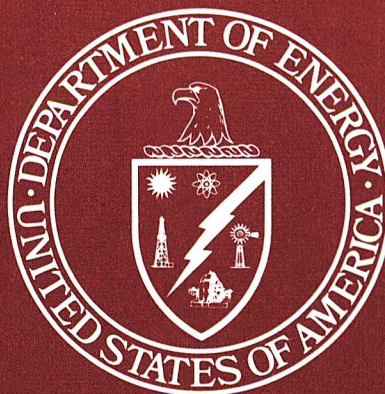


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February 1982

Monthly Energy Review



**Preliminary 1987 Estimates
See Executive Summary**

U.S. Department of Energy
Energy Information Administration

The *Monthly Energy Review* is prepared in the Statistics Branch of the Office of Energy Markets and End Use, Energy Information Administration, U.S. Department of Energy, under the direct supervision of Samuel O. Wood, Jr.

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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. . ."

From time-to-time an article that addresses some facet of energy is included in this publication. Feature articles that have appeared in previous issues are as follows:

Energy Consumption	March 1975
Nuclear Power	April 1975
The Price of Crude Oil	June 1975
U.S. Coal Resources and Reserves	July 1975
Propane, A National Energy Resource	September 1975
Short-Term Energy Supply and Demand Forecasting at FEA	October 1975
Curtailments of Natural Gas Service	January 1976

Home Heating Conservation Alternatives and the Solar Collector Industry	March 1976
Trends in United States Petroleum Imports	September 1976
Crude Oil Entitlements Program	January 1977
Motor Gasoline Supply and Demand	July 1977
Short-Term Petroleum Supply and Demand	May 1978
The Energy Requirements of U.S. Agriculture	July 1979
Three Mile Island—Possible Regulatory Responses and Their Impacts on the Nation's Short-Term Electric Utility Fuel Outlook	October 1979
Reduction in Natural Gas Requirements Due to Fuel Switching	December 1979
The Solar Collector Industry and Solar Energy	February 1980
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Natural Gas Liquids: Revisions to 1979 Data	October 1980
EIA Weekly Petroleum Data: Data Collection and Methods of Estimation	November 1980
The Department of Energy Disclosure Policy for Individually Identifiable Information Maintained by the Energy Information Administration	December 1980
Changes in 1981 Petroleum Data Series	May 1981
Information Services of the Energy Information Administration	September 1981
An Overview of Natural Gas Markets	December 1981
The Interstate and Intrastate Natural Gas Markets	January 1982

Natural Gas Drilling and Production Under the Natural Gas Policy Act

By

Richard P. O'Neill¹

Energy Information Administration

Introduction

This is the third and last in a series of *Monthly Energy Review* articles intended to present background information on the natural gas markets (for previous articles see References [1] and [2]). The purpose of this series is to synthesize and interpret some of the more important data collected, and to present some new information. This article provides information on drilling and production of natural gas under the Natural Gas Policy Act (NGPA) and summarizes the three articles in the series.

Title I of the NGPA governs the price structure under which the supply side of the natural gas market operates today. This intricate incentive price structure and the fulfillment of its intent are the subject of much debate. A highly contested issue, for example, is whether the price ceilings are functioning efficiently for new and high-cost gas. Although the NGPA became law on November 9, 1978, a more important date for determining ceiling prices under Title I is February 19, 1977, since wells started on or after that date can qualify for

new (Sections 102 and 103) and high-cost (Section 107) gas prices (for more detailed discussion see References [2] and [4]). Therefore, the analysis of drilling and production under the NGPA starts in early 1977.

From 1971 through 1980, successful gas exploratory drilling grew at an average annual rate of 18 percent (see Table 1). During this same period, the average annual rates for successful exploratory oil drilling grew at 11 percent, and all exploratory drilling grew at 6 percent, reflecting a proportionate decline in unsuccessful attempts (dry holes). Since 1976, although all types of exploratory drilling have continued to increase, drilling for oil has increased at a faster rate. This shift is attributed for the most part to the rise in oil prices relative to new gas prices, since most new gas prices have ceilings under half the current crude oil price on a heat-value basis. Further, most of the increased growth in drilling was infill development of old fields (drilling within the known boundaries of the field to increase the rate of production) which does not necessarily lead to additional reserves.

¹ Acting Chief, Data Analysis and Forecasting Branch, Natural Gas Division, Office of Oil and Gas.

Table 1. Annual Average Percentage Growth Rates in the Number of Wells Drilled

Type Of Well	1971 through 1980		1976 through 1980		1978 through 1980	
	Exploratory Wells	Development Wells	Exploratory Wells	Development Wells	Exploratory Wells	Development Wells
Gas	18	17	9	16	12	8
Oil	11	9	11	12	20	23
Dry	4	9	5	9	3	8
All Wells	6	11	7	12	6	16

Source: Reference [3].

Drilling for Natural Gas Under Title I of the NGPA

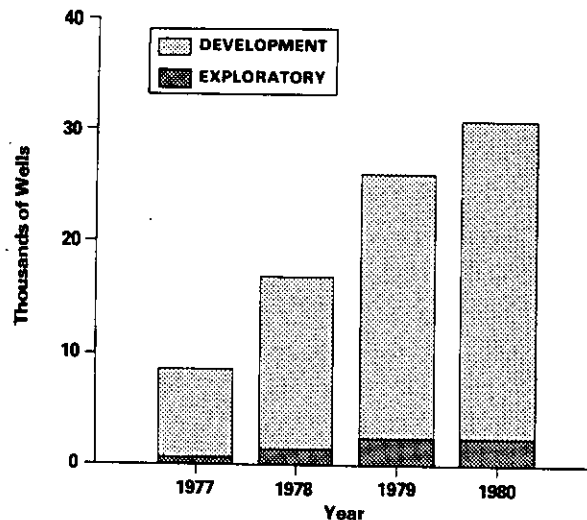
Well completions qualifying for new or high-cost gas prices have increased steadily since 1977 (see Figures 1 and 2). Most well completions in these price categories are from development drilling, but the aggregate drilling statistics under Title I of the NGPA blur some of the important subcategories.

Well completions under Section 103 are essentially the development and extension of onshore reservoirs discovered by wells started before February 19, 1977. Approximately 95 percent is development drilling, with the bulk of the remaining activity being extensions of existing reservoirs. Section 103 well completions, 43 percent of which have been classified as oil wells, have been increasing steadily since 1977 (see Figure 3). This trend is also present in the subcategories of wells completed with depths shallower and deeper than 5,000 feet. Although 56 percent of Section 103 wells are shallower than 5,000 feet, they accounted for only 28 percent of 1980 production, because the average production-per-well for wells shallower than 5,000 feet was only half the average production-per-well for wells deeper than 5,000 feet. An average of approximately 80 million cubic feet (MMcf) per year was produced from wells deeper than 5,000 feet. In the 1980's, it is expected that both drilling and

production under this section will peak and decline due to exhaustion of possible drilling sites in reservoirs discovered prior to early 1977 and due to wells in new reservoirs qualifying for Section 102, which offers a higher price.

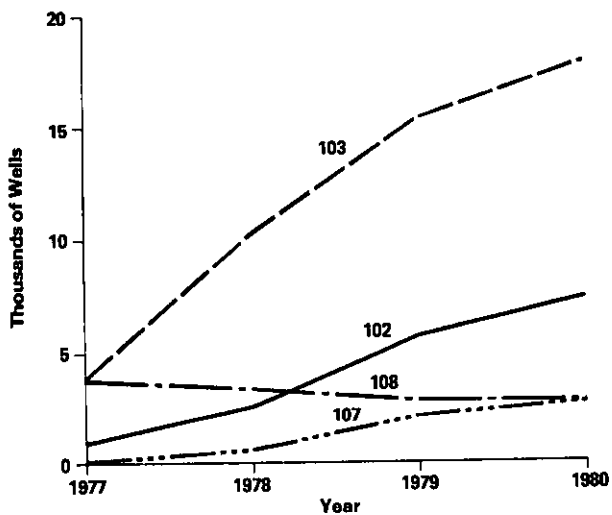
Essentially, onshore wells qualifying under Section 102 produce from reservoirs discovered after 1977. Through 1980, over 15,000 well completions qualified for Section 102 status with about 25 percent of this total classified as exploratory. Even though the Section 102 target price in 1985 for natural gas is the Btu equivalent of \$15-per-barrel oil (in 1978 dollars), well completions in all onshore Section 102 categories—65 percent classified as gas wells—increased steadily from 1977 through 1980 (see Figure 4). Although offshore wells represent only about 10 percent of the total, they contribute almost half the total production of natural gas under Section 102, because the average offshore well produces over 1,000 MMcf per year; and an onshore well under Section 102 averages about 140 MMcf per year. Further, an important distinction exists between two subcategories of Section 102 gas from the Outer Continental Shelf (OCS). Gas from certain reservoirs on old leases (Section 102(d)) is never deregulated under Title I, but gas from new OCS leases (Section 102(c)) is deregulated. Well completions in both categories have increased since 1977 (see Figure 5).

Figure 1. Completions of New and High-Cost Gas Wells by Year of Completion



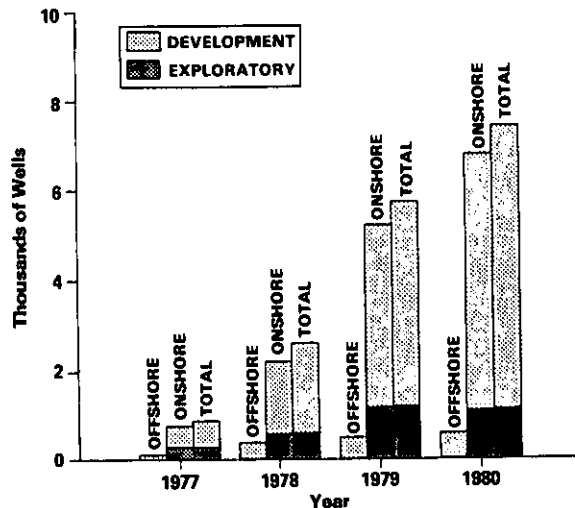
Source: Reference 4.

Figure 2. Well Completions Under NGPA Title I Sections by Year of Completion



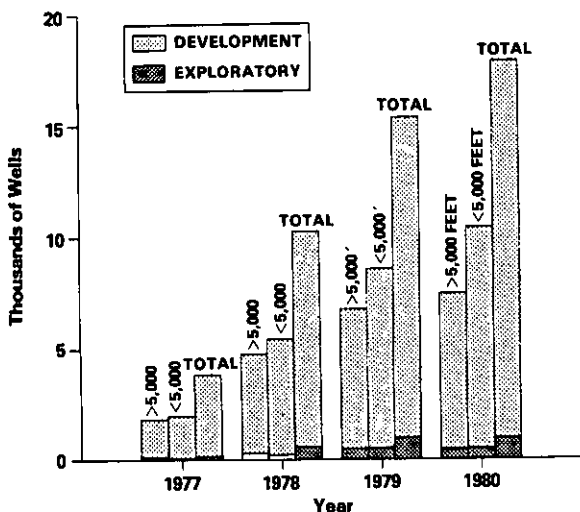
Source: Reference 4.

Figure 4. Wells Qualifying for Section 102 Status by Year of Completion



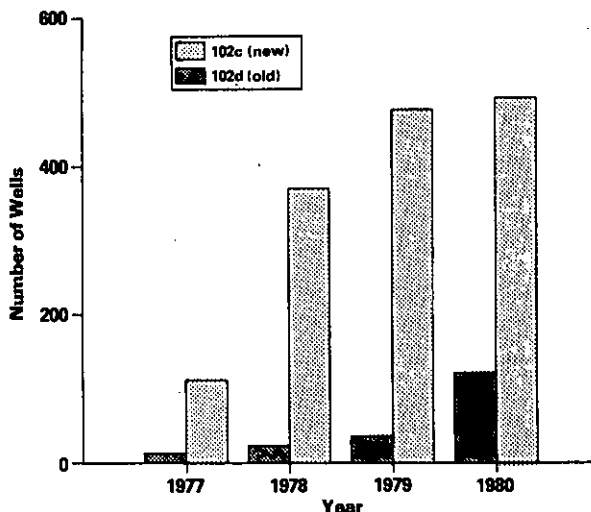
Source: Reference 4.

Figure 3. Wells Qualifying for Section 103 Status by Year of Completion



Source: Reference 4.

Figure 5. Wells in the Outer Continental Shelf Qualifying for Section 102 Status by Year of Completion



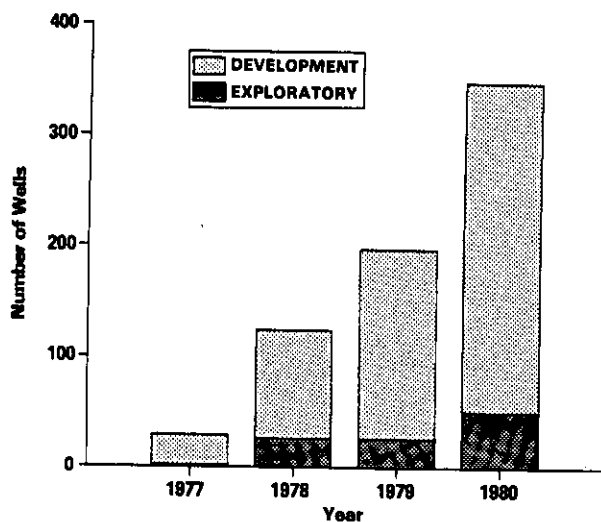
Source: Reference 4.

One of the most controversial parts of Title I is Section 107 because of the high prices being paid for natural gas without a price ceiling (see Reference [2]). Production from wells qualifying under Section 107 is given special treatment as "high-cost gas." Although well completions under Section 107 have been increasing since 1977 (see Figures 6 and 7), aggregate statistics can be very deceptive due to the nature of production from deep drilling (deeper than 15,000 feet), tight formations, and Devonian shale.¹ An order of magnitude separates both the average production-per-well and the drilling costs of deep wells from wells in tight formations and Devonian shale. Currently, total production of deep gas is more than double the other two sources combined.

Wells drilled deeper than 15,000 feet comprise about 1 percent of all wells drilled, but the average production per well (about 800 MMcf per year) is second only to OCS wells. During the last 12 years, deep drilling has increased; gas-well completions have risen significantly since 1977 (see

¹ Deep wells take considerably longer to drill and complete; possible distortions can occur when examining the effects of Title I, because wells do not appear in any of the statistics until after they are completed.

Figure 6. Wells Qualifying for Deep Gas Status under Section 107 by Year of Completion



Source: Reference 4.

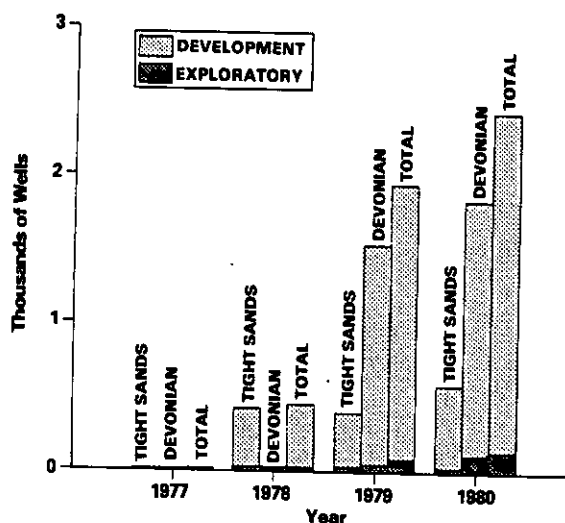
Figure 8). This increase was mostly due to development drilling. The onshore areas of the country where deep drilling is taking place are shown in Figure 9. The number of wells and average depths for deep drilling are shown in Table 2. Currently, most activity is in the Gulf Coast, notably the Tuscaloosa Trend and the OCS; the Anadarko Basin in Oklahoma and Texas; and the Overthrust Belt in the Rocky Mountains.

Table 2. Deep Gas Wells under Section 107 and Average Depth by State

State	Number of Wells	Average Depth (thousand feet)
Alabama	33	18.0
Florida	20	15.8
Louisiana	193	17.4
Mississippi	98	16.9
New Mexico	5	16.0
Oklahoma	166	16.9
Texas	139	17.9
Utah	1	17.4
Wyoming	40	17.1
Total	695	17.3

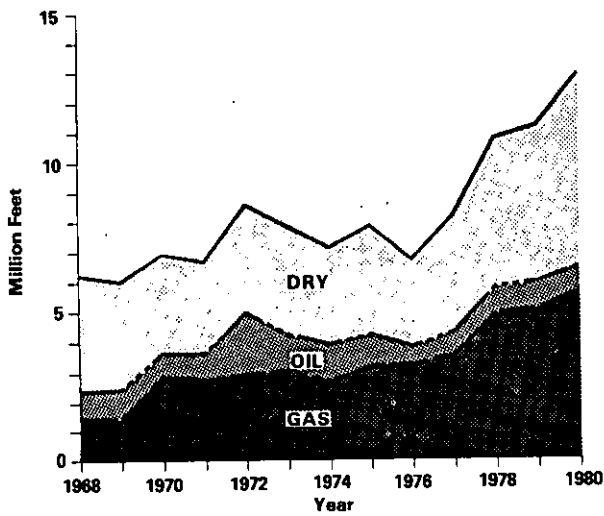
Source: Reference [4].

Figure 7. Wells Qualifying for Devonian Shale and Tight Sands Status under Section 107 by Year of Completion



Source: Reference 4.

Figure 8. Total Footage Drilled Deeper than 15,000 Feet by Year of Completion



Source: Reference 4.

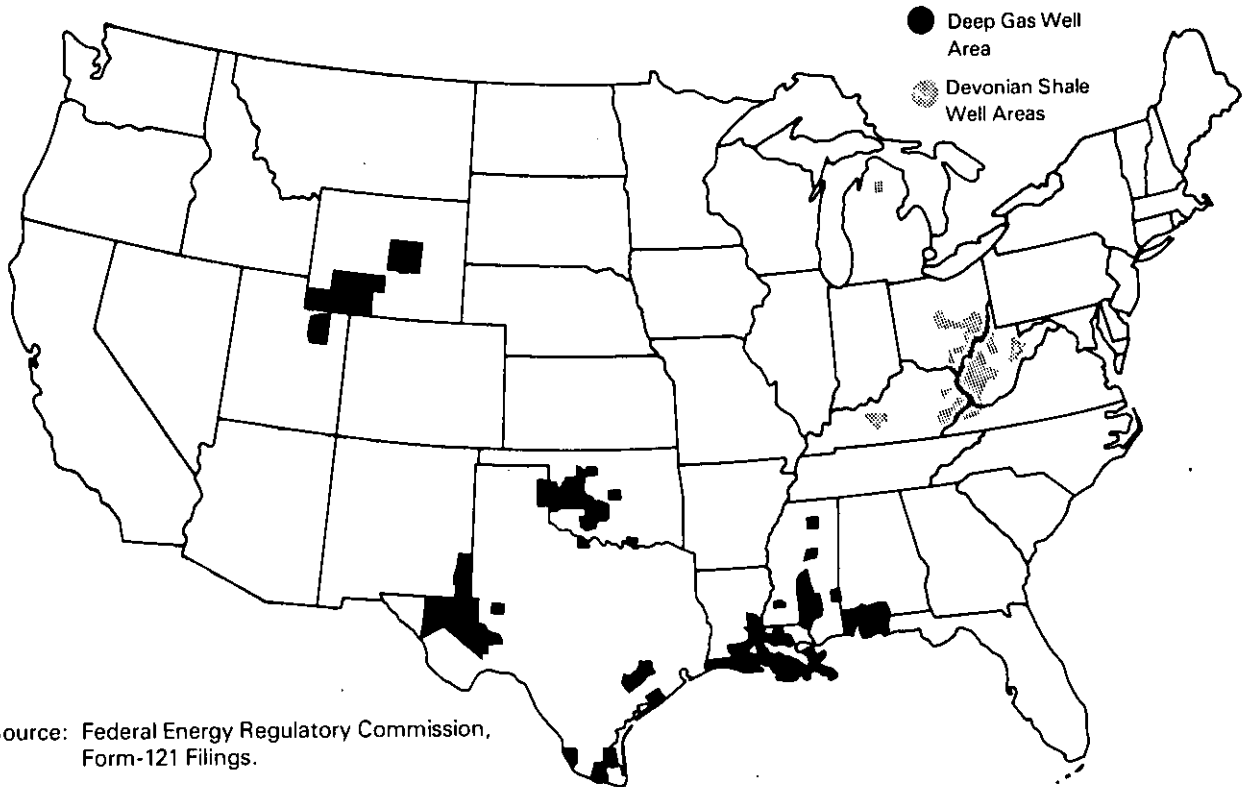
Gas produced from Devonian shale is concentrated in three States—West Virginia, Ohio, and Kentucky (see Figure 9 and Table 3). Wells currently qualifying under Section 107 as Devonian shale wells have an average production of about 20 MMcf per year and an average depth of about 3,500 feet.

Table 3. Devonian Shale Gas Drilling under Section 107 and Average Depth by State

State	Number of Wells	Average Depth (thousand feet)
Kentucky	169	3.0
Michigan	24	1.5
Ohio	505	3.1
Virginia	6	5.5
West Virginia	686	4.2
Total	1,390	3.5

Source: Reference [4].

Figure 9. Deep Gas and Devonian Shale Well Areas



Source: Federal Energy Regulatory Commission, Form-121 Filings.

Although only recently acquiring Section 107 status, well completions qualifying as tight formations increased rapidly during 1980. To date, 46 formations (with another 12 proposed) have been designated by the Federal Energy Regulatory Commission as tight. Most are located in Ohio, Texas and the Rocky Mountain States (see Figure 10). A regional distribution of drilling is shown in Table 4. The average depth is about 5,000 feet, and the average production from these wells is about 60 MMcf per year.

In Section 108, a special price ceiling status is accorded to a stripper gas well (a well producing less than 22 MMcf per year). Almost half of all well determinations under the NGPA have been for stripper status. The special price ceiling is intended to encourage production from wells that may otherwise be shut-in and abandoned. Most wells in this category were drilled prior to 1977, but over 8,000 wells completed since 1977 have

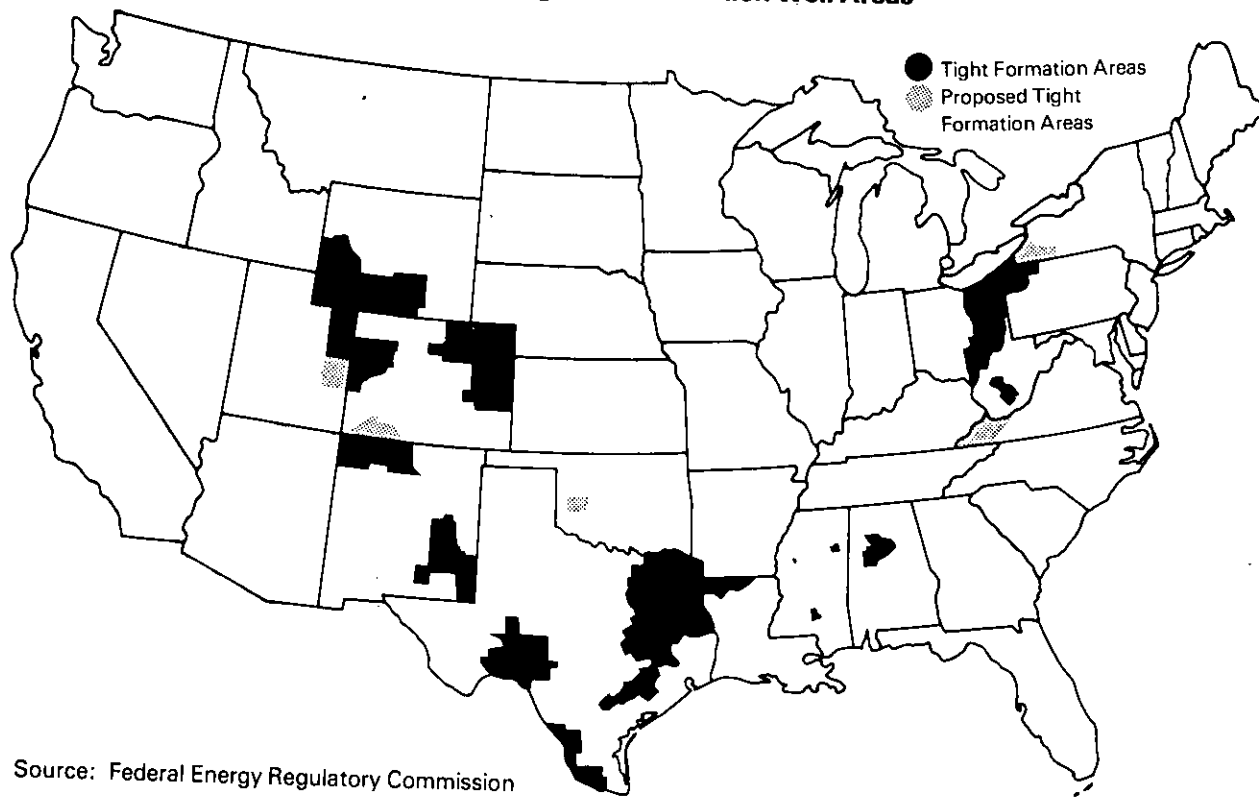
been accorded stripper status (see Figure 11). The average production from these stripper wells is about 10 MMcf per year, and the average depth is about 3,600 feet.

Table 4. Tight Formation Gas Drilling under Section 107 and Average Depth by State

State	Number of Wells	Average Depth (thousand feet)
Colorado	66	3.35
Louisiana	165	2.35
New Mexico	43	4.80
Ohio	2,198	4.37
Pennsylvania	5	3.18
Texas	648	9.12
Utah	14	5.33
Wyoming	58	11.09
Total	3,193	5.04

Source: Reference [4].

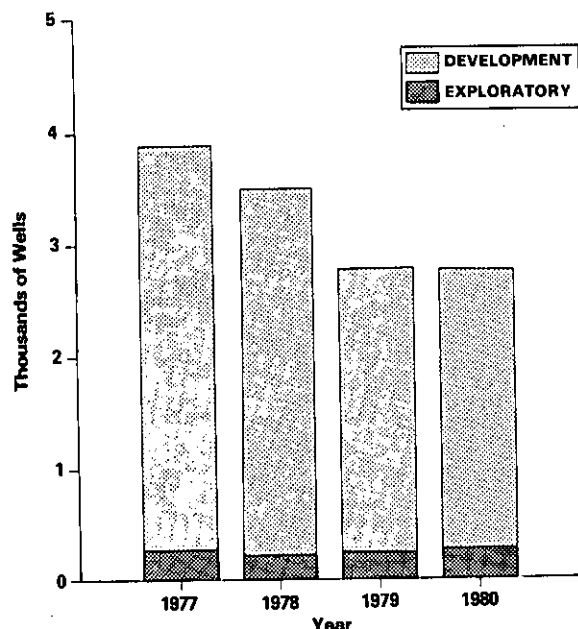
Figure 10. Tight Gas Formation Well Areas



Source: Federal Energy Regulatory Commission

Natural Gas Production By Title I Section

Figure 11. Wells Qualifying for Stripper Status under Section 108 by Year of Completion



Source: Reference 4.

To determine the effect of the NGPA, the production and prices under each Title I Section of the NGPA should be examined. From 1976 through 1980, production in the new and high-cost gas categories increased (see Table 5). This response is initially attributable to prices set under the Federal Power Commission Opinions 770 and 770A and later to price ceilings allowed under Title I. Old gas (Sections 104, 105 and 106) production declined over the period because it is production from old wells which has been undergoing normal decline. New gas production (defined in Sections 102 and 103) has been increasing steadily since the NGPA.

The average price for gas under price ceilings appears to be at, or very near, the ceiling price with the possible exception of stripper well gas (Section 108). From 1979 to 1980, estimated production of high-cost gas (Section 107) doubled, almost certainly due to incentives under Title I which have allowed the average price of high-cost gas to be over 2.5 times higher than the national average. In 1980, 73 percent of high-cost gas was produced from deep wells, 23 percent from tight formations, and the remaining 4 percent from Devonian shale. Some high-cost gas without a price ceiling is selling at prices over \$8.00 per million Btu, indicating that the current price ceilings may be restrictive.

Table 5. Natural Gas Production and Average Wellhead Price by NGPA Title I Section, 1976-1980^a

Year	102	103	104	106A	105	106B	107	108	Total
1976 Production	0.00	0.00	10.89	0.00	8.29	0.00	0.00	0.00	19.18
1976 Average Price	1.42	1.42	0.50	0.00	0.73	0.00	1.42	0.00	0.60
1977 Production	0.08	0.12	9.72	0.00	7.37	0.00	0.01	0.83	18.13
1977 Average Price	1.46	1.46	0.60	0.00	1.00	0.00	1.46	0.70	0.78
1978 Production	0.69	0.79	8.69	0.00	6.57	0.00	0.09	0.85	17.68
1978 Average Price	1.50	1.50	0.70	0.00	1.15	0.00	1.50	0.80	0.94
1979 Production	1.88	1.85	7.70	0.08	5.62	0.24	0.31	0.86	18.53
1979 Average Price	2.06	1.87	0.75	0.65	1.20	1.28	2.29	1.84	1.21
1980 Production	3.42	2.71	6.47	0.49	4.80	0.42	0.66	0.83	19.80
1980 Average Price	2.33	2.05	0.50	0.80	1.25	1.35	4.14	2.08	1.55

^a Production is in trillion cubic feet; price is in current dollars per million Btu. Total production and average price differ from other values reported in this issue due to the use of different data sources with different data definitions and estimation processes used to construct the data. Pre-NGPA volumes are classified according to the Section under which they will eventually qualify. Section 109 is treated as a transient category (except for gas from Prudhoe Bay in North Alaska which will not be available until the late 1980's) and therefore is not reported.

Source: Reference 4.

Summary and Conclusions

This is the last of a three article series on natural gas markets in three consecutive issues of the *Monthly Energy Review*. In this series, the development of natural gas markets has been traced from the turn-of-the century, when gas was confined to local markets by lack of transportation technology, through a growth period ending in the early 1970's when seamless welded pipes facilitated the transportation of gas, to today's market, when production has become relatively stable during the past 5 or 6 years.

The use of natural gas has also changed over the years. The residential and commercial share of consumption has increased from 28 percent in 1950 to 38 percent in 1980 with 55 percent of all households heated with natural gas. Industrial consumption has dropped 20 percent between 1973 and 1980 due mostly to conservation and inability to obtain assured supplies.

Two major pieces of legislation—the Natural Gas Act of 1938 and the Natural Gas Policy Act of 1978—and the Phillips decision by the Supreme Court in 1954 have dominated the regulation of natural gas from the well to the user. Due to the Federal regulation of natural gas in interstate commerce, the interstate and intrastate markets have had different average prices at the well. The NGPA partially corrected this imbalance by setting ceiling prices that apply to all purchasers, but market differences still remain due to price controls on old gas, decontrol schedules and access to new gas.

Under the NGPA, drilling and production for new and high-cost natural gas have increased, offsetting the decline of production from old wells. Especially noteworthy is the increase in the price of high-cost gas, the only category of gas without price ceilings.

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Energy Highlights in 1981

Energy highlights in the United States in 1981 included declines in total energy production, consumption, and imports and an increase in energy exports. Well-drilling activities reached an all-time high and energy prices attained new highs, although growth rates diminished.

Energy production decreased 0.3 percent*, due in part to a decrease in coal production. A 72-day coal strike in the first half of 1981 contributed to a 2.6 percent decrease in production to 807.7 million short tons for the year, down from 829.7 million short tons the previous year (see page 60). Following the strike, coal production reached record levels for the last 6 months of the year.

Energy consumption dropped 2.2 percent (see page 8) due primarily to a reduction in petroleum consumption of 6.1 percent to an average of 16.0 million barrels per day (see page 34).

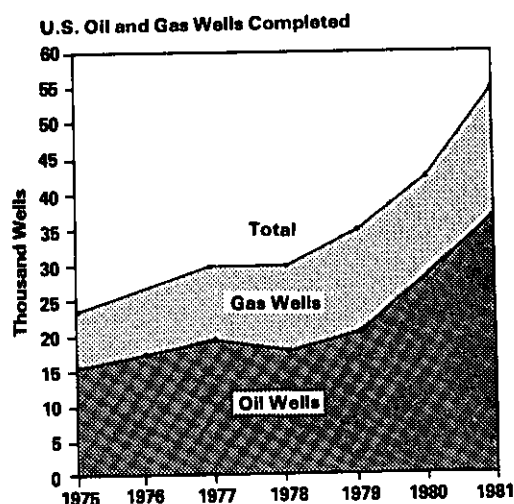
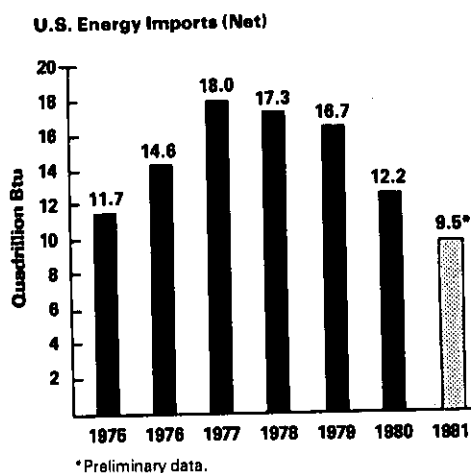
* All percentage increases or decreases in volumes have been computed on a daily rate basis to remove impact of the 1980 leap year.

U.S. energy imports (net) declined 22.0 percent from the 1980 level, due primarily to a 15.4 percent decline in petroleum net imports, a 12.3 percent decline in natural gas net imports (see page 10), and a 20.8 percent increase in net exports of coal. The value of energy imports (net) decreased 5.1 percent to \$71.1 billion (see page 12).

Energy exports reached 4.4 quadrillion Btu, up 15.7 percent from the previous year (see page 4).

Exploration for petroleum and natural gas in the United States increased to record levels in 1981 (see page 56):

- The yearly average number of rotary rigs in operation in 1981 reached an all-time high of 3,970, 36.5 percent above the 1980 level.
- The number of oil well completions increased 39.3 percent to a total of 37,639 for the year.
- The number of gas well completions increased 13.6 percent to a total of 17,870 for the year.



Prices of energy continued to climb in 1981, but at a slower rate of increase than in 1980. Of the following fuels, only natural gas showed a greater rate of increase in 1981 than in 1980:

- The price of natural gas sold to residential customers rose from \$4.07 per thousand cubic feet (Mcf) in January to \$4.87 per Mcf in October (see page 87).
- The average retail price per gallon of motor gasoline climbed from \$1.27 in January to \$1.35 in December (see page 82).
- Heating oil climbed from \$1.14 per gallon at the beginning of the year to \$1.21 per gallon in October (see page 84).
- Diesel oil rose from \$1.01 per gallon in January to \$1.05 per gallon in October (see page 79).

Production

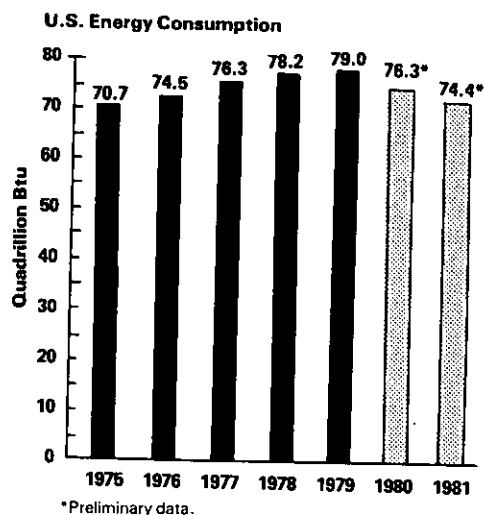
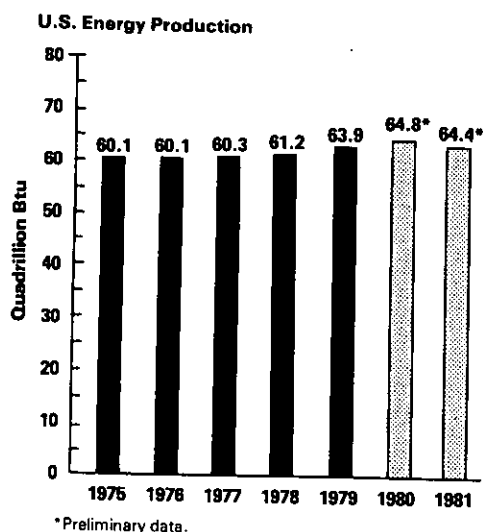
In 1981, total domestic energy production decreased to 64.4 quadrillion Btu, 0.3 percent below the all-time high of the previous year. Declines in coal and petroleum production of 2.4 and 0.3 percent, respectively, contributed to the decrease in total production. These declines more than offset increases in natural gas production of

1.4 percent and increases in energy production from all other sources combined, which rose 0.8 percent.

World crude oil production declined for the second year in a row from a record of 62.7 million barrels per day in 1979 (see page 91). That drop was due in part to production declines in the major oil-producing countries of Algeria, Iraq, Kuwait, Libya, Iran, Nigeria, and Canada. Preliminary reports suggest that world crude oil production averaged approximately 55.9 million barrels per day in 1981.

Consumption

Total U.S. consumption of energy declined, for the second consecutive year, to 74.4 quadrillion Btu, a 2.2 percent decrease from the 1980 level. Petroleum consumption dropped to 32.1 quadrillion Btu, 6.1 percent less than the daily rate in 1980. Natural gas use decreased to 20.2 quadrillion Btu, 1.1 percent below the 1980 daily rate. Hydroelectric power use decreased to 2.9 quadrillion Btu, 5.8 percent lower than the 1980 daily rate. Coal consumption totaled 16.1 quadrillion Btu, 3.6 percent higher than the previous year's daily rate. Energy from nuclear electric power, coal coke, and other sources totaled 3.0 quadrillion Btu, 9.0 percent more than the 1980 daily average.



Imports

U.S. energy net imports (total imports less exports) declined to 9.5 quadrillion Btu, a decrease of 22.0 percent. Net imports of all types of energy decreased except electricity, which remained constant, and coal coke, which increased. The largest change was in crude oil and refined petroleum products, which fell 15.4 percent to 11.4 quadrillion Btu. Natural gas imports fell 12.3 percent to 0.8 quadrillion Btu. Net exports of coal rose 20.8 percent to 2.9 quadrillion Btu.

Crude oil and petroleum products imports (excluding the Strategic Petroleum Reserve) averaged 5.7 million barrels per day. This was 16.6 percent below the 1980 level and the lowest level since 1972.

Stocks of Selected Commodities

Primary crude oil stocks totaled 378.2 mil-

lion barrels at the end of 1981, 5.6 percent above the previous year's total and 11.5 percent above the 1979 level (see page 32).

Motor gasoline stocks totaled 250.0 million barrels at the end of 1981, 4.4 percent below the 1980 level (see page 38). Distillate stocks totaled 188.7 million barrels on December 31, 1981, 8.0 percent below the level one year earlier (see page 42). Stocks of residual fuel oil totaled 77.3 million barrels at the end of 1981, 15.8 percent lower than the level at the end of the previous year (see page 44). Working gas (gas available for withdrawal) in underground storage on December 31, 1981, totaled 2.8 trillion cubic feet, 6.4 percent more than the level one year earlier (see page 54). Coal stocks as of September 30, 1981, (the latest month for which data are available) totaled 164.2 million short tons, 15.6 percent lower than the September 30, 1980, level (see page 63).

ENERGY SUMMARY (Quadrillion (10¹⁵) Btu)

	December			Cumulative January through December				
	1981	1980	Percent Change	1981	1981 Daily Rate	1980	1980 Daily Rate	Percent Change*
Total Production	5.519	5.811	- 1.6	64.407	0.176	64.761	0.177	- 0.3
Petroleum ¹	1.747	1.739	+ 0.5	20.417	0.056	20.526	0.056	- 0.3
Natural Gas	1.756	1.759	- 0.2	19.978	0.055	19.754	0.054	+ 1.4
Coal	1.529	1.630	- 6.2	18.253	0.050	18.749	0.051	- 2.4
Other ²	0.487	0.484	+ 0.7	5.760	0.016	5.732	0.016	+ 0.8
Total Consumption	6.942	7.244	- 4.2	74.417	0.204	76.300	0.208	- 2.2
Petroleum ³	2.872	3.136	- 8.4	32.122	0.088	34.296	0.094	- 6.1
Natural Gas	2.175	2.201	- 1.2	20.215	0.055	20.495	0.056	- 1.1
Coal	1.390	1.407	- 1.2	16.122	0.044	15.603	0.043	+ 3.6
Other ⁴	0.505	0.501	+ 0.9	5.958	0.016	5.907	0.016	+ 1.1
Net Imports	0.810	1.022	- 20.8	9.514	0.026	12.234	0.033	- 22.0
Petroleum ⁵	0.953	1.129	- 15.7	11.409	0.031	13.531	0.037	- 15.4
Natural Gas	0.083	0.097	- 14.0	0.849	0.002	0.972	0.003	- 12.3
Coal	(0.244)	(0.220)	(+ 10.6)	(2.944)	(0.008)	(2.444)	(0.007)	(+ 20.8)
Other ⁶	0.018	0.017	+ 7.1	0.199	0.001	0.175	0.000	+ 13.5

Totals may not equal sum of components due to independent rounding and the use of preliminary conversion factors.

Parentheses indicate exports are greater than imports.

* Based on daily rates in order to remove the influence of leap year.

¹ Includes crude oil, lease condensate, and natural gas plant liquids.

² Includes hydroelectric, nuclear, and geothermal power and electricity produced from wood and waste.

³ Includes refined petroleum products and natural gas plant liquids.

⁴ Includes hydroelectric, nuclear, and geothermal power, electricity produced from wood and waste, and net imports of electricity and coal coke.

⁵ Includes crude oil, lease condensate, refined petroleum products, unfinished oils, natural gasoline, plant condensate, and imports of crude oil for the Strategic Petroleum Reserve.

⁶ Includes net imports of electricity and coal coke.

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Executive Summary

Energy Summary

	Energy Production ¹	Energy Consumption ²	Energy Imports ³	Energy Exports ⁴
Quadrillion (10 ¹²) Btu				
1973 TOTAL	62.433	74.609	14.732	2.073
1974 TOTAL	61.229	72.759	14.417	2.241
1975 TOTAL	60.059	70.707	14.113	2.389
1976 TOTAL	60.091	74.510	16.838	2.213
1977 TOTAL	60.293	76.332	20.092	2.097
1978 TOTAL	R 61.204 ^R	R 78.150 ^R	R 19.262 ^R	1.952
1979 TOTAL	R 63.907 ^R	R 78.968 ^R	R 19.622 ^R	2.900
1980				
January	R5.603	R7.457	R1.699	R0.229
February	R5.248	7.018	R1.475	R0.212
March	R5.631	R6.905	R1.479	R0.267
April	5.396	R6.031	R1.341	R0.291
May	R5.528	R5.847	R1.283	R0.349
June	R5.336	R5.705	1.288	0.365
July	5.185	R5.964	R1.212	0.328
August	R5.275	R5.852	R1.205	0.319
September	5.240	R5.806	R1.170	0.335
October	R5.432	R6.182	R1.250	0.376
November	5.275	R6.289	R1.229	0.347
December	R 5.611	R7.244	R1.365	0.343
TOTAL	R64.761 ^R	R76.300 ^R	R15.996 ^R	R3.762 ^R
1981				
January	5.446	7.426	1.339	0.267
February	5.195	6.346	1.205	0.282
March	R5.677	6.458	1.184	0.377
April	R4.609	5.737	1.098	0.331
May	R4.730	5.786	1.115	0.281
June	R5.246	5.847	1.034	0.252
July	R5.563	R6.104	1.135	0.400
August	R5.758	R5.990	1.123	0.429
September	R5.539	R5.696	R1.194	0.420
October	R5.682	R6.027	R1.173	0.477
November	5.442	6.058	1.068	0.450
December	5.519	6.942	1.198	0.388
TOTAL	64.407 ^f	74.417 ^R	13.866 ^R	4.352 ^R

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding and the use of preliminary conversion factors after 1979.

¹See Explanatory Note 1.

²See Explanatory Note 2.

³See Explanatory Note 3.

⁴See Explanatory Note 4.

R=Revised data.

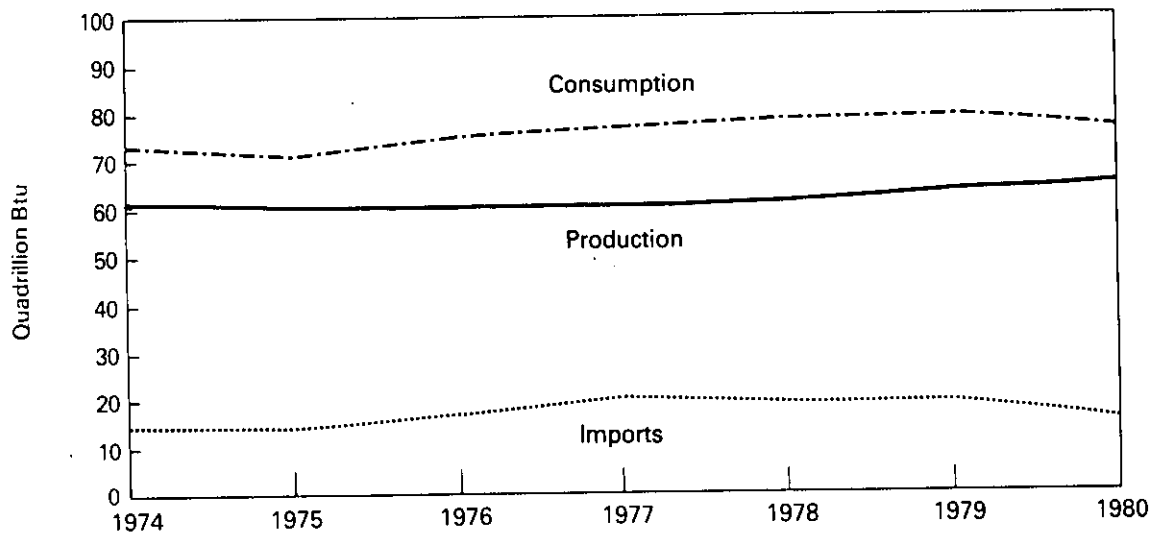
Note: The sum of domestic energy production and net imports of energy does not equal domestic energy consumption. The difference is attributed to stock changes; losses and gains in conversion, transportation, and distribution; the addition of blending compounds; shipments of anthracite to U.S. Armed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

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

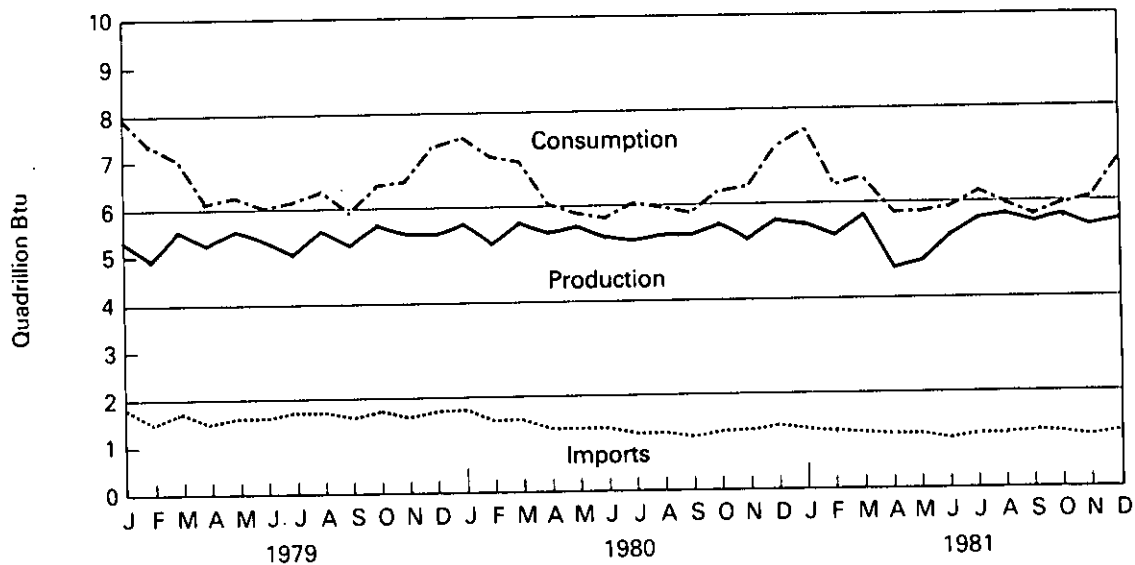
Executive Summary

Energy Summary

Yearly



Monthly



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Executive Summary

Production of Energy by Type

		Coal ¹	Crude Oil ²	NGPL ³	Natural Gas (Dry)	Hydro-electric Power ⁴	Nuclear Electric Power	Other ⁵	Total Energy Produced	Yearly Cumulative Energy Produced
Quadrillion (10 ¹⁵) Btu										
1973	TOTAL	14.366	19.493	2.569	22.187	2.861	0.910	0.046	62.433	
1974	TOTAL	14.468	18.575	2.471	21.210	3.177	1.272	0.056	61.229	
1975	TOTAL	15.189	17.729	2.374	19.640	3.155	1.900	0.072	60.059	
1976	TOTAL	15.853	17.262	2.327	19.480	2.976	2.111	0.081	60.091	
1977	TOTAL	15.829	17.454	2.327	19.565	2.333	2.702	0.082	60.293	
1978	TOTAL	15.037	18.434	2.245	19.485	2.958 ^R	2.977 ^R	0.066	61.204 ^R	
1979	TOTAL	17.651	18.104	2.286	20.076	2.954 ^R	2.748 ^R	0.089	63.907 ^R	
1980	January	1.573	R1.560	0.202	1.782	0.267	0.213	0.008	R5.603	R5.603
	February	1.481	R1.464	R0.190	1.672	0.226	0.208	0.008	R5.248	R10.852
	March	1.603	R1.564	0.192	1.791	0.257	0.216	0.008	R5.631	R16.483
	April	1.574	R1.511	0.193	1.635	0.272	0.202	0.008	5.396	R21.879
	May	1.605	1.553	R0.198	1.659	0.305	0.198	0.010	R5.528	R27.406
	June	1.612	R1.488	0.185	1.552	0.292	0.197	0.009	R5.336	R32.743
	July	1.385	R1.537	R0.187	1.582	0.258	0.226	0.010	5.185	R37.927
	August	1.546	R1.513	0.186	1.542	0.216	0.262	0.011	R5.275	R43.202
	September	1.555	1.500	R0.180	1.547	0.195	0.254	0.010	5.240	R48.443
	October	1.634	R1.534	R0.186	1.615	0.189	0.264	0.011	R5.432	R53.875
	November	1.551	R1.478	0.186	1.619	0.203	0.226	0.011	5.275	R59.150
	December	1.630	R1.547	0.191	1.759	0.235	0.238	0.011	R5.611	R64.761
	TOTAL	18.749 ^R	R18.249	R2.277 ^R	19.754 ^R	2.913 ^R	2.704 ^R	0.114	R64.761 ^R	
1981	January	1.482	1.534	0.196	1.735	0.236	0.252	0.011	5.446	5.446
	February	1.593	1.396	0.179	1.561	0.223	0.233	0.010	5.195	R10.641
	March	R1.760	1.546	0.194	1.711	0.218	0.237	0.011	R5.677	R16.318
	April	R0.844	1.486	0.184	1.643	0.219	0.222	0.010	R4.609	R20.927
	May	R0.848	1.528	0.190	1.687	0.255	0.212	0.010	R4.730	R25.657
	June	R1.410	1.499	0.187	1.634	0.278	0.228	0.010	R5.246	R30.903
	July	R1.670	1.514	0.190	1.664	0.265	0.249	0.011	R5.563	R36.467
	August	R1.779	1.542	0.194	1.713	0.228	0.290	0.011	R5.758	R42.224
	September	R1.813	R1.494	R0.193	R1.576	0.188	0.263	0.011	R5.539	R47.764
	October	1.883	R1.536	R0.196	1.644	0.191	0.221	0.011	R5.682	R53.446
	November	1.642	1.498	0.192	1.654	0.201	0.245	0.010	5.442	58.888
	December	1.529	1.550	0.196	1.756	0.221	0.256	0.011	5.519	64.407
	TOTAL	R18.253 ^R	18.125 ^R	R2.291 ^R	19.978 ^R	2.724 ^R	2.908 ^R	0.128 ^R	64.407 ^R	

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding and the use of preliminary conversion factors after 1979.

¹Includes bituminous coal, lignite, and anthracite.

²Includes lease condensate.

³Natural gas plant liquids.

⁴Includes industrial and utility production of hydropower.

⁵Includes geothermal power and electricity produced from wood and waste.

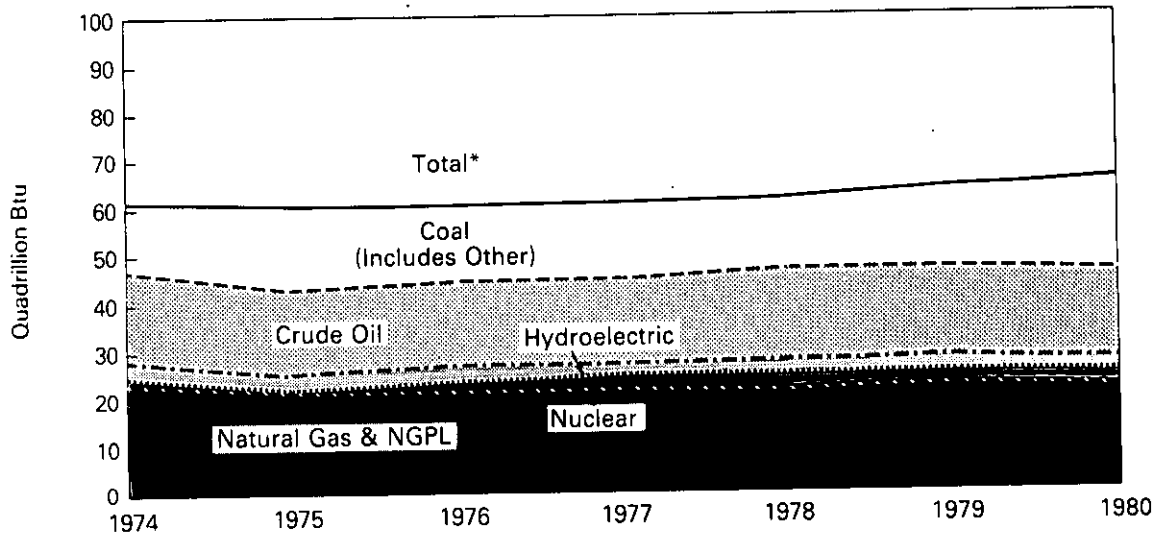
R = Revised data.

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

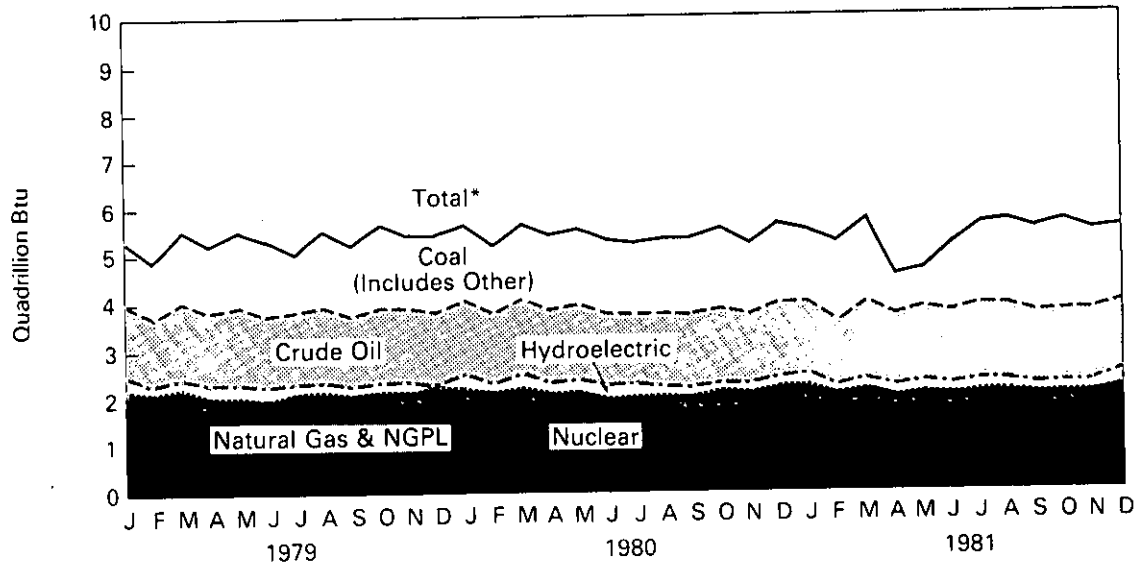
Executive Summary

Production of Energy by Type

Yearly



Monthly



*Btu equivalents for all fuels are cumulated to create total.

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Executive Summary

Consumption of Energy by Type

		Coal ¹	Natural Gas (Dry)	Petroleum	Hydroelectric Power ²	Nuclear Electric Power	Net Imports of Coal Coke ³	Other ⁴	Total Energy Consumed	Yearly Cumulative Energy Consumed
Quadrillion (10 ¹⁵) Btu										
1973	TOTAL	13.300	22.512	34.840	3.010	0.910	(0.008)	0.046	74.609	
1974	TOTAL	12.876	21.732	33.455	3.309	1.272	0.059	0.056	72.759	
1975	TOTAL	12.823	19.948	32.731	3.219	1.900	0.014	0.072	70.707	
1976	TOTAL	13.733	20.345	35.175	3.066	2.111	0.000	0.081	74.510	
1977	TOTAL	13.965 ^R	19.931	37.122	2.515	2.702	0.015	0.082	76.332	
1978	TOTAL	13.846	20.000	37.965	3.164 ^R	2.977 ^R	0.131	0.068	78.150 ^R	
1979	TOTAL	15.109	20.666	37.123	3.166 ^R	2.748 ^R	0.066	0.089	78.968 ^R	
1980	January	1.410	2.327	R3.211	0.285	0.213	0.003	0.008	R7.457	R7.457
	February	1.325	2.238	2.998	0.242	0.208	(0.001)	0.008	7.018	R14.475
	March	1.307	2.143	R2.960	0.275	0.216	(0.003)	0.008	R6.905	R21.379
	April	1.169	1.601	R2.766	0.289	0.202	(0.005)	0.008	R6.031	R27.410
	May	1.173	1.383	R2.766	0.323	0.198	(0.006)	0.010	R5.847	R33.257
	June	1.245	1.279	R2.668	0.309	0.197	(0.004)	0.009	R5.705	R38.962
	July	1.401	1.328	R2.726	0.276	0.226	(0.004)	0.010	R5.964	R44.926
	August	1.393	1.272	R2.683	0.234	0.262	(0.003)	0.011	R5.852	R50.778
	September	1.272	1.326	R2.736	0.213	0.254	(0.004)	0.010	R5.806	R56.584
	October	1.238	1.574	R2.894	0.207	0.264	(0.006)	0.011	R6.182	R62.767
	November	1.261	1.820	R2.753	0.220	0.226	(0.002)	0.011	R6.289	R69.056
	December	1.407	2.201	R3.136	0.253	0.238	(0.001)	0.011	R7.244	R76.300
	TOTAL	15.603 ^R	20.495 ^R	R34.296 ^R	3.125 ^R	2.704 ^R	(0.037)	0.114	R76.300 ^R	
1981	January	1.491	2.303	3.115	0.254	0.252	0.000	0.011	7.426	7.426
	February	1.322	1.939	2.604	0.239	0.233	(0.001)	0.010	6.346	13.772
	March	1.333	1.946	2.697	0.236	0.237	(0.003)	0.011	6.458	20.230
	April	1.207	1.544	2.518	0.237	0.222	(0.001)	0.010	5.737	25.967
	May	1.213	1.490	2.588	0.273	0.212	0.000	0.010	5.786	31.753
	June	1.317	1.364	2.636	0.296	0.228	(0.004)	0.010	5.847	37.600
	July	R1.490	1.395	2.676	0.283	0.249	0.000	0.011	R6.104	R43.704
	August	R1.452	1.396	2.595	0.246	0.290	0.000	0.011	R5.990	R49.694
	September	R1.318	R1.325	R2.574	0.206	0.263	(0.002)	0.011	R5.696	R55.389
	October	1.297	1.593	R2.698	0.209	0.221	(0.003)	0.011	R6.027	R61.416
	November	1.292	1.746	2.547	0.218	0.245	0.000	0.010	6.058	67.474
	December	1.390	2.175	2.872	0.239	0.256	0.000	0.011	6.942	74.417
	TOTAL	16.122 ^R	20.215 ^R	32.122 ^R	2.937 ^R	2.908 ^R	(0.014) ^R	0.128 ^R	74.417 ^R	

Geographic coverage: the 50 United States and District of Columbia.

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

¹Includes bituminous coal, lignite, and anthracite.

²Includes industrial and utility production, and net imports of electricity.

³Parentheses indicate exports are greater than imports.

⁴Includes geothermal power and electricity produced from wood and waste.

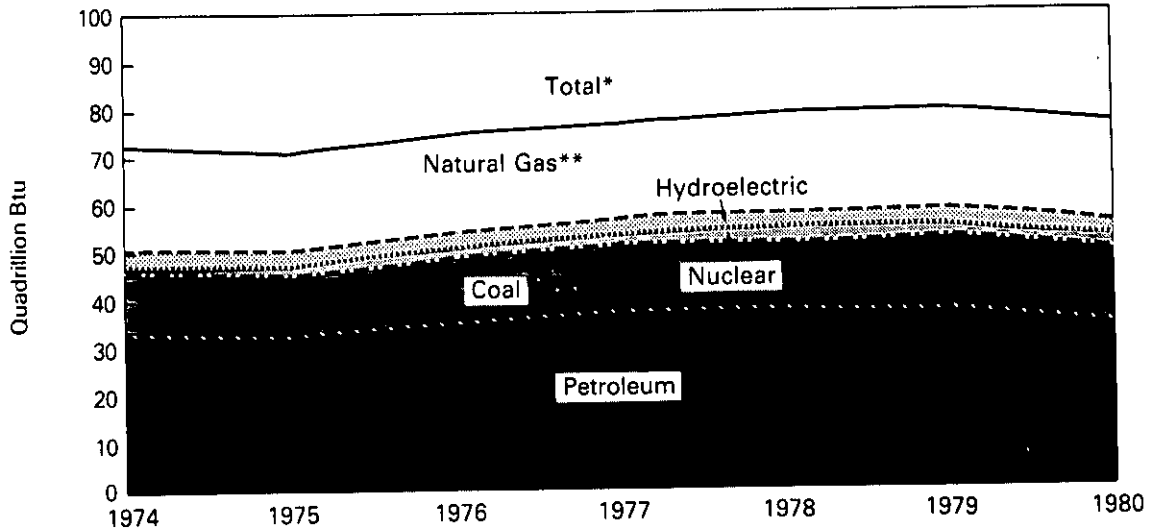
R = Revised data.

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

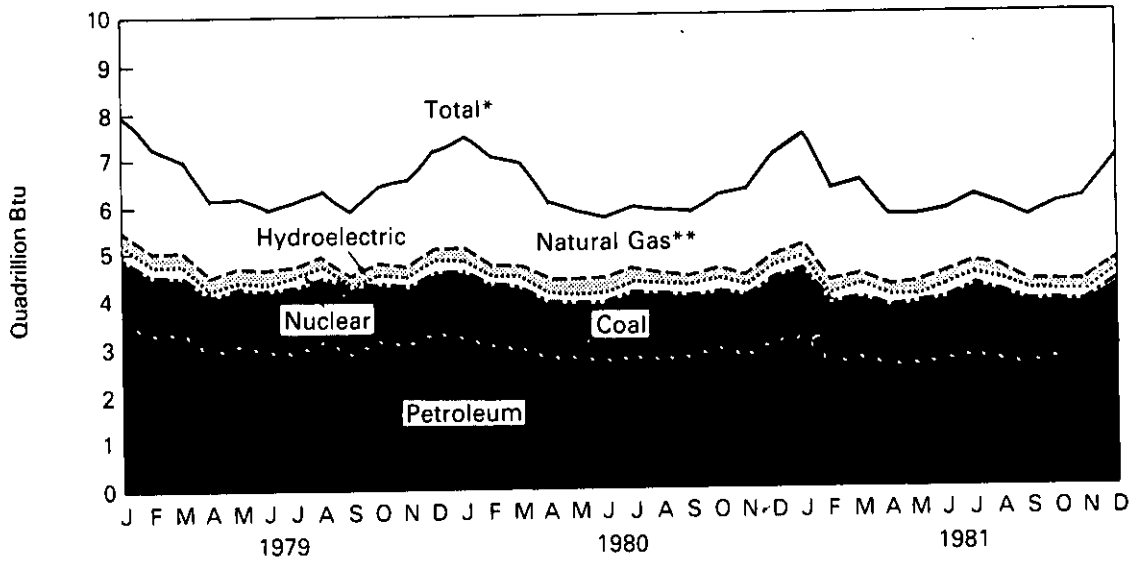
Executive Summary

Consumption of Energy by Type

Yearly



Monthly



*Btu equivalents for all fuels were cumulated to create total.
 **Includes net imports of coal coke and other.

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Executive Summary

Net Imports of Energy by Type¹

		Coal ²	Crude Oil ³	Refined Petroleum Products ⁴	Natural Gas (Dry)	Electricity ⁵	Coal Coke	Net Imports	Yearly Cumulative Net Imports of Energy
Quadrillion (10 ¹⁵) Btu									
1973	TOTAL	(1.443)	6.883	6.097	0.981	0.148	(0.008)	12.659	
1974	TOTAL	(1.585)	7.389	5.273	0.907	0.133	0.059	12.175	
1975	TOTAL	(1.766)	8.708	3.800	0.904	0.064	0.014	11.725	
1976	TOTAL	(1.590)	11.221	3.982	0.922	0.089	0.000	14.625	
1977	TOTAL	(1.424)	13.921	4.321	0.981	0.182	0.015	17.995	
1978	TOTAL	(1.024)	13.125	3.932	0.941	0.206 ^R	0.131	17.310 ^R	
1979	TOTAL	(1.730)	13.328	3.603	1.243	0.212 ^R	0.066	16.722 ^R	
1980	January	(0.117)	R1.096	R0.353	0.116	0.018	0.003	R1.470	R1.470
	February	(0.104)	R0.957	R0.287	0.107	0.017	(0.001)	R1.263	R2.733
	March	(0.150)	R0.967	R0.272	0.108	0.018	(0.003)	R1.212	R3.945
	April	(0.202)	R0.942	R0.220	0.077	0.017	(0.005)	R1.050	R4.995
	May	(0.227)	R0.861	R0.217	0.070	0.018	(0.006)	R0.933	R5.928
	June	(0.237)	0.892	0.196	0.060	0.017	(0.004)	0.923	R6.851
	July	(0.221)	R0.830	R0.201	0.060	0.018	(0.004)	R0.883	R7.735
	August	(0.246)	R0.851	R0.206	0.059	0.018	(0.003)	R0.886	R8.621
	September	(0.226)	0.765	R0.226	0.057	0.017	(0.004)	R0.835	R9.455
	October	(0.251)	R0.803	R0.238	0.073	0.018	(0.006)	R0.874	R10.329
	November	(0.242)	R0.765	R0.255	0.088	0.017	(0.002)	R0.882	R11.211
	December	(0.220)	R0.854	0.276	0.097	0.018	(0.001)	R1.022	R12.234
	TOTAL	(2.444) ^R	R10.582 ^R	R2.948 ^R	0.972 ^R	0.212 ^R	(0.037) ^R	R12.234 ^R	
1981	January	(0.155)	0.826	0.301	0.084	0.018	0.000	1.073	1.073
	February	(0.180)	0.761	0.249	0.079	0.016	(0.001)	0.923	1.996
	March	(0.260)	0.776	0.203	0.072	0.018	(0.003)	0.806	2.803
	April	(0.221)	0.742	0.163	0.067	0.017	(0.001)	0.768	3.570
	May	(0.162)	0.712	0.207	0.058	0.018	0.000	0.834	4.404
	June	(0.162)	0.690	0.181	0.060	0.017	(0.004)	0.782	5.187
	July	(0.290)	0.735	0.208	0.063	0.018	0.000	0.735	5.922
	August	(0.301)	0.713	0.203	0.060	0.018	0.000	0.694	6.616
	September	(0.319)	0.788	R0.224	0.065	0.017	(0.002)	R0.774	R7.389
	October	(0.331)	R0.749	R0.187	0.076	0.018	(0.003)	R0.696	R8.085
	November	(0.318)	0.645	0.193	0.081	0.017	0.000	0.618	8.704
	December	(0.244)	0.736	0.217	0.083	0.018	0.000	0.810	9.514
	TOTAL	(2.944) ^R	8.873 ^R	2.536 ^R	0.849 ^R	0.212 ^R	(0.014) ^R	9.514 ^R	

Geographic coverage: the 50 United States and District of Columbia.

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

¹Net imports=imports minus exports. Parentheses indicate exports are greater than imports.

²Includes bituminous coal, lignite, and anthracite.

³Includes crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.

⁴Includes refined petroleum products, unfinished oils, natural gasoline, and plant condensate.

⁵Only yearly totals are available for electricity import and export data. Figures shown are estimates derived by dividing the yearly net import total by the number of days in the year and multiplying by the number of days in the month. Annual data for 1979 are used in estimating 1980 and 1981 data until actual annual data become available for those years.

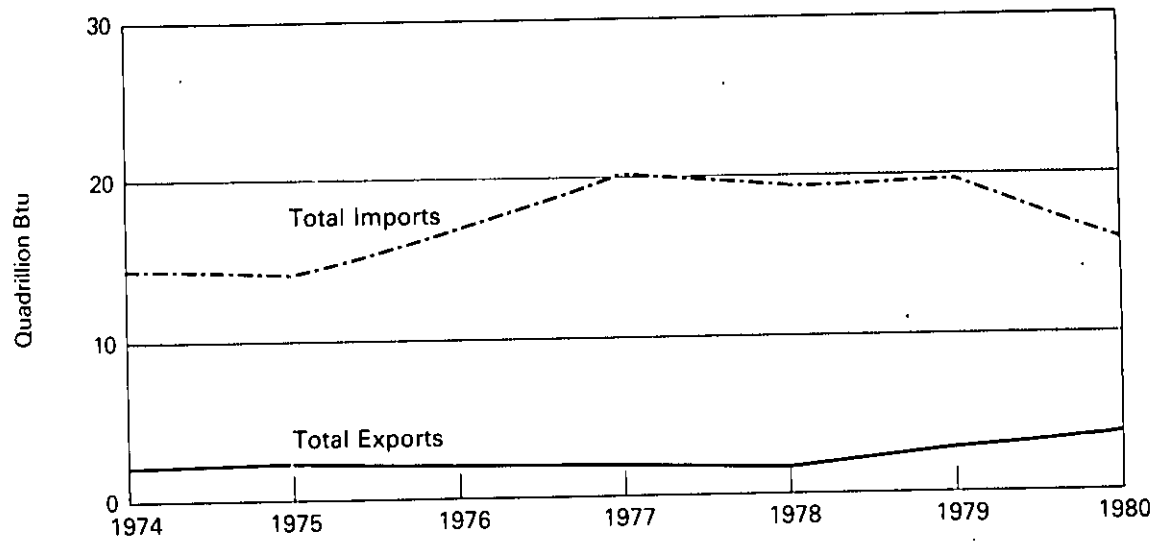
R=Revised data.

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

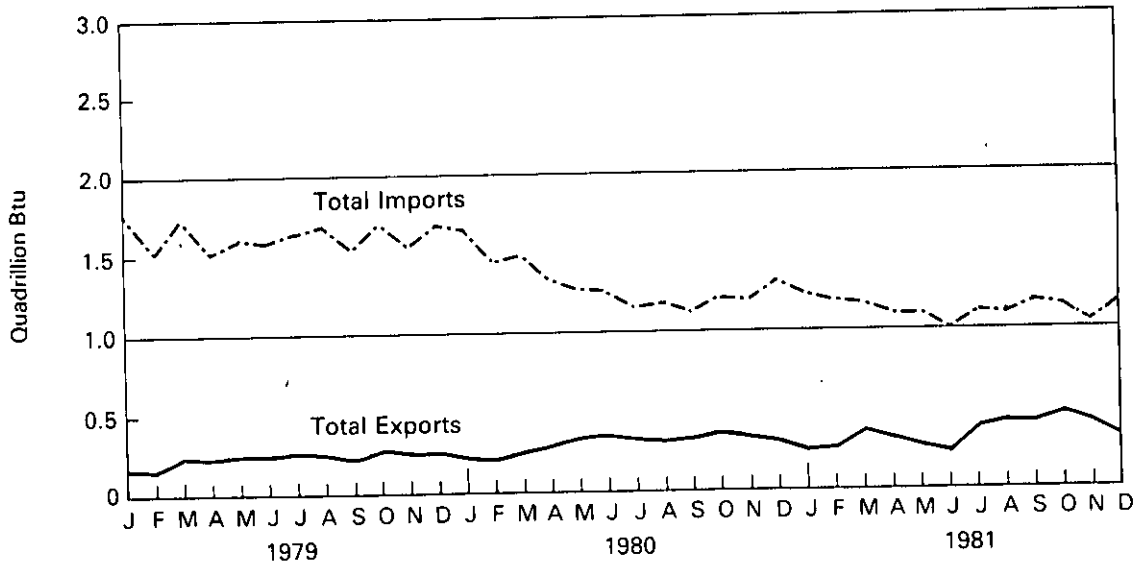
Executive Summary

Energy Imports and Exports

Yearly



Monthly



Executive Summary

Merchandise Trade Value

		Exports			Imports			Trade Balance		
		Energy	All Other	Total	Energy	All Other	Total	Energy	All Other	Total
Million dollars										
1973	TOTAL	1,671	69,202	70,873	8,173	61,659	69,832	-6,502	+7,543	+1,041
1974	TOTAL	3,444	94,553	97,997	25,454	75,194	100,648	-22,010	+19,360	-2,650
1975	TOTAL	4,470	103,119	107,589	26,476	70,094	96,570	-22,006	+33,025	+11,019
1976	TOTAL	4,226	110,924	115,150	33,996	87,013	121,009	-29,770	+23,911	-5,859
1977	TOTAL	4,184	116,966	121,150	44,537	103,148	147,685	-40,353	+13,818	-26,535
1978	TOTAL	3,881	139,696	143,577	42,096	129,882	171,978	-38,215	+9,814	-28,401
1979	TOTAL	5,621	176,030	181,651	59,998	146,258	206,256	-54,377	+29,772	-24,605
1980	January	619	16,801	17,419	7,118	14,024	21,142	-6,499	+2,776	-3,723
	February	584	16,400	16,984	8,152	13,626	21,779	-7,568	+2,774	-4,794
	March	636	17,629	18,265	7,564	13,384	20,947	-6,928	+4,246	-2,682
	April	607	17,960	18,567	6,797	12,969	19,766	-6,190	+4,992	-1,198
	May	660	16,987	17,647	7,150	13,437	20,587	-6,490	+3,549	-2,941
	June	656	17,784	18,440	7,276	13,077	20,353	-6,620	+4,708	-1,912
	July	695	17,572	18,267	5,986	13,153	19,139	-5,291	+4,419	-872
	August	702	18,385	19,087	6,461	13,252	19,713	-5,759	+5,133	-626
	September	710	18,119	18,828	6,278	13,662	19,941	-5,568	+4,456	-1,112
	October	662	18,552	19,214	6,601	13,747	20,347	-5,939	+4,805	-1,134
	November	709	18,006	18,715	6,128	13,732	19,860	-5,419	+4,274	-1,145
	December	706	18,545	19,251	7,413	14,023	21,436	-6,707	+4,522	-2,185
	TOTAL	7,982	212,644	220,626	82,924	161,947	244,871	-74,942	+50,698	-24,244
1981	January	806	18,019	18,825	8,014	15,180	23,194	-7,208	+2,838	-4,370
	February	977	18,787	19,764	7,943	13,978	21,922	-6,966	+4,808	-2,158
	March	951	20,484	21,434	6,476	14,473	20,949	-5,525	+6,010	+485
	April	691	19,127	19,818	7,836	14,454	22,289	-7,145	+4,674	-2,471
	May	566	18,304	18,869	6,078	15,232	21,310	-5,512	+3,071	-2,441
	June	575	19,295	19,870	7,256	14,719	21,975	-6,681	+4,576	-2,105
	July	869	18,395	19,264	5,692	14,115	19,807	-4,823	+4,281	-542
	August	894	18,156	19,050	6,881	16,648	23,528	-5,987	+1,509	-4,478
	September	947	18,708	19,655	6,558	14,671	21,229	-5,611	+4,037	-1,574
	October	989	18,055	19,044	6,644	16,590	23,234	-5,655	+1,464	-4,191
	November	960	18,158	19,118	6,613	15,909	22,522	-5,653	+2,249	-3,404
	December	1,074	17,747	18,821	5,427	14,089	19,516	-4,353	+3,658	-695
	TOTAL	10,299	223,233	233,532	81,418	180,057	261,475	-71,119	+43,175	-27,945

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

Note: The U.S. import 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. See Note at the end of this section.

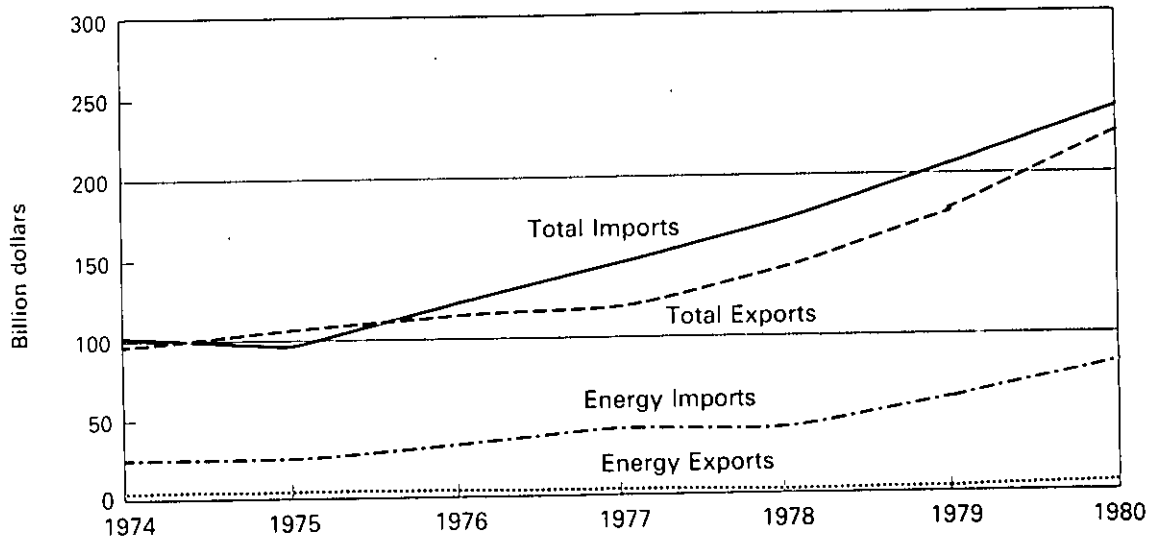
Sources: • 1973 through 1978: U.S. Department of Commerce, International Trade Administration, *Overseas Business Reports*, "United States Foreign Trade Annual", 1973-1979;

• 1979 forward: U.S. Department of Commerce, Bureau of the Census, "Summary of U.S. Export and Import Merchandise Trade," December 1980 issue for 1979 data and most recent monthly issue for 1980 and 1981.

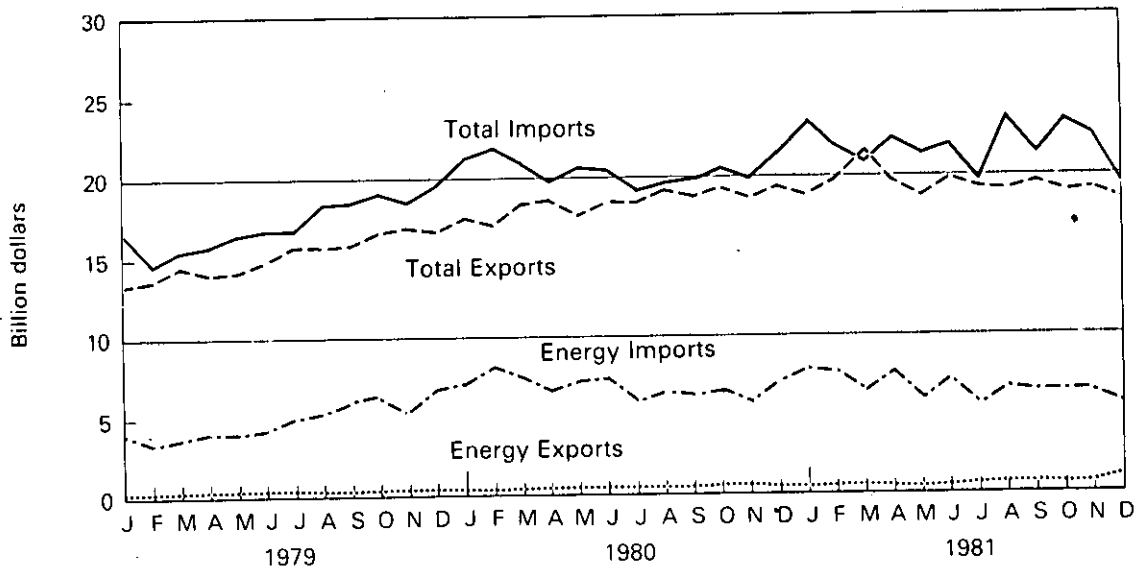
Executive Summary

Merchandise Trade Value

Yearly



Monthly



Executive Summary

Heating Degree-Days¹

Petroleum Administration For Defense (PAD) Districts

Districts	December 28 through January 31					Cumulative July 1 through January 31				
	1981-82	1980-81 ²		Normal (1941-70) ²		1981-82	1980-81 ²		Normal (1941-70) ²	
PAD District I	1,219	1,250	(- 2.5)	1,047	(16.4)	2,897	2,982	(- 2.9)	2,595	(11.6)
New England	1,537	1,582	(- 2.8)	1,344	(14.4)	3,724	3,942	(- 5.5)	3,412	(9.1)
Conn., Maine, Mass., N.H., R.I., Vt.										
Middle Atlantic	1,427	1,432	(- 0.3)	1,222	(16.8)	3,388	3,482	(- 2.7)	3,037	(11.6)
Del., Md., N.J., N.Y., Pa.										
Lower Atlantic	765	830	(- 7.8)	652	(17.3)	1,795	1,809	(- 0.8)	1,571	(14.2)
Fla., Ga., N.C., S.C., Va., W. Va.										
PAD District II	1,627	1,382	(17.7)	1,375	(18.3)	3,803	3,616	(5.2)	3,497	(8.7)
Ill., Ind., Iowa, Kans., Ky., Mich., Minn., Mo., Nebr., N. Dak., Ohio, Okla., S. Dak., Tenn., Wisc.										
PAD District III	650	674	(- 3.6)	644	(1.0)	1,411	1,557	(- 9.4)	1,446	(- 2.4)
Ala., Ark., La., Miss., N. Mex., Tex.										
PAD District IV	1,380	1,045	(32.1)	1,334	(3.4)	3,386	3,149	(7.5)	3,679	(- 7.9)
Colo., Idaho, Mont., Utah, Wyo.										
PAD District V	590	405	(45.7)	597	(- 1.2)	1,404	1,225	(14.6)	1,608	(- 12.7)
Ariz., Calif., Nev., Oreg., Wash.										
U.S. AVERAGE³	1,199	1,100	(9.0)	1,050	(14.3)	2,817	2,776	(1.5)	2,641	(6.7)

¹ See Explanatory Note 6 for explanation of degree-days.

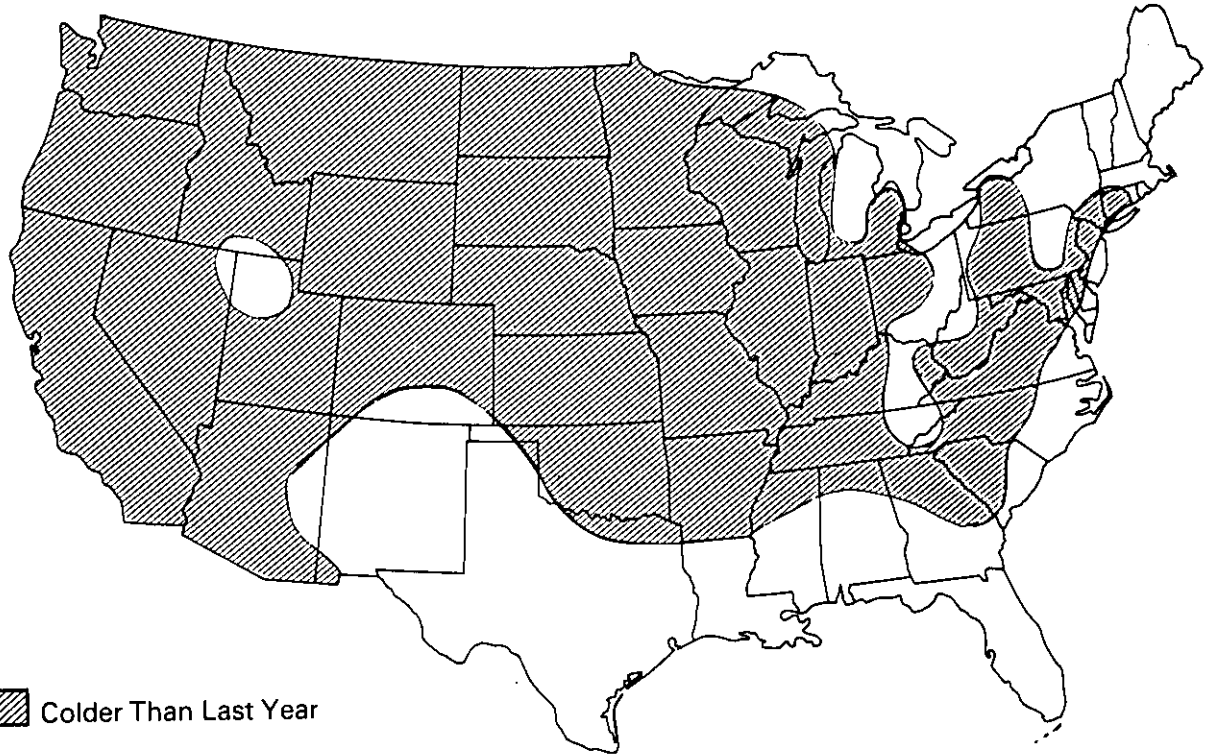
² Percentage change in parentheses.

³ Excludes Alaska and Hawaii.

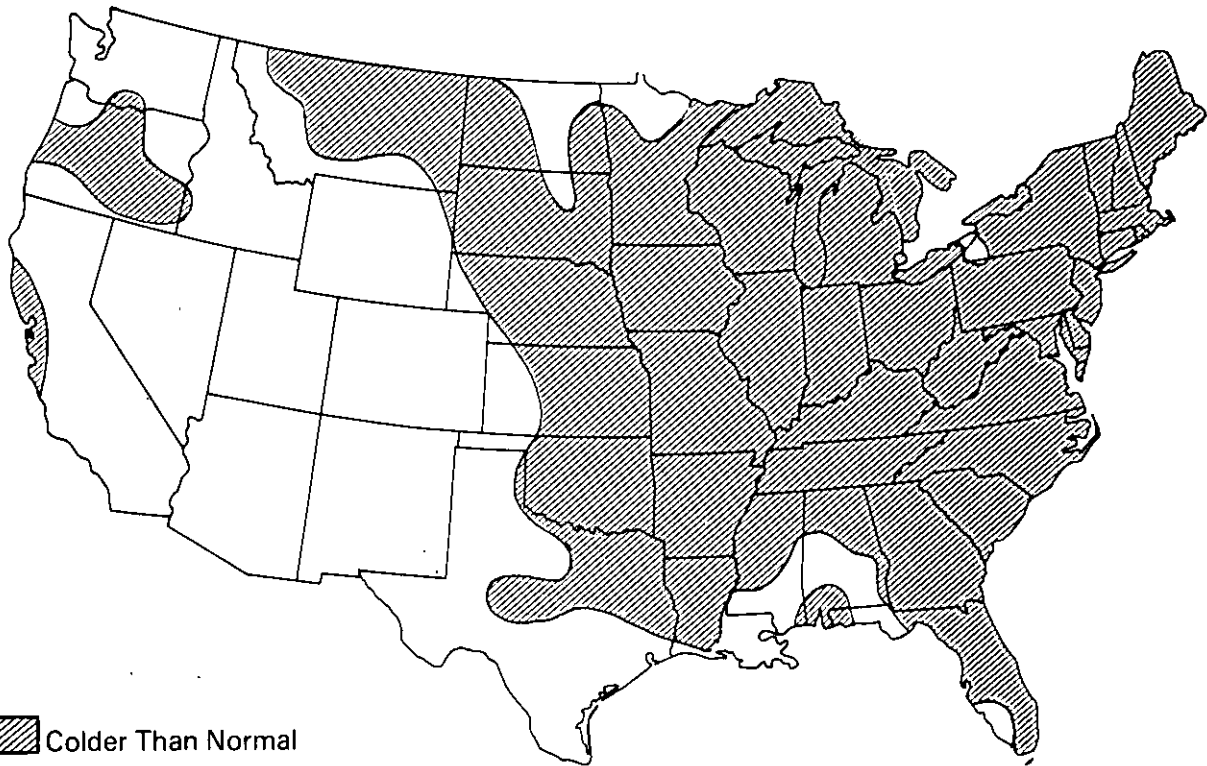
Executive Summary

Heating Degree-Days Accumulated from July 1 through January 31

Departure from Last Year



Departure from Normal



Source: • Department of Commerce—National Oceanic and Atmospheric Administration.

0107

Executive Summary

Energy Indicators—

Energy Consumption per GNP Dollar						U.S. Dependence on Petroleum Imports ¹			
		Energy Consumption per GNP Dollar ²	Yearly Rate of Energy Consumption Quadrillion Btu	Gross National Product (Annual rate)		Direct Imports			Domestic Petroleum Products Supplied
				Current Dollars	1972 Dollars ³	From Arab/OPEC Countries	From OPEC Countries	Total All Countries	
ANNUAL RATE				Trillion Dollars		Million barrels per day			
1973	AVERAGE	59.4	74.609	1.326	1.255	0.92	2.99	6.26	17.31
1974	AVERAGE	58.3	72.759	1.434	1.248	0.75	3.28	6.11	16.65
1975	AVERAGE	57.3	70.707	1.549	1.234	1.38	3.60	6.06	16.32
1976	AVERAGE	57.3	74.510	1.718	1.300	2.42	5.07	7.31	17.46
1977	AVERAGE	55.6	76.332	1.918	1.372	3.19	6.19	8.81	18.43
1978	AVERAGE	54.4	78.150	2.156	1.437	2.96	5.75	8.36	18.85
1979	AVERAGE	53.2	78.968	2.414	1.483	3.06	5.64	8.46	18.51
1980	1st Qtr	57.2	85.857	2.572	1.502	3.00	4.97	7.90	18.27
	2nd Qtr	48.3	70.630	2.565	1.463	2.59	4.28	6.81	16.36
	3rd Qtr	47.6	70.025	2.637	1.472	2.26	3.74	6.11	16.07
	4th Qtr	52.7	78.336	2.731	1.486	2.33	4.03	6.52	17.33
	AVERAGE	51.5	76.201	2.626	1.481	2.54	4.25	6.83	17.01
1981	1st Qtr	54.1	82.044	2.853	1.516	2.06	3.81	6.53	17.02
	2nd Qtr	46.1	69.651	2.886	1.510	1.81	3.12	5.58	15.48
	3rd Qtr	46.7	70.604	2.957	1.513	1.84	3.14	5.84	15.61

Geographic coverage: the 50 United States and District of Columbia.

¹Beginning in October 1977 Strategic Petroleum Reserve imports are included.

²Thousand Btu per 1972 constant dollar.

³Current dollars are converted to 1972 constant dollars by the formula:

Constant 1972 dollars = 100(Current dollars in year N/GNP implicit price deflator in year N).

The Gross National Product deflators (1972=100) were determined by the Department of Commerce, Bureau of Economic Analysis.

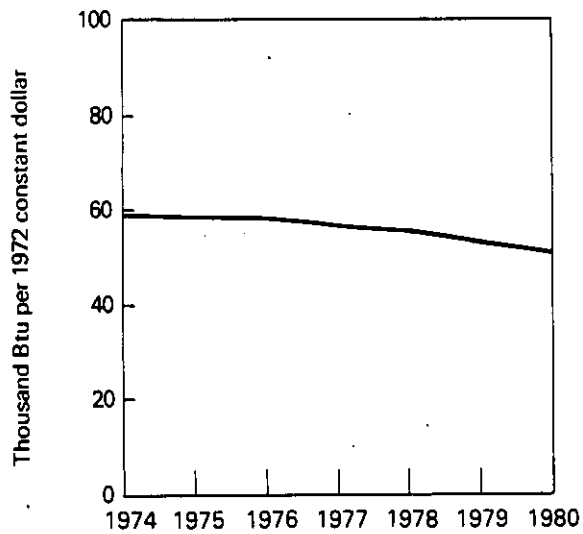
GNP rates are from the *Business Conditions Digest* published by the Bureau of Economic Analysis.

Note: This page is updated every quarter, during the months of March, June, September, and December. In other months, data appearing elsewhere in this publication are more current.

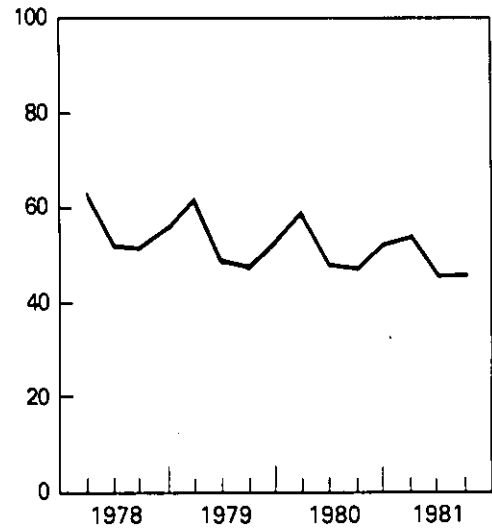
Executive Summary

Energy Consumption per GNP Dollar

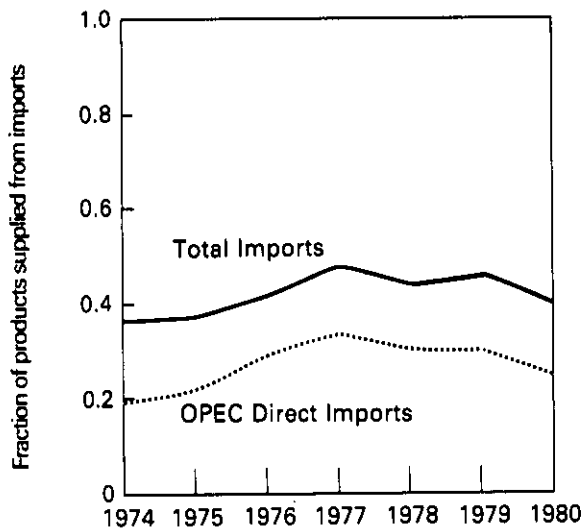
Yearly



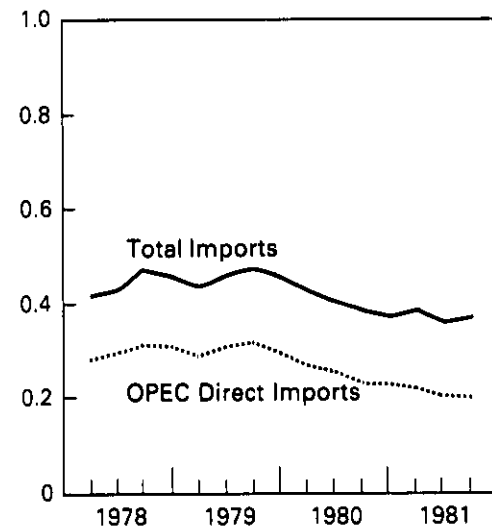
Quarterly



Yearly



Quarterly

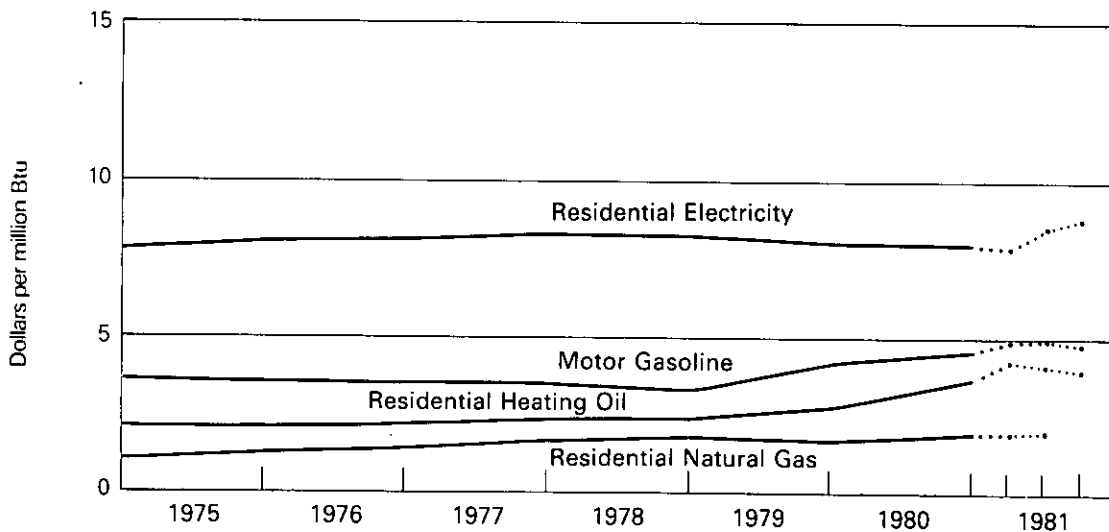


Executive Summary

Energy Indicator—Cost of Fuels to End Users (1972 Dollars)

		Leaded Regular Motor Gasoline		Residential Heating Oil		Residential Natural Gas		Residential Electricity	
		cent/gal	\$/MMBtu	cent/gal	\$/MMBtu	cent/Mcf	\$/MMBtu	cent/kWh	\$/MMBtu
1973	AVERAGE	NA	NA	NA	NA	121.2	1.19	2.39	7.00
1974	AVERAGE	45.1	3.61	29.4	2.12	121.4	1.19	2.63	7.71
1975	AVERAGE	44.1	3.53	29.3	2.11	132.8	1.30	2.73	8.00
1976	AVERAGE	43.4	3.47	29.8	2.15	145.4	1.43	2.74	8.03
1977	AVERAGE	42.9	3.43	31.8	2.29	162.2	1.59	2.80	8.21
1978	AVERAGE	40.1	3.21	31.7	2.29	164.4	1.62	2.76	8.09
1979	AVERAGE	49.4	3.95	37.8	2.73	171.5	1.68	2.67	7.83
1980	1st Qtr	60.9	4.87	49.8	3.59	190.9	1.88	2.53	7.42
	2nd Qtr	62.1	4.97	49.8	3.59	197.2	1.94	2.75	8.06
	3rd Qtr	60.6	4.85	49.2	3.55	207.6	2.04	2.86	8.38
	4th Qtr	58.2	4.65	50.7	3.66	198.9	1.95	2.73	8.00
	AVERAGE	60.5	4.84	49.7	3.58	198.8	1.95	2.72	7.97
1981	1st Qtr	62.1	4.97	57.0	4.11	196.0	1.93	2.65	7.77
	2nd Qtr	62.1	4.97	57.2	4.12	207.5	2.04	2.91	8.53
	3rd Qtr	59.3	4.74	54.4	3.92	NA	NA	2.99	8.76

Average Cost of Fuels to End Users (1972 constant dollars)



Geographic coverage: the 50 United States and District of Columbia.

NA=Not available.

Note: This page is updated every quarter, during the months of March, June, September, and December. In other months, data appearing elsewhere in this publication are more current.

Sources: • Motor Gasoline—Bureau of Labor Statistics.

• Heating Oil—1974 and 1975: Form CLC-92, "No. 2 Heating Oil Monthly Price Adjustment Report"; 1976 forward: FEA Form P112-M-1 and EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report."

• Natural Gas—1973 through 1979 annual numbers: Bureau of Mines and Energy Information Administration, Form 1340-A, "Supply and Disposition of Natural Gas to Non-Producing Distributors" and Form 1341-A, "Supply and Disposition of Natural Gas to Producers and Pipelines"; 1980 and 1981 quarterly numbers and 1980 annual numbers: Bureau of Labor Statistics.

• Electricity—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 Consumer Price Index.

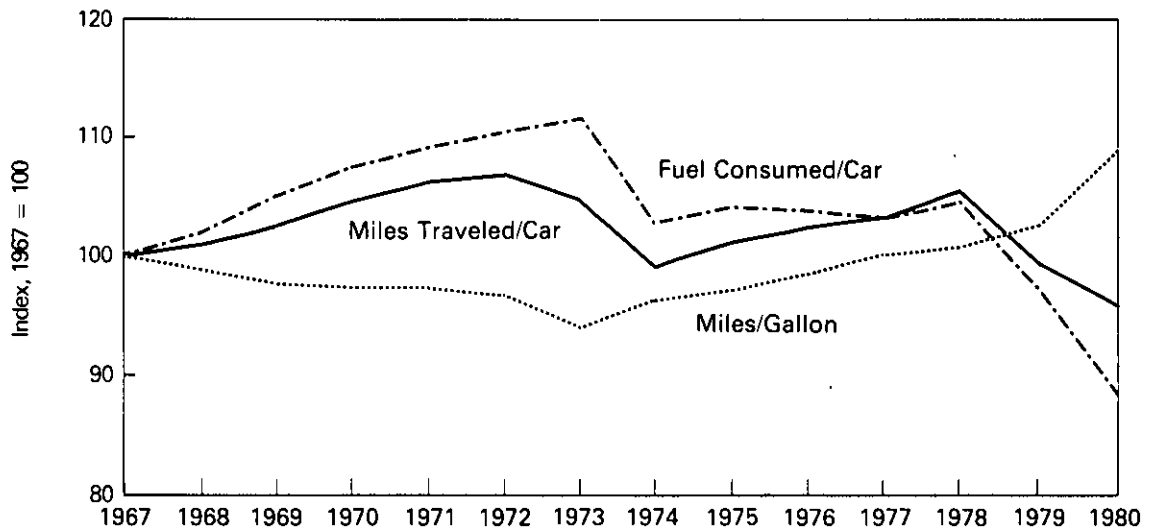
0109

Executive Summary

Energy Indicator—U.S. 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	684	100.0	9,531	100.0	13.93	100.0
1968	698	102.0	9,627	101.0	13.79	99.0
1969	718	105.0	9,782	102.6	13.63	97.8
1970	735	107.5	9,978	104.7	13.57	97.4
1971	746	109.1	10,121	106.2	13.57	97.4
1972	755	110.4	10,184	106.9	13.49	96.8
1973	763	111.5	9,992	104.8	13.10	94.0
1974	704	102.9	9,448	99.1	13.43	96.4
1975	712	104.1	9,634	101.1	13.53	97.1
1976	711	103.9	9,763	102.4	13.72	98.5
1977	706	103.2	9,839	103.2	13.94	100.1
1978	715	104.5	10,046	105.4	14.06	100.9
1979	664	97.1	9,485	99.5	14.29	102.6
1980	603	88.2	9,135	95.8	15.15	108.8

U.S. Passenger Car Efficiency Index



Geographic coverage: the 50 United States and District of Columbia.

Source: U.S. Department of Transportation, Federal Highway Administration, Federal Highway Statistics Division, "Highway Statistics," Table VM-1.

Note for the Executive Summary Section

•Merchandise Trade Value Table: The U.S. import 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. The statistics exclude imports into Guam, American Samoa, and other U.S. possessions; as well as shipments between the United States and Puerto Rico, between the United States and U.S. possessions, and between any of these outlying areas. Also, U.S. Virgin Island trade with foreign countries is included in all import data and total export data beginning with January 1980 and is included in energy export data beginning with January 1981. Data presented are on a free alongside ship (f.a.s.) basis except for 1973 imports which are on a customs value basis (i.e., generally at prices in principal foreign markets). Monthly data are adjusted for seasonal and working-day variation; annual data are unadjusted. Statistics include nonmonetary gold. Statistics exclude Department of Defense (DOD) Military Program Grant-Aid shipments. "All Other" and "Total" columns include foreign exports (i.e., reexports). The "Energy" columns include mineral fuels, lubricants, and related material. "Imports" represent general imports (i.e., entries for immediate consumption, entries into Customs bonded warehouses, and entries for the Strategic Petroleum Reserve). "Trade Balance" is exports minus imports: positive indicates surplus trade value and negative indicates deficit trade value. The "All Other" columns are calculated by subtracting "energy" from "total." Totals may not equal sum of components due to independent rounding.

Energy Consumption

Preliminary data indicate total U.S. energy consumption in 1981 dropped to 74.4 quadrillion Btu, about 2.5 percent below 1980 and a 5.8 percent decrease from the 1979 consumption level.

The Residential and Commercial Sector consumption was 26.4 quadrillion Btu in 1981, a 2.1 percent decrease from the amount consumed last year and 2.6 percent below the 1979 level. The Residential and Commercial Sector consumed 35.5 percent of the total consumption for 1981, about the same as the sector's percent share in 1980.

The Industrial Sector consumption was 29.3 quadrillion Btu in 1981, down 3.1 percent from 1980, and down 6.8 percent from the consumption level in 1979. The Industrial Sector consumed 39.3 percent

of the 1981 total, as compared to the 39.6 percent share in 1980.

The Transportation Sector consumption was 18.7 quadrillion Btu in 1981, down 2.1 percent from 1980 and down 8.7 percent from the consumption level in 1979. This sector consumed 25.1 percent of the 1981 total, as compared to a 25.0 percent share in 1980.

The Electric Utilities consumption was an estimated 24.8 quadrillion Btu of energy in 1981, about the same level as in the previous year, and 2.6 percent higher than the energy consumed in 1979. Coal contributed 51.0 percent of the energy consumed by Electric Utilities in 1981, while natural gas contributed 15.1 percent, petroleum 9.9 percent, hydroelectric power 11.7 percent, nuclear power 11.7 percent, and geothermal, wood and waste 0.5 percent.

See energy consumption summaries for the months of November and December on page 28.

Consumption

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Energy Consumption Summary for January through December 1981* Quadrillion (10¹⁵) Btu

Primary Energy Source	Sector				TOTAL
	Residential and Commercial	Industrial	Transportation	Electric Utilities	
Coal	0.164	3.248	0.000	12.666	16.122
Natural Gas (dry)	7.390	8.467	0.599	3.759	20.215
Petroleum	3.825	7.813	18.018	2.466	32.122
Hydroelectric	0.000	0.033	0.000	2.904	2.937
Nuclear	0.000	0.000	0.000	2.908	2.908
Net Coke Imports	0.000	(0.014)	0.000	0.000	(0.014)
Other	0.000	0.000	0.000	0.128	0.128
TOTAL PRIMARY ENERGY	11.379	19.547	18.617	24.830	74.417
Electricity Sales	4.375	2.821	0.011	(7.207)	
Net Energy Consumption	15.754	22.368	18.628		56.750
Electrical Energy Losses	10.692	6.901	0.026	(17.547)	17.547
TOTAL ENERGY CONSUMED	26.446	29.269	18.654		74.417

* Preliminary data.
Totals may not equal sum of components due to independent rounding and, in the case of coal, the use of preliminary conversion factors.
Notes and sources for this table and all other tables in this section are provided on the last page of this section.

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Consumption

Consumption of Energy by End-Use Sector¹

		Residential and Commercial	Industrial	Transportation	Total Energy Consumed
Quadrillion (10 ¹⁵) Btu					
1973	TOTAL	26.615	29.472	18.519	74.609
1974	TOTAL	25.981	28.748	18.026	72.759
1975	TOTAL	26.015	26.510	18.177	70.707
1976	TOTAL	27.217	28.226	19.063	74.510
1977	TOTAL	27.568	29.026	19.735	76.332
1978	TOTAL	28.217	29.317	20.613	78.150
1979	TOTAL	27.144	31.396	20.425	78.968
1980	January	R2.870	R2.910	R1.680	R7.457
	February	R2.817	2.592	R1.612	7.018
	March	2.637	R2.635	1.635	R6.905
	April	R2.102	R2.355	R1.582	R6.031
	May	R1.859	R2.421	R1.572	R5.847
	June	R1.882	R2.304	R1.515	R5.705
	July	R2.100	R2.272	R1.580	R5.964
	August	2.076	R2.219	R1.544	R5.852
	September	R1.937	R2.346	1.515	R5.806
	October	R1.926	R2.643	R1.612	R6.182
	November	R2.107	R2.675	R1.507	R6.289
	December	R2.710	R2.835	R1.698	R7.244
	TOTAL	R27.024	R30.207	R19.052	R76.300
1981	January	3.127	2.598	1.700	7.426
	February	2.684	2.206	1.456	6.346
	March	2.439	2.458	1.561	6.458
	April	1.976	2.265	1.496	5.737
	May	1.841	2.419	1.522	5.786
	June	1.912	2.361	1.563	5.847
	July	2.069	R2.434	1.590	R6.104
	August	R2.017	R2.419	1.546	R5.990
	September	R1.823	R2.360	R1.510	R5.696
	October	R1.910	R2.551	R1.562	R6.027
	November	2.055	2.499	1.503	6.058
	December	2.593	2.699	1.645	6.942
	TOTAL	26.446	29.269	18.654	74.417

Geographic coverage: the 50 United States and District of Columbia.

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

¹See Explanatory Note 5 for definitions of the Residential and Commercial, Industrial, and Transportation Sectors. The methodology used for sector calculations is provided in the Notes and Sources at the end of this section.

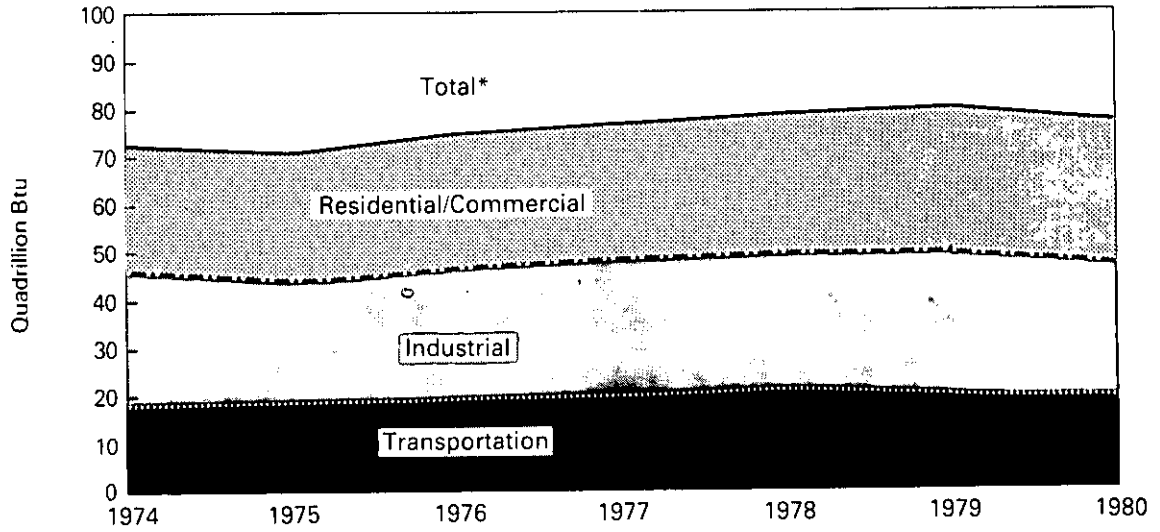
R = Revised data.

Source: *See Notes and Sources at the end of this section.

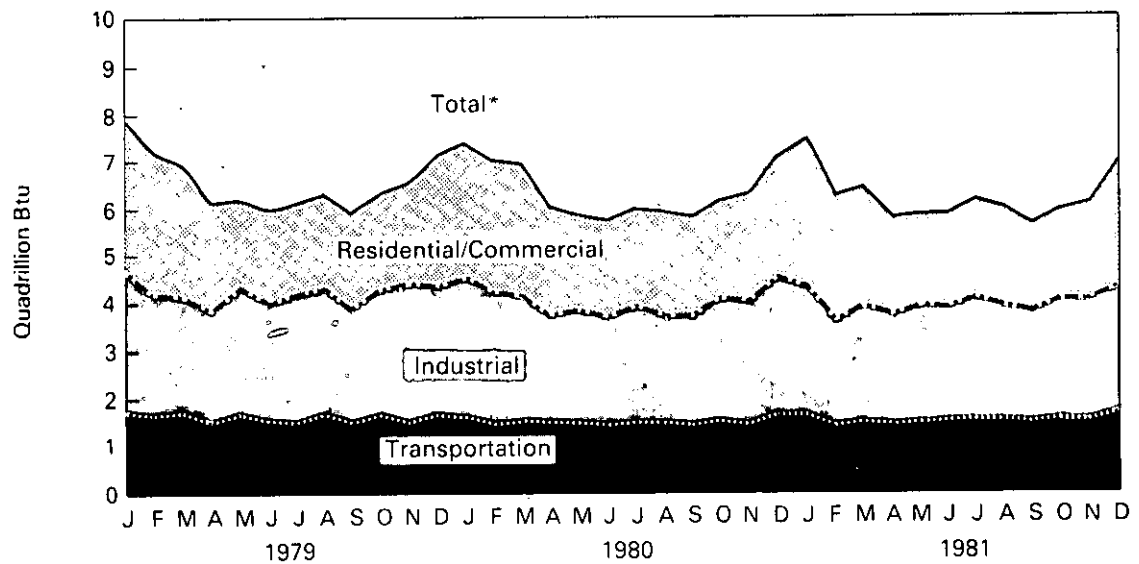
Consumption

Consumption of Energy by End-Use Sector

Yearly



Monthly



*Btu consumption for all sectors were cumulated to create total.

0203

Consumption

Consumption of Energy by the Residential and Commercial Sector¹

		Coal	Natural Gas (Dry)	Petroleum	Electricity Sales	Electrical Energy Losses ²	Total Energy Consumed	Yearly Cumulative Energy Consumed
Quadrillion (10 ¹⁵) Btu								
1973	TOTAL	0.291 ✓	7.626 ✓	6.741 R	3.495 ✓	8.462 R	26.615 R	
1974	TOTAL	0.292 ✓	7.518 ✓	6.141 R	3.475 ✓	8.556 R	25.981 R	
1975	TOTAL	0.238 ✓	7.581 ✓	5.792 R	3.588 R	8.816 R	26.015 R	
1976	TOTAL	0.227 ✓	7.866 ✓	6.302 R	3.729 R	9.093 R	27.217 R	
1977	TOTAL	0.225 ✓	7.461 ✓	6.245 R	3.936 R	9.701 R	27.568 R	
1978	TOTAL	0.239 ✓	7.624 ✓	6.268 R	4.100 R	9.986 R	28.217 R	
1979	TOTAL	0.210 ✓	7.891 ✓	4.725 R	4.184 ✓	10.133 R	27.144 R	
1980	January	0.022	1.114	0.382	0.381	R0.970	R2.870	R2.870
	February	0.019	1.192	R0.356	0.375	R0.875	R2.817	R5.687
	March	0.014	1.054	R0.334	0.358	0.876	2.637	R8.324
	April	0.015	0.717	R0.292	0.319	R0.759	R2.102	R10.426
	May	0.009	0.450	R0.314	0.298	0.787	R1.859	R12.285
	June	0.007	0.329	R0.324	0.334	0.888	R1.882	R14.167
	July	0.009	0.259	0.337	0.410	1.085	R2.100	R16.267
	August	0.008	0.240	0.332	0.439	1.056	2.076	R18.343
	September	0.011	0.252	R0.352	0.410	0.912	R1.937	R20.280
	October	0.015	0.370	0.374	0.343	0.824	R1.926	R22.207
	November	0.016	0.640	R0.328	0.322	R0.802	R2.107	R24.314
	December	0.020	1.026	R0.380	0.364	R0.919	R2.710	R27.024
	TOTAL	0.166	7.645	R4.108	4.355	R10.752	R27.024	
1981	January	0.022	1.291	0.398	0.413	1.003	3.127	3.127
	February	0.014	1.139	0.310	0.379	0.842	2.684	5.811
	March	0.012	0.928	0.306	0.344	0.848	2.439	8.250
	April	0.014	0.605	0.282	0.315	0.761	1.976	10.226
	May	0.009	0.429	0.287	0.313	0.802	1.841	12.067
	June	0.008	0.302	0.308	0.355	0.939	1.912	13.979
	July	R0.011	0.251	0.319	0.420	1.069	2.069	16.048
	August	R0.010	0.243	0.319	0.421	1.024	R2.017	R18.065
	September	R0.013 ✓	0.253 ✓	R0.314 R	0.383	R0.859	R1.823	R19.888
	October	0.014	0.399 R	R0.344	0.339	R0.814	R1.910	R21.798
	November	0.015 ✓	0.595 R	0.307 R	0.327 ✓	0.810 R	2.055 R	23.853 R
	December	0.021 R	0.955 R	0.329 R	0.368 ✓	0.921 R	2.593 R	26.446 R
	TOTAL	0.164 R	7.390 R	3.825 R	4.375 ✓	10.692 R	26.446 R	

Geographic coverage: the 50 United States and District of Columbia.

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

¹The Residential and Commercial Sector consists of housing units, non-manufacturing business establishments (e.g., wholesale and retail businesses), health and educational institutions, and government office buildings. Notes on the methodology used for sector calculations are provided in the Notes and Sources at the end of this section.

²Proportion of total electrical energy losses incurred in the generation and transmission of electricity plus plant use and unaccounted for that are attributed to this sector.

R=Revised data.

Source: • See Notes and Sources at the end of this section.

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Consumption

Consumption of Energy by the Industrial Sector¹

	Coal	Natural Gas (Dry)	Petroleum	Hydro-electric	Net Coke Imports ²	Electricity Sales	Electrical Energy Losses ³	Total Energy Consumed	Yearly Cumulative Energy Consumed	
Quadrillion (10 ¹⁵) Btu										
1973	TOTAL	4.349 ✓	10.395 R	6.683 R	0.035 ✓	(0.008) ✓	2.341 ✓	5.678 R	29.472 R	
1974	TOTAL	4.048 ✓	10.010 R	6.506 R	0.033 ✓	0.059 ✓	2.337 ✓	5.755 R	28.748 R	
1975	TOTAL	3.797 ✓	8.533 R	6.160 R	0.032 ✓	0.014 ✓	2.304 R	5.669 R	26.510 R	
1976	TOTAL	3.786 ✓	8.769 R	6.951 R	0.033 ✓	0.000 ✓	2.525 R	6.163 R	28.226 R	
1977	TOTAL	3.498 ✓	8.643 R	7.692 R	0.033 ✓	0.015 ✓	2.635 R	6.510 R	29.026 R	
1978	TOTAL	3.372 ✓	8.540 R	7.840 R	0.032 ✓	0.131 ✓	2.732 R	6.671 R	29.317 R	
1979	TOTAL	3.636 ✓	8.554 R	9.263 R	0.034 ✓	0.066 ✓	2.873 ✓	6.970 R	31.396 R	
1980	January	0.319	0.858	R0.910	0.003	0.003	0.230	R0.586	R2.910	R2.910
	February	0.296	0.708	0.807	0.003	(0.001)	0.234	0.545	2.592	R5.502
	March	0.302	0.733	R0.789	0.003	(0.003)	0.236	0.576	R2.635	R8.137
	April	0.295	0.572	R0.707	0.003	(0.005)	0.232	0.551	R2.355	R10.492
	May	0.286	0.602	R0.700	0.003	(0.006)	0.229	0.606	R2.421	R12.913
	June	0.260	0.565	R0.647	0.003	(0.004)	0.228	0.605	R2.304	R15.217
	July	0.237	0.597	R0.624	0.003	(0.004)	0.224	0.592	R2.272	R17.488
	August	0.239	0.577	R0.621	0.002	(0.003)	0.230	0.553	R2.219	R19.708
	September	0.233	0.667	R0.683	0.002	(0.004)	0.237	0.527	R2.346	R22.053
	October	0.262	0.847	R0.732	0.002	(0.006)	0.237	0.570	R2.643	R24.696
	November	0.272	0.863	R0.734	0.002	(0.002)	0.231	R0.575	R2.675	R27.372
	December	0.296	0.861	R0.853	0.002	(0.001)	0.234	R0.590	R2.835	R30.207
	TOTAL	3.297 R	8.451 R	R8.806 R	0.033 ✓	(0.037) ✓	2.781 ✓	R6.875 R	R30.207 R	
1981	January	0.310	0.706	0.794	0.003	0.000	0.229	0.557	2.598	2.598
	February	0.287	0.512	0.665	0.003	(0.001)	0.230	0.511	2.206	4.804
	March	0.290	0.679	0.678	0.003	(0.003)	0.234	0.576	2.458	7.262
	April	0.263	0.597	0.609	0.003	(0.001)	0.232	0.562	2.265	9.527
	May	0.241	0.692	0.646	0.003	0.000	0.235	0.602	2.419	11.946
	June	0.234	0.623	0.614	0.003	(0.004)	0.244	0.646	2.361	14.307
	July	R0.273	0.681	0.609	0.003	0.000	0.245	0.623	R2.434	R16.741
	August	R0.277	0.709	0.587	0.002	0.000	0.246	0.598	R2.419	R19.160
	September	R0.269	R0.698	R0.608	0.002	(0.002)	0.242	R0.542	R2.360	R21.520
	October	0.262	0.836	R0.651	0.002	(0.003)	0.236	R0.567	R2.551	R24.070
	November	0.275	0.832	0.604	0.002	0.000	0.226	0.560	2.499	26.570
	December	0.268	0.902	0.748	0.002	0.000	0.222	0.556	2.699	29.269
	TOTAL	3.248 R	8.467 R	7.813 R	0.033 ✓	(0.014) R	2.821 ✓	6.901 R	29.269 R	

Geographic coverage: the 50 United States and District of Columbia.

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

¹The Industrial Sector is made up of construction, manufacturing, agriculture, and mining establishments. Notes on the methodology used for sector calculations are provided in the Notes and Sources at the end of this section.

²Net imports equals imports minus exports. Parentheses indicate exports are greater than imports.

³Proportion of total electrical energy losses incurred in the generation and transmission of electricity plus plant use and unaccounted for that are attributed to this sector.

R = Revised data.

Source: *See Notes and Sources at the end of this section.

Consumption

Consumption of Energy by the Transportation Sector¹

		Coal	Natural Gas (Dry)	Petroleum	Electricity Sales	Electrical Energy Losses ²	Total Energy Consumed	Yearly Cumulative Energy Consumed
		Quadrillion (10 ¹⁵) Btu						
1973	TOTAL	0.003 ✓	0.743 ✓	17.745 ✓	0.009 ✓	0.020 R	18.519 R	
1974	TOTAL	0.002 ✓	0.685 ✓	17.309 R	0.009 ✓	0.021 R	18.026 R	
1975	TOTAL	0.001 ✓	0.595 ✓	17.547 ✓	0.010 ✓	0.024 R	18.177 ✓	
1976	TOTAL	(³) ✓	0.559 ✓	18.469 ✓	0.010 ✓	0.025 ✓	19.063 R	
1977	TOTAL	(³) ✓	0.543 ✓	19.157 ✓	0.010 ✓	0.024 R	19.735 R	
1978	TOTAL	(³) ✓	0.539	20.044 ✓	0.009 ✓	0.021 R	20.613 R	
1979	TOTAL	(³)	0.612 ✓	19.778 R	0.010 ✓	0.024 R	20.425 R	
1980	January	(³)	0.069	R1.608	0.001	0.002	R1.680	R1.680
	February	(³)	0.066	R1.543	0.001	0.002	R1.612	R3.292
	March	(³)	0.063	1.569	0.001	0.002	1.635	R4.927
	April	(³)	0.047	R1.532	0.001	0.002	R1.582	R6.509
	May	(³)	0.041	R1.528	0.001	0.002	R1.572	R8.082
	June	(³)	0.038	R1.474	0.001	0.002	R1.515	R9.597
	July	(³)	0.039	R1.537	0.001	0.002	R1.580	R11.177
	August	(³)	0.038	1.503	0.001	0.002	R1.544	R12.720
	September	(³)	0.039	1.473	0.001	0.002	1.515	R14.235
	October	(³)	0.047	R1.562	0.001	0.002	R1.612	R15.847
	November	(³)	0.054	R1.450	0.001	0.002	R1.507	R17.354
	December	(³)	0.065	R1.630	0.001	0.002	R1.698	R19.052
	TOTAL	(³)	0.607 R	R18.409 R	0.011 -	0.025 R	R19.052 R	
1981	January	(³)	0.068	1.628	0.001	0.002	1.700	1.700
	February	(³)	0.057	1.395	0.001	0.002	1.456	3.156
	March	(³)	0.058	1.500	0.001	0.002	1.561	4.716
	April	(³)	0.046	1.448	0.001	0.002	1.496	6.213
	May	(³)	0.044	1.475	0.001	0.002	1.522	7.735
	June	(³)	0.040	1.520	0.001	0.002	1.563	9.298
	July	(³)	0.041	1.546	0.001	0.002	1.590	10.888
	August	(³)	0.041	1.502	0.001	0.002	1.546	12.435
	September	(³)	R0.039	R1.467	0.001	0.002	R1.510	R13.944
	October	(³)	0.047	R1.512	0.001	0.002	R1.562	R15.506
	November	(³)	0.052 R	1.448 R	0.001 ✓	0.002 ✓	1.503 R	17.009 R
	December	(³)	0.064 R	1.577 R	0.001 ✓	0.002 ✓	R1.645	R18.654
	TOTAL	(³)	0.599 R	18.018 R	0.011 ✓	0.026 R	18.654 R	

Geographic coverage: the 50 United States and District of Columbia.

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

¹The Transportation Sector consists of both private and public passenger and freight transportation, as well as government transportation, including military operations. Notes on the methodology used for sector calculations are provided in the Notes and Sources at the end of this section.

²Proportion of total electrical energy losses incurred in the generation and transmission of electricity plus plant use and unaccounted for that are attributed to this sector.

³Since 1976 the amount of coal consumed by the Transportation Sector has been negligible.

R=Revised data.

Source: •See Notes and Sources at the end of this section.

Consumption

Consumption of Energy by the Electric Utilities

		Coal ¹	Natural Gas (Dry)	Petroleum ²	Hydro-electric power ³	Nuclear Electric Power	Other ⁴	Total Energy Consumed	Yearly Cumulative Energy Consumed
Quadrillion (10 ¹⁵) Btu									
1973	TOTAL	8.658 ✓	3.748 ✓	3.671 ✓	2.975 ✓	0.910 ✓	0.046 ✓	20.008 ✓	
1974	TOTAL	8.535 ✓	3.519 ✓	3.499 ✓	3.276 ✓	1.272 ✓	0.056 ✓	20.156 ✓	
1975	TOTAL	8.786 ✓	3.240 ✓	3.231 ✓	3.187 ✓	1.900 ✓	0.072 ✓	20.416 ✓	
1976	TOTAL	9.720 ✓	3.152 ✓	3.454 ✓	3.032 ✓	2.111 ✓	0.081 ✓	21.549 ✓	
1977	TOTAL	10.243 ✓	3.284 ✓	4.028 ✓	2.482 ✓	2.702 ✓	0.082 ✓	22.821 ✓	
1978	TOTAL	10.236 ✓	3.297 ✓	3.813 ✓	3.132 R	2.977 R	0.068 ✓	23.523 R	
1979	TOTAL	11.264 ✓	3.609 ✓	3.357 ✓	3.132 R	2.748 R	0.089 ✓	24.199 R	
1980	January	1.073	0.285	R0.311	0.282	0.213	0.008	R2.171	R2.171
	February	1.012	0.272	R0.293	0.240	0.208	0.008	R2.032	R4.203
	March	0.995	0.292	R0.267	0.272	0.216	0.008	R2.050	R6.252
	April	0.867	0.264	R0.236	0.286	0.202	0.008	R1.864	R8.116
	May	0.883	0.290	0.223	0.319	0.198	0.010	1.924	R10.040
	June	0.976	0.347	0.223	0.306	0.197	0.009	R2.058	R12.098
	July	1.143	0.433	0.228	0.273	0.226	0.010	R2.314	R14.412
	August	1.134	0.418	0.226	0.231	0.262	0.011	2.282	R16.694
	September	1.021	0.368	0.228	0.210	0.254	0.010	2.091	R18.784
	October	0.961	0.310	0.226	0.204	0.264	0.011	1.976	R20.761
	November	0.974	0.263	R0.241	0.218	0.226	0.011	R1.932	R22.693
	December	1.090	0.249	R0.272	0.251	0.238	0.011	R2.111	R24.804
	TOTAL	12.127 R	3.792 R	R2.973 R	3.092 R	2.704 R	0.114 ✓	R24.804 ✓	
1981	January	1.158	0.239	0.294	0.251	0.252	0.011	2.205	2.205
	February	1.021	0.231	0.234	0.237	0.233	0.010	1.965	4.170
	March	1.031	0.281	0.213	0.233	0.237	0.011	2.006	6.176
	April	0.930	0.296	0.180	0.234	0.222	0.010	1.873	8.049
	May	0.959	0.324	0.180	0.269	0.212	0.010	1.955	10.004
	June	1.065	0.399	0.195	0.293	0.228	0.010	2.189	12.192
	July	1.196	0.422	0.202	0.280	0.249	0.011	2.360	14.553
	August	1.157	0.402	0.187	0.244	0.290	0.011	2.292	16.844
	September	1.033	0.335	R0.185	0.204	0.263	0.011	R2.030	R18.874
	October	1.018 ✓	0.311 R	R0.191 R	0.207 R	0.221 R	0.011 ✓	R1.960	R20.833
	November	1.001 ✓	0.267 R	0.187 R	0.216 R	0.245 R	0.010 ✓	1.926	22.759
	December	1.097 R	0.254 R	0.218 R	0.236 R	0.256 R	0.011 R	2.071	24.830
	TOTAL	12.666 R	3.759 R	2.466 R	2.904 R	2.908 R	0.128 R	24.830 R	

Geographic coverage: the 50 United States and District of Columbia.

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

¹Includes bituminous coal, lignite, and anthracite.

²Based on deliveries to utilities.

³Includes net imports of electricity.

⁴Includes geothermal power and electricity produced from wood and waste.

R=Revised data.

Source: *See Notes and Sources at the end of this section.

Consumption

Energy Consumption Summary for November 1981 Quadrillion (10¹⁵) Btu

Primary Energy Source	Sector				TOTAL
	Residential and Commercial	Industrial	Transportation	Electric Utilities	
Coal	0.015	0.275	0.000	1.001	1.292
Natural Gas (dry)	0.595	0.832	0.052	0.267	1.746
Petroleum	0.307	0.604	1.448	0.187	2.547
Hydroelectric	0.000	0.002	0.000	0.216	0.218
Nuclear	0.000	0.000	0.000	0.245	0.245
Net Coke Imports	0.000	0.000	0.000	0.000	(0.000)
Other	0.000	0.000	0.000	0.010	0.010
TOTAL PRIMARY ENERGY	0.918	1.714	1.500	1.926	6.058
Electricity Sales	0.327	0.226	0.001	(0.553)	
Net Energy Consumption	1.245	1.940	1.501		4.686
Electrical Energy Losses	0.810	0.560	0.002	(1.372)	1.372
TOTAL ENERGY CONSUMED	2.055	2.499	1.503		6.058

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

Notes and sources for this table and all other tables in this section are provided at the end of this section.

Consumption

Energy Consumption Summary for December 1981* Quadrillion (10¹⁵) Btu

Primary Energy Source	Sector				TOTAL
	Residential and Commercial	Industrial	Transportation	Electric Utilities	
Coal	0.021	0.268	0.000	1.097	1.390
Natural Gas (dry)	0.955	0.902	0.064	0.254	2.175
Petroleum	0.329	0.748	1.577	0.218	2.872
Hydroelectric	0.000	0.002	0.000	0.236	0.239
Nuclear	0.000	0.000	0.000	0.256	0.256
Net Coke Imports	0.000	(0.000)	0.000	0.000	(0.000)
Other	0.000	0.000	0.000	0.011	0.011
TOTAL PRIMARY ENERGY	1.304	1.921	1.642	2.071	6.942
Electricity Sales	0.368	0.222	0.001	(0.591)	
Net Energy Consumption	1.672	2.143	1.643		5.463
Electrical Energy Losses	0.921	0.556	0.002	(1.479)	1.479
TOTAL ENERGY CONSUMED	2.593	2.699	1.645		6.942

*Preliminary data.

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

Notes and sources for this table and all other tables in this section are provided at the end of this section.

Notes and Sources for the Consumption Section

1. See Explanatory Note 5 in the Explanatory Notes Section located at the end of this publication for definitions of the Residential and Commercial, Industrial, Transportation, and Electric Utilities Sectors.

2. **Coal:** Coal is anthracite, bituminous coal, and lignite.

Sources:

- Anthracite—1973 through 1976: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*, "Coal—Pennsylvania Anthracite, Annual."

1977 forward: U.S. Department of Energy (DOE), Energy Information Administration (EIA), *Energy Data Reports*, "Weekly Coal Report."

- Bituminous coal and lignite—1973 through 1975: U.S. DOI, BOM, *Minerals Yearbook*, "Bituminous Coal and Lignite, Annual," Federal Power Commission (FPC), Form 4, "Monthly Power Plant Report." 1976 forward: DOE, EIA, *Energy Data Reports*, "Weekly Coal Report."

- Electric Utilities consumption of coal: same as Note 6 below.

3. **Natural Gas:** Total natural gas consumption is estimated monthly based on a supply disposition balance calculation. Residential and Commercial Sector monthly consumption is estimated by allocating the EIA annual Residential and Commercial Sectors consumption to the months in proportion to the American Gas Association (AGA) monthly sales to the Residential and Commercial Sectors. For incomplete years, the AGA monthly sales data are used temporarily. Monthly Transportation consumption (which is natural gas for pipeline use) for complete years is estimated by allocating the EIA annual Transportation total to the months based on each month's total natural gas consumption as a share of the annual total natural gas consumption. For incomplete years, each month's Transportation total is estimated by applying the percentage of total natural gas accounted for by the Transportation Sector in the same month a year ago to the current month's total natural gas consumption. Electric Utilities consumption of natural gas is available monthly from Form 4, "Monthly Power Plant Report." Each month's Industrial Sector consumption is estimated by subtracting the Residential and Commercial, Transportation, and Electric Utilities Sectors consumption from the total natural gas consumption.

Sources:

- 1973 through 1975: DOI, BOM, *Minerals Yearbook*, "Natural Gas" chapter.

- 1976 forward: DOE, *Energy Data Reports*, "Natural Gas Production and Consumption."

- Electric Utilities consumption—1973 through 1976: FPC Form 4, "Monthly Power Plant Report." 1977 forward: DOE, EIA, FPC, Form 4, "Monthly Power Plant Report."

- American Gas Association, "Monthly Gas Utility Statistical Report."

4. **Petroleum:** Petroleum consumption by end-use is the sum of all individual petroleum products consumed in each end-use sector. First, total consumption by product is determined. Petroleum consumption in this section of the *Monthly Energy Review* uses the series called "products supplied" in the Petroleum Section.

Sources for petroleum products supplied by individual products are

- 1973 through 1975: DOI, BOM, *Mineral Industry Surveys*, "Petroleum Statement, Annual."

- 1976 through 1980: DOE, EIA, *Energy Data Reports*, "Petroleum Statement, Annual."

- 1981 forward: DOE, EIA, *Energy Data Reports*, "Petroleum Statement, Monthly,"

DOE, EIA, "Monthly Petroleum Statistics Report," and

DOE, EIA, estimates for current months where above sources are not yet available.

Each product's total is allocated to end-use sectors as follows:

- Aviation gasoline—All to the Transportation Sector.

- Asphalt and road oil—All to the Commercial Sector for use by government in road maintenance.

- Distillate fuel—Allocated to the major end-use sectors in proportion to the sales of distillate fuel sold to each sector as reported for 1973 through 1975 in the DOI, BOM, *Mineral Industry Surveys*, "Fuel Oil Sales, Annual," and for 1976 through 1979 in the DOE, EIA, *Energy Data Reports*, "Fuel Oil Sales, Annual." In summary, the sectors' proportions are created from sales groupings as follows:

— Residential and Commercial is sales for heating;

— Industrial is sales for industrial use, oil company use, and for miscellaneous use except for that part of the miscellaneous use which is diesel used on the highway and is part of the Transportation Sector;

— Transportation is sales for vessel bunkering, military, railroads, and diesel used on the highway (from the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, since 1979); and

— Electric Utilities is the sales to the electric utilities (except since 1979 when it is deliveries to the electric utilities from the FPC Form 423).

The 1979 shares are used as estimates for succeeding periods until sales after 1979 are developed.

- Jet fuel—Small amounts in 1975 through 1977 are used in industrial and small amounts in all months are consumed by the electric utilities. All remaining jet fuel is allocated to the Transportation Sector.

- Kerosene—Allocated to the major end-use sectors in proportion to the sales of kerosene sold to the Residential and Commercial Sector and the Industrial Sector as reported for 1973 through 1975 in the DOI, BOM, *Mineral Industry Surveys*, "Fuel Oil Sales, Annual," and for 1976 through 1979 in the DOE, EIA, *Energy Data Reports*, "Fuel Oil Sales, Annual";

— Residential and Commercial is sales for heating in the "Fuel Oil Sales, Annual";

— Industrial is sales for "All Other Uses" in the "Fuel Oil Sales, Annual."

The 1979 shares are used as estimates for succeeding periods until sales after 1979 are developed.

- Liquefied petroleum gases (LPG)—Allocated to the major end-use sectors in proportion to the sales of LPG sold to each sector as reported for 1973 through 1975 in the DOI, BOM, *Mineral Industry Surveys*, "Sales of Liquefied Gases and Ethane," and for 1976 through 1979 in the DOE, EIA, *Energy Data Reports*, "Sales of Liquefied Gases and Ethane." In summary, the sectors' proportions are created from sales groupings as follows:

— Residential and Commercial is sales for residential and commercial use;

— Industrial is sales for industrial use, for miscellaneous uses, to utility gas companies, to chemical plants, and 84 percent of LPG sold for use as internal combustion engine fuel use; and

— Transportation is the remaining 16 percent of LPG sold for use as internal combustion fuel use.

The 1979 shares are used as estimates for the succeeding periods until sales after 1979 are developed.

- Lubricants—Allocated to the Industrial Sector and Transportation Sector for all months according to proportions of sales to those 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 from 1977 forward.

- Motor gasoline—the DOE motor gasoline consumption data are allocated to end-use according to shares derived from the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Tables MF-21, MF-24 and MF-25. In summary, the sectors' proportions are created from sales groupings as follows:

— Residential and Commercial is sales for construction use, for miscellaneous use, for public non-highway use, and for unclassified use;

Notes and Sources for the Consumption Section (continued)

4. Petroleum (continued):

- Industrial is sales for agriculture and industrial and commercial use as classified in *Highway Statistics*; and
- Transportation is sales for highway use (minus the sales of special fuels which is primarily diesel fuel and is accounted for in the Transportation Sector of distillate fuel) and sales for marine use.
- Petroleum coke consumed by the Electric Utilities— FPC, Form 4, "Monthly Power Plant Report." All other petroleum coke is allocated to the Industrial Sector.
- Residual fuel— Allocated to the major end-use sectors in proportion to the sales of residual fuel sold to each sector as reported for 1973 through 1975 in the DOI, BOM, *Mineral Industry Surveys*, "Fuel Oil Sales, Annual," and for 1976 through 1979 in the DOE, EIA, *Energy Data Reports*, "Fuel Oil Sales, Annual." In summary, the sectors' proportions are created from sales groupings as follows:
 - No allocation for Residential Sector;
 - Sales for heating is assigned to the Commercial Sector;
 - Industrial Sector sales is the sum of sales for industrial use, oil company use, and miscellaneous uses;
 - Transportation Sector sales is the sum of sales for vessel bunkering, military, and railroads; and
 - Electric Utility is the sales to the electric utilities (except since 1979 when it is deliveries to the electric utilities from the FPC Form 423)The 1979 shares are used as estimates for succeeding periods until sales after 1979 are developed.
- All other products are allocated to the Industrial Sector.

5. Hydroelectric: Includes electricity generated by hydropower at electric utilities, small amounts in the Industrial Sector, and net imports of electricity, which are assumed to be generated by hydropower and are included in the hydroelectricity in the Electric Utilities Sector.

Sources for Electric Utilities Sector:

- 1973 through 1976, FPC, Form 4, "Monthly Power Plant Report."
- 1977 forward: DOE, EIA, FPC, Form 4, "Monthly Power Plant Report."

Sources for Industrial Sector:

- 1973 through 1978: FPC Forms 4 and 12-C.
- 1979: FPC Form 4 and EIA estimates.
- 1980 forward: EIA estimates.

Note: For 1977 forward, monthly data are not available from above sources and were estimated by seasonalizing the annual numbers in proportion to each month's hydroelectricity generation in the Electric Utility Sector.

Sources for Imports and Exports of Electricity: Annual Data from DOE, Economic Regulatory Administration, "Report on Electric Energy Exchanges with Canada and Mexico." Monthly estimates are derived from annual data by dividing by the number of days in the year and multiplying by the number of days in the month. 1979 estimates are used for succeeding periods until later estimates are developed.

6. Nuclear: Sources:

- 1973 through 1976: FPC, Form 4, "Monthly Power Plant Report."
- 1977 forward: DOE, EIA, FPC, Form 4, "Monthly Power Plant Report."

7. Net Coke Imports: Net coke imports is coke made from coal.

Sources: • 1973 through 1975, DOE, BOM, *Minerals Yearbook*, "Coke and Coal Chemicals, Annual."
• 1976 forward: DOE, EIA, *Energy Data Reports*, "Coke and Coal Chemicals, Monthly."

8. Other Energy: "Other" is electricity produced from geothermal power and from wood and waste.

Sources: same as Note 6 above, for Nuclear.

9. Electricity Sales: The total energy consumed by electric utilities to generate and transmit electricity to the end-users, including all losses, is allocated to the major end-users in proportion to the sales of electricity to the end-use sectors. "Other" sales, largely for use in government buildings, is allocated to the Residential and Commercial Sector, and about 4.2 percent of "Other" is for railroad usage and is counted in the Transportation Sector.

Sources of sales data: 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."

10. Electrical Energy Losses: In generating electricity with nuclear or fossil fuels, approximately 65 percent of the energy is lost in the form of heat. Transmission and distribution losses consume about an additional 3 percent of the energy inputs of the utility industry. In order to fully account for all energy consumed both directly and indirectly (i.e., utilities energy disposition), the electricity losses are allocated to the final end-use sectors in proportion to their direct kilowatt-hour usage, i.e., sales.

Crude Oil and Refined Petroleum Products*

Domestic crude oil production during December 1981 was estimated to be 8.6 million barrels per day. This production rate was 0.2 percent above the rate in December 1980 and 0.1 percent higher than in November 1981.

Total petroleum imports averaged 5.8 million barrels per day in December 1981, 12.8 percent less than the December 1980 rate and 11.5 percent higher than in November 1981.

In December 1981, 16.9 million barrels per day of petroleum products were supplied for domestic use. Motor gasoline accounted for 39.5 percent of the total, distillate fuel oil 18.8 percent, and residual fuel oil 12.6 percent.

Motor gasoline supplied during December 1981 averaged 6.7 million barrels per day, 4.1 percent higher than in November 1981.

In December 1981, 3.2 million barrels of distillate fuel oil were supplied per day, 9.6 percent higher than the November 1981 rate. Distillate fuel oil stocks were 188.7 million barrels at the end of December 1981, 5.5 percent lower than at the end of the previous month.

Residual fuel oil supplied in December 1981 averaged 2.1 million barrels per day, 13.1 percent higher than in November 1981. Residual fuel oil stocks measured 77.3 million barrels at the end of December 1981, 4.6 percent lower than during the previous month.

*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 provisional data for September 1981. The total petroleum import data excludes imports into the Strategic Petroleum Reserve.

Petroleum

Crude Oil

		Crude Input to Refineries	Total Domestic Production ^{1 2}	Alaskan Production	Crude Oil Imports ³	Strategic Petroleum Reserve (SPR) Imports	Crude Oil Exports	Primary Crude Oil Stocks ^{1 3}	Strategic Petroleum Reserve (SPR) Stocks	
		Thousand barrels per day					Thousand barrels			
1973	AVERAGE	12,431	9,208	198	3,244		2	‡242,478		
1974	AVERAGE	12,133	8,774	193	3,477		3	‡265,020		
1975	AVERAGE	12,442	8,375	191	4,105		6	‡271,354		
1976	AVERAGE	13,416	8,132	173	5,287		8	‡285,471		
1977	AVERAGE	14,602	8,245	464	6,594	20	50	‡339,857	‡7,540	
1978	AVERAGE	14,739	8,707	1,229	6,195	162	158	‡309,421	‡66,860	
1979	AVERAGE	14,648	8,552	1,401	6,452	67	235	‡339,074	‡91,191	
1980	January	R14,301	R8,675	1,634	R6,406	0	R322	R357,500	91,191	
	February	R14,187	R8,705	1,630	R6,013	0	R332	R365,965	91,191	
	March	13,709	R8,698	1,647	R5,695	0	R330	R367,420	91,191	
	April	13,484	R8,685	1,649	R5,598	0	R192	R379,788	91,191	
	May	13,326	R8,635	R1,627	R5,106	0	R326	R383,420	91,191	
	June	13,705	R8,554	1,626	5,480	0	365	R381,472	91,191	
	July	R13,264	R8,547	1,612	R4,843	0	238	R378,742	91,191	
	August	R12,984	R8,414	1,612	R4,803	0	78	R387,223	91,191	
	September	R13,313	8,619	1,610	4,653	54	322	R376,388	92,824	
	October	R12,772	R8,532	1,588	R4,637	131	309	R378,503	96,645	
	November	13,119	R8,495	1,561	R4,538	142	289	R373,077	102,320	
	December	13,648	R8,606	1,602	R4,884	198	343	R358,166	107,800	
	AVERAGE	R13,481	8,597	1,617	R5,219	44	R288			
1981	January	13,248	8,533	1,606	4,817	106	339	376,456	112,490	
	February	12,903	8,598	1,619	4,793	80	198	386,793	116,057	
	March	12,383	8,601	1,618	4,382	140	210	397,191	120,860	
	April	12,090	8,543	1,608	4,185	272	198	407,182	134,170	
	May	12,309	8,496	1,580	3,881	386	312	402,273	150,068	
	June	12,415	8,616	1,632	3,766	318	123	392,211	163,081	
	July	12,267	8,422	1,605	4,161	175	257	392,514	173,128	
	August	12,911	8,576	1,602	3,908	257	204	365,219	184,674	
	September	R12,510	R8,586	R1,610	4,279	435	194	R361,428	199,247	
	October	R12,065	R8,541	R1,599	R3,929	453	226	R369,496	214,777	
	November†	R12,261	<i>8,611</i>	<i>1,620</i>	R3,704	R277	278	R372,122	R222,542	
	December†	<i>12,656</i>	<i>8,623</i>	<i>1,629</i>	<i>4,121</i>	<i>191</i>	NA	<i>378,194</i>	<i>229,887</i>	
	AVERAGE	12,500	8,562	1,611	4,157	258	NA			

Geographic coverage: the 50 United States and District of Columbia.

¹Includes lease condensate.

²Includes Alaskan production.

³Excludes Strategic Petroleum Reserve storage that began in October 1977.

†Total as of December 31. ‡Preliminary data. R=Revised data. NA=Not available.

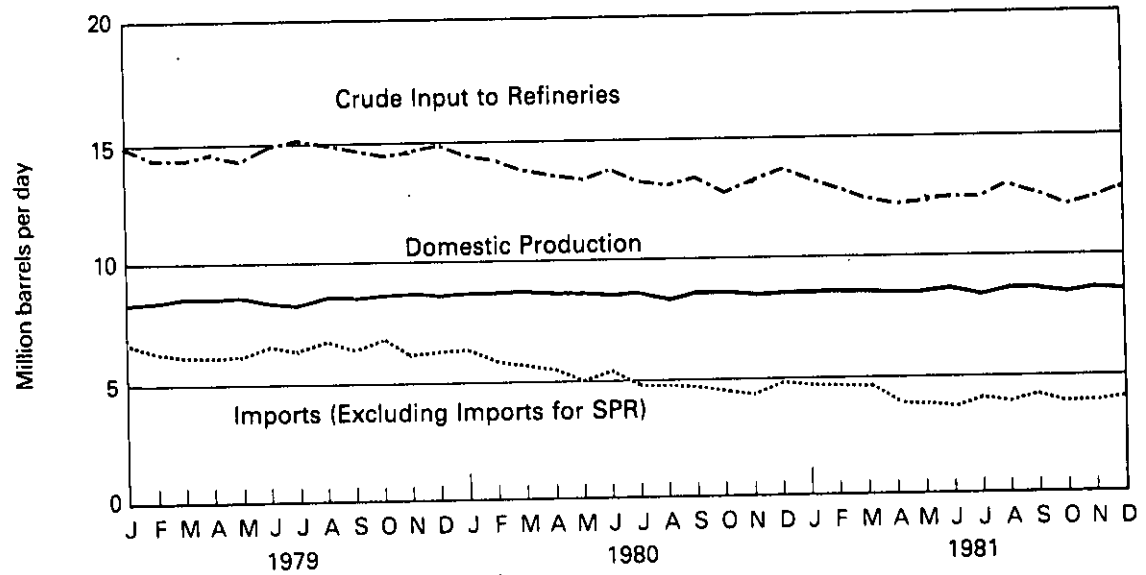
Note: Estimated data are in italics and are likely to be revised.

Sources: *See Sources at the end of this section.

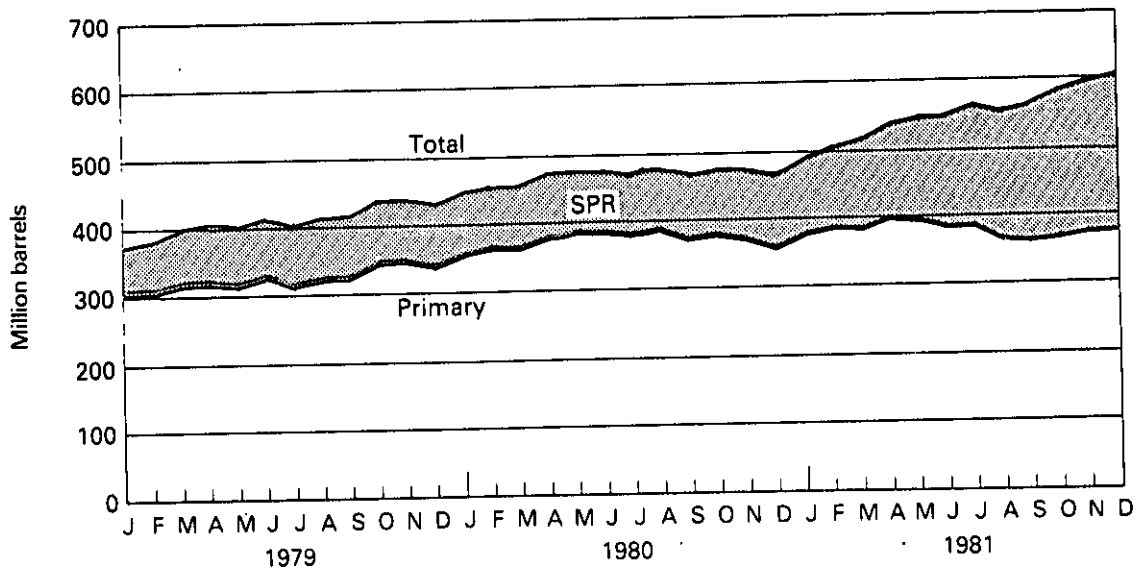
Petroleum

Crude Oil

Production, Refinery Input and Imports



Stocks



Petroleum

		Total Petroleum Products ¹			Total Crude Oil and Petroleum Products Trade				
		Products Supplied ¹	Product Imports ²	Product Exports	Total Imports (Excluding SPR)	SPR Imports ³	Total Imports (Including SPR) ³	Total Exports	Net Imports
		Thousand barrels per day			Thousand barrels per day				
1973	AVERAGE	17,308	3,012	229	6,256			231	6,025
1974	AVERAGE	16,653	2,635	218	6,112			221	5,892
1975	AVERAGE	16,322	1,951	204	6,056			209	5,846
1976	AVERAGE	17,461	2,026	215	7,313			223	7,090
1977	AVERAGE	18,431	2,193	193	8,787	20	8,807	243	8,565
1978	AVERAGE	18,847	2,008	204	8,202	162	8,363	362	8,002
1979	AVERAGE	18,513	1,937	236	8,389	67	8,456	471	7,985
1980	January	R18,851	R2,192	228	R8,598	0	R8,598	R550	R8,048
	February	R18,817	R1,931	227	R7,945	0	R7,945	R558	R7,386
	March	R17,377	R1,757	243	R7,452	0	R7,452	R573	R6,879
	April	R16,784	R1,508	241	R7,106	0	R7,106	R434	R6,672
	May	R16,238	R1,472	266	R6,579	0	R6,579	R591	R5,987
	June	R16,187	R1,414	R289	R6,894	0	R6,894	654	R6,240
	July	R16,008	R1,414	R293	R6,257	0	R6,257	R531	R5,727
	August	R15,753	R1,389	241	R6,192	0	R6,192	319	R5,873
	September	R16,598	R1,532	235	R6,185	54	R6,239	557	R5,682
	October	R16,995	R1,611	288	R6,248	131	R6,379	598	R5,781
	November	R16,702	R1,728	260	R6,266	142	R6,408	549	R5,859
	December	R18,410	1,812	279	R6,696	198	R6,894	622	R6,272
	AVERAGE	R17,056	R1,646	258	R6,865	44	R6,909	R544	R6,365
1981	January	18,288	1,892	219	6,709	106	6,814	558	6,257
	February	16,930	1,904	371	6,697	80	6,777	569	6,208
	March	15,838	1,505	376	5,886	140	6,026	586	5,440
	April	15,280	1,310	372	5,495	272	5,767	570	5,198
	May	15,196	1,436	283	5,317	386	5,702	595	5,107
	June	15,996	1,338	297	5,104	318	5,422	420	5,002
	July	15,713	1,473	314	5,634	175	5,809	571	5,238
	August	15,236	1,572	440	5,480	257	5,737	644	5,093
	September	R15,619	R1,612	325	R5,890	435	R6,326	519	R5,807
	October	R15,840	R1,557	512	R5,486	453	R5,939	738	R5,202
	November†	R15,451	R1,534	423	R5,238	R271	R5,509	701	4,808
	December†	<i>16,865</i>	<i>1,719</i>	NA	<i>5,840</i>	<i>191</i>	<i>6,031</i>	NA	NA
	AVERAGE	16,018	1,570	NA	5,727	258	5,984	NA	NA

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

¹See Definitions.

²Includes plant condensate, natural gasoline, and unfinished oils.

³Strategic Petroleum Reserve storage began in October 1977.

†Preliminary data. R=Revised data. NA=Not available.

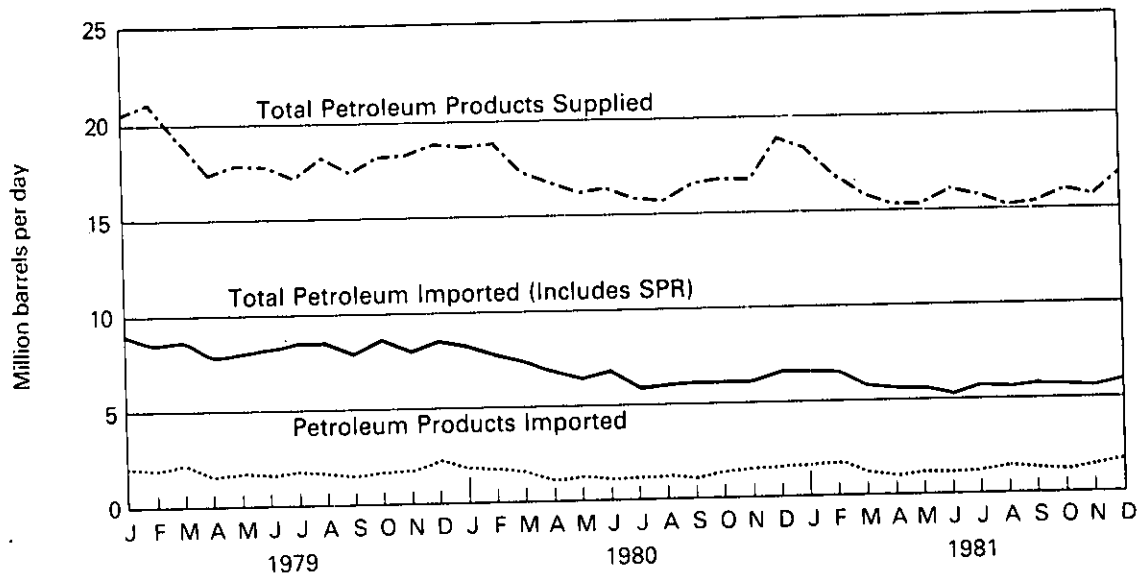
Note: Estimated data are in italics and are likely to be revised.

Sources: *See Sources at the end of this section.

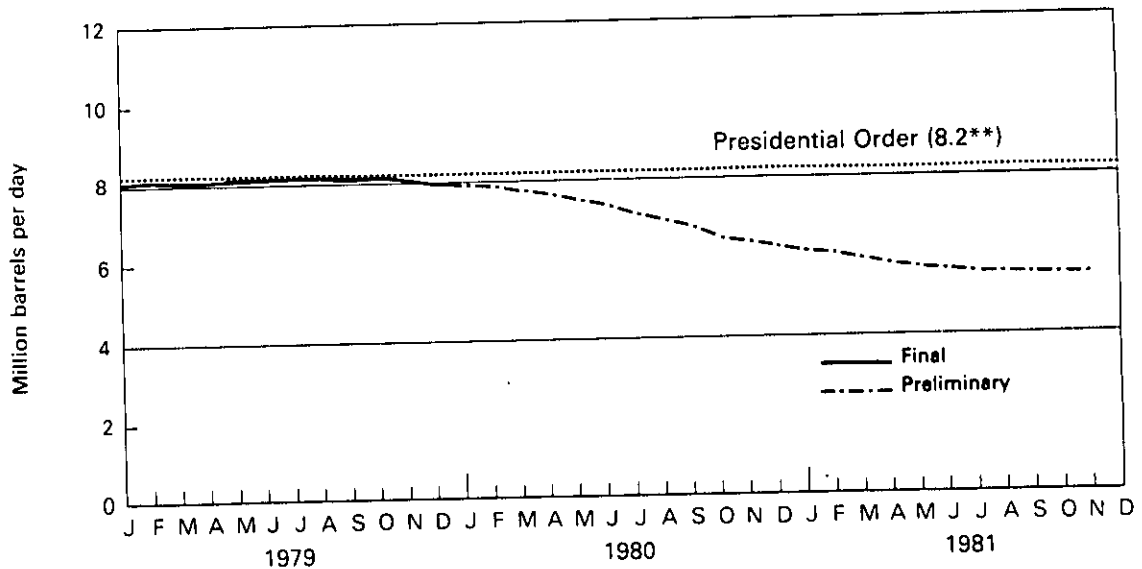
Petroleum

Products Supplied and Imports

Products Supplied and Imports



Net Imports* of Crude Oil and Refined Products
(Average for the Latest 12 Months)



* Includes SPR.

** In his January 1980 State of the Union address, President Carter announced his revised net import ceiling of 8.2 million barrels per day for 1980. The figure was previously 8.5 million barrels per day.

Petroleum

Petroleum Imports from OPEC Sources

	Algeria	Indonesia	Iran	Libya	Nigeria	Saudi Arabia	United Arab Emirates	Venezuela	Other OPEC ¹	Total OPEC	Arab Members of OPEC ²	
Thousand barrels per day												
1973	AVERAGE	136	213	223	164	459	486	71	1,135	106	2,993	915
1974	AVERAGE	190	300	469	4	713	461	74	979	88	3,280	752
1975	AVERAGE	282	390	280	232	762	715	117	702	122	3,601	1,383
1976	AVERAGE	432	539	298	453	1,025	1,230	254	700	134	5,066	2,424
1977	AVERAGE	559	541	535	723	1,143	1,380	335	690	287	6,193	3,185
1978	AVERAGE	649	573	555	654	919	1,144	385	645	226	5,751	2,963
1979	AVERAGE	636	420	304	658	1,080	1,356	281	690	212	5,637	3,056
1980	January	R503	R454	R95	R618	1,054	R1,576	202	R786	179	R5,467	R3,034
	February	R656	317	9	603	R1,036	R1,412	304	543	R152	R5,031	R3,058
	March	472	405	0	654	924	R1,380	R289	352	175	R4,652	R2,889
	April	R546	374	0	683	R734	R1,300	150	R343	R240	R4,369	R2,862
	May	441	360	0	468	955	1,149	172	405	R147	R4,098	R2,329
	June	497	331	0	561	998	R1,328	178	409	R106	4,408	2,598
	July	R557	R365	0	492	R752	R1,192	158	R417	R62	R3,995	R2,418
	August	432	289	0	431	R792	R1,139	142	R406	R112	R3,743	R2,222
	September	375	299	0	505	735	1,112	107	425	111	3,670	2,185
	October	R465	348	0	R478	R728	R1,044	182	482	R95	R3,821	R2,226
	November	493	348	0	500	R624	1,201	105	595	78	R3,944	R2,338
	December	R423	R288	0	R658	958	R1,301	83	610	101	R4,423	R2,484
		AVERAGE	R488	R348	R9	R554	R857	R1,261	R172	R481	R130	R4,300
1981	January	324	424	0	500	908	1,297	93	556	27	4,129	2,214
	February	381	407	0	468	866	1,122	93	466	92	3,895	2,064
	March	352	328	0	485	771	1,027	47	360	54	3,425	1,911
	April	263	314	0	496	826	1,056	85	237	42	3,317	1,916
	May	393	277	0	443	664	929	17	317	124	3,164	1,792
	June	390	355	0	380	519	865	60	248	118	2,934	1,736
	July	333	340	0	251	651	1,073	80	502	38	3,269	1,757
	August	348	377	0	274	321	1,068	61	514	84	3,047	1,751
	September	R336	371	0	154	323	R1,451	96	359	149	R3,238	R2,036
	October	R242	427	0	R147	412	R1,342	90	R383	172	R3,214	R1,820
	November†	185	340	0	132	517	1,236	112	492	55	3,070	1,665
	AVERAGE	322	360	0	338	615	1,133	.76	403	87	3,334	1,877

Geographic coverage: the 50 United States and District of Columbia.

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

¹Includes Ecuador, Gabon, Iraq, Kuwait, and Qatar.

²Includes Algeria, Libya, Saudi Arabia, United Arab Emirates, Iraq, Kuwait, and Qatar.

†Preliminary data. R= Revised data.

Note: Beginning in October 1977, Strategic Petroleum Reserve imports are included.

Sources: • See Sources at the end of this section.

Petroleum

Petroleum Imports from Non-OPEC Sources

		Bahamas	Canada	Mexico	Netherlands Antilles	Puerto Rico	Trinidad and Tobago	Virgin Islands	Other ¹	Total
		Thousand barrels per day								
1973	AVERAGE	174	1,325	16	585	99	255	329	480	3,263
1974	AVERAGE	164	1,070	8	511	90	251	391	347	2,832
1975	AVERAGE	152	846	71	332	90	242	406	314	2,454
1976	AVERAGE	118	599	87	275	88	274	422	382	2,247
1977	AVERAGE	171	517	179	211	105	289	466	676	2,614
1978	AVERAGE	160	467	318	229	94	253	429	663	2,613
1979	AVERAGE	147	538	439	231	92	190	431	751	2,819
1980	January	175	R570	545	289	R57	239	467	R788	R3,131
	February	111	540	R477	205	95	192	R536	R757	R2,914
	March	124	460	460	184	R101	189	R449	R833	R2,800
	April	56	R459	546	231	R76	143	R425	R801	R2,737
	May	77	419	576	R176	88	221	303	R621	R2,481
	June	77	R409	627	R197	91	R162	R314	R610	R2,486
	July	43	378	R460	242	90	180	R378	R491	R2,262
	August	62	319	646	255	85	159	R264	R659	R2,449
	September	58	R458	R550	213	52	205	343	R691	R2,569
	October	70	R475	R605	R230	107	114	R372	R585	R2,557
	November	22	470	R459	R264	108	R158	391	R591	R2,464
	December	54	502	445	212	109	149	423	R576	R2,471
	AVERAGE	78	R455	R533	R225	R88	176	R388	R666	R2,609
1981	January	39	543	401	197	89	150	494	771	2,686
	February	84	546	437	227	46	163	481	897	2,881
	March	74	471	488	227	45	93	370	832	2,601
	April	68	410	440	198	40	139	365	806	2,467
	May	122	366	522	213	58	105	344	807	2,538
	June	51	352	537	196	67	124	262	898	2,488
	July	77	381	384	212	50	177	206	1,053	2,540
	August	69	378	489	255	68	123	184	1,125	2,691
	September	R111	R419	R708	R163	72	169	265	R1,181	R3,088
	October	R63	R446	R668	153	60	121	303	R910	R2,726
	November†	48	454	610	168	76	108	294	681	2,439
		AVERAGE	73	433	517	201	61	133	323	906

Geographic coverage: the 50 United States and District of Columbia.

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

¹Includes Non-OPEC Arab, Western Europe, Angola, U.S.S.R., Rumania, other Western Hemisphere and other Eastern Hemisphere.

†Preliminary data. R=Revised data.

Note: Beginning in October 1977, Strategic Petroleum Reserve imports are included.

Sources: *See Sources at the end of this section.

Petroleum

Motor Gasoline

		Product Supplied ¹			Imports ^{1 2}			Stocks ^{1 2 3}		
		Total	Unleaded	Unleaded Percent of Total	Refinery Production ^{1 3}	Total Motor Gasoline	Finished Motor Gasoline	Exports	Total Motor Gasoline	Finished Motor Gasoline
		Thousand barrels per day						Thousand barrels		
1973	AVERAGE	6,674	NA	NA	6,527	134		4	‡209,395	
1974	AVERAGE	6,537	NA	NA	6,358	204		2	‡218,346	
1975	AVERAGE	6,675	NA	NA	6,518	184		2	‡234,925	
1976	AVERAGE	6,978	NA	NA	6,838	131		3	‡231,387	
1977	AVERAGE	7,177	1,976	27.5	7,031	217		2	‡257,578	
1978	AVERAGE	7,412	2,521	34.0	7,167	190		1	‡237,956	
1979	AVERAGE	7,034	2,798	39.8	6,837	181		(s)	‡237,082	
1980	January	R6,323	2,718	R43.0	6,977	141		1	R262,137	
	February	R6,596	2,969	45.0	6,851	R154		(s)	R274,390	
	March	R6,406	3,032	47.3	R6,509	R155		(s)	R282,720	
	April	R6,800	3,021	44.4	6,268	R155		1	R271,799	
	May	R6,729	2,980	44.3	R6,299	132		1	R263,071	
	June	R6,657	3,099	R46.6	6,552	148		1	R264,823	
	July	R6,743	3,131	R46.4	6,446	149		3	R260,731	
	August	R6,648	3,135	47.2	R6,438	141		1	R258,986	
	September	R6,510	3,054	46.9	6,369	106		7	R258,140	
	October	6,662	3,110	46.7	6,124	152		1	246,422	
	November	R6,234	3,123	50.1	6,456	126		(s)	R257,176	
	December	R6,632	3,421	51.6	6,632	R122		1	261,327	
	AVERAGE	6,579	3,067	46.6	6,492	140		1		
1981	January	6,389	3,113	48.7	6,677	152	138	(s)	276,511	226,686
	February	6,293	3,100	49.3	6,269	121	111	1	283,983	229,465
	March	6,303	3,095	49.1	6,202	200	170	(s)	284,859	231,977
	April	6,585	3,278	49.8	6,110	195	174	(s)	271,782	223,240
	May	6,608	3,117	47.2	6,119	159	146	1	258,187	212,729
	June	7,001	3,418	48.8	6,219	195	161	1	241,671	194,200
	July	6,817	3,417	50.1	6,415	124	118	(s)	227,131	185,451
	August	6,645	3,343	50.3	6,614	167	125	3	232,474	188,333
	September	R6,660	R3,334	R50.1	R6,565	193	169	2	R237,015	R190,558
	October	R6,598	R3,250	49.3	R6,446	161	143	3	R234,983	R190,240
	November†	R6,410	3,204	50.0	R6,582	R185	145	1	R246,959	199,772
	December†	6,670	NA	NA	6,723	131	NA	NA	249,952	NA
	AVERAGE	6,583	NA	NA	6,413	165	NA	NA		

Geographic coverage: the 50 United States and District of Columbia.

¹Beginning in January 1981, the Energy Information Administration modified its monthly petroleum surveys. Non-refinery blenders were added to the reporting universe and gasohol was included as a motor gasoline component. On the new basis motor gasoline production and product supplied during the last half of 1980 would have averaged 289,000 barrels per day higher than shown.

²Total motor gasoline includes finished motor gasoline and blending components.

³See Definitions.

†Total as of December 31. †Preliminary data. R=Revised data. NA=Not available. (s)=Less than 500 barrels per day.

Note: Estimated data are in italics and are likely to be revised.

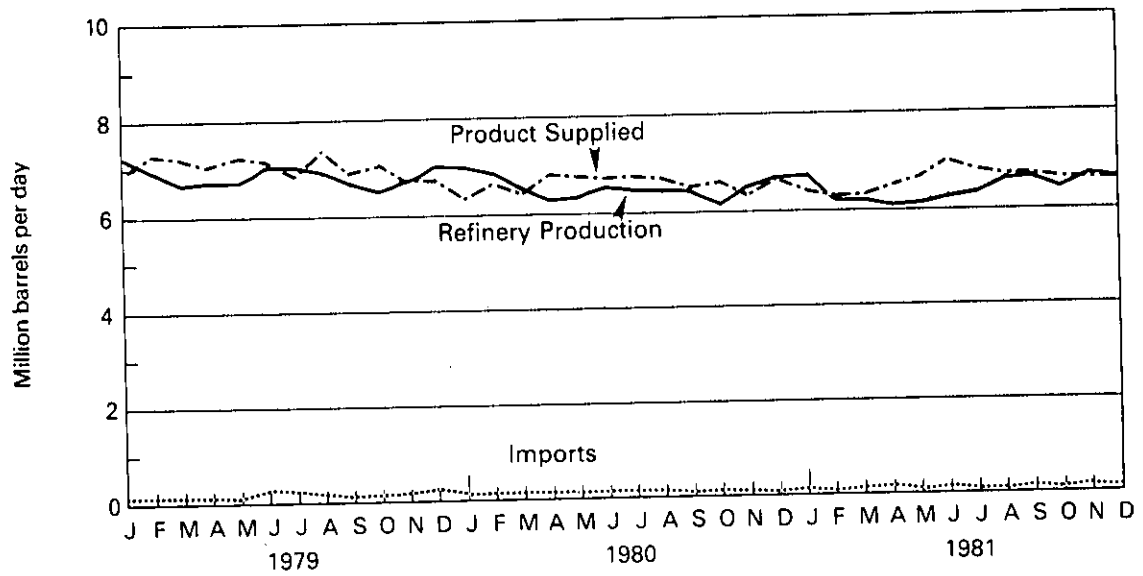
Note: Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with 1975.

Sources: •See Sources at the end of this section.

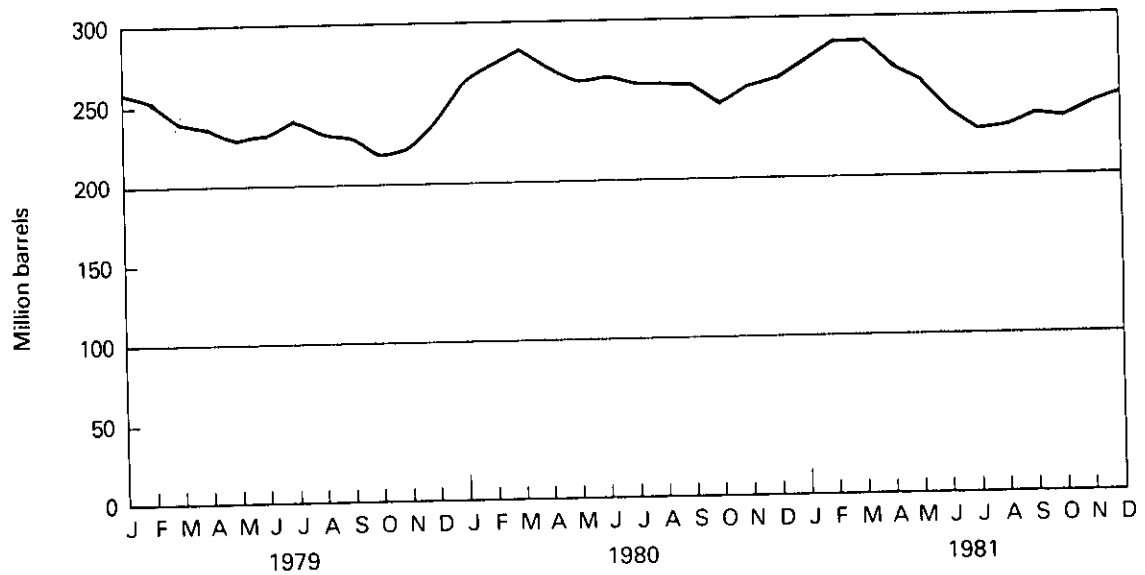
Petroleum

Motor Gasoline

Product Supplied, Refinery Production and Imports



Stocks



Petroleum

Jet Fuel

		Product Supplied	Refinery Production	Imports	Exports	Stocks
		Thousand barrels per day				Thousand barrels
1973	AVERAGE	1,059	859	212	4	‡28,544
1974	AVERAGE	993	836	163	3	‡29,435
1975	AVERAGE	1,001	871	133	2	‡30,380
1976	AVERAGE	987	918	76	2	‡32,085
1977	AVERAGE	1,039	973	75	2	‡34,548
1978	AVERAGE	1,057	970	86	1	‡33,665
1979	AVERAGE	1,076	1,012	78	1	‡38,520
1980	January	R1,103	1,004	R96	1	38,412
	February	1,072	1,026	43	2	38,258
	March	1,116	1,031	R100	2	R38,674
	April	R1,108	1,023	R110	3	39,339
	May	R1,008	R1,002	R73	2	R41,346
	June	R1,058	1,004	86	1	42,283
	July	1,110	974	93	2	R40,904
	August	1,043	959	67	1	40,331
	September	R1,055	1,041	77	1	R42,178
	October	R1,031	R976	R86	1	R43,112
	November	R1,025	988	R63	1	R43,904
	December	R1,082	962	60	1	42,031
		AVERAGE	R1,068	999	81	1
1981	January	1,060	956	12	1	39,478
	February	1,016	949	41	1	38,726
	March	1,055	995	76	(s)	39,206
	April	965	960	55	1	40,690
	May	924	1,006	47	1	44,668
	June	1,038	993	68	(s)	45,372
	July	1,086	1,038	35	1	44,926
	August	1,025	977	47	1	44,899
	September	R1,031	R934	R45	1	R43,313
	October	R934	R903	R14	(s)	R42,772
	November†	R986	R962	R4	1	R41,920
	December†	1,055	981	8	NA	40,123
		AVERAGE	1,015	971	38	NA

Geographic coverage: the 50 United States and District of Columbia.

‡Total as of December 31. †Preliminary data. R=Revised data. NA=Not available. (s)=Less than 500 barrels per day.

Note: Estimated data are in italics and are to be revised.

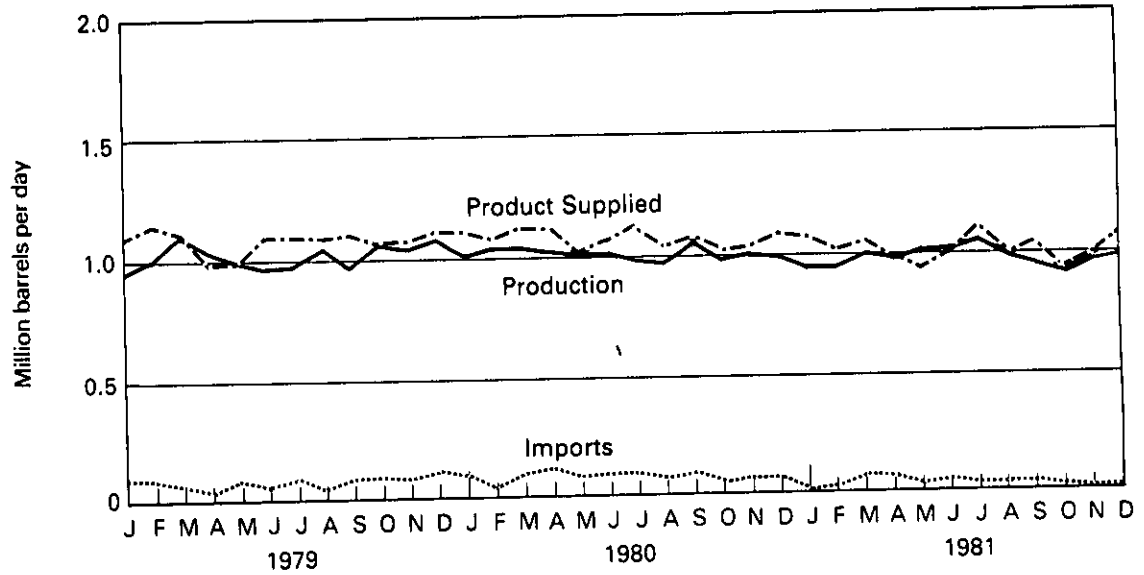
Note: Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with 1975.

Sources: •See Sources at the end of this section.

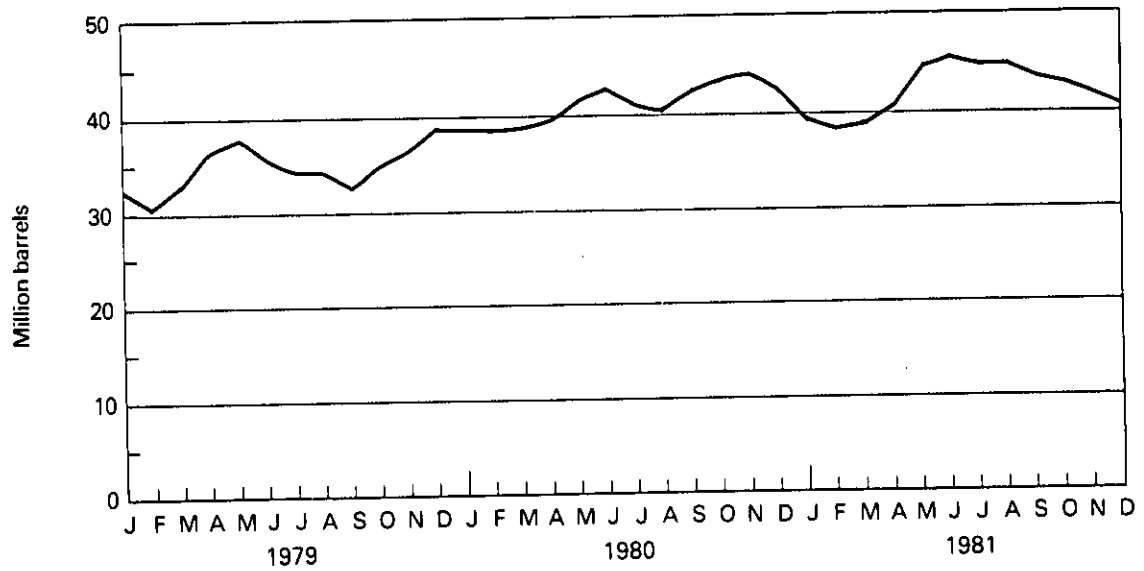
Petroleum

Jet Fuel

Product Supplied, Refinery Production and Imports



Stocks



Petroleum

Distillate Fuel Oil

		Product Supplied ¹	Refinery Production ²	Imports	Exports	Stocks ³
		Thousand barrels per day				Thousand barrels
1973	AVERAGE	3,092	2,820	392	9	‡196,421
1974	AVERAGE	2,948	2,668	289	2	‡200,029
1975	AVERAGE	2,851	2,653	155	1	‡208,787
1976	AVERAGE	3,133	2,924	146	1	‡185,948
1977	AVERAGE	3,352	3,277	250	1	‡250,260
1978	AVERAGE	3,432	3,167	173	3	‡216,439
1979	AVERAGE	3,311	3,152	193	3	‡228,712
1980	January	R3,714	R3,013	179	7	R212,394
	February	R3,712	R2,766	R237	8	R191,657
	March	R3,179	R2,557	R193	19	R177,866
	April	R2,635	R2,460	R154	2	R177,241
	May	2,402	R2,474	126	1	R183,405
	June	R2,317	R2,646	108	(s)	R196,566
	July	R2,249	R2,689	117	3	R213,835
	August	R2,137	R2,461	77	(s)	R226,331
	September	R2,587	R2,686	101	(s)	R232,373
	October	R2,920	2,589	115	(s)	R225,707
	November	R2,949	R2,703	133	(s)	R222,365
	December	R3,615	R2,891	166	(s)	R205,132
	AVERAGE	R2,866	R2,661	R142	3	
1981	January	4,090	2,987	273	(s)	180,004
	February	3,395	2,809	325	17	172,528
	March	2,891	2,484	144	(s)	164,638
	April	2,541	2,418	116	3	164,634
	May	2,395	2,454	165	(s)	171,918
	June	2,437	2,501	201	(s)	180,176
	July	2,381	2,403	179	2	186,675
	August	2,384	2,656	159	(s)	200,268
	September	R2,532	R2,610	129	1	R206,766
	October	R2,792	R2,490	117	5	R201,132
	November†	R2,894	R2,729	R114	6	R199,748
	December†	3,173	2,919	114	NA	188,712
	AVERAGE	2,823	2,621	169	NA	

Geographic coverage: the 50 United States and District of Columbia.

¹Beginning in January 1981, the Energy Information Administration modified its monthly petroleum surveys. On the new basis distillate fuel oil production and product supplied in 1980 would have been an average of 105,000 barrels per day higher than shown.

²See Definitions.

‡Total as of December 31. †Preliminary data. R=Revised data. NA=Not available. (s)=Less than 500 barrels per day.

Note: Estimated data are in italics and are likely to be revised.

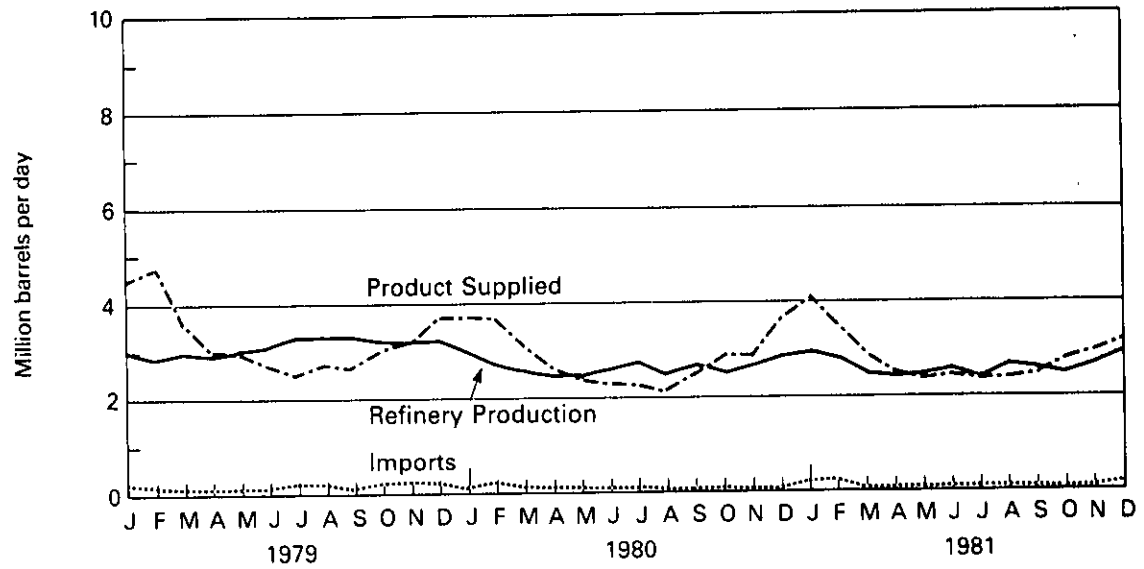
Note: Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with 1975.

Sources: *See Sources at the end of this section.

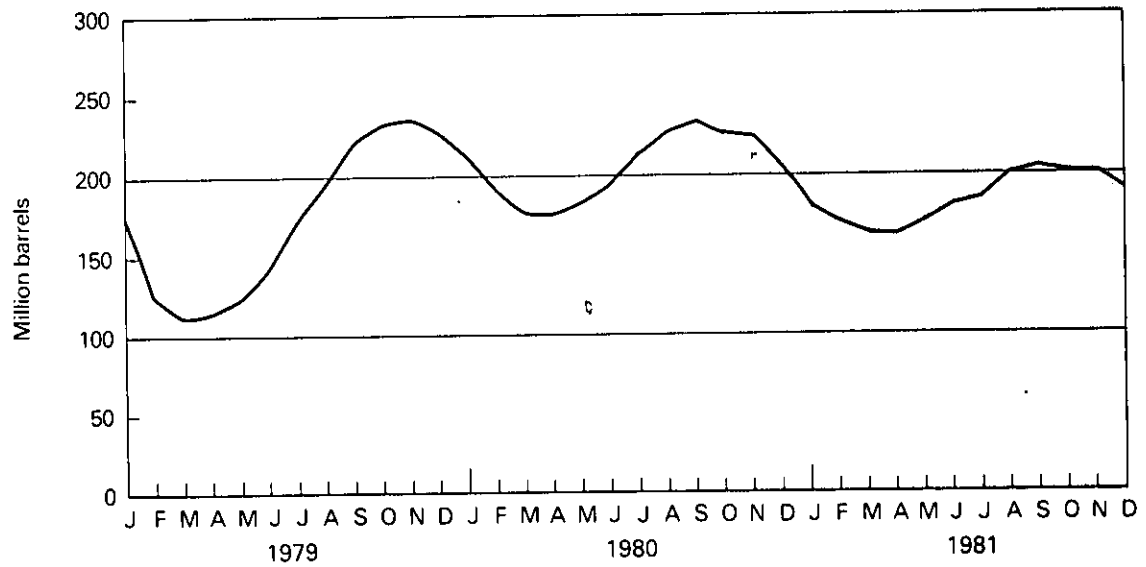
Petroleum

Distillate Fuel Oil

Product Supplied, Refinery Production and Imports



Stocks



Petroleum

Residual Fuel Oil

		Product Supplied ¹	Refinery Production ¹	Imports	Exports	Stocks
		Thousand barrels per day				Thousand barrels
1973	AVERAGE	2,822	971	1,853	23	‡53,480
1974	AVERAGE	2,639	1,070	1,587	14	‡59,694
1975	AVERAGE	2,462	1,235	1,223	15	‡74,126
1976	AVERAGE	2,801	1,377	1,413	12	‡72,344
1977	AVERAGE	3,071	1,754	1,359	6	‡89,993
1978	AVERAGE	3,023	1,667	1,355	13	‡90,194
1979	AVERAGE	2,826	1,687	1,151	9	‡95,598
1980	January	R3,067	R1,771	R1,338	5	R97,187
	February	R3,105	R1,773	R1,122	17	R90,993
	March	R2,658	R1,584	R976	2	R88,302
	April	R2,444	R1,595	R775	¹ 40	R85,252
	May	R2,235	R1,509	812	20	R87,671
	June	R2,321	1,575	749	14	R87,792
	July	R2,291	1,480	787	60	R85,603
	August	R2,286	1,444	875	2	R86,944
	September	R2,359	R1,495	906	21	R87,868
	October	R2,227	R1,512	R875	70	R90,975
	November	R2,451	R1,579	1,024	88	R93,208
	December	R2,679	R1,660	1,025	62	R91,786
		AVERAGE	R2,508	R1,580	R939	33
1981	January	2,870	1,611	1,015	65	82,267
	February	2,549	1,565	956	125	78,230
	March	2,098	1,423	699	145	74,920
	April	1,829	1,320	584	151	73,045
	May	1,769	1,222	735	25	78,542
	June	1,993	1,232	540	76	70,064
	July	1,995	1,174	830	82	69,264
	August	1,849	1,230	819	69	74,813
	September	R1,878	R1,286	841	126	R80,041
	October	R1,865	1,232	R773	202	R79,782
	November†	R1,877	R1,221	R844	203	R80,953
	December†	<i>2,123</i>	<i>1,275</i>	<i>961</i>	NA	<i>77,256</i>
		AVERAGE	2,056	1,314	800	NA

Geographic coverage: the 50 United States and District of Columbia.

¹Beginning in January 1981, the Energy Information Administration modified its monthly petroleum surveys. On the new basis residual fuel oil production and product supplied in 1980 would have been an average of 54,000 barrels per day higher than shown.

²Beginning in April 1980, residual fuel oil exports increased due to shipments of high sulfur fuel to the Caribbean to be desulfurized and returned to the United States. In July 1980, additional exports of high sulfur fuel oil began to be shipped to Asia.

†Total as of December 31. †Preliminary data. R=Revised data. NA=Not available.

Note: Estimated data are in italics and are likely to be revised.

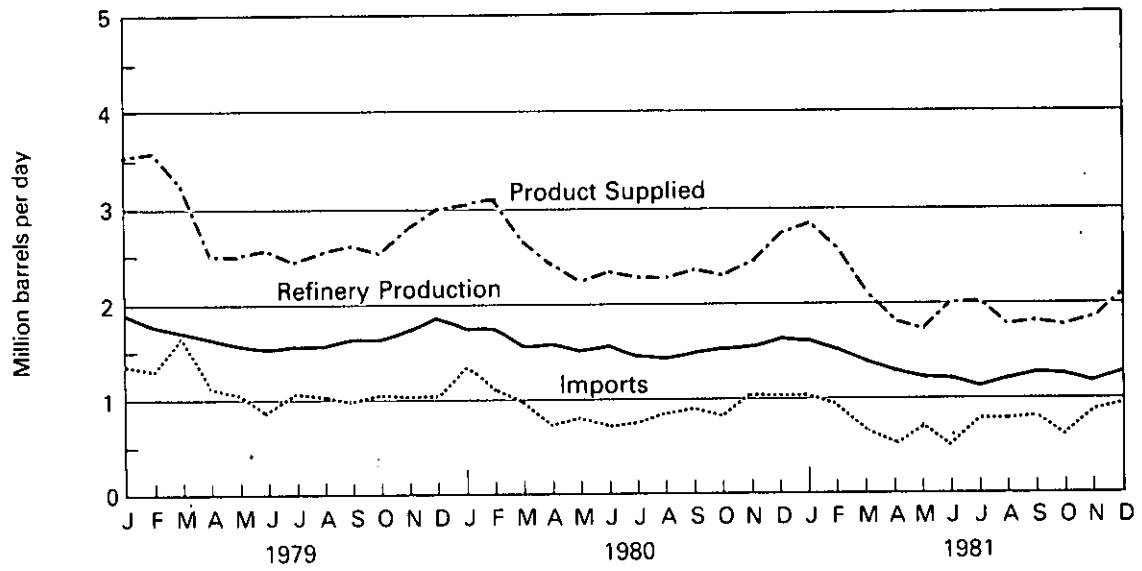
Note: Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with 1975.

Sources: •See Sources at the end of this section.

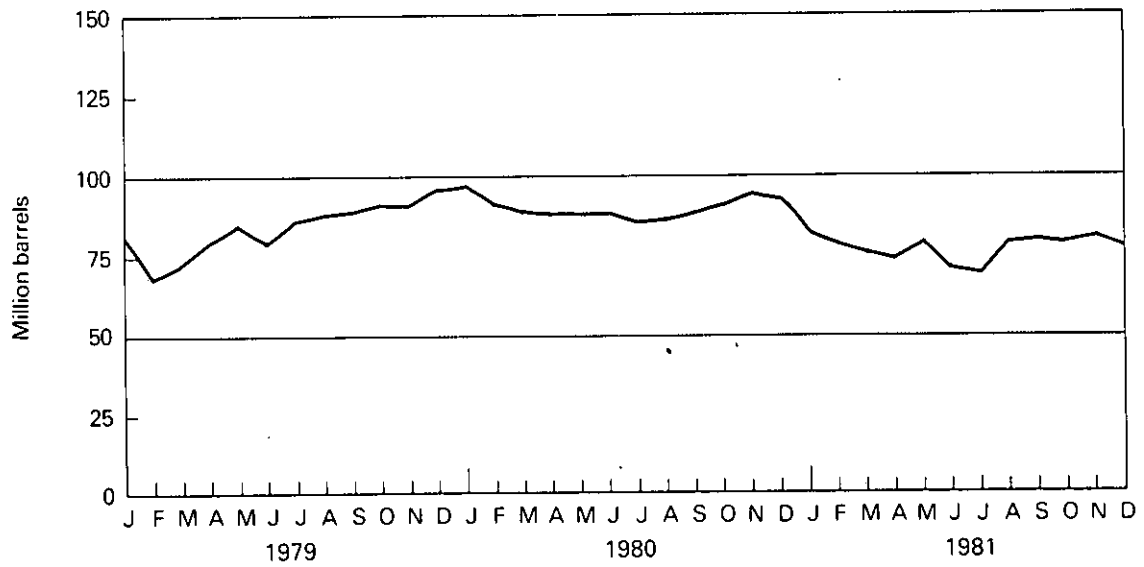
Petroleum

Residual Fuel Oil

Product Supplied, Refinery Production and Imports



Stocks



Petroleum

Natural Gas Plant Liquids, Including Liquefied Refinery Gases

	Products Supplied ¹	Production ¹		Used at Refineries ¹	Imports	Stocks ¹
		At processing plants	At refineries			
		Thousand barrels per day				
1973 AVERAGE	1,454	1,738	375	815	239	‡106,659
1974 AVERAGE	1,422	1,688	338	746	212	‡120,175
1975 AVERAGE	1,352	1,633	311	710	185	‡132,653
1976 AVERAGE	1,407	1,603	340	725	196	‡124,518
1977 AVERAGE	1,427	1,618	352	673	203	‡144,902
1978 AVERAGE	1,416	1,567	355	639	139	‡140,052
1979 AVERAGE	1,695	1,584	340	504	230	‡125,289
1980						
January	R2,174	R1,648	338	R547	282	R110,107
February	R1,924	R1,656	R353	R483	265	R105,260
March	R1,669	R1,568	342	R412	224	R105,973
April	R1,359	R1,630	R335	R400	R196	R117,261
May	R1,470	R1,615	325	R410	R189	R124,318
June	R1,370	R1,561	335	386	193	R133,586
July	R1,217	R1,524	R329	R441	178	R144,450
August	R1,262	R1,519	323	R428	166	R153,771
September	R1,515	R1,515	314	R460	R223	R155,380
October	R1,681	R1,516	R299	501	262	R151,249
November	R1,641	R1,571	324	R553	240	R149,226
December	R2,009	R1,560	346	545	299	³ R137,460
AVERAGE	R1,607	R1,573	R330	R462	R226	
1981						
January	2,010	1,595	324	611	319	134,010
February	1,893	1,615	332	560	338	128,722
March	1,696	1,581	313	484	260	127,279
April	1,405	1,551	322	462	222	133,375
May	1,384	1,554	325	443	197	140,492
June	1,424	1,579	326	471	209	146,376
July	1,349	1,547	307	465	218	153,841
August	1,220	1,582	341	466	201	161,934
September	R1,470	R1,630	R326	R530	R205	R166,185
October	R1,683	R1,601	R298	R569	R313	R162,602
November†	1,471	1,614	298	595	157	160,951
AVERAGE	1,547	1,586	319	514	240	

Geographic coverage: the 50 United States and District of Columbia.

¹See Explanatory Note 7 and Definitions.

²Energy Information Administration (EIA) natural gas plant coverage was expanded in January 1979 to include approximately 80 more plants. Calculated on the new basis, December 1978 closing stocks totaled 147,548 thousand barrels.

³EIA natural gas liquids operations coverage was expanded in January 1981 to include additional storage terminals. Calculated on the new basis, December 1980 closing stocks totaled 146,544 thousand barrels.

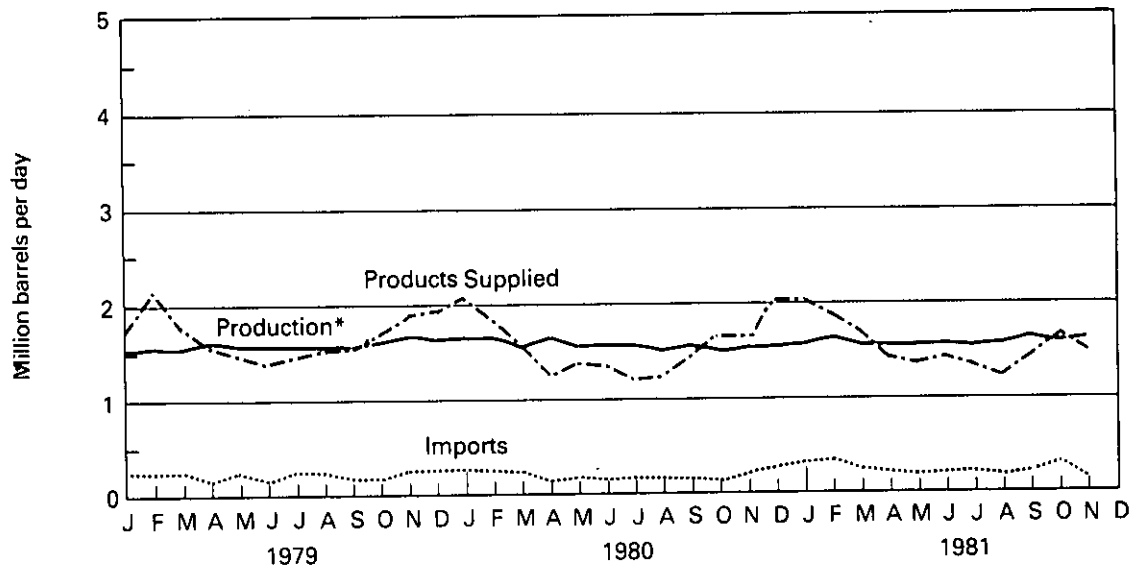
†Total as of December 31. ‡Preliminary data. R=Revised data.

Sources: • See Sources at the end of this section.

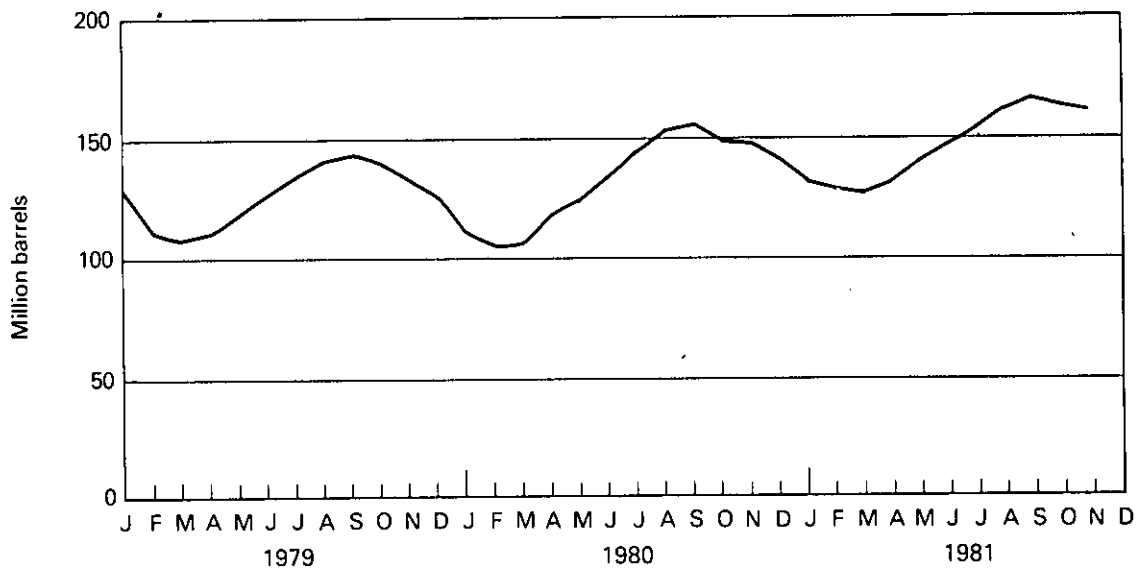
Petroleum

Natural Gas Plant Liquids

Products Supplied, Production and Imports



Stocks



*At processing plants.

Petroleum

Petroleum Primary Supply Balance

	1980				
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Year
	Thousand barrels per day				
Primary Supply					
Crude oil and lease condensate production	8,685	8,625	8,531	8,548	8,597
Natural gas plant liquids production	1,622	1,580	1,513	1,541	1,564
Other hydrocarbon supply	56	49	44	42	48
Crude oil imported ¹	6,029	5,366	4,692	4,806	5,220
Petroleum products imported ²	1,872	1,440	1,418	1,714	1,611
Total new primary supply	18,263	17,059	16,197	16,652	17,040
Processing gain	629	567	593	591	595
Stock change—all oils ³	-1	+753	+393	-557	+146
Total net primary supply	18,893	16,873	16,398	17,800	17,489
Unaccounted for crude oil ⁴	-57	+61	+158	+131	+73
Disposition					
Crude oil and petroleum products exported	547	562	468	590	542
Crude oil losses	15	14	14	14	14
Total products supplied ⁵	18,274	16,358	16,074	17,327	17,006
Total disposition	18,836	16,934	16,556	17,931	17,562
	1981				
	1st Qtr.	2nd Qtr.†	3rd Qtr.†		
Primary Supply					
Crude oil and lease condensate production	8,577	8,549	8,613		
Natural gas plant liquids production	1,596	1,590	1,609		
Other hydrocarbon supply	37	57	53		
Crude oil imported ¹	4,769	4,237	4,368		
Petroleum products imported ²	1,762	1,340	1,472		
Total new primary supply	16,741	15,773	16,113		
Processing gain	528	488	481		
Stock change—all oils ³	-219	+320	+413		
Total net primary supply	17,489	15,941	16,182		
Unaccounted for crude oil ⁴	+109	+66	+19		
Disposition					
Crude oil and petroleum products exported	571	524	579		
Crude oil losses	5	7	14		
Total products supplied ⁵	17,021	15,476	15,608		
Total disposition	17,598	16,007	16,201		

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

¹Includes crude oil imported for the Strategic Petroleum Reserve.

²Includes plant condensate, natural gasoline and unfinished oils.

³Includes petroleum stored in the Strategic Petroleum Reserve.

⁴Balancing item resulting from statistical inconsistencies.

⁵Includes international bunkers.

†Preliminary data.

Sources: • January 1980 through May 1981: Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly."

• June 1981 through September 1981: EIA, "Monthly Petroleum Statistics Report".

• Sources for the *Energy Data Reports* and the "Monthly Petroleum Statistics Report" are shown on the last page of this section.

Sources for the Petroleum Section

- 1973 through 1976: Bureau of Mines, *Mineral Industry Surveys*, "Petroleum Statement, Annual" (except unleaded gasoline) and "PAD Districts Supply/Demand, Annual."
- Unleaded gasoline—1977 through 1980: Energy Information Administration (EIA), "Monthly Petroleum Statistics Report."
- 1977 through 1980: EIA, *Energy Data Reports*, "Petroleum Statement, Annual" and "PAD Districts Supply/Demand, Annual".
- January 1981 through October 1981: EIA, *Energy Data Reports*, "Petroleum Statement, Monthly" and "PAD Districts Supply/Demand, Monthly."
- November 1981: EIA, "Monthly Petroleum Statistics Report".
- Data for the most recent month are estimates based on EIA weekly data (except domestic production).
- Domestic production for the most recent month is an EIA estimate based on historical data from State Conservation Agencies and the U.S. Geological Survey.
- Sources for the *Energy Data Reports* and the "Monthly Petroleum Statistics Report" are: EIA Forms EIA-64 (Natural Gas Liquids Operations Report), EIA-87 (Refinery Report), EIA-88 (Bulk Terminals Report), EIA-89 (Pipeline Report), and EIA-90 (Crude Oil Stock Report); Economic Regulatory Administration (ERA) Forms ERA-60 (Imports) and FEA P133 (Imports from Puerto Rico); Bureau of the Census IM 145 (Imports), EM 522 (Exports), and EM 594 (Exports); U.S. Geological Survey (Crude Production); and State Conservation Agencies (Crude Production).

Natural Gas

Consumption of natural gas in the United States during December 1981 was an estimated 2.1 trillion cubic feet (Tcf). This was 24.6 percent higher than in November 1981 and 1.2 percent less than in December 1980. Estimated consumption during 1981 totaled 19.8 Tcf, 1.4 percent lower than the 1980 level.

Production of dry natural gas in December 1981 was an estimated 1.7 Tcf, 6.2 percent more than in November 1981 and almost the same as in December 1980. Estimated output during 1981 totaled 19.6 Tcf, 1.1 percent higher than during the previous year.

Imports of natural gas in December 1981 were an estimated 85 billion cubic feet (Bcf), 13.3 percent lower than in the previous December. Total imports of natural gas during 1981 were an estimated 868 Bcf, 11.9 percent lower than during 1980. Receipts of foreign gas during 1981 included Algerian liquefied natural gas (LNG) equivalent to approximately 37 Bcf, 57.0 percent less than during the previous year. Exports of natural gas in 1981 totaled an estimated 50 Bcf, almost the same as during 1980.

Domestic producer sales to major interstate pipelines in October 1981 (latest data available) totaled 889 Bcf, 0.6 percent lower than sales for the previous October. Total sales during the first 10 months of 1981 were 9.0 Tcf, approximately 2.9 percent above sales during the comparable 1980 period.

Stocks of working gas* in underground natural gas storage reservoirs at the end of December 1981 totaled 2.8 Tcf, according to preliminary data. This was 6.4 percent above stocks available a year earlier. Net withdrawals from storage during December 1981 were 362 Bcf, 1.6 percent less than during the previous December.

*Gas available for withdrawal.

Natural Gas

		Production			Domestic Producer Sales to Major Interstate Pipelines	Imports	Exports
		Domestic Consumption	Marketed	Dry			
Billion cubic feet							
1973	TOTAL	22,049	22,648	21,731	12,087	1,033	77
1974	TOTAL	21,223	21,601	20,714	11,482	959	77
1975	TOTAL	19,538	20,109	19,237	10,652	953	73
1976	TOTAL	19,946	19,952	19,098	10,140	964	65
1977	TOTAL	19,521	20,025	19,163	9,883	1,011	56
1978	TOTAL	19,627	19,974	19,122	9,911	966	53
1979	TOTAL	20,241	20,471	19,663	10,496	1,253	56
1980	January	2,279	1,817	1,745	981	118	6
	February	2,192	1,705	1,638	898	108	5
	March	2,099	1,827	1,754	960	109	5
	April	1,568	1,667	1,601	897	77	3
	May	1,355	1,692	1,625	859	70	3
	June	1,253	1,583	1,520	794	61	3
	July	1,301	1,613	1,549	825	61	3
	August	1,246	1,572	1,510	828	60	3
	September	1,299	1,577	1,515	800	60	5
	October	1,542	1,647	1,582	894	75	5
	November	1,783	1,651	1,586	906	88	3
	December	2,156	1,794	1,723	963	98	5
	TOTAL	20,073	20,145	19,348	10,605	985	49
1981	January	2,256	1,769	1,699	965	86	5
	February	1,899	1,592	1,529	873	79	3
	March	1,906	1,745	1,676	945	73	4
	April	1,512	1,675	1,609	905	68	3
	May	1,459	1,720	1,652	909	61	5
	June	1,336	1,666	1,600	877	63	5
	July	1,366	1,697	1,630	889	64	3
	August	1,367	1,747	1,678	864	62	4
	September	R1,298	R1,607	R1,544	869	67	4
	October	1,560	1,680	1,610	889	78	5
	November	1,710	1,690	1,620	NA	R82	4
	December	2,130	1,790	1,720	NA	85	5
	TOTAL	19,799	20,378	19,567	NA	868	50

Geographic coverage: the 50 United States and District of Columbia.

R=Revised data. NA=Not available.

Note: Estimated data are in italics and are likely to be revised.

Sources: • Domestic Consumption—1973 through 1975: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, "Natural Gas" chapter; 1976 through 1979: Energy Information Administration (EIA), *Energy Data Report*, "Natural Gas Production and Consumption"; January 1980 forward: EIA estimates based on a supply/disposition balance calculation.

• Production—State reports to the Interstate Oil Compact Commission, data from the United States Geological Survey and EIA estimates for states that do not report monthly data on a regular or timely basis.

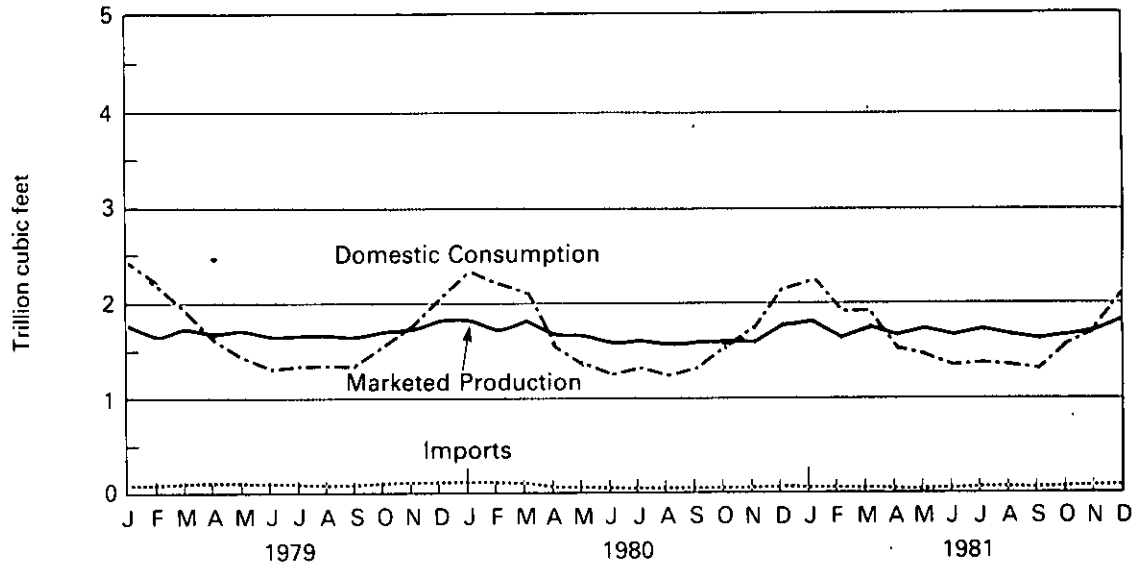
• Domestic Producer Sales—FPC Form 11, "Natural Gas Pipeline Company Monthly Statement."

• Imports—1973 through 1980: FPC Form 14, "Imports and Exports of Natural Gas"; January 1981 forward: EIA estimates based on import data from FPC Form 11.

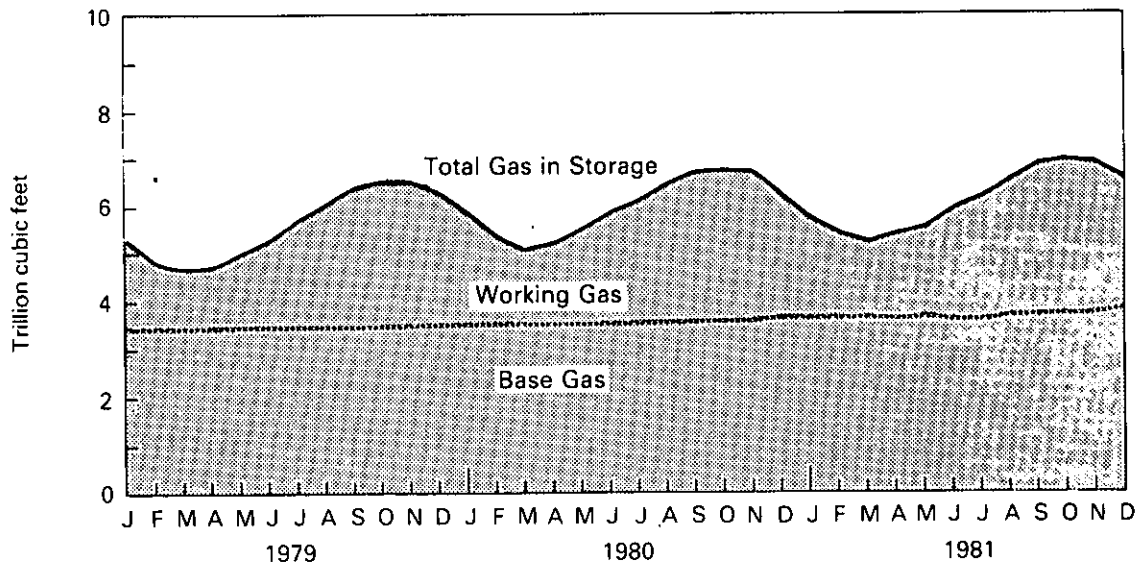
• Exports—1973 through 1980: FPC Form 14; January 1981 forward: EIA estimates based primarily on historical data reported on FPC Form 14.

Natural Gas

Domestic Consumption, Marketed Production and Imports



Gas in Storage



Natural Gas

Natural Gas in Underground Storage¹

		Total Gas In Storage	Base Gas	Working Gas	Storage Injections	Storage Withdrawals	Net Storage Injections ²
Billion cubic feet							
1973	TOTAL	‡4,898	‡2,864	‡2,034	NA	NA	NA
1974	TOTAL	‡4,962	‡2,912	‡2,050	NA	NA	NA
1975	TOTAL	‡5,358	‡3,150	‡2,208	NA	NA	NA
1976	TOTAL	‡5,231	‡3,310	‡1,922	1,952	2,074	(122)
1977	TOTAL	‡5,844	‡3,377	‡2,466	2,390	1,767	623
1978	TOTAL	‡5,999	‡3,459	‡2,540	2,330	2,176	154
1979	TOTAL	‡6,297	‡3,537	‡2,761	2,384	2,041	343
1980	January	5,865	3,535	2,330	21	465	(444)
	February	5,397	3,536	1,861	24	493	(469)
	March	5,131	3,542	1,589	41	307	(266)
	April	5,227	3,547	1,680	174	78	96
	May	5,538	3,553	1,985	319	8	311
	June	5,841	3,560	2,281	316	13	303
	July	6,127	3,564	2,563	302	18	284
	August	6,444	3,594	2,850	328	30	298
	September	6,692	3,596	3,096	260	11	249
	October	6,782	3,598	3,184	141	53	88
	November	6,639	3,620	3,019	66	203	(137)
	December	6,272	3,629	2,643	34	402	(368)
1981	January	5,763	3,629	2,134	28	537	(509)
	February	5,440	3,628	1,812	62	385	(323)
	March	5,248	3,630	1,618	50	243	(193)
	April	5,380	3,631	1,749	191	59	132
	May	5,598	3,634	1,964	243	25	218
	June	5,895	3,634	2,261	323	31	292
	July	6,200	3,649	2,551	324	29	295
	August	6,589	3,709	2,880	356	18	338
	September	6,868	3,719	3,149	285	6	279
	October	6,966	3,724	3,242	149	53	96
	November	R6,919	R3,726	R3,193	R83	R126	R(43)
	December†	6,560	3,748	2,812	35	397	(362)

Geographic coverage: the 50 United States and District of Columbia.

¹See Explanatory Note 9.

²Net storage injections are storage injections minus storage withdrawals. Parentheses indicate withdrawals greater than injections.

‡Total as of December 31. †Preliminary data. R=Revised data. NA=Not available.

Source: • 1973 and 1974: American Gas Association, *Gas Facts*; 1975 forward: Energy Information Administration, EIA Form 191 and FPC Form 8, "Underground Gas Storage Report."

Part 5 Oil and Gas Resource Development

Oil and Gas Resource Development

The December 1981 rotary rig count of 4,520 was the highest in U.S. drilling history, 1.9 percent above the previous record of 4,436 rigs attained the month before and 37.6 percent higher than the December 1980 count of 3,286 rotary rigs.

Well completions reported in 1981 totaled 78,454. This is a 28.9 percent increase over the number for 1980 (60,845 reported).

The cumulative oil well completions in 1981 (37,639 reported) were up 39.3 percent over the 1980 figure (27,026 reported). During 1981, 17,870 gas well completions were reported, 13.6 percent above the 15,730 reported during 1980. Reported footage drilled during 1981 totaled 361.0 million feet, a 26.9 percent increase from the 1980 level.

There were 47 crews engaged in seismic exploratory work offshore during December 1981. This was a 17.5 percent increase from the December 1980 level. December 1981 onshore seismic activity decreased from the previous month's level to 656 crews but was 21.5 percent higher than activity during December 1980.

Oil and Gas Resource Development

		Rotary Rigs in Operation	Exploratory and Development Wells Completed ^{1, 2}				Total Footage of Wells Completed ¹	
			Monthly average	Oil	Gas	Dry		Total
1973	AVERAGE	1,194	TOTAL	9,902	6,385	10,305	26,592	136,391
1974	AVERAGE	1,475	TOTAL	12,784	7,240	11,674	31,698	150,551
1975	AVERAGE	1,660	TOTAL	16,408	7,580	13,247	37,235	174,434
1976	AVERAGE	1,656	TOTAL	17,059	9,085	13,621	39,765	181,780
1977	AVERAGE	2,001	TOTAL	18,912	11,378	14,692	44,982	210,848
1978	AVERAGE	2,259	TOTAL	17,775	13,064	16,218	47,057	227,110
1979	AVERAGE	2,177	TOTAL	19,383	14,681	15,752	49,816	238,659
1980	January	2,571		1,436	782	1,240	3,458	16,475
	February	2,613		1,635	1,000	1,297	3,932	18,891
	March	2,658		2,390	1,834	1,542	5,766	27,691
	April	2,682		1,841	1,121	1,158	4,120	18,855
	May	2,797		2,059	1,070	1,191	4,320	19,899
	June	2,850		2,228	1,282	1,451	4,961	24,479
	July	2,953		2,079	1,042	1,337	4,458	21,734
	August	3,045		2,357	1,275	1,539	5,171	24,112
	September	3,099		2,641	1,720	1,767	6,128	28,171
	October	3,148		2,417	1,190	1,697	5,304	24,600
	November	3,220		2,258	1,503	1,617	5,378	25,417
	December	3,286		R3,685	R1,910	R2,257	R7,852	R34,161
		AVERAGE	2,909	TOTAL	27,026	15,730	18,089	60,845
1981	January	3,386		1,789	971	1,360	4,120	20,195
	February	3,502		2,462	1,045	1,609	5,116	22,763
	March	3,595		3,102	1,424	1,878	6,404	30,144
	April	3,728		2,905	1,600	1,546	6,051	27,836
	May	3,816		2,604	1,159	1,675	5,438	24,842
	June	3,926		3,497	1,320	2,105	6,922	31,689
	July	3,998		2,790	1,116	1,698	5,604	25,542
	August	4,131		3,137	1,266	1,867	6,270	28,886
	September	4,242		3,416	1,967	2,019	7,402	33,608
	October	4,352		3,775	1,875	2,091	7,741	35,500
	November	4,436		3,587	1,577	2,057	7,221	32,149
	December	4,520		4,581	2,572	3,055	10,208	48,275
		AVERAGE	3,970	TOTAL	37,639	17,870	22,945	78,454

Geographic coverage: the 50 United States and District of Columbia.

¹These data are for well completions reported to the American Petroleum Institute (API) during the reporting period. They exclude service wells and stratigraphic and core tests.

²Data reported for the first 2 months of each quarter cover 4 weeks of drilling activity, and data for the last month of the quarter cover 5 weeks of drilling activity.

R=Revised data.

Note: Totals reflect subsequent data revisions and therefore may not agree with cumulative monthly data.

Sources: • Rotary Rigs: Hughes Tool Company, "Rotary Rigs Running—By State."

• Wells: API, "Monthly Drilling Report" and "Quarterly Review of Drilling Statistics for the United States."

Oil and Gas Resource Development

		Crews Engaged in Seismic Exploration			Line-Miles of Seismic Exploration		
		Offshore	Onshore	Total	Offshore ¹	Onshore ¹	Total ¹
		Monthly average			Annual total		
1973	AVERAGE	23	227	250	258,944	127,160	386,104
1974	AVERAGE	31	274	305	341,784	158,629	500,413
1975	AVERAGE	30	254	284	309,283	150,694	459,977
1976	AVERAGE	25	237	262	226,303	142,926	369,229
1977	AVERAGE	27	281	308	124,676	120,072	244,748
1978	AVERAGE	25	327	352	174,607	135,899	310,506
1979	AVERAGE	30	370	400	193,212	163,929	357,141
1980	January	29	439	468			
	February	29	440	469			
	March	29	448	477			
	April	31	465	496			
	May	34	468	502			
	June	39	496	535			
	July	42	514	556			
	August	44	521	565			
	September	44	523	567			
	October	41	530	571			
	November	41	531	572			
	December	40	540	580			
	AVERAGE	37	493	530	202,694	184,088	386,782
1981	January	38	553	591			
	February	41	561	602			
	March	40	570	610			
	April	40	605	645			
	May	42	619	661			
	June	44	652	696			
	July	43	668	711			
	August	46	689	735			
	September	47	697	744			
	October	52	689	741			
	November	52	681	733			
	December	47	656	703			
	AVERAGE	44	637	681			

Geographic coverage: the 50 United States and District of Columbia.

¹Monthly data not available.

Sources: • Society of Exploration Geophysicists, "Monthly Seismic Crew Count" and annual reports published in their bulletin, *Geophysics*.



Coal

Coal production in 1981 was estimated at 807.7 million short tons, down 2.6 percent from 829.7 million short tons in 1980. Following the 72-day coal strike in the first half of 1981, coal production during the second half was at record-breaking levels. Output in the final 6 months of 1981 totaled 456.5 million short tons, an increase of 10.9 percent over the production of 411.6 million short tons in the second half of 1980.

Electric utility coal consumption in November 1981 totaled 47.0 million short tons, 2.9 percent more than consumption in November 1980.

Electric utility coal stocks of 167.0 million short tons at the end of November 1981 were 17.1 million short tons (9.3 percent) below the level 1 year earlier.

Imports of coal in November 1981 totaled 76 thousand short tons. Exports of coal in November 1981 totaled 11.8 million short tons, 2.9 million short tons (31.8 percent) more than the amount exported during November 1980. Coal exports were principally to Japan (26.8 percent) and Canada (17.6 percent).

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Coal

Bituminous Coal, Lignite, and Anthracite

		Production	Domestic Consumption	Imports ¹	Exports ^{2, 3}	Stocks ⁴
Thousand short tons						
1973	TOTAL	598,568	562,584	127	53,587	104,335
1974	TOTAL	610,023	558,402	2,080	60,661	96,323
1975	TOTAL	654,641	562,641	940	66,309	128,050
1976	TOTAL	684,913	603,790	1,203	60,021	134,438
1977	TOTAL	697,205	625,291	1,647	54,312	157,098
1978	TOTAL	670,164	625,225	2,953	40,714	145,551
1979	TOTAL	781,134	680,524	2,059	66,042	181,646
1980	January	69,594	63,521	121	4,460	179,450
	February	65,546	59,678	193	4,041	176,808
	March	70,953	58,851	93	5,633	176,685
	April	69,658	52,635	63	7,563	185,367
	May	71,043	52,834	207	8,597	193,920
	June	71,338	56,098	104	8,899	199,299
	July	61,285	63,122	32	8,247	187,913
	August	68,399	62,752	166	9,270	190,689
	September	68,822	57,306	2	8,364	194,467
	October	72,290	55,774	139	9,454	201,975
	November	68,655	56,800	3	8,987	204,436
	December	72,117	63,362	70	8,228	204,028
	TOTAL	829,700	702,733	1,194	91,742	
1981	January†	R65,601	67,146	35	5,795	198,603
	February†	R70,498	59,530	104	6,771	197,962
	March†	R77,873	60,054	77	9,710	206,850
	April†	R37,332	54,354	63	8,271	186,816
	May†	R37,516	54,644	96	6,086	166,814
	June†	R62,379	59,319	138	6,158	157,773
	July†	R73,911	67,092	13	10,762	154,390
	August†	R78,738	65,382	150	11,315	156,529
	September†	R80,240	59,364	69	11,900	164,222
	October†	83,309	NA	94	12,360	NA
	November†	72,676	NA	76	11,849	NA
	December†	67,672	NA	NA	NA	NA
	TOTAL	807,745	NA	NA	NA	NA

Geographic coverage: the 50 United States and District of Columbia.

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

See Explanatory Note 10 for methodology used to calculate domestic consumption from 1978 forward.

¹Bituminous coal is the only type of coal imported during the years shown above.

²Includes exports of lignite beginning in 1978. Lignite prior to 1978 was combined with lignite briquets. Exports of lignite totaled 22,821 short tons in 1978; 26,389 short tons in 1979; and 65,064 short tons in 1980.

³Excludes shipments of anthracite to U.S. Armed Forces overseas (340,000 short tons in 1980).

⁴Stocks held by electric utilities, coke plants, and general industry at the end of period. Excludes stocks at retail dealers (which are consumed by the Residential and Commercial Sectors).

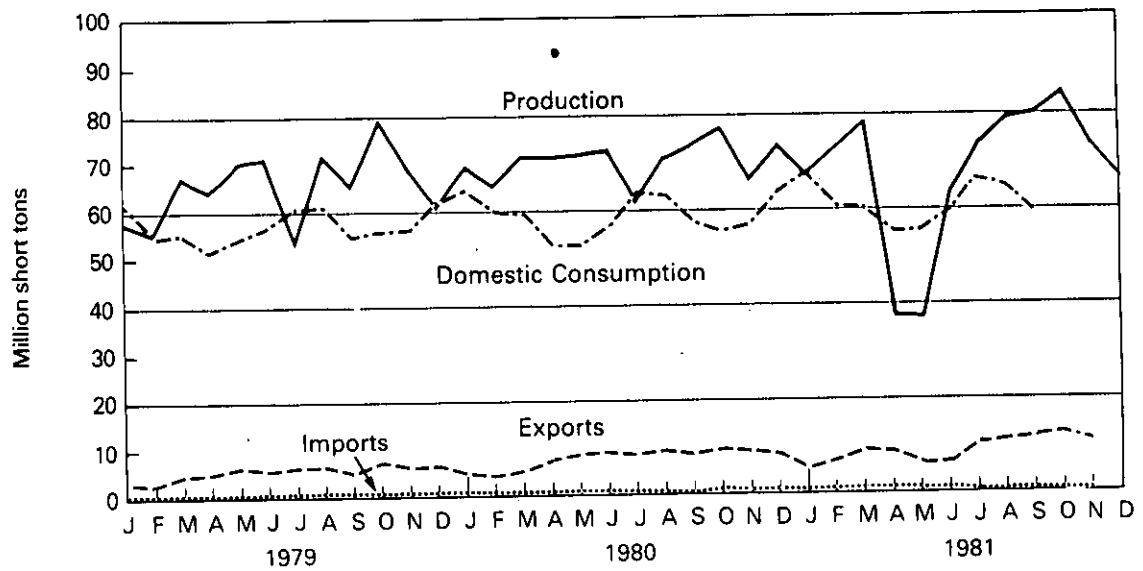
†Preliminary data. R=Revised data. NA=Not available.

Sources: • See Sources at the end of this section.

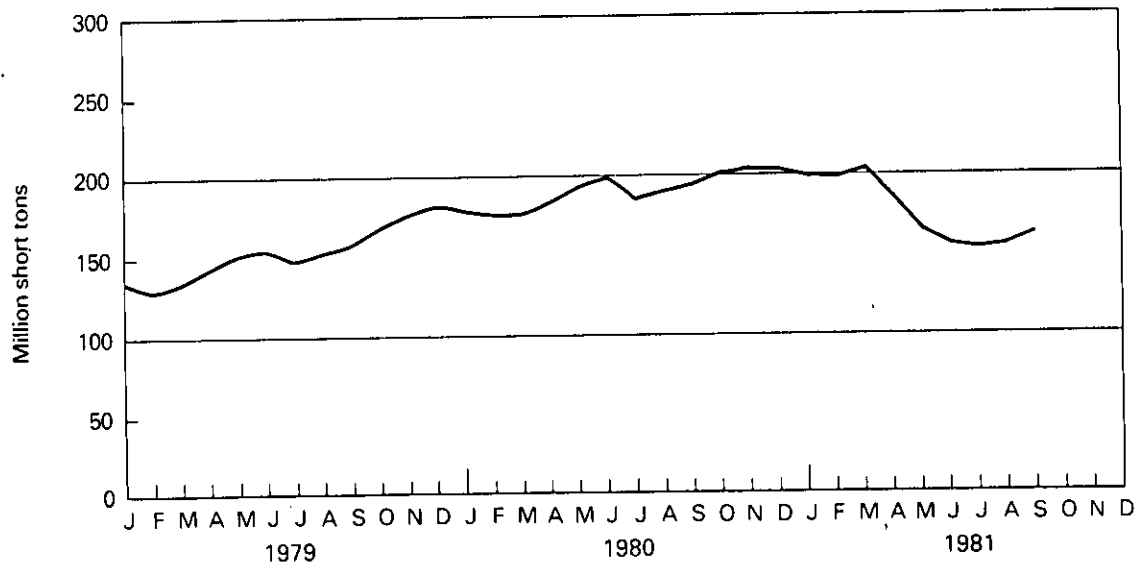
Coal

Bituminous Coal, Lignite, and Anthracite

Production, Consumption, Imports, and Exports



Stocks



Coal

Consumption—Bituminous Coal, Lignite, and Anthracite

		Industrial				
		Electric Utilities	Coke Plants ¹	Other Industrial ² Including Transportation	Residential and Commercial	Total
		Thousand short tons				
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	562,641
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	January	50,371	6,342	5,944	864	63,521
	February	47,512	6,010	5,400	756	59,678
	March	46,685	6,428	5,199	539	58,851
	April	40,692	6,247	5,118	578	52,635
	May	41,464	6,127	4,894	349	52,834
	June	45,821	5,326	4,675	276	56,098
	July	53,655	4,903	4,222	342	63,122
	August	53,214	4,878	4,337	323	62,752
	September	47,913	4,794	4,170	429	57,306
	October	45,092	5,107	4,990	585	55,774
	November	45,698	5,152	5,331	619	56,800
	December	51,157	5,346	6,067	792	63,362
	TOTAL	569,274	66,660	60,347	6,452	702,733
1981	January†	54,357	5,465	6,469	855	67,146
	February†	47,914	5,177	5,874	565	59,530
	March†	48,398	5,532	5,654	470	60,054
	April†	43,677	4,862	5,254	561	54,354
	May†	44,999	4,259	5,016	370	54,644
	June†	49,988	4,460	4,571	300	59,319
	July†	56,144	5,440	5,092	416	67,092
	August†	54,328	5,425	5,233	396	65,382
	September†	48,483	5,329	5,025	529	59,364
	October†	47,800	NA	NA	NA	NA
	November†	47,014	NA	NA	NA	NA
	TOTAL (Year-to-date)	543,102	NA	NA	NA	NA

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

¹Bituminous coal and anthracite only. Lignite is not used at coke plants.

²See Explanatory Note 10.

†Preliminary data. NA=Not available.

• Sources: • See Sources at the end of this section.

Coal

Stocks¹—Bituminous Coal, Lignite, and Anthracite

	Electric Utilities	Industrial		Total ³
		Coke Plants ²	Other Industrial	
Thousand short tons				
1973	86,967	6,998	10,370	104,335
1974	83,509	6,209	6,605	96,323
1975	110,724	8,797	8,529	128,050
1976	117,436	9,902	7,100	134,438
1977	133,219	12,816	11,063	157,098
1978	128,225	8,278	9,048	145,551
1979	159,714	10,155	11,777	181,646
1980				
January	158,717	9,634	11,099	179,450
February	157,124	9,263	10,421	176,808
March	157,625	9,317	9,743	176,685
April	165,817	9,579	9,971	185,367
May	174,029	9,692	10,199	193,920
June	178,959	9,913	10,427	199,299
July	168,806	8,427	10,680	187,913
August	171,891	7,866	10,932	190,689
September	175,067	8,213	11,187	194,467
October	182,045	8,488	11,442	201,975
November	184,133	8,606	11,697	204,436
December	183,010	9,067	11,951	204,028
1981				
January†	176,975	9,634	11,994	198,603
February†	175,715	10,211	12,036	197,962
March†	183,983	10,788	12,079	206,850
April†	168,894	6,952	10,970	186,816
May†	152,103	4,850	9,861	166,814
June†	144,520	4,500	8,753	157,773
July†	140,656	5,074	8,660	154,390
August†	142,315	5,648	8,566	156,529
September†	149,526	6,224	8,472	164,222
October†	159,676	NA	NA	NA
November†	167,002	NA	NA	NA

Geographic coverage: the 50 United States and District of Columbia.

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

¹Stocks held by electric utilities, coke plants, and general industry at end of period.

²Bituminous coal and anthracite only. Lignite is not used at coke plants.

³Total excludes stocks at retail dealers (which are consumed by the Residential and Commercial Sectors).

†Preliminary data. NA=Not available.

Sources: • See Sources at the end of this section.

Sources for the Coal Section

- **Production:** 1973 through September 1977: Bureau of Mines, *Minerals Yearbook* and *Mineral Industry Surveys*; October 1977 forward: Energy Information Administration (EIA), "Weekly Coal Report," "Coal Distribution Report," (Form EIA-6), and selected State agencies.
- **Consumption and Stocks:** 1973 through September 1977: Bureau of Mines, *Minerals Yearbook* and *Mineral Industry Surveys*;
 - Electric Utilities—October 1977 forward: EIA, "Monthly Power Plant Report" (FPC Form 4).
 - Other Industrial—October 1977 through December 1979: EIA, "Monthly Fuel Consumption Report - Manufacturing Plants" (Form EIA-3); January 1980 forward: EIA, "Quarterly Fuel Consumption Report - Manufacturing Plants" (Form EIA-3) and EIA, "Coal Distribution Report" (Form EIA-6).
 - Coke Plants—October 1977 through December 1980: EIA, "Coke and Coal Chemicals - Monthly/Annual" (Form EIA-5/5A); January 1981 forward: EIA, "Coke and Coal Chemicals - Quarterly/Annual" Form EIA-5/5A).
 - Residential and Commercial—October 1977 through December 1979: EIA, "Monthly Coal Report, Retail Dealers and Upper Lake Docks" (Form EIA-2); January 1980 forward: EIA, "Coal Distribution Report" (Form EIA-6).
- **Imports/Exports:** 1973 through September 1977: Bureau of Mines, *Minerals Yearbook* and *Mineral Industry Surveys*; October 1977 forward: Bureau of the Census, Monthly Reports IM 145 (Imports) and EM 522 (Exports).

Electric Utilities

November 1981 production of electricity by utilities was 175.6 billion kilowatt-hours, 1.6 percent below the November 1980 production level. Coal-fired production totaled 94.8 billion kilowatt-hours, 1.4 percent above the November 1980 level. Natural gas-fired production decreased to 24.7 billion kilowatt-hours, 1.4 percent above the level 1 year earlier. Nuclear production totaled 22.8 billion kilowatt-hours, 8.6 percent above the November 1980 level. Hydroelectric production was 19.0 billion kilowatt-hours in November 1981, 1.0 percent below the November 1980 level. Petroleum-fired production totaled 13.8 billion kilowatt-hours, 30.7 percent below the November 1980 level.

Sales of electricity to all ultimate consumers in the United States in November 1981 totaled 162.1 billion kilowatt-hours, a decrease of 3.9 percent from sales of the month before and less than 0.1 percent below November 1980 sales. Sales to residential consumers during November 1981 were 50.8 billion kilowatt-hours, 0.4 percent above sales for the corresponding month in 1980. Commercial sales were 38.7 billion kilowatt-hours, 2.1 percent

more than the amount for November 1980. Sales to industrial consumers totaled 66.1 billion kilowatt-hours in November 1981, 2.2 percent less than the November 1980 figure. In November 1981 other sales totaled 6.5 billion kilowatt-hours, 7.0 percent above the November 1980 level.

Electric utility petroleum consumption (excluding petroleum coke) during November 1981 was 23.2 million barrels, a 32.0 percent drop from the November 1980 level. Coal consumption for November 1981 was 47.0 million tons, 2.9 percent above the November 1980 rate. During November 1981, consumption of natural gas by electric utilities was 258.8 billion cubic feet, 1.3 percent above the November 1980 consumption level.

On November 30, 1981, utility stocks of anthracite, bituminous coal, and lignite totaled 167.0 million tons. Stockpiles were 9.3 percent below the levels of November 1980.

Petroleum stocks (excluding petroleum coke) on November 30, 1981, totaled 127.0 million barrels, 7.9 percent below the levels for the same month of 1980.

Electric Utilities

Net Electricity Production by Primary Energy Source

		Coal ¹	Petroleum ²	Natural Gas	Nuclear	Hydro	Other ³	Total
Million kilowatt-hours								
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	January	103,258	24,986	26,349	19,746	25,278	388	200,005
	February	98,151	24,781	24,755	19,277	21,378	373	188,715
	March	95,386	20,415	26,891	20,039	24,332	401	187,464
	April	83,562	16,025	24,181	18,794	25,748	410	168,720
	May	84,884	16,545	26,587	18,385	28,865	468	175,734
	June	93,692	18,020	31,295	18,322	27,656	445	189,430
	July	108,457	23,289	39,063	21,024	24,469	475	216,776
	August	107,580	24,885	37,647	24,333	20,431	517	215,393
	September	97,557	17,815	33,580	23,572	18,491	469	191,485
	October	91,196	15,858	28,592	24,510	17,866	533	178,555
	November	93,501	19,989	24,338	20,984	19,217	520	178,550
	December	104,339	23,386	22,961	22,130	22,290	506	195,613
	TOTAL	1,161,562	245,994	346,240	251,116	276,021	5,506	2,286,439
1981	January	111,148	25,724	22,081	23,368	22,355	540	205,217
	February	97,653	17,444	21,339	21,595	21,134	483	179,648
	March	99,482	16,962	25,900	22,004	20,572	541	185,461
	April	88,109	15,106	27,309	20,646	20,723	500	172,393
	May	88,941	14,508	29,920	19,723	24,081	483	177,656
	June	99,828	18,972	35,885	21,166	26,370	473	202,694
	July	112,854	19,973	38,602	23,080	25,133	523	220,164
	August	108,225	16,031	36,888	26,946	21,635	520	210,245
	September	97,664	15,566	30,850	24,398	17,842	538	186,858
	October	97,046	16,213	28,917	20,556	18,114	531	181,377
	November	94,841	13,847	24,670	22,783	19,030	465	175,637
	TOTAL	1,095,792	190,346	322,361	246,266	236,989	5,597	2,097,351
	(Year-to-date)							

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

¹Includes bituminous coal, lignite, and anthracite.

²Includes fuel oil No. 2, No. 4, No. 5, No. 6, crude oil, kerosene, and petroleum coke.

³Includes geothermal, wood and waste.

Source: Federal Power Commission Form 4, "Monthly Power Plant Report".

Electric Utilities

Electricity Sales¹

		Residential	Commercial	Industrial	Other ²	Total	
Million kilowatt-hours							
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	584,712	401,674	675,271	68,153	1,729,810	
1976	TOTAL	602,863	423,639	739,965	69,557	1,836,024	
1977	TOTAL	641,134	444,931	772,291	70,487	1,928,845	
1978	TOTAL	671,094	459,908	800,656	73,152	2,004,814	
1979	TOTAL	682,819	473,307	841,903	73,070	2,071,101	
1980	January	65,841	39,578	67,532	6,634	179,585	
	February	64,514	39,528	68,508	6,171	178,720	
	March	60,497	38,762	69,086	6,028	174,373	
	April	51,749	36,453	67,908	5,591	161,702	
	May	45,699	36,110	67,235	5,807	154,851	
	June	52,267	40,129	66,739	5,737	164,872	
	July	68,611	45,525	65,531	6,215	185,882	
	August	75,020	47,763	67,415	6,266	196,464	
	September	67,969	46,028	69,570	6,572	190,139	
	October	54,014	40,479	69,413	6,174	170,080	
	November	50,539	37,954	67,613	6,068	162,174	
	December	60,775	39,846	68,517	6,469	175,607	
		TOTAL	R717,495	R488,156	R815,067	73,732	R2,094,449
1981	January	72,240	42,120	67,087	6,830	188,277	
	February	64,588	40,244	67,394	6,387	178,613	
	March	56,238	38,586	68,599	6,366	169,789	
	April	49,624	36,975	68,136	5,953	160,688	
	May	47,281	38,409	68,761	6,191	160,642	
	June	54,997	43,130	71,615	6,237	175,979	
	July	68,901	47,859	71,716	6,532	195,008	
	August	69,224	47,842	72,021	6,553	195,640	
	September	60,173	45,877	70,986	6,585	183,620	
	October	51,985	41,175	69,132	6,388	168,679	
	November	50,754	38,746	66,139	6,490	162,129	
		TOTAL	646,005	460,963	761,586	70,512	1,939,064
		(Year-to-date)					

Geographic coverage: the 50 United States and District of Columbia.

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

¹Electricity sales to all ultimate consumers.

²Includes street lighting and transportation uses.

R = Revised data.

Source: *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."

Electric Utilities

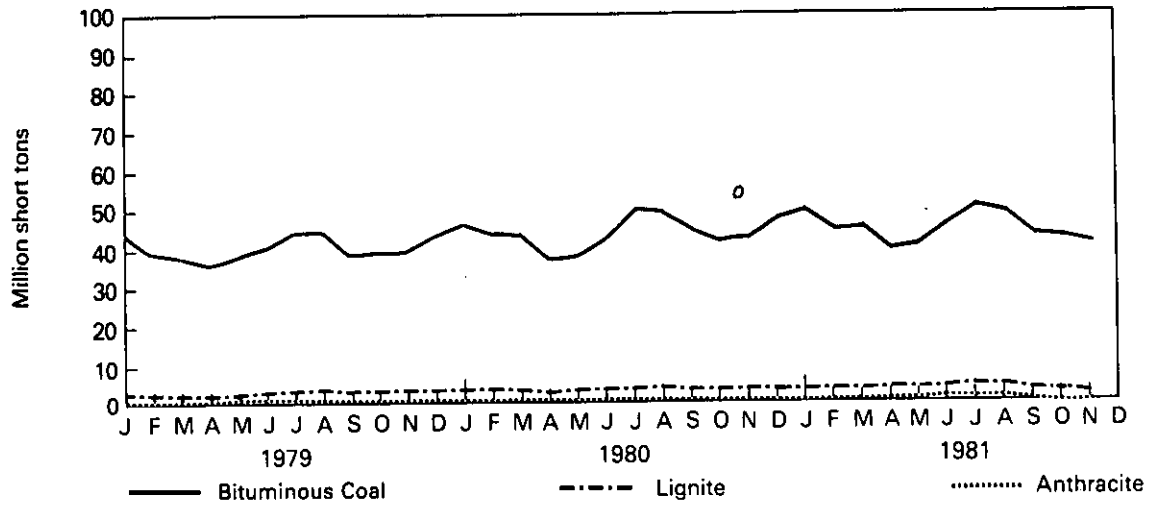
Primary Energy Consumed to Produce Electricity

	Coal				Petroleum				Natural Gas
	Anthracite	Bituminous Coal	Lignite	Total	Steam	Gas Turb./ Int. Comb.	Total Liquids	Petroleum Coke	
	Thousand short tons				Thousand barrels				Thousand short tons
1973 TOTAL	1,443	376,975	10,794	389,212	513,190	47,058	560,248	507	3,660,172
1974 TOTAL	1,498	378,643	11,670	391,811	483,146	53,128	536,274	625	3,443,428
1975 TOTAL	1,480	388,523	15,960	405,962	467,221	38,907	506,128	70	3,157,669
1976 TOTAL	1,350	425,205	21,817	448,371	514,077	41,843	555,920	68	3,080,868
1977 TOTAL	1,425	451,051	24,650	477,126	574,869	48,837	623,706	98	3,191,200
1978 TOTAL	1,064	448,763	31,407	481,235	588,319	47,520	635,839	398	3,188,363
1979 TOTAL	1,046	488,129	37,876	527,051	492,606	30,691	523,297	268	3,490,523
1980									
January	74	46,518	3,779	50,371	40,695	2,197	42,892	54	276,743
February	72	43,969	3,471	47,512	40,231	1,919	42,150	21	263,771
March	83	43,244	3,357	46,685	33,406	1,379	34,785	13	283,945
April	71	37,971	2,651	40,692	26,867	673	27,540	7	256,606
May	86	38,116	3,262	41,464	26,991	840	27,831	11	281,886
June	89	42,073	3,658	45,821	29,551	1,138	30,689	11	336,894
July	93	49,815	3,746	53,655	37,297	2,791	40,088	11	420,339
August	80	49,077	4,057	53,214	40,019	2,833	42,852	15	405,343
September	84	44,487	3,342	47,913	29,367	1,286	30,653	11	357,286
October	73	41,819	3,200	45,092	26,269	689	26,958	8	301,266
November	56	42,379	3,263	45,698	32,782	1,320	34,102	7	255,559
December	89	47,212	3,856	51,157	38,387	1,285	39,672	9	241,957
TOTAL	951	526,680	41,642	569,274	401,863	18,351	420,214	179	3,681,595
1981									
January	81	50,304	3,972	54,357	41,556	2,027	43,583	10	231,606
February	58	44,583	3,272	47,914	28,948	1,049	29,997	9	224,003
March	75	45,168	3,155	48,398	28,492	784	29,276	9	272,348
April	73	40,535	3,069	43,677	25,028	557	25,585	7	287,679
May	91	41,405	3,503	44,999	23,958	967	24,925	14	314,767
June	105	46,500	3,383	49,988	30,673	1,741	32,413	13	386,972
July	102	51,705	4,337	56,144	32,577	1,720	34,297	11	409,979
August	133	50,010	4,184	54,328	26,630	586	27,216	13	390,587
September	98	44,557	3,828	48,483	25,762	520	26,282	13	324,824
October	115	44,161	3,524	47,800	26,646	556	27,201	15	301,578
November	141	43,032	3,841	47,014	22,749	433	23,182	12	258,811
TOTAL (Year-to-date)	1,073	501,962	40,067	543,102	313,019	10,940	323,959	127	3,403,155

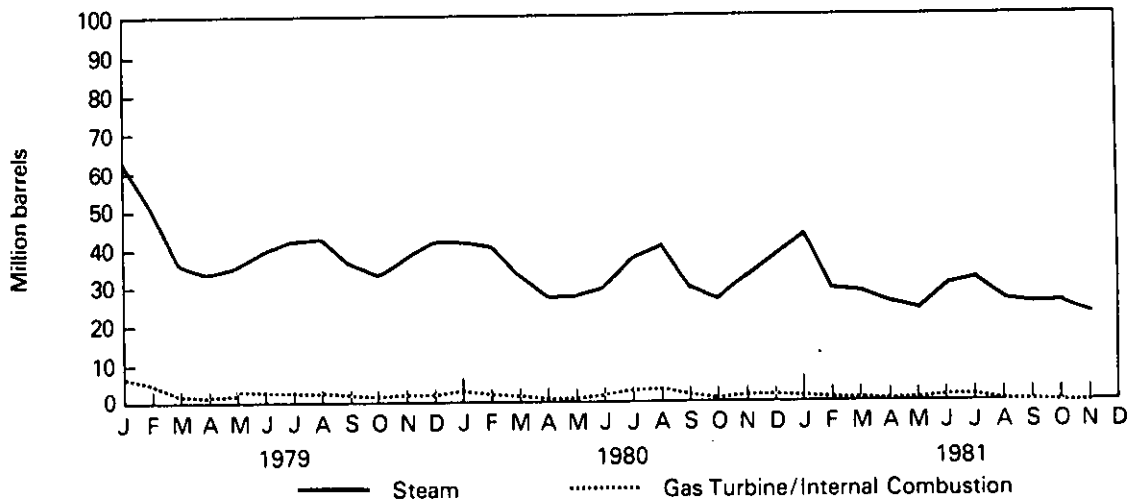
Geographic coverage: the 50 United States and District of Columbia.
 Totals may not equal sum of components due to independent rounding.
 Source: •Federal Power Commission, Form 4, "Monthly Power Plant Report."

Electric Utilities

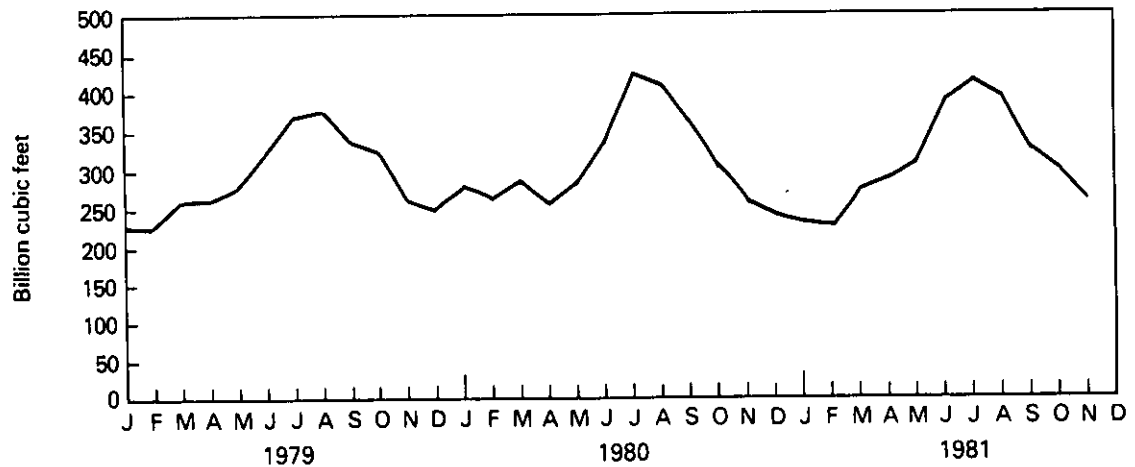
Coal Consumption



Petroleum Consumption



Natural Gas Consumption



Electric Utilities

End-of-Month Coal and Petroleum Stocks

		Coal				Petroleum			
		Anthracite	Bituminous Coal	Lignite	Total	Steam	Gas Turb./ Int. Comb.	Total Liquids	Petroleum Coke
		Thousand short tons				Thousand barrels			Thousand short tons
1973		‡1,066	‡84,941	‡961	‡86,967	‡79,121	‡10,095	‡89,216	‡312
1974		‡930	‡81,712	‡867	‡83,509	‡97,718	‡15,199	‡112,917	‡35
1975		‡982	‡107,927	‡1,815	‡110,724	‡108,825	‡16,432	‡125,257	‡31
1976		‡1,000	‡114,130	‡2,306	‡117,436	‡106,993	‡14,703	‡121,696	‡32
1977		‡2,321	‡128,210	‡2,688	‡133,219	‡124,750	‡19,281	‡144,031	‡44
1978		‡2,178	‡123,020	‡3,027	‡128,225	‡102,402	‡16,386	‡118,788	‡198
1979		‡3,274	‡152,981	‡3,459	‡159,714	‡111,121	‡20,301	‡131,422	‡183
1980	January	3,371	151,891	3,455	158,717	114,313	19,597	133,909	175
	February	3,451	150,151	3,522	157,124	111,353	19,055	130,409	168
	March	3,488	151,022	3,116	157,625	116,246	18,934	135,180	154
	April	3,533	158,441	3,843	165,817	118,824	19,201	138,025	103
	May	3,725	166,325	3,980	174,029	123,043	19,485	142,529	69
	June	3,838	171,042	4,079	178,959	124,177	19,273	143,450	65
	July	3,955	161,159	3,691	168,806	121,596	18,680	140,276	65
	August	4,098	163,756	4,036	171,891	118,514	18,150	136,664	63
	September	4,291	166,515	4,262	175,067	122,240	18,064	140,304	61
	October	4,481	173,411	4,153	182,045	124,046	18,398	142,445	60
	November	4,661	175,489	3,983	184,133	119,863	18,051	137,915	53
	December	4,741	174,154	4,115	183,010	117,227	18,147	135,374	52
1981	January	4,824	167,884	4,267	176,975	109,915	18,280	128,195	51
	February	4,859	166,552	4,304	175,715	112,439	17,397	129,836	52
	March	4,951	174,554	4,478	183,983	111,105	17,502	128,607	52
	April	5,035	159,318	4,541	168,894	108,848	17,205	126,053	52
	May	5,008	142,188	4,907	152,103	111,758	17,068	128,826	52
	June	5,081	134,321	5,119	144,520	109,313	18,027	127,341	49
	July	5,802	129,684	5,171	140,656	110,294	16,883	127,177	48
	August	5,337	132,068	4,909	142,315	113,472	16,833	130,305	47
	September	5,428	138,808	5,290	149,526	112,771	16,588	129,359	46
	October	5,512	148,952	5,213	159,676	111,578	16,220	127,798	44
	November	5,548	156,360	5,094	167,002	110,971	16,064	127,035	43

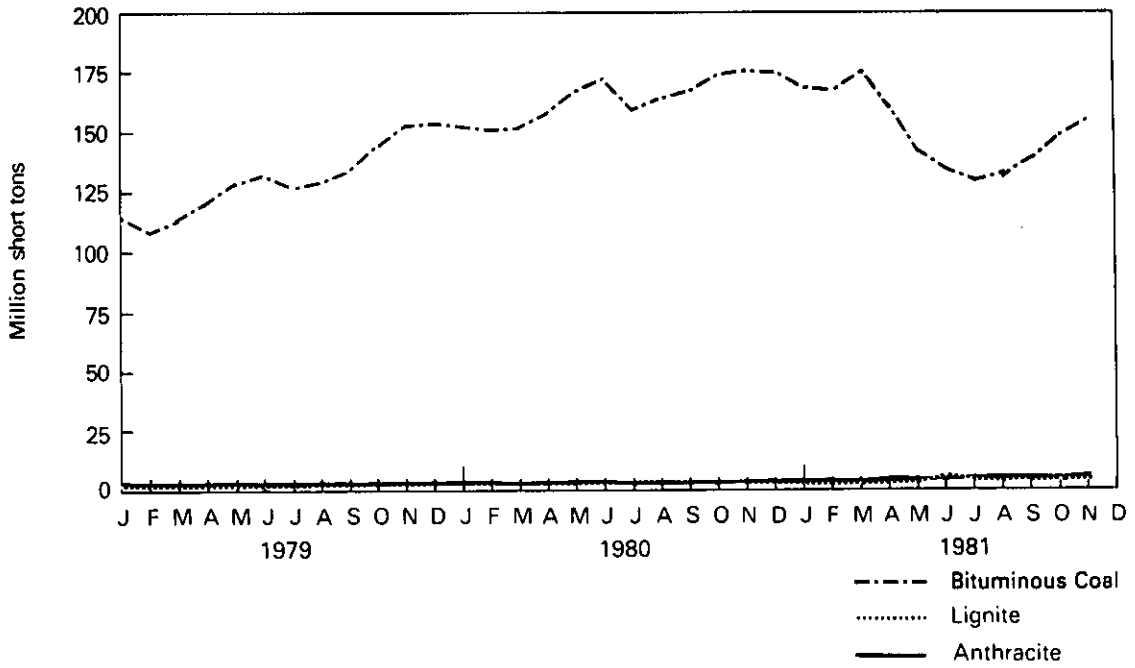
Geographic coverage: the 50 United States and District of Columbia.
Totals may not equal sum of components due to independent rounding.

‡Total as of December 31.

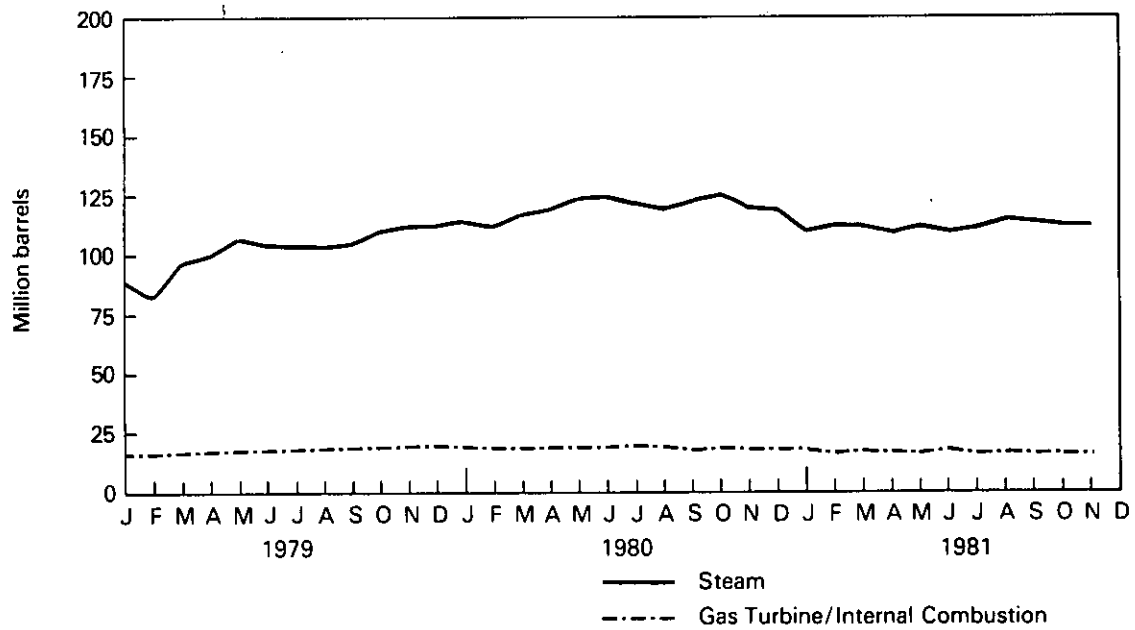
Source: Federal Power Commission, Form 4, "Monthly Power Plant Report."

Electric Utilities

Coal Stocks (Bituminous Coal, Lignite, and Anthracite)



Petroleum Stocks



Nuclear

During November 1981, operating domestic power reactors generated a total of 22.8 billion net kilowatt-hours of electricity, 10.8 percent above October 1981 output and 8.6 percent above November 1980 generation. Nuclear power accounted for 13.0 percent of all U.S. commercial electricity generation during November 1981.

In November, the Nuclear Regulatory Commission (NRC) withdrew the license it had issued in September to Pacific Gas and Electric Co. for low-power operation of its Diablo Canyon power reactor unit (design capacity of 1,084 net megawatts [MWe]). This action, taken by the NRC because of suspected earthquake-proofing design errors, reduced the number of "Reactors Licensed for Commercial Operations" in the Status of Nuclear Reactor Units table by 1 and, concurrently, increased the units with "Construction Permits Granted" to the September level of 78.

As of November 30, 1981, the combined maximum dependable capacity of the 74 licensed domestic power reactor units was 55,785 MWe. Of these 74 units, 2 units (McGuire-1 and Sequoyah-2) were in power ascension and 22 units (Browns Ferry-3, Crystal River-3, Farley-1, Fitzpatrick, Ft. Calhoun, Ft. St. Vrain, Hatch-1, Indian Point-3, Monticello, Oconee-1, Palisades, Pilgrim, Point Beach-1, Quad Cities-2, Robinson-2, St. Lucie-1, Surry-2, Three Mile Island-1, Turkey Point-3 and -4, Vermont Yankee, and Zion-2), generated no electricity or operated substantially below capacity during November.

Nuclear

Nuclear Powerplant Operations

		Reactors Licensed For Commercial Operations ¹ 2	Nuclear-Based Electricity Generation ³	Nuclear Portion of Domestic Electricity Generation	Maximum Dependable Capacity ⁴	Capacity Factor ⁵	
			Million net kilowatt-hours	Percent	Million net kilowatts	Percent	
1973	AVERAGE	40	83,479	4.5	13.850	63.2	
1974	AVERAGE	53	113,976	6.1	29.921	43.5	
1975	AVERAGE	56	172,505	9.0	35.671	55.2	
1976	AVERAGE	62	191,104	9.4	40.642	53.5	
1977	AVERAGE	67	250,883	11.8	45.554	62.9	
1978	AVERAGE	71	276,403	12.5	49.385	63.9	
1979	AVERAGE	71	255,155	11.4	50.604	57.6	
1980	January	71	19,746	9.9	49.945	53.1	
	February	72	19,277	10.2	51.055	54.3	
	March	72	20,039	10.7	51.031	52.8	
	April	74	18,794	11.1	53.040	49.3	
	May	74	18,385	10.5	53.040	46.6	
	June	74	18,322	9.7	53.040	48.0	
	July	74	21,024	9.7	54.064	52.3	
	August	74	24,333	11.3	53.957	60.6	
	September	74	23,572	12.3	53.855	60.8	
	October	75	24,510	13.7	54.724	60.1	
	November	75	20,984	11.8	54.737	53.2	
	December	75	22,130	11.3	54.749	54.3	
		AVERAGE	74	251,116	11.0	53.103	53.8
1981	January	75	23,368	11.4	55.853	56.2	
	February	75	21,595	12.0	55.830	57.6	
	March	75	22,004	11.9	55.818	53.0	
	April	75	20,646	12.0	55.817	51.4	
	May	75	19,723	11.1	55.841	47.5	
	June	76	21,166	10.4	56.981	51.6	
	July	74	23,080	10.5	55.840	55.6	
	August	74	26,946	12.8	55.840	64.9	
	September	75	24,398	13.1	56.924	59.5	
	October	75	20,556	11.3	56.869	48.5	
	November	74	22,783	13.0	55.785	56.7	
		AVERAGE	75	246,266	11.7	56.127	54.8

Geographic coverage: the 50 United States and District of Columbia.

¹See next table (Reactor Status Table) for explanation and sources.

²Dresden-1 (capacity=200 MWe) and Three Mile Island-2 (capacity=906 MWe) units are excluded from all tabulations as of July 1, 1981, reflecting the fact that these units have each been inoperative for several years and are likely to remain so for indefinite or extended periods.

³Electricity generation entries represent yearly or monthly totals rather than averages.

⁴See Explanatory Note 11.

⁵Average percentage of the net Maximum Dependable Capacity utilized yearly or monthly.

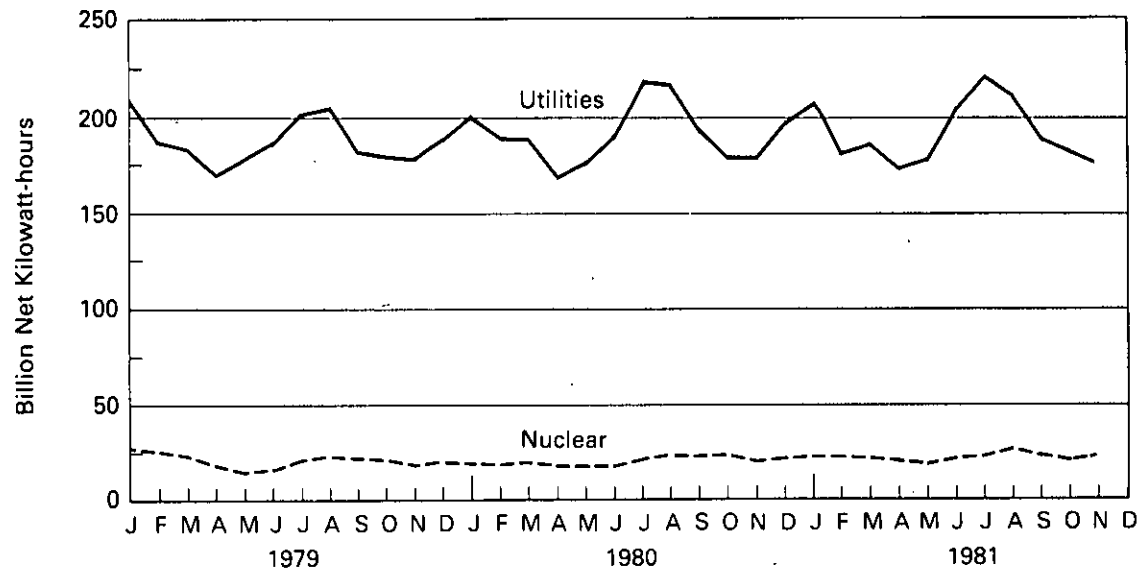
Sources: • Capacity data for units in commercial operation or start-up testing—Nuclear Regulatory Commission, 'Licensed Operating Reactors.'

• Generation Data—FPC Form 4, 'Monthly Power Plant Report.'

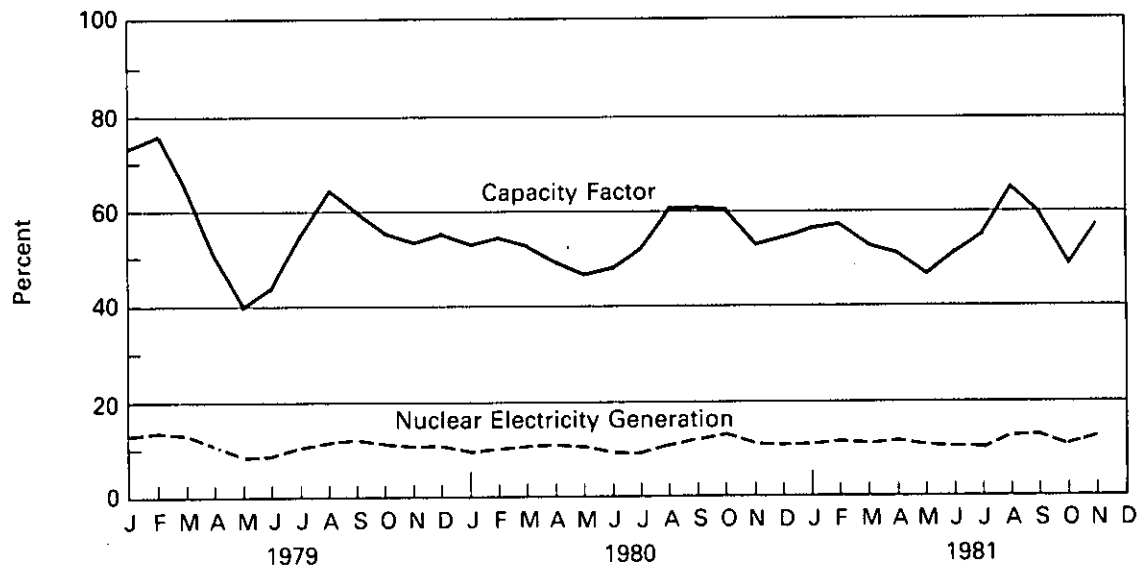
Nuclear

Nuclear Powerplant Operations

Electricity Generated by Utilities and by Nuclear Powerplants



Nuclear Portion of Electricity Generation and Capacity Factor*



*Percentage of Maximum Dependable Capacity utilized.

Nuclear

Status of Nuclear Reactor Units¹

		Reactors Licensed For Commercial Operations ²	Construction Permits Granted	Construction Permits Pending	Reactor Units on Order	Reactor Units Announced	Total Reactor Units	Total Design Capacity ³ (Million Net Kilowatts)
1973		40	51	58	48	20	217	212
1974		53	58	80	28	16	235	234
1975		56	69	73	19	19	236	236
1976		62	72	66	16	19	235	236
1977		67	80	52	13	9	221	220
1978		71	90	32	9	4	206	204
1979		71	91	21	3	0	186	180
1980	January	71	90	17	3	0	181	174
	February	72	89	16	3	0	180	173
	March	72	87	14	3	0	176	169
	April	74	85	14	3	0	176	169
	May	74	85	14	3	0	176	169
	June	74	85	14	3	0	176	169
	July	74	85	14	3	0	176	169
	August	74	85	14	3	0	176	169
	September	74	85	14	3	0	176	169
	October	75	84	14	3	0	176	169
	November	75	82	14	3	0	174	167
	December	75	82	12	3	0	172	164
1981	January	75	81	12	3	0	171	164
	February	75	81	12	3	0	171	164
	March	75	81	12	3	0	171	164
	April	75	81	12	3	0	171	164
	May	75	81	12	3	0	171	164
	June	76	80	12	3	0	171	164
	July	74	80	12	3	0	169	163
	August	74	79	12	3	0	168	162
	September	75	78	11	3	0	167	161
	October	75	77	11	3	0	166	160
	November	74	78	11	3	0	166	160

Geographic coverage: the 50 United States and District of Columbia.

¹Monthly data are the status as of the last day of the month. Annual data are the status as of December 31 of each year.

²These figures include reactors in fuel-loading, power-testing, and power-ascension stages. They also include two Department of Energy dual-purpose reactors, Shippingport and Hanford, which are not licensed by the Nuclear Regulatory Commission but do generate electricity on a commercial basis. Not included in the above table is the Experimental Breeder Reactor-2 which does generate electricity but does not distribute it commercially. Three reactors which have been inoperative for at least 2 years have been dropped from this list due to their uncertain futures. Humboldt Bay, which requires major seismic modifications, was dropped from the list in January 1981. Dresden-1, which is undergoing major modifications, and Three Mile Island-2, which was shut down due to an accident in March 1979, were dropped from the list in July 1981.

³See Explanatory Note 11.

Sources: • Compiled from various sources, primarily the Nuclear Energy, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones," and from the Energy Information Administration, Office of Coal, Nuclear and Alternate Fuels.

Price

Crude Oil

The average price of domestic crude oil purchased at the wellhead was \$30.98 per barrel in November 1981. This was 0.1 percent below the previous month's level, and 29.5 percent above the level in November 1980. Due to the January 1981 decontrol order, prices are no longer available by regulatory price categories.

During November 1981, the composite refiner acquisition cost of crude oil was \$34.34 per barrel, \$0.27 per barrel (0.8 percent) above the previous month's price of \$34.07. The imported price increased \$0.83 per barrel from the October 1981 level to \$36.26 per barrel in November. This price was 3.3 percent above the November 1980 level. The domestic price in November 1981 was \$33.49, an increase of \$0.01 per barrel from the October average.

Residual Fuel Oil

The average price, excluding taxes, for No. 6 residual fuel oil sold to utilities, industry, and other ultimate consumers in October 1981 was \$30.44 per barrel, \$0.11 per barrel (0.4 percent) above the previous month's price and 14.1 percent over the October 1980 average. The average price, excluding taxes, for No. 6 residual fuel oil sold to resellers, bulk plants, jobbers, and other wholesale accounts in October 1981 was \$26.82 per barrel, \$0.62 (2.4 percent) above the September 1981 average and an 11.5 percent increase over the October 1980 average.

Heating Oil

The national average price of heating oil sold to residential customers in November 1981 was 120.9 cents per gallon. This was 1.8 percent above the selling price in October 1981 and 19.6 percent above the

November 1980 price. The average distributor margin on residential heating oil in November was 17.6 cents per gallon, 27.5 percent above the margin during November 1980. Refiners' national average selling price to resellers and retailers was 100.0 cents per gallon in November 1981, 19.0 percent above the November 1980 average.

Aviation Fuel

The average price, excluding taxes, for kerosene-type jet fuel sold to commercial airlines, Department of Defense, and other ultimate consumers in October 1981 was 101.1 cents per gallon, a 2.1 percent decrease from the previous month's average and a 14.0 percent increase over the October 1980 average.

Motor Gasoline

The national average retail price for all grades and all types of motor gasoline was 134.8 cents per gallon in December 1981. Leaded regular gasoline at all types of stations sold for an average of 129.3 cents per gallon in December, 0.4 cents lower (0.3 percent) than the price in November. The price for unleaded regular gasoline at all types of stations was 136.5 cents per gallon in December, 0.4 cents lower (0.3 percent) than the price in November.

Liquefied Petroleum Gases

The average wholesale price for propane during October 1981 (excluding taxes) was 47.5 cents per gallon, 0.4 percent below the previous month's level and 10.0 percent above the October 1980 level.

In October 1981, the average wholesale price for butane, excluding taxes, was 65.2 cents per gallon, 0.9 percent above the previous month's price and 20.1 percent above the October 1980 average.

Price

Petroleum Price Summary

	Actual Domestic Average Wellhead Price ¹	Refiner Acquisition Cost of Crude Oil ²			No. 6 Residual Oil Price Average ³	
		Domestic	Imported	Composite	Wholesale ⁴	Retail ⁴
Dollars per barrel						
1976 AVERAGE	8.19	8.84	13.48	10.89	10.72	11.49
1977 AVERAGE	8.57	9.55	14.53	11.96	11.96	13.23
1978 AVERAGE	9.00	10.61	14.57	12.46	11.51	12.75
1979 AVERAGE	12.64	14.27	21.67	17.72	17.66	18.67
1980						
January	17.86	19.78	30.75	24.81	24.41	26.21
February	18.81	21.22	32.40	26.11	23.34	26.48
March	19.34	22.07	33.42	26.88	21.11	25.33
April	20.29	22.89	33.54	27.09	19.09	22.87
May	21.01	23.63	34.33	27.85	20.22	23.75
June	21.53	24.48	34.48	28.80	20.44	24.09
July	22.26	25.05	34.51	28.73	21.28	23.86
August	22.63	24.98	34.44	28.70	22.25	25.00
September	22.59	25.37	34.46	28.96	22.47	25.31
October	23.23	26.21	34.63	29.56	24.06	26.68
November	23.92	26.51	35.09	29.79	28.12	30.10
December	25.80	28.55	35.63	31.39	29.76	32.33
AVERAGE	21.19	24.23	33.89	28.07	23.14	26.09
1981						
January	28.85	32.71	38.85	34.86	31.14	33.65
February	34.14	36.27	39.00	37.28	31.81	36.04
March	34.70	36.97	38.31	37.48	31.78	36.11
April	34.05	35.58	38.41	36.58	30.56	34.70
May	32.71	35.21	37.84	36.11	30.41	34.11
June	31.71	34.20	37.03	35.03	25.95	31.03
July	31.13	33.76	36.58	34.70	26.52	30.57
August	31.13	33.79	35.82	34.46	27.01	30.52
September	31.13	33.47	35.44	34.11	R26.20	R30.33
October	R31.00	33.48	35.43	34.07	†26.82	†30.44
November	†30.98	†33.49	†36.26	†34.34	NA	NA
December	NA	NA	NA	NA	NA	NA
AVERAGE	NA	NA	NA	NA	NA	NA

Geographic coverage: Actual domestic average wellhead prices and No. 6 residual oil prices—the 50 United States and District of Columbia. Refiner acquisition cost of crude oil—the 50 United States, District of Columbia, Puerto Rico, Guam, and the Virgin Islands.

¹See Explanatory Note 12.

²See Explanatory Note 13.

³Wholesale refers to the price of residual fuel sold to other refiners and resellers, including bulk plants, branded and unbranded jobbers, and other residual dealers. Retail refers to the price at which residual fuel oil is sold to ultimate consumers such as utility, industrial, commercial, and residential accounts.

⁴Excludes tax.

†Preliminary data. R=Revised data. NA=Not available.

Sources: ¹Actual domestic average—January 1976: FEA Form 90, "Crude Petroleum Production Monthly Report"; February 1976 forward: ERA Form 182, "Domestic Crude Oil First Purchase Report."

²Refiner acquisition cost—January 1976: Form FEO 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: Form EIA-14, "Refiners' Monthly Cost Report."

³No.6 residual oil price—FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices."

Price

Petroleum Price Summary (continued)

	No. 2 Diesel Price Average ¹		No. 2 Heating Oil Price Average		Gasoline Price Average All Types ²	Propane Price Average ³	Butane Price Average ³
	Wholesale ⁴	Retail ⁴	Wholesale	Retail	Retail	Wholesale ⁴	Wholesale ⁴
Cents per gallon							
1976 AVERAGE	31.9	34.7	32.6	40.6	NA	20.6	21.9
1977 AVERAGE	36.1	39.3	36.9	46.0	NA	25.0	25.4
1978 AVERAGE	37.1	40.2	38.7	49.4	65.2	24.0	23.0
1979 AVERAGE	58.2	62.4	53.0	65.6	88.2	29.5	45.8
1980							
January	76.0	82.2	75.2	90.8	111.0	41.8	73.3
February	78.3	85.0	79.0	95.3	118.6	42.7	70.1
March	79.8	87.8	80.4	97.1	123.0	41.0	66.8
April	80.4	88.0	81.0	97.4	124.2	41.2	63.1
May	80.5	87.8	81.4	97.2	124.4	41.7	63.7
June	81.7	88.6	82.5	97.9	124.6	41.2	58.2
July	81.9	87.6	83.0	97.9	124.7	40.8	53.8
August	81.6	86.9	82.9	97.9	124.3	40.6	53.1
September	80.3	86.6	83.0	98.1	123.1	41.4	51.2
October	81.5	85.9	83.7	98.7	122.3	43.2	54.3
November	83.6	88.9	86.1	101.1	122.2	45.1	65.5
December	87.5	92.4	91.3	106.5	123.1	46.5	72.7
AVERAGE	81.2	87.3	82.2	97.8	122.1	42.4	62.9
1981							
January	92.5	100.9	98.6	114.4	126.9	46.5	66.1
February	99.5	106.1	106.0	123.4	135.3	48.2	63.0
March	101.7	108.8	106.3	125.5	138.8	48.3	62.1
April	101.3	107.7	105.2	123.9	138.1	49.3	60.1
May	100.8	106.8	104.0	122.7	137.0	48.6	56.8
June	99.5	106.6	103.0	120.9	136.2	46.0	52.7
July	98.8	103.8	102.7	121.0	135.3	46.0	56.5
August	97.8	105.9	102.2	119.4	134.8	47.2	60.6
September	R97.6	104.8	101.6	119.7	135.8	R47.7	R64.6
October	†97.5	†105.3	101.1	118.8	135.3	†47.5	†65.2
November	NA	NA	†102.3	†120.9	135.1	NA	NA
December	NA	NA	NA	NA	134.8	NA	NA
AVERAGE	NA	NA	NA	NA	135.3	NA	NA

Geographic coverage: the 50 United States and District of Columbia.

¹Wholesale refers to the price of diesel fuel sold to other refiners and resellers, including branded jobbers, unbranded jobbers, and commercial accounts. Retail refers to the price at which company-owned and operated retail dealers sell to customers.

²Beginning with September 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. In the average for all types category, gasohol is now included and unleaded premium is weighted more heavily. See Explanatory Note 16 for additional information on motor gasoline prices.

³Wholesale refers to the price at which refiners, resellers, retailers and gas plants sell to one another, including sales to agricultural and industrial accounts. Excludes butane/propane mixtures.

⁴Excludes tax.

†Preliminary data. R=Revised data. NA=Not available.

Sources: •No. 2 diesel price—FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices."

•No. 2 heating oil price—1976 through October 1980: FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report"; November 1980 forward: EIA-9A "No. 2 Distillate Price Monitoring Report."

•Gasoline price—Bureau of Labor Statistics.

•Propane and butane prices—FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices."

Price

FOB Cost of Crude Oil Imports from Selected Countries¹

		Algeria	Indonesia	Iran	Libya	Mexico	Nigeria	Saudi Arabia	United Arab Emirates	United Kingdom	Venezuela
		Dollars per barrel									
1976	AVERAGE	13.05	12.76	11.61	12.55	NA	13.08	11.89	11.94	NA	11.32
1977	AVERAGE	14.36	13.57	12.67	13.90	13.42	14.44	12.37	12.83	NA	12.68
1978	AVERAGE	14.10	13.64	12.65	13.75	13.24	14.04	12.70	13.24	13.82	12.45
1979	AVERAGE	20.65	19.35	23.71	22.43	20.29	21.80	17.63	19.58	21.20	17.37
1980	January	33.67	29.67	29.28	35.72	29.43	31.57	26.25	29.85	30.77	25.34
	February	34.03	31.11	NA	35.71	31.77	33.39	26.62	30.95	32.66	24.82
	March	36.74	31.54	(*)	35.88	30.56	35.59	26.85	29.34	34.34	24.03
	April	36.93	32.22	(*)	35.30	30.24	36.11	27.78	30.38	34.15	23.85
	May	37.10	32.40	(*)	36.13	30.68	36.50	28.50	32.67	34.10	24.82
	June	37.61	32.90	(*)	36.83	30.76	36.99	28.95	33.34	36.28	25.56
	July	38.40	33.19	(*)	37.26	31.84	37.17	28.47	NA	36.26	24.34
	August	37.53	33.01	(*)	37.01	31.87	36.69	29.74	NA	34.83	25.30
	September	37.21	33.13	(*)	36.94	31.21	36.38	30.34	NA	35.18	24.21
	October	37.60	32.31	(*)	37.15	31.27	36.82	30.19	NA	35.66	22.71
	November	37.05	32.94	(*)	36.90	31.59	36.87	31.43	NA	35.47	26.83
	December	37.37	33.21	(*)	37.58	32.33	36.79	32.01	NA	35.00	26.66
		AVERAGE	36.57	32.37	(*)	36.41	31.11	35.82	28.53	NA	34.58
1981	January	39.37	36.54	(*)	40.52	35.88	40.11	32.39	NA	38.34	32.87
	February	40.13	36.13	(*)	40.73	36.57	40.03	32.60	NA	39.41	30.36
	March	40.30	36.40	(*)	40.25	35.60	39.85	32.73	NA	39.50	31.24
	April	39.70	36.38	(*)	40.04	33.81	39.92	32.41	NA	38.85	29.93
	May	39.57	36.09	(*)	38.91	34.45	39.11	32.13	NA	37.16	28.39
	June	39.20	36.95	(*)	39.85	30.30	38.44	32.42	NA	35.84	30.50
	July	38.06	35.47	(*)	38.70	32.72	39.25	32.07	NA	34.89	29.25
	August	39.34	35.61	(*)	39.45	31.23	39.55	31.95	NA	34.38	27.08
	September	39.60	35.82	(*)	36.74	30.37	36.04	32.09	NA	34.44	28.14
	October	R36.90	35.08	(*)	R36.36	R30.83	R35.45	R33.56	NA	R34.87	R27.27
	November†	36.55	35.53	(*)	37.15	31.80	36.41	33.49	NA	35.97	28.39

¹The Free on Board (FOB) cost excludes all costs related to insurance and transportation. See Explanatory Note 14.

*No crude oil has been imported from Iran since February 1980.

†Preliminary data. R=Revised data. NA=Not available.

Note: Prices shown for 1980 are for the month of loading; whereas prior to 1980 the prices are for the month of reporting.

Sources: 1976 through January 1979: FEA Form 701-M-0, "Transfer Pricing Report";

• February 1979 forward: Economic Regulatory Administration Form 51, "Transfer Pricing Report."

Price

Landed Cost of Crude Oil Imports from Selected Countries¹

		Algeria	Canada	Indonesia	Iran	Libya	Mexico	Nigeria	Saudi Arabia	United Arab Emirates	United Kingdom	Venezuela
		Dollars per barrel										
1975	AVERAGE	12.72	12.72	13.79	12.21	12.35	NA	12.62	12.30	12.87	NA	11.65
1976	AVERAGE	13.81	13.57	13.82	12.82	13.58	NA	13.80	13.04	13.30	NA	11.80
1977	AVERAGE	15.20	14.21	14.63	13.80	14.87	13.75	15.25	13.61	14.04	NA	13.13
1978	AVERAGE	14.91	14.50	14.64	13.88	14.72	13.54	14.86	13.92	14.39	NA	12.83
1979	AVERAGE	21.90	20.43	20.69	25.02	23.68	20.86	22.96	19.15	21.90	22.16	18.18
1980	January	35.32	27.73	31.03	30.37	37.10	30.18	33.03	27.85	32.35	32.14	26.25
	February	35.28	28.60	32.95	NA	36.98	32.38	35.25	28.15	32.71	34.07	25.91
	March	38.54	30.75	33.04	(²)	37.18	31.17	36.93	28.26	30.96	35.73	24.97
	April	38.52	30.31	33.81	(²)	36.57	30.77	37.41	29.14	32.29	35.34	25.10
	May	38.54	31.16	33.73	(²)	37.36	31.22	37.53	30.30	34.06	35.82	25.93
	June	38.71	31.26	34.51	(²)	38.09	31.43	38.15	30.16	34.96	37.41	26.42
	July	39.60	31.31	34.81	(²)	38.39	32.60	38.23	30.04	NA	37.25	25.47
	August	38.60	31.44	34.81	(²)	38.38	32.62	37.77	31.24	NA	36.20	26.37
	September	38.28	30.97	34.64	(²)	38.30	31.93	37.60	31.86	NA	36.35	25.47
	October	38.77	29.22	33.65	(²)	38.53	31.96	37.75	31.73	NA	36.82	23.92
	November	38.41	28.81	34.55	(²)	38.22	32.42	37.97	32.86	NA	36.62	27.75
	December	38.63	32.72	34.64	(²)	39.04	33.76	38.11	33.40	NA	36.31	27.66
		AVERAGE	37.90	30.47	33.92	(²)	37.72	31.80	37.05	30.02	NA	35.88
1981	January	41.25	34.26	38.08	(²)	41.81	36.81	41.55	34.06	NA	39.90	33.80
	February	41.90	33.73	37.86	(²)	42.19	37.23	41.46	34.38	NA	40.69	31.20
	March	41.62	33.88	38.11	(²)	41.60	36.42	40.98	34.42	NA	40.72	32.09
	April	40.96	33.74	37.95	(²)	41.58	34.42	41.04	34.16	NA	40.02	30.97
	May	40.81	32.70	37.72	(²)	40.46	34.83	40.10	33.73	NA	38.31	29.39
	June	40.31	32.67	38.73	(²)	41.44	31.03	39.60	34.29	NA	37.04	31.46
	July	39.59	31.19	37.20	(²)	40.27	33.18	40.05	33.72	NA	35.87	29.22
	August	40.65	30.44	37.07	(²)	40.30	31.77	40.85	33.23	NA	35.40	28.11
	September	41.62	30.83	37.52	(²)	37.73	30.84	37.20	33.66	NA	35.26	29.12
	October	R37.52	31.17	36.39	(²)	R38.15	R31.34	36.64	R34.88	NA	R36.00	R28.27
	November†	37.43	31.04	36.84	(²)	38.50	32.42	37.59	34.91	NA	36.87	29.27

¹See Explanatory Note 15.

²No crude has been imported from Iran since February 1980.

†Preliminary data. R = Revised data. NA = Not available.

Note: Prices shown for 1980 are for the month of loading; whereas prior to 1980 prices are for the month of reporting.

Sources: • 1975 through January 1979: Economic Regulatory Administration (ERA), FEA Form F701-M-0, "Transfer Pricing Report."

• February 1979 forward: ERA 51, "Transfer Pricing Report."

Price

U.S. City Average Retail Prices for Motor Gasoline¹

		Leaded Regular	Unleaded Regular	Leaded Premium	Average for All Types
Cents per gallon, including tax					
1974	AVERAGE	53.2	NA	56.9	NA
1975	AVERAGE	56.7	NA	60.9	NA
1976	AVERAGE	59.0	61.4	63.6	NA
1977	AVERAGE	62.2	65.6	67.4	NA
1978	AVERAGE	62.6	67.0	69.4	65.2
1979	AVERAGE	85.7	90.3	92.2	88.2
1980	January	108.6	113.1	114.9	111.0
	February	115.9	120.7	123.3	118.6
	March	120.2	125.2	127.7	123.0
	April	121.2	126.4	129.2	124.2
	May	121.5	126.6	129.5	124.4
	June	121.7	126.9	130.0	124.6
	July	121.6	127.1	130.7	124.7
	August	121.0	126.7	131.0	124.3
	September	119.7	125.7	130.4	123.1
	October	118.8	125.0	130.1	122.3
	November	118.8	125.0	129.9	122.2
	December	119.7	125.8	131.0	123.1
		AVERAGE	119.1	124.5	128.1
1981	January	123.8	129.8	133.8	126.9
	February	132.1	138.2	141.0	135.3
	March	135.2	141.7	144.9	138.8
	April	134.4	141.2	145.1	138.1
	May	133.3	140.0	144.7	137.0
	June	132.4	139.1	144.6	136.2
	July	131.5	138.2	144.6	135.3
	August	131.0	137.6	144.4	134.8
	September ²	130.5	137.6	145.6	135.8
	October	129.9	137.1	145.7	135.3
	November	129.7	136.9	146.2	135.1
	December	129.3	136.5	146.0	134.8
		AVERAGE	131.1	137.8	143.9

Geographic coverage: 1974 through 1977—56 urban areas; 1978 forward—85 urban areas.

¹See Explanatory Note 16.

²Beginning with September 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. In the average for all types category, gasohol is now included and unleaded premium is weighted more heavily.

NA=Not available.

Source: •Bureau of Labor Statistics.

Price

Aviation Fuel

		Aviation Gasoline		Naphtha-Type ¹	Kerosene-Type	
		Wholesale ²	Retail ²	Retail ²	Wholesale ²	Retail ²
Cents per gallon, excluding tax						
1976	AVERAGE	42.4	43.1	31.5	32.5	31.2
1977	AVERAGE	46.7	47.7	35.0	36.7	35.8
1978	AVERAGE	51.0	52.1	37.5	38.9	38.9
1979	AVERAGE	68.5	69.5	52.3	66.5	55.1
1980	January	90.6	90.0	76.0	83.4	77.0
	February	98.5	97.8	80.1	86.2	83.0
	March	102.9	107.0	84.1	86.6	86.3
	April	104.8	109.6	83.2	88.4	87.4
	May	106.2	109.7	89.1	89.0	87.6
	June	107.7	111.4	90.0	86.1	88.6
	July	109.3	113.4	91.4	88.3	89.7
	August	110.2	112.9	90.6	86.2	90.7
	September	110.8	113.3	92.9	86.4	88.8
	October	110.8	113.0	91.1	87.6	88.7
	November	112.4	113.0	92.5	89.9	91.0
	December	115.1	117.2	94.1	91.4	91.6
	AVERAGE	107.2	109.4	88.2	87.5	87.4
1981	January	118.9	121.6	99.2	97.1	95.7
	February	121.3	128.1	102.7	103.6	101.6
	March	127.2	131.1	106.9	104.8	106.3
	April	117.5	131.3	109.0	103.8	106.4
	May	120.7	133.5	109.1	104.4	106.2
	June	116.5	132.1	107.6	102.3	104.8
	July	120.1	133.4	106.3	100.5	103.8
	August	120.0	132.5	105.7	101.4	103.3
	September	121.0	133.5	R105.6	R103.0	103.3
	October†	117.2	134.5	104.8	99.9	101.1
		AVERAGE	119.4	131.3	106.0	102.1

Geographic coverage: the 50 United States and District of Columbia.

¹Nearly all naphtha-type fuels are sold directly to the Defense Fuel Supply Center. Consequently, wholesale prices are not applicable.

²Wholesale refers to the price of aviation fuel sold to other refiners and resellers, including bulk plants, branded and unbranded jobbers, and aviation fuel distributors. Retail refers to the price of aviation fuel sold to ultimate consumers, including commercial airline and military accounts.

†Preliminary data. R=Revised data.

Source: • FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices."

Price

National Average Heating Oil Prices¹

		Refiners' Average Selling Price to Resellers and Retailers	Average Purchase Price Paid by Distributors for Heating Oil ²	Average Distributor Margin on Residential Heating Oil ²	Average Selling Price to Residential Customers ²
Cents per gallon					
1976	AVERAGE	31.4	32.6	NA	40.6
1977	AVERAGE	35.7	36.9	NA	46.0
1978	AVERAGE	37.2	38.7	11.0	49.4
1979	AVERAGE	55.9	53.0	12.8	65.6
1980	January	75.0	75.2	16.2	90.8
	February	77.8	79.0	16.7	95.3
	March	78.8	80.4	17.1	97.1
	April	78.8	81.0	17.0	97.4
	May	79.3	81.4	16.3	97.2
	June	80.2	82.5	15.8	97.9
	July	79.2	83.0	15.3	97.9
	August	79.3	82.9	15.2	97.9
	September	79.3	83.0	15.4	98.1
	October	80.7	83.7	15.3	98.7
	November	84.0	86.1	13.8	101.1
	December	88.6	91.3	14.1	106.5
		AVERAGE	80.0	82.2	15.8
1981	January	94.9	98.6	15.1	114.4
	February	102.5	106.0	16.1	123.4
	March	102.8	106.3	17.6	125.5
	April	100.9	105.2	17.7	123.9
	May	100.7	104.0	17.6	122.7
	June	99.3	103.0	16.9	120.9
	July	98.5	102.7	17.1	121.0
	August	98.2	102.2	16.2	119.4
	September	97.8	101.6	17.2	119.7
	October	98.0	101.1	16.6	118.8
	November†	100.0	102.3	17.6	120.9

Geographic coverage: the 50 United States and District of Columbia.

¹See Explanatory Note 17.

²Average selling prices, purchase prices, and dealer margins represent sales for residential heating oil only.

†Preliminary data. NA=Not available.

Source: • 1976 through October 1980: FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report" and EIA-9A, "No. 2 Distillate Price Monitoring Report"; November 1980 forward: EIA-9A, "No. 2 Distillate Price Monitoring Report."

Price

Residential Heating Oil Prices by Region

		DOE Region ¹									
		Cents per gallon									
		1	2	3	4	5	6	7	8	9	10
1979	January	55.1	54.5	53.3	51.6	51.5	(²)	49.6	50.4	47.6	50.8
	February	57.7	57.3	55.5	53.2	53.7	(²)	51.3	51.4	49.4	52.9
	March	60.6	59.8	57.5	54.3	56.3	(²)	54.7	55.3	50.8	55.3
	April	62.8	61.9	60.0	57.3	58.8	(²)	58.2	58.4	53.8	57.8
	May	65.9	64.8	63.4	61.2	62.8	(²)	62.0	62.7	56.2	60.8
	June	70.5	69.7	68.4	66.2	68.5	(²)	68.9	67.8	62.2	66.4
	July	75.9	73.9	72.9	70.9	73.2	(²)	72.0	72.5	68.4	72.3
	August	80.1	78.6	77.7	74.8	78.5	(²)	76.4	77.1	71.7	77.2
	September	83.3	81.4	80.0	79.4	81.5	(²)	79.5	80.1	76.8	81.4
	October	84.1	82.5	81.7	79.1	82.6	(²)	80.2	81.3	81.2	82.6
	November	85.1	83.7	82.4	80.5	83.9	(²)	82.2	84.0	80.4	82.3
	December	87.2	85.7	85.1	82.9	86.1	(²)	85.3	86.3	82.6	84.8
1980	January	91.8	91.0	90.2	88.6	90.4	(²)	90.0	90.2	89.6	91.0
	February	96.7	95.3	94.7	93.0	93.5	(²)	93.6	93.5	95.8	95.7
	March	98.7	97.2	96.5	94.8	94.3	(²)	95.1	95.9	93.9	97.6
	April	99.2	97.3	96.6	94.1	94.5	(²)	95.3	99.5	94.7	99.0
	May	98.7	97.3	96.4	94.2	95.8	(²)	95.2	97.7	95.5	98.6
	June	99.8	97.9	96.8	95.1	95.8	(²)	95.3	98.4	96.0	99.8
	July	100.3	98.1	96.6	94.2	96.2	(²)	93.1	97.0	96.7	100.2
	August	100.2	97.9	96.8	94.8	95.7	(²)	95.4	92.1	99.7	100.4
	September	100.5	98.2	97.0	94.7	95.7	(²)	93.7	93.0	97.2	100.6
	October	101.1	98.8	97.4	95.6	95.9	(²)	94.7	94.1	98.6	100.4
	November	102.5	103.0	99.9	101.5	98.8	(²)	95.2	98.5	101.0	103.1
	December	108.2	108.5	105.3	106.6	103.4	(²)	99.6	101.8	(²)	105.6
1981	January	116.2	117.1	113.2	114.0	110.4	(²)	106.3	108.6	(²)	107.5
	February	125.8	126.6	123.0	124.4	117.8	(²)	114.2	113.1	(²)	113.7
	March	127.6	128.4	125.0	125.3	119.3	(²)	115.4	119.3	111.5	116.5
	April	126.8	126.6	122.7	124.8	118.3	(²)	114.7	118.4	(²)	117.5
	May	125.5	125.6	122.1	118.8	117.3	(²)	114.5	115.1	114.1	115.6
	June	124.1	123.6	121.1	115.9	116.5	(²)	112.5	116.0	(²)	117.1
	July	123.3	122.9	120.6	120.2	116.0	(²)	115.9	116.2	(²)	118.3
	August	122.7	122.2	117.9	117.4	115.1	(²)	112.1	116.9	(²)	117.7
	September	122.7	121.4	118.5	120.5	116.2	(²)	111.6	116.8	(²)	117.8
	October	122.5	122.0	115.3	117.6	116.3	(²)	112.0	115.8	(²)	118.2
	November†	123.5	123.1	119.2	118.5	116.9	(²)	113.4	115.0	(²)	118.7

¹DOE Regions are defined in Explanatory Note 18.

²Not available for publication. Data for Region 6, and occasionally Region 9, are based on a sample of less than four reporting firms.

†Preliminary data.

Source: • 1979 through October 1980: FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report"; November 1980 forward: EIA-9A, "No. 2 Distillate Price Monitoring Report".

Price

Average No. 6 Residual Fuel Oil Prices

		0.0 to 0.3 percent sulfur		0.31 to 1.0 percent sulfur		Greater than 1.0 percent sulfur		Average		
		Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail	
Dollars per barrel, excluding taxes										
1976	AVERAGE	12.20	12.54	10.83	11.79	9.98	10.43	10.72	11.49	
1977	AVERAGE	13.45	14.36	12.09	13.45	11.31	12.27	11.96	13.23	
1978	AVERAGE	12.77	14.47	11.95	12.78	10.73	11.70	11.51	12.75	
1979	AVERAGE	19.87	21.21	18.33	19.33	15.89	16.44	17.66	18.67	
1980	January	29.11	30.35	26.15	28.12	21.56	21.98	24.41	26.21	
	February	27.07	30.32	25.82	28.15	20.21	22.22	23.34	26.48	
	March	26.88	30.20	23.73	27.29	17.81	20.34	21.11	25.33	
	April	25.16	28.69	20.38	24.78	16.41	18.36	19.09	22.87	
	May	25.48	31.73	22.72	25.77	17.72	18.04	20.22	23.75	
	June	23.14	31.37	22.35	25.44	17.72	19.27	20.44	24.09	
	July	24.89	28.51	23.44	25.55	19.20	20.58	21.28	23.86	
	August	23.20	30.93	24.98	26.11	20.42	21.45	22.25	25.00	
	September	24.27	33.12	23.46	26.31	20.62	21.71	22.47	25.31	
	October	25.72	31.88	25.86	28.00	22.30	23.29	24.06	26.68	
	November	29.52	33.70	29.40	30.89	27.08	27.50	28.12	30.10	
	December	31.69	35.76	31.29	32.61	28.39	30.03	29.76	32.33	
		AVERAGE	26.41	31.13	24.91	27.59	20.77	22.11	23.14	26.09
1981	January	34.27	37.23	32.12	33.96	29.12	31.35	31.14	33.65	
	February	38.04	41.60	34.96	37.32	28.96	32.02	31.81	36.04	
	March	37.78	41.19	34.47	38.01	29.55	31.95	31.78	36.11	
	April	35.66	41.71	33.10	35.94	28.35	30.56	30.56	34.70	
	May	33.61	41.09	32.53	35.94	28.77	30.64	30.41	34.11	
	June	28.01	38.30	26.71	32.38	25.33	27.16	25.95	31.03	
	July	29.56	39.02	27.38	31.93	25.62	25.96	26.52	30.57	
	August	30.48	36.57	27.77	32.04	26.03	26.20	27.01	30.52	
	September	R29.91	39.17	R27.46	R32.08	R24.80	R26.26	R26.20	R30.33	
	October†	30.26	39.90	28.64	31.88	24.99	26.22	26.82	30.44	
		AVERAGE	33.33	39.48	30.94	34.01	27.33	28.99	29.13	32.86

Geographic coverage: the 50 United States and District of Columbia.

†Preliminary data. R= Revised data.

Note: Wholesale refers to the price of residual fuel sold to other refiners and resellers, including bulk plants, branded and unbranded jobbers, and other residual dealers. Retail refers to the price at which residual fuel oil is sold to ultimate consumers such as utility, industrial, commercial, and residential accounts.

Source: • FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices."

Price

Natural Gas

		Average Wellhead Value	Delivered to Electric Plant ¹	Average Residential Heating
Cents per thousand cubic feet				
1973	AVERAGE	21.6	35.0	108.2
1974	AVERAGE	30.4	49.0	125.3
1975	AVERAGE	44.5	76.9	154.2
1976	AVERAGE	58.0	105.9	184.6
1977	AVERAGE	79.0	133.4	226.4
1978	AVERAGE	90.5	147.9	262.6
1979	AVERAGE	117.8	180.3	323.1
1980	January	134.4	201.1	354.9
	February	139.5	210.5	357.9
	March	141.3	214.7	368.1
	April	143.4	210.4	367.8
	May	145.2	218.1	393.9
	June	145.8	216.4	394.8
	July	152.8	237.3	410.6
	August	152.8	245.6	413.1
	September	157.4	245.6	417.0
	October	159.4	253.4	420.6
	November	163.3	238.4	396.1
	December	162.2	232.7	403.3
		AVERAGE	149.6	212.8
1981	January	167.6	258.8	406.9
	February	171.3	268.9	409.3
	March	172.1	273.0	417.4
	April	173.8	282.5	421.7
	May	177.3	293.2	457.1
	June	182.9	296.7	457.6
	July	184.5	298.2	460.4
	August	R185.1	299.9	466.6
	September	R192.8	297.4	486.3
	October	196.2	299.3	487.4

Geographic coverage: the 50 United States and District of Columbia.

¹Includes all electric utility generating plants with a combined capacity for 25 megawatts or greater. Small quantities of coke oven gas, refinery gas, and blast furnace gas are included.

R = Revised data.

Sources: • Annual data for wellhead values are from the appropriate agencies of the individual producing States and the U.S. Geological Survey; monthly data are estimated primarily on the basis of values reported by State agencies in New Mexico, Oklahoma, and Texas.

• Electric plant data—FPC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Average residential heating prices—Bureau of Labor Statistics.

Price

Electricity

		Cost of Fossil Fuels Delivered to Steam-Electric Utility Plants				Average Retail Electricity Prices Selected Class A Privately-Owned Utilities				
		Coal	Residual Oil ¹	Natural Gas ²	All Fossil Fuels ¹	Residential	Commercial	Industrial	Other	Total ³
		Cents per million Btu				Cents per kilowatt-hour				
1973	AVERAGE	40.5	78.8	33.8	47.5	2.54	2.41	1.25	2.10	1.96
1974	AVERAGE	71.0	191.0	48.1	90.9	3.10	3.04	1.69	2.75	2.49
1975	AVERAGE	81.4	201.4	75.4	103.0	3.51	3.45	2.07	3.08	2.92
1976	AVERAGE	84.8	195.9	103.4	110.4	3.73	3.69	2.21	3.27	3.09
1977	AVERAGE	94.7	220.4	130.0	127.7	4.05	4.09	2.50	3.51	3.42
1978	AVERAGE	111.6	212.3	143.8	139.3	4.31	4.36	2.79	3.62	3.69
1979	AVERAGE	122.4	299.7	175.4	162.1	4.64	4.68	3.05	3.96	3.99
1980	January	128.7	423.5	194.8	187.3	4.69	4.90	3.32	4.19	4.21
	February	129.9	429.7	203.9	189.8	4.74	4.97	3.32	4.63	4.25
	March	130.1	411.0	207.9	184.8	4.92	5.17	3.45	4.69	4.40
	April	133.8	394.9	204.0	178.2	5.14	5.28	3.49	4.71	4.48
	May	133.3	403.1	212.0	180.3	5.41	5.44	3.59	4.97	4.63
	June	135.1	392.7	209.3	178.8	5.60	5.61	3.79	4.58	4.85
	July	137.4	394.5	228.5	199.0	5.66	5.65	3.93	4.93	5.03
	August	139.5	404.9	237.2	196.2	5.72	5.64	3.94	4.81	5.07
	September	138.9	411.3	238.7	193.5	5.69	5.73	3.89	4.95	5.03
	October	138.1	452.2	245.7	192.2	5.68	5.84	3.84	4.88	4.95
	November	139.3	496.0	231.3	200.0	5.60	5.70	3.85	5.06	4.89
	December	137.8	521.9	226.3	206.6	5.49	5.69	3.88	4.82	4.90
	AVERAGE	135.2	427.9	212.9	189.3	5.36	5.48	3.69	4.76	4.73
1981	January	142.3	540.2	254.1	221.3	5.44	5.73	3.94	4.92	4.96
	February	146.3	572.9	260.5	218.4	5.52	5.83	3.95	5.01	4.99
	March	148.4	583.9	263.8	215.2	5.76	6.01	4.04	5.33	5.12
	April	146.9	568.4	273.5	242.1	5.99	6.14	4.07	5.20	5.20
	May	146.7	552.8	282.7	250.8	6.27	6.30	4.17	5.49	5.37
	June	152.8	503.2	286.3	236.2	6.48	6.48	4.36	5.38	5.59
	July	156.5	502.4	288.6	227.5	6.58	6.47	4.48	5.60	5.76
	August	157.0	494.4	291.0	220.3	6.62	6.49	4.49	5.52	5.78
	September	157.3	506.7	287.6	213.2	6.63	6.48	4.49	5.65	5.74
	October	160.2	511.9	300.7	218.1	6.57	6.52	4.40	5.31	5.64
	November	NA	NA	NA	NA	6.42	6.48	4.46	5.43	5.61

Geographic coverage: Fossil Fuels—the lower 48 States and District of Columbia. Electricity—the 50 United States and District of Columbia.

¹See Explanatory Note 19.

²Includes small quantities of coke oven gas, refinery gas and blast furnace gas.

³Average price for total sales to ultimate consumers.

NA = Not available.

Sources: • Cost of fossil fuels—FPC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Retail price—January 1973 thru February 1980: FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 forward: Federal Energy Regulatory Commission, Form 5, "Electric Utility Company Monthly Statement."

International

Crude Oil Production

World crude oil production during October 1981 was 54.4 million barrels per day, up 0.8 million barrels per day (1.4 percent) from the September 1981 level.

Organization of Petroleum Exporting Countries (OPEC) output during October 1981 averaged 21.2 million barrels per day, an increase of 0.8 million barrels per day from the previous month. Average production by Arab members of OPEC was 15.0 million barrels per day, up 0.8 million barrels per day from the September 1981 level. The increase in OPEC production can be largely attributed to an increase in production of 0.5 million barrels per day in Saudi Arabia. Other important increases occurred in Nigeria, Algeria, and Kuwait up 0.2, 0.2, and 0.1 million barrels per day, respectively.

Production by non-OPEC nations was virtually unchanged from September to October. Production decreased by 0.1 million barrels per day in Canada while remaining about the same elsewhere.

Petroleum Consumption

Preliminary petroleum consumption data for October 1981 were available for France, Italy, and the United States. The consumption levels for all of these countries decreased from the consumption levels in October 1980.

Petroleum consumption by International Energy Agency (IEA) member nations was 30.5 million barrels per day during August 1981 (latest data available). This preliminary average was an increase of 0.8 million barrels per day from the average rate of 29.7 million barrels per day in August 1980. The United States decreased petroleum consumption during the same period by 0.5 million barrels per day.

Petroleum Stocks

Preliminary data on petroleum stocks for September 1981 were available for Canada, France, the United Kingdom, and the United States. Petroleum stocks in the United States were up from the level at the end of September 1980 by 2.4 percent. In contrast, stocks in Canada, France, and the United Kingdom were down 3.3, 8.7, and 14.5 percent, respectively, during the same interval.

Petroleum stocks of all Organization for Economic Cooperation and Development (OECD) members stood at 3,552 million barrels at the end of June 1981 (latest data available), an increase of 52 million barrels (1.5 percent) from stocks held at the end of June 1980. The United States held 1,438 million barrels of these stocks (40.5 percent).

Nuclear Electricity Production

In November 1981, the non-Communist world generated 59.5 billion gross kilowatt-hours of nuclear-based electricity, an increase of 6.7 percent over October 1981 generation and 12.7 percent above the comparable level for November 1980. U.S. nuclear electricity production in November 1981 was 24.1 billion gross kilowatt-hours, about 40.4 percent of non-Communist commercial nuclear generation for that month.

Two changes occurred in the status of non-Communist reactors during November. The low-power operating license that had been issued for Diablo Canyon was withdrawn and Electricite de France's Dampierre-4 unit announced commercial operation. Since the Dampierre-4 unit has been included in our tabulations since August of this year, the net effect of these two changes was to reduce the number of operational, non-Communist power reactor units by one to 220. These 220 units have a combined gross generating capacity of 143.2 million kilowatts (GWe), of which 59.8 GWe (41.8 percent) was associated with the 74 licensed U.S. units.

International

Crude Oil Production for Major Petroleum Producing Countries

		Algeria	Iraq	Kuwait ¹	Libya	Qatar	Saudi Arabia ¹	United Arab Emirates	Arab Members of OPEC ²	Indonesia	Iran	
		Thousand barrels per day										
1973	AVERAGE	1,097	2,018	3,020	2,175	570	7,596	1,533	18,009	1,339	5,861	
1974	AVERAGE	1,009	1,971	2,546	1,521	518	8,480	1,679	17,724	1,375	6,022	
1975	AVERAGE	983	2,262	2,084	1,480	438	7,075	1,664	15,986	1,307	5,350	
1976	AVERAGE	1,075	2,415	2,145	1,933	497	8,577	1,936	18,578	1,504	5,883	
1977	AVERAGE	1,152	2,348	1,969	2,063	445	9,245	1,999	19,221	1,686	5,663	
1978	AVERAGE	1,161	2,563	2,131	1,983	487	8,301	1,831	18,457	1,635	5,242	
1979	AVERAGE	1,154	3,477	2,500	2,092	508	9,532	1,831	21,094	1,591	3,168	
1980	January	1,150	3,400	2,140	2,100	495	9,785	1,740	20,810	1,565	2,295	
	February	1,150	3,400	2,335	2,100	460	9,780	1,740	20,965	1,550	2,500	
	March	1,150	3,400	2,090	2,000	500	9,790	1,695	20,625	1,575	2,350	
	April	1,000	3,300	1,570	1,750	500	9,765	1,705	19,590	1,580	2,200	
	May	1,000	3,300	1,525	1,750	480	9,775	1,765	19,595	1,550	1,700	
	June	1,000	3,300	1,575	1,700	440	9,775	1,750	19,540	1,545	1,500	
	July	1,000	3,100	1,365	1,680	460	9,765	1,710	19,080	1,565	1,700	
	August	1,000	3,100	1,465	1,690	465	9,765	1,665	19,150	1,565	1,600	
	September	1,000	3,000	1,290	1,680	460	9,740	1,670	18,840	1,565	1,400	
	October	1,000	150	1,385	1,665	440	10,255	1,675	16,540	1,585	600	
	November	1,000	350	1,505	1,680	475	10,265	1,695	16,930	1,630	800	
	December	1,000	450	1,779	1,680	483	10,260	1,706	17,360	1,617	1,360	
		AVERAGE	1,012	2,514	1,656	1,787	472	9,900	1,709	19,050	1,577	1,662
1981	January	950	600	1,765	1,600	505	10,265	1,620	17,305	1,630	1,600	
	February	950	700	1,565	1,650	480	10,265	1,605	17,215	1,620	1,700	
	March	950	1,000	1,560	1,600	505	10,110	1,610	17,335	1,635	1,700	
	April	900	1,000	995	1,600	515	10,195	1,570	16,775	1,630	1,600	
	May	900	1,000	990	1,400	435	10,140	1,550	16,415	1,600	1,500	
	June	800	1,000	1,080	1,200	340	10,180	1,435	16,035	1,600	1,600	
	July	725	1,100	1,200	750	380	10,170	1,415	15,740	1,600	1,400	
	August	600	1,100	830	700	295	10,330	1,480	15,335	1,600	1,100	
	September	550	1,100	855	700	365	9,155	1,465	14,190	1,600	1,100	
	October	700	1,100	985	700	360	9,685	1,480	15,010	1,600	1,000	

U.S. geographic coverage: the 50 United States and District of Columbia.

Monthly data may not average to annual data due to independent rounding. Data for 1981 are preliminary.

¹Includes about one-half of the production in the former Kuwait-Saudi Arabia Neutral Zone. In October 1981 total production in this region amounted to approximately 374,000 barrels per day.

²Arab members of the Organization of Petroleum Exporting Countries (OPEC) include Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

Additional footnotes on following page.

International

Crude Oil Production for Major Petroleum Producing Countries (continued)

		Nigeria	Venezuela	Total OPEC ³	Canada	Mexico	United Kingdom	United States	China	USSR	Other ⁴	World
		Thousand barrels per day										
1973	AVERAGE	2,054	3,366	30,989	1,800	465	2	9,208	1,090	8,465	3,729	55,748
1974	AVERAGE	2,255	2,976	30,729	1,684	571	2	8,774	1,315	9,000	3,835	55,910
1975	AVERAGE	1,783	2,346	27,155	1,439	705	12	8,375	1,490	9,625	4,151	52,952
1976	AVERAGE	2,067	2,294	30,738	1,295	831	245	8,132	1,670	10,143	4,351	57,405
1977	AVERAGE	2,085	2,238	31,278	1,320	981	768	8,245	1,874	10,682	4,647	59,795
1978	AVERAGE	1,897	2,166	29,805	1,313	1,209	1,082	8,707	2,082	11,185	4,782	60,165
1979	AVERAGE	2,302	2,356	30,928	1,496	1,461	1,568	8,552	2,122	11,460	5,111	62,698
1980	January	2,155	2,280	29,535	1,515	1,720	1,600	R8,675	2,111	11,615	R5,060	61,831
	February	2,160	2,200	29,805	1,475	1,725	1,660	R8,705	2,127	11,590	R5,043	62,130
	March	2,155	1,995	29,100	1,475	1,830	1,670	R8,698	2,119	11,615	R5,020	61,527
	April	2,100	2,045	27,965	1,390	1,885	1,510	R8,685	2,121	11,680	R5,245	60,481
	May	2,200	2,150	27,645	1,470	1,910	1,600	R8,635	2,133	11,750	R4,903	60,046
	June	2,110	2,050	27,175	1,535	1,905	1,625	R8,554	2,132	11,660	R5,117	59,703
	July	2,095	2,170	27,030	1,520	2,015	1,585	R8,547	2,124	11,825	R4,865	59,511
	August	2,050	2,210	27,010	1,440	2,000	1,535	R8,414	2,143	11,875	R5,065	59,482
	September	1,600	2,190	25,955	1,420	2,125	1,540	8,619	2,110	11,950	4,963	58,682
	October	1,879	2,225	23,255	1,311	2,182	1,572	R8,532	2,076	11,875	R5,231	56,034
	November	2,062	2,230	24,065	1,467	1,901	1,731	R8,495	2,088	11,930	R5,101	56,778
	December	2,026	2,330	25,050	1,300	2,027	1,795	R8,606	2,083	11,850	R5,307	58,018
		AVERAGE	2,055	2,167	26,890	1,424	1,937	1,622	8,597	2,114	11,770	5,098
1981	January	1,900	2,220	25,025	1,260	2,220	1,765	8,533	2,024	11,900	5,248	57,975
	February	1,960	2,195	25,075	1,300	2,120	1,820	8,598	2,025	11,900	5,257	58,095
	March	1,875	2,240	25,190	1,200	2,365	1,885	8,601	2,025	11,900	5,244	58,410
	April	1,625	2,200	24,215	1,190	2,540	1,750	8,543	2,011	11,800	5,376	57,325
	May	1,295	2,200	23,380	1,195	2,545	1,770	8,496	2,025	11,800	5,424	56,635
	June	1,350	1,990	22,945	1,130	2,300	1,765	8,616	2,025	11,800	5,284	55,865
	July	770	1,760	21,620	1,270	2,095	1,750	8,422	2,010	11,800	5,393	54,360
	August	710	1,960	21,050	1,235	2,260	1,760	8,576	2,020	11,800	5,069	53,770
	September	1,065	2,080	20,385	1,265	2,480	1,830	R8,586	1,990	11,800	R5,284	53,620
	October	1,250	1,970	21,200	1,120	2,490	1,845	8,541	2,020	11,800	5,369	54,385

³OPEC total includes production in Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, United Arab Emirates, Indonesia, Iran, Nigeria, Venezuela, Ecuador, and Gabon.

⁴Other is a calculated total derived from the difference between world production and the nations represented above.

R=Revised data.

Sources: • 1973-1980 annual data: Energy Information Administration, *1980 International Energy Annual*.

• 1973-1981 United States data: See sources at the end of the Petroleum Section.

• 1980 and 1981 monthly data (except U.S. and World total): Central Intelligence Agency, *International Energy Statistical Review*.

• 1981 monthly data for World: Sum of data for all countries using above sources.

Q

International

Petroleum Consumption for Major Non-Communist Industrialized Countries¹

		Canada	France ²	Italy	Japan	United Kingdom	United States	West Germany	Other IEA ³	Total IEA ⁴
Thousand barrels per day										
1973	AVERAGE	1,597	2,219	1,525	5,000	1,958	17,308	2,693	4,069	34,150
1974	AVERAGE	1,630	2,094	1,521	4,872	1,829	16,653	2,408	4,047	32,960
1975	AVERAGE	1,595	1,925	1,468	4,568	1,633	16,322	2,319	3,905	31,810
1976	AVERAGE	1,647	2,075	1,503	4,786	1,601	17,461	2,507	4,265	33,770
1977	AVERAGE	1,661	1,973	1,476	5,015	1,655	18,431	2,478	4,214	34,930
1978	AVERAGE	1,701	2,077	1,551	5,115	1,683	18,847	2,596	4,387	35,880
1979	AVERAGE	1,766	2,107	1,607	5,173	1,690	18,513	2,664	4,487	35,900
1980	January	1,820	2,465	1,778	5,255	1,769	R18,851	2,690	R4,337	36,500
	February	1,930	2,444	1,864	5,722	1,621	R18,817	2,410	R4,736	37,100
	March	1,720	1,982	1,657	5,433	1,585	R17,377	2,430	R4,398	34,600
	April	1,600	2,110	1,541	4,626	1,472	R16,784	2,680	R4,197	32,900
	May	1,590	1,853	1,448	4,376	1,348	R16,238	2,230	R3,870	31,100
	June	1,660	1,848	1,511	4,224	1,286	R16,187	2,220	R4,012	31,100
	July	1,680	1,450	1,537	4,250	1,217	R16,008	2,420	R3,988	31,100
	August	1,650	1,220	1,310	3,910	1,120	R15,753	2,150	R3,807	29,700
	September	1,710	1,740	1,650	4,120	1,270	R16,598	2,540	R4,112	32,000
	October	1,770	2,050	1,670	4,250	1,430	R16,995	2,230	R3,855	32,200
	November	1,720	2,040	1,530	4,550	1,440	R16,702	2,110	R3,948	32,000
	December	1,940	2,410	1,740	5,350	1,480	R18,410	2,190	R4,390	35,500
		AVERAGE	1,730	1,965	1,602	4,680	1,420	R17,056	2,360	R4,152
1981	January	1,760	2,310	1,710	4,980	1,400	18,288	2,230	4,632	35,000
	February	1,770	2,170	2,010	5,350	1,460	16,930	2,510	4,270	34,300
	March	1,550	1,790	1,700	5,020	1,430	15,838	2,100	3,762	31,400
	April	1,600	1,500	1,620	4,140	1,290	15,280	1,810	4,060	31,300
	May	1,490	1,670	1,290	3,600	1,190	15,196	1,880	4,084	30,400
	June	R1,635	1,600	1,340	3,915	1,210	15,996	2,155	R4,149	32,000
	July	1,620	1,450	1,435	4,235	1,170	15,713	2,150	4,127	31,900
	August	1,630	1,160	R1,225	R4,082	1,125	15,236	2,111	3,931	30,500
	September	1,605	R1,425	R1,510	4,070	1,270	R15,619	NA	NA	NA
	October	NA	1,655	1,495	NA	NA	15,840	NA	NA	NA

U.S. geographic coverage: the 50 United States and District of Columbia.

¹These data represent inland consumption, i.e., sales of petroleum products excluding refinery fuel, refinery losses, and ocean bunkers except for the United States, where it represents domestic products supplied.

²Not a member of the International Energy Agency (IEA).

³Other is a calculated total derived from the difference between total IEA consumption and the IEA nations represented above.

⁴The 21 signatory nations of the IEA are: Australia, Austria, Belgium, Canada, Denmark, West Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. Australia and Portugal joined the IEA as new members in 1979 and 1980, respectively. In an effort to maintain comparability within this time series, consumption data for these two countries have been incorporated into the IEA total for all years.

NA=Not available. R=Revised data.

Note: Data for 1980 and 1981 are preliminary.

Sources: • Central Intelligence Agency, 'Economic and Energy Indicators,' 22 January 1982 (except the United States).

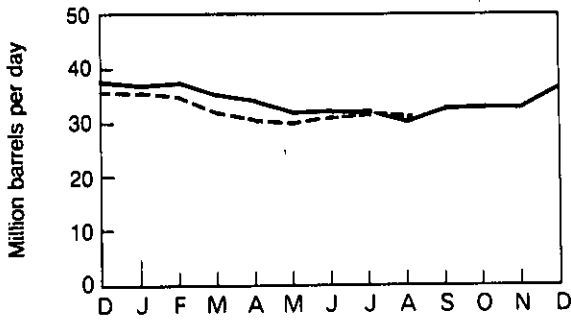
• 1973-1981 United States data: See sources at the end of the Petroleum Section.

• IEA totals for latest months are Energy Information Administration estimates.

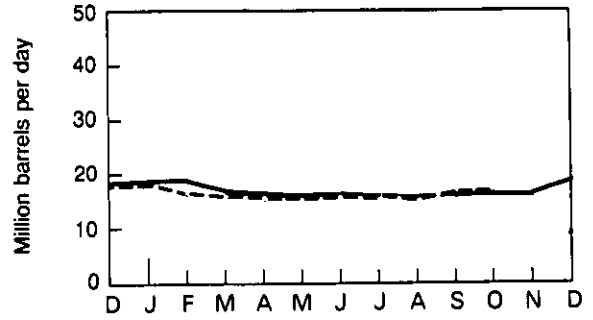
International

Petroleum Consumption

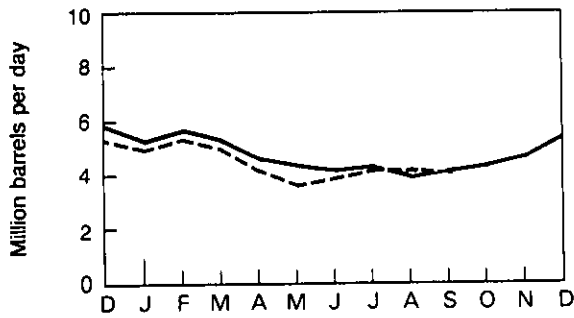
Total IEA



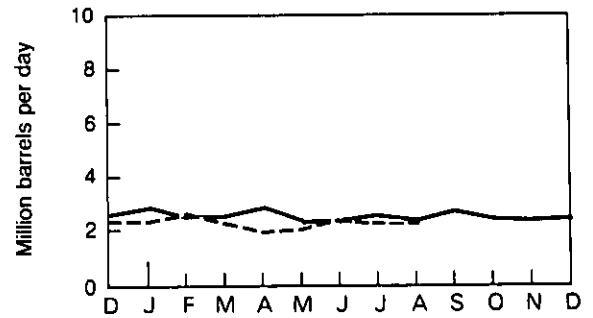
United States



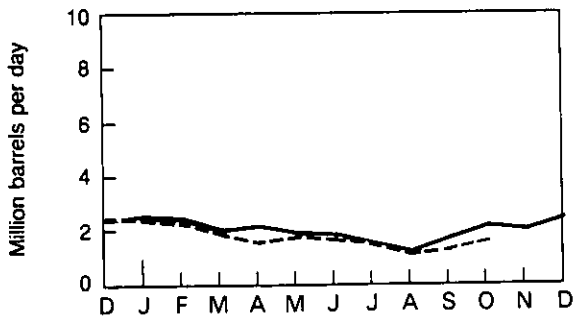
Japan*



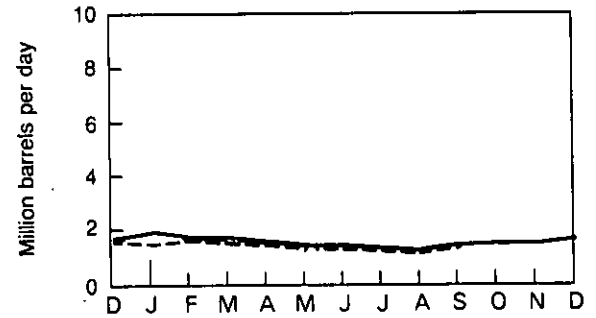
West Germany



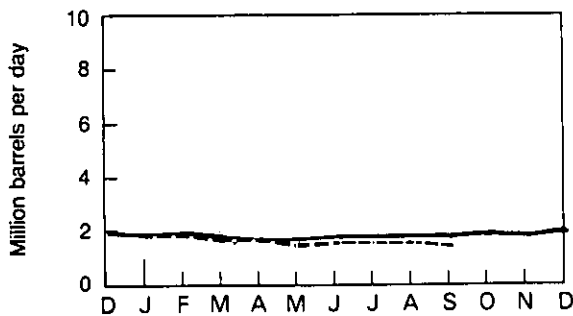
France**



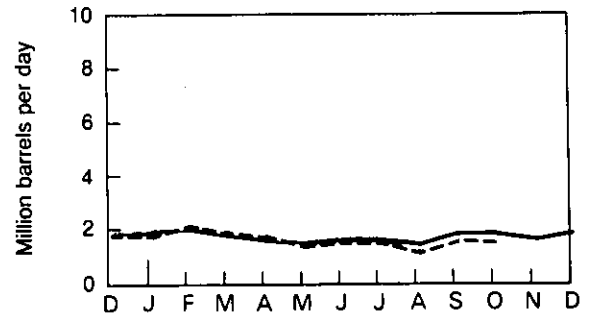
United Kingdom



Canada



Italy***



*Excludes liquefied petroleum gases and condensates.

**Not a member of IEA.

***Principal products only.

— 1980

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International

Petroleum Stocks for Major Non-Communist Industrialized Countries at End of Period¹

	Canada	France	Italy	Japan	United Kingdom	United States	West Germany	Other OECD ²	Total OECD ³
	Million barrels								
1973	149	203	NA	303	156	1,008	NA	NA	NA
1974	164	240	169	370	191	1,074	215	NA	NA
1975	167	239	143	375	164	1,133	190	NA	NA
1976	156	231	142	394	165	1,112	214	NA	NA
1977	170	241	162	399	147	1,312	236	485	3,152
1978	148	214	153	422	147	1,278	239	487	3,089
1979	156	231	163	457	163	1,341	273	574	3,358
1980									
January	156	228	164	445	164	1,348	282	NA	NA
February	153	225	153	419	162	1,339	305	NA	NA
March	156	233	152	427	163	1,342	299	535	3,307
April	161	220	155	442	160	1,366	287	NA	NA
May	168	233	164	463	167	1,387	300	NA	NA
June	171	239	165	471	174	1,410	313	557	3,500
July	178	247	176	494	172	1,425	308	NA	NA
August	184	266	186	508	176	1,449	315	NA	NA
September	183	264	192	508	173	1,447	306	617	3,690
October	178	271	186	497	169	1,430	307	NA	NA
November	172	260	179	488	170	1,434	313	NA	NA
December	171	254	173	481	169	1,395	323	587	3,553
1981									
January	169	234	155	479	168	1,391	319	NA	NA
February	162	235	184	457	170	1,398	312	NA	NA
March	165	227	158	452	164	1,405	318	525	3,414
April	174	235	169	484	165	1,423	322	NA	NA
May	176	229	173	496	162	1,447	321	NA	NA
June	179	225	171	484	158	1,438	312	585	3,552
July	174	228	NA	NA	153	1,444	NA	NA	NA
August	177	233	NA	NA	R151	1,458	NA	NA	NA
September	177	241	NA	NA	148	1,481	NA	NA	NA

U. S. geographic coverage: the 50 United States and District of Columbia. Totals may not equal sum of components due to independent rounding.

¹Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all non-military petroleum held for storage regardless of ownership, within each particular country in the following facilities: bulk terminals, refinery tanks, pipeline tankage, intercoastal tankers, tankers in port, and inland ship bunkers. These data exclude oil held in pipelines (except for the United States), in rail and truck cars, in sea-going ships' bunkers, in service stations, retail stores, and in tankers at sea.

²"Other OECD" includes Organization of Economic Cooperation and Development (OECD) members not shown.

³The members of OECD are Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Total OECD excludes United States Territories.

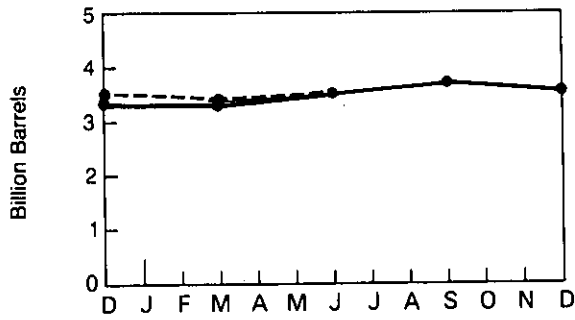
R = Revised data. NA = Not available.

Sources: • Canada: Energy, Mines and Resources Canada, *Energy Information Handbook*; Statistics Canada, *Refined Petroleum Products*. • France: Comité Professionnel du Pétrole, *Pétrole 80: Activité de L'Industrie Pétrolière et Bulletin Mensuel*. • West Germany and Italy: OECD, *Quarterly Oil Statistics and Monthly Oil Statistics*. • Japan: Ministry of International Trade and Industry, *Yearbook of Coal, Petroleum, and Coke Statistics 1979; Energy Production: Supply and Demand Statistics Report*. • United Kingdom: United Kingdom Department of Energy, *Digest of United Kingdom Energy Statistics 1981 and Energy Trends*; and OECD, *Monthly Oil Statistics*. • United States: 1973 through 1979: Energy Information Administration (EIA), *Energy Data Reports*, "Petroleum Statement, Annual"; January 1980 through September 1981: EIA, "Petroleum Statement, Monthly". • Other OECD: OECD, *Quarterly Oil Statistics*. • Total OECD: Sum of data for all OECD member countries using above sources.

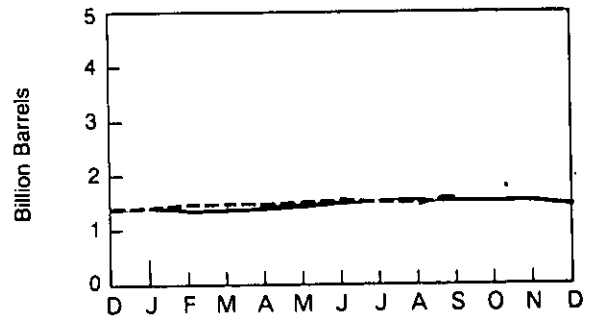
International

Petroleum Stocks

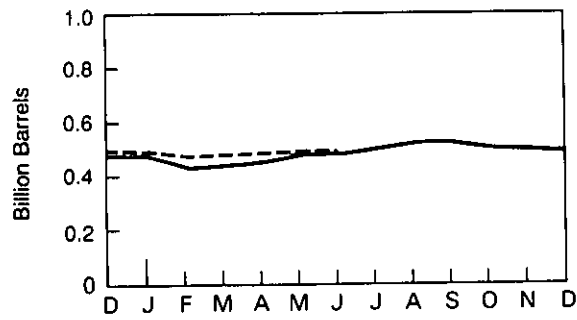
Total OECD



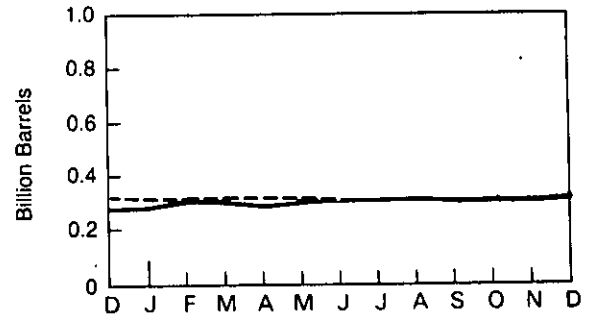
United States



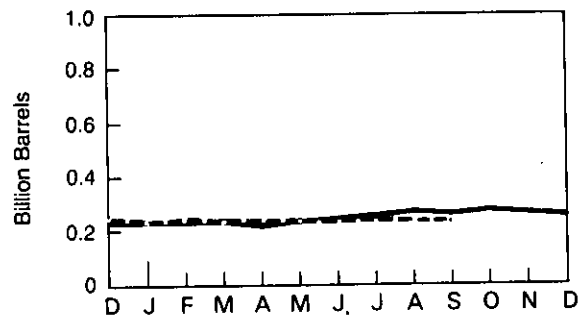
Japan



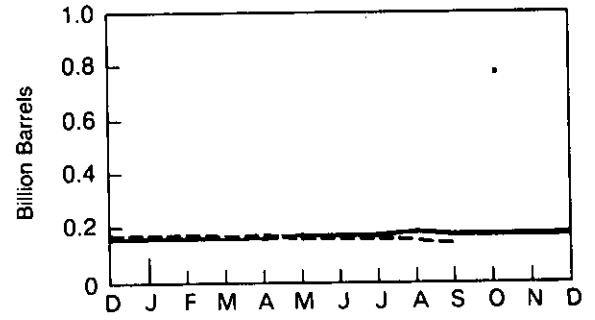
West Germany



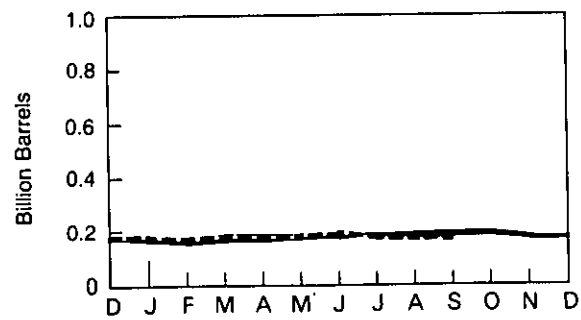
France



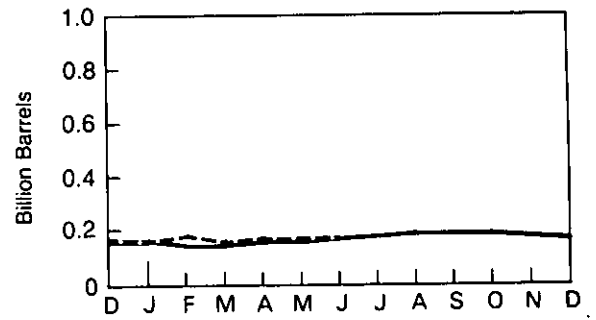
United Kingdom



Canada



Italy



— 1980
- - - 1981

International

Nuclear Electricity Generation by Non-Communist Countries¹

		Argentina	Belgium	Canada	Finland	France	India	Italy	Japan	Nether-lands	Pakistan
		Billion gross kilowatt-hours									
1973	TOTAL	0	0	18.3	0	11.6	1.9	3.1	9.4	1.1	0.5
1974	TOTAL	1.0	0.1	15.4	0	14.7	2.4	3.4	18.1	3.3	0.6
1975	TOTAL	2.5	6.8	13.2	0	18.3	2.5	3.8	22.2	3.3	0.5
1976	TOTAL	2.6	10.0	18.0	0	15.8	3.2	3.8	36.8	3.9	0.5
1977	TOTAL	1.6	11.9	26.8	2.7	17.9	2.8	3.4	28.1	3.7	0.3
1978	TOTAL	2.9	12.5	32.9	3.3	30.5	2.3	4.4	53.2	4.1	0.2
1979	TOTAL	2.7	11.4	38.4	6.7	39.9	3.2	2.6	62.0	3.5	(s)
1980	January	0.3	1.2	3.6	0.8	5.5	0.2	0.2	8.0	0.4	0
	February	0.1	1.0	3.5	0.8	5.3	0.1	0.4	7.4	0.4	0
	March	0	1.0	3.7	0.8	5.1	0.2	0.5	8.0	0.4	0
	April	0.1	0.5	3.2	0.8	5.0	0.3	0.4	5.6	0.3	0
	May	0.2	0.7	2.5	0.3	4.2	0.3	0.3	6.0	0.3	0
	June	0.2	1.1	3.1	0	4.1	0.2	0.1	6.7	0.3	0
	July	0.2	1.3	3.6	0.4	4.8	0.2	0.1	7.8	0.4	(s)
	August	0.3	1.3	3.9	0.4	3.2	0.3	0.1	8.6	0.4	(s)
	September	0.3	1.1	3.1	0.4	4.5	0.3	0.1	7.0	0.4	(s)
	October	0.3	0.9	3.3	0.5	5.1	0.2	0	6.0	0.3	0
	November	0.3	1.1	3.4	0.6	5.8	0.3	0	5.4	0.3	(s)
	December	0.3	1.2	3.5	1.2	8.5	0.2	0	6.3	0.3	(s)
	TOTAL	2.3	12.5	40.4	7.0	61.2	2.9	2.2	82.8	4.2	0.1
1981	January	0.3	1.2	3.2	1.3	9.3	0.2	0.2	8.2	0.1	(s)
	February	0.2	1.0	3.5	0.9	8.6	0.2	0.3	7.1	(s)	(s)
	March	0.3	0.6	3.9	1.4	8.8	0.3	0.1	7.8	0.3	0
	April	0.2	0.7	3.3	1.5	8.3	0.3	0.6	7.9	0.4	0
	May	0.2	1.2	3.4	1.0	8.9	0.4	0.3	8.0	0.4	(s)
	June	0.2	1.2	3.6	0.7	8.3	0.3	0.1	6.7	0.4	(s)
	July	0.3	1.3	4.0	0.8	8.4	0.3	0.3	8.3	0.4	(s)
	August	0.2	1.2	4.0	1.4	7.7	0.2	0.1	8.1	0.4	(s)
	September	0.3	0.9	3.3	1.5	8.5	0.2	0.1	5.9	0.4	(s)
	October	0.2	1.0	3.4	1.4	8.1	0.2	0.1	5.1	0.4	(s)
	November	0.2	1.2	3.5	1.3	9.3	0.2	0.1	4.8	0.4	(s)
	TOTAL (Year-to-date)	2.6	11.5	38.2	13.3	94.2	2.8	2.3	77.9	3.3	0.2

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

¹Figures are for gross electricity generation as opposed to net electricity generation. Net figures are generally less than gross figures by about 5 percent, which represents the energy consumed by the generating plants themselves.

(s) = Less than 0.05 billion gross kilowatt-hours.

Source: • *Nucleonics Week*.

International

Nuclear Electricity Generation by Non-Communist Countries¹ (continued)

		South Korea	Spain	Sweden	Switzer- land	Taiwan	United Kingdom ²	West Germany	Non- Communist World Excluding U.S.	United States	Total Non- Communist World
Billion gross kilowatt-hours											
1973	TOTAL	0	6.5	2.1	6.2	0	28.0	11.9	100.7	88.0	188.7
1974	TOTAL	0	7.2	1.6	7.0	0	34.0	12.0	121.1	104.5	225.6
1975	TOTAL	0	7.5	12.0	7.7	0	30.5	21.7	152.7	181.8	334.5
1976	TOTAL	0	7.6	16.0	7.9	0	36.8	24.5	187.3	201.6	388.9
1977	TOTAL	0.1	6.5	19.9	8.1	0.1	38.1	35.8	207.8	263.2	470.9
1978	TOTAL	2.3	7.6	23.8	8.3	2.7	36.7	35.9	263.6	292.7	556.3
1979	TOTAL	3.2	6.7	21.0	11.8	6.3	38.5	42.2	300.1	270.7	570.8
1980	January	0.1	0.7	2.5	1.5	0.9	3.7	4.7	34.2	21.1	55.3
	February	(s)	0.3	2.4	1.2	0.7	3.4	4.2	31.3	21.0	52.2
	March	0.4	0.4	2.3	1.3	0.8	4.2	3.4	32.4	21.0	53.4
	April	0.4	0.4	1.9	1.4	0.7	2.7	3.6	27.3	19.8	47.1
	May	0.4	0.4	1.6	1.4	0.4	2.6	3.5	25.1	19.6	44.7
	June	0.1	0.3	1.6	0.6	0.5	2.8	2.9	24.7	19.4	44.1
	July	0.4	0.3	1.3	0.6	0.8	2.0	3.0	27.2	22.4	49.6
	August	0.3	0.4	1.3	0.7	0.8	2.6	2.7	27.2	25.7	52.9
	September	0.4	0.4	2.1	1.3	0.8	3.1	3.2	28.4	24.8	53.2
	October	0.4	0.4	2.7	1.4	0.8	2.7	3.1	28.2	25.7	53.9
	November	0.4	0.5	3.4	1.4	0.6	3.2	4.1	30.8	22.0	52.8
	December	0.3	0.7	3.6	1.5	0.5	4.2	5.3	37.5	23.1	60.7
	TOTAL	3.5	5.2	26.7	14.3	8.2	37.2	43.7	354.4	R265.5	R619.9
1981	January	0.3	0.8	3.5	1.5	0.8	3.8	5.0	39.7	25.7	65.4
	February	0	0.6	3.6	1.4	0.7	3.4	4.6	36.2	22.6	58.8
	March	0	0.7	3.7	1.5	0.8	4.2	4.9	39.1	23.1	62.2
	April	0	0.6	3.3	1.4	0.8	2.8	4.4	36.5	21.7	58.2
	May	0.2	0.8	2.8	1.4	0.8	2.5	4.3	36.6	20.9	57.4
	June	0.4	0.8	2.8	0.7	0.8	3.3	4.1	34.5	22.6	57.1
	July	0.4	1.1	1.4	0.6	0.8	2.5	5.2	36.1	24.8	60.9
	August	0.4	1.0	2.6	1.0	0.8	2.5	3.9	35.6	R28.3	R63.9
	September	0.3	0.6	3.0	1.3	0.8	3.1	3.2	33.4	25.7	59.1
	October	0.3	1.2	3.3	1.5	1.2	2.7	4.0	34.2	21.6	55.8
	November	0.3	0.6	3.6	1.4	1.0	3.1	4.3	35.5	24.1	59.5
	TOTAL (Year-to-date)	2.5	8.8	33.6	13.7	9.5	34.0	48.0	397.3	261.1	658.4

United States geographic coverage: the 50 United States and District of Columbia.

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

¹Figures are for gross electricity generation, as opposed to net electricity generation. Net figures are generally less than gross figures by about 5 percent, which represents the energy consumed by the generating plants themselves.

²The United Kingdom assesses generation at 4- or 5-week intervals, rather than by calendar month.

R=Revised data. (s)=Less than 0.05 billion gross kilowatt-hours.

Source: • *Nucleonics Week*.

Definitions

Anthracite

A hard, black lustrous coal containing a high percentage of fixed carbon and a low percentage of volatile matter. Often referred to as hard coal. Includes metaanthracite and semianthracite. Conforms to ASTM Specification D388, for anthracite.

Average Retail Selling Price, Motor Gasoline

The average price of sales of motor gasoline to retail customers at service stations.

Bituminous Coal

A coal which is high in carbonaceous matter, having a volatility greater than anthracite coal and a calorific value greater than lignite. Often referred to in the United States as soft coal. Includes subbituminous coal and conforms to ASTM Specification D388 for bituminous and subbituminous coal.

Coke (Coal)

Bituminous coal from which constituents have been driven off by heat so that the fixed carbon and the ash are fused together. It is primarily used in blast furnaces for smelting ores, especially iron ore.

Crude Oil

A mixture of hydrocarbons that is in the liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Statistically, crude oil reported at refineries, in pipelines, at pipeline terminals, and on leases may include lease condensate.

Crude Oil Domestic Production

Domestic crude oil production is measured at the wellhead and includes lease condensate, which is a natural gas liquid recovered from lease separators or field facilities.

Crude Oil Refinery Input

Total crude oil (including lease condensate) input to crude oil distillation units and other units for processing.

Crude Oil Stocks

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

Distillate Fuel Oil

A light fuel oil distilled off during the refining process. Included are products known as No. 1 and No. 2 heating oils, diesel fuels, and No. 4 fuel oil, which conform to either ASTM Specification D396 or D975. These products are used primarily for space heating, on- and off-highway diesel engine fuel (including railroad engine fuel), and electric power generation.

Distillate Fuel Oil Production

Total production of distillate fuel by refineries, measured at the refinery outlet. Relatively small quantities of distillate fuel are produced at natural gas processing plants, but these quantities are not included.

Electricity Production

Production at electric utilities only. Does not include industrial electricity generation.

Exploratory Well

A well drilled to 1.) find and produce oil or gas in an unproved area; 2.) find a new reservoir in a field previously found to be productive of oil or gas in another reservoir; or 3.) extend the limit of a known oil or gas reservoir.

Full Serve

Motor vehicle services are provided by an attendant, such as: pumping gas, washing windows, checking under the hood, checking tire pressure, etc.

Imports

Receipts into the 50 States and the District of Columbia of foreign goods (including receipts of goods from U.S. territories and U.S. Foreign Trade Zones) which are classified by customs officials as "imports for consumption" or "withdrawals from bonded warehouse for consumption," including withdrawals from bonded warehouse for military offshore use and for bunkering of vessels or aircraft engaged in international commerce. Included are imports for the Strategic Petroleum Reserve. Excluded are receipts into bonded warehouse and into U.S. territories and U.S. Foreign Trade Zones.

Jet Fuel

Includes both naphtha-type and kerosene-type jet fuel meeting standards for use in aircraft turbine engines or meeting ASTM Specification D1655. Although most jet fuel is used in aircraft, some is used for other purposes, such as fuel for turbines to produce electricity.

Landed Cost

Includes the purchase price at the foreign port (or U.S. land border), transportation and insurance costs, wharfage and demurrage, brokerage fees, import fees and duties, license (ticket) fees, and transportation costs to the refinery. Averages computed based on major importers which account for an estimated 90 to 95 percent of total crude oil imports. Coverage includes United States and its territories.

Lease Condensate

A natural gas liquid recovered from gas well gas (including gas produced from crude oil reservoirs) in lease separators and, in some instances, field facilities. It consists primarily of pentanes and heavier hydrocarbons. Generally, it is blended with crude oil for refining.

Line Miles of Seismic Exploration

The distance along the earth's surface that is covered by seismic surveying.

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.

Major Brand

Lundberg Survey, Inc., defines major brand as an integrated company that produces, refines, transports, and markets in Interstate Commerce under its own brand(s) in 10 or more states.

Maximum Dependable Capacity, Net

Represents the dependable main-unit net capacity of domestic reactors and generally varies throughout the year because the unit efficiency varies with seasonal cooling water temperature variations. Usually maximum dependable capacity is the highest net dependable output of the turbine generator during the most restrictive seasonal conditions (usually summer).

Motor Gasoline

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. Included are leaded and unleaded products and all refinery products listed in ASTM Specification D439.

Motor Gasoline Production

Total production of motor gasoline by refineries, measured at the refinery outlet. Relatively small quantities of motor gasoline are produced at natural gas processing plants, but these quantities are not included.

Motor Gasoline, Regular Grade

Motor gasoline that has an antiknock designation of 2 for unleaded gasoline and 3 for leaded gasoline.

Motor Gasoline, Premium Grade

Volatile hydrocarbon mixture suitable for operation of an internal combustion engine and customarily marketed as "ethyl," "super," or equivalent classification.

Natural Gas

A mixture of hydrocarbon compounds and small quantities of various non-hydrocarbons existing in gaseous phase or in solution with crude oil in natural underground reservoirs at reservoir conditions.

Natural Gas Liquids

Those portions of reservoir gas which are liquefied at the surface in lease separators, field facilities, or natural gas processing plants. Natural gas liquids include natural gas plant liquids and lease condensate.

Natural Gas Plant Liquids

Those portions of natural gas that are liquefied at natural gas processing plants, including natural gasoline plants, fractionating, and cycling plants, and, in some instances, field facilities. Products obtained include ethane, liquefied petroleum gases (propane, butanes, propane-butane mixtures, ethane-propane mixtures), isopentane, natural gasoline, unfractionated streams, plant condensate and other minor quantities of finished products such as motor gasoline, special naphthas, jet fuel, kerosene and distillate fuel oil.

Natural Gas Production (Dry)

Derived by subtracting extraction loss from marketed production. It represents the amount of domestic natural gas production that is available to be marketed and consumed as a gas.

Petroleum

A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, refined petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

Petroleum Coke

A solid residue; 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 productions.

Petroleum Products

Products obtained from the processing of crude oil, unfinished oils, natural gas liquids and other miscellaneous hydrocarbon compounds. Includes aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, ethane, liquefied petroleum gases, petrochemical feedstocks, special naphthas, lubricants, paraffin wax, petroleum coke, asphalt, road oil, still gas and other miscellaneous products.

Refined Petroleum Product Supplied

Total refined petroleum product supplied is the sum of each refined petroleum product supplied. For each product the amount supplied is derived by summing production, imports, and net withdrawals from primary stocks and subtracting exports.

Refiner Acquisition Cost

The cost to the refiner, including transportation and fees, of crude oil. The composite cost is the average of domestic and imported crude oil costs, and represents the amount of crude oil cost which refiners may pass on to their customers.

Residual Fuel Oil

The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations. Included are products known as No. 5 and No. 6 fuel oil that conform to ASTM Specification D396, heavy diesel oil, Navy Special Fuel Oil, Bunker C fuel oil, and acid sludge and pitch used as refinery fuels. Residual fuel oil is used for the production of electric power, space heating, vessel bunkering, and various industrial purposes.

Rotary Rig

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

Self Serve

Motor vehicle services are not provided by attendants.

Strategic Petroleum Reserve

A plan developed to reduce the impact of interruption of imports of petroleum. Congress enacted legislation to establish a Strategic Petroleum Reserve in Title I, Part B of the Energy Policy and Conservation Act of 1975, Public Law 94-163.

Startup Test Phase of Nuclear Powerplant

A nuclear powerplant that has been licensed by the Nuclear Regulatory Commission to operate, but that is in the initial testing phase during which production of electricity may not be continuous. In general, when the electric utility is satisfied with the plant's performance, it formally accepts the plant from the manufacturer, and places it in "commercial operation" status. A request is then submitted to the appropriate utility rate commission to include the powerplant in the rate base calculation.

Stocks (Refined Petroleum Product)

Stocks held at refineries, bulk terminals, and pipelines (including pipeline fill) where the storage capacity exceeds 50,000 barrels. Stocks held at natural gas processing plants are not included as well as stocks held in secondary storage facilities, such as those held by jobbers, dealers, independent marketers, and consumers.

Synthetic Natural Gas (SNG)

A product resulting from the manufacture, conversion, or reforming of hydrocarbons which may be easily substituted for or interchanged with pipeline-quality natural gas.

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 refinery input, exports of crude oil, crude oil burned as fuel, and crude oil losses.

Well

A hole drilled for the process of finding or producing crude oil or natural gas or providing services related to the production of crude oil or natural gas. Wells are classified as oil wells, gas wells, dry holes, stratigraphic tests, or service wells.

Explanatory Notes

1. Domestic production of energy includes production of coal (anthracite, bituminous, and lignite), crude oil and lease condensate, natural gas plant liquids, natural gas (dry), electric utility and industrial production of hydropower, and electricity generated from nuclear power, geothermal power, and wood and waste. The volumetric data were converted to approximate heat contents (Btu values) of these energy sources using conversion factors listed in Thermal Conversion Factors.

2. Domestic consumption of energy includes consumption of coal (anthracite, bituminous coal, and lignite), natural gas (dry), refined petroleum products supplied, electric utility and industrial production of hydropower, net imports of electricity produced from hydropower, net imports of coke made from coal, and electricity generated from nuclear power, geothermal power, and wood and waste. Approximate heat contents (Btu values) were derived using conversion factors listed in Thermal Conversion Factors.

3. U.S. energy imports include imports of bituminous coal, crude oil (including crude oil imported for the Strategic Petroleum Reserve), refined petroleum products, natural gas (dry), electricity produced from hydropower, and coke made from coal.

4. U.S. energy exports include bituminous coal and anthracite, crude oil, refined petroleum products, natural gas (dry), electricity produced from hydropower, and coke made from coal.

5. The Residential and Commercial Sector consists of housing units, non-manufacturing business establishments (e.g., wholesale and retail businesses), health and educational institutions, and government office buildings. The Industrial Sector is made up of construction, manufacturing, agriculture, and mining establishments. The Transportation Sector consists of both private and public passenger and freight transportation, as well as government transportation, including military operations. The Electric Utilities Sector is made up of privately- and publicly-owned establishments which generate electricity primarily for resale.

6. 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 two degree-day data bases maintained by the National Oceanic and Atmospheric Administration. Weekly degree-day information is based on mean daily temperatures recorded at about 200 major weather stations around the country. Monthly data are based on readings at more than 8,000 weather stations. The temperature information recorded at these weather stations is used to calculate statewide degree-day averages based on population. The

State figures are then aggregated into Petroleum Administration for Defense (PAD) Districts and into the national average, also using a population weighting method.

Weekly weather reports are available much sooner than the monthly reports, and therefore the degree-day information published in the *Monthly Energy Review* is normally derived from the weekly source.

7. Domestic products supplied figures for natural gas liquids (NGL) in this publication do not include amounts utilized by refineries for blending purposes in the production of finished products, principally gasoline. Use of NGL at refineries is reported in a separate column. The production series cited in this publication shows both NGL produced at processing plants and liquefied gases produced at refineries (LRG). The stock series shown in this volume includes natural gas liquids held as stocks at both natural gas processing plants and at refineries and LRG held at refineries.

8. Domestic consumption of natural gas includes the quantities sold to consumers plus the gas used for plant and pipeline fuel, after the natural gas liquids have been extracted. All monthly consumption data are estimated. Marketed production of natural gas includes gross withdrawals from the ground less the quantities used for repressuring and the amount vented and flared, before the natural gas liquids have been extracted. Dry production of natural gas is the quantity remaining after the natural gas liquids have been extracted.

9. The Federal Energy Administration and Federal Power Commission began the coordinated collection and compilation of monthly underground storage information from all underground storage operators in the United States in October 1975. Initial storage information reported was for the month of September 1975. Comparable monthly information for total U.S. storage operations is not available for prior periods.

The total gas in storage is the total volume of gas (base gas plus working gas) in storage reservoirs as of the end of the month. Base gas is the volume of gas, including all native gas in place at the time of conversion to storage, needed as a permanent inventory to maintain adequate reservoir pressures and deliverability rates throughout the withdrawal season. Base gas includes the volumes which will not be recoverable upon termination of storage operations. Working gas is the volume of gas above the designated base gas level available for withdrawal.

10. Preliminary estimates of monthly coal production are based on the number of cars loaded at mines reported weekly to the Association of American Railroads by Class I railroads. The amount of coal produced and shipped by other modes of transportation is derived by employing the ratio of railroad shipments to total production for the most recent period for which this ratio is known. Final monthly and annual coal production data are derived from the Energy Information Administration (EIA) "Coal Distribution Report" (Form EIA-6) and selected State agencies.

Domestic consumption data in this series approximate actual consumption. This is in contrast to domestic products supplied reported for petroleum products, which is a calculated value representing total disappearance from primary supplies.

The data sources used to compute the monthly coal consumption estimates from 1978 forward for the "Other Industrial" (i.e. Industrial except coke plants) sector are:

- (a) Form EIA-3, "Monthly Fuel Consumption Report—Manufacturing Plants."
- (b) Form EIA-6, "Bituminous Coal and Lignite Distribution Report."

The basic assumption used in deriving a quarterly estimate for coal consumption is that consumption is equal to beginning stocks plus receipts minus ending stocks. In terms of an equation, consumption can be expressed as

$$C = S_B + R - S_E \quad (1)$$

where

- S_B = beginning stocks
- R = receipts
- S_E = ending stocks.

The change in stocks ($S_B - S_E$) can be denoted by ΔS . From equation (1), consumption is

$$C = \Delta S + R \quad (2)$$

The Form EIA-6 provides complete coverage of the "Other Industrial" sector. The quarterly receipts are obtained from this form.

The Form EIA-3 does not provide total coverage of the "Other Industrial" sector, however it does contain stock change information. The impact of the stock change in the portion of the sector that is not covered by the Form EIA-3 is not substantial.

Given the estimated quarterly consumption for the "Other Industrial" sector (C), the monthly consumption for the sector (C_M) can be estimated for each month in the quarter as

$$C_M = (C_{M3}/C_3) \cdot C \quad (3)$$

where

- C_{M3} = the monthly consumption in the "Other Industrial" sector as reported on Form EIA-3.
- C_3 = the quarterly consumption in the "Other Industrial" sector as reported on Form EIA-3.

Equation (3) insures that a) the monthly consumption estimates (C_M) sum to C over the quarter and b) the estimated seasonality for the C_M 's is the same as that for the C_{M3} 's.

11. The units used to describe power generation at nuclear plants are based on the watt, a unit of power. (Power is

energy produced per unit of time.) Nuclear power plants may have more than one type of power rating, including:

- (a). Design Capacity or Design Electrical Rating (DER)—The nominal net, electrical output of the unit specified by the utility and used for the purpose of plant design.
- (b). Maximum Dependable Capacity (MDC), GROSS—The gross electrical output as measured at the output terminals of the turbine generator during the most restrictive seasonal conditions (usually summer).
- (c). Maximum Dependable Capacity, NET—The gross maximum dependable capacity less the nominal station service load. (The nominal station service load for a nuclear plant is about 5 percent of its gross generation.)
- (d). Thermal Capacity—The rate of heat production by the reactor core. The Nuclear Regulatory Commission authorizes a maximum thermal power rating for U.S. reactors.

12. The actual domestic average price represents the average price at which all domestic crude oil is purchased. Prior to February 1976, the domestic crude oil wellhead price represented an estimate of the average of posted prices; after February 1976, the wellhead price represents an average of first sale prices.

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

The costs previously published for January 1981, viz., \$30.87 per barrel for domestic crude, \$37.59 per barrel for imported, and \$33.40 per barrel for the composite, were from data collected on Form ERA-49. The revised costs are from data collected on Form EIA-14. The January prices are being replaced because the Form ERA-49 data were based on only the 27 days of controlled activity, and because there was considerable recertification of oil which occurred in January.

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

Crude oil costs and volumes reported on Form ERA-49 excluded unfinished oils but included 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 Form ERA-49 exclude oil purchased for SPR, whereas the composite averages derived from Form ERA-49 include SPR. None of the prices derived from Form EIA-14 include either unfinished oils or SPR.

14. 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.

15. 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 which 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.

16. The motor gasoline prices are calculated monthly by the BLS in conjunction with the construction of the Consumer Price Index (CPI). For the period 1974 through 1978 prices were collected in 56 urban areas. For the period 1978 forward, prices are 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).

17. The survey and method used to derive data for March 1976 forward differ from those used for prior months. Data for January 1974 through February 1976 are derived from a survey of distributors, and prices and margins are computed as unweighted averages. The average distributor purchase price and average dealer margin for March 1976 forward are for distributors only, whereas the average selling price includes both refiners and distributors. Data for March 1976 forward are computed as sales weighted averages.

18. The U.S. Department of Energy Regions are defined as follows:

- Region 1 — Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island;
- Region 2 — New York, New Jersey, Puerto Rico, Virgin Islands;
- Region 3 — Pennsylvania, Maryland, West Virginia, Virginia, District of Columbia, Delaware;
- Region 4 — Kentucky, Tennessee, North Carolina, South Carolina, Mississippi, Alabama, Georgia, Florida, Canal Zone;
- Region 5 — Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio;
- Region 6 — Texas, New Mexico, Oklahoma, Arkansas, Louisiana;
- Region 7 — Kansas, Missouri, Iowa, Nebraska;
- Region 8 — Montana, North Dakota, South Dakota, Wyoming, Utah, Colorado;
- Region 9 — California, Nevada, Arizona, Hawaii, Trust Territory of the Pacific Islands, American Samoa, Guam;
- Region 10 — Washington, Oregon, Idaho, Alaska.

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

From Mar. 82
MEDS conversion
factor file

Conversion Factors

(all Kus)

Approximate Heat Content of Various Fuels		1973	1974	1975	1976	1977	1978	1979	1980-81†	1981
Anthracite										
Production	Thousand Btu/short ton	ACPR 23,170	22,560	23,390	22,770	23,180	23,520	23,590	23,590	23,590
Imports and Exports	Thousand Btu/short ton	ACIE 25,400	25,400	25,400	25,400	25,400	25,400	25,400	25,400	25,400
Consumption, average	Thousand Btu/short ton	ACTC 22,710	21,950	21,740	22,150	22,710	22,970	22,700	22,700	22,700
Electric utility consumption	Thousand Btu/short ton	ACEU 17,920	17,200	17,060	17,530	17,240	17,100	17,450	17,380	17,380
Non-utility consumption	Thousand Btu/short ton	ACNU 24,340	23,750	23,650	23,840	24,990	25,170	25,200	24,690	24,690
Bituminous coal and lignite										
Production	Thousand Btu/short ton	BCPR 24,010	23,730	23,200	23,150	22,700	22,430	22,590	22,590	23,150
Imports	Thousand Btu/short ton	BCIM 25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Exports	Thousand Btu/short ton	BCEM 27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000
Consumption, average	Thousand Btu/short ton	BCTC 23,650	23,070	22,800	22,750	22,330	22,140	22,200	22,200	22,000
Electric utility consumption	Thousand Btu/short ton	BCEU 22,260	21,800	21,660	21,690	21,480	21,280	21,380	21,310	21,310
Non-utility consumption	Thousand Btu/short ton	BCNU 26,840	26,120	25,810	25,870	25,130	25,070	25,060	25,970	25,970
Coal Coke	Thousand Btu/short ton	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000
Crude petroleum¹										
Production	Thousand Btu/barrel	COPR 5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800
Imports	Thousand Btu/barrel	COIM 5,817	5,827	5,821	5,808	5,810	5,802	5,810	5,810	5,810
Exports	Thousand Btu/barrel	COEX 5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800
Crude petroleum and products										
Imports, average	Thousand Btu/barrel	5,897	5,884	5,858	5,856	5,834	5,839	5,810	5,810	5,810
Exports, average	Thousand Btu/barrel	5,752	5,774	5,748	5,745	5,797	5,808	5,832	5,832	5,832
Petroleum products										
Consumption, average	Thousand Btu/barrel	PATC 5,515	5,504	5,494	5,504	5,518	5,519	5,494	5,494	5,479
Residential and Commercial	Thousand Btu/barrel	5,686	5,681	5,655	5,661	5,664	5,682	5,661	5,633	5,633
Industrial	Thousand Btu/barrel	5,325	5,304	5,304	5,336	5,368	5,369	5,338	5,380	5,380
Transportation	Thousand Btu/barrel	5,398	5,396	5,395	5,400	5,404	5,412	5,415	5,409	5,409
Electric Utility	Thousand Btu/barrel	6,223	6,215	6,229	6,235	6,231	6,227	6,245	6,246	6,246
Imports	Thousand Btu/barrel	5,983	5,959	5,935	5,980	5,908	5,955	5,811	5,811	5,811
Exports	Thousand Btu/barrel	RPIM 5,752	5,773	5,747	5,743	5,796	5,814	5,864	5,864	5,864
LPG Consumption Average ²	Thousand Btu/barrel	LGTC 3,746	3,730	3,715	3,711	3,677	3,669	3,680	3,680	3,680
Natural gas plant liquid production	Thousand Btu/barrel	NLPR 4,049	4,011	3,984	3,964	3,941	3,925	3,955	3,955	3,914
Natural gas, dry										
Production and consumption	Btu/cubic foot	NGTC 1,021	1,024	1,021	1,020	1,021	1,019	1,021	1,021	1,026
Electric utility consumption	Btu/cubic foot	NCEU 1,024	1,022	1,026	1,023	1,029	1,034	1,034	1,030	1,034
Non-utility consumption	Btu/cubic foot	NGNU 1,020	1,024	1,020	1,019	1,019	1,016	1,018	1,019	1,024
Imports	Btu/cubic foot	NGIM 1,026	1,027	1,026	1,025	1,026	1,030	1,037	1,037	1,037
Exports	Btu/cubic foot	NGEX 1,023	1,016	1,014	1,013	1,013	1,013	1,013	1,013	1,013
Natural gas, wet										
Production	Btu/cubic foot	1,093	1,097	1,095	1,093	1,093	1,088	1,092	1,092	1,092
Hydropower³	Btu/kWh	HYEO 10,389	10,442	10,406	10,373	10,435	10,435	10,435	10,435	10,435
Nuclear power³	Btu/kWh	NVEO 10,903	11,161	11,013	11,047	10,769	10,769	10,769	10,769	10,769
Geothermal power³	Btu/kWh	GEE0 21,674	21,674	21,611	21,611	21,611	21,611	21,611	21,611	21,611
Electricity consumption	Btu/kWh	3,412	3,412	3,412	3,412	3,412	3,412	3,412	3,412	3,412

Refined Petroleum Products:	Thousand Btu/barrel
Asphalt	6,636
Aviation gasoline	5,048
Butane	4,326
Butane-propane mixture ⁴	4,130
Distillate fuel oil	5,825
Ethane	3,082
Ethane-propane mixture ⁵	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
Petrochemical feedstocks	
Naphtha 400°	5,248
Other oils over 400°	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 naphtha	5,248
Still gas	6,000
Unfinished oils	5,825
Wax	5,537
Miscellaneous	5,796

Units of Measure

Weight

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

Conversion Factors for 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

Conversion Factors for Uranium

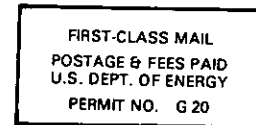
1 short ton (U ₃ O ₈)	contains	0.769 metric tons of uranium
1 short ton (UF ₆)	contains	0.613 metric tons of uranium
1 metric ton (UF ₆)	contains	0.676 metric tons of uranium

¹ Includes lease condensate.
² LPG Consumption Average is the annual weighted average of the LPG product supplied components: ethane, ethylene, propane, propylene, butane, butylene, butane-propane mixture, ethane-propane mixture, and isobutane.
³ There is no generally accepted practice for measuring hydropower thermal conversion rates. The hydropower factors on this page are the prevailing heat rate factors at fossil fuel steam electric powerplants. By using the heat rate factor, it is possible to evaluate fossil fuel requirements for replacing hydropower production during periods of drought. Furthermore, it allows for better comparisons with certain other countries such as Norway where hydropower is the principal means for producing electricity. Similarly, the nuclear power and geothermal power conversion factors represent the thermal conversion equivalent of the uranium and geothermal steam consumed at powerplants. The heat content of a kilowatt-hour of electricity produced, regardless of the generation process, is 3,412 Btu per kilowatt-hour. It is not possible to determine the hydroelectric powerplant efficiency by using these factors. The efficiency factor for hydroelectric powerplants is derived by multiplying generation efficiency by turbine efficiency. The average hydroelectric powerplant efficiency in the United States is 86 percent while average generation efficiency is 97 percent and average turbine efficiency is 89 percent.
⁴ 60 percent butane and 40 percent propane.
⁵ 70 percent ethane and 30 percent propane.
 † Preliminary data.

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