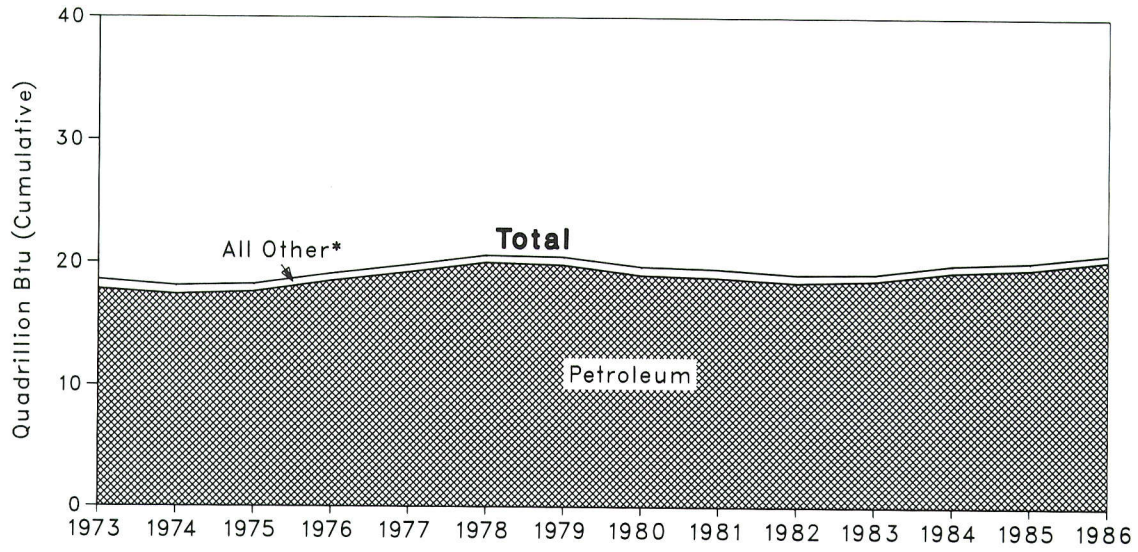
Table 2.4 Consumption of Energy by the Industrial Sector
(Quadrillion (10^{15}) Btu)

	Coal	Natural Gas[a]	Petro-leum	Hydro-electric Power	Net Imports of Coal Coke	Electricity[b]	Electrical System Energy Losses	Total[c]	Year to Date
1973 Total	**4.057**	**10.388**	**9.113**	**0.035**	**-0.007**	**2.341**	**5.611**	**31.536**	
1974 Total	**3.868**	**10.003**	**8.698**	**.033**	**.056**	**2.337**	**5.701**	**30.697**	
1975 Total	**3.666**	**8.532**	**8.151**	**.032**	**.014**	**2.346**	**5.664**	**28.405**	
1976 Total	**3.660**	**8.761**	**9.018**	**.033**	**0**	**2.573**	**6.196**	**30.240**	
1977 Total	**3.453**	**8.636**	**9.786**	**.033**	**.015**	**2.682**	**6.481**	**31.086**	
1978 Total	**3.314**	**8.539**	**9.890**	**.032**	**.125**	**2.761**	**6.751**	**31.411**	
1979 Total	**3.593**	**8.549**	**10.576**	**.034**	**.063**	**2.873**	**6.935**	**32.623**	
1980 Total	**3.155**	**8.394**	**9.524**	**.033**	**-.035**	**2.781**	**6.755**	**30.607**	
1981 Total	**3.157**	**8.257**	**8.291**	**.033**	**-.016**	**2.817**	**6.705**	**29.245**	
1982 Total	**2.552**	**7.116**	**7.795**	**.033**	**-.022**	**2.542**	**6.120**	**26.136**	
1983 Total	**2.490**	**6.821**	**7.421**	**.033**	**-.016**	**2.648**	**6.346**	**25.743**	
1984 Total	**2.842**	**7.449**	**7.889**	**.032**	**-.011**	**2.862**	**6.659**	**27.721**	
1985 January	.245	.728	.708	.003	0	.232	.582	2.499	2.499
February	.226	.671	.627	.003	.001	.230	.475	2.233	4.732
March	.227	.633	.639	.003	0	.233	.532	2.268	7.001
April	.241	.589	.620	.003	.001	.237	.524	2.213	9.214
May	.233	.549	.656	.003	-.003	.242	.591	2.271	11.485
June	.213	.516	.624	.003	-.002	.242	.584	2.181	13.666
July	.223	.534	.615	.003	-.002	.241	.601	2.216	15.882
August	.226	.529	.646	.002	-.001	.247	.592	2.241	18.123
September	.219	.518	.600	.002	-.003	.245	.512	2.094	20.217
October	.221	.562	.680	.002	-.001	.239	.553	2.255	22.473
November	.231	.576	.608	.002	-.003	.232	.548	2.194	24.667
December	.254	.683	.678	.002	-.001	.229	.567	2.413	27.080
Total	**2.760**	**7.089**	**7.702**	**.033**	**-.013**	**2.850**	**6.661**	**27.080**	
1986 January	.259	.756	.732	.003	0	.223	.507	2.481	2.481
February	.239	.673	.638	.003	0	.223	.474	2.249	4.730
March	.240	.667	.695	.003	-.001	.229	.519	2.351	7.082
April	.239	.577	.632	.003	0	.228	.517	2.195	9.277
May	.231	.545	.666	.003	-.003	.232	.574	2.249	11.526
June	.212	.499	.629	.003	0	.232	.563	2.139	13.665
July	.196	.491	.579	.003	-.002	.235	.589	2.091	15.756
August	.199	.489	.643	.002	-.006	.235	.537	2.099	17.855
September	.193	.447	.647	.002	0	.237	.526	2.051	19.906
October	.198	.474	.708	.002	-.001	.237	.531	2.149	22.055
November	.208	.499	.646	.002	-.003	.223	.540	2.115	24.170
December	.229	.569	.688	.002	-.001	.225	.537	2.250	26.420
Total	**2.643**	**6.686**	**7.904**	**.033**	**-.017**	**2.758**	**6.413**	**26.419**	
1987 January	.223	.632	.766	.003	-.001	.224	.526	2.374	2.374
February	.205	.547	.654	.003	.001	.223	.461	2.094	4.468
March	.205	.534	.672	.003	-.002	.232	.523	2.167	6.635
April	.224	.488	.679	.003	0	.232	.513	2.140	8.775
May	.216	.477	.664	.003	0	.239	.578	2.179	10.954
June	.199	.463	.680	.003	.002	.248	.593	2.188	13.142
July	R .220	.437	.686	.003	0	.252	.601	R 2.198	R 15.340
August	R .223	.475	.674	.002	.001	.255	.587	R 2.216	R 17.556
September	R .216	.447	.669	.002	.004	.254	.533	R 2.124	R 19.680
October	.208	.501	.732	.002	.002	.249	.552	2.247	21.927
10-Month Total	**2.139**	**5.001**	**6.876**	**.028**	**.007**	**2.409**	**5.467**	**21.927**	
1986 10-Month Total	**2.206**	**5.618**	**6.570**	**.028**	**-.013**	**2.310**	**5.337**	**22.055**	
1985 10-Month Total	**2.275**	**5.830**	**6.416**	**.028**	**-.010**	**2.388**	**5.546**	**22.473**	

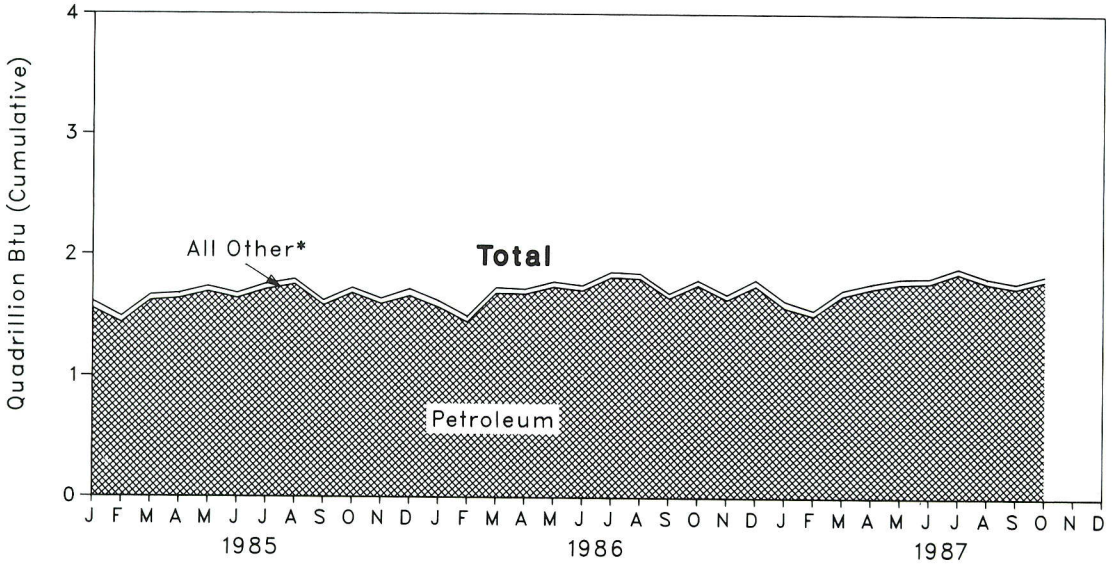
[a]Includes supplemental gaseous fuels.
[b]Includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[c]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
R=Revised data.
Notes: • 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.

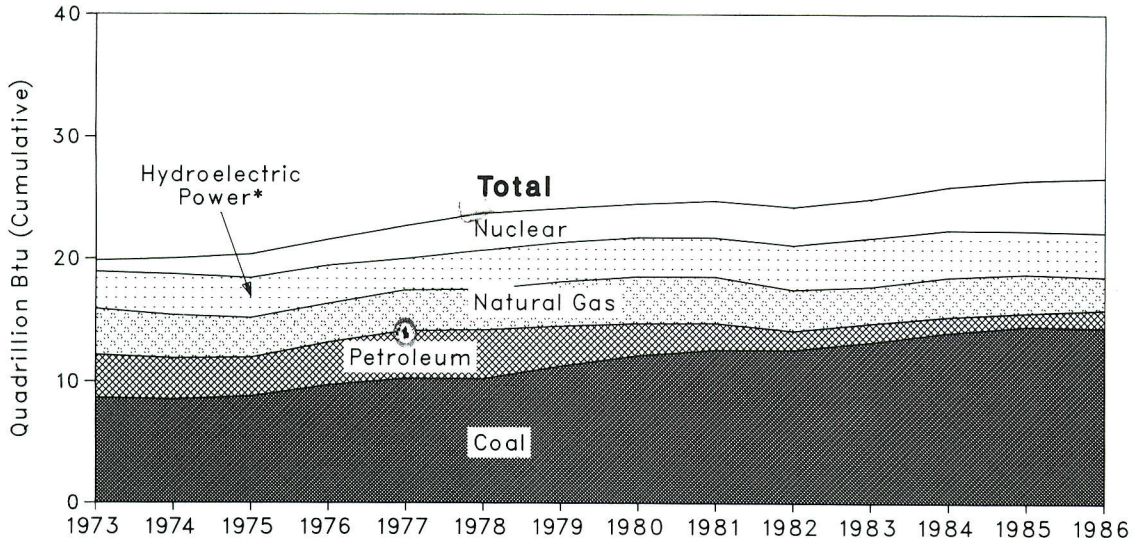
Table 2.5 Consumption of Energy by the Transportation Sector
(Quadrillion (10^{15}) Btu)

	Coal	Natural Gas[a]	Petroleum	Electricity[b]	Electrical System Energy Losses	Total[c]	Year to Date
1973 Total	**0.003**	**0.743**	**17.821**	**0.008**	**0.020**	**18.595**	
1974 Total	**.002**	**.685**	**17.396**	**.009**	**.022**	**18.113**	
1975 Total	**.001**	**.595**	**17.610**	**.010**	**.025**	**18.240**	
1976 Total	[d]	**.559**	**18.499**	**.010**	**.025**	**19.094**	
1977 Total	[d]	**.543**	**19.230**	**.010**	**.025**	**19.808**	
1978 Total	[e]	**.539**	**20.019**	**.009**	**.022**	**20.589**	
1979 Total	[e]	**.612**	**19.817**	**.010**	**.025**	**20.464**	
1980 Total	[e]	**.650**	**19.009**	**.011**	**.026**	**19.695**	
1981 Total	[e]	**.658**	**18.800**	**.011**	**.026**	**19.496**	
1982 Total	[e]	**.612**	**18.417**	**.011**	**.026**	**19.066**	
1983 Total	[e]	**.505**	**18.591**	**.011**	**.026**	**19.133**	
1984 Total	[e]	**.545**	**19.295**	**.013**	**.029**	**19.881**	
1985 January	[e]	.056	1.551	.001	.003	1.611	1.611
February	[e]	.047	1.437	.001	.002	1.488	3.099
March	[e]	.043	1.618	.001	.003	1.665	4.763
April	[e]	.040	1.636	.001	.003	1.680	6.444
May	[e]	.041	1.692	.001	.003	1.737	8.181
June	[e]	.039	1.638	.001	.003	1.681	9.862
July	[e]	.041	1.711	.001	.003	1.757	11.619
August	[e]	.040	1.753	.001	.003	1.797	13.416
September	[e]	.038	1.581	.001	.002	1.623	15.039
October	[e]	.040	1.684	.001	.003	1.728	16.766
November	[e]	.040	1.596	.001	.003	1.640	18.406
December	[e]	.053	1.661	.001	.003	1.717	20.123
Total	[e]	**.520**	**19.558**	**.014**	**.032**	**20.123**	
1986 January	[e]	.051	1.568	.001	.002	1.623	1.623
February	[e]	.044	1.448	.001	.002	1.495	3.119
March	[e]	.043	1.686	.001	.002	1.732	4.851
April	[e]	.037	1.680	.001	.002	1.720	6.571
May	[e]	.039	1.738	.001	.003	1.781	8.352
June	[e]	.038	1.710	.001	.002	1.752	10.104
July	[e]	.039	1.820	.001	.003	1.863	11.966
August	[e]	.039	1.809	.001	.002	1.852	13.819
September	[e]	.037	1.649	.001	.002	1.689	15.508
October	[e]	.039	1.755	.001	.002	1.798	17.305
November	[e]	.039	1.637	.001	.002	1.680	18.985
December	[e]	.048	1.749	.001	.003	1.801	20.786
Total	[e]	**.499**	**20.249**	**.012**	**.029**	**20.790**	
1987 January	[e]	.052	1.573	.001	.003	1.629	1.629
February	[e]	.044	1.504	.001	.002	1.552	3.181
March	[e]	.044	1.671	.001	.002	1.718	4.900
April	[e]	.041	1.730	.001	.002	1.775	6.675
May	[e]	.041	1.770	.001	.003	1.815	8.489
June	[e]	.039	1.777	.001	.003	1.820	10.309
July	[e]	.040	1.858	.001	.003	1.902	12.212
August	[e]	.040	1.778	.001	.003	1.822	14.033
September	[e]	.038	1.739	.001	.002	1.781	15.814
October	[e]	.040	1.800	.001	.002	1.843	17.657
10-Month Total	[e]	**.421**	**17.201**	**.011**	**.024**	**17.657**	
1986 10-Month Total	[e]	**.407**	**16.863**	**.010**	**.024**	**17.305**	
1985 10-Month Total	[e]	**.427**	**16.301**	**.011**	**.026**	**16.766**	

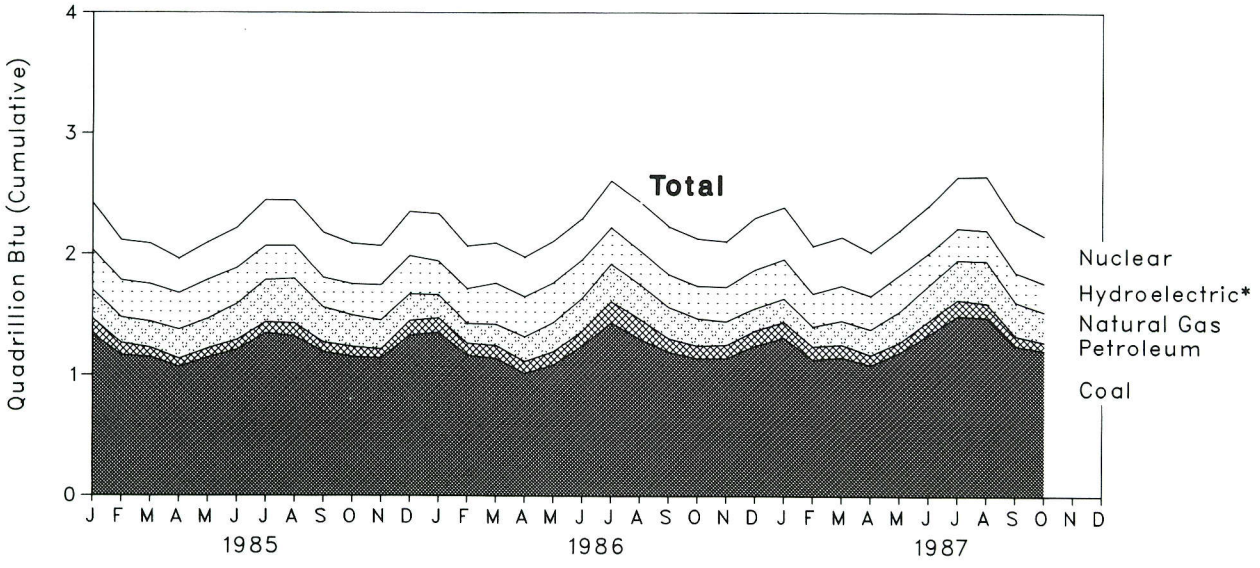
[a]Pipeline fuel only, including supplemental gaseous fuels.
[b]Includes electricity generated for distribution from wood, waste, geothermal, wind photovoltaic, and solar thermal energy.
[c]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy for small amounts used by electric utilities to generate electricity for distribution.
[d]Less than 0.5 trillion Btu.
[e]Since 1978, the small amounts of coal consumed for transportation have been reported as industrial sector consumption.
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 (10^{15}) Btu)

	Coal	Natural Gas[a]	Petro-leum[b]	Hydro-electric 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**	**19.853**	
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**	**21.573**	
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**	**3.528**	**3.131**	**.108**	**24.260**	
1983 Total	**13.213**	**2.998**	**1.544**	**3.838**	**3.203**	**.133**	**24.929**	
1984 Total	**14.020**	**3.220**	**1.286**	**3.684**	**3.553**	**.174**	**25.937**	
1985 January	1.334	.235	.132	.314	.391	.018	2.424	2.424
February	1.163	.210	.101	.292	.333	.016	2.115	4.539
March	1.148	.215	.077	.292	.336	.018	2.087	6.626
April	1.067	.243	.066	.282	.286	.016	1.959	8.585
May	1.144	.245	.075	.307	.310	.016	2.098	10.684
June	1.208	.293	.083	.283	.333	.016	2.216	12.899
July	1.347	.349	.090	.264	.380	.018	2.448	15.347
August	1.322	.368	.107	.253	.376	.018	2.445	17.793
September	1.190	.285	.082	.232	.373	.017	2.180	19.973
October	1.152	.259	.082	.242	.337	.017	2.090	22.062
November	1.138	.239	.075	.271	.326	.021	2.070	24.132
December	1.329	.218	.120	.296	.365	.022	2.350	26.482
Total	**14.542**	**3.160**	**1.090**	**3.330**	**4.147**	**.213**	**26.482**	
1986 January	1.350	.190	.119	.258	.391	.023	2.332	2.332
February	1.161	.162	.101	.268	.354	.019	2.065	4.397
March	1.136	.175	.107	.319	.333	.020	2.091	6.488
April	1.014	.205	.097	.309	.329	.018	1.973	8.461
May	1.084	.239	.111	.311	.345	.018	2.108	10.568
June	1.242	.269	.123	.299	.339	.020	2.291	12.860
July	1.434	.311	.173	.280	.388	.021	2.607	15.467
August	1.301	.286	.163	.258	.405	.021	2.434	17.901
September	1.192	.255	.115	.253	.396	.018	2.229	20.130
October	1.141	.224	.105	.252	.391	.017	2.131	22.260
November	1.142	.193	.112	.269	.378	.015	2.109	24.369
December	1.246	.181	.126	.302	.427	.020	2.303	26.672
Total	**14.444**	**2.691**	**1.452**	**3.378**	**4.475**	**.232**	**26.672**	
1987 January	1.316	.191	.129	.305	.432	.020	2.394	2.394
February	1.132	.164	.111	.251	.396	.019	2.073	4.467
March	1.152	.196	.107	.268	.403	.021	2.148	6.615
April	1.085	.213	.084	.256	.362	.019	2.020	8.634
May	1.191	.251	.086	.284	.371	.020	2.203	10.838
June	1.339	.293	.112	.247	.395	.021	2.408	13.245
July	1.491	.330	.134	.244	.428	.022	2.649	15.894
August	1.477	.350	.120	.236	.447	.022	2.652	18.547
September	1.249	.277	.082	.228	.429	.020	2.285	20.832
October	1.205	.246	.073	.221	.394	.020	2.160	22.991
10-Month Total	**12.639**	**2.512**	**1.038**	**2.540**	**4.057**	**.205**	**22.991**	
1986 10-Month Total	**12.056**	**2.317**	**1.214**	**2.807**	**3.671**	**.196**	**22.260**	
1985 10-Month Total	**12.075**	**2.703**	**.896**	**2.763**	**3.456**	**.170**	**22.062**	

[a]Includes supplemental gaseous fuels.
[b]Includes 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.
[c]Includes net imports of electricity.
[d]Other is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
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.

Notes and Sources for the Consumption Section

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 Sector-- private household establishments (which consume energy primarily for space heating, water heating, air conditioning, 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 swimming pools are also included.
- Industrial sector--manufacturing, construction, mining, agriculture, fishing, and forestry establishments.
- 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.
- Electric utility sector--privately- and publicly-owned establishments that generate electricity primarily for use by the public.

3. Conversion Factors: See the Conversion Factors section of this publication.

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), EIA Form 759 (formerly FPC Form 4), "Monthly Power Plant Report."
- Other Industrial--October 1977 through December 1979: EIA, EIA Form 3, "Monthly Fuel Consumption Report - Manufacturing Plants"; January 1980 forward: EIA, EIA Form 3, "Quarterly Fuel Consumption Report - Manufacturing Plants" and EIA Form 6, "Coal Distribution Report."
- Coke Plants--October 1977 through December 1980: EIA, EIA Form 5/5A, "Coke and Coal Chemicals - Monthly/Annual"; January 1981 forward: EIA, EIA Form 5/5A, "Coke and Coal Chemicals - Quarterly/Annual."
- Residential and Commercial--October 1977 through December 1979: EIA, EIA Form 2, "Monthly Coal Report, Retail Dealers and Upper Lake Docks"; January 1980 forward: EIA, EIA Form 6, "Coal Distribution Report."

5. Natural Gas: Natural gas consumption by end-use sector is based on data presented in Table 4.3 of this report. For Section 2 calculations, lease and plant fuel consumption are added to the industrial sector deliveries and pipeline fuel represents the transportation sector's use of natural gas. Values in Btu are derived using the conversion factors provided in the Conversion Factors section of this publication. 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 1985: EIA, *Natural Gas Annual.*
- 1986 forward: EIA, EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," and EIA computations.
- Electric utilities consumption - 1973 through 1976: FPC Form 4, "Monthly Power Plant Report." - 1977 through 1981: Federal Energy Regulatory Commission (FERC), FPC Form 4, "Monthly Power Plant Report." - 1982 forward: EIA, EIA Form 759, "Monthly Power Plant Report."
- American Gas Association, "Monthly Gas Utility Statistical Report."

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 1984: EIA, *Petroleum Supply Annual.*
- 1985 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 Utility Sector, 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 utilities.

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

Non-Electric Utility Sectors, Annual Estimates Through 1985.

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 sector deliveries are directly from the "Deliveries" reports for 1979 through 1985. 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 sector deliveries are directly from the "Deliveries" reports for 1979 through 1985. 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 sector deliveries for 1979 through 1985 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; and

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

Non-Electric Utility Sectors, Monthly Estimates Through 1985.

- Residential and commercial sector monthly consumption is estimated by allocating the annual sector 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 Energy Information Administration, Form EIA-782-A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, for 1983 through 1985.

- The transportation sector 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 sector 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 Utility Sectors, 1986 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 1985.

- **Jet Fuel**--Through 1982, small amounts of kerosene-type jet fuel were consumed by the electric utility sector. Kerosene-type jet fuel deliveries to electric utilities as reported on the FERC-423 (formerly 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 sector deliveries are directly from the "Deliveries" reports for 1979 through 1985. Deliveries for 1985 are used as estimates for suc-

ceeding 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 sector deliveries are directly from the "Deliveries" reports for 1979 through 1985. Deliveries for 1985 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

- Industrial sector deliveries are directly from the "Deliveries" reports for 1979 through 1985. Deliveries for 1985 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 that is consumed in internal combustion engines is allocated between the transportation and industrial sectors according to a 5-year moving average of the percentage of carburetors sold to each end-use category. The proportions range from 31 percent transportation and 69 percent industrial in 1973 to 63 percent transportation and 37 percent industrial in 1985.

  - 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 and 1985: 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.

  - Succeeding periods: The 1985 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 those 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, miscellaneous use, and unclassified use;

  - Industrial sales are the sum of sales for agriculture, construction, and industrial and commercial use as classified in the *Highway Statistics;* and

  - 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 the electric utility sector is from EIA Form 759, "Monthly Power Plant Report" (formerly FPC Form 4). The remaining petroleum coke is assigned to the industrial sector.

- **Residual Fuel**

  Electric Utility Sector, 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 utilities.

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

Non-Electric Utility Sectors, Annual Estimates Through 1985.

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 sector deliveries are directly from the "Deliveries" reports for 1979 through 1985. 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 sector deliveries for 1979 through 1985 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; and

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

Non-Electric Utility Sectors, Monthly Estimates Through 1985.

- 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 Energy Information Administration, Form EIA-782-A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, 1983 through 1985.

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

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

Non-Electric Utility Sectors, 1986 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 1985.

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

Sources for industrial sector:

- 1973 through 1978: FPC Form 4, *Monthly Power Plant Report* for plants with generating capacity exceeding 10 megawatts and FPC Form 12-C, *Industrial Electric Generating Capacity*, for all other plants.
- 1979: FPC Form 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 hydro- electricity generation in the electric utility industry in 1980.

Note for imports and exports of electricity:

- Monthly electricity imports and exports estimates for 1982 forward were revised in the May 1984 *MER*. The revisions do not cause discontinuity in the annual data series: the data continue to come from the same source. The monthly data series, however, are discontinuous because monthly data from January 1982 forward are now available from the same source as the annual data. Estimates for monthly values prior to 1982, published in previous issues, were developed by con-

verting the annual value to a daily rate and multiplying by the number of days in the month. Accordingly, month-to-month analyses are not comparable when taken across the transition date of January 1982. Monthly analyses on either side of that date will be comparable. There is no known bias in either the annual data or the monthly data since January 1982.

Sources for imports and exports of electricity:

- 1973 through 1980: DOE, Economic Regulatory Administration, "Report on Electric Energy Exchanges with Canada and Mexico."
- 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 through 1985: DOE, Economic Regulatory Administration, ERA-781, "Annual Report of International Electric Import/Export Data."
- 1986 forward: EIA estimates.

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 4, "Monthly Power Plant Report."
- 1977 through 1981: FERC, FPC Form 4, "Monthly Power Plant Report."
- 1982 forward: EIA, EIA Form 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: Sales of electricity represent consumption. From the sources cited below the following electricity sales categories are available: residential, commercial, industrial, and other. For the end-use estimates in this section, the "other" category (which is primarily sales for use in government buildings) is added to the commercial sector except for approximately 4 percent used by railroads and railways and accounted for in the transportation sector. Sales of electricity are converted into Btu at the rate of 3,412 Btu per kilowatthour.
Sources of sales data:

- 1973 through 1976: FPC, Form 5, "Monthly Statement of Electric Operating Revenue and Income."
- 1977 through February 1980: EIA, FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income."
- March 1980 through December 1982: EIA, FERC Form 5, "Electric Utility Company Monthly Statement."
- January 1983 forward: EIA, EIA Form 826, "Electric Utility Company Monthly Statement."

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

Domestic crude oil production during December 1987 was estimated to be 8.3 million barrels per day, slightly higher than the November 1987 rate, but slightly[2] lower than the rate in December 1986. Crude oil production during 1987 was estimated to be 8.3 million barrels per day, 4 percent less than the 1986 production average.

Total petroleum imports averaged 6.8 million barrels per day in December 1987, 2 percent less than the November 1987 rate, but 1 percent more than the December 1986 rate. Total pertroleum imports during 1987 averaged 6.5 million barrels per day, 5 percent more than the average imports during 1986.

In December 1987, 16.9 million barrels per day of petroleum products were supplied for domestic use, 5 percent more than the previous month, but 1 percent below the level 1 year earlier. Motor gasoline accounted for 42 percent of the total; distillate fuel oil, 19 percent; and residual fuel oil, 8 percent.

Motor gasoline supplied during December 1987 averaged 7.1 million barrels per day, 1 percent below the rate in November 1987 and 1 percent below the rate of the previous December. During 1987 an average of 7.2 million barrels per day of motor gasoline were supplied, 2 percent more than during 1986. Stocks of motor gasoline totaled 231 million barrels at the end of December 1987, 6 million barrels above the stock level at the end of November 1987, but 2 million barrels below the stock level 1 year earlier.

In December 1987, 3.2 million barrels of distillate fuel oil were supplied per day, 11 percent higher than the November 1987 rate, but 3 percent lower than the December 1986 rate. An average of 3.0 million barrels per day of distillate fuel oil were supplied during 1987, 1 percent higher than during 1986. Distillate fuel oil ending stocks for December 1987 were 137 million barrels, 8 million barrels higher than the previous month, but 18 million barrels lower than the December 1986 ending stock level.

Residual fuel oil supplied in December 1987 averaged 1.4 million barrels per day, 14 percent higher than in November 1987, but 18 percent lower than the December 1986 rate. The 1987 annual average of residual fuel oil supplied was 1.2 million barrels per day, 12 percent lower than the average in 1986. Residual fuel oil stocks measured 49 million barrels at the end of December 1987, 1 million barrels lower than the previous month, but 2 million barrels higher than the stock level 1 year earlier.

Estimates for the most current month are based on Energy Information Administration (EIA) weekly data (except crude production) 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 September 1987. The total import data above include imports into the Strategic Petroleum Reserve.

[2]Percentage changes are calculated using unrounded data.

Table 3.1a Crude Oil[a] and Petroleum Products Overview

	Field Production			Stock Withdrawal[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
	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**	**I 1,074**
1975 Average	**10,045**	**8,375**	**1,633**	**I -17**	**I -15**	**16,322**	**1,133**
1976 Average	**9,774**	**8,132**	**h 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**	**I 1,392**
1981 Average	**10,230**	**8,572**	**1,609**	**I -290**	**I 130**	**16,058**	**1,484**
1982 Average	**10,252**	**8,649**	**1,550**	**-136**	**283**	**15,296**	**I 1,430**
1983 Average	**10,299**	**8,688**	**1,559**	**I -214**	**I 234**	**15,231**	**1,454**
1984 Average	**10,554**	**8,879**	**1,630**	**-199**	**-81**	**15,726**	**1,556**
1985 January	10,412	8,740	1,628	76	1,351	16,109	1,512
February	10,692	9,025	1,623	425	1,347	16,121	1,462
March	10,748	9,095	1,600	-309	403	15,373	1,460
April	10,673	9,043	1,582	-520	56	15,472	1,473
May	10,770	9,132	1,594	-700	-399	15,504	1,508
June	10,664	9,022	1,597	264	-382	15,483	1,511
July	10,550	8,949	1,568	326	-496	15,434	1,516
August	10,485	8,803	1,594	159	568	16,060	1,494
September	10,584	8,954	1,575	-34	-255	15,099	1,502
October	10,637	8,970	1,610	98	124	15,944	1,496
November	10,640	8,902	1,660	-295	-634	15,503	1,523
December	10,777	9,030	1,680	-58	207	16,611	1,519
Average	**10,636**	**8,971**	**1,609**	**-50**	**153**	**15,726**	
1986 January	10,911	9,137	1,711	-383	-151	16,088	1,535
February	10,916	9,173	1,696	-37	804	16,186	1,514
March	10,664	9,013	1,604	-345	1,160	16,276	1,489
April	10,435	8,864	1,523	41	262	15,945	1,479
May	10,440	8,838	1,543	260	-1,109	15,993	1,506
June	10,187	8,623	1,504	3	-1,238	16,049	1,543
July	10,225	8,660	1,507	-541	-422	16,307	1,573
August	9,875	8,374	1,445	242	-551	16,618	1,582
September	9,852	8,328	1,468	-217	-973	15,909	1,618
October	9,954	8,419	1,477	-233	476	16,602	1,610
November	10,061	8,412	1,569	95	-147	16,221	1,612
December	9,985	8,352	1,571	186	443	17,131	1,593
Average	**10,289**	**8,680**	**1,551**	**-78**	**-124**	**16,281**	
1987 January	E 10,145	E 8,477	1,592	-189	377	16,382	1,588
February	E 10,010	E 8,318	1,625	(s)	814	16,721	1,565
March	E 10,025	E 8,349	1,607	-151	266	15,965	1,561
April	E 10,077	E 8,426	1,600	11	559	16,501	1,544
May	E 9,953	E 8,305	1,593	82	-122	15,978	1,546
June	E 9,902	E 8,263	1,590	-218	3	16,815	1,552
July	E 9,892	E 8,242	1,588	25	-385	16,996	1,563
August	E 9,829	E 8,190	1,577	-323	-678	16,325	1,594
September	E 9,845	E 8,190	1,587	-209	-276	16,533	1,609
October	E 9,972	E 8,293	1,609	-528	640	16,909	1,605
November	E 10,046	RE 8,330	1,641	R -418	R -651	R 16,064	R 1,637
December	NA	PE 8,348	NA	15	E -173	E 16,884	E 1,622
Average	**NA**	**PE 8,311**	**NA**	**-159**	**26**	**16,505**	

[a]Includes lease condensate.
[b]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[c]Stocks are totals as of end of period.
[d]Includes crude oil, natural gas plant liquids, other hydrocarbons, and alcohol.
[e]Includes stocks located in the Strategic Petroleum Reserve.
[f]Includes crude oil for storage in the Strategic Petroleum Reserve.
[g]Net imports equals imports minus exports.
[h]Due to a rounding difference, this value is 1,603 in the *Petroleum Supply Annual* and *Petroleum Supply Monthly.*
[I]In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stocks withdrawal 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[g]
	Total	Crude Oil[f]	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 January	4,415	2,717	1,698	792	144	647	3,623
February	3,913	2,108	1,805	857	221	636	3,056
March	4,673	2,786	1,887	694	189	505	3,979
April	5,316	3,401	1,915	764	236	528	4,553
May	5,776	3,730	2,046	705	250	455	5,071
June	4,929	3,188	1,741	692	226	467	4,237
July	4,950	3,203	1,747	675	154	521	4,274
August	4,718	3,114	1,603	749	241	508	3,969
September	4,970	3,155	1,816	806	188	618	4,164
October	5,121	3,238	1,883	690	123	567	4,431
November	6,116	3,999	2,118	1,036	286	750	5,080
December	5,831	3,696	2,135	925	197	728	4,905
Average	**5,067**	**3,201**	**1,866**	**781**	**204**	**577**	**4,286**
1986 January	5,573	3,472	2,101	859	159	700	4,714
February	4,676	2,968	1,709	876	162	715	3,800
March	4,712	2,988	1,724	732	212	520	3,980
April	5,439	3,684	1,755	850	94	756	4,589
May	6,400	4,250	2,150	724	98	625	5,676
June	6,848	4,635	2,213	642	240	401	6,206
July	6,942	4,726	2,216	685	65	620	6,256
August	7,168	4,859	2,309	868	233	635	6,300
September	7,090	5,031	2,059	714	161	553	6,375
October	6,427	4,419	2,008	831	151	680	5,597
November	6,592	4,615	1,977	821	115	706	5,771
December	6,700	4,412	2,288	820	159	661	5,881
Average	**6,224**	**4,178**	**2,045**	**785**	**154**	**631**	**5,439**
1987 January	6,186	4,385	1,801	829	96	732	5,358
February	5,849	3,896	1,953	991	299	692	4,858
March	5,618	3,742	1,875	726	165	561	4,892
April	5,830	4,115	1,715	864	247	617	4,966
May	5,918	4,243	1,675	659	69	590	5,259
June	6,688	4,788	1,900	665	116	549	6,023
July	7,448	5,259	2,189	674	149	525	6,773
August	7,334	5,470	1,863	662	141	521	6,672
September	7,051	5,085	1,965	792	116	676	6,258
October	6,899	5,119	1,780	642	84	558	6,257
November	R 6,905	R 4,939	R 1,966	737	164	573	6,168
December	E 6,783	E 4,667	E 2,116	NA	NA	NA	NA
Average	**6,547**	**4,648**	**1,900**	**NA**	**NA**	**NA**	**NA**

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.

Figure 3.1 Crude Oil and Natural Gas Liquids Production

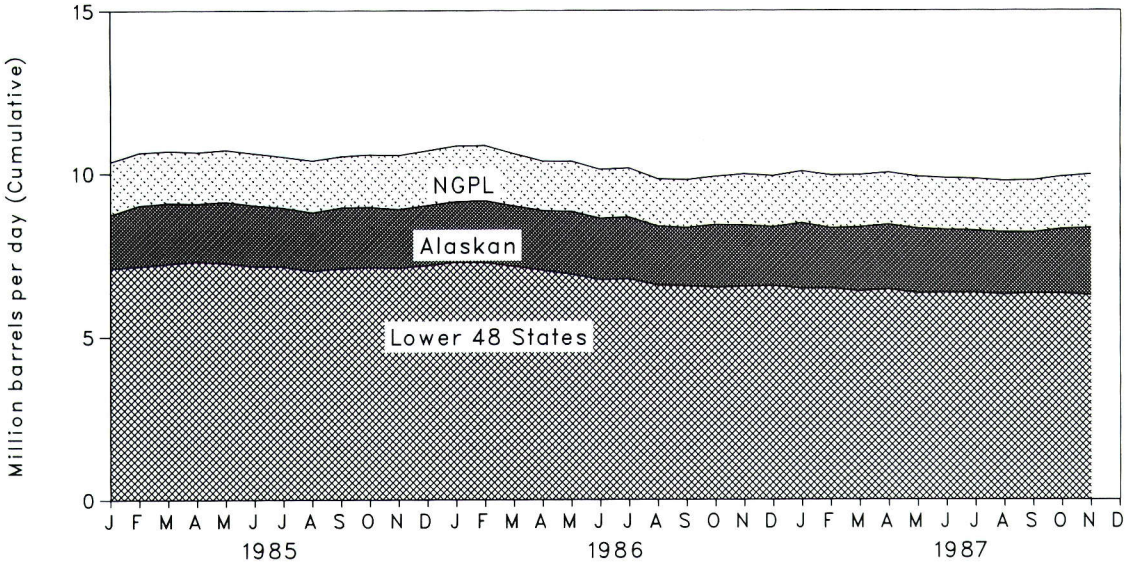


Figure 3.2 Petroleum Stocks

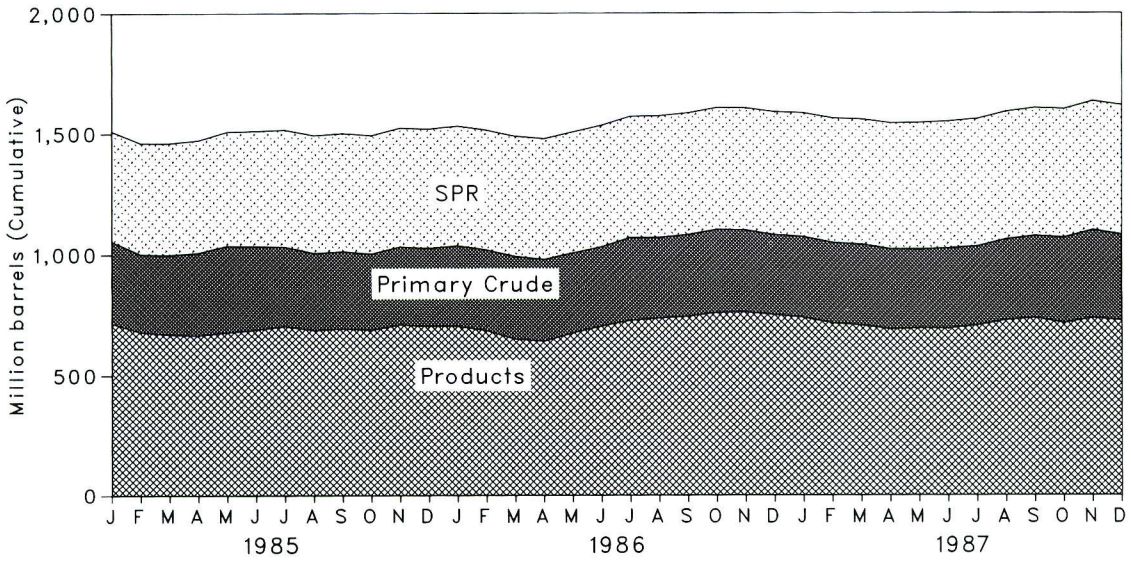


Figure 3.3 Petroleum Products Supplied and Imports

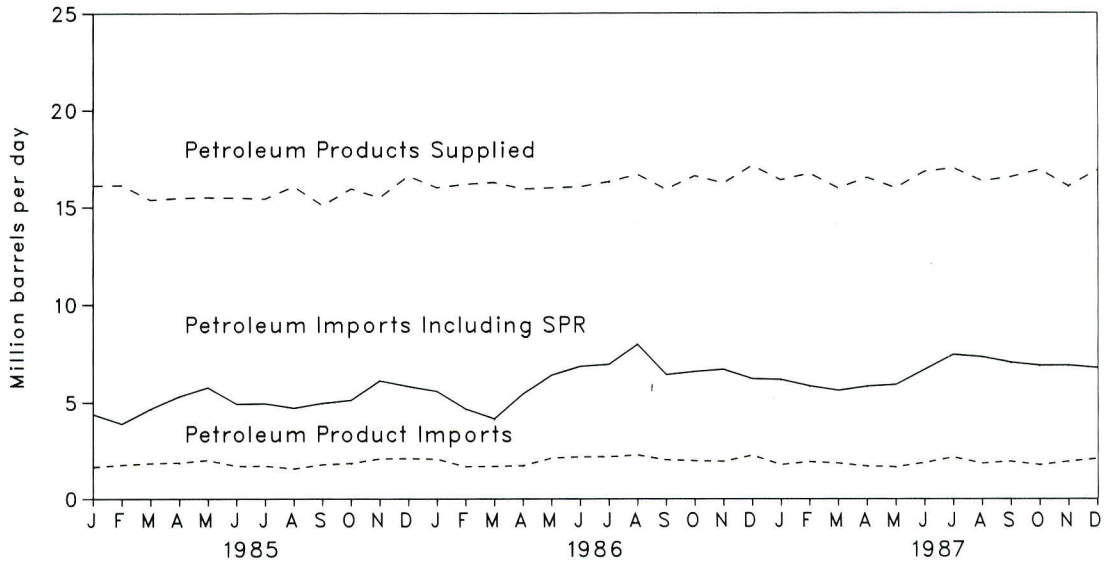


Figure 3.4 Petroleum Imports by Source

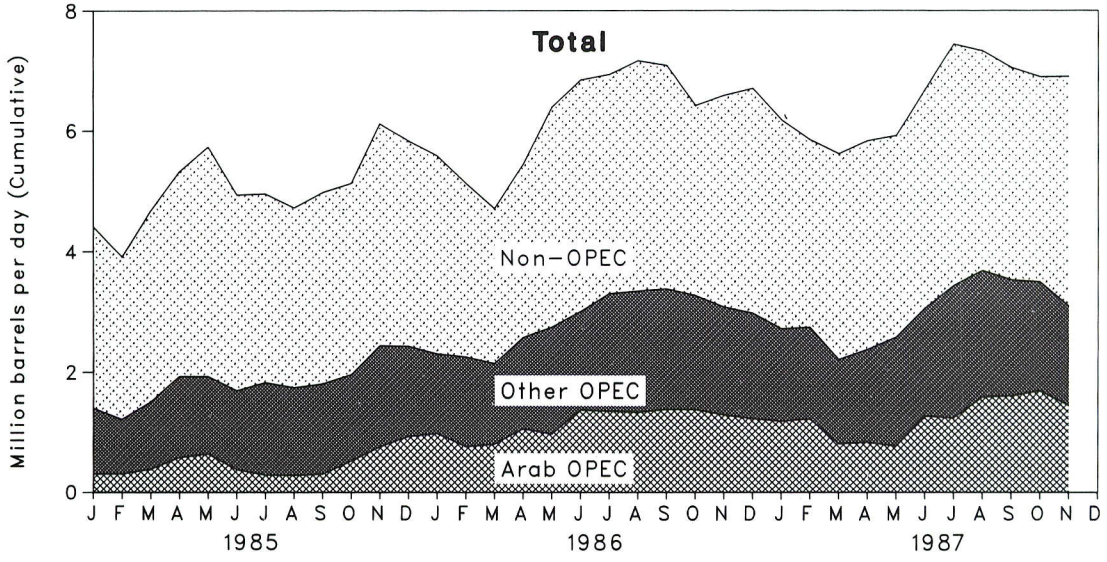


Table 3.2a Crude Oil[a] Supply and Disposition
(Thousand Barrels per Day)

	Supply							
	Field Production		Imports			Stock Withdrawal[c]		Unaccounted for Crude Oil[e]
	Total Domestic	Alaskan	Total	SPR[d]	Other	SPR[d]	Other	
1973 Average	**9,208**	**198**	**3,244**		**3,244**		**11**	**3**
1974 Average	**8,774**	**193**	**3,477**		**3,477**		**-62**	**-25**
1975 Average	**8,375**	**191**	**4,105**		**4,105**		**-17**	**17**
1976 Average	**8,132**	**173**	**5,287**		**5,287**		**-39**	**77**
1977 Average	**8,245**	**464**	**6,615**	**21**	**6,594**	**-20**	**-150**	**-6**
1978 Average	**8,707**	**1,229**	**6,356**	**162**	**6,195**	**-163**	**84**	**-57**
1979 Average	**8,552**	**1,401**	**6,519**	**67**	**6,452**	**-67**	**-81**	**-11**
1980 Average	**8,597**	**1,617**	**5,263**	**44**	**5,219**	**-45**	**-52**	**34**
1981 Average	**8,572**	**1,609**	**4,396**	**256**	**4,141**	**-336**	**[g] 46**	**83**
1982 Average	**8,649**	**1,696**	**3,488**	**165**	**3,323**	**-174**	**38**	**71**
1983 Average	**8,688**	**1,714**	**3,329**	**234**	**3,096**	**-234**	**[g] 20**	**114**
1984 Average	**8,879**	**1,722**	**3,426**	**197**	**3,229**	**-195**	**-4**	**185**
1985 January	8,740	1,647	2,717	223	2,494	-223	298	122
February	9,025	1,877	2,108	98	2,010	-97	522	94
March	9,095	1,866	2,786	48	2,738	-48	-262	59
April	9,043	1,784	3,401	108	3,293	-111	-409	183
May	9,132	1,888	3,730	222	3,508	-225	-475	247
June	9,022	1,871	3,188	155	3,034	-155	419	100
July	8,949	1,809	3,203	226	2,977	-225	551	177
August	8,803	1,795	3,114	116	2,999	-116	274	267
September	8,954	1,867	3,155	71	3,084	-71	37	93
October	8,970	1,850	3,238	20	3,218	-20	119	81
November	8,902	1,804	3,999	53	3,946	-53	-242	150
December	9,030	1,852	3,696	74	3,621	-60	2	164
Average	**8,971**	**1,825**	**3,201**	**118**	**3,083**	**-117**	**67**	**145**
1986 January	9,137	1,870	3,472	51	3,420	-35	-348	364
February	9,173	1,907	2,968	24	2,944	-35	-2	32
March	9,013	1,860	2,988	59	2,929	-49	-296	259
April	8,864	1,836	3,684	63	3,621	-63	104	70
May	8,838	1,927	4,250	36	4,215	-35	295	79
June	8,623	1,887	4,635	64	4,571	-64	66	292
July	8,660	1,903	4,726	52	4,674	-52	-489	189
August	8,374	1,811	4,859	51	4,809	-51	293	93
September	8,328	1,782	5,031	47	4,984	-47	-170	161
October	8,419	1,927	4,419	37	4,382	-36	-197	223
November	8,412	1,883	4,615	45	4,570	-65	160	-136
December	8,352	1,807	4,412	48	4,365	-68	254	28
Average	**8,680**	**1,867**	**4,178**	**48**	**4,130**	**-50**	**-28**	**139**
1987 January	[E] 8,477	[E] 2,017	4,385	92	4,293	-108	-81	34
February	[E] 8,318	[E] 1,853	3,896	44	3,851	-64	64	422
March	[E] 8,349	[E] 1,968	3,742	95	3,647	-106	-45	349
April	[E] 8,426	[E] 1,990	4,115	57	4,058	-67	78	249
May	[E] 8,305	[E] 1,979	4,243	92	4,151	-101	183	143
June	[E] 8,263	[E] 1,930	4,788	64	4,724	-69	-149	518
July	[E] 8,242	[E] 1,910	5,259	76	5,183	-91	116	87
August	[E] 8,190	[E] 1,908	5,470	63	5,407	-63	-259	215
September	[E] 8,190	[E] 1,874	5,085	64	5,021	-64	-145	251
October	[E] 8,293	[E] 1,986	5,119	57	5,062	-57	-471	-50
November	[RE] 8,330	[RE] 2,068	[R] 4,939	[R] 97	[R] 4,842	[R] -97	[R] -321	320
December	[PE] 8,348	[PE] 2,075	[E] 4,667	[E] 80	[E] 4,587	[E] -80	[E] 95	NA
Average	**[PE] 8,311**	**[PE] 1,964**	**4,648**	**74**	**4,574**	**-81**	**-79**	**NA**

[a]Includes lease condensate.
[b]Stocks are totals as of end of period.
[c]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[d]Strategic Petroleum Reserve.
[e] A balancing item.
[f]Beginning in January 1983, crude oil used directly as fuel is shown as product supplied.
[g]Stocks of Alaskan crude oil in transit were included beginning in January 1981. Stock withdrawals are calculated using new basis stock levels. See Notes 4 and 5 at end of section.
Footnotes continued on following page.

Table 3.2b Crude Oil[a] Supply and Disposition (continued)

	Supply	Disposition				Ending Stocks[b]		
	Crude Used Directly[f]	Crude Losses	Refinery Inputs	Exports	Product Supplied[f]	Total	SPR[d]	Other Primary
	Thousand Barrels per Day					Million Barrels		
1973 Average	**-19**	**13**	**12,431**	**2**		**242**		**242**
1974 Average	**-15**	**13**	**12,133**	**3**		**265**		**265**
1975 Average	**-17**	**13**	**12,442**	**6**		**271**		**271**
1976 Average	**-18**	**15**	**13,416**	**8**		**285**		**285**
1977 Average	**-14**	**16**	**14,602**	**50**		**348**	**7**	**340**
1978 Average	**-14**	**16**	**14,739**	**158**		**376**	**67**	**309**
1979 Average	**-13**	**16**	**14,648**	**235**		**430**	**91**	**339**
1980 Average	**-13**	**15**	**13,481**	**287**		[g] **466**	**108**	[g] **358**
1981 Average	**-58**	**5**	**12,470**	**228**		**594**	**230**	**363**
1982 Average	**-59**	**3**	**11,774**	**236**		[g] **644**	**294**	**350**
1983 Average	**NA**	**2**	**11,685**	**164**	**66**	**723**	**379**	**344**
1984 Average	**NA**	**2**	**12,044**	**181**	**64**	**796**	**451**	**345**
1985 January	NA	1	11,445	144	63	794	457	336
February	NA	1	11,367	221	63	782	460	322
March	NA	1	11,372	189	69	791	462	330
April	NA	1	11,805	236	67	807	465	342
May	NA	1	12,094	250	65	829	472	357
June	NA	1	12,292	226	56	821	477	344
July	NA	1	12,445	154	55	811	484	327
August	NA	(s)	12,045	241	55	806	487	318
September	NA	(s)	11,925	188	55	807	489	317
October	NA	(s)	12,209	123	55	804	490	314
November	NA	(s)	12,410	286	59	812	491	321
December	NA	1	12,570	197	63	814	493	321
Average	**NA**	**1**	**12,002**	**204**	**60**			
1986 January	NA	1	12,374	159	57	826	494	332
February	NA	(s)	11,918	162	56	827	495	332
March	NA	(s)	11,652	212	52	838	497	341
April	NA	(s)	12,512	94	51	837	499	338
May	NA	(s)	13,279	98	49	829	500	329
June	NA	(s)	13,261	240	52	828	502	327
July	NA	(s)	12,917	65	51	845	503	342
August	NA	(s)	13,287	233	48	838	505	333
September	NA	(s)	13,097	161	45	844	506	338
October	NA	(s)	12,636	151	41	851	508	344
November	NA	(s)	12,831	115	41	849	509	339
December	NA	(s)	12,777	159	42	843	512	331
Average	**NA**	**(s)**	**12,716**	**154**	**49**			
1987 January	NA	1	12,570	96	41	849	515	334
February	NA	(s)	12,296	299	41	849	517	332
March	NA	1	12,085	165	39	853	520	333
April	NA	(s)	12,513	247	41	853	522	331
May	NA	(s)	12,662	69	42	850	525	325
June	NA	(s)	13,200	116	36	857	527	330
July	NA	(s)	13,432	149	32	856	530	326
August	NA	(s)	13,381	141	31	866	532	334
September	NA	(s)	13,174	116	28	873	534	339
October	NA	(s)	12,725	84	25	889	536	353
November	NA	(s)	[R] 12,982	164	25	[R] 901	[R] 539	[R] 363
December	NA	NA	[E] 13,197	NA	NA	[E] 896	[E] 541	[E] 355
Average	**NA**	**NA**	**12,855**	**NA**	**NA**			

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	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**	**645**	**226**	**5,751**	**2,963**
1979 Average	**636**	**658**	**1,356**	**281**	**420**	**304**	**1,080**	**690**	**212**	**5,637**	**3,056**
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 January	112	0	106	60	296	0	262	481	89	1,405	305
February	174	0	108	0	232	0	119	524	64	1,220	307
March	247	0	85	52	283	0	164	588	84	1,505	385
April	286	8	201	70	313	0	280	684	86	1,928	575
May	255	0	41	128	265	0	381	552	354	1,976	635
June	178	5	26	81	438	0	357	452	152	1,690	378
July	125	10	44	13	390	42	381	573	248	1,825	286
August	135	0	46	17	377	100	207	568	289	1,740	280
September	147	0	27	57	206	43	285	808	230	1,802	302
October	177	20	251	17	277	41	305	676	196	1,958	520
November	164	11	430	34	356	99	325	727	294	2,440	752
December	244	0	642	15	324	0	432	625	149	2,430	925
Average	**187**	**4**	**168**	**45**	**314**	**27**	**293**	**605**	**187**	**1,830**	**472**
1986 January	215	0	664	11	290	0	278	629	210	2,298	976
February	157	0	574	0	290	(s)	204	518	64	1,807	757
March	260	0	482	0	161	0	328	797	117	2,145	798
April	275	0	698	21	292	0	319	831	139	2,576	1,058
May	193	0	574	40	314	40	398	899	290	2,749	966
June	319	0	662	83	353	0	382	772	439	3,010	1,377
July	310	0	738	59	532	66	542	730	330	3,307	1,357
August	363	0	680	37	274	93	606	916	378	3,346	1,339
September	245	0	810	62	341	31	684	856	356	3,383	1,388
October	305	0	697	147	388	0	530	863	346	3,276	1,387
November	311	0	868	34	335	0	483	843	214	3,088	1,295
December	291	0	769	30	251	0	511	841	284	2,976	1,223
Average	**271**	**0**	**685**	**44**	**318**	**19**	**440**	**793**	**265**	**2,837**	**1,162**
1987 January	158	0	873	15	285	0	313	866	215	2,726	1,187
February	315	0	772	54	420	30	240	764	155	2,749	1,226
March	301	0	427	0	308	73	312	658	135	2,215	807
April	302	0	452	62	236	47	529	679	77	2,384	834
May	196	0	519	26	289	75	530	854	95	2,584	771
June	247	0	780	45	261	155	546	766	268	3,067	1,272
July	326	0	753	42	273	237	787	861	157	3,437	1,240
August	235	0	958	103	312	208	732	780	351	3,679	1,593
September	351	0	902	146	236	193	615	798	287	3,528	1,614
October	267	0	1,042	111	297	86	518	775	401	3,497	1,696
November	378	0	633	97	205	41	607	739	402	3,101	1,455
11-Month Average	**279**	**0**	**738**	**64**	**283**	**105**	**523**	**777**	**232**	**2,999**	**1,245**
1986 11-Month Average	**269**	**0**	**677**	**45**	**325**	**21**	**434**	**789**	**264**	**2,824**	**1,156**
1985 11-Month Average	**182**	**5**	**124**	**48**	**313**	**30**	**280**	**603**	**191**	**1,774**	**430**

[a]Excludes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.
[b]The other members of OPEC are Ecuador, Gabon, Iraq, Kuwait, and Qatar.
[c]"Total OPEC" consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members.
[d]The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.
Footnotes continued on following page.

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

	Imports from Non-OPEC Sources[e]										
	Bahamas	Canada	Mexico	Netherlands Antilles	Trinidad and Tobago	United Kingdom	Puerto Rico	Virgin Islands	Other Non-OPEC	Total Non-OPEC	Total Imports
1973 Average	**174**	**1,325**	**16**	**585**	**255**	**15**	**99**	**329**	**465**	**3,263**	**6,256**
1974 Average	**164**	**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**	**429**	**484**	**2,613**	**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 January	92	616	767	132	113	345	32	235	678	3,010	4,415
February	37	730	652	52	119	151	50	213	689	2,693	3,913
March	36	909	923	49	115	133	29	235	739	3,168	4,673
April	4	890	950	18	107	213	42	205	959	3,388	5,316
May	74	823	929	28	126	419	37	252	1,112	3,800	5,776
June	24	720	726	30	92	481	23	271	872	3,240	4,929
July	38	610	814	36	133	324	14	236	918	3,124	4,950
August	11	664	859	18	121	336	28	241	699	2,978	4,718
September	47	783	852	40	129	303	26	173	815	3,169	4,970
October	35	825	745	5	99	352	21	260	821	3,163	5,121
November	22	766	887	30	100	376	26	325	1,143	3,676	6,116
December	54	902	676	44	96	273	12	314	1,029	3,400	5,831
Average	**40**	**770**	**816**	**40**	**113**	**310**	**28**	**247**	**873**	**3,237**	**5,067**
1986 January	62	823	681	58	108	333	21	326	862	3,275	5,573
February	33	690	557	11	85	218	18	309	949	2,870	4,676
March	18	750	616	27	79	178	25	186	688	2,567	4,712
April	34	798	694	13	111	188	23	209	793	2,863	5,439
May	32	881	743	37	130	365	27	237	1,199	3,651	6,400
June	29	753	884	17	167	569	30	233	1,157	3,838	6,848
July	44	763	850	25	131	353	29	237	1,202	3,634	6,942
August	39	801	738	12	133	584	7	214	1,294	3,822	7,168
September	15	801	615	17	162	437	23	291	1,345	3,706	7,090
October	38	842	680	26	112	173	21	215	1,043	3,151	6,427
November	39	960	565	53	129	448	21	179	1,111	3,504	6,592
December	57	809	746	7	148	351	12	291	1,304	3,724	6,700
Average	**37**	**807**	**699**	**25**	**125**	**350**	**21**	**244**	**1,080**	**3,387**	**6,224**
1987 January	54	777	669	29	99	419	33	327	1,053	3,461	6,186
February	54	762	689	30	111	235	24	296	900	3,100	5,849
March	33	720	699	11	124	311	17	247	1,240	3,402	5,618
April	43	808	667	12	113	485	24	259	1,034	3,446	5,830
May	31	865	569	26	117	408	21	214	1,082	3,334	5,918
June	22	898	654	13	114	377	21	281	1,240	3,621	6,688
July	46	890	664	58	96	334	17	288	1,618	4,011	7,448
August	26	837	564	51	98	289	20	274	1,496	3,655	7,334
September	36	835	699	42	105	254	25	271	1,256	3,523	7,051
October	17	932	658	16	88	320	17	250	1,104	3,402	6,899
November	20	818	627	14	111	425	15	235	1,540	3,804	R 6,905
11-Month Average	**35**	**832**	**650**	**28**	**107**	**351**	**21**	**267**	**1,235**	**3,526**	**6,525**
1986 11-Month Average	**35**	**806**	**694**	**27**	**123**	**350**	**22**	**239**	**1,059**	**3,356**	**6,179**
1985 11-Month Average	**39**	**758**	**829**	**40**	**114**	**313**	**30**	**241**	**859**	**3,222**	**4,996**

Footnotes continued.

[e]Includes 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.

(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 Products Supplied, Production, and Imports

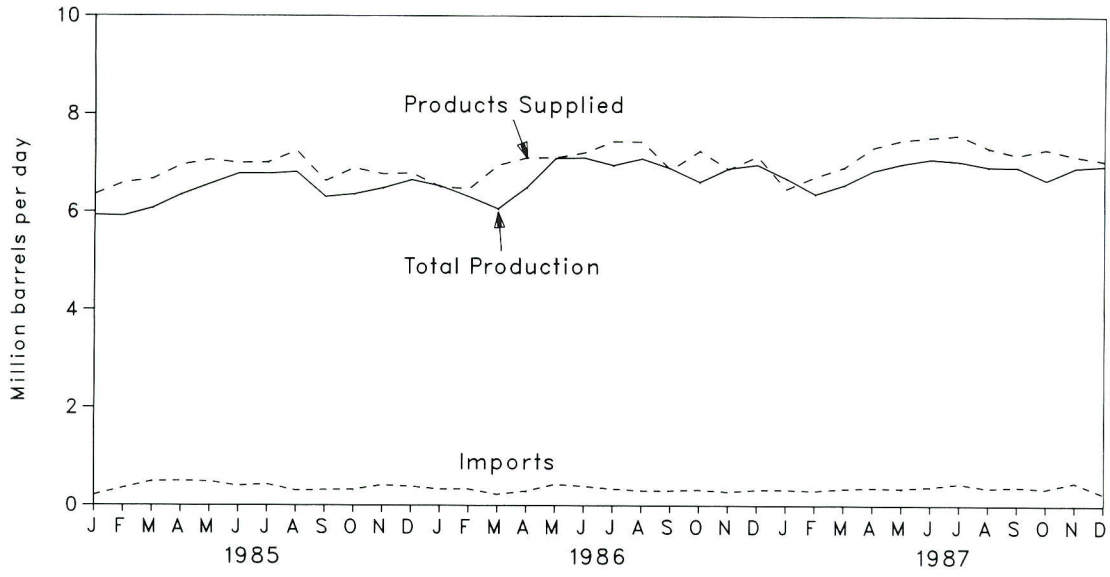


Figure 3.6 Motor Gasoline Ending Stocks

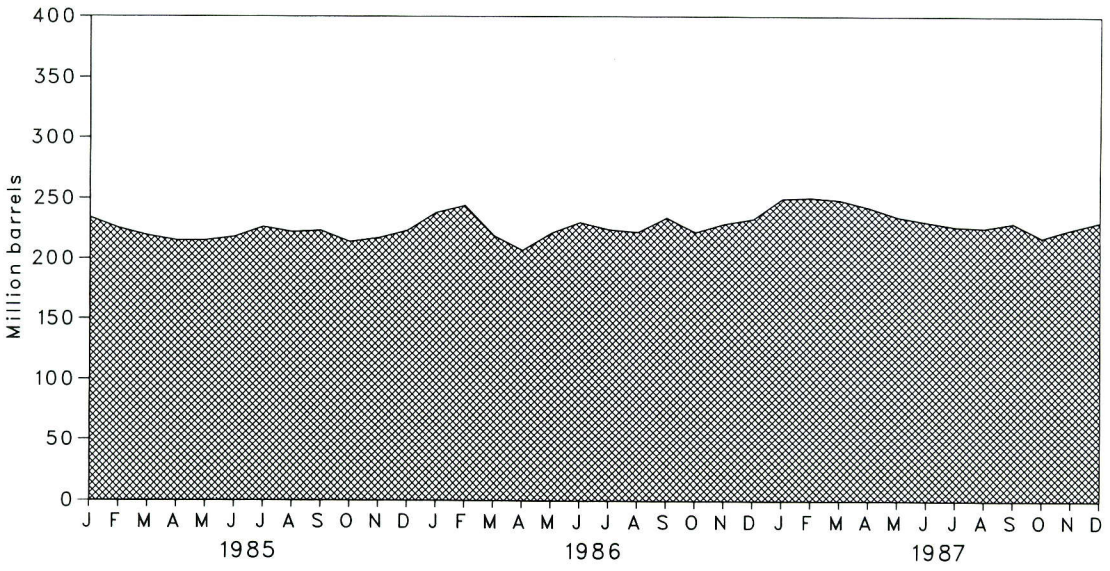


Table 3.4 Finished Motor Gasoline Supply and Disposition

	Supply			Disposition				Ending Stocks[a]	
					Product Supplied				
	Total Production	Imports[b]	Stock Withdrawal[b] [c]	Exports	Total	Unleaded[d]	Unleaded	Total Motor Gasoline[e]	Finished Motor Gasoline
	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**			[f] **218**	
1975 Average	**6,520**	**184**	[f] **-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**	[f] **261**	
1981 Average[g]	**6,405**	**157**	[f] **28**	**2**	**6,588**	**3,264**	**49.5**	**253**	
1982 Average	**6,338**	**197**	**25**	**20**	**6,539**	**3,409**	**52.1**	[f] **235**	
1983 Average	**6,340**	**247**	[f] **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 January	5,926	204	220	2	6,348	4,016	63.3	234	198
February	5,914	348	327	2	6,587	4,126	62.6	225	189
March	6,072	481	115	3	6,664	4,202	63.1	219	186
April	6,344	494	128	11	6,956	4,396	63.2	215	182
May	6,564	480	23	8	7,060	4,445	63.0	215	181
June	6,780	396	-172	7	6,997	4,482	64.1	218	186
July	6,788	426	-188	18	7,008	4,545	64.8	226	192
August	6,814	305	127	4	7,242	4,755	65.7	222	188
September	6,299	314	22	6	6,629	4,357	65.7	223	187
October	6,356	324	235	19	6,897	4,485	65.0	214	180
November	6,480	410	-104	17	6,770	4,477	66.1	217	183
December	6,651	386	-227	18	6,792	4,561	67.2	223	190
Average	**6,419**	**381**	**41**	**10**	**6,831**	**4,406**	**64.5**		
1986 January	6,522	332	-347	6	6,502	4,404	67.7	238	201
February	6,302	334	-156	11	6,469	4,365	67.5	244	205
March	6,061	224	691	21	6,955	4,678	67.3	219	184
April	6,498	291	338	23	7,105	4,783	67.3	207	174
May	7,095	471	-450	9	7,106	4,729	66.5	221	188
June	7,101	392	-265	18	7,209	4,914	68.2	230	196
July	6,956	337	189	47	7,436	5,182	69.7	224	190
August	7,092	303	83	43	7,435	5,138	69.1	222	187
September	6,891	303	-289	40	6,864	4,813	70.1	234	196
October	6,616	322	372	61	7,250	5,086	70.1	222	184
November	6,895	280	-200	96	6,879	4,918	71.5	229	190
December	6,970	320	-122	24	7,143	5,193	72.7	233	194
Average	**6,752**	**326**	**-11**	**33**	**7,034**	**4,854**	**69.0**		
1987 January	6,688	320	-484	55	6,469	4,775	73.8	250	209
February	6,367	303	78	22	6,726	4,991	74.2	251	207
March	6,555	342	43	20	6,921	5,150	74.4	249	206
April	6,851	362	145	42	7,317	5,401	73.8	243	201
May	6,991	348	181	48	7,472	5,577	74.6	235	196
June	7,089	385	103	46	7,531	5,657	75.1	231	193
July	7,041	448	119	33	7,575	5,734	75.7	227	189
August	6,933	361	38	19	7,313	5,628	77.0	226	188
September	6,925	383	-109	30	7,170	5,500	76.7	230	191
October	6,662	348	300	21	7,289	5,616	77.1	218	182
November	[R] 6,914	[R] 474	[R] -205	32	[R] 7,151	5,587	78.1	[R] 225	[R] 188
December	[E] 6,955	[E] 247	[E] -121	NA	[E] 7,056	NA	NA	[E] 231	[E] 193
Average	**6,834**	**360**	**7**	**NA**	**7,168**	**NA**	**NA**		

[a]Stocks are totals as of end of period.
[b]Beginning in 1981, excludes blending components.
[c]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[d]Includes gasohol.
[e]Includes motor gasoline blending components.
[f]In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock withdrawal calculations. See Note 4 at end of section.
[g]Beginning 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 3.7 Distillate Fuel Oil Product Supplied, Production, and Imports

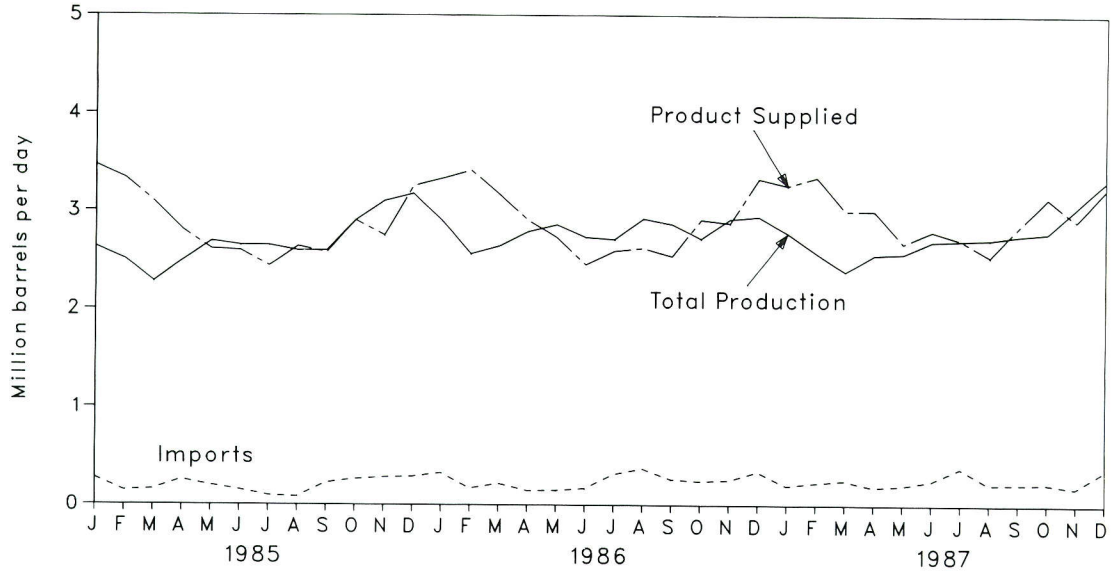


Figure 3.8 Distillate Fuel Oil Ending Stocks

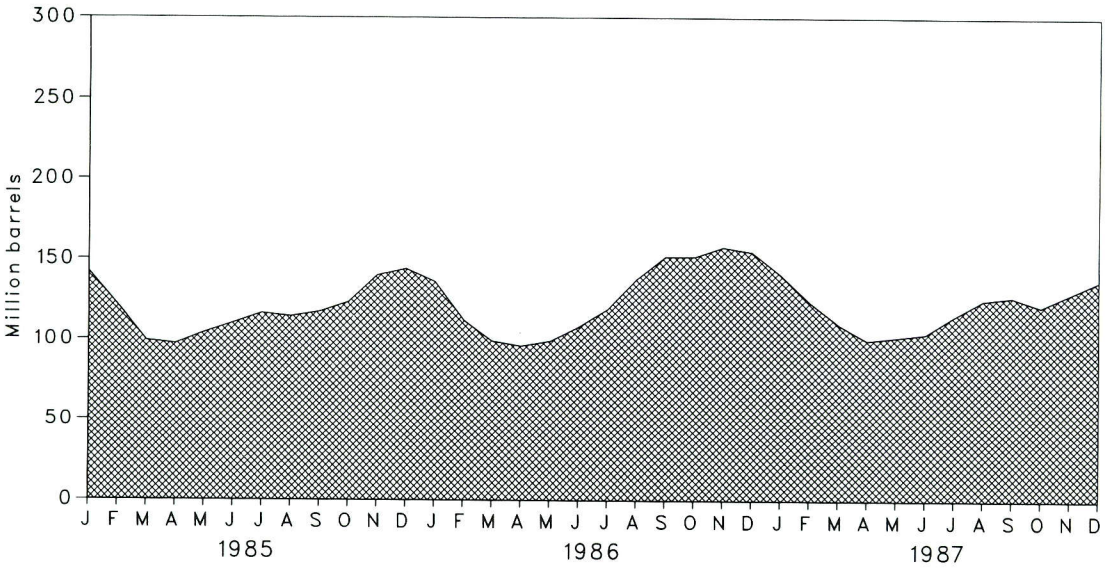


Table 3.5 Distillate Fuel Oil Supply and Disposition

	Supply				Disposition		Ending Stocks[c]
	Total Production	Imports	Stock Withdrawal[a]	Crude Used Directly[b]	Exports	Product Supplied[b]	
	Thousand Barrels per Day						Million Barrels
1973 Average	**2,822**	**392**	**-115**	**2**	**9**	**3,092**	**196**
1974 Average	**2,669**	**289**	**-9**	**2**	**2**	**2,948**	**[d] 200**
1975 Average	**2,654**	**155**	**[d] 40**	**2**	**1**	**2,851**	**209**
1976 Average	**2,924**	**146**	**62**	**1**	**1**	**3,133**	**186**
1977 Average	**3,278**	**250**	**-176**	**1**	**1**	**3,352**	**250**
1978 Average	**3,167**	**173**	**93**	**1**	**3**	**3,432**	**216**
1979 Average	**3,153**	**193**	**-34**	**1**	**3**	**3,311**	**229**
1980 Average	**2,662**	**142**	**64**	**1**	**3**	**2,866**	**[d] 205**
1981 Average[e]	**2,613**	**173**	**[d] 38**	**10**	**5**	**2,829**	**192**
1982 Average	**2,606**	**93**	**35**	**10**	**74**	**2,671**	**[d] 179**
1983 Average	**2,456**	**174**	**[d] 124**	**NA**	**64**	**2,690**	**140**
1984 Average	**2,681**	**272**	**-57**	**NA**	**51**	**2,845**	**161**
1985 January	2,631	272	603	NA	41	3,465	142
February	2,504	143	748	NA	64	3,330	121
March	2,267	156	714	NA	44	3,093	99
April	2,490	253	82	NA	27	2,798	97
May	2,686	197	-245	NA	31	2,607	104
June	2,647	152	-175	NA	30	2,594	110
July	2,646	95	-193	NA	112	2,436	116
August	2,592	81	62	NA	100	2,636	114
September	2,594	222	-120	NA	121	2,575	117
October	2,902	262	-195	NA	67	2,901	123
November	3,102	280	-543	NA	92	2,747	140
December	3,176	287	-128	NA	81	3,254	144
Average	**2,687**	**200**	**48**	**NA**	**67**	**2,868**	
1986 January	2,899	325	232	NA	126	3,330	136
February	2,563	169	860	NA	176	3,416	112
March	2,643	217	438	NA	131	3,168	99
April	2,788	147	97	NA	128	2,904	96
May	2,858	149	-95	NA	149	2,762	99
June	2,729	169	-301	NA	53	2,544	108
July	2,710	313	-355	NA	75	2,592	119
August	2,922	370	-607	NA	64	2,621	138
September	2,865	262	-489	NA	98	2,540	152
October	2,717	243	25	NA	74	2,912	152
November	2,917	254	-222	NA	72	2,877	158
December	2,943	339	102	NA	55	3,329	155
Average	**2,798**	**247**	**-31**	**NA**	**100**	**2,914**	
1987 January	2,774	197	440	NA	152	3,259	141
February	2,574	229	637	NA	93	3,347	124
March	2,384	251	437	NA	67	3,005	110
April	2,553	185	319	NA	53	3,004	100
May	2,565	201	-45	NA	51	2,670	102
June	2,689	248	-82	NA	61	2,793	104
July	2,700	378	-336	NA	38	2,704	115
August	2,711	215	-338	NA	47	2,540	125
September	2,750	217	-59	NA	64	2,844	127
October	2,778	222	187	NA	53	3,134	121
November	[R] 3,043	[R] 180	[R] -263	NA	56	[R] 2,904	[R] 129
December	[E] 3,303	[E] 355	[E] -379	NA	NA	[E] 3,222	[E] 137
Average	**2,736**	**240**	**39**	**NA**	**NA**	**2,950**	

[a]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[b]Beginning in January 1983, product supplied for distillate fuel oil does not include crude oil used directly. See Note 3 at end of section.
[c]Stocks are totals as of end of period.
[d]In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock withdrawal calculations. See Note 4 at end of section.
[e]Beginning 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

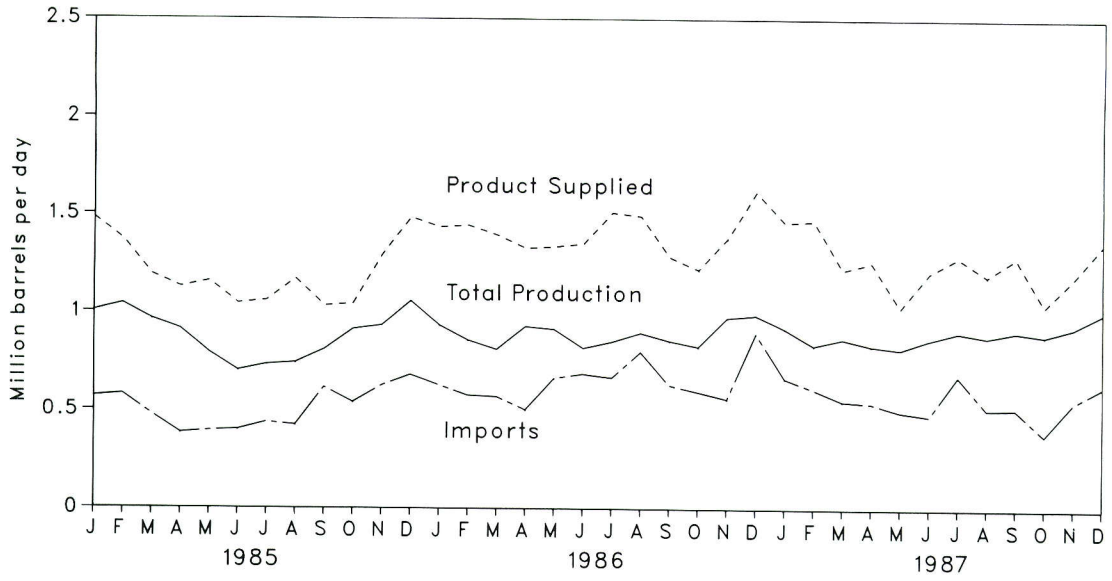


Figure 3.10 Residual Fuel Oil Ending Stocks

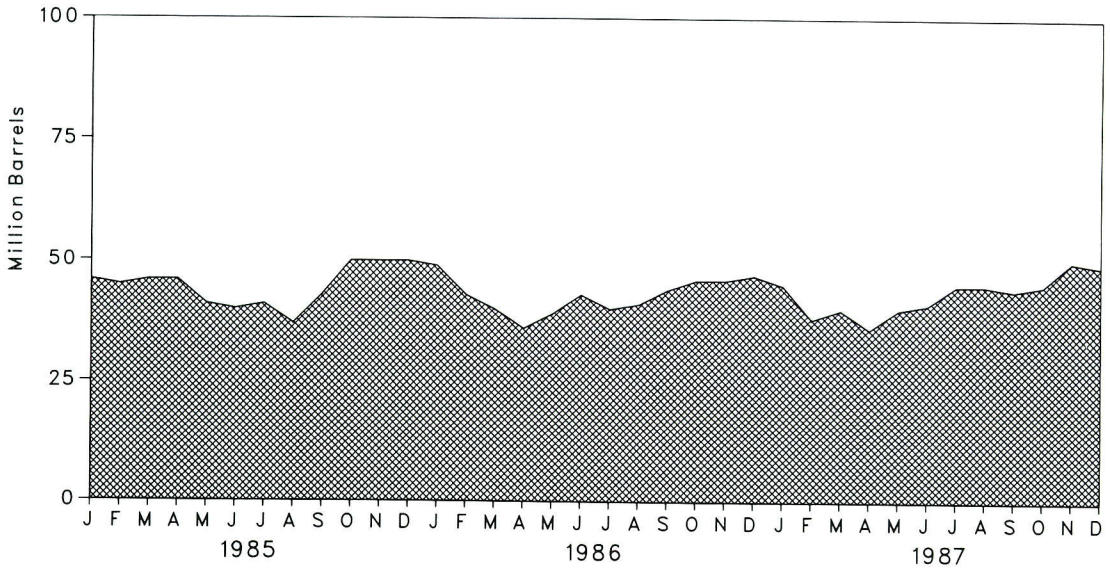


Table 3.6 Residual Fuel Oil Supply and Disposition

	Supply				Disposition		
	Total Production	Imports	Stock Withdrawal[a]	Crude Used Directly[b]	Exports	Product Supplied[b]	Ending Stocks[c]
	Thousand Barrels per Day						Million Barrels
1973 Average	**971**	**1,853**	**5**	**17**	**23**	**2,822**	**53**
1974 Average	**1,070**	**1,587**	**-17**	**13**	**14**	**2,639**	**[d] 60**
1975 Average	**1,235**	**1,223**	**[d] 2**	**15**	**15**	**2,462**	**74**
1976 Average	**1,377**	**1,413**	**5**	**17**	**12**	**2,801**	**72**
1977 Average	**1,754**	**1,359**	**-48**	**13**	**6**	**3,071**	**90**
1978 Average	**1,667**	**1,355**	**-1**	**13**	**13**	**3,023**	**90**
1979 Average	**1,687**	**1,151**	**-15**	**12**	**9**	**2,826**	**96**
1980 Average	**1,580**	**939**	**10**	**12**	**33**	**2,508**	**[d] 92**
1981 Average[e]	**1,321**	**800**	**[d] 37**	**48**	**118**	**2,088**	**78**
1982 Average	**1,070**	**776**	**32**	**48**	**209**	**1,716**	**[d] 66**
1983 Average	**852**	**699**	**[d] 55**	**NA**	**185**	**1,421**	**49**
1984 Average	**891**	**681**	**-12**	**NA**	**190**	**1,369**	**53**
1985 January	1,004	568	219	NA	312	1,480	46
February	1,040	580	41	NA	295	1,366	45
March	963	477	-35	NA	216	1,190	46
April	912	383	-2	NA	167	1,126	46
May	793	394	155	NA	185	1,156	41
June	702	400	59	NA	118	1,043	40
July	732	437	-29	NA	83	1,058	41
August	742	424	108	NA	106	1,168	37
September	808	617	-207	NA	188	1,031	43
October	912	541	-228	NA	184	1,042	50
November	932	627	5	NA	275	1,290	50
December	1,055	681	-4	NA	250	1,483	50
Average	**882**	**510**	**7**	**NA**	**197**	**1,202**	
1986 January	940	622	56	NA	211	1,407	49
February	856	604	200	NA	183	1,478	43
March	813	626	108	NA	113	1,435	40
April	933	545	127	NA	202	1,402	36
May	913	675	-114	NA	129	1,345	39
June	818	712	-111	NA	43	1,377	43
July	850	673	75	NA	90	1,508	40
August	896	793	-29	NA	174	1,485	41
September	854	641	-89	NA	110	1,296	44
October	827	635	-59	NA	144	1,259	46
November	975	574	-15	NA	143	1,391	46
December	987	913	-37	NA	224	1,638	47
Average	**889**	**669**	**8**	**NA**	**147**	**1,418**	
1987 January	919	667	80	NA	204	1,462	45
February	833	612	246	NA	221	1,470	38
March	867	552	-48	NA	150	1,220	40
April	831	541	123	NA	239	1,257	36
May	814	498	-142	NA	144	1,026	40
June	863	477	-33	NA	101	1,206	41
July	902	680	-122	NA	175	1,285	45
August	877	511	-12	NA	185	1,190	45
September	905	513	42	NA	NA	1,283	44
October	885	380	-36	NA	194	1,035	45
November	[R] 925	[R] 546	[R] -145	NA	146	[R] 1,181	[R] 50
December	[E] 1,000	[E] 625	[E] -86	NA	NA	[E] 1,351	[E] 49
Average	**885**	**550**	**-13**	**NA**	**NA**	**1,245**	

[a]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[b]Beginning in January 1983, product supplied for residual fuel oil does not include crude oil used directly. See Note 3 at end of section.
[c]Stocks are totals as of end of period.
[d]In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock withdrawal calculations. See Note 4 at end of section.
[e]Beginning 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 3.11 Liquefied Petroleum Gases Product Supplied, Production, and Imports

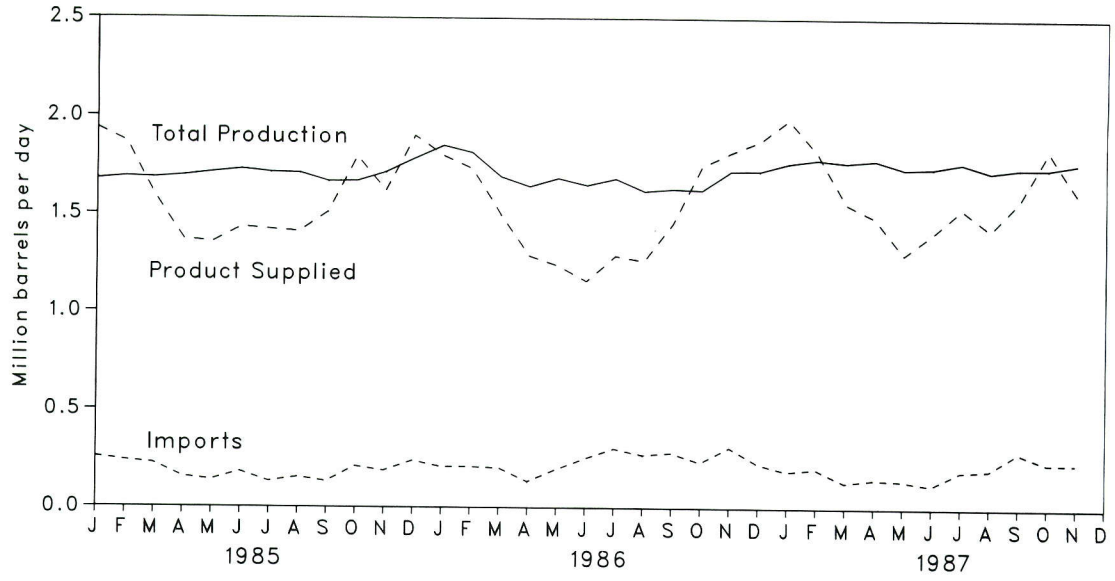


Figure 3.12 Liquefied Petroleum Gases Ending Stocks

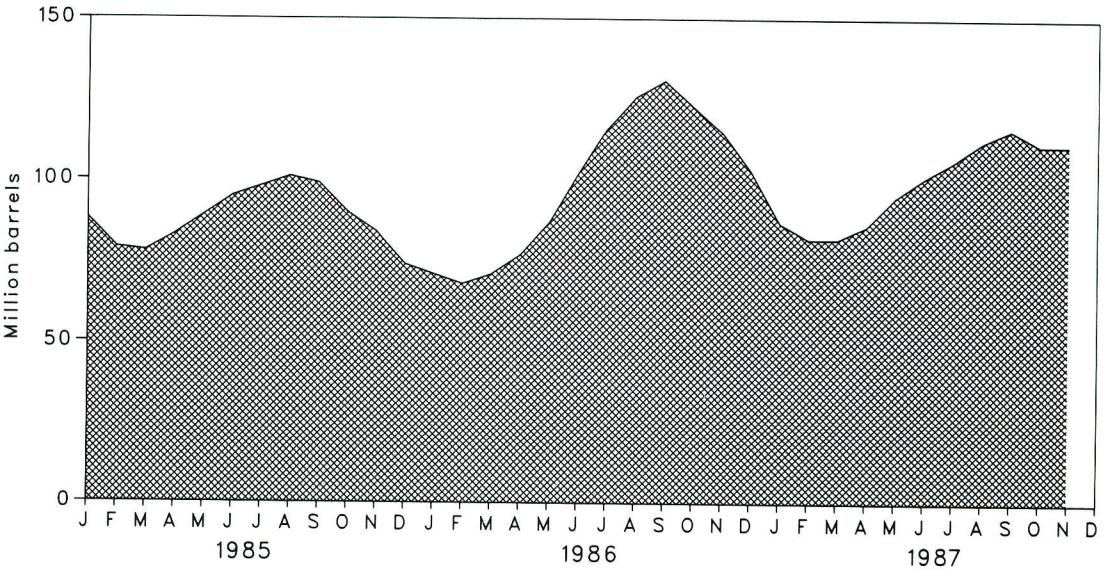


Table 3.7 Liquefied Petroleum Gases[a] Supply and Disposition

	Supply			Disposition			Ending Stocks[c]
	Total Production	Imports	Stock Withdrawal[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**	**4**	**253**	**73**	**1,509**	**[d] 101**
1984 Average	**1,697**	**195**	**19**	**291**	**48**	**1,572**	**101**
1985 January	1,676	255	399	322	70	1,937	88
February	1,689	237	330	320	72	1,865	79
March	1,684	223	29	297	52	1,588	78
April	1,696	156	-143	262	78	1,368	83
May	1,713	138	-219	239	40	1,353	89
June	1,728	181	-175	250	51	1,432	95
July	1,713	131	-107	249	68	1,420	98
August	1,710	153	-98	277	80	1,409	101
September	1,667	132	61	321	29	1,510	99
October	1,669	209	304	340	47	1,794	90
November	1,716	188	192	387	88	1,620	84
December	1,786	239	337	386	75	1,901	74
Average	**1,704**	**187**	**75**	**304**	**62**	**1,599**	
1986 January	1,850	280	80	364	47	1,800	71
February	1,815	208	108	325	74	1,733	68
March	1,693	202	-98	250	47	1,500	71
April	1,642	134	-200	256	33	1,286	77
May	1,685	196	-336	267	40	1,238	87
June	1,649	253	-490	228	25	1,158	102
July	1,684	303	-450	199	50	1,287	116
August	1,619	271	-332	243	53	1,262	126
September	1,631	282	-142	288	27	1,456	131
October	1,625	234	249	332	26	1,750	123
November	1,724	310	254	417	53	1,817	115
December	1,725	227	411	456	33	1,875	103
Average	**1,695**	**242**	**-80**	**302**	**42**	**1,512**	
1987 January	1,764	188	493	419	38	1,988	87
February	1,784	201	206	341	36	1,815	82
March	1,768	132	-19	282	42	1,556	82
April	1,781	149	-139	276	30	1,486	86
May	1,736	142	-286	270	27	1,296	95
June	1,741	119	-182	255	17	1,407	101
July	1,767	190	-155	244	24	1,534	106
August	1,722	198	-214	251	31	1,424	112
September	1,741	288	-134	266	52	1,576	116
October	1,741	233	171	294	19	1,832	111
November	1,766	233	1	357	35	1,609	111
11-Month Average	**1,755**	**188**	**-24**	**296**	**32**	**1,592**	
1986 11-Month Average	**1,692**	**243**	**-125**	**288**	**43**	**1,479**	
1985 11-Month Average	**1,696**	**182**	**51**	**296**	**61**	**1,571**	

[a]Includes ethane, propane, normal butane, and isobutane.
[b]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[c]Stocks are totals as of end of period.
[d]In January 1975, 1981, 1983, and 1984, a new stock basis was established affecting stocks reported and stock withdrawal calculations. See Note 4 at end of section.
[e]Due 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 moy not equal sum of components due to independent rounding.
Sources: See end of section.

Table 3.8 Other Petroleum Products[a] Supply and Disposition

	Supply			Disposition			
	Total Production	Imports	Stock Withdrawal[b]	Refinery Inputs	Exports	Product Supplied	Ending Stocks[c]
	Thousand Barrels per Day						Million Barrels
1973 Average	**3,693**	**502**	**-9**	**750**	**166**	**3,270**	**208**
1974 Average	**3,558**	**432**	**-28**	**665**	**174**	**3,123**	**[d] 218**
1975 Average	**3,418**	**277**	**[d] 4**	**537**	**160**	**3,002**	**219**
1976 Average	**3,643**	**206**	**-5**	**524**	**175**	**3,145**	**220**
1977 Average	**3,912**	**205**	**-27**	**514**	**165**	**3,410**	**230**
1978 Average	**4,046**	**166**	**14**	**492**	**167**	**3,568**	**225**
1979 Average	**4,153**	**195**	**-37**	**352**	**209**	**3,749**	**238**
1980 Average	**3,956**	**210**	**-23**	**311**	**198**	**3,634**	**[d] 247**
1981 Average	**3,739**	**226**	**[d] 46**	**723**	**199**	**3,088**	**282**
1982 Average	**3,453**	**334**	**80**	**787**	**211**	**[e] 2,870**	**[d] 253**
1983 Average	**3,460**	**411**	**[d] 6**	**712**	**242**	**2,923**	**[d] 256**
1984 Average	**3,632**	**565**	**23**	**791**	**245**	**3,183**	**240**
1985 January	3,285	400	-88	556	223	2,815	243
February	3,422	498	-101	707	204	2,910	245
March	3,464	550	-421	633	190	2,769	259
April	3,618	628	-7	836	245	3,158	259
May	3,721	837	-113	991	191	3,263	262
June	3,924	612	80	995	261	3,360	260
July	3,994	658	19	975	241	3,455	259
August	4,087	640	372	1,328	218	3,549	248
September	3,878	529	-10	823	274	3,299	248
October	3,810	548	9	861	250	3,255	248
November	3,772	612	-183	906	277	3,016	253
December	3,658	542	226	1,006	305	3,118	246
Average	**3,721**	**588**	**-17**	**886**	**240**	**3,166**	
1986 January	3,902	541	-172	967	311	2,993	252
February	3,868	393	-209	747	270	3,035	258
March	3,754	454	21	854	208	3,167	257
April	3,788	638	-100	760	369	3,196	260
May	4,055	659	-114	810	298	3,492	264
June	4,209	687	-70	853	263	3,710	266
July	4,145	589	119	1,064	357	3,432	262
August	4,223	572	335	1,061	301	3,768	252
September	4,225	571	35	846	278	3,708	251
October	3,969	575	-112	666	375	3,391	254
November	3,904	559	36	940	342	3,217	253
December	3,920	490	90	1,069	325	3,105	250
Average	**3,997**	**561**	**-10**	**888**	**308**	**3,353**	
1987 January	3,835	428	-152	665	283	3,164	256
February	3,773	608	-354	385	320	3,322	266
March	3,772	599	-146	717	281	3,225	270
April	3,948	478	110	885	254	3,397	267
May	4,054	486	171	918	320	3,473	262
June	4,195	671	197	898	323	3,842	256
July	4,354	493	110	835	256	3,866	253
August	4,336	580	-152	697	238	3,828	257
September	4,346	565	-16	909	353	3,632	258
October	4,219	597	19	969	272	3,594	257
November	3,999	533	-40	993	305	3,195	258
11-Month Average	**4,078**	**548**	**-21**	**809**	**291**	**3,505**	
1986 11-Month Average	**4,005**	**568**	**-19**	**871**	**307**	**3,376**	
1985 11-Month Average	**3,727**	**593**	**-40**	**875**	**234**	**3,170**	

[a]Includes 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, and liquefied petroleum gases.

[b]A negative number indicates an increase in stocks and a positive number indicates a decrease.

[c]Stocks are totals as of end of period.

[d]In January 1975, 1981, 1983, and 1984, a new stock basis was established affecting stocks reported and stock withdrawal calculations. See Note 4 at end of this section.

[e]Due to a rounding difference, this value is 2,869 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.

Notes and Sources for the Petroleum Section

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 withdrawal 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--1,462.
- Motor Gasoline: 1974--225; 1980--263; 1982--244 (Total) and 203 (Finished).
- Distillate Fuel Oil: 1974--224; 1980--205; and 1982--186.
- Residual Fuel Oil: 1974--75; 1980--91; and 1982--68.
- Liquefied Petroleum Gases: 1974--113; 1980--128; and 1982--103.
- Other Petroleum Products: 1974--220; 1980--249; and 1982--259.
- Stock withdrawal 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 will now appear in the "Liquefied Petroleum Gases Supply and Disposition" table. This change will affect stocks reported and stock withdrawals 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--248.

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 withdrawal 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 1986: EIA, *Petroleum Supply Annual.*
- January 1987 through November 1987: Detailed Statistics in appropriate issues of the *Petroleum Supply Monthly.*
- December 1987: Estimates based on EIA weekly data (except domestic crude oil production).
- January 1987 through December 1987: Domestic crude oil production estimate based on historical statistics from State conservation agencies and the U.S. Geological Survey.

Section 4. Natural Gas

Total dry natural gas production in the United States during November 1987 was an estimated 1.3 trillion cubic feet, 3 percent[3] less than in November 1986.

Consumption of natural and supplemental gas in November 1987 was an estimated 1.3 trillion cubic feet, 7 percent higher than in November 1986.

Deliveries to residential consumers during October 1987 (latest data available) were 226 billion cubic feet, 22 percent higher than in October 1986. Total deliveries to industrial consumers during October 1987 were an estimated 411 billion cubic feet, 6 percent higher than in October 1986.

Imports of natural gas in November 1987 were an estimated 58 billion cubic feet, 17 percent lower than in the previous November.

Stocks of working gas[4] in underground natural gas storage reservoirs at the end of November 1987 totaled over 3 trillion cubic feet, 1 percent below the level of stocks available 1 year earlier. Net withdrawals from storage during November 1987 were 55 billion cubic feet, 55 percent less than during the previous November.

[3]Percentage changes are calculated using unrounded data.
[4]Gas available for withdrawal.

Table 4.1 Natural Gas Production
(Billion Cubic Feet)

	Gross Wet Gas Withdrawals[a]	Used for Repressuring[b]	Nonhydrocarbon Gases Removed[c]	Vented and Flared	Marketed Production (Wet)[d]	Extraction Loss[c]	Total Dry Gas Production[e]
1973 Total	**24,067**	**1,171**	**NA**	**248**	**[f] 22,648**	**917**	**[f] 21,731**
1974 Total	**22,850**	**1,080**	**NA**	**169**	**[f] 21,601**	**887**	**[f] 20,713**
1975 Total	**21,104**	**861**	**NA**	**134**	**[f] 20,109**	**872**	**[f] 19,236**
1976 Total	**20,944**	**859**	**NA**	**132**	**[f] 19,952**	**854**	**[f] 19,098**
1977 Total	**21,097**	**935**	**NA**	**137**	**[f] 20,025**	**863**	**[f] 19,163**
1978 Total	**21,309**	**1,181**	**NA**	**153**	**[f] 19,974**	**852**	**[f] 19,122**
1979 Total	**21,883**	**1,245**	**NA**	**167**	**[f] 20,471**	**808**	**[f] 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 January	1,826	154	29	8	1,636	77	1,559
February	1,667	148	26	7	1,486	70	1,416
March	1,684	165	28	7	1,484	71	1,413
April	1,595	163	27	8	1,397	66	1,331
May	1,579	161	27	8	1,383	66	1,317
June	1,521	154	23	8	1,336	63	1,273
July	1,565	161	27	8	1,368	65	1,303
August	1,554	153	27	8	1,365	65	1,300
September	1,530	159	25	8	1,338	64	1,274
October	1,589	160	27	8	1,394	66	1,328
November	1,599	164	29	8	1,398	66	1,332
December	1,825	173	32	8	1,613	76	1,537
Total	**19,534**	**1,915**	**326**	**95**	**17,198**	**816**	**16,382**
1986 January	1,815	163	29	9	1,614	77	1,536
February	1,583	150	26	8	1,401	66	1,333
March	1,691	167	29	8	1,487	70	1,415
April	1,526	155	28	8	1,336	64	1,271
May	1,553	158	26	8	1,361	65	1,295
June	1,482	145	28	8	1,302	62	1,239
July	1,524	145	28	8	1,344	64	1,278
August	1,523	142	29	8	1,347	64	1,279
September	1,443	133	25	7	1,280	61	1,217
October	1,543	157	25	8	1,353	64	1,288
November	1,634	162	29	9	1,430	68	1,366
December	1,748	161	32	9	1,536	73	1,473
Total	**19,063**	**1,838**	**337**	**98**	**16,791**	**800**	**15,991**
1987 January	1,788	167	35	12	1,575	75	1,500
February	1,608	154	32	8	1,414	67	1,347
March	1,708	167	35	9	1,497	71	1,426
April	1,619	[R] 175	31	9	1,403	67	1,336
May	1,611	185	31	9	1,386	66	1,320
June	1,554	181	30	8	1,334	63	1,271
July	1,581	178	31	8	1,365	65	1,300
August	1,599	173	32	9	1,385	66	1,319
September	[R] 1,539	175	[R] 31	[R] 9	[R] 1,324	[R] 63	[R] 1,261
October	[E] 1,614	[E] 179	[E] 32	[E] 9	[E] 1,394	[E] 66	[E] 1,328
November	[E] 1,619	[E] 180	[E] 32	[E] 9	[E] 1,398	[E] 67	[E] 1,331
11-Month Total	**17,840**	**1,914**	**352**	**99**	**15,475**	**736**	**14,739**
1986 11-Month Total	**17,317**	**1,677**	**302**	**89**	**15,255**	**725**	**14,517**
1985 11-Month Total	**17,709**	**1,742**	**295**	**86**	**15,585**	**739**	**14,846**

[a]Gas withdrawn from gas and oil wells.
[b]Gas returned to formations for repressuring, pressure maintenance, and cycling.
[c]For definitions and further explanations, see Notes at end of section.
[d]Equal to gross withdrawals minus volumes used for repressuring, volumes of nonhydrocarbon gases removed, and volumes vented and flared. See Note 2 at end of section.
[e]Equal to marketed production (wet) minus extraction loss.
[f]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. • Data through 1986 are final. Subsequent data are preliminary.
Sources: See end of section.

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

	Supply					Disposition			
	Total Dry Gas Production	Withdrawals from Storage[a]	Supplemental Gaseous Fuels[b]	Imports[b]	Total Supply/ Disposition[c]	Additions to Storage[a]	Exports[b]	Consumption[b]	Unaccounted for[e]
1973 Total	[d] **21,731**	**1,533**	**NA**	**1,033**	**24,297**	**1,974**	**77**	**22,049**	**196**
1974 Total	[d] **20,713**	**1,701**	**NA**	**959**	**23,373**	**1,784**	**77**	**21,223**	**289**
1975 Total	[d] **19,236**	**1,760**	**NA**	**953**	**21,949**	**2,104**	**73**	**19,538**	**235**
1976 Total	[d] **19,098**	**1,921**	**NA**	**964**	**21,983**	**1,756**	**65**	**19,946**	**216**
1977 Total	[d] **19,163**	**1,750**	**NA**	**1,011**	**21,924**	**2,307**	**56**	**19,521**	**41**
1978 Total	[d] **19,122**	**2,158**	**NA**	**966**	**22,245**	**2,278**	**53**	**19,627**	**287**
1979 Total	[d] **19,663**	**2,047**	**NA**	**1,253**	**22,964**	**2,295**	**56**	**20,241**	**372**
1980 Total	**19,403**	**1,972**	**155**	**985**	**22,515**	**1,949**	**49**	**19,877**	**640**
1981 Total	**19,181**	**1,930**	**176**	**904**	**22,191**	**2,228**	**59**	**19,404**	**501**
1982 Total	**17,758**	**2,164**	**145**	**933**	**21,000**	**2,472**	**52**	**18,001**	**475**
1983 Total	**16,033**	**2,270**	**132**	**920**	**19,354**	**1,822**	**55**	**16,835**	[e] **642**
1984 Total	**17,392**	**2,098**	**110**	**843**	**20,443**	**2,295**	**55**	**17,951**	[e] **143**
1985 January	1,559	652	13	104	2,328	32	5	2,101	190
February	1,416	447	9	99	1,971	47	5	2,148	-229
March	1,413	225	8	90	1,736	98	6	1,719	-87
April	1,331	91	11	76	1,509	208	5	1,447	-151
May	1,317	23	11	73	1,424	300	2	1,148	-26
June	1,273	31	10	65	1,379	257	5	1,077	40
July	1,303	45	12	59	1,419	315	6	1,120	-22
August	1,300	50	12	61	1,423	283	5	1,118	17
September	1,274	20	9	63	1,366	277	5	1,041	43
October	1,328	71	12	76	1,487	203	5	1,148	131
November	1,332	207	9	77	1,625	99	5	1,313	208
December	1,537	538	11	106	2,192	44	5	1,903	240
Total	**16,382**	**2,397**	**126**	**949**	**19,855**	**2,163**	**57**	**17,281**	**354**
1986 January	1,536	421	12	99	2,068	48	5	2,152	-137
February	1,333	375	11	74	1,793	54	3	1,884	-148
March	1,415	215	11	55	1,696	109	5	1,731	-149
April	1,271	73	8	43	1,395	142	6	1,347	-100
May	1,295	42	8	52	1,397	260	3	1,166	-32
June	1,239	24	8	44	1,315	260	6	1,036	13
July	1,278	29	8	48	1,363	281	6	1,031	45
August	1,279	26	8	51	1,364	285	6	995	78
September	1,217	25	8	54	1,304	244	5	939	116
October	1,288	48	9	69	1,414	192	5	1,016	201
November	1,366	200	10	70	1,646	74	6	1,245	321
December	1,473	358	12	90	1,933	36	6	1,673	218
Total	**15,991**	**1,837**	**113**	**750**	**18,692**	**1,984**	**61**	**16,221**	**427**
1987 January	1,500	512	18	101	2,131	42	5	1,958	126
February	1,347	332	15	81	[R] 1,775	37	5	1,774	-41
March	1,426	220	14	87	1,747	109	5	1,622	11
April	1,336	109	12	68	1,525	166	4	1,331	24
May	1,320	26	11	60	1,417	289	5	1,101	22
June	1,271	24	11	57	1,363	260	5	1,017	81
July	1,300	32	12	66	1,410	226	6	1,001	177
August	1,319	49	12	57	1,437	252	5	1,046	134
September	[R] 1,261	18	11	55	[R] 1,345	231	5	960	[R] 149
October	[E] 1,328	100	12	78	1,518	155	4	[R] 1,121	[R] 238
November	[E] 1,331	203	13	58	1,605	148	5	1,326	126
11-Month Total	**14,739**	**1,625**	**141**	**768**	**17,273**	**1,915**	**54**	**14,257**	**1,047**
1986 11-Month Total	**14,517**	**1,478**	**101**	**659**	**16,755**	**1,949**	**56**	**14,542**	**208**
1985 11-Month Total	**14,846**	**1,862**	**116**	**843**	**17,667**	**2,119**	**54**	**15,380**	**114**

[a]Data for 1980 through 1985 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.
[b]For definitions and further explanations, see Notes at end of section.
[c]Data for 1978 forward do not include in-transit receipts and deliveries.
[d]May include unknown quantities of nonhydrocarbon gases.
[e]See Note 7 at end of section.
R=Revised data. NA=Not available. E=Estimate.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Data through 1986 are final. Subsequent data are preliminary.
Sources: See end of section.

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

	Lease and Plant Fuel	Pipeline Fuel	Delivered to Consumers					Total Consumption
			Residential	Commercial[b]	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**	**2,611**	**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 January	91	54	743	372	615	226	1,957	2,101
February	84	46	837	412	566	203	2,017	2,148
March	83	42	566	290	531	207	1,595	1,719
April	79	39	397	206	492	234	1,328	1,447
May	78	40	212	128	454	236	1,029	1,148
June	75	38	157	100	425	282	964	1,077
July	77	40	130	96	440	337	1,002	1,120
August	77	39	119	93	435	355	1,002	1,118
September	75	37	129	98	427	275	929	1,041
October	78	39	190	125	466	250	1,030	1,148
November	79	39	306	180	479	230	1,195	1,313
December	91	51	647	333	571	210	1,762	1,903
Total	**966**	**504**	**4,433**	**2,432**	**5,901**	**3,044**	**15,811**	**17,281**
1986 January	89	50	791	392	647	184	2,013	2,152
February	77	43	685	345	578	157	1,765	1,884
March	82	42	580	291	566	170	1,607	1,731
April	73	36	363	189	488	198	1,239	1,347
May	75	38	236	131	454	231	1,052	1,166
June	71	37	155	99	414	260	928	1,036
July	74	38	126	89	402	301	919	1,031
August	74	38	117	89	400	276	883	995
September	70	36	131	91	366	247	834	939
October	74	38	185	116	386	217	904	1,016
November	79	38	346	189	406	187	1,127	1,245
December	85	47	599	299	471	175	1,544	1,673
Total	**923**	**485**	**4,314**	**2,318**	**5,579**	**2,602**	**14,814**	**16,221**
1987 January	87	51	749	359	528	185	1,820	1,958
February	78	43	697	344	454	158	1,653	1,774
March	82	43	582	288	437	190	1,497	1,622
April	77	40	407	203	398	206	1,214	1,331
May	76	40	226	129	387	243	985	1,101
June	73	38	149	96	377	284	906	1,017
July	75	39	127	91	350	319	887	1,001
August	76	39	119	88	386	339	931	1,046
September	73	37	128	93	361	268	850	960
October	77	39	226	131	411	238	1,005	R 1,121
10-Month Total	**774**	**409**	**3,410**	**1,822**	**4,089**	**2,430**	**11,748**	**12,931**
1986 10-Month Total	**759**	**396**	**3,369**	**1,832**	**4,701**	**2,241**	**12,144**	**13,297**
1985 10-Month Total	**797**	**414**	**3,480**	**1,920**	**4,851**	**2,604**	**12,853**	**14,067**

[a]Includes supplemental gaseous fuels.
[b]Includes deliveries to local, State, and Federal agencies engaged in nonmanufacturing activities.
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. • Data through 1986 are final. Subsequent data are preliminary.
Sources: See end of section.

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	Withdrawals	Net[b]
1973 Total	**2,864**	**2,034**	**4,898**	**305**	**17.6**	**1,974**	**1,533**	**441**
1974 Total	**2,912**	**2,050**	**4,962**	**16**	**.8**	**1,784**	**1,701**	**83**
1975 Total	**3,162**	**2,212**	**5,374**	**162**	**7.9**	**2,104**	**1,760**	**344**
1976 Total	**3,323**	**1,926**	**5,250**	**-286**	**-12.9**	**1,756**	**1,921**	**-165**
1977 Total	**3,391**	**2,475**	**5,866**	**549**	**28.5**	**2,307**	**1,750**	**557**
1978 Total	**3,473**	**2,547**	**6,020**	**72**	**2.9**	**2,278**	**2,158**	**120**
1979 Total	**3,553**	**2,753**	**6,306**	**207**	**8.1**	**2,295**	**2,047**	**248**
1980 Total	**3,642**	**2,655**	**6,297**	**-99**	**-3.6**	**1,896**	**1,910**	**-14**
1981 Total	**3,752**	**2,817**	**6,569**	**162**	**6.1**	**2,180**	**1,887**	**293**
1982 Total	**3,808**	**3,071**	**6,879**	**255**	**9.0**	**2,399**	**2,094**	**306**
1983 Total	**3,847**	**2,595**	**6,442**	**-476**	**-15.5**	**1,700**	**2,142**	**-442**
1984 Total	**3,830**	**2,876**	**6,706**	**281**	**10.8**	**2,252**	**2,064**	**188**
1985 January	3,841	2,242	6,083	151	7.2	32	642	-610
February	3,841	1,853	5,694	-23	-1.2	47	438	-391
March	3,835	1,743	5,578	171	10.8	98	217	-119
April	3,831	1,859	5,691	239	14.8	204	91	113
May	3,837	2,129	5,965	286	15.5	294	23	272
June	3,839	2,351	6,191	211	9.8	252	31	221
July	3,849	2,605	6,454	149	6.1	309	45	263
August	3,849	2,832	6,681	92	3.4	278	50	228
September	3,849	3,081	6,930	85	2.8	272	20	253
October	3,851	3,204	7,055	29	.9	199	71	128
November	3,847	3,086	6,933	71	2.4	99	202	-103
December	3,842	2,607	6,448	-270	-9.4	44	529	-485
Total						**2,128**	**2,359**	**-231**
1986 January	3,842	2,213	6,056	-29	-1.3	48	414	-366
February	3,842	1,872	5,714	19	1.0	54	369	-315
March	3,838	1,764	5,602	21	1.2	109	213	-104
April	3,834	1,841	5,675	-18	-1.0	140	73	67
May	3,830	2,076	5,906	-53	-2.5	255	42	213
June	3,829	2,323	6,153	-28	-1.2	255	24	231
July	3,841	2,570	6,412	-35	-1.3	274	29	245
August	3,840	2,842	6,683	10	.4	279	26	253
September	3,840	3,066	6,906	-16	-.5	239	25	215
October	3,840	3,208	7,048	4	.1	189	48	141
November	3,820	3,077	6,897	-9	-.3	74	197	-123
December	3,819	2,749	6,567	142	5.5	36	352	-316
Total						**1,952**	**1,812**	**140**
1987 January	3,821	2,280	6,101	67	3.0	42	512	-470
February	3,818	1,988	5,806	116	6.2	37	332	-295
March	3,816	1,878	5,694	114	6.5	109	220	-112
April	3,814	1,937	5,751	96	5.2	166	109	57
May	3,813	2,201	6,014	125	6.0	289	26	264
June	3,817	2,433	6,250	110	4.7	260	24	235
July	3,812	2,628	6,440	58	2.2	226	32	194
August	3,811	2,832	6,643	-11	-.4	252	49	203
September	3,813	3,043	6,856	-23	-.7	231	18	213
October	3,813	3,097	6,910	-110	-3.4	155	100	54
November	3,771	3,055	6,826	-22	-.7	148	203	-55

[a]Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1978--6,890; 1979--6,929; 1980--7,434; 1981--7,805; 1982--7,915; 1983--7,985; 1984--8,043; 1985--8,087; and 1986--8,145. Current capacity is 8,145.

[b]Positive numbers indicate injections are greater than withdrawals. Negative numbers indicate withdrawals are greated than injections. Net injections or withdrawals may not equal the difference between applicable ending stocks. See Note 8 at end of section.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Data through 1986 are final. Subsequent data are preliminary.

Sources: See end of section.

Figure 4.1 Natural Gas Consumption, Production, and Imports

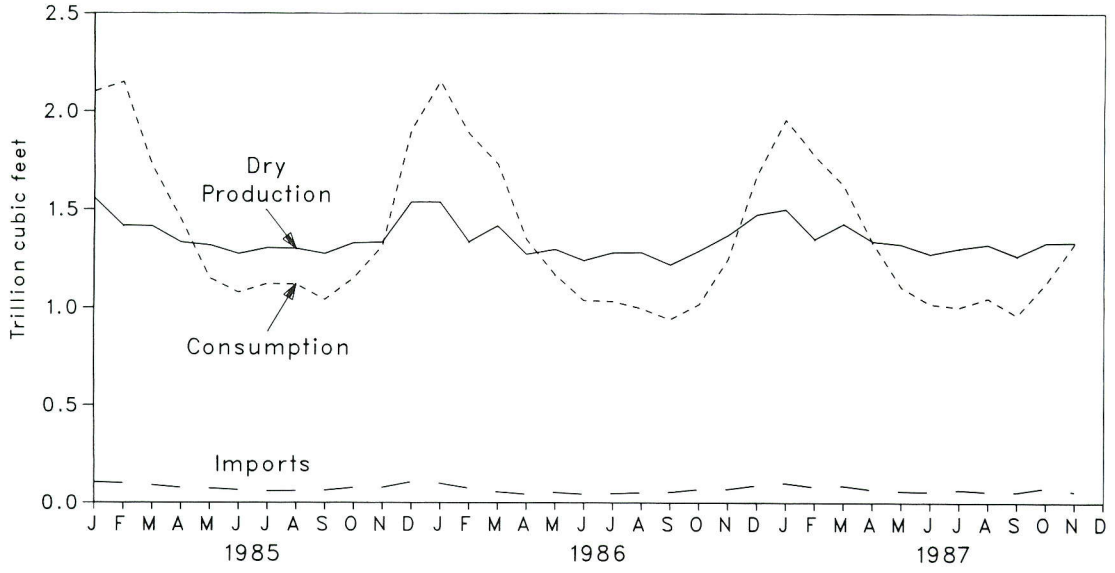
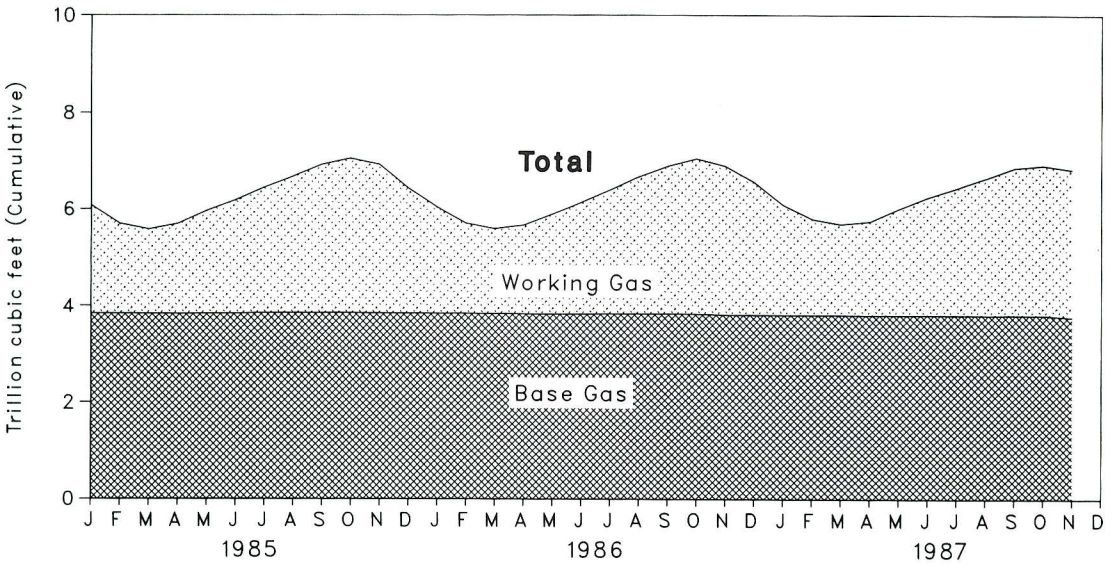


Figure 4.2 Natural Gas in Storage, End of Period



Notes and Sources for the Natural Gas Section

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) 1986.* These data are not available for periods prior to 1980. For 1986, of the 32 producing States, 24 reported data on nonhydrocarbon gases removed. These 24 States accounted for 59 percent of total 1986 gross withdrawals. In addition, gross withdrawals data from two States, which together accounted for 36 percent of the 1986 total production, did not include all or most of the nonhydrocarbon gases removed on leases. No estimates are made for the two States not reporting nonhydrocarbon gases removed. For further information, see the EIA *Natural Gas Monthly (NGM).*

Monthly data are reported by three States and computed for six States. All monthly data are considered preliminary until after publication of the EIA *NGA* for that year. For further information on methods of estimating preliminary monthly data, see the EIA *NGM.*

Monthly data are revised and considered final after publication of the EIA *NGA* by proportionally allocating the differences between annual data published in the EIA *NGA* and the sum of the preliminary monthly data (January-December).

2. Production: Annual data. Final annual data are from the EIA *NGA 1986.*

Estimated Monthly Data. All 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. All monthly data are considered preliminary until after publication of the EIA *NGA* for that year. Preliminary monthly data are gathered from reports from 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. The difference between annual production data published in the EIA *NGA 1986* and the sum of preliminary monthly data (January-December) is allocated proportionally to the preliminary monthly data.

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

Annual data for extraction loss are from the EIA *NGA* 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 each month based on its total natural gas disposition.

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 1986.* Unknown quantities of supplemental gaseous fuels are included in consumption data for 1979 and earlier years.

All monthly data are considered preliminary until after the publication of the EIA *NGA* for that year. 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. This ratio is applied to the monthly sum of these three elements to compute a monthy supplemental gaseous fuels figure.

5. Imports and Exports: The United States imports natural gas via pipeline from Mexico and Canada, and liquefied natural gas (LNG) (until September 1985) 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 liquefied natural gas via tanker to Japan.

Annual and final monthly data are published 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* for that year.

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

All final data are from the EIA, *NGA.* All 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. Unaccounted for: The "Unaccounted for" category represents the following: (1) quantities lost; (2) the net result of flow data metered at varying temperature and pressure conditions and converted to a standard temperature and pressure base; (3) metering inaccuracies; (4) differences between billing cycle and calendar period time frames; (5) the effect of variations in company accounting and billing practices; and (6) imbalances from EIA's 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 "Unaccounted for" 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. This 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.

All monthly data concerning underground storage are collected from the essentially identical Forms FPC-8 and EIA-191. 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 FPC-8/EIA-191 survey are adjusted to correspond to data from Form EIA-176 following publication of the EIA *Natural Gas Annual.*

The final monthly and annual storage and withdrawal data for 1980 through 1986 include both underground and liquefied natural gas (LNG) storage. Underground storage data are taken from the FPC-8/EIA-191 surveys in the manner described earlier. Annual data on LNG additions and withdrawals are taken 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 it to annual LNG data.

Sources

Production: 1973 through 1986: Energy Information Administration (EIA), *Natural Gas Annual 1986;* January 1987 forward: State reports to the Interstate Oil Compact Commission, data from the U.S. Minerals Management Service, and EIA estimates for States that do not report monthly data on a regular or timely basis.

Extraction Loss, Consumption, and Unaccounted For: 1973 through 1986: EIA, *Natural Gas Annual 1986;* January 1987 forward: EIA computations.

Withdrawals from and Additions to Storage: 1973 through 1986: EIA, *Natural Gas Annual 1986;* January 1987 forward: Form FPC-8 and Form EIA-191, "Underground Gas Storage Report."

Supplemental Gaseous Fuels: 1980 through 1986: EIA, *Natural Gas Annual 1986;* January 1987 forward: EIA computations.

Imports and Exports: 1973 through 1986: Form FPC-14, "Imports and Exports of Natural Gas"; January 1987 forward: EIA computations.

End-Use Consumption: All data except electric utility--1973 through 1986: EIA, *Natural Gas Annual, 1986;* January 1987 forward: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," and EIA computations. Electric utility data--EIA, Form 759, "Monthly Power Plant Report" (formerly Form FPC-4).

Underground Storage: 1973 and 1974: American Gas Association, *Gas Facts;* 1975 through 1979: EIA, Form FPC-8 and Form EIA-191, and the *Natural Gas Annual;* 1980 forward: EIA, Form FPC-8, Form EIA-191, and Form 176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

Section 5. Oil and Gas Resource Development

In December 1987, the number of crews engaged in seismic exploration increased for the ninth consecutive month. The December 1987 total of 199 was 42 higher than in December 1986. Of the total, 172 were land crews and 27 were marine vessels. The number of land crews was up by 33 from December 1986 and the number of marine vessels was up by 9.

Similarly, the rotary rig count increased for the eighth consecutive month, reaching a total of 1,162 in December 1987. That total was 1 percent higher than in the previous month and 21 percent higher than in December 1986. Of the total number of rigs in operation, 1,034 were onshore and 128 were offshore. The number of onshore rigs was up 18 percent from the number in December 1986, and the number of offshore rigs was up 44 percent.

Exploratory and development well completions during November 1987 totaled an estimated 2,910, down 16 percent from the previous month, but up 13 percent from the November 1986 total. Oil well completions were 1,410, up 23 percent from the level in November 1986, and gas well completions totaled 620, up 11 percent. Total footage drilled in November 1987 was 12.5 million feet, down 17 percent[5] from the total in October 1987, but up 12 percent from the total in November 1986.

Figure 5.1 Seismic Crews, Rotary Rigs, and Footage Drilled

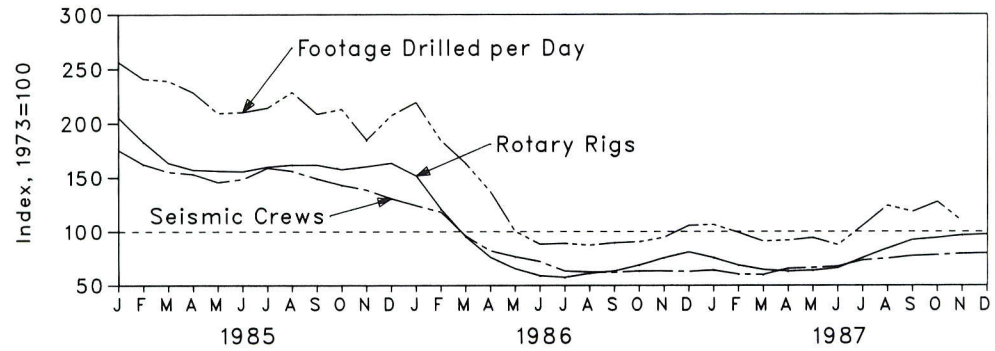
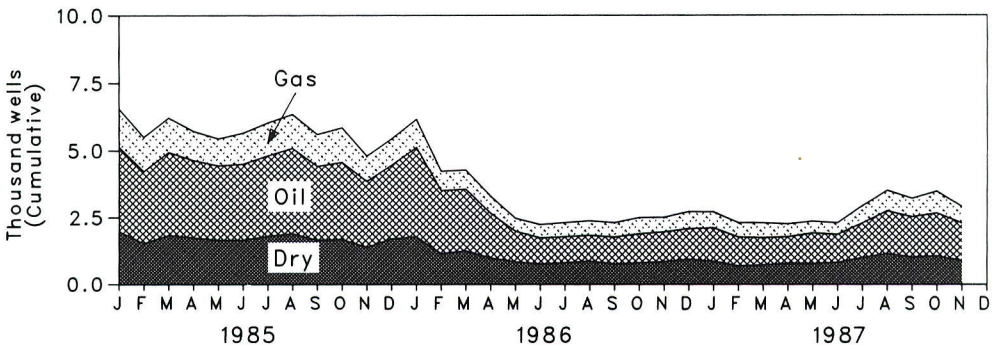


Figure 5.2 Exploratory and Development Wells Completed



[5]Percentage changes are calculated using unrounded data.

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 January	46	393	439	242	2,210	2,452
February	46	360	406	233	1,955	2,188
March	48	340	388	223	1,732	1,955
April	47	336	383	210	1,667	1,877
May	41	323	364	200	1,665	1,865
June	47	324	371	203	1,653	1,858
July	47	350	397	194	1,715	1,909
August	49	341	390	197	1,734	1,931
September	49	323	372	197	1,733	1,930
October	45	312	357	195	1,684	1,879
November	41	305	346	187	1,725	1,912
December	39	287	326	190	1,760	1,950
Average	**45**	**333**	**378**	**206**	**1,774**	**1,980**
1986 January	39	271	310	175	1,635	1,810
February	39	256	295	164	1,280	1,444
March	28	212	240	132	1,007	1,139
April	20	185	205	112	794	906
May	19	172	191	94	687	781
June	18	162	180	73	632	705
July	20	138	158	65	621	686
August	19	137	156	65	665	730
September	24	131	155	74	681	755
October	22	136	158	80	739	819
November	19	139	158	79	820	899
December	18	139	157	89	874	963
Average	**24**	**176**	**201**	**99**	**865**	**964**
1987 January	18	142	160	88	812	900
February	19	132	151	75	743	818
March	18	132	150	76	696	772
April	19	145	164	73	681	754
May	20	146	166	76	687	763
June	22	147	169	85	703	788
July	24	159	183	97	804	901
August	28	159	187	109	894	1,003
September	29	164	193	114	987	1,101
October	32	163	195	116	1,008	1,124
November	28	170	198	118	1,034	1,152
December	27	172	199	128	1,034	1,162
Average	**24**	**153**	**176**	**95**	**841**	**936**

[a]Monthly 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: See end of section.

Table 5.2 Exploratory and Development Wells Completed and Footage Drilled

	Exploratory and Development Wells Completed				Footage Drilled
	Oil	Gas	Dry	Total	
	Thousand Wells				Million Feet
1973 Total	**10.25**	**6.97**	**10.47**	**27.69**	**139.42**
1974 Total	**13.66**	**7.17**	**12.20**	**33.04**	**153.79**
1975 Total	**16.98**	**8.17**	**13.74**	**38.88**	**181.05**
1976 Total	**17.70**	**9.44**	**13.80**	**40.94**	**187.29**
1977 Total	**18.70**	**12.12**	**15.04**	**45.85**	**215.70**
1978 Total	**19.06**	**14.40**	**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**	**408.83**
1982 Total	**38.72**	**18.73**	**25.89**	**83.34**	**374.43**
1983 Total	**36.88**	**14.36**	**23.79**	**75.03**	**314.96**
1984 Total	**42.46**	**16.81**	**25.09**	**84.36**	**365.72**
1985 January	3.17	1.40	1.98	6.55	30.41
February	2.69	1.28	1.53	5.50	25.77
March	3.11	1.27	1.83	6.21	28.30
April	2.89	1.09	1.74	5.72	26.19
May	2.78	1.01	1.65	5.45	24.77
June	2.84	1.16	1.65	5.65	24.08
July	2.97	1.22	1.82	6.01	25.35
August	3.20	1.25	1.89	6.34	27.08
September	2.76	1.19	1.65	5.60	23.89
October	2.92	1.28	1.68	5.88	25.24
November	R 2.49	R .96	R 1.38	R 4.83	R 21.30
December	2.75	.99	1.70	5.44	24.53
Total	**R 34.58**	**R 14.10**	**R 20.50**	**R 69.18**	**R 306.86**
1986 January	3.34	1.04	1.78	6.16	25.94
February	2.36	.72	1.15	4.23	19.74
March	2.31	.71	1.25	4.28	19.32
April	1.67	R .65	R 1.03	R 3.35	R 15.81
May	1.13	.49	.86	2.47	11.86
June	.97	.50	.77	2.24	10.12
July	.96	.54	.82	2.33	10.54
August	.95	.55	.88	2.38	10.32
September	1.00	.54	.77	2.32	10.25
October	1.11	.64	.83	2.57	11.13
November	R 1.15	R .56	R .87	R 2.57	R 11.21
December	1.13	.64	.95	2.72	12.51
Total	**R 18.08**	**R 7.58**	**R 11.95**	**R 37.62**	**R 168.75**
1987 January	1.24	.60	.87	2.71	12.61
February	1.08	.54	.69	2.30	10.57
March	1.02	.55	.73	2.30	10.76
April	1.07	.49	.82	2.38	10.88
May	R 1.19	R .47	.78	R 2.44	R 11.16
June	1.05	.49	.82	2.36	10.97
July	1.28	.65	1.01	2.94	12.52
August	1.59	.76	R .94	R 3.29	R 14.07
September	1.50	.69	1.03	3.22	13.68
October	1.60	.81	1.07	3.48	15.09
November	1.41	.62	.88	2.91	12.52
11-Month Total	**14.03**	**6.67**	**9.64**	**30.34**	**134.83**
1986 11-Month Total	**16.95**	**6.94**	**11.00**	**34.89**	**156.24**
1985 11-Month Total	**31.83**	**13.11**	**18.81**	**63.74**	**282.33**

R=Revised data.

Notes: • Data exclude service wells and stratigraphic 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.

Source: See end of section.

Notes and Sources for the Oil and Gas Resource Development Section

Notes

Beginning in the March 1985 *Monthly Energy Review (MER)*, the Energy Information Administration (EIA) revised the exploratory and development wells drilled data series. In order to present a consistent series, historical as well as current statistics were adjusted.

In previous issues, the *MER* published statistics based on data on well completions reported to the American Petroleum Institute during a given month, as opposed to data on wells actually completed during the month. Because of the time lag from date of well completion to date of reporting, data on well completions reported are not as accurate an indicator of drilling activity as are data on well completions. For example, during 1982 well completions reported continued to rise even though the number of wells actually completed fell. Starting in the March 1985 issue of the *MER*, published figures have been EIA estimates of the number of wells actually completed in a given month and are shown in thousands, rounded to two decimal places. The associated footage drilled is shown in millions, also rounded to two decimal places.

The EIA estimates are calculated using an adjustment process that imputes total well counts and footage by type and class based on partial counts of well completions available from the reported data. That is, based on statistical analysis of the incomplete reported data, the process imputes the missing portions to determine values for total well completions and footage. Estimates for a given month are first published in the *MER* for that month, that is estimates for June 1984 are first published in the June 1984 *MER*. Revisions to the estimates are scheduled for the 6th, 12th, and 24th months following initial publication, as newly reported data refine the accuracy of the estimate. Unscheduled revisions to the published data will also be made when the latest estimate differs by more than 10 percent during the first 5 months, more than 10 percent during the next 6 months, more than 5 percent thereafter through 5 years. After 5 years, the actual reported data will be published.

The three well types considered are oil, gas, and dry. By convention, wells with both oil and gas zones are categorized as oil. Well classes are either development or exploratory; wells in any other class have been deleted. Exploratory well categories considered are new field wildcat, new pool wildcat, deeper pool test, or extension (American Association of Petroleum Geologists well classification codes 1 through 5).

Additional information may be obtained from "Estimating Well Completions," the feature article published in the March 1985 *MER*.

Sources

- Crews Engaged: Society of Exploration Geophysicists, "Monthly Seismic Crew Count" and annual reports published in their bulletins, *Geophysics* and *Leading Edge*.
- Rotary Rigs: Hughes Tool Company, "Rotary Rigs Running--by State."
- Wells and Footage Drilled: EIA computations based on well reports submitted to the American Petroleum Institute by Petroleum Information Corporation.

Section 6. Coal

Coal production in November 1987 totaled 79 million short tons, 9 million short tons (13 percent[6]) above the level of production in November 1986.

Electric utility coal consumption in October 1987 totaled 57 million short tons, 6 percent more than that consumed in October 1986.

Electric utility coal stocks at the end of October 1987 were 161 million short tons, 2 percent more than the 157 million short tons at the end of October 1986.

Exports of coal in October 1987 totaled 7 million short tons, 8 percent less than exports in October 1986. Coal imports in October 1987 totaled 86 thousand short tons, 22 percent less than imports in October 1986.

[6]Percentage changes are calculated using unrounded data.

Figure 6.1 Coal Production, Consumption, Imports, and Exports

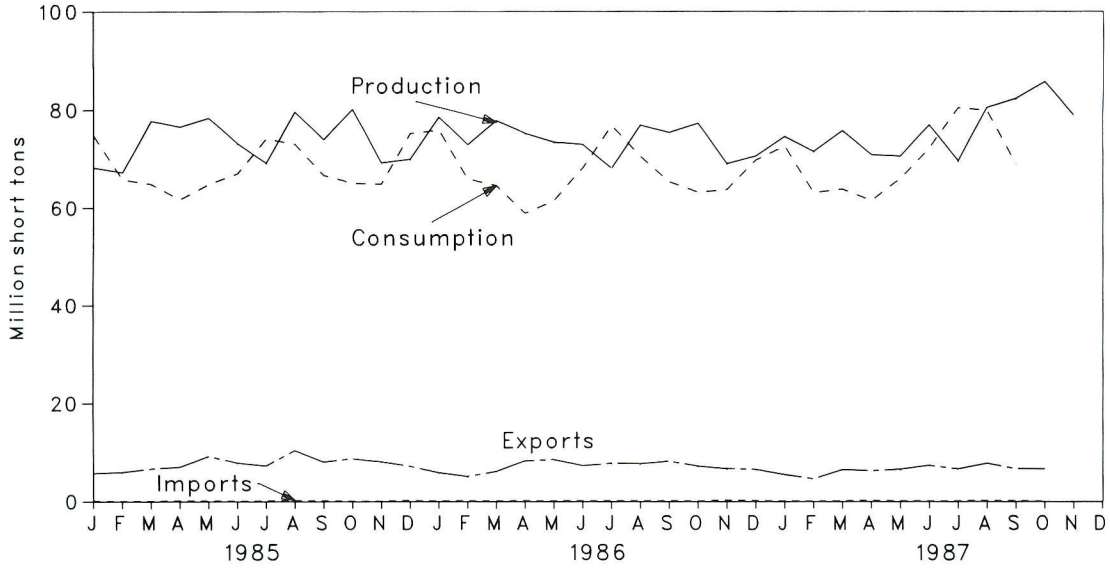


Figure 6.2 Coal Stocks, End of Period

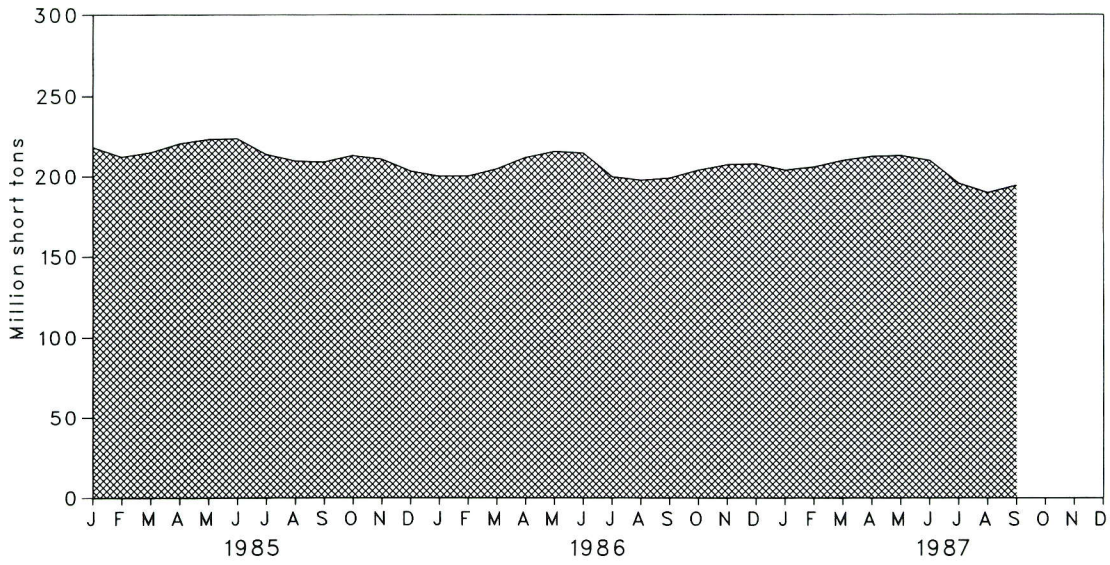


Table 6.1 Coal Overview
(Thousand Short Tons)

	Production	Consumption	Imports[a]	Exports[b]	Stocks[c]
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 January	68,261	74,849	126	5,817	218,131
February	67,233	65,777	101	6,030	212,035
March	77,744	64,857	103	6,696	214,825
April	76,541	61,753	203	7,065	220,230
May	78,382	64,797	159	9,231	222,798
June	73,237	66,978	138	7,913	223,210
July	69,228	74,162	177	7,314	213,601
August	79,622	73,102	264	10,422	209,555
September	73,977	66,673	182	8,095	208,827
October	80,158	65,033	128	8,744	212,920
November	69,268	64,866	111	8,134	210,656
December	69,989	75,201	260	7,220	203,367
Total	**883,638**	**818,049**	**1,952**	**92,680**	
1986 January	78,106	75,877	154	5,935	200,074
February	72,489	65,917	209	5,158	200,159
March	77,379	64,521	122	6,152	204,422
April	74,680	58,921	214	8,302	211,500
May	72,907	61,559	172	8,545	215,508
June	72,413	68,193	190	7,323	214,166
July	67,597	76,787	178	7,780	199,556
August	76,293	70,590	171	7,718	197,412
September	74,791	65,293	188	8,189	198,689
October	79,891	63,179	110	7,205	203,538
November	70,189	63,682	319	6,676	206,834
December	73,580	69,792	185	6,536	207,319
Total	**890,315**	**804,312**	**2,212**	**85,518**	
1987 January	R 74,512	72,635	134	5,471	203,425
February	71,517	63,076	85	4,643	205,537
March	R 75,701	63,770	111	6,462	209,713
April	R 70,863	61,472	229	6,229	212,317
May	R 70,589	65,945	135	6,557	212,763
June	R 76,914	72,193	118	7,328	209,863
July	R 69,634	80,454	120	6,611	195,664
August	R 80,528	79,909	191	7,758	190,001
September	R 82,295	68,959	164	6,665	194,504
October	R 85,705	NA	86	6,633	NA
November	79,008	NA	NA	NA	NA
11-Month Total	**837,266**	**NA**	**NA**	**NA**	
1986 11-Month Total	**816,735**	**734,520**	**2,026**	**78,982**	
1985 11-Month Total	**813,650**	**742,848**	**1,692**	**85,460**	

[a]Includes Puerto Rico.

[b]Excludes shipments of anthracite to U.S. Armed Forces overseas (218 thousand short tons in 1982, 341 thousand short tons in 1983, 298 thousand short tons in 1984, 240 thousand short tons in 1985, and 209 thousand short tons in 1986.)

[c]Stocks held by electric utilities, coke plants, general industry, and coal producers and distributors at end of period. Excludes stocks held at retail dealers for consumption by the residential and commercial sector.

R=Revised data. NA=Not available.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1986 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding. • See Note at end of section for methodology used to calculate production, consumption, and stocks.

Sources: See end of section.

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 January	63,645	3,463	6,911	830	74,849
February	55,491	3,282	6,278	726	65,777
March	54,784	3,511	6,046	518	64,857
April	50,903	3,851	6,236	764	61,753
May	54,595	3,778	5,962	461	64,797
June	57,634	3,284	5,696	365	66,978
July	64,252	3,437	5,950	523	74,162
August	63,076	3,420	6,112	494	73,102
September	56,780	3,361	5,877	656	66,673
October	54,969	3,165	6,183	716	65,033
November	54,311	3,192	6,605	758	64,866
December	63,402	3,313	7,517	969	75,201
Total	**693,841**	**41,056**	**75,372**	**7,779**	**818,049**
1986 January	64,034	3,508	7,443	893	75,877
February	55,050	3,324	6,761	781	65,917
March	53,898	3,555	6,511	557	64,521
April	48,114	3,602	6,401	805	58,921
May	51,420	3,533	6,120	486	61,559
June	58,892	3,071	5,846	384	68,193
July	68,021	2,591	5,705	470	76,787
August	61,709	2,578	5,860	444	70,590
September	56,536	2,534	5,634	589	65,293
October	54,116	2,523	5,878	662	63,179
November	54,158	2,545	6,279	701	63,682
December	59,108	2,641	7,146	896	69,792
Total	**685,056**	**36,006**	**75,583**	**7,667**	**804,312**
1987 January	62,418	2,645	6,849	724	72,635
February	53,715	2,506	6,222	634	63,076
March	54,647	2,681	5,991	452	63,770
April	51,463	3,298	6,109	603	61,472
May	56,505	3,235	5,841	364	65,945
June	63,514	2,812	5,580	288	72,193
July	70,736	3,257	5,959	502	80,454
August	70,075	3,240	6,120	474	79,909
September	59,259	3,184	5,885	630	68,959
October	57,134	NA	NA	NA	NA
10-Month Total	**599,466**	**NA**	**NA**	**NA**	**NA**
1986 10-Month Total	**571,790**	**30,820**	**62,158**	**6,070**	**670,838**
1985 10-Month Total	**576,128**	**34,551**	**61,250**	**6,052**	**677,982**

[a]See Note 2 at end of section.

NA=Not available .

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1986 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding.

Sources: See end of section.

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**	**11,063**	**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 January	167,592	5,583	10,439	183,614	34,517	218,131
February	162,531	4,999	9,561	177,091	34,944	212,035
March	166,355	4,415	8,684	179,454	35,371	214,825
April	171,695	4,472	8,749	184,917	35,313	220,230
May	174,198	4,529	8,815	187,542	35,255	222,798
June	174,545	4,587	8,881	188,013	35,197	223,210
July	165,903	4,171	9,184	179,258	34,342	213,601
August	162,825	3,754	9,488	176,068	33,487	209,555
September	163,065	3,338	9,791	176,195	32,632	208,827
October	166,749	3,365	10,007	180,121	32,799	212,920
November	164,075	3,393	10,222	177,690	32,966	210,656
December	156,376	3,420	10,438	170,234	33,133	203,367
1986 January	152,078	3,302	9,930	165,311	34,763	200,074
February	151,157	3,185	9,423	163,765	36,394	200,159
March	154,415	3,067	8,916	166,398	38,024	204,422
April	161,076	3,224	9,135	173,434	38,065	211,500
May	164,667	3,380	9,353	177,401	38,107	215,508
June	162,909	3,537	9,572	176,018	38,148	214,166
July	149,803	3,313	9,740	162,856	36,700	199,556
August	149,163	3,090	9,908	162,161	35,252	197,412
September	151,945	2,866	10,074	164,885	33,804	198,689
October	157,202	2,908	10,195	170,305	33,233	203,538
November	160,908	2,950	10,314	174,171	32,663	206,834
December	161,806	2,992	10,429	175,226	32,093	207,319
1987 January	157,061	2,886	9,896	169,843	33,582	203,425
February	158,322	2,780	9,363	170,466	35,071	205,537
March	161,648	2,675	8,830	173,153	36,560	209,713
April	164,745	3,028	8,855	176,628	35,689	212,317
May	165,683	3,381	8,881	177,946	34,818	212,763
June	163,275	3,735	8,907	175,917	33,946	209,863
July	150,418	3,675	9,362	163,454	32,210	195,664
August	146,096	3,615	9,816	159,527	30,474	190,001
September	151,940	3,554	10,271	165,766	28,738	194,504
October	160,989	NA	NA	NA	NA	NA

[a]Total excludes 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 1986 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding.
Sources: See end of section.

Notes and Sources for the Coal Section

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 (AAR) 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 (ICC). 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 the *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: Both monthly and quarterly consumption for electric utility plants are taken directly from reported data. Prior to 1980, monthly consumption at coke plants was also taken directly from reported data. Since that time, it has been estimated by proportioning reported quarterly data using the ratios of monthly to quarterly consumption in 1979, the last year in which monthly data were reported. Quarterly consumption is taken directly from reported data.

Prior to 1978, monthly consumption for the other industrial sector (i.e., all industrial users minus coke plants) was 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 subsequent years, monthly figures were derived from data reported on Forms EIA-3 and EIA-6. Beginning in 1980, monthly figures have been estimated by proportioning derived quarterly data using the ratios of monthly to quarterly consumption in 1979, the last year in which monthly data were reported on Form EIA-3. Quarterly consumption for the other industrial sector is derived from reported data by adding beginning stocks at manufacturing plants to current receipts and subtracting ending stocks at manufacturing plants. In this calculation, current receipts are taken as 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 are included where appropriate.

Prior to 1980, monthly consumption for the residential and commercial sector was derived by using reported data to modify baseline figures developed by the Bureau of Mines. Since that time, it has been estimated by proportioning reported quarterly data using the ratios of monthly to quarterly consumption 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 is taken directly from reported data and is defined as distribution to the residential and commercial sector as reported by coal producers and distributors on Form EIA-6.

3. Stocks: Both monthly and quarterly stocks at electric utility plants are taken directly from reported data. Prior to 1980, monthly stocks at coke plants were also taken directly from reported data. Since that time, they have been estimated by using one-third of the current quarterly change to indicate the monthly change in stocks. Quarterly stocks are taken directly from data reported on Form EIA-5.

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. During the period 1978 through 1982, they were derived by judgmentally proportioning reported quarterly data based on representative seasonal patterns of supply and demand. Since that time, they have been estimated as indicated above for coke plants. Quarterly stocks are taken directly from data reported on Form EIA-3 and therefore include only manufacturing industries: data for agriculture, forestry, fishing, mining, and construction stocks are not available.

Prior to 1980, monthly and quarterly stock data for the residential and commercial sector were taken directly from reported data. Monthly and quarterly stock data are not available for the residential and commercial sector after December 1979.

Quarterly stocks at producers and distributors are taken directly from reported data. Monthly data are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks.

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

Additional information concerning coal production, consumption, and stock data and estimation procedures may be obtained in EIA's *Quarterly Coal Report,* DOE/EIA-0121.

Sources

Production: 1973 through September 1977: Bureau of Mines, *Minerals Yearbook* and *Mineral Industry Surveys;* October 1977 forward: Energy Information Administration (EIA), *Weekly Coal Production.*

Consumption and Stocks: 1973 through September 1977: Bureau of Mines, *Minerals Yearbook* and *Mineral Industry Surveys* (except Residential and Commercial Consumption and Stocks and Producers and Distributors Stocks);

- Electric Utilities--October 1977 forward: EIA, Form EIA-759 (formerly FPC Form 4), "Monthly Power Plant Report."
- Coke Plants--October 1977 through December 1980: EIA, Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual"; January 1981 forward: EIA, Form EIA-5/5A, "Coke Plant Report-Quarterly/Annual Supplement."
- Other Industrial--October 1977 through December 1979: EIA, Form EIA-3, "Monthly Fuel Consumption Report-Manufacturing Plants"; January 1980 forward: EIA, Form EIA-3, "Quarterly Fuel Consumption Report-Manufacturing Plants" and Form EIA-6, "Coal Distribution Report."
- Residential and Commercial Consumption and Stocks-1973 through 1976: Bureau of Mines, *Minerals Yearbook;* January 1977 through September 1977: Bureau of Mines, Form 6-1400-M, "Monthly Coal Report, Retail Dealers-Upper Lake Docks"; 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," (stock data are not collected).
- Producers and Distributors Stocks--January 1980 forward: EIA, Form EIA-6, "Coal Distribution Report."

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

Section 7. Electric Utilities

During October 1987, electric utilities generated 203 billion kilowatthours of electricity, 3 percent[7] above the October 1986 generation level. Coal-fired generation totaled 118 billion kilowatthours, 8 percent above the October 1986 level. Nuclear generation totaled 36 billion kilowatthours, 1 percent above the October 1986 level. Natural gas-fired generation was 23 billion kilowatthours in October 1987, 10 percent above the October 1986 level. Hydroelectric generation was 18 billion kilowatthours in October 1987, 16 percent below the level 1 year earlier. Petroleum-fired generation totaled 7 billion kilowatthours, 31 percent below the October 1986 level.

Sales of electricity to all ultimate consumers in the United States in October 1987 were 197 billion kilowatthours, 2 percent above the October 1986 sales. Sales to residential consumers during October 1987 were 61 billion kilowatthours, 3 percent below the level of sales during the previous year. Commercial sales were 56 billion kilowatthours, 5 percent above the amount sold to commercial consumers 1 year earlier. Sales to industrial consumers totaled 73 billion kilowatthours in October 1987, 5 percent more than the previous year's figure. In October 1987, other sales totaled 7 billion kilowatthours, slightly above the October 1986 level.

Electric utility petroleum consumption (excluding petroleum coke) during October 1987 was 11 million barrels, 31 percent below the October 1986 level. Coal consumption during October 1987 was 57 million short tons, 6 percent above the October 1986 rate. During October 1987, electric utilities consumed 238 billion cubic feet of natural gas, 10 percent above the October 1986 consumption level.

On October 31, 1987, utility stocks of all types of coal totaled 161 million short tons. Those stockpiles were 2 percent above the level of October 31, 1986. Petroleum stocks (excluding petroleum coke) on October 31, 1987, totaled 69 million barrels, 5 percent below the level on the same date in 1986.

[7]Percentage changes are calculated using unrounded data.

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	**847,651**	**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**	**294,624**	**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**	**2,286,439**
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 January	129,092	12,077	22,051	36,186	27,543	906	227,856
February	112,037	9,270	19,417	30,812	25,902	803	198,242
March	111,391	7,120	19,848	31,041	24,640	930	194,970
April	104,790	6,017	22,425	26,458	24,403	783	184,877
May	111,515	6,859	22,481	28,697	26,421	816	196,790
June	115,583	7,576	26,740	30,837	23,839	788	205,363
July	128,880	8,289	32,191	35,184	21,293	885	226,722
August	126,550	9,858	33,915	34,812	19,981	934	226,050
September	114,630	7,435	26,273	34,508	18,767	887	202,499
October	111,053	7,514	24,120	31,205	20,048	849	194,789
November	108,815	7,008	22,453	30,166	22,954	1,031	192,427
December	127,792	11,177	20,031	33,782	25,359	1,113	219,255
Total	**1,402,128**	**100,202**	**291,946**	**383,691**	**281,149**	**10,724**	**2,469,841**
1986 January	130,190	11,088	17,472	36,219	21,377	1,123	217,470
February	110,982	9,529	14,925	32,721	23,222	956	192,336
March	110,390	10,073	16,149	30,773	28,465	984	196,834
April	98,995	9,227	18,961	30,477	27,523	891	186,074
May	104,900	10,435	21,947	31,924	27,205	903	197,315
June	120,154	11,563	24,767	31,334	26,223	973	215,015
July	136,654	16,296	28,712	35,894	24,072	1,045	242,672
August	123,618	15,466	26,352	37,483	21,189	1,058	225,166
September	113,957	10,677	23,457	36,593	21,114	895	206,692
October	108,584	9,873	20,876	36,214	21,335	872	197,754
November	109,045	10,464	18,044	34,944	23,153	781	196,432
December	118,362	11,894	16,845	39,463	25,965	1,022	213,551
Total	**1,385,831**	**136,585**	**248,508**	**414,038**	**290,844**	**11,503**	**2,487,310**
1987 January	126,624	11,924	17,788	39,975	25,409	1,017	222,736
February	109,641	10,504	15,120	36,598	21,216	940	194,019
March	111,920	10,007	18,349	37,290	23,236	1,034	201,837
April	105,494	7,898	19,595	33,518	22,029	965	189,499
May	115,039	8,146	23,248	34,320	24,221	1,012	205,986
June	129,299	10,655	27,090	36,560	20,808	1,071	225,483
July	143,503	12,547	30,512	39,603	20,193	1,103	247,461
August	143,190	11,288	32,260	41,352	18,446	1,101	247,638
September	120,777	7,696	25,678	39,666	18,164	1,011	212,992
October	117,743	6,821	22,984	36,492	17,952	1,015	203,007
10-Month Total	**1,223,231**	**97,486**	**232,623**	**375,374**	**211,674**	**10,270**	**2,150,659**
1986 10-Month Total	**1,158,424**	**114,228**	**213,619**	**339,630**	**241,726**	**9,700**	**2,077,327**
1985 10-Month Total	**1,165,522**	**82,017**	**249,461**	**319,742**	**232,837**	**8,581**	**2,058,159**

[a]Includes fuel oil Nos. 2, 4, 5, and 6, crude oil, kerosene, and petroleum coke.
[b]Includes supplemental gaseous fuels.
[c]Other 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 4, "Monthly Power Plant Report"; • October 1977 through 1981: Federal Energy Regulatory Commission, FPC Form 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	
	Old	New	Old	New	Old	New	Old	New	Old	New
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**		**68,222**		**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**	**577,275**	**840,588**	**838,718**	**81,849**	**88,887**	**2,278,372**	**2,284,972**
1985 January	77,242	77,520	49,634	49,284	67,219	68,090	7,270	7,860	201,364	202,755
February	78,011	78,292	49,406	49,058	66,582	67,445	7,046	7,618	201,045	202,413
March	63,981	64,211	46,629	46,301	67,437	68,310	6,875	7,434	184,922	186,257
April	56,025	56,227	45,826	45,503	68,445	69,332	7,049	7,622	177,345	178,684
May	52,842	53,032	47,711	47,375	70,140	71,049	6,903	7,464	177,596	178,921
June	60,652	60,871	51,521	51,158	70,091	70,999	6,848	7,404	189,112	190,432
July	70,966	71,222	56,128	55,733	69,760	70,663	7,135	7,714	203,989	205,333
August	73,693	73,959	57,041	56,640	71,402	72,328	7,277	7,868	209,414	210,795
September	71,064	71,320	55,960	55,566	70,744	71,660	7,263	7,853	205,030	206,399
October	57,515	57,723	49,978	49,626	69,158	70,054	6,903	7,464	183,554	184,866
November	56,794	56,999	47,843	47,506	67,164	68,034	7,264	7,854	179,065	180,393
December	72,192	72,452	51,289	50,928	66,383	67,243	7,243	7,831	197,107	198,454
Total	**790,977**	**793,828**	**608,968**	**604,679**	**824,523**	**835,207**	**85,075**	**91,988**	**2,309,543**	**2,325,702**
1986 January[c]		82,755		53,377		65,400		7,246		208,779
February		70,949		50,481		65,373		6,863		193,665
March		65,318		48,256		67,018		6,837		187,430
April		56,647		47,243		66,783		6,275		176,949
May		54,266		48,867		68,076		6,804		178,012
June		63,986		57,121		67,973		6,872		195,953
July		80,365		61,100		68,814		7,533		217,812
August		80,425		60,528		68,737		7,254		216,943
September		68,543		57,711		69,396		7,156		202,807
October		62,875		53,256		69,487		7,025		192,642
November		58,589		50,278		65,239		6,255		180,362
December		72,945		53,250		65,995		7,290		199,480
Total		**817,663**		**641,469**		**808,292**		**83,409**		**2,350,835**
1987 January		82,175		54,359		65,742		7,431		209,708
February		73,486		52,090		65,430		7,162		198,168
March		67,404		51,123		68,009		7,021		193,557
April		60,014		49,554		68,128		6,855		184,551
May		58,498		53,287		70,105		7,050		188,940
June		68,842		59,068		72,568		7,308		207,786
July		83,630		64,215		73,715		7,599		229,159
August		88,180		64,937		74,751		7,690		235,558
September		73,494		61,139		74,525		7,274		216,431
October		60,885		55,767		72,924		7,053		196,630
10-Month Total		**716,609**		**565,540**		**705,896**		**72,443**		**2,060,488**
1986 10-Month Total		**686,129**		**537,941**		**677,058**		**69,864**		**1,970,992**
1985 10-Month Total		**664,377**		**506,245**		**699,930**		**76,302**		**1,946,854**

[a]Electricity sales to all ultimate consumers.

[b]Includes sales of electricity to Government, railways, street lighting authorities, and sales not included elsewhere.

[c]Beginning in January 1986, monthly Form EIA-826 electricity sales estimates, which are preliminary Form EIA-861 values, are based on a new sample and new expansion factors from data reported on Form EIA-861.

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

Sources: **Old Series:** • 1973 through February 1980: Federal Power Commission, FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income"; • March 1980 through 1982: Federal Energy Regulatory Commission, FERC Form 5, "Electric Utility Company Monthly Statement"; • 1983 through 1985, Energy Information Administration, Form EIA-826, "Electric Utility Company Monthly Statement." **New Series:** • 1984 and 1985 annual data: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report." • 1985 monthly data: Energy Information Administration, Form EIA-861 annual data ratioed to months based on Energy Information Administration, Form EIA-826 monthly data. • 1986 monthly and annual data: Energy Information Administration, Form EIA-826, "Electric Utility Company Monthly Statement." • 1987 monthly data: Energy Information Administration, Form-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions."

Figure 7.1 Coal Consumed to Produce Electricity

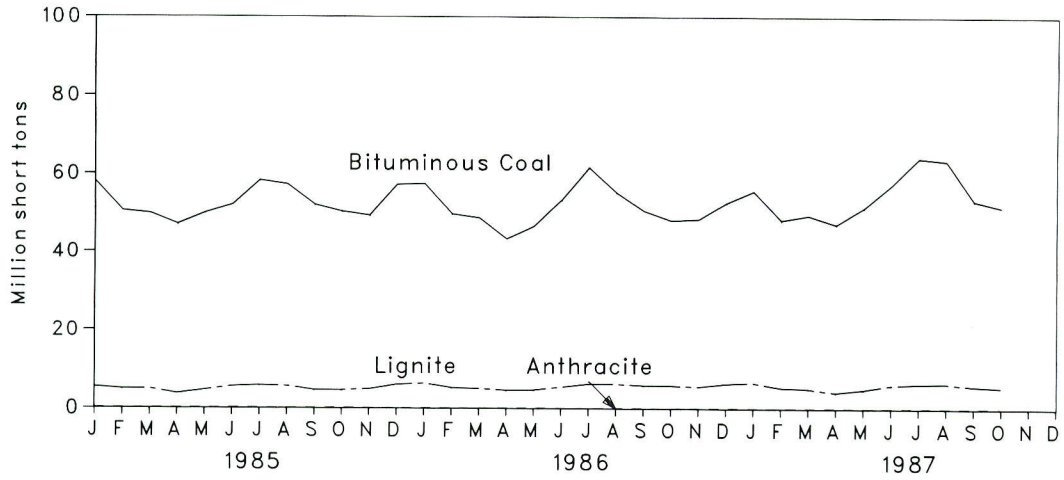


Figure 7.2 Petroleum Consumed to Produce Electricity

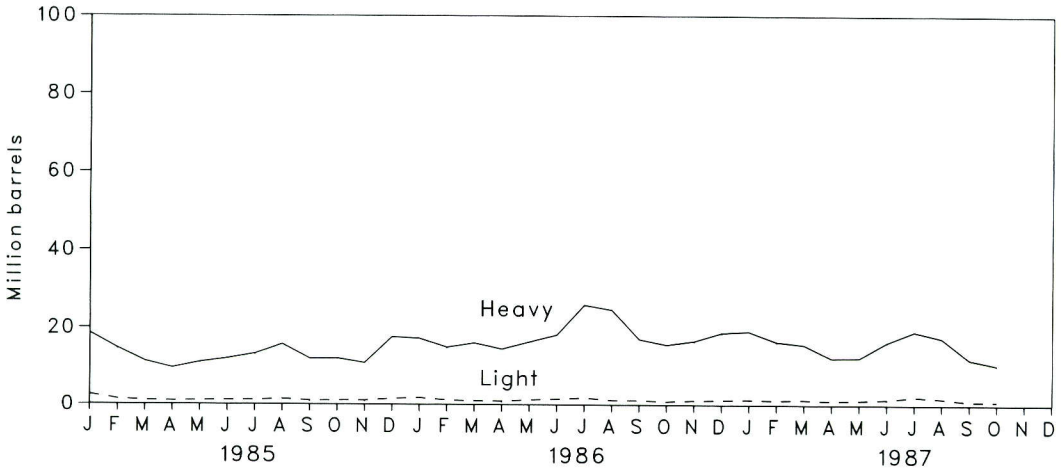


Figure 7.3 Natural Gas Consumed to Produce Electricity

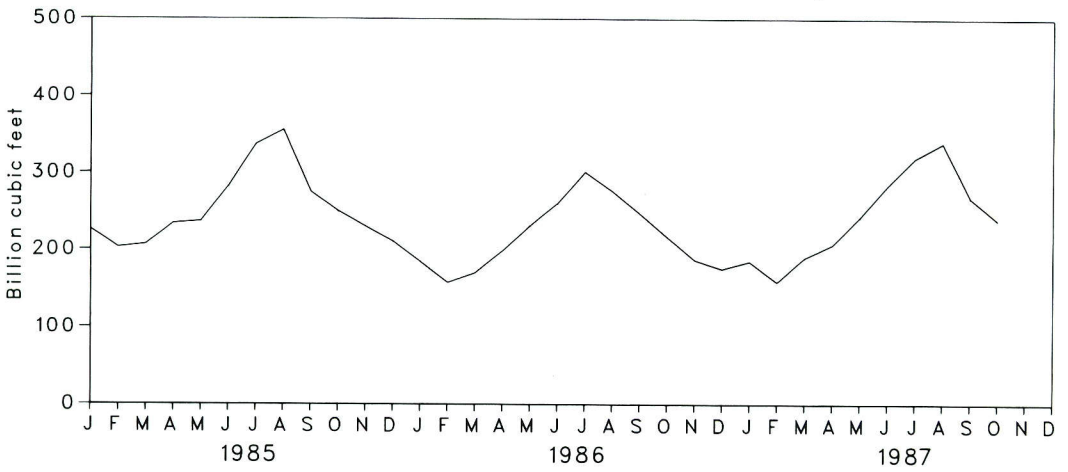


Table 7.3 Fossil Fuels Consumed by Electric Utilities To Generate Electricity

	Coal				Petroleum				Natural Gas[c]
	Anthracite	Bituminous Coal	Lignite	Total	Heavy[a]	Light[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**	**11,670**	**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 January	88	58,155	5,402	63,645	18,574	2,482	21,056	18	226,276
February	70	50,481	4,940	55,491	14,729	1,333	16,062	17	202,546
March	78	49,793	4,913	54,784	11,323	980	12,303	16	207,286
April	92	47,072	3,738	50,903	9,561	911	10,471	16	233,819
May	98	49,890	4,607	54,595	11,046	962	12,008	13	236,220
June	90	51,984	5,561	57,634	12,005	1,111	13,116	21	281,939
July	92	58,327	5,833	64,252	13,238	1,109	14,347	20	336,535
August	96	57,304	5,676	63,076	15,730	1,338	17,067	19	354,653
September	74	52,031	4,675	56,780	11,994	979	12,972	24	274,868
October	85	50,265	4,619	54,969	12,060	969	13,029	23	249,579
November	83	49,315	4,913	54,311	10,925	1,021	11,946	23	229,943
December	86	57,270	6,046	63,402	17,595	1,440	19,035	20	210,417
Total	**1,033**	**631,885**	**60,923**	**693,841**	**158,779**	**14,635**	**173,414**	**231**	**3,044,083**
1986 January	67	57,525	6,442	64,034	17,254	1,688	18,942	15	184,024
February	50	49,711	5,289	55,050	14,978	1,100	16,077	15	157,070
March	88	48,737	5,073	53,898	16,090	928	17,018	23	169,697
April	84	43,391	4,639	48,114	14,538	893	15,431	23	198,143
May	68	46,629	4,723	51,420	16,386	1,209	17,595	25	231,041
June	64	53,332	5,496	58,892	18,173	1,390	19,564	24	260,163
July	67	61,669	6,285	68,021	25,839	1,727	27,567	26	300,870
August	64	55,331	6,314	61,709	24,633	1,150	25,782	31	276,163
September	47	50,574	5,916	56,536	17,102	1,107	18,209	31	246,674
October	57	48,151	5,907	54,116	15,714	869	16,584	26	216,738
November	84	48,451	5,623	54,158	16,656	1,076	17,731	34	186,605
December	88	52,634	6,386	59,108	18,794	1,189	19,983	38	175,181
Total	**829**	**616,134**	**68,093**	**685,056**	**216,156**	**14,326**	**230,482**	**313**	**2,602,370**
1987 January	68	55,686	6,664	62,418	19,142	1,317	20,459	28	184,722
February	75	48,243	5,397	53,715	16,510	1,152	17,662	29	158,341
March	79	49,428	5,140	54,647	15,741	1,289	17,030	28	189,732
April	75	47,181	4,207	51,463	12,297	1,033	13,330	23	206,441
May	91	51,437	4,977	56,505	12,420	1,183	13,604	31	242,615
June	100	57,321	6,093	63,514	16,384	1,411	17,794	26	283,749
July	105	64,203	6,428	70,736	19,193	2,076	21,269	28	319,236
August	95	63,456	6,524	70,075	17,470	1,648	19,118	31	338,643
September	72	53,338	5,850	59,259	12,015	924	12,939	31	268,080
October	66	51,588	5,479	57,134	10,538	904	11,442	35	238,186
10-Month Total	**827**	**541,882**	**56,758**	**599,466**	**151,709**	**12,937**	**164,646**	**290**	**2,429,745**
1986 10-Month Total	**657**	**515,050**	**56,083**	**571,790**	**180,707**	**12,061**	**192,768**	**241**	**2,240,584**
1985 10-Month Total	**864**	**525,301**	**49,964**	**576,128**	**130,259**	**12,173**	**142,432**	**188**	**2,603,723**

[a]Heavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils.
[b]Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.
[c]Includes supplemental gaseous fuels.
[d]Prior 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 4, "Monthly Power Plant Report"; • October 1977 through 1981: Federal Energy Regulatory Commission, FPC Form 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

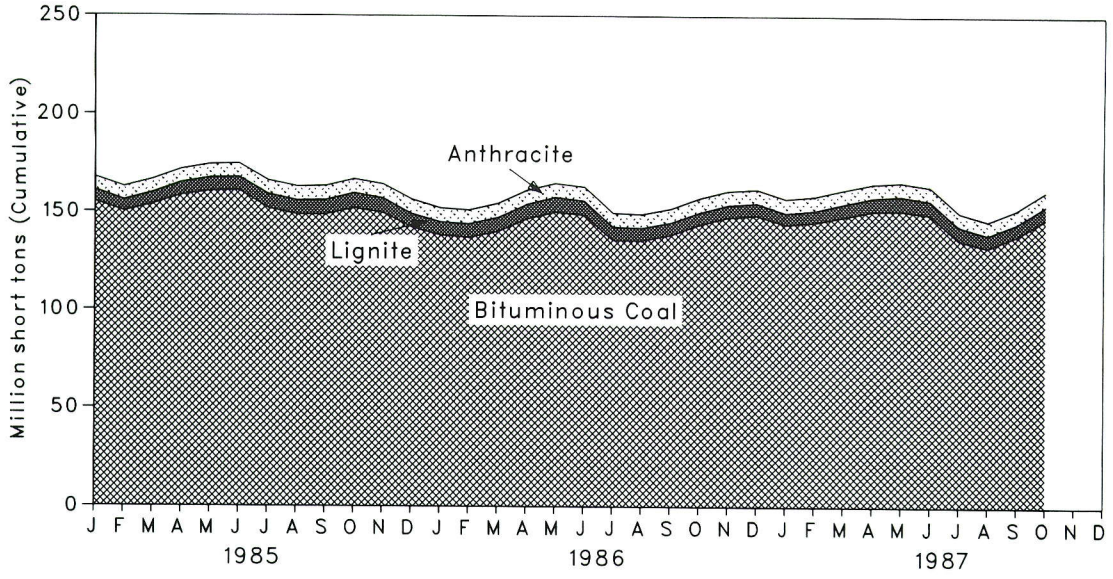


Figure 7.5 Petroleum Stocks at Electric Utilities, End of Period

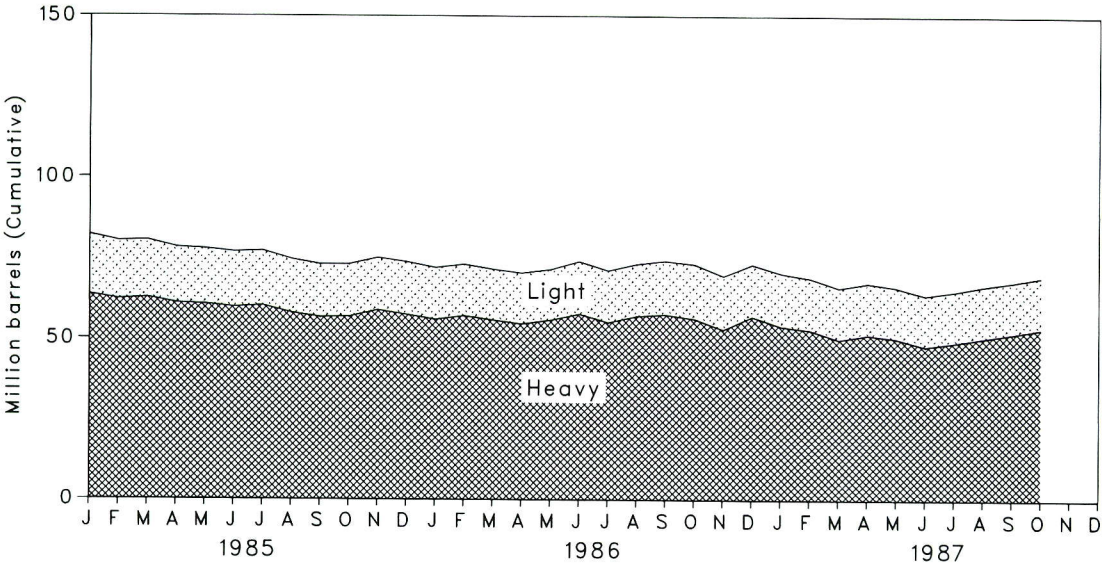


Table 7.4 Coal and Petroleum Stocks at Electric Utilities, End of Period

	Coal				Petroleum			
	Anthracite	Bituminous Coal	Lignite	Total	Heavy[a]	Light[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 January	6,719	155,067	5,806	167,592	63,546	18,518	82,064	57
February	6,736	150,077	5,717	162,531	62,094	18,088	80,182	50
March	6,782	153,739	5,834	166,355	62,558	17,837	80,395	43
April	6,836	158,218	6,641	171,695	60,889	17,398	78,286	31
May	6,905	160,326	6,967	174,198	60,530	17,236	77,765	33
June	6,991	160,595	6,959	174,545	59,629	17,218	76,846	33
July	7,045	151,809	7,049	165,903	60,116	17,034	77,151	43
August	7,109	148,698	7,018	162,825	57,820	16,699	74,519	42
September	7,185	148,637	7,243	163,065	56,487	16,442	72,930	40
October	7,258	151,999	7,492	166,749	56,676	16,292	72,968	43
November	7,223	149,579	7,272	164,075	58,720	16,250	74,970	47
December	7,189	142,144	7,043	156,376	57,304	16,386	73,689	49
1986 January	7,182	138,077	6,819	152,078	55,797	16,147	71,943	52
February	7,172	136,944	7,042	151,157	56,956	16,020	72,976	50
March	7,146	140,023	7,246	154,415	55,649	15,821	71,470	36
April	7,127	146,639	7,310	161,076	54,556	15,793	70,350	28
May	7,133	150,164	7,370	164,667	55,665	15,764	71,429	34
June	7,148	148,686	7,075	162,909	57,611	16,319	73,930	36
July	7,158	135,630	7,016	149,803	55,023	16,145	71,168	43
August	7,117	135,542	6,504	149,163	56,964	16,221	73,185	42
September	7,146	138,396	6,403	151,945	57,474	16,686	74,160	45
October	7,158	143,855	6,189	157,202	56,148	17,009	73,157	41
November	7,119	147,597	6,191	160,908	53,000	16,575	69,575	42
December	7,099	148,665	6,042	161,806	56,841	16,269	73,111	40
1987 January	7,091	144,044	5,926	157,061	53,941	16,496	70,437	35
February	7,087	145,206	6,030	158,322	52,847	16,072	68,919	34
March	7,098	148,020	6,530	161,648	49,957	15,970	65,927	41
April	7,103	151,112	6,530	164,745	51,345	16,012	67,356	35
May	7,098	151,329	7,255	165,683	50,299	15,784	66,083	43
June	7,098	149,309	6,868	163,275	47,916	15,707	63,623	55
July	7,102	136,106	7,209	150,418	49,123	15,780	64,903	64
August	7,083	132,525	6,488	146,096	50,451	16,006	66,457	57
September	7,068	138,469	6,403	151,940	51,776	15,993	67,769	48
October	7,070	147,081	6,838	160,989	53,266	16,046	69,312	60

[a]Heavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils.
[b]Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.
[c]Prior 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 4, "Monthly Power Plant Report"; • October 1977 through 1981: Federal Energy Regulatory Commission, FPC Form 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 January	19,846	1,210	21,056	71,528	10,536	82,064
February	15,595	467	16,062	70,088	10,094	80,182
March	11,966	337	12,303	70,385	10,010	80,395
April	10,133	338	10,471	68,651	9,636	78,286
May	11,604	403	12,008	68,249	9,516	77,765
June	12,516	601	13,116	67,529	9,317	76,846
July	13,840	507	14,347	67,816	9,334	77,151
August	16,272	795	17,067	65,307	9,212	74,519
September	12,485	488	12,972	63,701	9,229	72,930
October	12,646	383	13,029	63,908	9,059	72,968
November	11,584	362	11,946	66,103	8,867	74,970
December	18,355	680	19,035	64,704	8,985	73,689
Total	**166,842**	**6,572**	**173,414**			
1986 January	17,915	1,027	18,942	63,043	8,901	71,943
February	15,536	541	16,077	64,134	8,842	72,976
March	16,585	433	17,018	62,671	8,799	71,470
April	14,982	449	15,431	61,758	8,591	70,350
May	16,933	662	17,595	63,010	8,419	71,429
June	18,796	768	19,564	65,115	8,816	73,930
July	26,373	1,193	27,567	62,322	8,845	71,168
August	25,104	678	25,782	64,167	9,018	73,185
September	17,500	709	18,209	65,183	8,976	74,160
October	16,194	390	16,584	63,937	9,220	73,157
November	17,171	561	17,731	60,527	9,048	69,575
December	19,410	572	19,983	64,258	8,853	73,111
Total	**222,500**	**7,983**	**230,482**			
1987 January	19,798	661	20,459	61,399	9,037	70,437
February	17,007	655	17,662	59,903	9,016	68,919
March	16,335	695	17,030	57,022	8,905	65,927
April	12,873	457	13,330	58,442	8,914	67,356
May	13,017	586	13,604	57,581	8,502	66,083
June	16,976	818	17,794	54,874	8,750	63,623
July	19,754	1,515	21,269	56,224	8,680	64,903
August	17,948	1,170	19,118	57,739	8,718	66,457
September	12,441	498	12,939	58,774	8,995	67,769
October	11,108	334	11,442	60,225	9,086	69,312
10-Month Total	**157,257**	**7,388**	**164,646**			
1986 10-Month Total	**185,919**	**6,850**	**192,768**			
1985 10-Month Total	**136,903**	**5,529**	**142,432**			

[a]GT/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 4, "Monthly Power Plant Report"; • October 1977 through 1981: Federal Energy Regulatory Commission, FPC Form 4, "Monthly Power Plant Report"; • 1982 forward: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

Section 8. Nuclear

In October 1987, U.S. nuclear generating units produced a total of 36 billion net kilowatthours of electricity, 1 percent[8] higher than in October 1986. Nuclear units generated at an average capacity factor of 53.1 percent, 5 percentage points lower than the October 1986 value. Nuclear power supplied 18.0 percent of the total electricity generated in October 1987, compared to 18.3 percent in October 1986.

The Nuclear Regulatory Commission (NRC) issued no full power operating licenses during October 1987.

On October 31, 1987, there were 106 operable nuclear generating units in the United States, with a collective net summer generating capability of 92 million kilowatts of electricity. Four additional units (Palo Verde 3, Seabrook 1, Shoreham, and South Texas 1) had been issued low-power operating licenses from the NRC authorizing fuel loading and low-power testing. Of the 106 operable units, 35 units generated at less than 25 percent of capacity. Of the 35 units, 23 units were out of service at least part of the month for maintenance or refueling.

As of October 31, there were 127 domestic nuclear generating units in all stages of planning, construction, or operation, with an aggregate net design capacity of 119 million kilowatts.

[8]Percentage changes are calculated using unrounded data.

Figure 8.1 Electricity Generated by Utilities and by Nuclear Power Plants

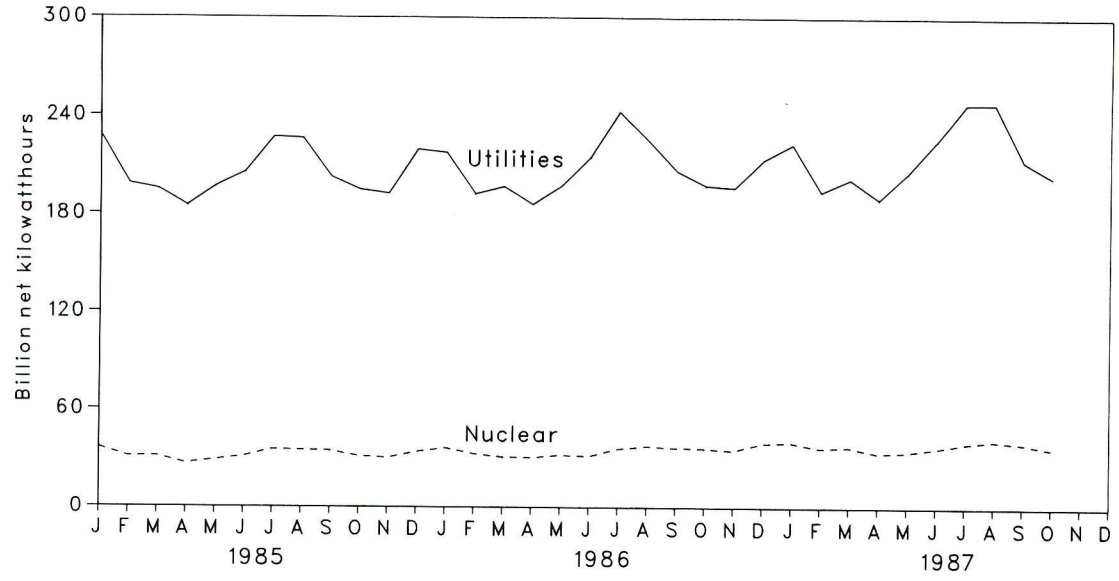


Figure 8.2 Nuclear Portion of Electricity Generation and Capacity Factor

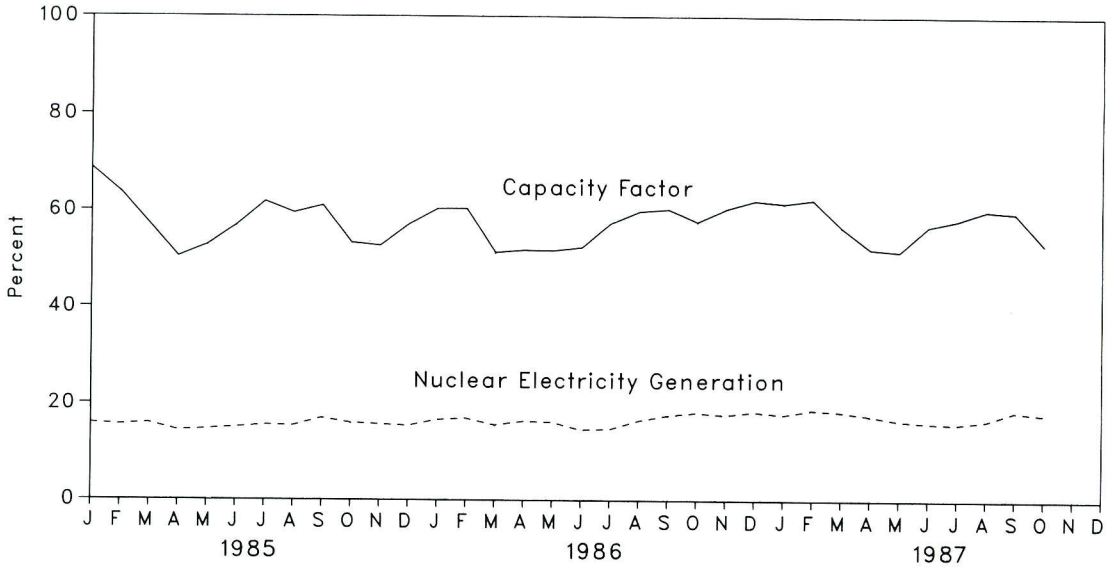


Table 8.1 Nuclear Power Plant Operations

	Operable Reactors[a] [b]	Nuclear-Based Electricity Generation	Nuclear Portion of Domestic Electricity Generation	Net Summer Capability of Operable Reactors[a] [c]	Capacity Factor[d]
	Number	Million Net Kilowatthours	Percent	Million Net 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**	**58.5**
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 January	87	36,186	15.9	70.675	68.8
February	88	30,812	15.5	71.795	63.9
March	89	31,041	15.9	72.899	57.2
April	89	26,458	14.3	72.899	50.5
May	89	28,697	14.6	72.899	52.9
June	91	30,837	15.0	75.275	56.9
July	92	35,184	15.5	76.354	61.9
August	94	34,812	15.4	78.478	59.6
September	94	34,508	17.0	78.478	61.1
October	94	31,205	16.0	78.478	53.4
November	95	30,166	15.7	79.397	52.8
December	95	33,782	15.4	79.397	57.2
Year		**383,691**	**15.5**		**58.0**
1986 January	96	36,219	16.7	80.604	60.4
February	96	32,721	17.0	80.604	60.4
March	96	30,773	15.6	80.604	51.3
April	97	30,477	16.4	81.863	51.8
May	98	31,924	16.2	82.995	51.7
June	98	31,334	14.6	82.995	52.4
July	99	35,894	14.8	84.048	57.4
August	99	37,483	16.6	84.048	59.9
September	99	36,593	17.7	84.048	60.5
October	99	36,214	18.3	84.048	57.8
November	100	34,944	17.8	85.241	56.9
December	100	39,463	18.5	85.241	62.2
Year		**414,038**	**16.6**		**56.9**
1987 January	102	39,975	17.9	87.248	61.6
February	102	36,598	18.9	87.248	62.4
March	103	37,290	18.5	88.446	56.7
April	103	33,518	17.7	89.330	52.2
May	103	34,320	16.7	89.330	51.7
June	103	36,560	16.2	89.330	56.9
July	105	39,603	16.0	91.581	58.2
August	106	41,352	16.7	92.417	60.2
September	106	39,666	18.6	92.417	59.7
October	106	36,492	18.0	92.417	53.1

[a]Monthly data are the status as of the last day of the month. Yearly data are the status as of December 31 of each year.
[b]See Note 1 at end of section.
[c]When possible, net summer capability is used. When a reactor has not operated long enough to permit determination of a net summer capability, an estimation is made based on the net design electrical rating. For the definitions of net summer capability and net design electrical rating, see Note 3 at end of section.
[d]For 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.
Sources: See end of section.

Table 8.2 Status of Nuclear Reactor Units[a]

	Licensed for Operation		Construction Permits		On Order	Announced	Total	Total Design Capacity[d]
	Operable[b]	In Startup[c]	Granted	Pending				
	Number of Reactor Units							Million Net 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**	**75**	**11**	**3**	**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 January	87	5	38	0	2	0	132	123
February	88	4	38	0	2	0	132	123
March	89	5	36	0	2	0	132	123
April	89	6	33	0	2	0	130	121
May	89	6	33	0	2	0	130	121
June	91	4	33	0	2	0	130	121
July	92	3	33	0	2	0	130	121
August	94	2	32	0	2	0	130	121
September	94	2	32	0	2	0	130	121
October	94	2	32	0	2	0	130	121
November	95	2	31	0	2	0	130	121
December	95	3	30	0	2	0	130	121
1986 January	96	2	30	0	2	0	130	121
February	96	3	29	0	2	0	130	121
March	96	4	28	0	2	0	130	121
April	97	4	27	0	2	0	130	121
May	98	3	27	0	2	0	130	121
June	98	3	27	0	2	0	130	121
July	99	2	25	0	2	0	128	119
August	99	2	25	0	2	0	128	119
September	99	3	24	0	2	0	128	119
October	99	7	20	0	2	0	128	119
November	100	7	19	0	2	0	128	119
December	100	7	19	0	2	0	128	119
1987 January	102	6	18	0	2	0	128	119
February	102	6	18	0	2	0	128	119
March	103	6	17	0	2	0	128	119
April	103	5	17	0	2	0	127	119
May	103	6	16	0	2	0	127	119
June	103	6	16	0	2	0	127	119
July	105	4	16	0	2	0	127	119
August	106	3	16	0	2	0	127	119
September	106	4	15	0	2	0	127	119
October	106	4	15	0	2	0	127	119

[a]Monthly data are the status as of the last day of the month. Annual data are the status as of December 31 of each year.
[b]See Note 1 at end of section.
[c]See Note 2 at end of section.
[d]Net design electrical rating (DER) is used because many of the units were canceled prior to being assigned a net summer capability. See Note 3 at end of section.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

Notes and Sources for the Nuclear Section

Notes

1. Operable Reactors: Nuclear power generating units that have been issued a Full-Power Operating License by the Nuclear Regulatory Commission (NRC), plus the Hanford-N unit operated by the Department of Energy (DOE). Although the Hanford-N unit, with a net summer capability of 840 megawatts electric (MWe), is not licensed by the NRC, it is included because electricity produced from its output steam is distributed commercially. Similarly, the Shippingport unit (net summer capability of 60 MWe) operated by DOE was included prior to retirement from service on October 1, 1982, except during March 1974 through August 1977, when it was excluded because of a major core modification outage. The DOE-operated Experimental Breeder Reactor 2 unit (EBR-2) is not included because the electricity it generates is not distributed commercially.

Six units were deleted from entries subsequent to their removal from service: Peach Bottom 1 (net summer capability of 40 MWe) and Indian Point 1 (net summer capability of 265 MWe), both out of service since November 1974; Humboldt Bay (net summer capability of 65 MWe), down since August 1976 for major seismic modifications and subsequently officially retired; Dresden 1 (net summer capability of 200 MWe), out of service since January 1979 for major modifications and officially retired in August 1984; Three Mile Island 2 (net summer capability of 880 MWe), whose core was severely damaged by a loss-of-coolant accident in March 1979; and LaCrosse (net summer capability of 51 MWe), out of service as of April 30, 1987.

Eight units with Full Power Operating Licenses have been shut down by the NRC for an extended period. The names of the eight units, their net summer capabilities, and dates of shut down are as follows: Rancho Seco, 873 MWe, December 1985; Browns Ferry 1, 1,065 MWe, March 1985; Browns Ferry 2, 1,065 MWe, September 1984; Browns Ferry 3, 1,065 MWe, March 1985; Sequoyah 1, 1,148 MWe, August 1985; Sequoyah 2, 1,148 MWe, August 1985; Peach Bottom 2, 1,052, March 1987; and Peach Bottom 3, 1,033 MWe, March 1987.

2. In Startup: Units that have been issued a Low-Power Operating License by the NRC authorizing fuel loading and low power testing prior to issuance of a Full Power Operating License.

3. Capacity: Nuclear power units may have more than one type of net capacity rating including:

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

(b) Net Design Capacity or Net Design Electrical Rating (DER)--The nominal net electrical output of 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 monthly net summer capability. This fraction is then multiplied by 100 to obtain a percentage. Annual capacity factors are averages of the monthly values for that year.

Sources

Reactors Licensed for Operation: Nuclear Regulatory Commission Report NUREG-0020, "Licensed Operating Reactors."

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

Net Summer Capability: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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

Unit Construction and Planning Data: 1973 through June 1982--Compiled from various sources, primarily the Department of Energy, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones," Nuclear Regulatory Commission Report NUREG-0020, "Licensed Operating Reactors," and from the Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels. July 1982 forward--Nuclear Regulatory Commission Report NUREG-0871, "Summary Information Report," Nuclear Regulatory Commission Report NUREG-0020, "Licensed Operating Reactors," and various trade journals.

Total Design Capacity: Nuclear Regulatory Commission report NUREG-0020, "Licensed Operating Reactors" and Nuclear Regulatory Commission Report NUREG-0871, "Summary Information Report."

Section 9. Price

Crude Oil. The average price of domestic crude oil purchased at the wellhead was $15.95 per barrel in October 1987, 44 percent above the level in October 1986.

The refiner acquisition cost of imported crude oil in October 1987 was $18.57 per barrel, 45 percent above the October 1986 level. The cost of domestic crude oil in October 1987 was $18.37, an increase of 39 percent from the October 1986 average.

Motor Gasoline. The national city average retail price of leaded regular gasoline at all types of stations was 93 cents per gallon in November 1987, slightly below the price in October 1987. The price of unleaded regular gasoline at all types of stations was unchanged in November 1987, at 97.6 cents per gallon. The price of unleaded premium gasoline averaged $1.13 per gallon in November 1987, slightly lower than the price in October 1987.

Residual Fuel Oil. The average price, excluding taxes, of residual fuel oil sold to end users in October 1987 was 42 cents per gallon, 1 percent higher than the previous month's price and 39 percent above the October 1986 average. The average resale price, excluding taxes, of residual fuel oil in October 1987 was 39 cents per gallon, 1 percent below the September 1987 average but 40 percent above the October 1986 average.

Aviation Fuel. The average price, excluding taxes, of aviation gasoline sold to end users in October 1987 was 91 cents per gallon, slightly below the price in the previous month and slightly above the price in October 1986. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in October 1987 was 60 cents per gallon, 2 percent above the previous month's price and 43 percent above the price 1 year earlier.

No. 2 Distillate Fuel Oil. The national average price of heating oil sold to residential customers in October 1987 was 81 cents per gallon, 3 percent above the September 1987 price and 19 percent above the October 1986 price. The average price for resale was 57 cents per gallon in October 1987, 7 percent above the price in the previous month and 38 percent above the price in October 1986.

Natural Gas. In August 1987 (latest data available), the average wellhead price of natural gas was $1.71 per thousand cubic feet, 3 percent below the August 1986 price. The average price of natural gas delivered to electric utility plants was $2.16 per thousand cubic feet in September 1987, 3 percent below the September 1986 price. The average price of natural gas used by residential consumers in October 1987 was $5.86 per thousand cubic feet, 8 percent less than the October 1986 price. The average price of natural gas used by industrial consumers in October 1987 was $2.54 per thousand cubic feet, 13 percent less than the October 1986 price.

Electricity. Beginning with January 1986, there are 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 national retail price of electricity to residential consumers in October 1987 was 7.6 cents per kilowatthour, 2 percent[9] above the October 1986 price. The price of electricity to commercial consumers averaged 7.2 cents per kilowatthour in October 1987, up 1 percent from the October 1986 price. The average electricity price to industrial users during October 1987 was 4.7 cents per kilowatthour, 2 percent below the price 1 year earlier. The October national retail price of electricity to other consumers was 6.9 cents per kilowatthour, 7 percent above the October 1986 price.

[9]Percentage changes are calculated using unrounded data.

Figure 9.1 Crude Oil Prices

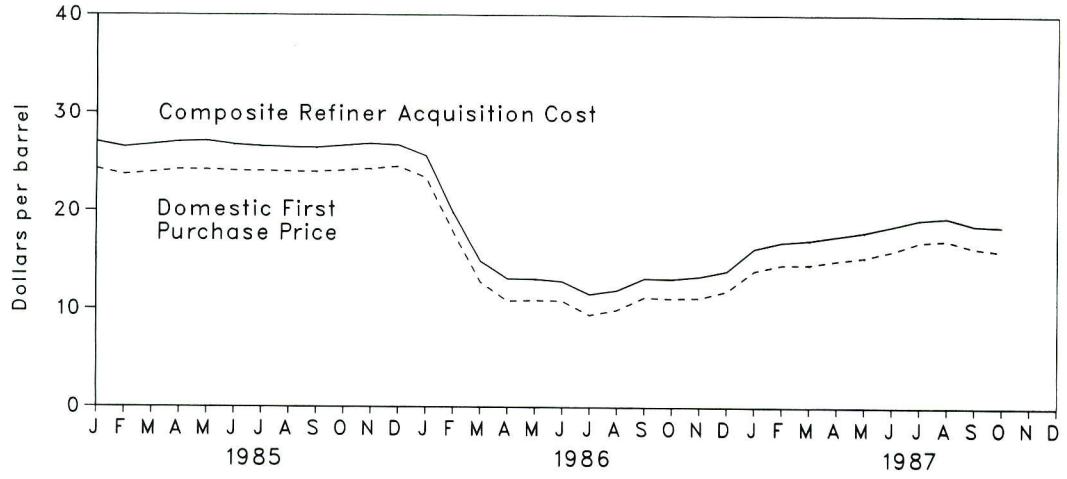


Figure 9.2 Refiner Sales Prices to End Users: Motor Gasoline, Diesel Fuel, and Jet Fuel

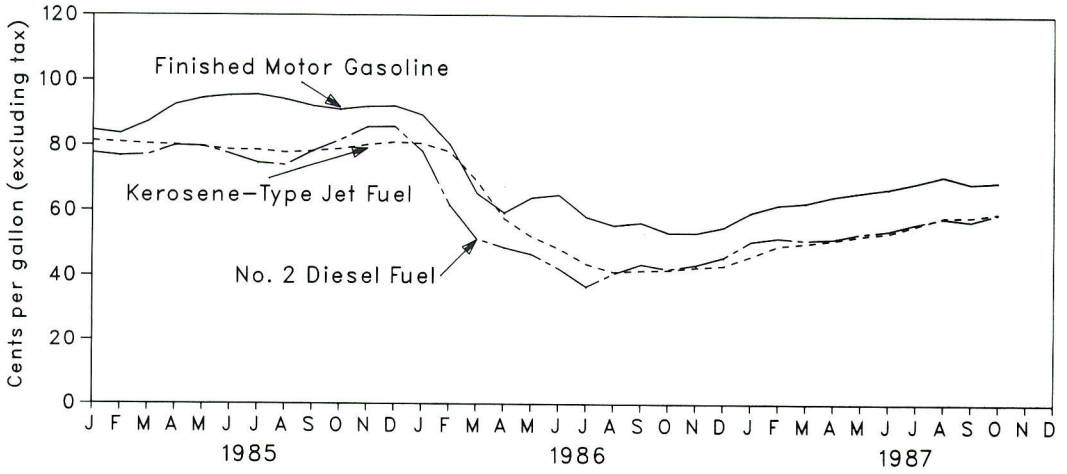


Figure 9.3 Refiner Sales Prices to End Users: No. 2 Fuel Oil, Propane, and Residual Fuel Oil

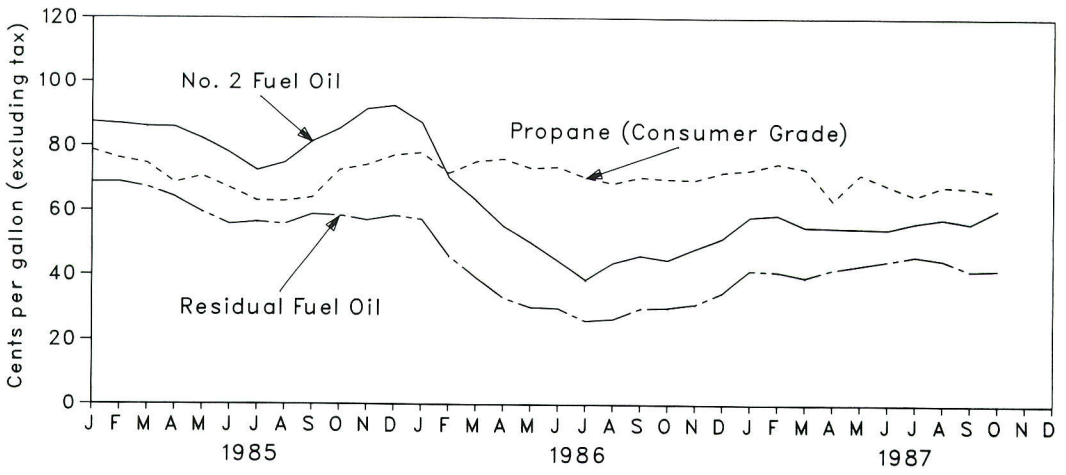


Table 9.1 Crude Oil Price Summary
(Dollars per Barrel)

	Domestic First Purchase Price[a]	FOB Cost of Imports[b]	Landed Cost of Imports[c]	Refiner Acquisition Cost[d]		
				Domestic	Imported	Composite
1976 Average	**8.19**	**12.17**	**13.34**	**8.84**	**13.48**	**10.89**
1977 Average	**8.57**	**13.24**	**14.31**	**9.55**	**14.53**	**11.96**
1978 Average	**9.00**	**13.30**	**14.38**	**10.61**	**14.57**	**12.46**
1979 Average	**12.64**	**20.19**	**21.65**	**14.27**	**21.67**	**17.72**
1980 Average	**21.59**	**32.27**	**33.95**	**24.23**	**33.89**	**28.07**
1981 Average	**31.77**	**35.10**	**36.52**	**34.33**	**37.05**	**35.24**
1982 Average	**28.52**	**32.11**	**33.18**	**31.22**	**33.55**	**31.87**
1983 Average	**26.19**	**27.73**	**28.93**	**28.87**	**29.30**	**28.99**
1984 Average	**25.88**	**27.44**	**28.46**	**28.53**	**28.88**	**28.63**
1985 January	24.26	26.34	27.02	26.89	27.49	27.02
February	23.64	26.23	26.86	26.35	26.99	26.49
March	23.89	26.50	27.13	26.60	27.20	26.76
April	24.19	26.75	27.51	26.79	27.59	27.03
May	24.18	26.38	27.21	26.91	27.60	27.12
June	24.07	25.71	26.49	26.60	27.25	26.76
July	24.04	25.43	26.37	26.60	26.57	26.59
August	23.99	25.51	26.26	26.46	26.61	26.50
September	23.96	25.56	26.48	26.41	26.56	26.45
October	24.10	25.74	26.71	26.60	26.79	26.66
November	24.27	25.81	26.73	26.73	27.12	26.86
December	24.51	24.12	25.19	26.93	26.21	26.72
Average	**24.09**	**25.83**	**26.66**	**26.66**	**26.99**	**26.75**
1986 January	23.38	21.45	22.76	25.94	24.92	25.64
February	17.84	15.17	16.28	20.42	18.02	19.81
March	12.78	12.56	13.52	15.11	14.21	14.87
April	10.83	11.58	12.46	13.06	13.14	13.08
May	10.90	10.94	12.15	12.99	13.17	13.05
June	10.84	10.82	11.88	13.11	12.25	12.82
July	9.39	9.72	10.87	11.82	10.91	11.51
August	9.92	10.56	11.50	11.95	11.87	11.92
September	11.20	11.78	12.71	13.27	12.85	13.11
October	11.10	11.97	13.10	13.20	12.78	13.05
November	11.15	12.62	13.53	13.21	13.46	13.30
December	11.83	13.84	14.50	13.67	14.17	13.85
Average	**12.66**	**12.46**	**13.42**	**14.83**	**13.98**	**14.55**
1987 January	13.89	15.30	16.16	16.02	16.43	16.17
February	14.50	15.98	16.87	16.76	16.96	16.82
March	14.53	16.31	17.05	16.93	17.24	17.03
April	14.95	16.79	17.52	17.21	17.88	17.43
May	15.29	17.20	17.91	17.64	18.24	17.84
June	15.95	17.52	18.34	18.34	18.71	18.47
July	16.88	17.92	18.89	19.05	19.25	19.14
August	17.06	R 17.74	18.89	19.41	19.30	19.36
September	16.29	R 17.09	R 18.02	18.58	18.55	18.57
October	15.95	17.12	18.05	18.37	18.57	18.45

[a]See Note 1 at end of section.
[b]See Note 2 at end of section.
[c]See Note 3 at end of section.
[d]See Note 4 at end of section.
R=Revised data.

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 of Crude Oil for the current month, and for FOB and Landed Cost of Crude Oil Imports for the current 2 months, are preliminary.

Sources: See end of section.

Table 9.2 FOB 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]
1976 Average	**13.05**	**12.76**	**11.61**	**NA**	**13.08**	**11.69**	**NA**	**11.32**	**NA**	**NA**	**NA**
1977 Average	**14.36**	**13.57**	**12.67**	**13.42**	**14.44**	**12.37**	**NA**	**12.68**	**NA**	**NA**	**NA**
1978 Average	**14.10**	**13.64**	**12.65**	**13.24**	**14.04**	**12.70**	**13.82**	**12.45**	**13.35**	**13.28**	**13.30**
1979 Average	**20.65**	**19.35**	**23.71**	**20.29**	**21.80**	**17.63**	**21.20**	**17.37**	**21.43**	**19.25**	**19.91**
1980 Average	**36.57**	**32.37**	**(d)**	**31.11**	**35.82**	**28.53**	**34.58**	**24.78**	**34.24**	**31.61**	**32.25**
1981 Average	**39.09**	**35.93**	**(d)**	**33.13**	**38.53**	**32.48**	**36.08**	**28.86**	**36.69**	**34.73**	**35.11**
1982 Average	**34.23**	**35.27**	**30.93**	**28.07**	**35.13**	**33.50**	**33.46**	**23.77**	**31.96**	**33.84**	**33.45**
1983 Average	**30.06**	**29.93**	**28.25**	**25.19**	**29.78**	**28.03**	**29.84**	**21.48**	**27.96**	**28.38**	**28.45**
1984 Average	**28.04**	**29.10**	**26.93**	**26.37**	**29.39**	**27.60**	**28.90**	**24.16**	**27.65**	**27.68**	**27.59**
1985 January	25.47	27.43	NA	26.43	27.22	W	W	24.32	26.11	26.22	26.15
February	W	27.62	NA	26.13	27.41	W	W	24.36	26.08	26.53	26.48
March	26.50	27.01	W	26.45	28.20	NA	W	24.91	26.36	26.44	26.47
April	27.34	27.46	W	26.42	27.95	NA	27.99	24.57	26.57	27.07	26.81
May	W	27.30	W	26.34	27.81	NA	27.37	24.51	26.17	W	26.29
June	W	27.06	W	24.99	27.09	NA	26.65	24.32	26.00	W	25.72
July	W	27.44	W	24.49	27.86	NA	26.51	23.13	25.50	W	25.71
August	NA	26.74	W	24.81	27.83	NA	26.98	22.59	25.92	NA	25.36
September	W	25.29	W	24.72	27.97	W	27.60	22.49	25.97	W	25.29
October	W	26.95	W	24.76	28.30	W	28.22	22.84	26.08	W	25.60
November	W	27.24	W	24.57	28.67	W	28.69	23.08	26.67	24.40	25.68
December	W	27.49	W	23.57	29.19	18.48	28.08	22.78	25.71	19.52	23.22
Average	**26.84**	**27.12**	**W**	**25.33**	**28.04**	**22.04**	**27.63**	**23.64**	**26.11**	**24.30**	**25.66**
1986 January	W	26.68	NA	19.81	26.18	12.60	25.15	21.40	23.20	14.05	21.06
February	W	W	W	14.24	19.93	W	18.31	12.56	16.86	11.79	14.13
March	W	13.32	W	11.55	15.77	12.07	W	10.40	13.40	12.23	12.54
April	W	10.77	W	10.22	14.61	12.13	11.78	10.48	11.95	12.07	11.82
May	12.17	11.36	W	10.47	13.64	8.03	13.25	10.90	11.88	8.78	10.36
June	W	11.81	W	9.77	12.39	8.54	12.91	9.55	11.92	9.18	10.34
July	W	10.00	W	8.43	10.98	10.15	10.38	7.71	10.53	10.20	9.84
August	W	9.74	W	10.55	11.53	9.34	10.45	9.96	11.46	9.78	10.34
September	W	12.22	NA	11.58	13.45	10.51	13.47	10.16	12.39	10.67	11.30
October	W	12.47	W	11.40	13.86	11.34	13.65	10.26	12.61	11.45	11.81
November	W	12.05	NA	11.78	13.88	13.65	14.05	10.73	12.78	13.37	12.64
December	W	W	W	12.73	15.04	15.15	15.26	12.68	13.80	14.98	14.13
Average	**13.18**	**13.17**	**W**	**11.75**	**14.38**	**11.31**	**13.77**	**10.93**	**13.27**	**11.51**	**12.17**
1987 January	16.30	15.22	W	15.55	17.38	14.51	17.42	13.76	15.71	14.81	14.93
February	16.35	17.75	W	15.34	18.07	W	W	13.93	16.52	16.31	15.89
March	W	16.91	W	16.02	17.72	W	17.36	14.76	16.31	16.37	16.34
April	W	17.24	W	16.40	18.44	W	17.79	15.29	16.83	16.46	16.78
May	W	17.28	W	17.68	18.68	16.75	18.36	15.65	17.14	16.82	16.92
June	W	17.66	W	17.78	18.75	16.64	18.61	16.24	R 17.58	16.77	R 17.24
July	W	17.89	W	18.75	18.93	16.57	19.33	16.49	R 18.13	R 16.80	R 17.38
August	W	18.46	NA	17.54	R 19.60	W	19.55	15.70	R 18.18	17.05	R 17.38
September	W	R 17.74	NA	R 16.27	R 18.58	16.73	R 18.35	R 15.50	R 17.50	R 16.88	R 17.05
October	W	17.62	NA	16.70	18.70	16.51	18.42	15.57	17.45	16.60	16.97

[a]The Free on Board (FOB) cost at the country of origin excludes all costs related to insurance and transportation. See Note 2 at end of section.
[b]The 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.
[d]No crude oil was imported.
R=Revised data. NA=Not available. W=Value withheld to avoid disclosure of company data.
Notes: • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices since then reflect the period of loading. Annual averages are the weighted average of the 12 monthly prices, including those prices that were not published. • Cargoes that were purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude 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]
1975 Average	**12.72**	**12.72**	**13.79**	**12.21**	**NA**	**12.62**	**12.30**	**NA**	**11.65**	**NA**	**NA**	**NA**
1976 Average	**13.81**	**13.57**	**13.82**	**12.82**	**NA**	**13.80**	**13.04**	**NA**	**11.80**	**NA**	**NA**	**NA**
1977 Average	**15.20**	**14.21**	**14.63**	**13.80**	**13.75**	**15.25**	**13.61**	**NA**	**13.13**	**NA**	**NA**	**NA**
1978 Average	**14.91**	**14.50**	**14.64**	**13.88**	**13.54**	**14.86**	**13.92**	**NA**	**12.83**	**14.58**	**14.36**	**14.34**
1979 Average	**21.90**	**20.43**	**20.69**	**25.02**	**20.86**	**22.96**	**19.15**	**22.16**	**18.18**	**23.18**	**20.79**	**21.29**
1980 Average	**37.90**	**30.47**	**33.92**	**[d]**	**31.80**	**37.05**	**30.02**	**35.88**	**25.86**	**36.02**	**32.97**	**33.56**
1981 Average	**40.49**	**32.16**	**37.57**	**[d]**	**33.78**	**39.70**	**34.19**	**37.24**	**29.87**	**38.54**	**36.22**	**36.60**
1982 Average	**35.28**	**26.92**	**36.75**	**32.40**	**28.64**	**36.17**	**35.00**	**34.28**	**24.82**	**34.03**	**35.15**	**34.81**
1983 Average	**31.26**	**25.63**	**31.57**	**29.81**	**25.78**	**30.84**	**29.76**	**30.87**	**22.94**	**29.68**	**30.03**	**29.87**
1984 Average	**29.08**	**26.59**	**30.64**	**28.67**	**26.87**	**30.50**	**29.50**	**29.60**	**25.15**	**29.20**	**29.12**	**28.93**
1985 January	26.28	25.30	29.26	NA	26.80	28.70	W	W	25.36	27.24	27.39	27.60
February	26.06	24.00	28.84	NA	26.51	28.55	W	W	25.37	28.09	27.38	27.68
March	27.09	25.17	28.40	W	26.72	29.42	NA	W	25.73	28.16	27.40	27.60
April	28.18	26.14	28.99	W	26.67	28.99	W	28.70	25.44	28.03	27.87	27.95
May	W	26.30	28.98	W	26.66	28.73	NA	28.07	25.26	27.34	27.33	27.50
June	W	26.24	28.73	24.55	25.29	27.81	NA	27.54	25.13	26.68	26.25	26.63
July	27.35	25.97	28.95	24.33	24.76	28.56	W	27.60	23.81	26.57	26.86	26.87
August	W	26.05	28.14	25.76	24.96	28.54	NA	27.61	23.45	26.89	27.07	26.44
September	W	25.94	26.79	26.47	25.00	28.76	W	28.23	23.38	27.13	27.26	26.61
October	W	25.90	28.47	26.56	25.09	29.06	26.69	29.00	23.57	27.44	26.80	26.90
November	W	25.91	29.00	27.00	24.91	29.61	24.72	29.45	23.80	28.00	25.52	26.82
December	W	25.56	28.82	W	23.94	30.38	21.09	28.75	23.53	26.36	21.69	24.69
Average	**27.46**	**25.71**	**28.67**	**25.79**	**25.63**	**28.96**	**24.72**	**28.35**	**24.43**	**27.33**	**25.88**	**26.85**
1986 January	W	23.92	28.44	NA	20.17	27.83	14.41	25.38	22.21	24.74	16.49	22.51
February	W	17.31	W	W	14.58	21.43	14.08	18.62	13.27	17.97	13.75	15.41
March	W	13.02	14.94	W	11.87	16.57	13.66	W	11.01	14.89	13.58	13.67
April	W	11.57	12.29	W	10.53	15.21	13.64	12.46	11.19	13.22	13.45	13.04
May	13.05	12.04	12.80	W	10.81	14.55	10.57	14.17	11.58	13.17	11.26	11.94
June	W	12.71	13.20	11.29	10.08	14.01	10.49	13.65	10.24	12.70	11.09	11.70
July	W	11.20	11.72	W	8.73	12.12	11.33	11.83	8.45	11.32	11.45	11.15
August	W	11.70	11.37	11.18	10.87	12.38	11.27	11.56	10.66	11.80	11.61	11.54
September	12.88	12.50	13.67	W	11.95	14.13	12.11	14.15	10.86	13.21	12.50	12.60
October	W	12.47	14.18	W	11.74	14.64	12.84	14.76	10.87	13.88	13.00	13.15
November	13.19	12.49	13.96	NA	12.13	14.64	14.57	14.63	11.24	14.14	14.35	13.71
December	W	12.85	14.32	W	13.04	15.56	16.09	15.42	13.24	14.94	15.79	15.00
Average	**14.33**	**13.37**	**14.59**	**12.39**	**12.07**	**15.28**	**12.80**	**14.51**	**11.55**	**14.15**	**12.99**	**13.39**
1987 January	16.96	14.65	16.24	W	15.94	18.02	15.87	17.47	14.46	17.17	16.08	16.03
February	17.03	15.49	18.10	17.76	15.67	18.54	17.80	18.14	14.63	18.11	17.38	16.99
March	W	15.72	18.19	17.78	16.32	18.30	17.61	18.02	15.27	17.75	17.49	17.25
April	18.06	16.31	18.32	17.87	16.71	18.96	17.69	18.14	16.03	18.06	17.55	17.69
May	18.51	17.11	18.38	17.96	18.02	19.29	17.66	19.04	16.24	18.36	17.82	17.82
June	W	17.73	19.04	18.32	18.07	19.54	17.77	19.43	16.85	R 18.70	R 17.96	R 18.28
July	W	18.61	19.10	18.69	19.08	19.95	17.70	20.38	R 17.09	R 19.27	R 18.04	R 18.56
August	19.05	19.00	19.68	R 19.00	17.89	20.63	18.02	20.41	16.53	R 19.38	R 18.35	R 18.72
September	18.26	17.81	R 19.18	R 18.67	R 16.61	R 19.38	17.90	R 18.96	R 16.14	R 18.53	R 18.07	R 18.12
October	W	17.67	18.93	W	17.04	19.46	18.10	18.96	16.14	18.52	18.11	18.09

[a]See Note 3 at end of section.
[b]The 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.
[d]No crude oil was imported.
R=Revised data. NA=Not available. W=Value withheld to avoid disclosure of company data.
Notes: • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices since then reflect the period of loading. Annual averages are the weighted average of the 12 monthly prices, including those prices that were not published. • Cargoes that were purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude 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 Tax)

	Leaded Regular	Unleaded Regular	Unleaded Premium	Average for All Types[b]
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**	**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 January	106.0	114.8	130.4	114.5
February	104.1	113.1	129.0	112.8
March	107.1	115.9	131.0	115.5
April	111.9	120.5	134.0	119.9
May	114.4	123.1	136.0	122.3
June	115.3	124.1	137.1	123.3
July	115.4	124.2	136.7	123.3
August	114.3	122.9	135.9	122.2
September	112.9	121.6	134.9	120.9
October	111.7	120.4	134.2	119.8
November	112.3	120.7	133.9	120.1
December	112.3	120.8	134.4	120.3
Average	**111.5**	**120.2**	**134.0**	**119.6**
1986 January	110.7	119.4	133.6	119.0
February	103.4	112.0	128.2	111.9
March	89.4	98.1	116.0	98.3
April	81.5	88.8	106.1	89.5
May	85.2	92.3	107.5	92.7
June	88.5	95.5	110.0	95.8
July	82.2	89.0	104.5	89.5
August	77.8	84.3	99.9	84.8
September	79.7	86.0	101.0	86.4
October	77.1	83.1	98.7	83.7
November	76.2	82.1	98.0	82.7
December	76.4	82.3	98.4	83.0
Average	**85.7**	**92.7**	**108.5**	**93.1**
1987 January	80.6	86.2	100.7	86.8
February	84.8	90.5	104.7	91.1
March	85.6	91.2	105.2	91.8
April	87.9	93.4	107.3	94.0
May	88.8	94.1	107.9	94.8
June	90.6	95.8	109.8	96.6
July	92.1	97.1	111.5	98.0
August	94.6	99.5	113.9	100.4
September	94.0	99.0	113.6	100.0
October	93.1	97.6	112.8	98.8
November	92.8	97.6	112.5	98.7

[a]See Note 5 at end of section.
[b]Also includes types of gasoline not shown separately.
[c]In September 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. From September 1981 forward, in the average for all types category, gasohol is included and unleaded premium is weighted more heavily.
NA=Not available.
Note: Geographic coverage for 1974 through 1977 is 56 urban areas. For 1978 forward, it is 85 urban areas.
Sources: See end of section.

Table 9.5 Refiner Sales Prices of Residual Fuel Oil[a]
(Cents per Gallon, Excluding Tax)

	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 January	67.6	71.2	63.4	66.5	64.8	68.6
February	67.6	71.1	63.4	66.0	65.0	68.6
March	66.2	69.8	60.8	65.0	62.4	67.1
April	63.0	67.5	58.8	61.9	60.3	64.1
May	58.1	61.2	53.5	58.0	55.0	59.5
June	54.9	59.9	50.6	52.7	52.4	55.6
July	56.4	58.9	52.8	54.5	53.9	56.3
August	55.2	57.1	52.0	53.8	53.2	55.6
September	60.1	62.8	53.1	54.8	56.1	58.6
October	60.1	63.6	52.3	53.8	54.9	58.3
November	57.8	61.7	50.7	52.8	53.6	56.8
December	60.7	62.6	52.3	54.4	55.1	58.2
Average	**61.0**	**64.4**	**56.0**	**58.2**	**57.7**	**61.0**
1986 January	57.1	62.0	49.5	52.9	51.7	57.1
February	43.9	49.0	36.3	42.7	38.7	45.8
March	37.6	42.7	28.3	35.7	31.6	39.0
April	31.7	36.8	25.8	30.1	28.0	33.0
May	30.5	35.0	23.5	26.8	26.5	30.1
June	30.1	32.3	22.9	26.8	26.2	29.8
July	23.8	27.4	20.3	24.4	21.9	25.9
August	26.9	29.3	21.8	23.2	23.6	26.5
September	29.9	31.5	26.4	28.2	28.1	29.8
October	28.9	31.9	26.2	28.8	27.6	30.1
November	29.5	33.7	25.1	29.0	27.4	31.2
December	34.1	37.7	27.7	31.6	30.3	34.7
Average	**33.0**	**37.2**	**28.8**	**31.7**	**30.5**	**34.3**
1987 January	39.9	44.5	35.7	37.9	37.7	41.5
February	40.2	43.5	34.4	38.3	37.2	41.1
March	39.5	41.8	33.5	37.2	36.3	39.4
April	40.1	43.7	35.5	39.9	37.2	41.9
May	41.8	44.6	38.6	41.7	39.8	43.3
June	43.7	45.3	40.9	43.8	42.2	44.7
July	44.3	47.2	42.1	44.4	43.3	46.2
August	44.4	45.4	41.4	44.5	42.8	45.0
September	R 41.4	R 44.0	R 36.7	R 39.6	39.0	41.6
October	41.3	44.5	36.3	39.5	38.7	41.9

[a]Sales for resale, that is, wholesale sales, are those made to purchasers who are other than ultimate consumers. Sales to end users are to the ultimate consumer, including bulk customers such as agriculture, industry, and utilities, as well as commercial customers.

R=Revised data.

Notes: • 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[a]
(Cents per Gallon, Excluding Tax)

	Finished Motor Gasoline[b]	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 January	75.2	114.5	79.6	85.8	75.7	74.9	40.1
February	76.4	114.0	79.5	86.5	75.2	74.2	39.3
March	81.1	113.6	78.9	85.7	76.1	75.6	38.0
April	86.0	112.6	79.4	84.7	79.3	79.2	37.9
May	87.5	113.2	78.2	80.4	76.5	78.9	38.1
June	87.7	113.7	76.1	75.9	72.9	75.5	37.0
July	87.3	113.6	75.2	76.9	70.3	72.3	36.3
August	85.0	113.3	76.8	79.7	72.1	72.5	36.5
September	83.2	113.0	79.2	85.9	77.0	76.3	37.6
October	83.1	113.0	81.6	90.1	81.7	80.5	39.7
November	84.7	112.6	83.6	93.6	84.9	84.3	43.0
December	83.0	108.1	83.1	92.7	83.2	82.1	46.8
Average	**83.5**	**113.0**	**79.4**	**87.4**	**77.6**	**77.2**	**39.8**
1986 January	76.7	109.8	77.0	83.8	73.7	73.3	43.9
February	65.0	108.9	68.0	67.2	56.4	56.0	35.4
March	52.4	102.2	58.1	60.9	51.9	47.4	29.2
April	51.8	98.5	49.4	52.6	45.9	46.3	27.3
May	57.9	95.6	46.7	50.4	45.2	44.1	28.5
June	54.5	92.2	44.5	50.1	40.0	39.6	28.3
July	45.8	86.7	39.9	40.7	34.8	34.0	25.3
August	47.9	83.0	39.3	48.1	40.0	38.8	24.6
September	48.7	81.6	42.2	49.2	41.6	41.8	24.8
October	46.1	82.9	43.7	47.8	41.0	40.9	25.1
November	47.1	81.8	43.5	51.2	42.4	41.8	24.3
December	47.3	81.3	45.3	53.3	44.2	43.4	23.6
Average	**53.1**	**91.1**	**49.7**	**60.6**	**48.7**	**45.2**	**29.0**
1987 January	53.3	82.9	49.0	59.1	50.6	49.5	25.0
February	55.0	84.3	49.5	56.7	49.3	49.5	24.5
March	56.2	83.6	49.2	54.0	49.0	48.7	23.7
April	57.7	83.7	50.0	55.2	49.4	49.6	24.5
May	59.4	85.4	51.1	54.7	51.5	52.0	24.0
June	60.7	86.9	52.6	55.2	52.6	53.0	23.5
July	62.5	86.4	55.0	56.7	54.8	55.0	24.4
August	63.6	86.8	56.6	58.9	55.1	57.0	25.6
September	60.6	86.7	R 55.8	58.5	53.2	55.9	26.1
October	60.5	86.8	57.9	62.7	56.7	58.1	26.8

[a]Sales for resale, that is, wholesale sales, are those made to purchasers who are other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and utilities, as well as residential and commercial customers.

[b]See Note 5 at end of section.

R=Revised data.

Notes: • 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[a]
(Cents per Gallon, Excluding Tax)

	Finished Motor Gasoline[b]	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**	**56.5**
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 January	84.6	121.7	81.4	105.9	87.4	77.6	78.7
February	83.6	121.1	80.9	103.7	86.8	76.7	76.1
March	87.1	121.4	80.4	103.1	86.0	77.0	74.6
April	92.4	121.2	80.1	101.0	85.8	79.9	68.4
May	94.4	121.9	79.5	94.1	82.2	79.7	70.5
June	95.2	121.7	78.6	88.2	77.8	77.2	66.8
July	95.4	120.2	78.5	86.0	72.3	74.5	62.9
August	94.0	118.9	77.7	89.9	74.7	73.8	62.8
September	91.9	119.5	78.1	96.1	81.2	78.1	63.8
October	90.8	118.9	78.8	100.6	85.2	81.6	72.4
November	91.7	118.3	80.1	106.8	91.3	85.5	74.0
December	91.9	117.0	80.9	111.5	92.3	85.6	77.0
Average	**91.2**	**120.1**	**79.6**	**103.0**	**84.9**	**78.9**	**71.7**
1986 January	89.1	116.2	80.5	105.4	87.1	78.1	77.8
February	80.3	117.2	77.9	93.4	69.9	61.5	71.4
March	65.2	111.5	69.0	85.0	63.0	51.2	75.1
April	59.1	102.9	57.3	79.4	55.0	48.5	75.9
May	63.8	102.2	51.9	67.2	50.0	46.4	73.1
June	64.7	97.0	48.2	49.3	44.4	42.0	73.5
July	57.8	94.3	43.4	48.2	38.4	36.5	70.2
August	55.3	94.9	41.0	62.5	43.8	40.5	68.4
September	56.1	93.2	41.4	75.1	46.1	43.3	70.4
October	53.1	91.1	41.6	69.5	44.8	41.9	69.8
November	53.1	87.2	42.4	74.5	48.3	43.2	69.6
December	54.8	88.8	42.9	76.8	51.5	45.5	72.0
Average	**62.3**	**100.1**	**52.9**	**79.3**	**56.0**	**47.9**	**72.5**
1987 January	59.3	87.9	45.9	82.8	58.2	50.5	72.8
February	61.7	89.7	49.2	80.4	58.8	51.6	74.8
March	62.4	90.3	50.0	82.0	55.1	51.0	73.2
April	64.5	89.8	51.0	78.2	54.9	51.4	63.3
May	65.8	90.0	52.4	66.8	54.7	53.1	71.5
June	67.0	90.6	53.3	59.8	54.5	54.0	68.0
July	68.8	91.1	55.6	60.4	56.5	56.1	64.8
August	70.9	92.0	58.2	60.1	57.8	57.9	67.8
September	R 69.7	91.6	58.3	76.6	56.3	56.9	R 67.3
October	69.2	91.2	59.5	78.8	60.7	59.3	66.1

[a]Sales for resale, that is, wholesale sales, are those made to purchasers who are other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and utilities, as well as residential and commercial customers.

[b]See Note 5 at end of section.

R=Revised data.

Notes: • 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 for Selected States[a]
(Cents per Gallon, Excluding Tax)

	CT	ME	MA	NH	RI	VT	DE	DC
1978 Average	**50.1**	**48.6**	**48.8**	**50.3**	**50.7**	**50.8**	**47.8**	**50.7**
1979 Average	**72.0**	**68.8**	**70.9**	**72.5**	**72.8**	**72.5**	**68.2**	**74.2**
1980 Average	**98.0**	**96.3**	**97.8**	**100.4**	**101.1**	**101.5**	**95.4**	**102.6**
1981 Average	**121.7**	**120.4**	**121.3**	**123.7**	**123.8**	**125.4**	**117.3**	**127.4**
1982 Average	**118.3**	**115.5**	**117.6**	**117.4**	**120.1**	**120.1**	**111.3**	**124.5**
1983 Average	**109.1**	**102.8**	**109.1**	**104.1**	**110.5**	**112.9**	**106.0**	**117.0**
1984 Average	**112.1**	**103.9**	**111.6**	**108.4**	**111.4**	**111.9**	**109.6**	**118.7**
1985 January	106.9	97.9	107.2	100.7	108.1	106.9	103.8	112.1
February	107.2	98.5	107.1	102.7	106.9	107.3	104.0	117.1
March	106.8	100.6	107.3	103.3	106.2	107.9	104.6	115.9
April	107.0	101.5	106.6	102.3	106.8	106.5	104.1	113.9
May	106.2	99.4	104.5	99.9	102.1	105.4	100.7	112.4
June	103.5	95.4	101.0	94.4	98.6	103.7	96.4	107.2
July	100.6	91.4	98.3	91.2	97.4	101.4	96.2	107.3
August	99.6	90.5	96.2	91.8	95.9	101.4	97.5	105.5
September	100.5	94.0	100.7	97.6	101.0	104.7	98.8	107.1
October	106.6	99.5	104.6	102.3	104.4	106.7	102.7	109.9
November	111.4	103.7	110.7	108.0	111.6	111.1	107.0	114.4
December	114.2	105.5	111.1	108.9	110.9	113.0	110.5	117.2
Average	**108.0**	**99.7**	**107.0**	**102.4**	**106.7**	**107.7**	**104.6**	**114.3**
1986 January	111.6	101.1	105.9	103.2	101.9	109.0	102.3	116.3
February	99.5	90.9	90.6	88.5	93.5	100.2	93.9	105.4
March	93.4	86.5	85.9	84.2	84.6	95.6	87.1	97.6
April	86.2	77.9	76.7	74.4	72.1	89.0	77.1	93.2
May	80.8	74.5	74.2	70.6	76.6	84.7	74.2	87.9
June	77.7	68.5	68.8	65.4	72.6	78.9	73.7	81.7
July	68.5	59.3	64.6	62.9	69.1	70.9	67.3	74.7
August	67.0	58.5	65.1	63.4	69.0	68.9	66.6	70.7
September	68.4	58.2	67.9	62.7	69.2	70.1	66.9	72.1
October	68.6	59.1	68.4	63.8	68.7	70.3	66.1	74.2
November	69.5	59.7	70.0	65.0	72.1	71.3	67.9	76.9
December	72.5	67.1	73.2	69.9	74.6	72.6	71.2	80.7
Average	**89.0**	**74.4**	**82.3**	**75.6**	**82.3**	**86.7**	**85.0**	**93.1**
1987 January	80.0	72.8	80.4	76.1	79.9	78.2	78.2	87.1
February	83.4	73.3	80.7	75.3	81.5	79.6	79.5	92.6
March	82.4	74.3	80.2	74.0	81.6	79.2	79.5	91.9
April	82.5	75.0	79.3	73.5	81.4	78.5	78.1	90.6
May	83.0	75.0	80.1	74.1	81.0	79.8	78.6	91.0
June	78.2	74.1	76.3	74.3	79.0	79.9	73.6	92.2
July	82.7	74.5	74.7	74.3	80.4	80.8	76.2	90.2
August	83.0	74.8	73.7	75.9	79.5	80.3	74.8	92.4
September	R 82.5	R 74.7	R 78.7	76.0	R 80.9	R 81.0	R 76.2	R 91.4
October	84.6	73.6	80.8	78.0	82.9	83.6	NA	92.2

[a]The States are listed by geographic region of the country. State names are abbreviated as follows: CT - Connecticut, ME - Maine, MA - Massachusetts, NH - New Hampshire, RI - Rhode Island, VT - Vermont, DE - Delaware, DC - District of Columbia, MD - Maryland, NJ - New Jersey, NY - New York, PA - Pennsylvania, VA - Virginia, WV - West Virginia, IL - Illinois, IN - Indiana, MI - Michigan, MN - Minnesota, OH - Ohio, WI - Wisconsin, ID - Idaho, AK - Alaska, OR - Oregon, WA - Washington.

Footnotes continued on following page.

Table 9.8b Sales Prices of No. 2 Distillate to Residences for Selected States[a] (continued)

(Cents per Gallon, Excluding Tax)

	MD	NJ	NY	PA	VA	WV	IL	IN
1978 Average	**49.2**	**49.6**	**50.1**	**48.8**	**49.1**	**46.2**	**46.5**	**48.5**
1979 Average	**70.1**	**71.0**	**71.2**	**69.8**	**70.4**	**65.1**	**68.8**	**72.7**
1980 Average	**97.9**	**97.9**	**98.2**	**96.4**	**98.5**	**92.2**	**95.8**	**99.6**
1981 Average	**121.4**	**121.5**	**123.2**	**118.1**	**120.5**	**115.0**	**114.9**	**118.5**
1982 Average	**117.1**	**117.4**	**120.5**	**113.7**	**117.7**	**109.3**	**110.9**	**114.3**
1983 Average	**110.3**	**107.9**	**112.1**	**105.8**	**108.7**	**101.0**	**100.4**	**100.7**
1984 Average	**113.5**	**111.0**	**115.5**	**107.9**	**110.5**	**102.1**	**100.1**	**103.1**
1985 January	107.5	105.0	111.3	102.9	106.2	98.4	95.2	98.6
February	108.6	105.7	112.0	103.2	106.8	98.3	94.4	97.8
March	108.3	105.1	111.3	102.1	105.8	98.1	94.5	96.3
April	109.6	105.2	111.0	101.0	105.4	96.0	96.6	98.6
May	108.2	103.3	109.8	99.7	105.9	93.8	96.4	97.4
June	104.4	99.6	108.1	94.9	104.3	90.7	92.0	97.6
July	101.2	97.4	105.3	92.1	99.3	90.3	89.7	93.3
August	98.9	97.5	105.5	92.5	98.9	88.6	90.6	92.9
September	103.3	101.3	104.5	96.8	101.9	96.2	95.6	96.5
October	106.2	103.3	107.1	98.6	105.6	98.7	100.1	101.2
November	111.9	109.3	114.4	105.5	108.4	104.4	104.0	105.3
December	112.7	112.0	115.0	109.0	109.9	104.7	103.4	105.3
Average	**108.8**	**105.9**	**111.3**	**102.3**	**106.3**	**98.0**	**97.5**	**99.1**
1986 January	112.2	107.7	111.4	104.7	107.0	100.1	97.6	99.8
February	99.9	98.3	102.6	95.3	98.2	87.8	83.1	84.9
March	93.9	91.7	96.3	86.9	90.9	79.7	74.7	75.5
April	88.6	84.0	87.5	77.9	84.2	70.8	68.6	73.9
May	85.0	80.1	85.1	72.6	74.6	67.4	72.9	67.2
June	79.7	75.6	81.3	66.0	74.4	63.4	67.3	66.5
July	75.8	76.8	72.9	64.1	67.8	53.9	69.4	60.1
August	70.7	72.3	71.6	62.6	71.1	59.7	66.5	65.6
September	70.3	73.4	74.0	66.6	70.5	62.1	68.4	66.7
October	72.4	74.7	74.0	66.5	69.6	64.0	63.0	65.2
November	73.4	74.6	76.1	66.4	68.3	68.3	72.8	65.4
December	77.2	76.7	78.5	68.3	70.4	72.6	72.8	68.7
Average	**91.4**	**90.2**	**91.1**	**81.5**	**86.2**	**74.9**	**74.3**	**74.8**
1987 January	82.6	83.1	83.2	74.8	77.0	72.9	76.6	72.8
February	85.4	84.3	84.8	75.6	79.5	76.1	73.7	72.1
March	85.8	82.5	84.2	74.1	80.5	71.9	77.9	71.0
April	84.8	82.1	84.1	73.4	81.1	69.0	77.9	72.8
May	84.3	81.4	84.6	72.1	79.4	69.3	79.5	74.8
June	84.5	82.0	83.5	72.7	76.4	66.7	82.8	76.2
July	85.4	82.3	82.7	73.0	76.6	69.3	83.4	76.7
August	87.1	81.7	83.4	73.1	75.8	75.6	84.7	77.3
September	R 87.3	R 82.3	R 81.9	R 75.0	R 78.5	74.2	83.0	R 78.1
October	88.1	83.9	84.9	77.7	78.5	74.9	NA	80.7

Footnotes continued on following page.

Table 9.8c Sales Prices of No. 2 Distillate to Residences for Selected States[a] (continued)
(Cents per Gallon, Excluding Tax)

	MI	MN	OH	WI	ID	AK	OR	WA	U.S. Average
1978 Average	**47.9**	**47.8**	**47.4**	**44.7**	**43.6**	**53.2**	**45.8**	**48.6**	**49.0**
1979 Average	**70.9**	**72.4**	**68.6**	**67.3**	**62.1**	**68.2**	**68.0**	**69.7**	**70.4**
1980 Average	**97.8**	**99.9**	**91.9**	**91.5**	**91.6**	**97.8**	**97.3**	**100.8**	**97.4**
1981 Average	**118.3**	**118.4**	**113.2**	**109.1**	**110.4**	**118.0**	**111.4**	**116.5**	**119.4**
1982 Average	**113.9**	**115.1**	**110.2**	**107.8**	**110.4**	**117.4**	**111.6**	**117.6**	**116.0**
1983 Average	**106.4**	**103.1**	**101.3**	**101.2**	**101.8**	**108.8**	**103.6**	**109.0**	**107.8**
1984 Average	**105.0**	**104.1**	**102.1**	**101.0**	**98.5**	**106.9**	**99.3**	**102.6**	**109.1**
1985 January	102.1	99.5	98.3	97.3	97.4	108.6	97.0	100.6	104.9
February	101.0	99.8	98.7	96.2	96.9	107.6	96.6	99.8	105.4
March	101.3	101.0	97.9	96.4	96.6	112.8	95.7	100.3	105.0
April	100.0	101.1	99.8	97.7	95.7	107.0	96.5	99.2	105.3
May	98.3	103.8	99.6	99.5	96.0	106.9	96.7	98.1	103.6
June	98.4	104.3	97.1	94.2	95.9	107.3	95.5	99.2	100.7
July	97.4	100.5	92.9	93.0	94.8	108.4	95.3	97.3	98.0
August	97.2	100.1	91.8	93.0	94.5	106.9	93.0	96.7	97.3
September	99.1	98.7	95.6	94.9	94.3	109.2	93.4	97.6	99.6
October	101.8	101.1	97.9	99.1	97.2	109.1	94.0	100.0	103.0
November	103.5	105.7	104.4	102.0	97.9	106.1	98.8	104.4	108.6
December	107.1	105.2	105.9	103.2	98.8	106.5	102.3	106.1	110.5
Average	**102.1**	**101.9**	**99.7**	**98.3**	**97.2**	**108.3**	**97.1**	**101.1**	**105.3**
1986 January	102.6	100.5	100.7	96.4	97.1	106.8	100.1	104.5	106.4
February	91.9	86.3	91.9	83.9	90.9	104.9	83.7	90.4	95.8
March	80.5	80.1	80.8	76.0	76.5	113.6	66.9	75.3	88.7
April	74.6	76.3	78.2	74.0	69.8	95.6	62.5	74.9	80.7
May	72.3	79.4	75.2	71.8	74.7	94.3	64.1	71.1	77.4
June	65.3	74.5	69.1	69.2	66.8	89.3	60.0	65.2	72.9
July	66.6	69.6	62.3	62.7	63.8	84.5	54.6	60.2	66.9
August	69.9	67.6	62.5	63.6	58.5	84.3	55.6	60.5	66.4
September	70.8	70.0	64.2	67.1	60.5	89.3	61.9	66.9	68.5
October	70.0	67.8	61.5	62.7	62.1	79.1	62.5	68.2	67.8
November	70.4	68.0	61.0	65.6	63.5	80.0	62.7	68.8	69.8
December	72.8	68.7	64.8	68.3	63.5	85.3	63.9	68.4	72.5
Average	**81.2**	**79.3**	**77.7**	**75.3**	**73.8**	**94.4**	**70.4**	**77.6**	**84.4**
1987 January	75.9	70.7	69.1	72.0	62.7	86.5	67.6	71.3	78.2
February	75.1	69.9	72.0	73.0	65.1	88.9	71.1	74.1	79.6
March	76.1	70.1	70.5	73.5	65.6	82.8	71.1	74.7	78.9
April	74.4	69.9	68.8	73.6	65.7	83.4	70.4	74.3	78.3
May	75.0	70.6	63.7	70.8	64.9	81.2	69.1	71.9	77.9
June	75.7	76.4	75.3	75.3	NA	82.7	70.9	72.9	77.6
July	76.1	77.2	74.5	73.5	NA	85.6	NA	75.0	77.8
August	77.0	77.5	73.3	74.5	75.3	87.3	77.3	78.4	78.2
September	R 77.0	R 76.4	R 75.9	74.4	R 76.9	R 89.6	R 77.4	80.2	R 78.8
October	77.5	77.1	77.7	77.6	75.9	92.8	76.5	82.0	81.0

Footnotes continued.
R=Revised data. NA=Not available.
Notes: • 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]	
	Old Series[c]	New Series	Old Series[c]	New Series	Old Series[c]	New Series	Old Series[c]	New Series	Old Series[c]	New Series
1973 Average	**2.54**		**2.41**		**1.25**		**2.10**		**1.96**	
1974 Average	**3.10**		**3.04**		**1.69**		**2.75**		**2.49**	
1975 Average	**3.51**		**3.45**		**2.07**		**3.08**		**2.92**	
1976 Average	**3.73**		**3.69**		**2.21**		**3.27**		**3.09**	
1977 Average	**4.05**		**4.09**		**2.50**		**3.51**		**3.42**	
1978 Average	**4.31**		**4.36**		**2.79**		**3.62**		**3.69**	
1979 Average	**4.64**		**4.68**		**3.05**		**3.96**		**3.99**	
1980 Average	**5.36**		**5.48**		**3.69**		**4.76**		**4.73**	
1981 Average	**6.20**		**6.29**		**4.29**		**5.28**		**5.46**	
1982 Average	**6.86**		**6.86**		**4.95**		**5.92**		**6.13**	
1983 Average	**7.18**		**7.02**		**4.96**		**6.38**		**6.30**	
1984 Average	**7.54**		**7.33**		**5.04**		**6.78**		**6.52**	
1985 January	7.28		7.25		5.12		6.80		6.52	
February	7.19		7.21		5.12		6.77		6.47	
March	7.48		7.36		5.13		7.01		6.55	
April	7.73		7.44		5.09		6.95		6.58	
May	7.98		7.55		5.08		7.09		6.66	
June	8.15		7.60		5.24		7.07		6.86	
July	8.24		7.64		5.36		7.13		7.02	
August	8.18		7.55		5.20		7.01		6.92	
September	8.18		7.62		5.24		7.08		6.95	
October	8.05		7.65		5.19		6.98		6.80	
November	7.73		7.49		5.10		6.91		6.63	
December	7.44		7.29		5.10		6.73		6.56	
Average	**7.79**		**7.47**		**5.16**		**6.96**		**6.71**	
1986 January[d]	7.35	6.92	7.29	7.04	5.16	4.95	7.00	6.70	6.61	6.30
February	7.56	7.14	7.43	7.16	5.12	4.95	7.07	6.71	6.65	6.37
March	7.59	7.22	7.47	7.21	5.12	4.93	7.28	6.76	6.64	6.37
April	7.79	7.42	7.45	7.22	5.04	4.84	7.15	6.90	6.60	6.36
May	7.83	7.49	7.39	7.16	5.06	4.84	7.11	6.63	6.59	6.34
June	8.11	7.71	7.56	7.26	5.07	4.87	7.21	6.67	6.82	6.53
July	8.21	7.75	7.49	7.08	5.32	5.08	7.19	6.68	7.02	6.66
August	8.19	7.70	7.51	7.23	5.34	5.07	7.08	6.56	7.02	6.68
September	8.16	7.71	7.57	7.27	5.20	4.98	7.35	6.93	6.91	6.60
October	7.78	7.46	7.34	7.14	5.05	4.83	6.89	6.43	6.61	6.36
November	7.67	7.39	7.31	6.97	4.90	4.44	7.01	6.52	6.51	6.09
December	7.29	7.01	7.05	6.87	4.83	4.68	6.65	6.24	6.36	6.15
Average	**7.80**	**7.41**	**7.41**	**7.13**	**5.10**	**4.90**	**7.08**	**6.64**	**6.70**	**6.42**
1987 January[d]	7.24	6.93	7.06	6.85	4.85	4.72	6.86	6.47	6.40	6.18
February	7.29	6.95	7.06	6.85	4.79	4.65	6.86	6.53	6.36	6.13
March	7.47	7.14	7.16	6.95	4.80	4.68	6.88	6.53	6.40	6.19
April	7.61	7.26	7.17	6.93	4.76	4.63	7.45	6.87	6.40	6.17
May	7.79	7.47	7.16	6.92	4.80	4.66	6.97	6.56	6.44	6.22
June	8.15	7.83	7.35	7.11	4.98	4.80	7.13	6.77	6.75	6.50
July	8.24	7.82	7.39	7.08	5.11	4.90	7.00	6.65	6.92	6.61
August	8.22	7.80	7.39	7.12	5.07	4.86	7.06	6.67	6.92	6.62
September	8.13	7.66	7.42	7.12	5.01	4.80	7.12	6.90	6.78	6.48
October	7.99	7.63	7.44	7.20	4.85	4.72	7.11	6.87	6.61	6.38

[a]Prices are calculated by dividing revenues by sales. Revenues 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.

[b]Average price for total sales to ultimate consumers.

[c]Data through 1979 cover privately owned electric utilities in Classes A and B. Data for 1980 forward cover selected privately owned electric utilities in Class A whose electric operating revenues were $100 million or more during the previous year.

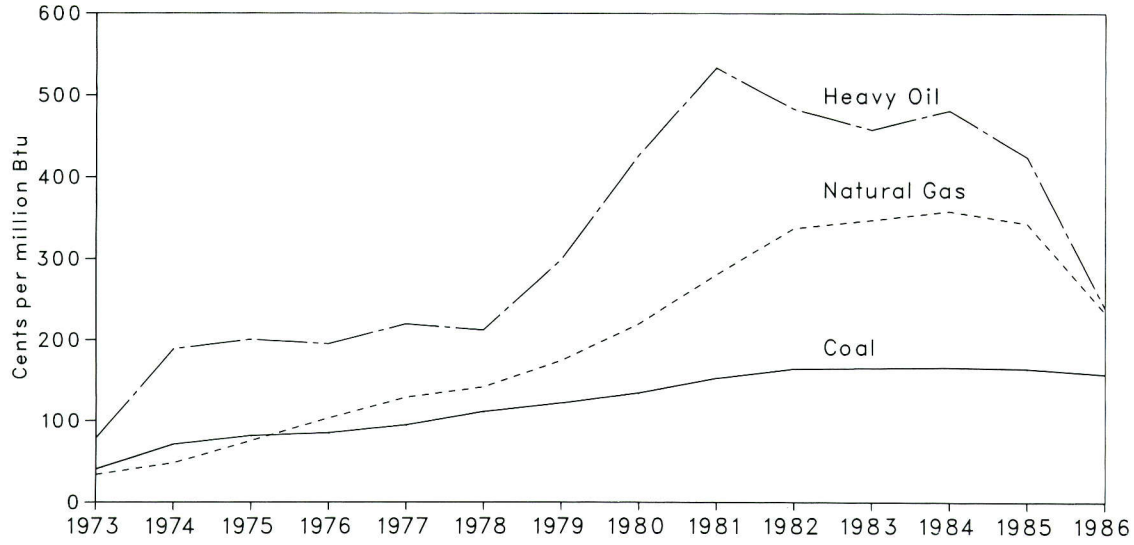
[d]See Note 7 at end of section.

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

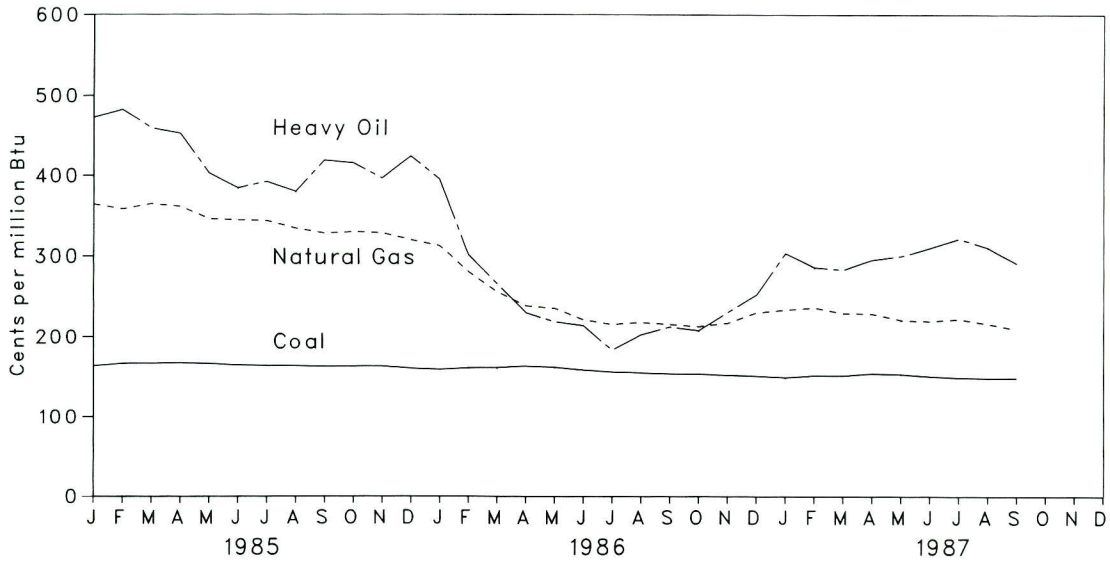


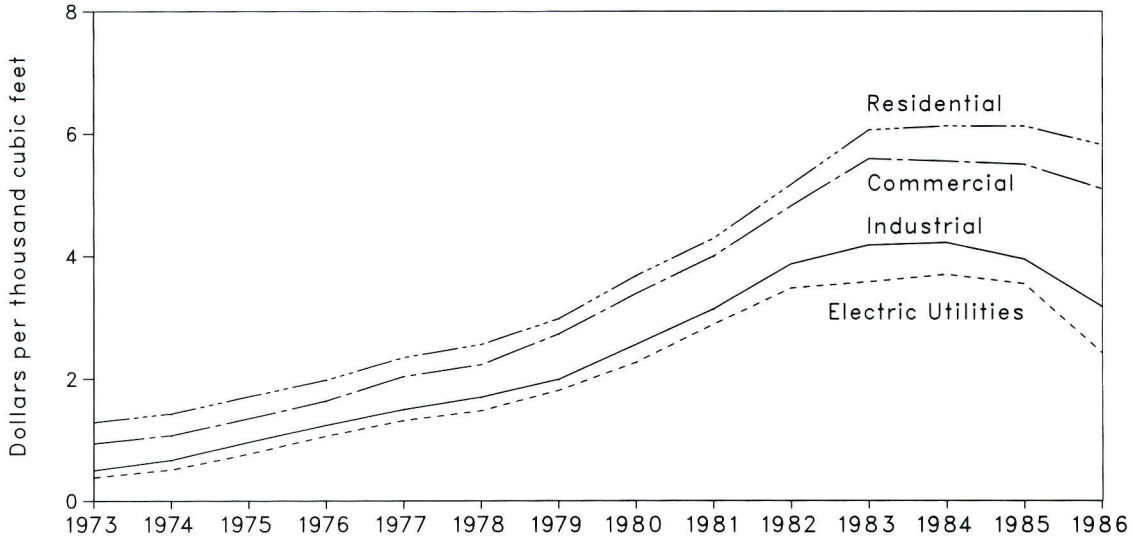
Table 9.10 Cost of Fossil Fuels Delivered to Steam-Electric Utility Plants[a]
(Cents per million Btu)

	Coal	Heavy Oil[b]	Natural Gas[c]	All Fossil Fuels[b]
1973 Average	**40.5**	**78.5**	**33.8**	**47.6**
1974 Average	**70.9**	**189.0**	**48.2**	**91.4**
1975 Average	**81.4**	**200.5**	**75.2**	**104.4**
1976 Average	**84.8**	**195.2**	**103.4**	**111.9**
1977 Average	**94.7**	**219.8**	**129.1**	**129.7**
1978 Average	**111.6**	**212.5**	**142.2**	**141.1**
1979 Average	**122.4**	**298.8**	**174.9**	**163.9**
1980 Average	**135.1**	**426.7**	**219.9**	**192.8**
1981 Average	**153.2**	**533.4**	**280.5**	**225.6**
1982 Average	**164.7**	**483.2**	**337.6**	**224.9**
1983 Average	**165.6**	**457.8**	**347.4**	**220.6**
1984 Average	**166.4**	**481.2**	**358.3**	**219.2**
1985 January	164.1	472.0	364.4	218.7
February	167.0	482.4	358.1	218.1
March	167.1	458.8	364.9	209.5
April	167.6	452.1	361.6	210.6
May	166.8	403.1	346.1	206.3
June	165.0	384.9	344.8	208.1
July	164.2	392.8	344.0	217.4
August	164.0	380.5	334.8	211.1
September	163.2	419.0	328.7	204.9
October	163.5	415.8	330.4	204.3
November	163.6	397.2	329.3	204.5
December	161.0	424.3	320.9	202.9
Average	**164.8**	**424.4**	**343.1**	**209.6**
1986 January	159.6	396.0	313.6	195.7
February	161.4	302.1	281.2	185.6
March	161.7	266.2	256.2	179.9
April	163.5	229.7	238.4	177.7
May	162.3	218.9	235.2	177.7
June	159.2	214.4	221.5	174.1
July	157.1	184.1	216.1	171.1
August	156.1	203.6	218.5	170.7
September	154.9	213.0	216.2	168.5
October	154.7	208.6	213.6	165.8
November	153.3	230.5	217.6	166.1
December	152.2	252.7	230.1	170.3
Average	**157.9**	**240.1**	**234.4**	**175.0**
1987 January	150.4	304.1	233.6	173.3
February	152.7	286.5	236.3	172.0
March	152.6	283.6	229.3	170.0
April	155.2	295.6	228.6	174.1
May	154.3	300.4	220.9	172.6
June	151.6	310.6	219.6	172.3
July	150.1	321.7	221.9	177.3
August	149.3	310.8	216.5	172.6
September	149.5	291.1	209.7	166.0
9-Month Average	**151.7**	**301.9**	**222.5**	**172.2**
1986 9-Month Average	**159.5**	**241.6**	**238.5**	**177.6**
1985 9-Month Average	**165.4**	**428.3**	**347.8**	**211.5**

[a]Data through 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 1983, data cover steam-electric utility plants with a capacity of 50 megawatts or greater.
[b]See Note 8 at end of section.
[c]Includes supplemental gaseous fuels.
Note: Geographic coverage is 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[c]	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	**.45**	**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**	**1.63**	**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 January	2.64	3.21	2.89	3.89	5.97	5.62	4.22	3.74	5.09
February	2.71	3.08	2.87	3.94	5.86	5.53	4.26	3.68	5.12
March	2.62	3.29	2.90	3.97	5.99	5.59	4.16	3.74	5.02
April	2.64	3.39	2.86	3.91	6.11	5.65	4.01	3.72	4.84
May	2.53	3.32	2.89	3.89	6.59	5.59	3.88	3.57	4.58
June	2.58	3.40	3.00	3.86	6.96	5.65	3.78	3.56	4.43
July	2.51	3.41	2.82	3.69	7.07	5.44	3.92	3.56	4.35
August	2.47	3.28	2.69	3.70	7.21	5.42	3.94	3.46	4.30
September	2.42	3.28	2.76	3.68	7.06	5.37	3.84	3.40	4.32
October	2.37	3.16	2.68	3.59	6.50	5.30	3.78	3.37	4.37
November	2.36	2.88	2.62	3.46	6.13	5.39	3.84	3.38	4.57
December	2.28	2.79	2.67	3.45	5.70	5.25	3.70	3.29	4.68
Average	**2.51**	**3.18**	**2.81**	**3.75**	**6.12**	**5.50**	**3.95**	**3.55**	**4.72**
1986 January	2.28	2.81	2.64	3.52	5.63	5.28	3.77	3.20	4.73
February	2.26	2.79	2.60	3.52	5.67	5.28	3.77	2.85	4.72
March	2.16	3.05	2.48	3.50	5.70	5.27	3.53	2.60	4.53
April	2.10	3.14	2.37	3.33	5.88	5.22	3.35	2.44	4.24
May	1.96	2.75	2.47	3.15	6.16	5.15	3.11	2.41	3.90
June	1.85	2.56	2.48	3.11	6.67	5.09	3.05	2.27	3.65
July	1.80	2.78	2.40	3.08	6.84	5.02	2.88	2.23	3.42
August	1.77	2.22	2.59	3.04	6.94	4.90	2.81	2.22	3.39
September	1.78	2.26	2.06	3.02	6.83	4.93	2.92	2.22	3.54
October	1.73	2.22	2.27	2.94	6.38	4.88	2.93	2.19	3.71
November	1.77	1.84	2.10	2.90	5.66	4.74	3.01	2.23	3.98
December	1.76	1.99	2.16	2.99	5.28	4.73	3.00	2.35	4.15
Average	**1.94**	**2.51**	**2.38**	**3.22**	**5.83**	**5.08**	**3.23**	**2.43**	**4.13**
1987 January	1.83	1.90	2.16	2.98	5.33	4.79	2.88	2.38	4.21
February	1.83	2.21	2.11	3.03	5.36	4.75	3.05	2.41	4.31
March	1.82	2.30	2.08	2.91	5.38	4.77	2.92	2.38	4.16
April	1.82	2.25	2.11	2.86	5.48	4.90	2.76	2.37	3.96
May	1.76	2.22	2.20	2.81	5.99	4.83	2.59	2.30	3.58
June	1.75	2.26	2.19	2.83	6.57	4.81	2.55	2.26	3.35
July	1.74	2.73	2.22	2.91	6.79	4.80	2.63	2.31	3.33
August	1.71	2.17	1.71	2.88	6.86	4.76	2.49	2.25	3.16
September	NA	2.17	2.29	2.83	6.65	4.72	2.54	2.16	3.27
October	NA	1.98	1.99	2.69	5.86	4.64	2.54	NA	NA

[a]Prices shown on this page are intended to include all taxes. See Note 9 at end of section.
[b]Includes supplemental gaseous fuels.
[c]Data 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.
[d]The decline from the previous month was primarily the result of refunds in the form of reduced charges.
NA=Not available.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1985 are final. Subsequent data are preliminary.
Sources: See end of section.

Notes and Sources for the Price Section

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; after February 1976, the price represents an average of actual first purchase prices. The data series was previously called "Actual Domestic Wellhead Price."

2. FOB 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 EIA Form 14, the "Refiners' Monthly Cost Report." These prices were previously published from data collected on ERA Form 49, the "Domestic Crude Oil Entitlements Program Refiners Monthly Report." The ERA Form 49 was discontinued with the decontrol of crude oil on January 28, 1981. Crude oil purchases and costs are defined for EIA Form 14 in accordance with conventions used for ERA Form 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 ERA Form 51, the "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 ERA Form 49 excluded unfinished oils but included the Strategic Petroleum Reserve (SPR). Crude oil costs and volumes reported on the FEA Form P110-M-1 included unfinished oils but excluded SPR. Imported averages derived from ERA Form 49 exclude oil purchased for SPR, whereas the composite averages derived from ERA Form 49 include SPR. None of the prices derived from EIA Form 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 1978, 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 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 FEA Form 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 annual data series have been generated for 1978-1980, and monthly series for 1981 and 1982, by estimating the prices that would have been published had the 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 the Energy Information Administration.

7. Beginning with January 1986, national average price estimates are based on a statistically derived sample of both publicly and privately owned electric utilities. Prior to that time, national average price estimates were based on a sample of only privately owned electric utilities. Respondents to Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions," formerly the "Electric Utility Company Monthly Statement," consist of a sample of 201 electric utilities that were statistically chosen using stratification techniques. The respondents were chosen from more than 3,000 electric utilities reporting on Form EIA-861, "Annual Electric Utility Report." This scheme differs from the cut-off sample used prior to January 1986. Data are shown for both the old and new series. Publication of both series will continue until sufficient information exists to estimate historical data based on the new series.

8. Heavy fuel oil prices include fuel oils No. 4, No. 5, and No. 6, and topped crude fuel oil prices. The weighted average for all fossil fuels includes both residual fuel oil prices and light oil (No. 2 fuel oil, kerosene, and jet fuel) prices.

9. 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--Economic Regulatory Administration (ERA), January 1976: FEA Form 90, "Crude Petroleum Production Monthly Report"; February 1976 through September 1979: FEA Form P124, "Domestic Crude Oil Purchaser's (Monthly) Report"; October 1979 through December 1982: ERA Form 182, "Domestic Crude Oil First Purchase Report."; January 1983 forward: EIA Form 182, "Domestic Crude Oil First Purchase Report."
- Crude Oil Import Prices--Energy Information Administration (EIA), 1975 through January 1979: FEA Form F701-M-0, "Transfer Pricing Report"; February 1979 through September 1982: ERA Form 51, "Transfer Pricing Report"; October 1982 through June 1984: EP Form 51, "Monthly Foreign Crude Oil Transaction Report"; July 1984 forward: Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report."
- Refiner Acquisition Costs--EIA, January 1976: FEO Form 96, "Monthly Cost Allocation Report"; February 1976 through June 1978: FEA Form P110-M-1, "Refiners' Monthly Cost Allocation Report"; July 1978 through December 1980: ERA Form 49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report"; January 1981 forward: EIA Form 14, "Refiners' Monthly Cost Report."
- U.S. City Average Retail Motor Gasoline Prices--Bureau of Labor Statistics.
- No. 2 Distillate to Residences--January 1983 forward, EIA Form-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report" and EIA-782B, "Resellers/Retailers' Monthly Petroleum Product Sales Report." Prices prior to January 1983 are EIA estimates using data from FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report" and EIA Form 9A, "No. 2 Distillate Price Monitoring Report." See Note 8 on the previous page for additional information on the estimated data.
- All Other Petroleum Products--January 1983 forward, EIA Form-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report." Prices prior to January 1983 are EIA estimates using data from FEA Form 302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices." See Note 8 on the previous page for additional information on the estimated data.

Natural Gas:

- Average Wellhead--Annual data through 1982 from EIA, *Natural Gas Annual, 1973* through *1982.* Annual data for 1983 through 1986 from Form EIA-627, "Annual Quantity and Value of Natural Gas Report" and the U.S. Minerals Management Service. Monthly data 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. Monthly data are adjusted to conform with final reported annual data.
- Imports and Purchases from Producers by Major Interstate Pipeline Companies--FERC Form 11,

"Interstate Pipeline Company Purchases, and Industrial Sales".

- City Gate--EIA, October 1983 forward: 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--EIA, FPC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Electricity:

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

- Retail Prices--EIA, January 1973 through February 1980: FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 through December 1982: FERC Form 5, "Electric Utility Company Monthly Statement"; January 1983 forward: EIA Form 826, "Electric Utility Company Monthly Statement."

Section 10. International

Crude Oil Production. World crude oil production during October 1987 was 57 million barrels per day, up 0.4 million from the level in the previous month.

Organization of Petroleum Exporting Countries (OPEC) production during October 1987 averaged 19 million barrels per day, up 0.4 million from the level during the previous month. Production by the Arab members of OPEC during October 1987 averaged 12 million barrels per day, up slightly from the September 1987 level. During October 1987, production increased in Iraq by 200 thousand and in Libya by 100 thousand barrels per day. Production in Kuwait decreased by 165 thousand barrels per day, in the United Arab Emirates by 100 thousand, in Saudi Arabia by 15 thousand, and in Qatar by 10 thousand barrels per day. Production remained the same in Algeria as during the previous month. Among non-Arab members of OPEC, production during October 1987 increased in Iran by 300 thousand, in Nigeria by 50 thousand, and in Indonesia by 10 thousand barrels per day. Production remained the same in Venezuela as during the previous month.

Among the non-OPEC nations, production during October 1987 increased in the United States by 103 thousand barrels per day, in the United Kingdom by 45 thousand, and in Canada by 10 thousand barrels per day. Production remained the same in Mexico as during the previous month.

Petroleum Consumption. In July 1987, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 36 million barrels per day, 3 percent[10] higher than the level in July 1986. Consumption was higher in Japan by 7 percent, in Canada by 5 percent, and in the United States by 4 percent, compared with levels 1 year earlier. Consumption in all European OECD countries combined in July 1987 was 12 million barrels per day, slightly above the level in the previous July. Consumption was higher in Italy by 11 percent and slightly higher in the United Kingdom, but lower in West Germany by 3 percent and in France by 2 percent, compared with levels 1 year earlier.

Petroleum Stocks. For all OECD countries, petroleum stocks at the end of July 1987 totaled 3.3 billion barrels, about the same stock level as the end of July 1986. Stocks were lower in Canada by 4 percent and in the United States by 1 percent, but higher in Japan by 1 percent, compared with levels 1 year earlier. Stock levels in all European OECD countries as of the end of July 1987 were 1.1 billion barrels, slightly below the stock level in July 1986. Stocks were up in West Germany by 10 percent, and in France by 3 percent, but down in the United Kingdom by 7 percent and in Italy by 6 percent, compared with levels 1 year earlier.

Nuclear Electricity Generation. In October 1987, the 20 non-Communist countries with nuclear power capacity generated 123 gross terawatthours (billion kilowatthours) of nuclear-generated electricity, 4 percent more than in October 1986.

Based on *Nucleonics Week* information, as of October 31, 1987, with the addition of two French and two West German units, there were 334 operable nuclear generating units in the 20 non-Communist countries. These units had a collective gross generating capacity of 266.7 gigawatts (million kilowatts). The two West German units introduced this month at Hamm-Ventrop and Mulheim-Kaerlich, have been generating electricity since November 1985 and March 1986, respectively. However, these two units were not added to *Nucleonics Week's* nuclear electricity generation table until October 1987. Therefore, the generation figures in Table 10.4b have been revised to include their generation.

In October 1987, the 106 U.S. units accounted for 98.3 gross gigawatts, 36.9 percent of the total non-Communist nuclear generating capacity.

[10]Percentage changes are calculated using unrounded data.

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

	Algeria	Iraq	Kuwait[a]	Libya	Qatar	Saudi Arabia[a]	United Arab Emirates	Arab OPEC[b]	Indonesia	Iran	Nigeria
1973 Average	**1,097**	**2,018**	**3,020**	**2,175**	**570**	**7,596**	**1,533**	**18,009**	**1,339**	**5,861**	**2,054**
1974 Average	**1,009**	**1,971**	**2,546**	**1,521**	**518**	**8,480**	**1,679**	**17,724**	**1,375**	**6,022**	**2,255**
1975 Average	**983**	**2,262**	**2,084**	**1,480**	**438**	**7,075**	**1,664**	**15,986**	**1,307**	**5,350**	**1,783**
1976 Average	**1,075**	**2,415**	**2,145**	**1,933**	**497**	**8,577**	**1,936**	**18,578**	**1,504**	**5,883**	**2,067**
1977 Average	**1,152**	**2,348**	**1,969**	**2,063**	**445**	**9,245**	**1,999**	**19,221**	**1,686**	**5,663**	**2,085**
1978 Average	**1,161**	**2,563**	**2,131**	**1,983**	**487**	**8,301**	**1,831**	**18,457**	**1,635**	**5,242**	**1,897**
1979 Average	**1,154**	**3,477**	**2,500**	**2,092**	**508**	**9,532**	**1,831**	**21,094**	**1,591**	**3,168**	**2,302**
1980 Average	**1,012**	**2,514**	**1,656**	**1,787**	**472**	**9,900**	**1,709**	**19,050**	**1,577**	**1,662**	**2,055**
1981 Average	**805**	**1,000**	**1,125**	**1,140**	**405**	**9,815**	**1,474**	**15,764**	**1,605**	**1,380**	**1,433**
1982 Average	**710**	**1,012**	**823**	**1,150**	**330**	**6,483**	**1,250**	**11,758**	**1,339**	**2,214**	**1,295**
1983 Average	**660**	**1,005**	**1,064**	**1,105**	**295**	**5,086**	**1,149**	**10,364**	**1,343**	**2,440**	**1,241**
1984 Average	**638**	**1,209**	**1,157**	**1,087**	**394**	**4,663**	**1,146**	**10,294**	**1,412**	**2,174**	**1,388**
1985 January	640	1,250	1,118	1,000	270	3,510	1,100	8,887	1,380	1,942	1,423
February	660	1,250	1,133	1,000	290	4,025	1,160	9,517	1,401	2,147	1,718
March	690	1,200	1,092	1,000	315	3,835	1,215	9,347	1,369	2,249	1,728
April	650	1,370	977	1,000	260	3,470	1,215	8,942	1,369	2,351	1,626
May	650	1,300	946	1,100	290	2,590	1,160	8,036	1,264	2,045	1,474
June	600	1,370	926	980	300	2,420	1,100	7,696	1,106	2,249	1,118
July	600	1,450	946	910	320	2,740	1,155	8,121	1,369	2,249	1,016
August	600	1,400	946	910	320	2,340	1,200	7,716	1,369	2,453	1,220
September	650	1,600	987	1,100	295	2,980	1,285	8,897	1,264	2,249	1,474
October	650	1,650	1,062	1,200	320	3,910	1,255	10,048	1,327	2,351	1,728
November	680	1,700	1,057	1,200	300	4,200	1,250	10,388	1,369	2,249	1,789
December	650	1,650	1,087	1,300	335	4,680	1,225	10,928	1,317	2,453	1,646
Average	**643**	**1,433**	**1,023**	**1,059**	**301**	**3,388**	**1,193**	**9,040**	**1,325**	**2,250**	**1,495**
1986 January	650	1,650	1,115	1,100	360	4,465	1,245	10,585	1,459	2,100	1,200
February	550	1,650	1,315	900	325	4,715	1,445	10,900	1,336	2,000	1,400
March	600	1,650	1,515	900	350	4,115	1,395	10,525	1,336	1,800	1,600
April	600	1,500	1,520	900	180	4,720	1,345	10,765	1,377	2,000	1,700
May	600	1,700	1,510	1,100	360	4,360	1,495	11,125	1,464	2,100	1,600
June	600	1,800	1,650	1,200	430	5,250	1,595	12,525	1,387	2,100	1,540
July	600	1,800	1,805	1,150	400	5,905	1,595	13,255	1,382	2,050	1,555
August	600	1,800	1,733	1,150	400	6,433	1,625	13,741	1,462	1,700	1,765
September	600	1,800	1,118	990	280	4,818	1,345	10,951	1,346	1,500	1,300
October	600	1,800	1,130	1,000	300	5,030	1,355	11,215	1,361	1,500	1,325
November	600	1,600	1,350	1,000	300	5,350	1,195	11,395	1,407	1,700	1,325
December	600	1,500	1,250	1,000	300	5,350	1,215	11,215	1,366	2,000	1,325
Average	**600**	**1,688**	**1,419**	**1,034**	**333**	**5,045**	**1,404**	**11,523**	**1,390**	**1,879**	**1,470**
1987 January	600	1,650	1,200	950	285	3,900	1,195	9,780	1,280	2,600	1,240
February	600	1,670	1,165	950	250	3,815	1,175	9,625	1,250	2,500	1,140
March	600	1,700	1,105	850	200	3,255	1,155	8,865	1,265	2,500	1,230
April	600	1,900	1,125	925	150	3,975	1,195	9,870	1,280	2,300	1,120
May	600	1,900	1,090	930	280	4,140	1,225	10,165	1,300	2,600	1,285
June	600	2,000	1,180	950	350	4,180	1,395	10,655	1,300	2,500	1,350
July	670	1,950	1,340	1,100	450	4,540	1,565	11,615	1,330	2,500	1,350
August	670	2,200	1,440	1,200	420	4,690	1,815	12,435	1,450	2,700	1,350
September	R 670	2,300	R 1,340	900	330	R 4,590	1,955	R 12,085	1,310	2,100	1,300
October	670	2,500	1,175	1,000	320	4,575	1,855	12,095	1,320	2,400	1,350
10-Mo. Avg.	**628**	**1,979**	**1,217**	**976**	**304**	**4,169**	**1,455**	**10,728**	**1,309**	**2,471**	**1,273**

[a]Includes about one-half of the production in the former Kuwait-Saudi Arabia Neutral Zone. In October 1987, total production in that region amounted to approximately 350 thousand barrels per day.

[b]The Arab members of the Organization of Petroleum Exporting Countries (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.

[d]Other is a calculated total derived from the difference between world production and the nations represented above.

R=Revised data.

Footnotes continued on following page.

Table 10.1b World Crude Oil Production (continued)
(Thousand Barrels per Day)

	Venezuela	Total OPEC[c]	Canada	Mexico	United Kingdom	United States	China	USSR	Other[d]	World
1973 Average	**3,366**	**30,988**	**1,798**	**465**	**2**	**9,208**	**1,090**	**8,329**	**3,691**	**55,571**
1974 Average	**2,976**	**30,731**	**1,551**	**571**	**2**	**8,774**	**1,315**	**8,856**	**3,835**	**55,635**
1975 Average	**2,346**	**27,156**	**1,430**	**705**	**12**	**8,375**	**1,490**	**9,472**	**4,116**	**52,756**
1976 Average	**2,294**	**30,737**	**1,314**	**831**	**245**	**8,132**	**1,670**	**9,985**	**4,298**	**57,212**
1977 Average	**2,238**	**31,298**	**1,321**	**981**	**768**	**8,245**	**1,874**	**10,485**	**4,551**	**59,523**
1978 Average	**2,165**	**29,807**	**1,316**	**1,209**	**1,082**	**8,707**	**2,082**	**10,950**	**4,718**	**59,871**
1979 Average	**2,356**	**30,928**	**1,500**	**1,461**	**1,568**	**8,552**	**2,122**	**11,187**	**5,039**	**62,357**
1980 Average	**2,168**	**26,891**	**1,435**	**1,936**	**1,622**	**8,597**	**2,114**	**11,460**	**5,170**	**59,225**
1981 Average	**2,102**	**22,646**	**1,285**	**2,313**	**1,811**	**8,572**	**2,012**	**11,552**	**5,355**	**55,546**
1982 Average	**1,895**	**18,868**	**1,271**	**2,748**	**2,065**	**8,649**	**2,045**	**11,615**	**5,640**	**52,901**
1983 Average	**1,801**	**17,583**	**1,356**	**2,689**	**2,291**	**8,688**	**2,120**	**11,684**	**6,244**	**52,655**
1984 Average	**1,798**	**17,481**	**1,438**	**2,780**	**2,480**	**8,879**	**2,296**	**11,576**	**6,917**	**53,847**
1985 January	1,673	15,737	1,416	2,645	2,755	8,740	2,475	11,150	7,386	52,281
February	1,678	16,904	1,462	2,695	2,625	9,025	2,475	11,150	7,426	53,735
March	1,683	16,828	1,516	2,820	2,575	9,095	2,475	11,150	7,500	53,933
April	1,678	16,414	1,415	2,835	2,610	9,043	2,505	11,150	7,582	53,527
May	1,688	14,953	1,467	2,800	2,520	9,132	2,505	11,190	7,546	52,095
June	1,673	14,261	1,463	2,565	2,430	9,022	2,505	11,130	7,309	50,670
July	1,673	14,873	1,480	2,630	2,365	8,949	2,515	11,250	7,647	51,687
August	1,673	14,867	1,447	2,805	2,195	8,803	2,515	11,290	7,638	51,538
September	1,673	16,025	1,448	2,825	2,575	8,954	2,515	11,350	7,733	53,399
October	1,673	17,606	1,485	2,760	2,645	8,970	2,525	11,390	7,730	55,080
November	1,678	17,955	1,535	2,805	2,655	8,902	2,525	11,400	7,800	55,542
December	1,683	18,516	1,517	2,750	2,420	9,030	2,525	11,390	7,771	55,881
Average	**1,677**	**16,240**	**1,471**	**2,745**	**2,530**	**8,971**	**2,505**	**11,250**	**7,590**	**53,277**
1986 January	1,730	17,539	1,488	2,510	2,668	9,137	2,570	11,325	7,768	55,004
February	1,730	17,831	1,396	2,125	2,727	9,173	2,570	11,385	7,891	55,097
March	1,730	17,466	1,354	2,220	2,712	9,013	2,570	11,480	7,752	54,566
April	1,730	18,052	1,389	2,360	2,582	8,864	2,570	11,530	7,312	54,658
May	1,730	18,499	1,440	2,530	2,547	8,838	2,570	11,615	7,786	55,824
June	1,755	19,797	1,556	2,550	2,200	8,623	2,570	11,625	7,725	56,645
July	1,770	20,502	1,544	2,540	2,610	8,660	2,570	11,650	7,731	57,806
August	2,115	21,233	1,531	2,570	2,600	8,374	2,570	11,700	7,929	58,506
September	1,760	17,242	1,516	2,375	2,560	8,328	2,635	11,720	8,038	54,413
October	1,750	17,551	1,533	2,325	2,575	8,419	2,635	11,745	7,995	54,777
November	1,780	18,052	1,444	2,455	2,478	8,412	2,770	11,795	8,278	55,683
December	1,855	18,206	1,458	2,570	2,348	8,352	2,770	11,790	8,332	55,825
Average	**1,787**	**18,505**	**1,471**	**2,430**	**2,550**	**8,680**	**2,614**	**11,615**	**7,878**	**55,743**
1987 January	1,650	16,970	1,470	2,510	2,637	8,477	2,690	11,735	8,174	54,663
February	1,640	16,565	1,480	2,540	2,566	8,318	2,690	11,710	8,152	54,021
March	1,690	15,745	1,475	2,520	2,513	8,349	2,690	11,830	8,030	53,152
April	1,655	16,375	1,450	2,530	2,534	8,426	2,690	11,760	8,129	53,894
May	1,690	17,230	1,445	2,555	2,533	8,305	2,690	11,760	8,219	54,737
June	1,750	17,745	1,475	2,530	1,933	8,263	2,690	11,760	7,981	54,377
July	1,870	18,875	1,530	2,520	2,483	8,242	2,650	11,815	8,295	56,410
August	1,800	20,045	1,560	2,545	2,448	8,190	2,650	11,805	R 8,071	R 57,314
September	1,730	R 18,935	1,505	R 2,560	2,453	8,190	2,650	11,975	R 8,360	R 56,628
October	1,730	19,355	1,515	2,560	2,498	8,293	2,650	11,805	8,334	57,010
10-Mo. Avg.	**1,721**	**17,797**	**1,491**	**2,537**	**2,460**	**8,305**	**2,674**	**11,796**	**8,175**	**55,235**

Footnotes continued.

Note: • 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: • 1973-1986 annual data (except the United States): Energy Information Administration (EIA), *International Energy Annual.* • 1973-1987 U.S. annual and monthly data: EIA, *Petroleum Supply Monthly.* • 1985-1987 monthly data (except United States and world): Central Intelligence Agency, "International Energy Statistical Review," and other industry sources. • 1985-1987 monthly data for world: Sum of data for all countries using above sources.

Figure 10.1 Petroleum Consumption in OECD Countries

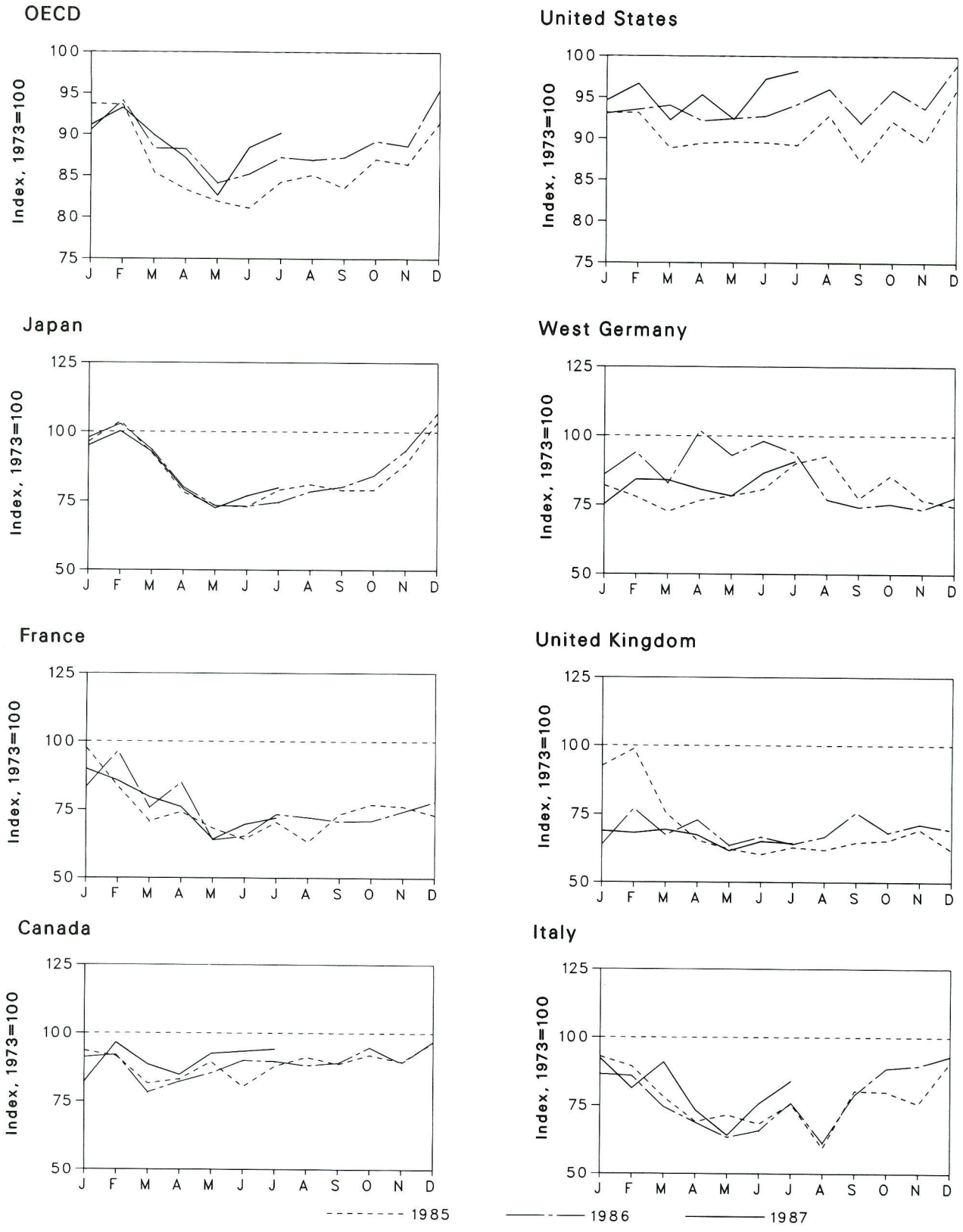


Table 10.2 Petroleum Consumption in OECD Countries[a]
(Thousand Barrels per Day)

	Canada	France	Italy	Japan	United Kingdom	United States	West Germany	OECD Europe[b]	Other OECD[c]	OECD[a]
1973 Average	**1,707**	**2,422**	**2,147**	**5,071**	**2,301**	**17,308**	**2,915**	**14,521**	R 1,006	R 39,612
1974 Average	**1,740**	**2,260**	**2,090**	**4,960**	**2,138**	**16,653**	**2,612**	**13,708**	R 1,056	R 38,117
1975 Average	**1,718**	**2,136**	**1,940**	**4,502**	**1,872**	**16,322**	**2,515**	**13,059**	R 999	R 36,600
1976 Average	**1,751**	**2,280**	**1,991**	**4,771**	**1,856**	**17,461**	**2,708**	**13,813**	R 1,068	R 38,864
1977 Average	**1,779**	**2,235**	**1,907**	**5,231**	**1,880**	**18,431**	**2,837**	**13,795**	R 1,123	R 40,359
1978 Average	**1,823**	**2,169**	**1,948**	**5,142**	**1,850**	**18,847**	**3,048**	**13,963**	R 1,117	R 40,892
1979 Average	**1,893**	**2,385**	**2,013**	**5,480**	**1,930**	**18,513**	**3,073**	**14,670**	R 1,090	R 41,646
1980 Average	**1,873**	**2,256**	**1,934**	**4,960**	**1,725**	**17,056**	**2,707**	**13,634**	R 1,072	R 38,595
1981 Average	**1,768**	**2,023**	**1,874**	**4,848**	**1,590**	**16,058**	**2,449**	**12,515**	R 1,080	R 36,269
1982 Average	**1,576**	**1,927**	**1,779**	**4,549**	**1,584**	**15,296**	**2,323**	**12,069**	**1,000**	**34,489**
1983 Average	**1,486**	**1,891**	**1,727**	**4,365**	**1,518**	**15,231**	**2,287**	**11,772**	**940**	**33,794**
1984 Average	**1,491**	**1,838**	**1,633**	**4,574**	**1,822**	**15,726**	**2,296**	**11,781**	**994**	**34,565**
1985 January	1,598	2,363	1,997	4,884	2,130	16,109	2,390	13,522	973	37,085
February	1,564	2,022	1,919	5,259	2,274	16,121	2,271	13,076	1,026	37,046
March	1,395	1,715	1,679	4,677	1,737	15,373	2,116	11,346	1,026	33,818
April	1,420	1,797	1,483	3,958	1,506	15,472	2,234	11,081	1,059	32,990
May	1,528	1,652	1,534	3,718	1,431	15,504	2,281	10,678	1,004	32,432
June	1,374	1,555	1,467	3,698	1,385	15,483	2,353	10,565	965	32,086
July	1,501	1,704	1,623	4,000	1,445	15,434	2,626	11,405	1,003	33,343
August	1,559	1,531	1,277	4,106	1,425	16,060	2,705	11,042	927	33,693
September	1,515	1,777	1,729	3,999	1,486	15,099	2,257	11,447	983	33,043
October	1,572	1,865	1,719	4,004	1,502	15,944	2,496	11,987	914	34,422
November	1,529	1,848	1,625	4,483	1,595	15,503	2,242	11,637	1,037	34,189
December	1,649	1,773	1,947	5,256	1,421	16,611	2,174	11,653	1,023	36,191
Average	**1,517**	**1,799**	**1,666**	**4,333**	**1,607**	**15,726**	**2,347**	**11,613**	**995**	**34,183**
1986 January	1,557	2,017	1,858	4,959	1,467	16,088	2,505	12,337	879	35,820
February	1,572	2,335	1,844	5,211	1,771	16,186	2,743	13,339	949	37,257
March	1,338	1,833	1,600	4,744	1,550	16,276	2,416	11,677	925	34,960
April	1,405	2,059	1,476	4,057	1,676	15,945	2,972	12,585	930	34,922
May	1,458	1,547	1,361	3,718	1,461	15,993	2,712	11,103	1,009	33,281
June	1,537	1,581	1,415	3,709	1,531	16,049	2,860	11,512	931	33,737
July	1,531	1,776	1,632	3,778	1,473	16,307	2,735	11,976	933	34,525
August	1,505	1,748	1,318	3,978	1,531	16,618	2,245	11,332	975	34,407
September	1,520	1,711	1,699	4,062	1,741	15,909	2,165	12,007	1,028	34,526
October	1,618	1,720	1,902	4,272	1,570	16,602	2,199	11,787	1,017	35,296
November	1,523	1,803	1,925	4,738	1,639	16,221	2,142	11,733	843	35,058
December	1,654	1,892	1,998	5,416	1,592	17,131	2,267	12,497	1,066	37,763
Average	**1,518**	**1,832**	**1,668**	**4,383**	**1,581**	**16,281**	**2,494**	**11,980**	**958**	**35,119**
1987 January	R 1,403	2,177	1,981	4,818	1,582	16,382	2,193	12,556	911	R 36,070
February	R 1,647	2,073	1,747	5,075	1,568	16,721	2,456	12,636	824	R 36,903
March	R 1,513	1,929	1,951	4,700	1,594	15,965	2,448	12,465	937	R 35,579
April	R 1,448	R 1,840	1,573	4,015	1,548	16,501	2,351	R 11,592	938	R 34,495
May	R 1,581	R 1,555	1,378	3,672	1,416	15,978	2,283	R 10,623	R 858	R 32,712
June	R 1,595	R 1,686	1,626	3,896	1,496	16,815	2,526	R 11,711	R 974	R 34,990
July	1,608	1,745	1,804	4,046	1,479	16,996	2,651	12,035	1,007	35,693
7-Mo. Average	**1,541**	**1,856**	**1,724**	**4,310**	**1,526**	**16,475**	**2,415**	**11,938**	**922**	**35,186**

[a]The Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, and the United States, as well as "OECD Europe" and "Other OECD."

[b]"OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and West Germany.

[c]"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 1984 are final. Subsequent data are preliminary.

Sources: • U.S. data: EIA, *Petroleum Supply Monthly.* • OECD data: OECD, *Quarterly Oil Statistics, Monthly Oil Statistics.*

Figure 10.2 Petroleum Stocks in OECD Countries, End of Period

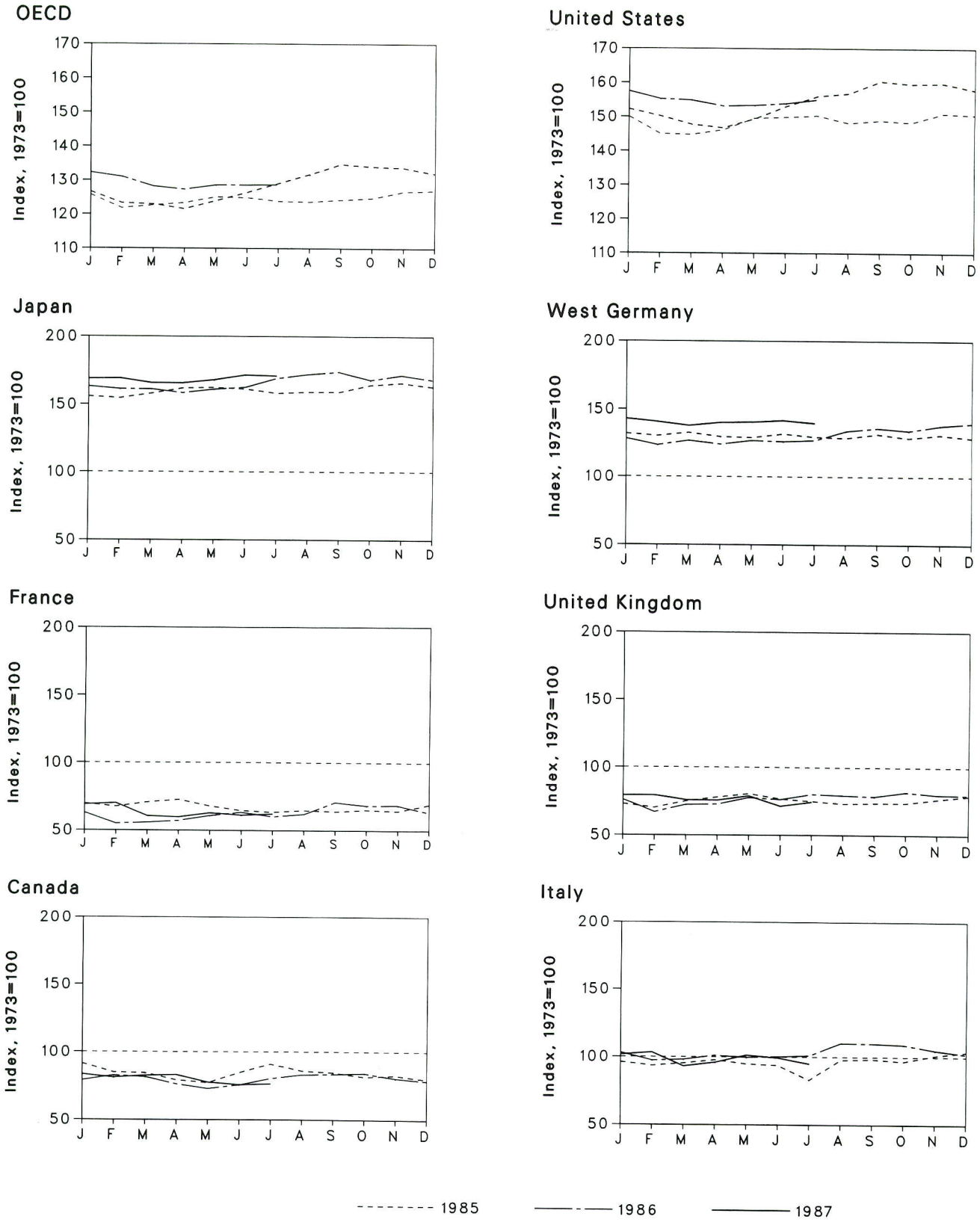


Table 10.3 Petroleum Stocks[a] in OECD Countries,[b] End of Period
(Million Barrels)

	Canada	France	Italy	Japan	United Kingdom	United States	West Germany	OECD Europe[c]	Other OECD[d]	OECD[b]
1973 Year	**140**	**201**	**152**	**303**	**156**	**1,008**	**181**	**1,070**	**67**	**2,588**
1974 Year	**145**	**249**	**167**	**370**	**161**	**1,074**	**213**	**1,227**	**64**	**2,880**
1975 Year	**174**	**225**	**143**	**375**	**165**	**1,133**	**187**	**1,154**	**67**	**2,903**
1976 Year	**153**	**234**	**143**	**380**	**165**	**1,112**	**208**	**1,205**	**68**	**2,918**
1977 Year	**167**	**239**	**161**	**409**	**148**	**1,312**	**225**	**1,268**	**68**	**3,224**
1978 Year	**144**	**201**	**154**	**413**	**157**	**1,278**	**238**	**1,219**	**68**	**3,122**
1979 Year	**150**	**226**	**163**	**460**	**169**	**1,341**	**272**	**1,353**	**75**	**3,379**
1980 Year	**164**	**243**	**170**	**495**	**168**	**1,392**	**319**	**1,464**	**72**	**3,587**
1981 Year	**161**	**214**	**167**	**482**	**143**	**1,484**	**297**	**1,337**	**67**	**3,531**
1982 Year	**136**	**193**	**179**	**484**	**125**	**1,430**	**272**	**1,258**	**68**	**3,376**
1983 Year	**120**	**153**	**149**	**471**	**119**	**1,454**	**250**	**1,145**	**68**	**3,258**
1984 Year	**127**	**153**	**159**	**480**	**113**	**1,556**	**240**	**1,132**	**69**	**3,364**
1985 January	128	140	146	472	114	1,512	239	1,071	70	3,253
February	119	135	142	468	109	1,462	236	1,032	71	3,153
March	118	142	145	479	117	1,460	240	1,053	65	3,175
April	111	146	148	491	121	1,473	235	1,053	67	3,195
May	108	136	144	492	125	1,508	234	1,063	65	3,237
June	119	130	142	489	119	1,511	239	1,050	64	3,233
July	127	128	126	480	117	1,516	234	1,022	62	3,207
August	120	130	149	482	114	1,494	233	1,042	62	3,200
September	119	129	149	483	115	1,502	238	1,052	62	3,218
October	114	131	147	498	115	1,496	233	1,056	65	3,230
November	116	130	154	503	119	1,523	237	1,072	65	3,279
December	112	139	157	495	123	1,519	233	1,094	67	3,286
1986 January	111	127	157	495	118	1,535	232	1,071	66	3,277
February	116	110	148	489	104	1,514	223	1,004	68	3,190
March	114	112	149	489	113	1,489	229	1,023	70	3,184
April	107	115	154	480	113	1,479	224	1,015	65	3,146
May	102	122	151	488	121	1,506	230	1,052	60	3,209
June	106	127	152	493	119	1,543	228	1,064	67	3,272
July	112	121	154	513	125	1,573	230	1,074	68	3,340
August	116	125	167	522	124	1,582	242	1,123	68	3,411
September	117	142	167	527	123	1,618	247	1,155	72	3,489
October	118	137	165	510	128	1,610	243	1,160	72	R 3,470
November	113	138	159	520	125	1,612	250	1,146	71	3,462
December	110	127	155	510	124	1,593	253	1,134	71	3,418
1987 January	117	138	154	512	123	1,588	259	1,136	71	3,424
February	R 114	140	157	513	124	1,565	255	1,126	73	R 3,390
March	115	122	141	503	118	1,561	250	1,068	72	3,319
April	116	120	146	502	118	1,544	254	R 1,064	68	3,294
May	109	126	154	509	123	1,546	255	1,094	70	3,328
June	106	123	151	520	111	1,552	257	1,081	69	3,328
July	107	125	144	519	116	1,563	253	1,070	72	3,331

[a]Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all nonmilitary petroleum held for storage, regardless of ownership, within each country in bulk terminals, refinery tanks, pipeline tankage, intercoastal tankers, tankers in port, and inland ship bunkers. Data exclude oil held in pipelines (except for the United States), rail and truck cars, sea-going ships' bunkers, service stations, retail stores, and tankers at sea.

[b]The Organization for Economic Cooperation and Development (OECD) includes Canada, Japan, and the United States, as well as "OECD Europe" and "Other OECD."

[c]"OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and West Germany.

[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. • 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, 1,420 in 1980, and 1,462 in 1982.

Sources: • U.S. data: EIA, *Petroluem Supply Monthly.* • OECD data: OECD, *Quarterly Oil Statistics, Monthly Oil Statistics.*

Table 10.4a Nuclear Electricity Generation by Non-Communist Countries[a]
(Billion Gross Kilowatthours)

	Argentina	Belgium	Brazil	Canada	Finland	France	India	Italy	Japan	Netherlands	Pakistan
1973 Total	**0**	**0**	**0**	**15.3**	**0**	**14.7**	**2.5**	**3.1**	**9.4**	**1.1**	**0.5**
1974 Total	**1.0**	**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**	**0.1**	**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 January	.2	2.5	.4	5.7	1.7	21.9	.2	.8	12.2	.4	(s)
February	.4	1.7	.3	5.0	1.6	19.2	.2	.7	10.7	.3	(s)
March	.5	2.0	.3	5.9	1.8	20.6	.4	.8	12.0	.2	0
April	.4	2.2	.1	5.2	1.6	17.7	.6	.7	11.8	(s)	0
May	.4	2.8	.2	2.4	1.2	15.9	.5	.7	13.0	.2	0
June	.4	2.8	.4	4.2	1.2	13.6	.4	.6	12.6	.4	(s)
July	.5	2.5	.3	5.7	1.4	16.1	.4	.6	12.5	.4	.1
August	.5	3.2	.1	6.0	1.5	15.4	.2	.5	12.9	.4	(s)
September	.5	3.3	.3	5.4	1.6	17.2	.3	.3	12.8	.4	0
October	.6	3.9	.4	5.1	1.7	20.0	.4	.3	13.9	.4	(s)
November	.7	3.9	.3	5.8	1.7	22.1	.4	.3	13.1	.4	.1
December	.7	3.8	.3	6.5	1.7	24.4	.4	.6	14.7	.4	.1
Total	**5.8**	**34.5**	**3.4**	**62.9**	**18.8**	**224.0**	**4.5**	**7.0**	**152.0**	**3.9**	**.3**
1986 January	.6	3.8	(s)	6.5	1.8	25.6	.5	.9	15.0	.4	(s)
February	.6	2.8	0	6.2	1.6	22.8	.4	.5	13.5	.1	(s)
March	.5	3.6	0	7.0	1.8	23.6	.5	.9	14.5	.3	(s)
April	.5	3.7	0	6.0	1.7	21.0	.3	.9	12.4	.4	(s)
May	.7	3.2	0	5.7	1.4	16.3	.4	.7	12.8	.4	(s)
June	.4	2.9	0	5.4	1.1	16.7	.4	.9	15.0	.4	(s)
July	.4	3.0	0	5.3	1.3	18.8	.5	.9	15.2	.4	(s)
August	.6	3.1	0	6.6	1.4	16.5	.5	.9	14.8	.4	.1
September	.6	3.1	0	6.2	1.5	19.0	.4	.9	13.4	.4	.1
October	.2	3.2	0	6.6	1.8	22.4	.3	.8	12.7	.4	(s)
November	.2	3.0	(s)	6.4	1.7	24.1	.5	.3	11.7	.3	(s)
December	.3	3.3	.1	6.7	1.7	27.4	.5	.1	13.8	.4	(s)
Total	**5.7**	**38.6**	**.1**	**74.6**	**18.8**	**254.3**	**5.1**	**8.7**	**164.8**	**4.2**	**.5**
1987 January	.7	4.1	0	7.2	1.8	27.3	.5	.1	14.7	.2	.1
February	.5	3.6	0	6.7	1.6	25.2	.5	.1	13.0	(s)	(s)
March	.6	3.4	(s)	7.0	1.8	25.8	.4	(s)	15.1	.1	(s)
April	.7	3.3	.3	6.7	1.7	20.6	.5	0	14.4	.4	(s)
May	.6	2.9	.4	4.8	1.3	20.2	.4	0	14.2	.4	(s)
June	.4	2.3	.3	6.5	1.3	19.7	.5	0	13.9	.4	(s)
July	.7	3.2	0	6.8	1.4	18.3	.5	0	15.2	.4	(s)
August	.1	3.6	0	6.5	1.6	16.1	.5	0	14.9	.4	0
September	.4	3.6	0	6.3	1.7	20.0	.5	0	16.7	.4	0
October	0	3.6	0	7.4	1.8	20.4	.3	0	17.4	.2	0
10-Month Total	**4.8**	**33.6**	**1.0**	**66.1**	**15.9**	**213.7**	**4.6**	**.2**	**149.4**	**2.8**	**.2**
1986 10-Month Total	**5.1**	**32.3**	**(s)**	**61.6**	**15.3**	**202.8**	**4.2**	**8.3**	**139.3**	**3.5**	**.4**
1985 10-Month Total	**4.4**	**26.8**	**2.8**	**50.6**	**15.4**	**177.6**	**3.7**	**6.1**	**124.3**	**3.1**	**.2**

[a]Figures are for gross electricity generation, as opposed to net electricity generation. Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves.

[b]Monthly data for the United Kingdom are totals for 4- or 5-week reporting periods, not calendar months.

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

Footnotes continued on following page.

Table 10.4b Nuclear Electricity Generation by Non-Communist Countries[a] (continued)

(Billion Gross Kilowatthours)

	South Africa	South Korea	Spain	Sweden	Switzerland	Taiwan	United Kingdom[b]	West Germany	Non-Communist World Excluding U.S.	United States	Non-Communist World
1973 Total	**0**	**0**	**6.5**	**2.1**	**6.2**	**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**	**0.1**	**6.5**	**19.9**	**8.1**	**0.1**	**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 January	.3	1.1	2.2	5.4	2.2	2.4	5.7	10.8	76.1	38.0	114.1
February	0	1.3	1.9	5.0	2.0	2.1	5.6	10.1	68.3	32.4	100.6
March	0	1.5	2.8	5.6	2.2	2.5	6.6	11.7	77.4	32.5	109.9
April	0	1.3	2.4	4.5	2.2	2.7	5.1	10.6	69.0	28.3	97.3
May	0	1.5	2.3	3.9	1.9	2.8	4.7	9.3	63.8	31.8	95.6
June	.1	1.2	3.1	2.6	1.2	2.6	5.1	9.6	62.0	31.0	93.0
July	.8	1.1	2.2	3.1	1.3	2.2	4.1	8.4	63.7	36.4	100.2
August	.8	1.2	2.1	4.3	1.0	2.2	3.8	9.5	65.5	36.8	102.3
September	1.0	1.3	2.1	4.7	1.7	2.6	4.9	10.3	70.7	35.9	106.6
October	1.1	1.4	2.2	5.4	2.2	2.6	4.3	11.3	77.2	32.1	109.3
November	.8	1.7	2.2	7.0	2.2	1.7	3.7	R 11.8	R 79.7	31.7	R 111.4
December	.9	1.9	2.6	6.9	2.2	2.5	6.0	R 12.4	R 89.1	35.7	R 124.7
Total	**5.7**	**16.5**	**28.0**	**58.6**	**22.4**	**28.7**	**59.6**	**R 125.8**	**R 862.4**	**402.6**	**R 1,265.0**
1986 January	1.0	2.0	3.1	6.8	2.3	2.9	4.8	R 12.1	90.0	38.1	128.1
February	.6	1.7	2.5	6.4	2.1	2.1	5.3	10.4	R 79.8	34.1	113.8
March	.7	1.5	2.4	7.2	2.3	2.2	6.4	R 10.8	R 86.2	31.2	R 117.3
April	.7	1.6	3.0	6.7	2.2	2.0	4.2	R 9.8	R 77.0	32.2	R 109.2
May	.7	2.4	3.6	4.8	2.1	2.0	4.4	R 9.7	R 71.4	33.7	R 105.1
June	.2	2.2	3.9	4.1	1.2	1.6	5.1	R 9.2	R 70.6	33.2	R 103.8
July	.6	2.0	3.1	3.8	.9	1.8	4.1	R 8.1	R 70.2	38.0	R 108.3
August	.7	2.4	2.9	4.3	1.0	1.9	4.2	R 8.2	R 70.5	39.2	R 109.7
September	.9	2.1	2.7	5.1	1.9	2.0	4.9	R 9.2	R 74.3	37.9	R 112.1
October	1.0	3.0	3.4	6.5	2.3	2.4	4.1	R 8.9	80.0	37.9	117.9
November	1.3	2.2	3.4	6.9	2.1	2.8	4.8	R 10.4	R 82.3	36.3	R 118.7
December	.9	3.1	3.2	7.3	2.2	3.1	6.1	R 12.1	R 92.5	41.2	R 133.6
Total	**9.3**	**26.1**	**37.5**	**69.9**	**22.5**	**26.9**	**58.2**	**R 118.9**	**R 944.8**	**432.9**	**R 1,377.8**
1987 January	.7	3.2	3.4	7.2	2.3	3.2	5.0	R 12.2	R 93.9	42.0	R 135.9
February	.7	3.0	3.3	6.6	2.1	3.1	5.2	R 11.8	R 86.9	38.2	R 125.0
March	.8	2.5	4.0	7.1	2.3	3.0	6.7	R 12.6	R 93.3	39.1	R 132.4
April	.5	2.4	3.7	6.1	2.2	2.6	4.6	R 10.7	R 81.4	35.0	R 116.4
May	.7	3.1	2.1	4.8	1.9	3.2	4.4	R 8.7	R 74.3	36.3	R 110.6
June	.6	3.8	2.5	3.5	1.1	3.1	4.1	R 8.6	R 72.6	38.4	R 111.0
July	.4	3.3	3.3	2.7	1.3	3.0	3.4	R 8.6	R 72.5	42.7	R 115.2
August	.8	3.2	3.3	4.1	1.0	2.9	4.0	R 9.3	R 72.4	43.2	R 115.6
September	.3	2.9	3.5	5.1	1.9	2.5	5.1	R 10.3	R 81.3	R 41.9	R 123.1
October	.4	3.2	3.9	6.0	2.3	2.4	3.9	12.0	85.1	38.1	123.2
10-Month Total	**5.9**	**30.6**	**33.2**	**53.3**	**18.4**	**29.0**	**46.3**	**104.7**	**813.6**	**394.9**	**1,208.5**
1986 10-Month Total	**7.1**	**20.9**	**30.8**	**55.7**	**18.2**	**21.0**	**47.3**	**96.3**	**770.0**	**355.4**	**1,125.4**
1985 10-Month Total	**4.1**	**12.8**	**23.2**	**44.7**	**18.0**	**24.5**	**49.8**	**101.7**	**693.7**	**335.2**	**1,028.9**

Footnotes continued.

R=Revised data.

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, revisions in annual data not reflected in the monthly data, or both. Data for countries may not sum to world totals due to independent rounding.

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

Conversion Factors

Units of Measure

Coal		
1 metric ton	contains	1,000 kilograms or 2,204.62 pounds
1 long ton	contains	2,240 pounds
1 short ton	contains	2,000 pounds
Crude Oil (Average Gravity)		
1 barrel	contains	42 gallons
1 barrel	contains	0.136 metric tons (0.150 short tons)
1 metric ton	contains	7.33 barrels
1 short ton	contains	6.65 barrels
Uranium		
1 short ton (U_3O_8)	contains	0.769 metric tons of uranium
1 short ton (UF_6)	contains	0.613 metric tons of uranium
1 metric ton (UF_6)	contains	0.676 metric tons of uranium

Approximate Heat Content of Petroleum Products

	Million Btu per Barrel
Asphalt	6.636
Aviation gasoline	5.048
Butane	4.326
Butane-propane mixture[a]	4.130
Distillate fuel oil	5.825
Ethane	3.082
Ethane-propane mixture[b]	3.308
Isobutane	3.974
Jet fuel--kerosene type	5.670
Jet fuel--naphtha type	5.355
Kerosene	5.670
Lubricants	6.065
Motor gasoline	5.253
Natural gasoline	4.620
Pentanes plus	4.620
Petrochemical feedstocks	
Naphtha 400 °F or less	5.248
Other oils over 400 °F	5.825
Still gas	6.000
Petroleum coke	6.024
Plant condensate	5.418
Propane	3.836
Residual fuel oil	6.287
Road oil	6.636
Special naphthas	5.248
Still gas	6.000
Unfinished oils	5.825
Unfractionated stream	5.418
Waxes	5.537
Miscellaneous	5.796

[a]60 percent butane and 40 percent propane.
[b]70 percent ethane and 30 percent propane.

Approximate Heat Content of Fuels, 1973-1979

	Units	1973	1974	1975	1976	1977	1978	1979
Coal								
Production	Million Btu/short ton	23.376	23.072	22.897	22.855	22.597	22.248	22.454
Consumption	Million Btu/short ton	23.057	22.677	22.506	22.498	22.265	22.017	22.100
Non-electric utility users	Million Btu/short ton	24.878	24.783	24.745	24.861	24.701	24.496	24.626
Electric utilities	Million Btu/short ton	22.246	21.781	21.642	21.679	21.508	21.275	21.364
Imports	Million Btu/short ton	25.000	25.000	25.000	25.000	25.000	25.000	25.000
Exports	Million Btu/short ton	26.596	26.700	26.562	26.601	26.548	26.478	26.548
Anthracite								
Production	Million Btu/short ton	22.132	21.711	21.582	22.045	22.661	23.079	23.170
Consumption	Million Btu/short ton	21.464	20.919	20.762	21.254	22.066	22.398	22.069
Non-electric utility users	Million Btu/short ton	22.674	22.330	22.272	22.618	24.101	24.388	24.272
Electric utilities	Million Btu/short ton	17.920	17.200	17.064	17.526	17.244	17.104	17.454
Imports and exports	Million Btu/short ton	25.400	25.400	25.400	25.400	25.400	25.400	25.400
Bituminous coal and lignite								
Production	Million Btu/short ton	23.391	23.087	22.910	22.863	22.597	22.242	22.449
Consumption	Million Btu/short ton	23.073	22.694	22.522	22.509	22.266	22.014	22.100
Residential and commercial	Million Btu/short ton	22.887	22.523	22.258	22.819	22.594	22.078	21.884
Coke plants	Million Btu/short ton	26.800	26.800	26.800	26.800	26.800	26.800	26.800
Other industrial and transportation	Million Btu/short ton	22.585	22.420	22.439	22.528	22.290	22.175	22.436
Electric utilities	Million Btu/short ton	22.262	21.799	21.659	21.692	21.521	21.284	21.372
Imports	Million Btu/short ton	25.000	25.000	25.000	25.000	25.000	25.000	25.000
Exports	Million Btu/short ton	26.612	26.716	26.573	26.613	26.561	26.501	26.570
Coal coke, imports and exports	Million Btu/short ton	24.800	24.800	24.800	24.800	24.800	24.800	24.800
Crude oil[a]								
Production	Million Btu/barrel	5.800	5.800	5.800	5.800	5.800	5.800	5.800
Imports	Million Btu/barrel	5.817	5.827	5.821	5.808	5.810	5.802	5.810
Exports	Million Btu/barrel	5.800	5.800	5.800	5.800	5.800	5.800	5.800
Crude oil and petroleum products								
Imports	Million Btu/barrel	5.897	5.884	5.858	5.856	5.834	5.839	5.810
Exports	Million Btu/barrel	5.752	5.774	5.748	5.745	5.797	5.808	5.832
Petroleum Products[b]								
Consumption	Million Btu/barrel	5.515	5.504	5.494	5.504	5.518	5.519	5.494
Residential and commercial	Million Btu/barrel	5.387	5.377	5.358	5.383	5.389	5.382	5.471
Industrial	Million Btu/barrel	5.565	5.537	5.527	5.535	5.552	5.546	5.416
Transportation	Million Btu/barrel	5.397	5.394	5.392	5.396	5.402	5.407	5.430
Electric utilities	Million Btu/barrel	6.245	6.238	6.250	6.251	6.249	6.251	6.258
Imports	Million Btu/barrel	5.983	5.959	5.935	5.980	5.908	5.955	5.811
Exports	Million Btu/barrel	5.752	5.773	5.747	5.743	5.796	5.814	5.864
LPG consumption	Million Btu/barrel	3.746	3.730	3.715	3.711	3.677	3.669	3.680
Natural gas plant liquids								
Production	Million Btu/barrel	4.049	4.011	3.984	3.964	3.941	3.925	3.955
Natural gas								
Production, dry	Btu/cubic foot	1,021	1,024	1,021	1,020	1,021	1,019	1,021
Production, marketed (wet)	Btu/cubic foot	1,093	1,097	1,095	1,093	1,093	1,088	1,092
Consumption	Btu/cubic foot	1,021	1,024	1,021	1,020	1,021	1,019	1,021
Non-electric utility users	Btu/cubic foot	1,020	1,024	1,020	1,019	1,019	1,016	1,018
Electric utilities	Btu/cubic foot	1,024	1,022	1,026	1,023	1,029	1,034	1,035
Imports	Btu/cubic foot	1,026	1,027	1,026	1,025	1,026	1,030	1,037
Exports	Btu/cubic foot	1,023	1,016	1,014	1,013	1,013	1,013	1,013

Approximate Heat Rates for Electricity

Fossil fuel steam-electric power plant generation[c]	Btu/kilowatthour	10,389	10,442	10,406	10,373	10,435	10,361	10,353
Nuclear power plant generation	Btu/kilowatthour	10,903	11,161	11,013	11,047	10,769	10,941	10,879
Geothermal energy power plant generation	Btu/kilowatthour	21,674	21,674	21,611	21,611	21,611	21,611	21,545
Electricity Consumption	Btu/kilowatthour	3,412	3,412	3,412	3,412	3,412	3,412	3,412

[a]Includes lease condensate.

[b]Weighted averages of the products included in each category are calculated using heat content values shown on the first page of this section.

[c]This thermal conversion factor is used for hydroelectric power generation and for wood and waste, wind, photovoltaic, and solar thermal energy consumed at electric utilities.

Sources: See "Thermal Conversion Factor Source Documentation" on the following pages.

Approximate Heat Content of Fuels, 1980-1987

	Units	1980	1981	1982	1983	1984	1985	1986-87[a]
Coal								
Production	Million Btu/short ton	22.415	22.309	22.240	22.056	22.014	21.874	21.918
Consumption	Million Btu/short ton	21.947	21.714	21.675	21.581	21.577	21.370	21.467
Non-electric utility users	Million Btu/short ton	24.731	24.477	24.195	24.093	24.069	23.664	23.666
Electric utilities	Million Btu/short ton	21.295	21.085	21.194	21.133	21.101	20.959	21.084
Imports	Million Btu/short ton	25.000	25.000	25.000	25.000	25.000	25.000	25.000
Exports	Million Btu/short ton	26.384	26.160	26.223	26.291	26.402	26.307	26.292
Anthracite								
Production	Million Btu/short ton	22.869	23.291	23.289	22.734	23.107	22.428	23.084
Consumption	Million Btu/short ton	21.405	22.080	22.518	21.583	22.322	20.817	21.549
Non-electric utility users	Million Btu/short ton	22.719	23.749	24.578	24.536	25.128	23.031	24.399
Electric utilities	Million Btu/short ton	17.652	18.168	18.160	16.516	17.018	16.784	15.578
Imports and exports	Million Btu/short ton	25.400	25.400	25.400	25.400	25.400	25.400	25.400
Bituminous coal and lignite								
Production	Million Btu/short ton	22.411	22.302	22.234	22.053	22.009	21.871	21.912
Consumption	Million Btu/short ton	21.950	21.712	21.671	21.581	21.574	21.372	21.467
Residential and commercial	Million Btu/short ton	22.488	22.191	22.373	22.934	22.880	23.072	23.258
Coke plants	Million Btu/short ton	26.800	26.800	26.800	26.800	26.800	26.800	26.800
Other industrial and transportation	Million Btu/short ton	22.690	22.572	22.694	22.679	22.524	22.012	22.184
Electric utilities	Million Btu/short ton	21.301	21.091	21.200	21.141	21.108	20.965	21.091
Imports	Million Btu/short ton	25.000	25.000	25.000	25.000	25.000	25.000	25.000
Exports	Million Btu/short ton	26.404	26.176	26.231	26.300	26.410	26.320	26.308
Coal coke, imports and exports	Million Btu/short ton	24.800	24.800	24.800	24.800	24.800	24.800	24.800
Crude oil[b]								
Production	Million Btu/barrel	5.800	5.800	5.800	5.800	5.800	5.800	5.800
Imports	Million Btu/barrel	5.812	5.818	5.826	5.825	5.823	5.832	5.903
Exports	Million Btu/barrel	5.800	5.800	5.800	5.800	5.800	5.800	5.800
Crude oil and petroleum products								
Imports	Million Btu/barrel	5.796	5.775	5.775	5.774	5.745	5.736	5.808
Exports	Million Btu/barrel	5.820	5.821	5.820	5.800	5.850	5.814	5.832
Petroleum products[c]								
Consumption	Million Btu/barrel	5.479	5.448	5.415	5.406	5.395	5.387	5.415
Residential and commercial	Million Btu/barrel	5.468	5.409	5.392	5.286	5.261	5.203	5.245
Industrial	Million Btu/barrel	5.376	5.310	5.262	5.273	5.256	5.265	5.318
Transportation	Million Btu/barrel	5.440	5.434	5.423	5.416	5.423	5.421	5.424
Electric utilities	Million Btu/barrel	6.254	6.258	6.258	6.255	6.251	6.247	6.257
Imports	Million Btu/barrel	5.748	5.659	5.664	5.677	5.613	5.572	5.624
Exports	Million Btu/barrel	5.841	5.837	5.829	5.800	5.867	5.819	5.839
LPG consumption	Million Btu/barrel	3.674	3.643	3.615	3.614	3.599	3.603	3.640
Natural gas plant liquids								
Production	Million Btu/barrel	3.914	3.930	3.872	3.839	3.812	3.815	3.797
Natural gas								
Production, dry	Btu/cubic foot	1,026	1,027	1,028	1,031	1,031	1,033	1,030
Production, marketed (wet)	Btu/cubic foot	1,098	1,103	1,107	1,115	1,109	1,113	1,110
Consumption	Btu/cubic foot	1,026	1,027	1,028	1,031	1,031	1,033	1,030
Non-electric utility users	Btu/cubic foot	1,024	1,025	1,026	1,031	1,030	1,032	1,029
Electric utilities	Btu/cubic foot	1,035	1,035	1,036	1,030	1,035	1,038	1,034
Imports	Btu/cubic foot	1,022	1,014	1,018	1,024	1,005	1,002	997
Exports	Btu/cubic foot	1,013	1,011	1,011	1,010	1,010	1,011	1,008

Approximate Heat Rates for Electricity

Fossil fuel steam-electric power plant generation[d]	Btu/kilowatthour	10,388	10,453	10,423	10,445	10,211	10,339	10,339
Nuclear power plant generation	Btu/kilowatthour	10,908	11,030	11,073	10,905	10,843	10,809	10,809
Geothermal energy power plant generation	Btu/kilowatthour	21,639	21,639	21,629	21,290	21,303	21,263	21,263
Electricity Consumption	Btu/kilowatthour	3,412	3,412	3,412	3,412	3,412	3,412	3,412

[a]Preliminary data.
[b]Includes lease condensate.
[c]Weighted averages of the products included in each category are calculated using heat content values shown on the first page of this section.
[d]This thermal conversion factor is used for hydroelectric power generation and for wood and waste, wind, photovoltaic, and solar thermal energy consumed at electric utilities.
Sources: See "Thermal Conversion Factor Source Documentation" on the following pages.

Thermal Conversion Factor Source Documentation

Approximate Heat Content of Petroleum Products

Asphalt. 1973 forward: 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. 1973 forward: EIA adopted the thermal conversion factor of 5.048 million Btu per barrel as adopted by the Bureau of Mines from the Texas Eastern Transmission Corporation publication *Competition and Growth in American Energy Markets 1947-1985,* 1968.

Butane. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1979 forward: 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. 1973 forward: 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. 1973 forward: 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 the report *Competition and Growth in American Energy Markets 1947-1985,* 1968.

Jet Fuel, Naphtha Type. 1973 forward: 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 the report *Competition and Growth in American Energy Markets 1947-1985,* 1968.

Kerosene. 1973 forward: 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. 1973 forward: 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. 1973 forward: EIA adopted the thermal conversion factor of 5.796 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

Motor Gasoline. 1973 forward: 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 the report *Competition and Growth in American Energy Markets 1947-1985,* 1968.

Natural Gasoline. 1973 forward: 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. 1984 forward: 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 400 Degrees Fahrenheit or Less. 1973 forward: Assumed by EIA to be 5.248 million Btu per barrel, equal to the thermal conversion factor for special naphtha. See "Special Naphtha."

Petrochemical Feedstock, Oils Over 400 Degrees Fahrenheit. 1973 forward: 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 Feedstock, Still Gas. 1973 forward: 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. 1973 forward: EIA adopted the thermal conversion factor of 6.024 million Btu per barrel as reported in Btu per short ton in the Bureau of Mines

internal memorandum *Bureau of Mines Standard Average Heating Value of Various Fuels, adopted January 3, 1950.* The Bureau of Mines calculated this factor by dividing 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. 1973 forward: Estimated to be 5.418 million Btu per barrel by EIA from data provided by McClanahan Consultants, Inc., Houston, Texas.

Propane. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1979 forward: 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.*

Wax. 1973 forward: EIA adopted the thermal conversion factor of 5.537 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

Approximate Heat Content of Fuels

Petroleum

Crude Oil, Exports. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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 "Petroleum Products, Exports" and "Crude Oil, Exports."

Crude Oil and Petroleum Products, Imports. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973-1985: Calculated annually by EIA as the average

of the thermal conversion factors for all petroleum products consumed at electric utilities, weighted by the quantity of each petroleum product consumed at electric utilities. The quantity of petroleum consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report.* 1986 forward: Estimated by EIA.

Petroleum Products, Consumption by Industrial Users. 1973-1985: Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed in the industrial sector, weighted by the estimated quantity of each petroleum product consumed in the industrial sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report.* 1986 forward: Estimated by EIA.

Petroleum Products, Consumption by Residential and Commercial Users. 1973-1985: 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.* 1986 forward: Estimated by EIA.

Petroleum Products, Consumption by Transportation Users. 1973-1985: 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.* 1986 forward: Estimated by EIA.

Petroleum Products, Exports. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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.
1980 forward: Calculated annually by EIA by dividing the total heat content of natural gas consumed by the total quantity of natural gas consumed. Heat content and quantity consumed are from Form EIA-176.

Natural Gas, Consumption by Electric Utilities. 1973 forward: 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 FERC Form 423 and predecessor forms.

Natural Gas, Consumption by Non-Electric Utility Users. 1973 forward: 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 Form 423, EIA-759, and predecessor forms.

Natural Gas, Exports. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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). 1973 forward: 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. 1973 forward: 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. 1973 forward: Calculated annually by EIA by dividing the heat content of anthracite receipts at electric utilities by the quantity of anthracite received at electric util-

ities. Heat contents and receipts are from FERC Form 423 and predecessor forms.

Anthracite, Consumption by Non-Electric Utility Users. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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 FERC Form 423 and predecessor forms.

Bituminous Coal and Lignite, Consumption by Other Industrial and Transportation Users. 1973: Calculated by EIA through regression analysis measuring the difference between the average Btu value of coal consumed by other industrial users and that of coal consumed at electric utilities in the 1974-1982 period.
1974 forward: Calculated annually by EIA assuming that the bituminous coal and lignite delivered to other industrial users from each coal-producing district (reported on EIA Form 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 districts (reported on FERC Form 423). The average Btu value of coal by coal-producing district was applied to the volume of deliveries to other industrial users from each coal-producing district, and the sum total of the heat content was divided by the total volume of deliveries.

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 district (reported on EIA Form 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 districts (reported on FERC Form 423). The average Btu value of coal by coal-producing district was applied to the volume of deliveries to residential and commercial users from each coal-producing district, and the total of the heat value was divided by the total volume of deliveries.

Bituminous Coal and Lignite, Exports. 1973 forward: 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. 1973 forward: EIA estimated the average thermal conversion factor to be 25.000 million Btu per short ton.

Bituminous Coal and Lignite, Production. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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. 1973 forward: 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 electric 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. By using this factor, it is possible to evaluate fossil fuel requirements for replacing these sources during periods of interruption such as drought. The heat content of a kilowatthour of electricity produced, regardless of the generation process, is 3,412 Btu per kilowatthour. 1973 forward: The weighted annual average heat rate for fossil-fueled steam-electric power plants in the United States as published by EIA in *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants.*

Geothermal Energy Power Plant Generation. 1973 forward: 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. 1973 forward: 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 as reported on Form FERC-1, EIA-412 and predecessor forms.

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 sufficient 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. Excludes 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 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.

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 includes 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 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 wellhead price of natural gas is calculated by dividing the total reported value at the wellhead by the total quantity produced as reported by the appropriate agencies of individual producing States and the U.S. Geological Survey. 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.

Net Electricity Generation: 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.

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. Data for Saudi Arabia and Kuwait include their shares from the Partitioned Zone (formerly Neutral Zone).

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, other U.S. territories and possessions, and the U.S. Foreign Trade Zones. 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 400 °F end-point, other oils over 400 °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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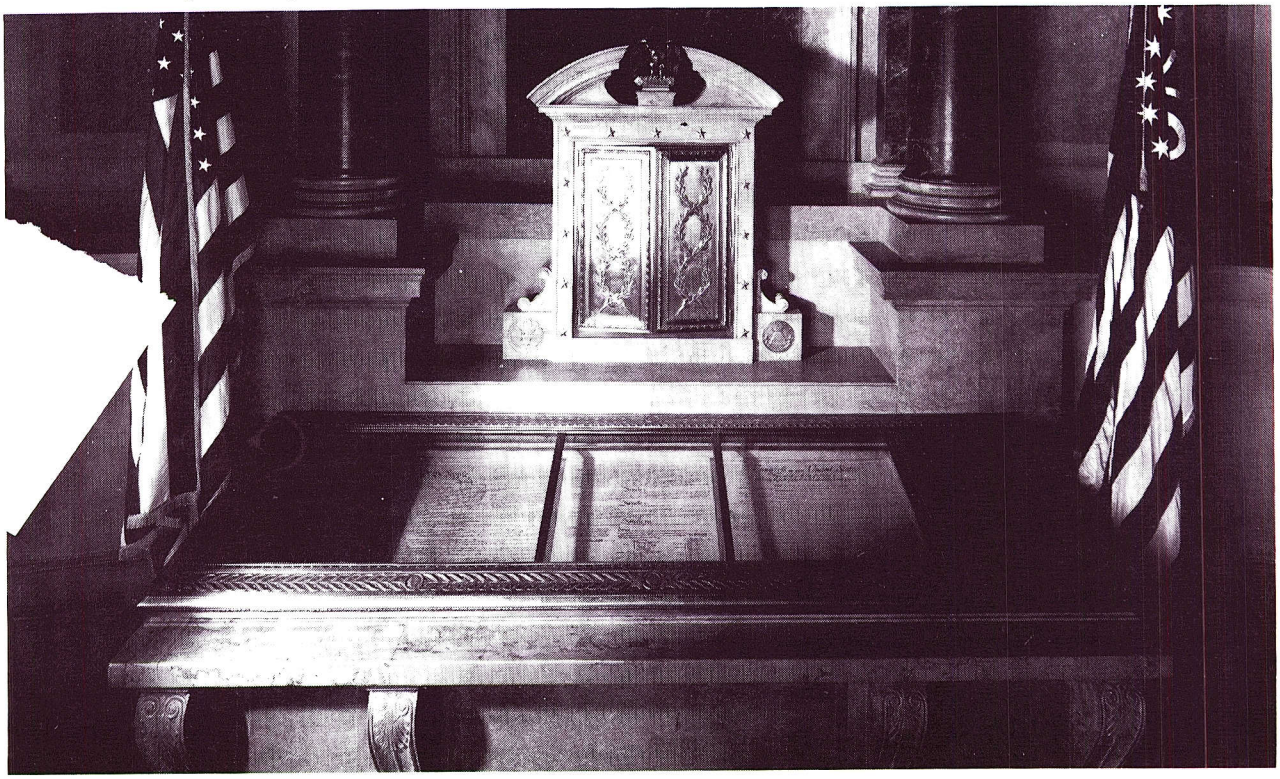

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