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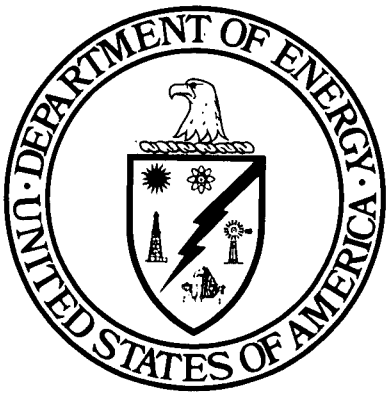
Monthly Energy Review

February 1980



U.S. Department of Energy
Energy Information Administration

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The Solar Collector Industry and Solar Energy

Walter L. Warnick, Ph.D.,[1] and James E. Hill, Ph.D.[2]

Abstract

From a 1974 level of 1.3 million square feet, the production of solar collectors increased over ten-fold to 13.9 million square feet in 1979 (based upon the first 6-months' data). However, shipments of the various types of collectors, while increasing overall, show sporadic growth patterns over the 5½-year period. Furthermore, a 4-year period of exponential growth appears to have ended.

Solar energy incident on the Nation's inventory of solar collectors during 1979 was less than 0.03 quadrillion British thermal units (Btu). It is estimated that during 1979 the usable energy-output from solar collectors in the United States was about 0.008 quadrillion Btu, between 0.01 and 0.02 percent of domestic energy consumption.

[1]Chief, Emerging Energies Branch, Energy Information Administration, Department of Energy.

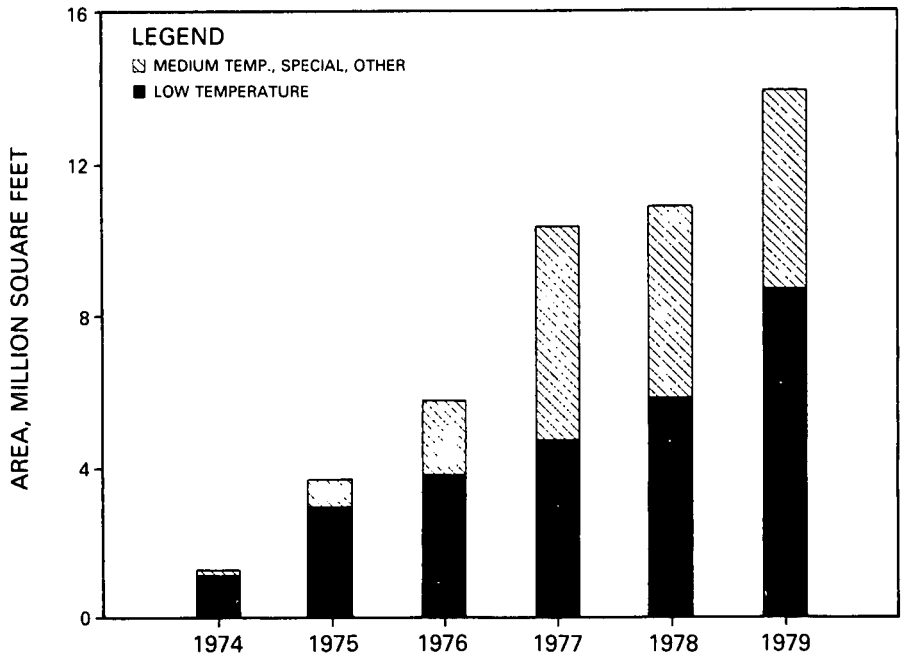
[2]Chief, Thermal Solar Group, Center for Building Technology, National Bureau of Standards.

Background

A solar energy collector is essentially a device designed to receive solar radiation and convert it to thermal or electrical energy. Generally, a thermal solar energy collector includes a frame, glazing, absorber and appropriate insulation. The heat collected may be used directly or stored for later use. Water or a water-antifreeze solution are common working media for transporting heat from a collector; air and special oils that operate at high temperatures are also used in many systems. Swimming pool covers and other devices that do not involve the transport of energy via a moving medium are not considered solar energy collectors for purposes of this report.

Three classes of solar collectors have been considered in this report: low-temperature (metallic and nonmetallic), medium-temperature (air and liquid), and special (concentrator and evacuated tube). These three types of solar collectors are defined as follows:

Figure 1. SOLAR COLLECTOR MANUFACTURING ACTIVITY



Note: 1979 manufacturing activity is an annual rate based upon the first 6 months of the year.

- *Low-Temperature Collector.* A collector that operates generally in the temperature range below 110° F. A typical collector has no glazing or insulation and is made of plastic or rubber, although some are made of metal.

- *Medium-Temperature Collector.* A collector that operates generally in the temperature range of 140° F to 180° F, but may operate at temperatures as low as 110° F. A typical collector has one or two glazings, a metal frame, a metal absorption panel with integral flow channels or attached tubing (liquid collector) or with integral ducting (air collector), and is insulated on the sides and the back of the panel.

- *Special Collector.* An evacuated tube collector or a concentrating (focusing) collector. Special collectors operate in the range from just above outdoor temperatures (low concentration for pool heating) to several hundred degrees Fahrenheit (high concentration for air-conditioning and specialized industrial processes).

The Energy Information Administration of the Department of Energy and precursor organizations have conducted surveys of known or probable manufacturers of solar collectors to obtain information on the activity of the industry. The first survey was conducted in 1975 and covered 1974 manufacturing activity. Succeeding surveys were conducted for 6-month periods to monitor trend variations in the industry. The earliest surveys were conducted by telephone. Beginning with the second-half of 1978, however, written responses to a survey form have been required semi-annually from manufacturers and importers of solar collectors.

More detailed statistics on the results of these surveys are contained in "Solar Collector Manufacturing Activity, January through June 1979," available from the National Technical Information Service (NTIS), U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161.

Collector Shipments and Applications

Table 1 and Figure 1 summarize solar collector producer shipments beginning in 1974. Total annual producer shipments have increased each year. Large increases in total annual shipments, ranging from 55 percent to 194 percent, occurred from 1974 to 1977. However, growth rates in 1978 and

Table 1. Summary of Manufacturing Activity

		Area (thousand square feet)		
	Manufacturers[a]	Low-Temperature	Medium-Temperature, Special, and Other	Total
1974	**45**	**1,137**	**137**	**1,274**
1975	**131**	**3,026**	**717**	**3,743**
1976	**186**	**3,876**	**1,925**	**5,801**
1977				
1st Half	196	2,514	2,506	5,020
2nd Half	294	2,229	3,063	5,292
Total 1977	**321**	**4,743**	**5,569**	**10,312**
1978				
1st Half	297	3,595	2,681	6,276
2nd Half	254	2,277	2,307	4,584
Total 1978	**351**	**5,873**	**4,988**	**10,860**
1979				
1st Half	249	4,349	2,602	6,951

[a]Total number of manufacturers for 1974 through 1978 represents the number of companies reporting activities for one or both halves of the calendar year.

Note: Sum of components may not equal total due to independent rounding.

the first half of 1979 were only 5 percent and 28 percent, respectively.

The number of manufacturers increased dramatically from 1974 through June 1978; since that time, however, the number has decreased.

Data indicate that low-temperature collectors are usually used for swimming pool heating. (Ninety-seven percent of low-temperature collectors were used for pool heating during the first half of 1979.) Also, medium-temperature collectors, especially those employing a liquid heat transfer medium, are used primarily for domestic water heating and space heating. (Fifty-five percent of medium-temperature liquid collectors were used for domestic water heating, and 23 percent were used for space heating during the first half of 1979.)

Solar collectors were manufactured by companies headquartered in 40 States and Puerto Rico during the first half of 1979 (see Table 2). Seventy-nine percent of the producer shipments were made by manufacturers headquartered in four States—California, Florida, New Jersey, and New York. A comparison of last-half 1978 and first-half 1979 statistics shows that producer shipments increased in Arizona, California, Florida, Georgia, Illinois, Kansas, Massachusetts, New Jersey, New Mexico, North Carolina, Ohio, Tennessee, and Wisconsin.

Table 2. Producer Shipments According to Location of Company Headquarters

Location[a]	January through June 1979		July through December 1978		January through June 1978	
	Number of Manufacturers	Production (thousand square feet)	Number of Manufacturers	Production (thousand square feet)	Number of Manufacturers	Production (thousand square feet)
Arizona	9	192	11	118	10	72
California	59	3,545	61	1,953	69	2,644
Colorado	12	133	12	194	12	127
Connecticut	5	15	8	208	8	113
Florida	35	598	40	364	47	1,023
Georgia	4	26	4	19	4	25
Hawaii	*	*	*	*	3	10
Illinois	5	204	5	38	6	28
Iowa	4	7	5	64	6	33
Kansas	3	18	3	6	4	27
Maryland	4	15	5	16	7	38
Massachusetts	9	104	10	81	10	94
Michigan	*	*	*	*	4	318
Minnesota	5	18	4	44	6	86
New Hampshire	3	3	3	4	*	*
New Jersey	6	929	7	310	8	440
New Mexico	4	9	*	*	3	17
New York	12	432	8	459	13	344
North Carolina	6	11	8	8	4	7
Ohio	11	107	11	87	10	92
Pennsylvania	9	98	10	126	14	140
Tennessee	3	34	*	*	*	*
Texas	8	147	8	177	10	149
Virginia	5	43	6	95	7	96
Wisconsin	4	10	*	*	*	*
Others[b]	24	258	25	211	32	353
U.S. Total	**249**	**6,951**	**254**	**4,584**	**297**	**6,276**

[a]Location refers to the address of the company headquarters but not neccessarily the location of the manufacturing installation.

[b]Total for States having less than three respondents. Less than three respondents were reported during January through June 1979 in Alabama, Hawaii, Indiana, Kentucky, Louisiana, Maine, Michigan, Missouri, Montana, Nebraska, Nevada, Oklahoma, Oregon, Rhode Island, South Carolina, Utah, Vermont, and Puerto Rico. Less than three survey respondents were reported during July through December 1978 in Alabama, Hawaii, Maine, Michigan, Missouri, Montana, Nebraska, Nevada, New Mexico, Oklahoma, Oregon, Rhode Island, South Carolina, Tennessee, Utah, Vermont, Wisconsin and Puerto Rico. Less than three survey respondents were reported during January through June 1978 in Alabama, District of Columbia, Idaho, Indiana, Kentucky, Maine, Missouri, Montana, Nebraska, Nevada, New Hampshire, Oklahoma, Oregon, Rhode Island, South Carolina, Tennessee, Utah, Vermont, Washington, Wisconsin, Wyoming and Puerto Rico.

* = Less than three survey respondents.

Note: Includes adjusted data for nonrespondents.

Source: Solar Collector Manufacturing Activity, January through June 1979.

Low-temperature collectors accounted for 63 percent of shipments of solar collectors for the period January through June 1979. Companies headquartered in California, Florida, New York, and New Jersey accounted for 97 percent of the low-temperature collector shipments.

Medium-temperature, special, and other collectors accounted for 37 percent of shipments of solar collectors during January through June 1979. The manufacturers of medium-temperature, special, and other collectors were more geographically dispersed than the manufacturers of low-temperature collectors.

Table 3 contains additional details on shipments of types of collectors and company headquarter locations.

Solar Energy Contribution

From January 1974 through June 1979, a total of 38.9 million square feet of solar collectors had been produced (as measured by producer shipments). Annual solar collector production greatly increased each year from 1974 to 1979 as shown in Table 1. Assuming that this rapid growth also occurred in the early 1970's, the production total for all years before 1974 would approximate annual production in 1974. On this basis, the cumulative square footage of solar collectors manufactured through the first half of 1979 is estimated to have been approximately 40 million square feet. The total square footage of solar collectors manufactured provides a basis for estimating the total energy produced by the collectors.

Table 3. Producer Shipments of Collector Types
(Thousand Square Feet)

Location[a]	January through June 1979		July through December 1978		January through June 1978	
	Low-Temperature (metallic and nonmetallic)	Medium-Temperature, Special, and Other (all types)	Low-Temperature (metallic and nonmetallic)	Medium-Temperature, Special, and Other (all types)	Low-Temperature (metallic and nonmetallic)	Medium-Temperature Special, and Other (all types)
Arizona	1	191	22	96	18	54
California	2,887	658	1,470	483	1,959	685
Colorado	5	128	0	194	*	*
Connecticut	2	13	1	207	0	113
Florida	451	147	193	171	760	264
Georgia	1	25	7	13	*	*
Hawaii	*	*	*	*	0	10
Illinois	18	187	0	38	*	*
Iowa	0	8	22	42	0	33
Kansas	(b)	11	4	2	*	*
Maryland	0	15	0	16	0	38
Massachusetts	59	44	20	62	*	*
Michigan	*	*	*	*	300	18
Minnesota	0	18	0	44	0	86
New Hampshire	0	3	0	4	*	*
New Jersey	749	180	262	48	*	*
New Mexico	0	9	*	*	0	17
New York	146	286	265	194	74	270
North Carolina	0	11	0	8	*	*
Ohio	1	106	0	87	0	92
Pennsylvania	23	75	7	119	*	*
Tennessee	0	34	*	*	*	*
Texas	1	146	1	176	*	*
Virginia	3	40	2	93	0	96
Wisconsin	0	10	0	*	0	7
Other[c]	4	255	1	210	485	898
U.S. Total	**4,349**	**2,602**	**2,277**	**2,307**	**3,595**	**2,681**

[a]Location refers to the address of the company headquarters and not necessarily the location of the manufacturing installation.
[b]Less than 500 square feet.
[c]Includes those States with less than three survey respondents identified in footnote in Table 2.
*Less than three survey respondents.
Note: Includes adjusted data for nonrespondents.
Source: Solar Collector Manufacturing Activity, January through June 1979.

Information needed to accurately measure the amount of energy supplied by all the solar collectors in use is not available. One would have to know the distribution of collectors by geographical location, by system type or application. Estimates of energy supplied could then be made based on historical weather data in various geographical locations and typical efficiencies in converting sunlight into useful thermal energy. However, a theoretical upper limit and a more probable estimate of energy supplied by solar collectors have been calculated.

Theoretical Upper Limit

A theoretical upper limit to the energy supplied by the solar collectors manufactured during the 1970's can be estimated under the following assumptions:

1. All solar collectors manufactured and sold during the 1970's are still in service.
2. All collectors are installed in the most favorable geographical location for solar energy use in the United States.
3. All solar energy incident upon collectors is converted into useful thermal energy without any losses in the collector or associated equipment in the solar systems.
4. All energy output from the solar systems is useful in displacing conventional energy consumption in the various applications.

Detailed weather data over a 5-year period were analyzed for 26 weather stations covering all major regions of the United States.[1][3] The analysis showed that regions of the Southwest represented by Albuquerque, New Mexico had the largest amount of total radiation incident on a south-facing tilted surface over a 12-month period. For a surface inclined at an angle from the horizontal approximately equal to the latitude,[4] the daily average incident radiation for the year is 6.8 kilowatt-hours per square meter. This is equivalent to an annual incident radiation of 787,000 Btu per square foot. Under the four assumptions outlined above, the theoretical upper limit for energy supply from 40 million square feet of solar collectors is 0.031 quadrillion Btu.

The energy output calculated above could never be achieved because:

1. The solar collectors operate at less than 100 percent efficiency due to optical and thermal losses in the collector.
2. Additional thermal losses occur in solar system components such as pipes, heat exchangers, and thermal storage devices.
3. Not all the solar energy collected and stored can be used because of a mismatch between the time of demand and the time that energy is collected and stored.

More Probable Estimate

A more probable estimate for the energy supplied by the collectors can be made under the following assumptions:

1. Sixty percent of the collectors are used for low-temperature applications, specifically, for swimming pool heating. They are equally distributed in California and Florida (where the climate is favorable for such collectors and most applications are thought to exist) and convert sunlight to useful thermal energy for a 6-month period during the spring and summer, at an average efficiency of 60 percent.
2. The remaining 40 percent of solar collectors are used for medium-temperature applications, specifically domestic water heating and space heating. They are equally distributed throughout the United States and convert sunlight to useful energy for 12 months per year at an average efficiency of 30 percent.

The 60/40 split between low-temperature and medium-temperature applications is based on the data of Table 1.

The National Bureau of Standards found that six typical residential domestic hot water systems converted approximately 30 percent of the incident radiation to useful thermal energy on a yearly basis.[2] Eleven hot water and combined space heating and hot water systems, monitored

[3]Numbers in brackets [ ] refer to References at the end of this article.

[4]Considered optimum for year-around energy collection for a south-facing, fixed, tilted surface.

world-wide for a complete year/season as part of the North Atlantic Treaty Organization Committee on the Challenge of Modern Society (CCMS), were found to have an average efficiency of 25 percent.[3] The performance of a number of solar heating and cooling systems installed in buildings as part of the National Solar Heating and Cooling Demonstrations Program is being determined as part of the National Solar Data Network. It was reported recently that 67 hot water systems were utilizing between 20 and 35 percent of the incident energy[4] and 84 space heating systems were utilizing between 20 and 25 percent.[5] The higher efficiency for the low-temperature collectors (assumed to be 60 percent) occurs because they are normally unglazed, have minimal optical losses, and normally operate near outdoor temperature (primarily for pool heating) and hence have minimal thermal losses.[6]

Using the results of the Sandia Laboratories study of solar radiation data,[1] the daily average incident radiation for the 6-month period during spring and summer on a south-facing surface inclined at an angle from the horizontal of approximately the latitude minus 15°[5] is 6.6 kilowatt-hours per square meter. (This is based on data from Appalachicola, Florida; Miami, Florida; and Santa Maria, California.) The daily average incident radiation for the year on a south-facing surface inclined at an angle equal to the latitude,[6] for all 26 weather stations is 5.2 kilowatt-hours per square meter.

Under the two assumptions outlined above, the estimated amount of usable energy from all solar collectors installed in the United States was 0.008 quadrillion Btu during 1979.

To put solar energy in perspective, it may be useful to compare these estimates of delivered solar energy to total energy provided by other resources. Gross domestic energy consumption in 1979 was 78.2 quadrillion Btu.[7] Effective energy consumption was somewhat less than that due to losses in transportation, conversion, transmission, and distribution. Considering the distribution of solar collectors around the U.S., types of solar systems, and typical system efficiencies, probably between 0.01 and 0.02 percent of the Nation's energy was delivered by solar collectors.

Solar energy obtained from collectors was also much less than the amount of energy obtained from certain other renewable resources. About 1.0 quadrillion Btu of electric energy (3 quadrillion Btu of fossil fuel equivalent) was produced by hydroelectric power in 1979.[7] Wood energy production in 1978 exceeded 1.0 quadrillion Btu.[8] **The Nation's stock of solar collectors must expand by at least one hundred-fold if solar collectors are to contribute as much as 1.0 quadrillion Btu to the Nation's energy supply.**

[5]Considered optimum for summer energy collection for a south-facing, fixed, tilted surface.

[6]Considered optimum for year-round energy collection for a south-facing, fixed, tilted surface.

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[1] Boes, E. C., H. E. Anderson, I. J. Hall, R. R. Prarie, and R. T. Stromberg. Availability of Direct, Total, and Diffuse Solar Radiation to Fixed and Tracking Collectors in the USA. Sandia Laboratories Report, SAND 77–0885, August 1977.

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[5] U.S. Department of Energy. Thermal Performance Analysis of Space Heating Systems in the National Solar Data Network. National Solar Data Program SOLAR/0025–79/42, July 1979.

[6] American Society of Heating, Refrigeration, and Airconditioning Engineers. Methods of Testing to Determine the Thermal Performance of Unglazed Flat-Plate Liquid-Type Solar Collectors. ASHRAE Standard 96, New York, 1980.

[7] U.S. Department of Energy. Energy Information Administration. Monthly Energy Review. DOE/EIA–0035/02(80), February 1980.

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Part 1 Executive Summary

Overview

During 1979, total domestic energy production reached an all-time high of 63.2 quadrillion Btu, an increase of 3.0 percent above production in 1978 (see Figure 1). This growth was due primarily to the increase in coal production, which amounted to 17.8 quadrillion Btu in 1979, 17.5 percent above the 1978 level. The large increase in coal production offset decreases in all other major sources of production: crude oil and natural gas plant liquids decreased 1.4 percent, natural gas decreased 1.8 percent, and all other sources combined decreased 2.9 percent.

U.S. consumption of energy in 1979 dropped by 0.3 percent from last year's level to 78.2 quadrillion Btu (see Figure 2). It was the first year that domestic energy consumption declined after increasing in 1976, 1977, and 1978. Petroleum consumption, which accounted for 47.4 percent of the energy used during 1979, was 2.5 percent less than in 1978. Natural gas use, constituting 25.4 percent of the total, decreased by 1.0 percent. Coal consumption, 19.5 percent of the 1979 total, was 8.1 percent higher than in 1978. Energy from other sources (hydroelectric power, nuclear, electricity produced from geothermal power, wood and waste, and net imports of coal coke) provided 7.8 percent of the total consumption in 1979, 3.8 percent less than in 1978.

Figure 1. Domestic Energy Production

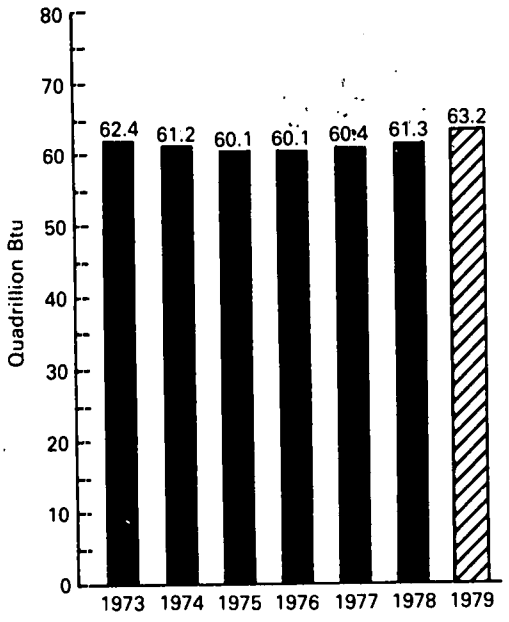
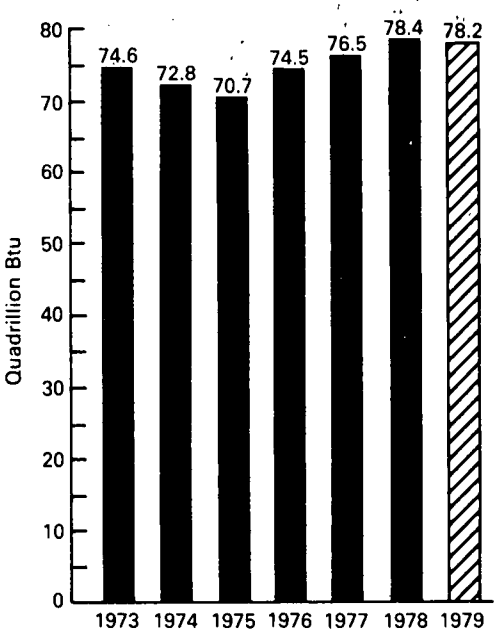


Figure 2. U.S. Consumption of Energy



Total imports of energy decreased in 1979 for the second consecutive year to 19.1 quadrillion Btu, 0.8 percent below the 1978 level. Total petroleum imports (crude* and refined products) represented 17.5 quadrillion Btu or 91.5 percent of total energy imports in 1979, compared to 17.8 quadrillion Btu or 92.6 percent of total imports in 1978 (see Figure 3).

Net imports of crude oil and refined products are estimated at 16.5 quadrillion Btu, or 7.8 million barrels per day, approximately 400,000 barrels per day below the President's 1979 net import ceiling of 8.2 million barrels per day.

Figure 3. U.S. Imports of Energy

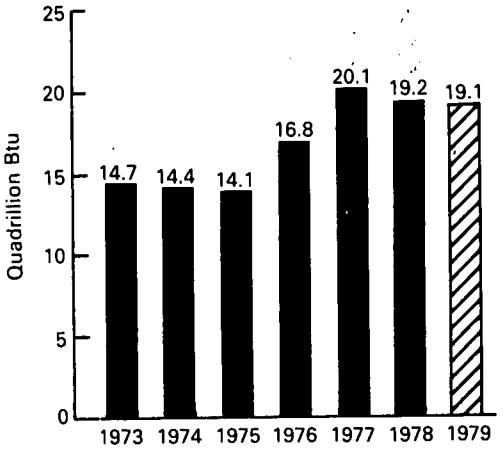
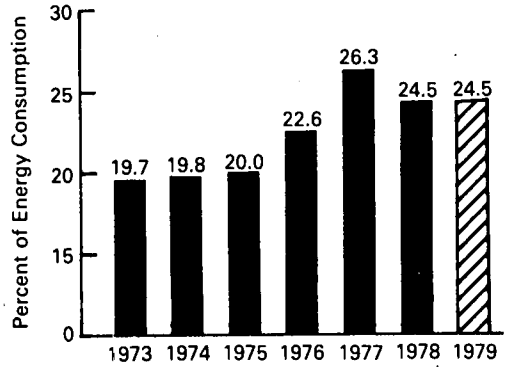


Figure 4. Percent of U.S. Energy Consumption Met by Energy Imports



Energy imports satisfied 24.5 percent of U.S. energy requirements during 1979, virtually unchanged from the previous year. Figure 4 displays the trend in the percent of U.S. energy consumption met by energy imports for the years 1973–79.

Significant increases in prices paid by refiners for crude oil and prices paid by end-users for major petroleum products occurred during 1979. The composite price of imported and domestic crude oil purchased by refiners averaged $22.04 per barrel in November 1979 (latest available), up $8.93 (68.1 percent) from the average price in January 1979. The imported crude oil price during November 1979 averaged $27.02 per barrel, an increase of $11.52 (74.3 percent) above the average price at the beginning of the year. The domestic crude oil price averaged $17.65 per barrel in November 1979, $6.63 (60.2 percent) above the January 1979 average.

The average price of motor gasoline was $1.02 per gallon in November 1979, 32.1 cents (46 percent) higher than in January 1979. The average price of home heating oil in November was 83.7 cents per gallon, up 30.0 cents (55.9 percent) from the beginning of last year. The average retail price of residual fuel oil in November was 54.4 cents per gallon, 20.8 cents (61.9 percent) higher than the January 1979 price.

In this issue of the Monthly Energy Review, all graphs have been redesigned. They are now zero-based to facilitate comparison and to ensure consistency throughout this publication.

*Includes Strategic Petroleum Reserve.

Executive Summary

Domestic Energy Summary

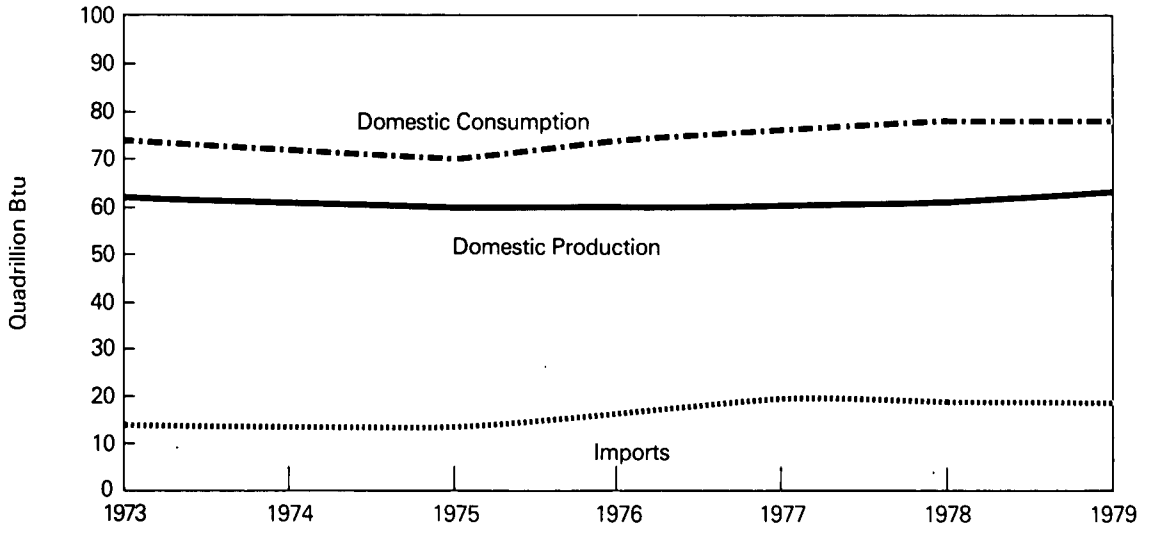
		Domestic Energy Production[1]	Domestic Energy Consumption[2]	Energy Imports[3]	Energy Exports[4]
		Quadrillion (10^{15}) Btu			
1973	**TOTAL**	**62.431**	**74.605**	**14.732**	**2.073**
1974	**TOTAL**	**61.228**	**72.756**	**14.417**	**2.241**
1975	**TOTAL**	**60.057**	**70.706**	**14.114**	**2.389**
1976	**TOTAL**	**60.091**	**74.513**	**16.840**	**2.213**
1977	**TOTAL**	**60.431**	**76.536**	**20.091**	**2.097**
1978	January	4.487	7.618	1.619	0.079
	February	4.169	6.959	1.429	0.059
	March	4.877	6.851	1.656	0.067
	April	5.192	6.038	1.476	0.135
	May	5.514	6.209	1.491	0.187
	June	5.336	6.020	1.523	0.224
	July	5.193	6.205	1.612	0.164
	August	5.388	6.352	1.613	0.180
	September	5.060	5.961	1.693	0.187
	October	5.444	6.305	1.628	0.227
	November	5.364	6.569	1.677	0.241
	December	5.312	7.355	1.815	0.213
	TOTAL	**61.337**	**78.442**	**19.231**	**1.963**
1979	January	5.284	7.948	1.752	0.175
	February	4.877	7.209	1.512	0.161
	March	5.468	6.944	1.716	0.241
	April	R5.200	R6.085	1.501	0.236
	May	R5.407	6.134	1.580	0.257
	June	R5.258	5.933	1.586	0.253
	July	R5.001	R6.040	1.578	0.272
	August	R5.510	R6.278	1.654	0.262
	September	R5.117	R5.841	R1.519	R0.223
	October	R5.523	R6.336	R1.581	R0.285
	November	5.240	6.365	1.424	0.249
	December	5.278	7.073	1.672	0.221
	TOTAL	**63.163**	**78.187**	**19.074**	**2.836**

Totals may not equal sum of components due to independent rounding.
[1]See Explanatory Note 1.
[2]See Explanatory Note 2.
[3]See Explanatory Note 3.
[4]See 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.

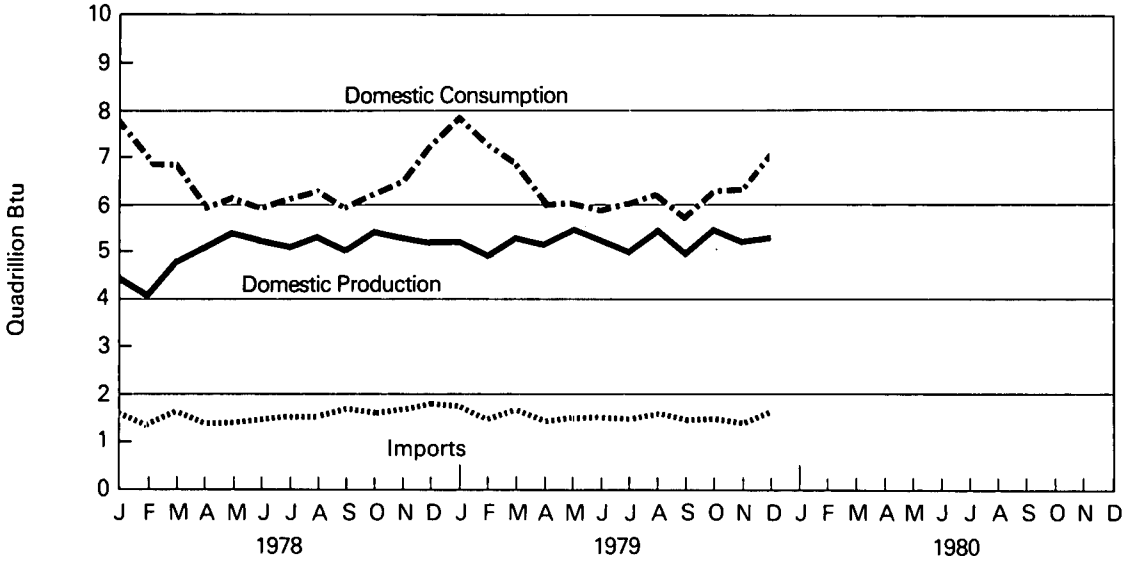
Executive Summary

Domestic Energy Summary

Yearly



Monthly



Executive Summary

Domestic Energy Production by Primary Type

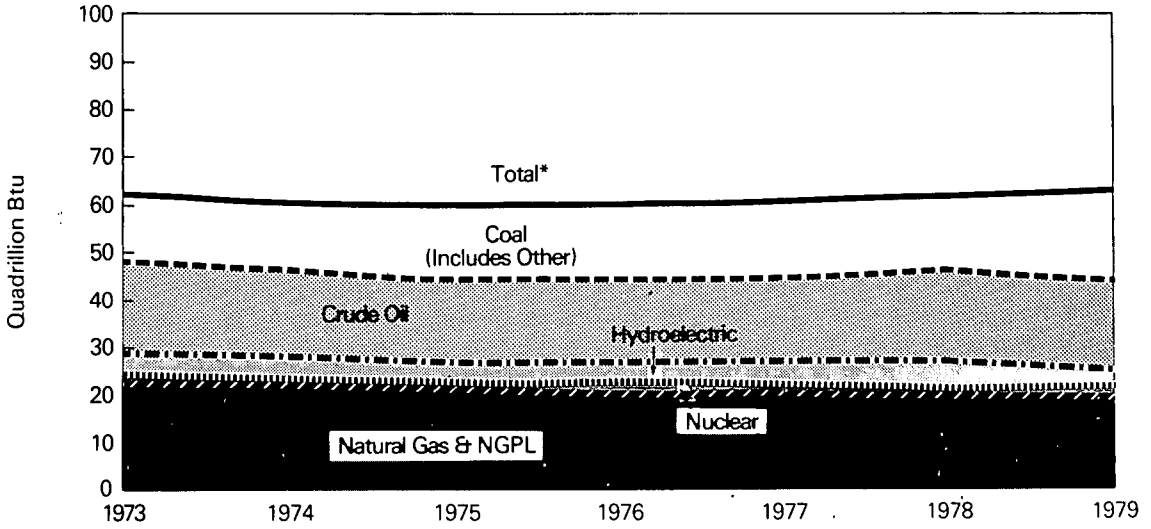
		Coal[1]	Crude Oil[2]	NGPL[3]	Natural Gas (dry)	Hydro-electric Power[4]	Nuclear Electric Power	Other[5]	Total
					Quadrillion (10^{15}) Btu				
1973	**TOTAL**	**14.366**	**19.493**	**2.569**	**22.187**	**2.859**	**0.910**	**0.046**	**62.431**
1974	**TOTAL**	**14.468**	**18.575**	**2.471**	**21.211**	**3.175**	**1.272**	**0.056**	**61.228**
1975	**TOTAL**	**15.189**	**17.729**	**2.374**	**19.641**	**3.152**	**1.900**	**0.072**	**60.057**
1976	**TOTAL**	**15.853**	**17.262**	**2.327**	**19.480**	**2.976**	**2.111**	**0.081**	**60.091**
1977	**TOTAL**	**15.964**	**17.454**	**2.327**	**19.565**	**2.337**	**2.702**	**0.082**	**60.431**
1978	January	0.539	1.503	0.190	1.704	0.265	0.278	0.007	4.487
	February	0.546	1.360	0.172	1.612	0.237	0.235	0.006	4.169
	March	0.900	1.568	0.194	1.708	0.260	0.242	0.005	4.877
	April	1.375	1.534	0.191	1.631	0.267	0.189	0.004	5.192
	May	1.587	1.587	0.187	1.626	0.303	0.220	0.004	5.514
	June	1.516	1.537	0.187	1.587	0.265	0.239	0.005	5.336
	July	1.241	1.574	0.190	1.655	0.258	0.269	0.005	5.193
	August	1.487	1.575	0.190	1.620	0.234	0.276	0.006	5.388
	September	1.336	1.531	0.183	1.541	0.224	0.239	0.007	5.060
	October	1.614	1.586	0.188	1.598	0.206	0.248	0.005	5.444
	November	1.599	1.521	0.189	1.570	0.211	0.268	0.006	5.364
	December	1.378	1.557	0.191	1.671	0.233	0.274	0.007	5.312
	TOTAL	**15.117**	**18.434**	**2.255**	**19.524**	**2.963**	**2.977**	**0.068**	**61.337**
1979	January	1.304	1.521	0.214	1.675	0.265	0.299	0.007	5.284
	February	1.236	1.380	0.188	1.563	0.225	0.279	0.006	4.877
	March	1.510	1.544	0.211	1.659	0.274	0.262	0.008	5.468
	April	R1.449	1.485	0.202	R1.592	0.268	0.198	0.007	R5.200
	May	R1.567	1.544	0.201	1.620	0.305	0.162	0.007	R5.407
	June	R1.600	1.463	0.194	1.557	0.264	0.173	0.007	R5.258
	July	1.257	1.502	0.201	R1.568	0.241	0.224	0.007	R5.001
	August	R1.663	1.564	0.197	R1.591	0.226	0.261	0.008	R5.510
	September	1.474	R1.473	R0.191	R1.537	0.201	0.235	0.007	R5.117
	October	1.752	1.521	0.203	R1.598	0.215	0.227	0.008	R5.523
	November	1.559	1.484	0.192	1.552	0.236	0.207	0.008	5.240
	December	1.391	1.525	0.200	1.654	0.254	0.245	0.009	5.278
	TOTAL	**17.762**	**18.005**	**2.394**	**19.166**	**2.974**	**2.773**	**0.088**	**63.163**

Totals may not equal sum of components due to independent rounding.
[1]Includes bituminous coal, lignite, and anthracite.
[2]Includes lease condensate.
[3]Natural gas plant liquids.
[4]Includes industrial and utility production of hydropower.
[5]Includes 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.

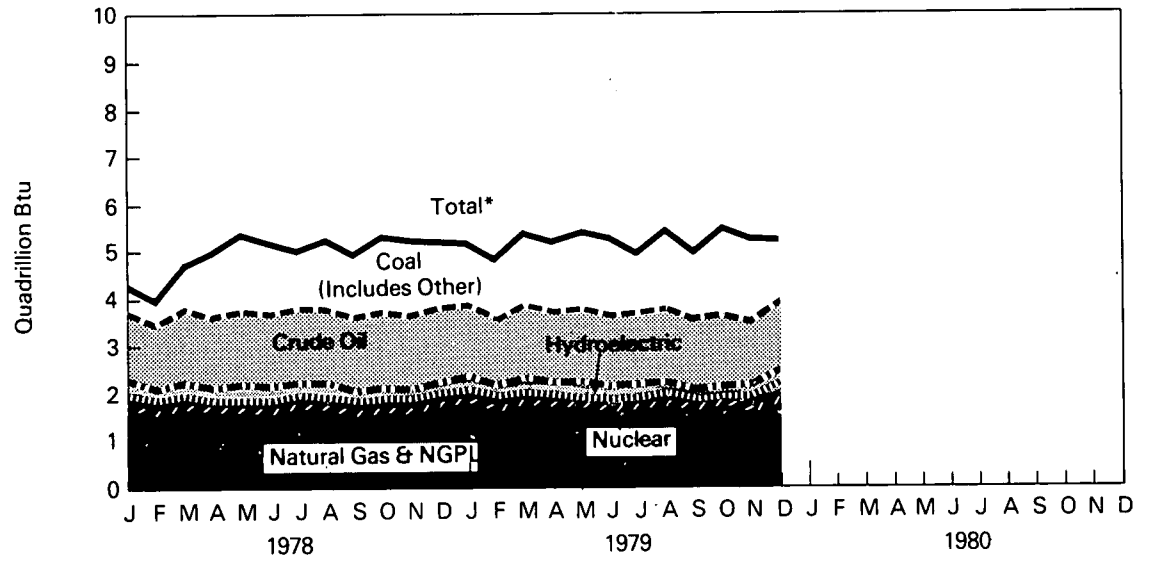
Executive Summary

Energy Production (Primary Energy Type)

Yearly



Monthly



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

Executive Summary

Domestic Energy Consumption by Primary Energy Type

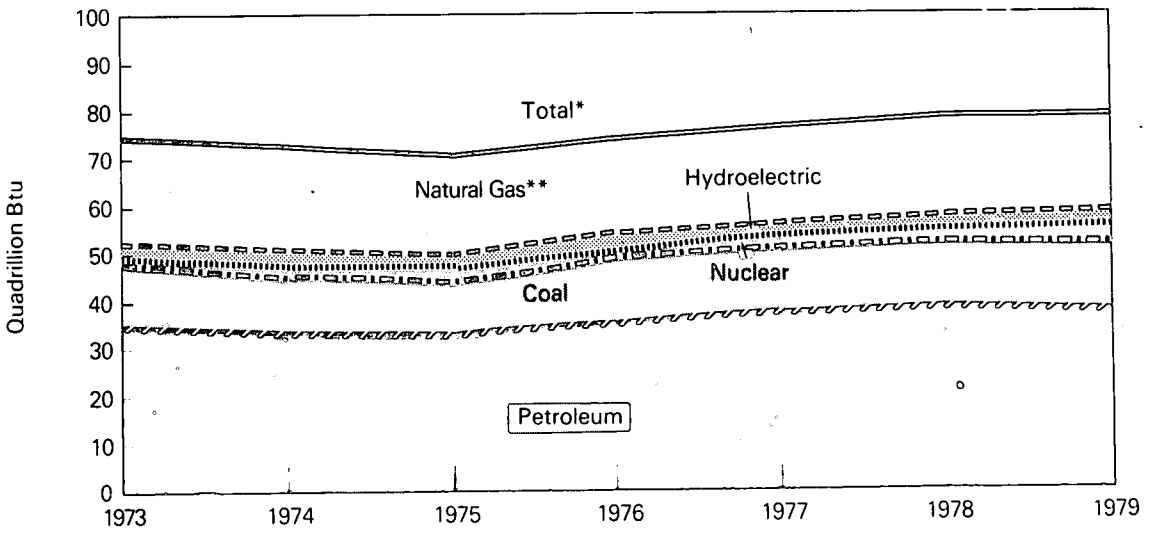
		Coal[1]	Natural Gas (dry)	Petro-leum	Hydro-electric Power[2]	Nuclear Electric Power	Net Imports of Coal Coke[3]	Other[4]	Total	Yearly Cumulative Total
		Quadrillion (10^{15}) Btu								
1973	**TOTAL**	**13.300**	**22.512**	**34.837**	**3.008**	**0.910**	**(0.008)**	**0.046**	**74.605**	
1974	**TOTAL**	**12.876**	**21.732**	**33.454**	**3.307**	**1.272**	**0.059**	**0.056**	**72.756**	
1975	**TOTAL**	**12.823**	**19.948**	**32.732**	**3.217**	**1.900**	**0.014**	**0.072**	**70.706**	
1976	**TOTAL**	**13.733**	**20.345**	**35.178**	**3.065**	**2.111**	**0.000**	**0.081**	**74.513**	
1977	**TOTAL**	**14.110**	**19.931**	**37.176**	**2.519**	**2.702**	**0.015**	**0.082**	**76.536**	
1978	January	1.236	2.432	3.384	0.280	0.278	0.001	0.007	7.618	7.618
	February	1.048	2.184	3.234	0.252	0.235	0.001	0.006	6.959	14.578
	March	0.998	1.958	3.367	0.276	0.242	0.005	0.005	6.851	21.428
	April	1.037	1.571	2.942	0.282	0.189	0.012	0.004	6.038	27.467
	May	1.110	1.409	3.123	0.319	0.220	0.025	0.004	6.209	33.676
	June	1.184	1.275	3.027	0.280	0.239	0.009	0.005	6.020	39.695
	July	1.261	1.361	3.021	0.273	0.269	0.015	0.005	6.205	45.900
	August	1.302	1.312	3.193	0.249	0.276	0.013	0.006	6.352	52.252
	September	1.228	1.261	2.976	0.239	0.239	0.012	0.007	5.961	58.213
	October	1.191	1.470	3.155	0.221	0.248	0.015	0.005	6.305	64.518
	November	1.188	1.693	3.176	0.226	0.268	0.013	0.006	6.569	71.087
	December	1.288	2.112	3.417	0.248	0.274	0.009	0.007	7.355	78.442
	TOTAL	**14.069**	**20.039**	**38.014**	**3.145**	**2.977**	**0.131**	**0.068**	**78.442**	
1979	January	1.400	2.422	3.536	0.280	0.299	0.004	0.007	7.948	7.948
	February	1.214	2.194	3.273	0.240	0.279	0.003	0.006	7.209	15.157
	March	1.225	1.873	3.286	0.289	0.262	0.002	0.008	6.944	22.100
	April	1.147	R1.574	2.870	0.283	0.198	0.005	0.007	R6.085	R28.185
	May	1.203	1.398	3.032	0.321	0.162	0.011	0.007	6.134	R34.320
	June	1.243	1.291	2.930	0.279	0.173	0.010	0.007	5.933	R40.253
	July	1.341	R1.307	2.896	0.256	0.224	0.008	0.007	R6.040	R46.293
	August	1.355	R1.307	3.097	0.241	0.261	0.009	0.008	R6.278	R52.571
	September	1.215	R1.297	R2.864	0.216	0.235	0.008	0.007	R5.841	R58.412
	October	R1.254	R1.526	3.088	0.230	0.227	0.004	0.008	R6.336	R64.748
	November	1.254	1.664	2.980	0.251	0.207	0.000	0.008	6.365	71.113
	December	1.361	1.981	3.208	0.270	0.245	0.000	0.009	7.073	78.187
	TOTAL	**15.213**	**19.833**	**37.059**	**3.156**	**2.773**	**0.064**	**0.088**	**78.187**	

Totals may not equal sum of components due to independent rounding.
[1]Includes bituminous coal, lignite, and anthracite.
[2]Includes industrial and utility production, and net imports of electricity.
[3]Parenthesis indicate exports are greater than imports.
[4]Includes 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.

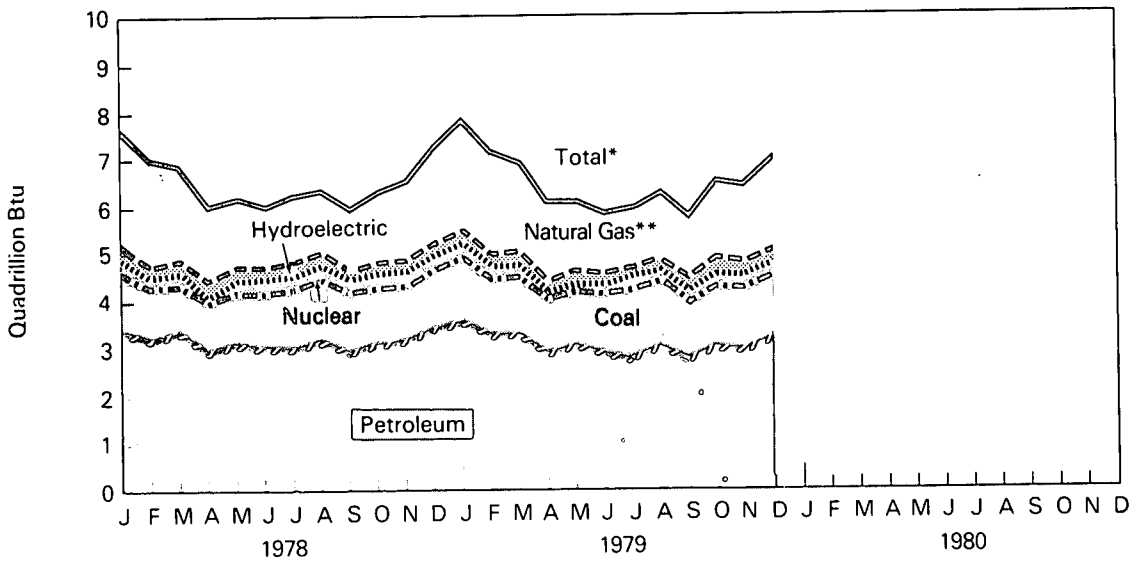
Executive Summary

Energy Consumption (Primary Energy Type)

Yearly



Monthly



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

Executive Summary

Domestic Energy Consumption by Economic Sector[1]

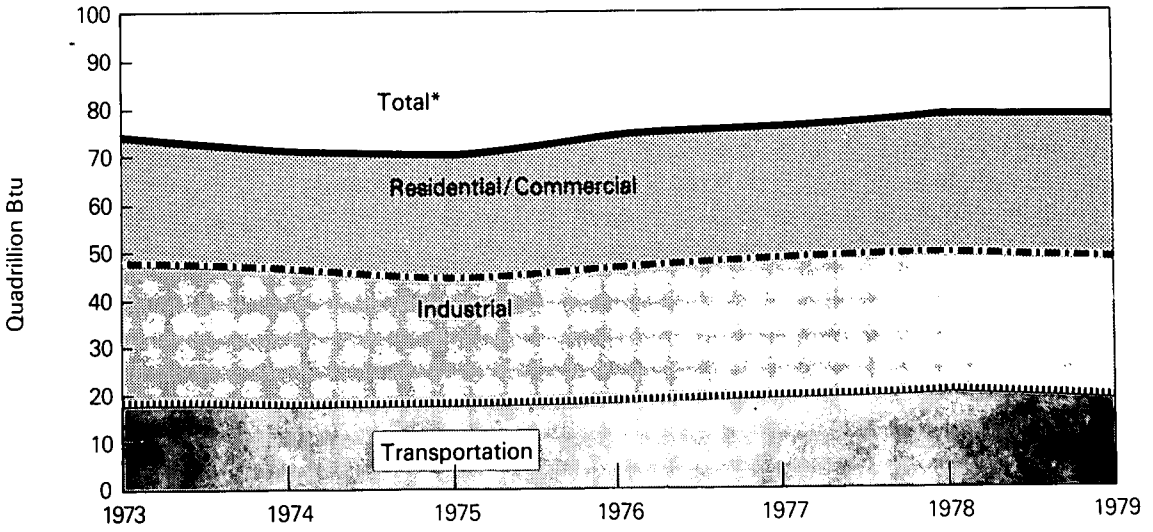
		Residential and Commercial	Industrial	Transportation	Total
			Quadrillion (10^{15}) Btu		
1973	**TOTAL**	**26.534**	**29.144**	**18.927**	**74.605**
1974	**TOTAL**	**25.912**	**28.430**	**18.414**	**72.756**
1975	**TOTAL**	**25.981**	**26.207**	**18.518**	**70.706**
1976	**TOTAL**	**27.180**	**27.924**	**19.408**	**74.513**
1977	**TOTAL**	**27.545**	**28.923**	**20.068**	**76.536**
1978	January	R3.205	R2.693	1.721	7.618
	February	3.064	2.261	1.634	6.959
	March	2.791	2.264	1.796	6.851
	April	2.186	2.223	1.629	6.038
	May	2.060	2.397	1.752	6.209
	June	1.986	2.322	1.712	6.020
	July	2.115	2.396	1.693	6.205
	August	2.139	2.431	1.781	6.352
	September	1.990	2.342	1.630	5.961
	October	2.000	2.584	1.721	6.305
	November	R2.217	R2.626	1.726	6.569
	December	2.809	2.727	1.819	7.355
	TOTAL	**R28.563**	**R29.266**	**20.614**	**78.442**
1979	January	R3.427	R2.736	1.784	7.948
	February	R3.206	2.317	1.685	7.209
	March	2.800	2.395	1.749	6.944
	April	2.301	R2.202	R1.583	R6.085
	May	2.063	2.413	1.659	6.134
	June	1.978	2.360	1.595	5.933
	July	2.093	R2.366	R1.581	R6.040
	August	R2.172	R2.429	1.676	R6.278
	September	R1.967	R2.325	R1.549	R5.841
	October	R2.061	R2.630	R1.645	R6.336
	November	2.290	2.498	1.577	6.365
	December	2.921	2.474	1.678	7.073
	TOTAL	**29.280**	**29.146**	**19.760**	**78.186**

Totals may not equal sum of components due to independent rounding.
[1]See Explanatory Note 5 for definitions of the Residential and Commercial, Industrial, and Transportation sectors. The methodology used for sector calculations is provided in the footnotes on page 24.
R = Revised data.
Source: • See Footnotes on page 24.

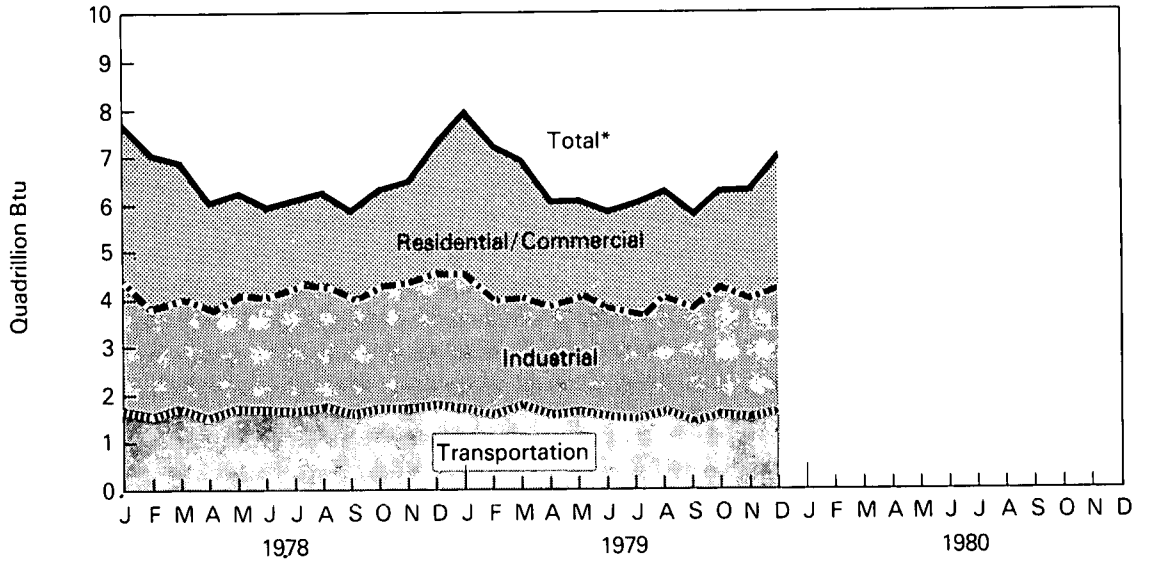
Executive Summary

Energy Consumption (Economic Sector)

Yearly



Monthly



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

Executive Summary

Domestic Net Imports of Energy[1]

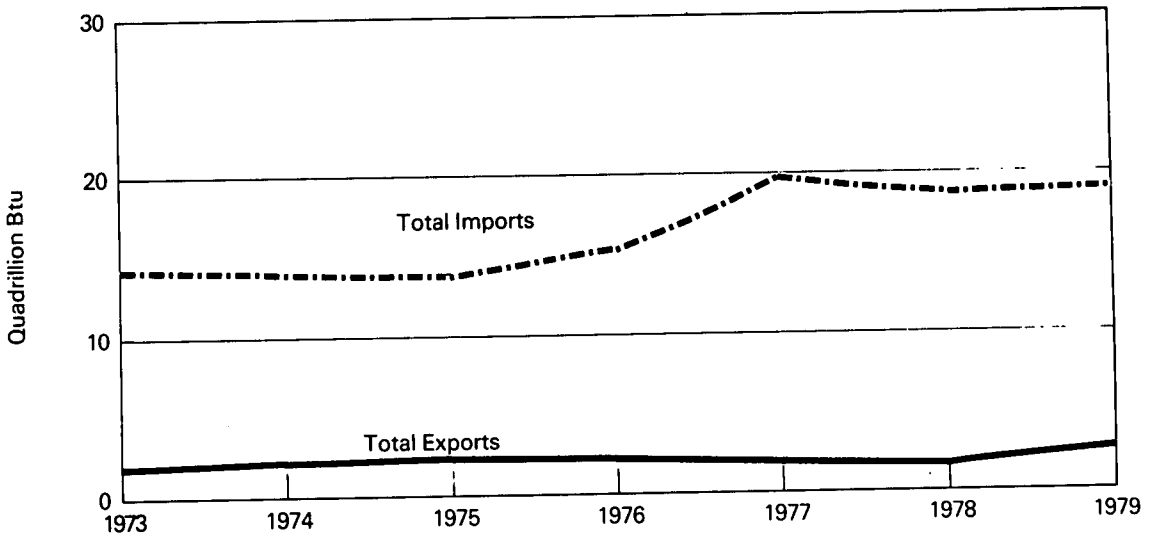
		Coal[2]	Crude Oil[3]	Refined Petroleum Products[4]	Natural Gas (Dry)	Electricity[5]	Coal Coke	Net Imports
		Quadrillion (10^{15}) Btu						
1973	**TOTAL**	**(1.443)**	**6.883**	**6.097**	**0.981**	**0.148**	**(0.008)**	**12.659**
1974	**TOTAL**	**(1.585)**	**7.389**	**5.273**	**0.907**	**0.133**	**0.059**	**12.175**
1975	**TOTAL**	**(1.766)**	**8.709**	**3.799**	**0.904**	**0.064**	**0.014**	**11.725**
1976	**TOTAL**	**(1.590)**	**11.222**	**3.982**	**0.922**	**0.089**	**0.000**	**14.626**
1977	**TOTAL**	**(1.424)**	**13.921**	**4.320**	**0.981**	**0.182**	**-0.015**	**17.995**
1978	January	(0.021)	1.106	0.355	0.083	0.015	0.001	1.540
	February	(0.012)	0.936	0.357	0.074	0.014	0.001	1.370
	March	(0.004)	1.099	0.391	0.083	0.015	0.005	1.589
	April	(0.060)	0.965	0.332	0.077	0.015	0.012	1.341
	May	(0.113)	1.009	0.296	0.071	0.015	0.025	1.304
	June	(0.139)	1.093	0.255	0.066	0.015	0.009	1.299
	July	(0.089)	1.115	0.322	0.069	0.015	0.015	1.448
	August	(0.092)	1.126	0.299	0.071	0.015	0.013	1.433
	September	(0.088)	1.186	0.312	0.069	0.015	0.012	1.505
	October	(0.127)	1.139	0.279	0.079	0.015	0.015	1.401
	November	(0.160)	1.153	0.325	0.090	0.015	0.013	1.435
	December	(0.118)	1.215	0.374	0.106	0.015	0.009	1.601
	TOTAL	**(1.023)**	**13.143**	**3.898**	**0.937**	**0.182**	**0.131**	**17.268**
1979	January	(0.093)	1.187	0.366	0.098	0.015	0.004	1.577
	February	(0.067)	0.999	0.310	0.092	0.014	0.003	1.351
	March	(0.122)	1.069	0.395	0.116	0.015	0.002	1.475
	April	(0.138)	1.020	0.254	0.109	0.015	0.005	1.265
	May	(0.165)	1.084	0.281	0.095	0.015	0.011	1.323
	June	(0.156)	1.107	0.258	0.099	0.015	0.010	1.333
	July	(0.168)	1.066	0.280	0.105	0.015	0.008	1.306
	August	(0.160)	1.168	0.269	0.090	0.015	0.009	1.391
	September	(0.134)	R1.071	R0.241	0.094	0.015	0.008	R1.296
	October	(0.200)	R1.115	R0.251	R0.110	0.015	0.004	R1.295
	November	(0.163)	0.965	0.267	0.091	0.015	0.000	1.175
	December	(0.132)	1.124	0.343	0.099	0.015	0.002	1.451
	TOTAL	**(1.699)**	**12.975**	**3.517**	**1.198**	**0.182**	**0.066**	**16.239**

Totals may not equal sum of components due to independent rounding.
[1]Net imports = imports minus exports. Parentheses indicate exports are greater than imports.
[2]Includes bituminous coal, lignite, and anthracite.
[3]Includes crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.
[4]Includes refined petroleum products, unfinished oils, natural gasoline, and plant condensate.
[5]Only yearly totals are available for electricity imports and exports 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 1977 are used in estimating 1978 and 1979 data until actual annual data become available.
R = Revised data.
Source: • Energy Information Administration calculations based on data reported elsewhere in this publication.

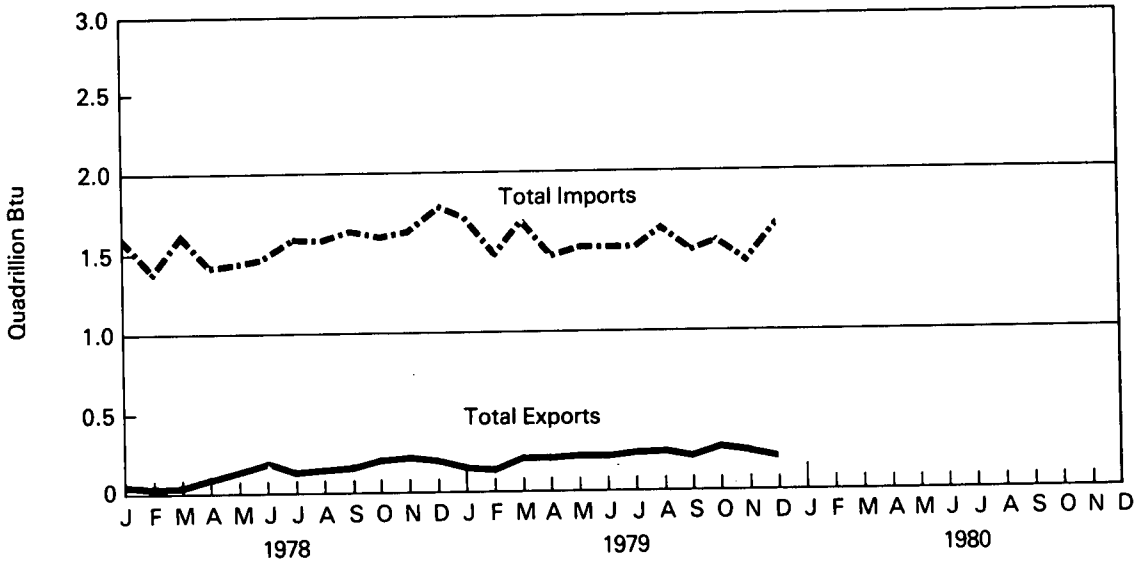
Executive Summary

Energy Imports and Exports

Yearly



Monthly



Executive Summary

Domestic Merchandise Trade Value[1]

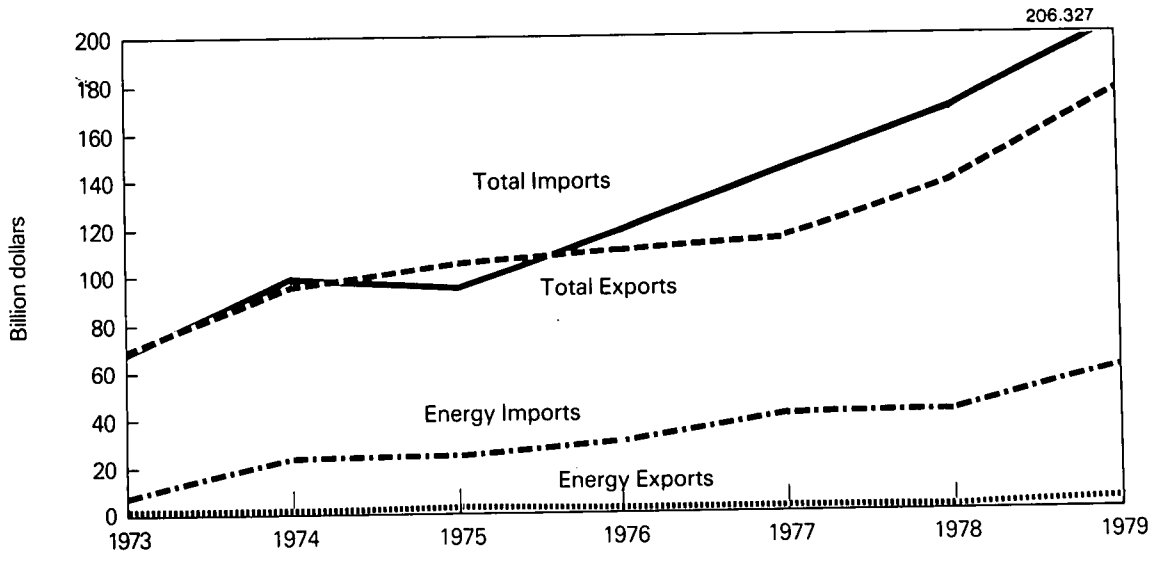
		Exports				Imports			
		Energy	Manufactured Products	Agricultural, Chemical, and Other	Total	Energy	Manufactured Products	Agricultural, Chemical, and Other	Total
		Million dollars							
1973	**TOTAL**	**1,671**	**R38,982**	**R29,643**	**R70,296**	**R8,173**	**R42,537**	**R19,122**	**R69,832**
1974	**TOTAL**	**3,444**	**54,704**	**R39,085**	**R97,233**	**25,454**	**51,205**	**R23,989**	**R100,648**
1975	**TOTAL**	**4,470**	**62,260**	**R39,832**	**R106,562**	**26,476**	**47,384**	**R22,714**	**R96,574**
1976	**TOTAL**	**4,226**	**67,282**	**R42,159**	**R113,667**	**R33,996**	**R60,004**	**R27,010**	**R121,010**
1977	**TOTAL**	**4,184**	**R69,339**	**R45,484**	**R119,007**	**R44,537**	**R71,583**	**R31,550**	**R147,670**
1978	January	189	R5,346	R3,670	R9,205	3,422	6,604	2,692	12,718
	February	141	R5,472	R3,719	R9,332	3,502	R7,027	2,722	R13,252
	March	165	R7,082	R4,578	R11,826	3,431	7,896	R3,221	R14,548
	April	285	R6,938	R4,632	R11,854	3,514	7,908	R3,065	14,486
	May	364	R7,130	R4,741	R12,234	3,234	7,840	R3,126	14,199
	June	R426	R7,016	R4,821	R12,264	3,472	R8,086	R2,957	R14,514
	July	322	R6,198	R4,251	R10,770	R3,377	R8,311	R3,014	R14,702
	August	335	R6,471	R4,612	R11,418	R3,675	R7,553	2,793	R14,022
	September	348	R7,165	4,992	R12,505	3,699	R7,800	2,919	R14,418
	October	422	R7,659	4,843	R12,924	3,492	8,466	R3,161	15,118
	November	466	R7,554	R5,391	R13,411	3,536	R8,405	3,107	R15,049
	December	418	R7,819	R5,061	R13,298	R3,743	7,990	3,220	R14,952
	TOTAL	**R3,881**	**R81,850**	**R55,310**	**R141,041**	**R42,096**	**93,887**	**R35,996**	**R171,979**
1979	January	350	7,035	4,965	12,349	4,228	8,391	3,227	15,846
	February	292	7,446	4,966	12,705	3,525	7,480	2,771	13,776
	March	436	8,842	6,020	15,298	3,948	8,432	3,385	15,765
	April	467	8,038	5,506	14,011	4,241	8,550	3,381	16,172
	May	471	8,474	5,584	14,529	4,166	8,690	3,655	16,512
	June	500	8,527	6,054	15,081	4,528	9,247	3,661	17,436
	July	534	7,879	6,077	14,490	5,075	8,778	3,262	17,115
	August	496	7,981	6,237	14,714	5,460	8,988	3,482	17,931
	September	438	8,086	6,142	14,666	6,084	8,539	3,452	18,076
	October	567	9,072	7,352	16,991	6,559	9,255	3,430	19,243
	November	522	8,849	7,577	16,948	5,411	9,363	3,884	18,658
	December	543	9,030	7,039	16,612	6,836	9,037	3,924	19,797
	TOTAL	**5,616**	**99,259**	**73,519**	**178,394**	**60,061**	**104,750**	**41,514**	**206,327**

Totals may not equal sum of components due to independent rounding.
[1]Data presented are free alongside ship (f.a.s.) basis and are unadjusted for seasonality and working days. Beginning January 1979, the data excludes U.S. Department of Defense Military Assistance Program Grant-Aid Shipments. Commodity categories shown above include groups of BOC sections as follows: Energy—BOC section 3. (Mineral fuels, lubricants, and related materials). Manufactured products—BOC sections 6. (Manufactured goods classified chiefly by material), 7. (Machinery and transport equipment), and 8. (Miscellaneous manufactured articles, not elsewhere classified). Agricultural, chemical, and other—BOC sections 0. (Food and live animals), 1. (Beverages and tobacco), 2. (Crude material inedible, except fuels), 4. (Animal and vegetable fats and oils), 5. (Chemicals), and 9. (Commodities and transactions not classified according to kind).
R = Revised data.
Source: • U.S. Department of Commerce, Bureau of the Census (BOC) publication FT 900, *Summary of U.S. Export and Import Merchandise Trade.*

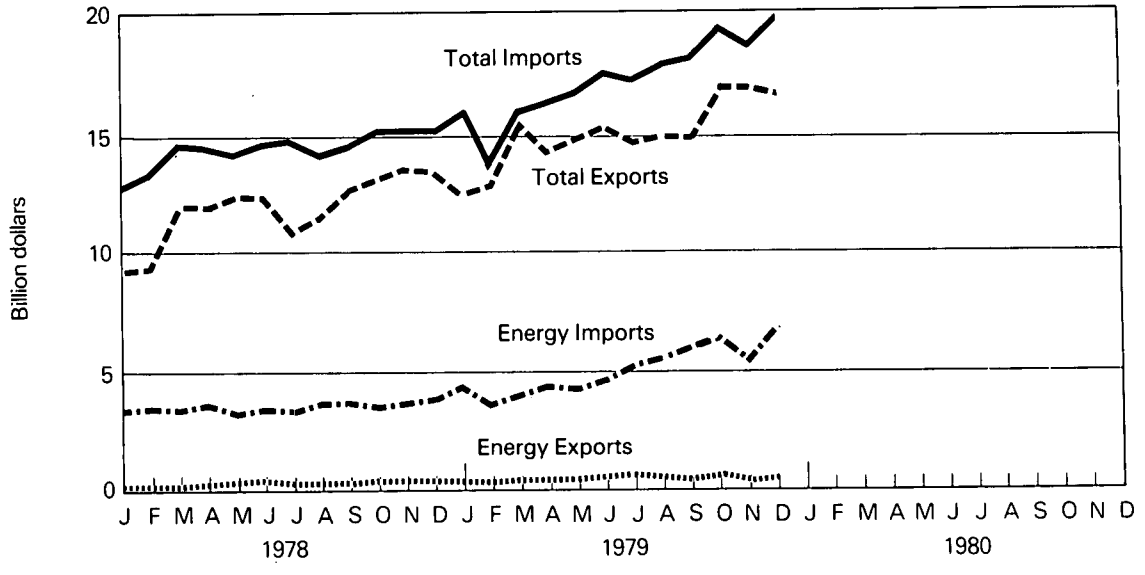
Executive Summary

Merchandise Trade Value

Yearly



Monthly



Executive Summary

Heating Degree-Days[1]

Petroleum Administration For Defense (PAD) Districts	December 31 through February 3					July 1 through February 3				
	1979–80	1978–79[2]		Normal (1941–70)[2]		1979–80	1978–79[2]		Normal (1941–70)[2]	
PAD District I	1,054.2	1,093.9	(−3.6)	1,047.9	(0.6)	2,554.8	2,670.5	(−4.3)	2,684.6	(−4.8)
New England	1,329.3	1,264.2	(5.1)	1,346.7	(−1.3)	3,373.9	3,600.1	(−6.3)	3,527.8	(−4.4)
Conn., Maine, Mass., N.H., R.I., Vt.										
Middle Atlantic	1,233.5	1,263.8	(−2.4)	1,224.6	(0.7)	2,992.0	3,144.1	(−4.8)	3,142.2	(−4.8)
Del., Md., N.J., N.Y., Pa.										
Lower Atlantic	663.8	763.5	(−13.1)	650.8	(2.0)	1,537.7	1,550.2	(−0.8)	1,626.3	(−5.4)
Fla., Ga., N.C., S.C., Va., W. Va.										
PAD District II	1,424.0	1,710.4	(−16.7)	1,370.0	(3.9)	3,541.0	3,905.8	(−9.3)	3,586.8	(−1.3)
Ill., Ind., Iowa, Kans., Ky., Mich., Minn., Mo., Nebr., N. Dak., Ohio, Okla., S. Dak., Tenn., Wisc.										
PAD District III	599.7	889.6	(−32.6)	641.5	(−6.5)	1,493.0	1,663.9	(−10.3)	1,497.1	(−0.3)
Ala., Ark., La., Miss., N. Mex., Tex.										
PAD District IV	1,330.8	1,768.1	(−24.7)	1,330.2	(0.0)	3,641.4	4,489.6	(−18.9)	3,786.0	(−3.8)
Colo., Idaho, Mont., Utah, Wyo.										
PAD District V	467.3	643.6	(−27.4)	593.1	(−21.2)	1,283.9	1,750.1	(−26.6)	1,654.7	(−22.4)
Ariz., Calif., Nev., Oreg., Wash.										
U.S. AVERAGE	**1,045.0**	**1,223.9**	**(−14.6)**	**1,047.6**	**(−0.3)**	**2,598.6**	**2,870.1**	**(−9.5)**	**2,720.5**	**(−4.5)**

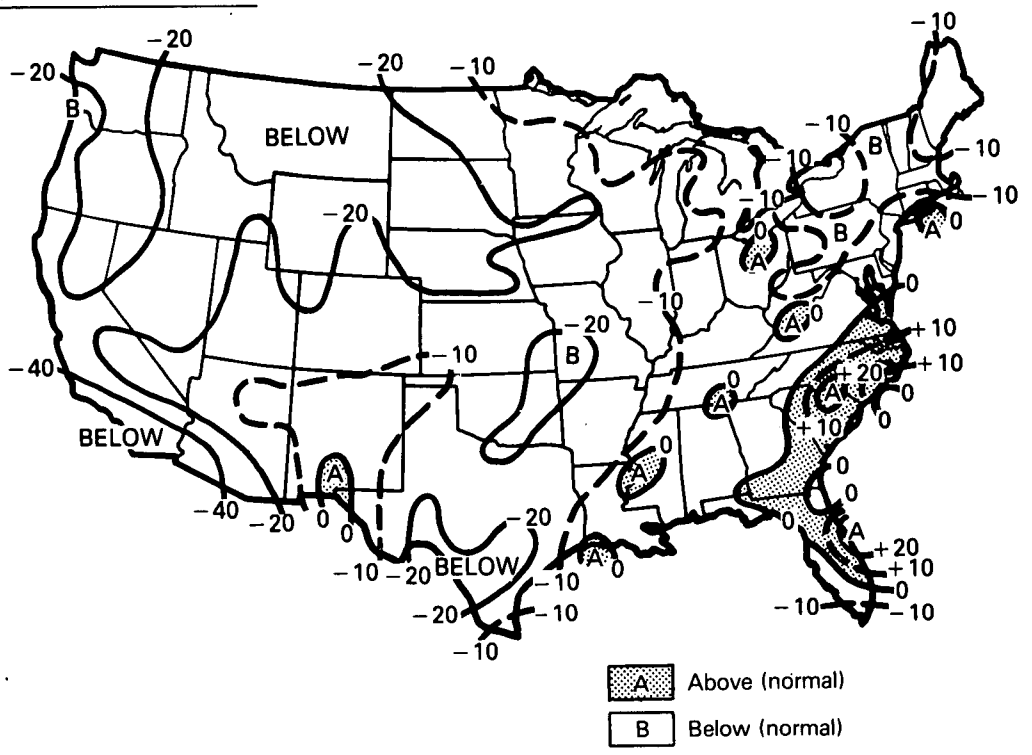
[1]See Explanatory Note 6 for explanation of degree-days.
[2]Percentage change in parentheses.

Executive Summary

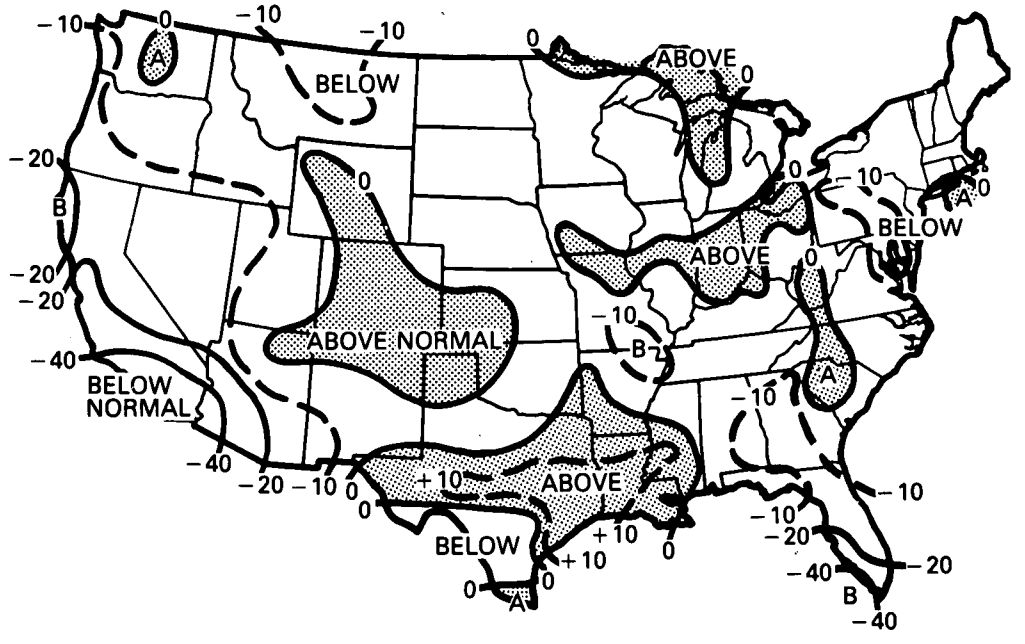
Heating Degree-Days

Heating Degree-Days Accumulated from July 1 through February 3.

Percent Departure from 1978–79



Percent Departure from Normal (1941–70)



Note: Above normal heating degree-days correspond to below normal temperatures.
Source: • Department of Commerce — NOAA.

Executive Summary

Energy Indicators—

		Energy Consumption per GNP Dollar				U.S. Dependence on Petroleum Imports[3]			
				Gross National Product (Annual rate)		Direct Imports			
		Energy Consumption per GNP Dollar[1]	Yearly Rate of Energy Consumption	Current Dollars	1972 Dollars[2]	From Arab/OPEC Countries	From OPEC Countries	Total All Countries	Domestic Petroleum Products Supplied
ANNUAL RATE			Quadrillion Btu	Trillion dollars		Million barrels per day			
1973	AVERAGE	60.4	74.605	1.307	1.235	0.91	2.99	6.26	17.31
1974	AVERAGE	R59.7	72.756	1.413	R1.218	0.75	3.28	6.11	16.65
1975	AVERAGE	R58.8	70.706	R1.529	R1.202	1.38	3.60	6.06	16.32
1976	AVERAGE	R58.5	74.513	R1.702	R1.273	2.42	5.07	7.31	17.46
1977	AVERAGE	R57.1	76.536	R1.900	R1.341	3.18	6.19	8.81	18.43
1978	1st Qtr	R63.5	86.902	R2.011	R1.368	2.90	5.75	8.33	20.08
	2nd Qtr	R52.5	73.269	R2.104	R1.395	2.76	5.31	7.79	18.08
	3rd Qtr	R52.2	73.468	R2.160	R1.407	2.98	5.82	8.53	18.08
	4th Qtr	R56.2	80.256	R2.235	R1.427	3.21	6.12	8.80	19.17
	AVERAGE	R56.1	78.443	R2.128	R1.399	2.96	5.75	8.36	18.85
1979	1st Qtr	R62.6	89.620	R2.292	R1.431	3.23	5.81	8.73	20.30
	2nd Qtr	51.3	72.952	2.330	1.422	3.14	5.38	8.01	17.56
	3rd Qtr	R48.0	71.711	R2.397	R1.433	2.78	5.22	7.57	17.33

Note: Revisions on this page incorporate corrections to Gross National Product Current Dollars.
[1]Thousand Btu per 1972 constant dollar.
[2]Current dollars converted to 1972 constant dollars by the formula:

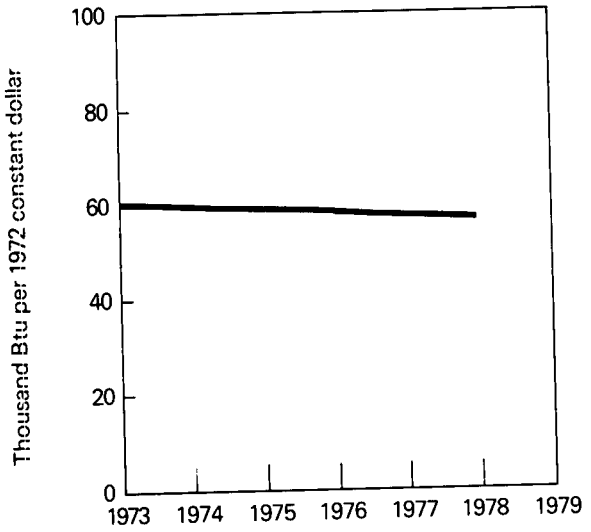
$$\text{Constant 1972 dollars} = \frac{\text{Current dollars in year N}}{\text{Gross National Product implicit price deflator in year N}} \times 100$$

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.
[3]Beginning in October 1977 Strategic Petroleum Reserve imports are included.
R = Revised data.

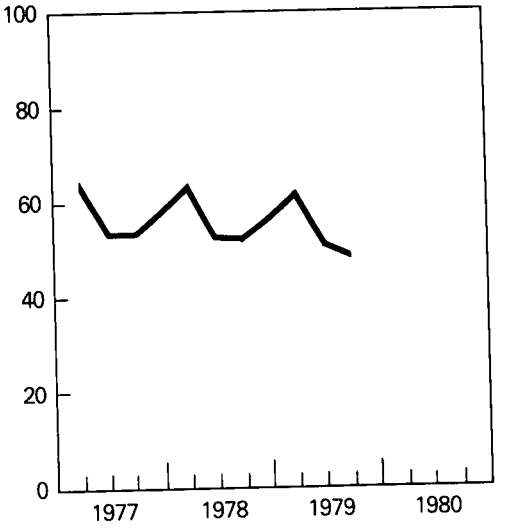
Executive Summary

Energy Consumption per GNP Dollar

Yearly

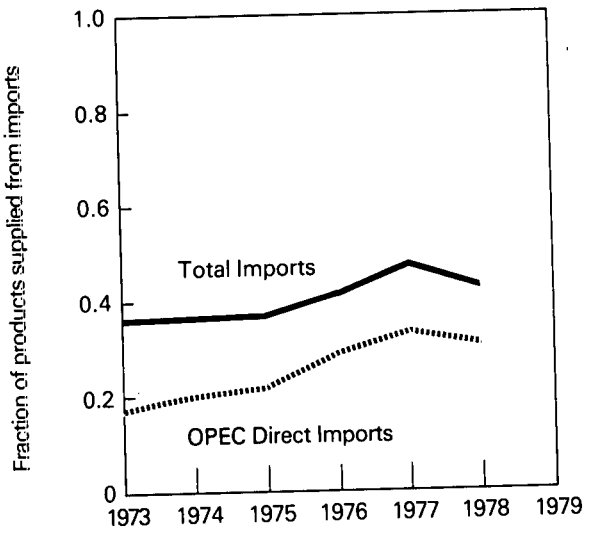


Quarterly

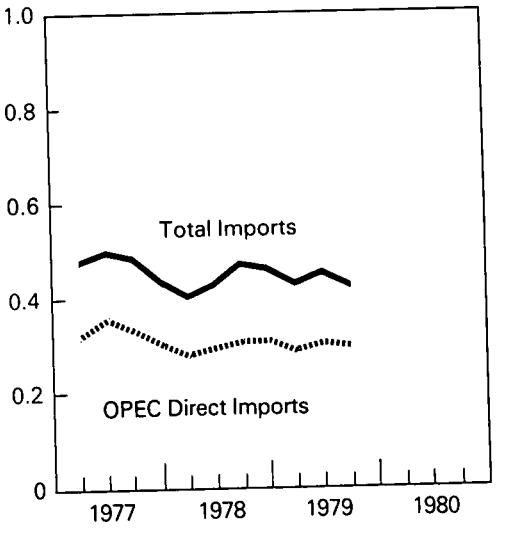


U.S. Dependence on Petroleum Imports

Yearly



Quarterly

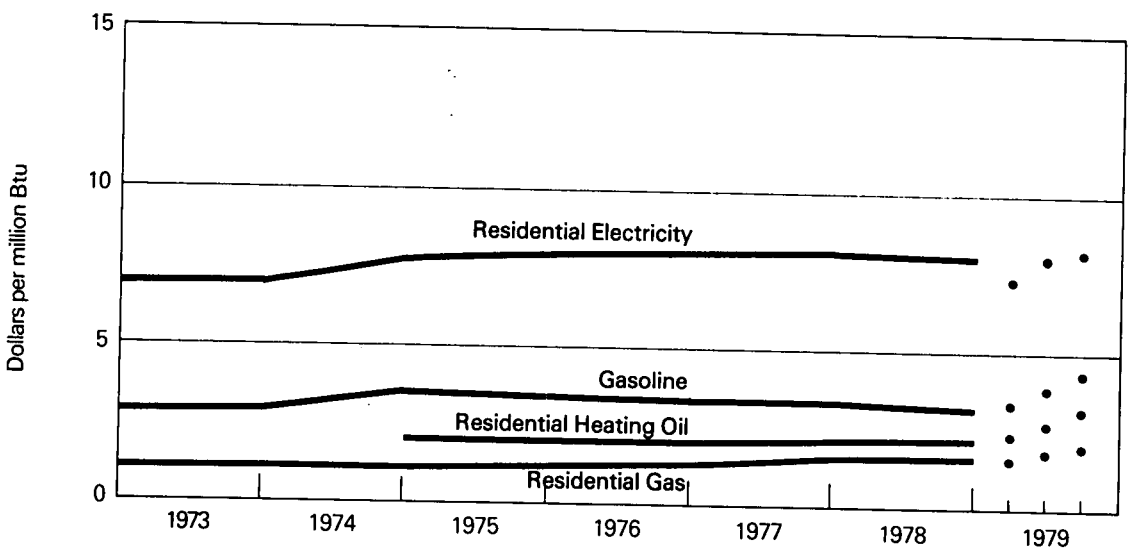


Executive Summary

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**	**36.5**	**2.92**	**NA**	**NA**	**121.2**	**R1.19**	**2.39**	**7.00**
1974	**AVERAGE**	**44.8**	**3.59**	**29.4**	**2.12**	**R121.4**	**R1.19**	**2.63**	**7.71**
1975	**AVERAGE**	**43.7**	**3.50**	**29.3**	**2.11**	**132.8**	**R1.30**	**2.73**	**R8.00**
1976	**AVERAGE**	**43.1**	**3.46**	**30.2**	**2.18**	**145.4**	**R1.43**	**R2.74**	**8.03**
1977	**AVERAGE**	**43.2**	**3.46**	**31.2**	**2.25**	**162.2**	**R1.59**	**R2.80**	**8.20**
1978	1st Qtr	41.0	3.28	32.3	2.33	155.0	1.58	2.65	7.76
	2nd Qtr	40.6	3.25	31.4	2.26	169.7	1.73	2.88	8.44
	3rd Qtr	41.3	3.31	30.7	2.21	196.3	2.00	2.85	8.35
	4th Qtr	41.3	3.31	32.1	2.31	164.5	1.68	2.70	7.91
	AVERAGE	**41.0**	**3.28**	**31.7**	**2.29**	**164.4**	**R1.61**	**2.76**	**8.10**
1979	1st Qtr	42.6	3.41	33.8	2.44	158.0	R1.55	2.51	7.36
	2nd Qtr	47.5	3.80	37.2	2.68	172.6	R1.69	2.74	8.03
	3rd Qtr	54.9	4.39	44.0	3.17	203.4	R2.00	2.79	8.17

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



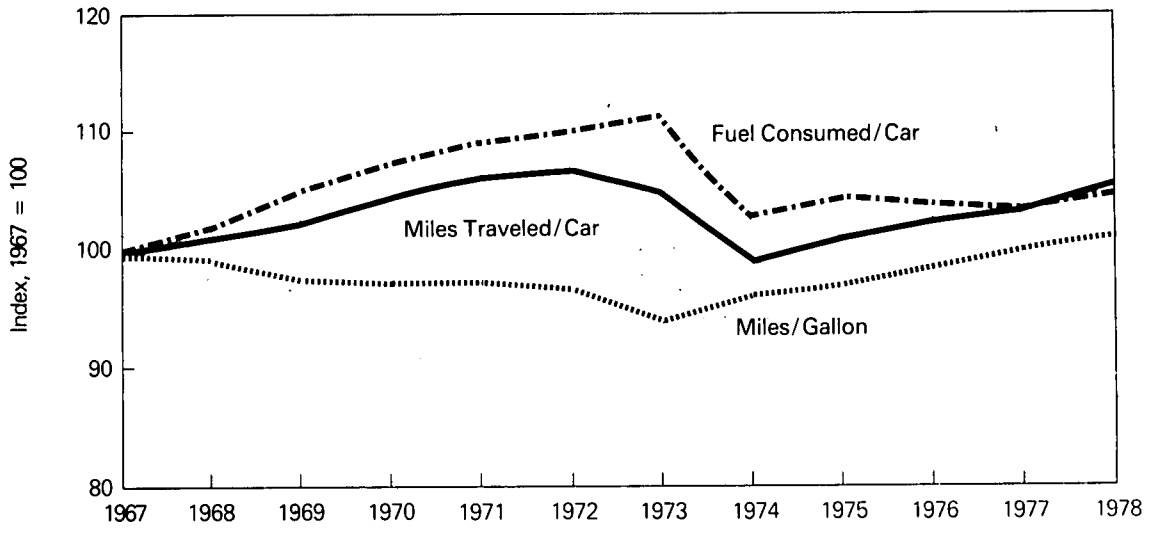
R = Revised data.
NA = Not available.
Sources: • Motor Gasoline—1973 through 1977, Lundberg Survey Inc.; 1978 and forward, U.S. Department of Energy Forms EIA-8 and EIA 79, "Retail Motor Fuels Service Station Survey".
- Heating Oil—1974 and 1975, Form CLC-92, "No. 2 Heating Oil Monthly Price Adjustment Report," and 1976 forward, FEA Form P112 M 1, and EIA 9, "No. 2 Heating Oil Supply/Price Monitoring Report."
- Natural Gas—1973 through 1978 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;" 1978 and 1979 quarterly numbers, the American Gas Association, "Quarterly Report of Gas Industry Operations."
- Electricity—FPC Form 5, "Reports of Classes A and B Privately Owned Electric Utilities."
- Deflator—The Consumer Price Index.

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

U.S. Passenger Car Efficiency Index



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

Energy Consumption

Domestic energy consumption in December 1979 was 7.1 quadrillion Btu, 11.1 percent higher than during a month earlier. This figure was 3.8 percent lower than the December 1978 consumption level.

The residential and commercial sector consumption was 2.9 quadrillion Btu in December 1979, 27.6 percent higher than in November and 4.0 percent higher than the amount consumed during December 1978. The residential and commercial sector consumed 41.3 percent of the total consumption for December 1979, up from the sector's 38.2 percent share in December 1978.

The industrial sector consumption was 2.5 quadrillion Btu in December 1979, down 1.0 percent from November 1979, and down 9.3 percent from the consumption level in December 1978. The industrial sector consumed 35.0 percent of the December 1979 total, as compared to the 37.1 percent share of December 1978.

The transportation sector consumption was 1.7 quadrillion Btu in December 1979, up 6.4 percent from November 1979 and down 7.8 percent from the consumption level in December 1978. This sector consumed 23.7 percent of the December 1979 total, as compared to a 24.7 percent share in December 1978.

The electric utilities consumption was an estimated 2.1 quadrillion Btu of energy in December 1979, 9.8 percent higher than in the previous month, and 1.9 percent higher than the energy consumed in December 1978. Coal contributed 48.2 percent of the energy consumed by electric utilities in December 1979, while petroleum contributed 14.6 percent, hydroelectric power 12.7 percent, natural gas 12.3 percent, nuclear power 11.7 percent, and geothermal, wood and waste 0.4 percent. Of the total energy consumed by electric utilities in December 1979, 60.0 percent was ultimately consumed by the residential and commercial sector (including electricity distributed and losses), 39.7 percent by the industrial sector, and 0.2 percent by the transportation sector.

Consumption

Energy Consumption Summary December 1979 [Quadrillion (10^{15}) Btu]

Primary Energy Source	Sector[1] Residential and Commercial	Industrial	Transportation	Electric Utilities	TOTAL
Coal[2]	0.034	0.319	0.000	1.009	1.361
Natural Gas (dry)[3]	1.045	0.621	0.056	0.258	1.981
Petroleum[4]	0.586	0.700	1.617	0.305	3.208
Hydroelectric[5]	0.000	0.003	0.000	0.266	0.270
Nuclear[6]	0.000	0.000	0.000	0.245	0.245
Net Coke Imports[7]	0.000	0.000	0.000	0.000	0.000
Other[8]	0.000	0.000	0.000	0.009	0.009
TOTAL PRIMARY ENERGY	**1.665**	**1.643**	**1.673**	**2.092**	**7.073**
Electricity Distributed[9]	0.354	0.234	0.001	(0.590)	
Net Energy Consumption	2.019	1.878	1.675		5.571
Electrical Energy Loss Distributed[10]	0.902	0.597	0.003	(1.502)	1.502
TOTAL ENERGY	**2.921**	**2.474**	**1.678**		**7.073**

Footnotes

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

[1] See Explanatory Note 5 for definitions of the Residential and Commercial, Industrial, Transportation, and Electric Utilities Sectors.

Footnotes 2 through 10 apply to the table above and provide explanations and sources for the three individual sector tables, following in this publication.

[2] Bituminous coal, anthracite, and lignite. *Sources:* • Anthracite—1976: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook,* "Coal—Pennsylvania Anthracite, Annual."
• 1977 through 1979, U.S. Department of Energy (DOE), Energy Information Administration, (EIA) *Energy Data Report,* "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 through 1979, DOE, EIA, *Energy Data Report,* "Weekly Coal Report."
• Electric Utility consumption of coal sources: same as footnote 6 below.

[3] Natural gas consumption by the Transportation Sector is mostly for pipeline use. It is estimated to be the following percentages of non-utility gas consumption: 1973: 3.76%; 1974: 3.56%; 1975: 3.25%; and 1976 through 1979: 3.26%. American Gas Association (AGA) data are used to estimate monthly consumption of natural gas by the Residential and Commercial Sector. In completed years, the AGA consumption in each month is taken as a portion of the AGA year's total; that fraction is multiplied by the DOE total for that year to obtain a monthly estimate. For incomplete years, the AGA Residential and Commercial Sector's monthly consumption of natural gas is used directly. In 1973, 36 percent of the AGA's "other" sector is added to the Residential and Commercial Sector; in 1974 this percent is increased to 39 percent; and from 1975 all of the "other" sector is added to the Residential and Commercial Sector. The Industrial Sector consumption of natural gas is the difference between the total and the sum of the other sectors.
Sources: • 1973 through 1975: DOI, BOM, *Minerals Yearbook,* "Natural Gas" chapter.
• 1976 through 1979, DOE, *Energy Data Reports,* "Natural Gas Monthly Production and Consumption."
• Electric Utilities consumption: 1973 through 1976, FPC, Form 4, "Monthly Power Plant Report."
• 1977 through 1979, DOE, EIA, FPC, Form 4, "Monthly Power Plant Report." Residential and Commercial Sector annual data sources are the same as for total natural gas consumption.

[4] Petroleum products are allocated to the Transportation Sector as follows: motor gasoline 100% for all years; naphtha jet fuel 100% for all years; kerosene jet fuel 1973: 98.0%; 1974: 98.2%; 1975: 98.3%; 1976: 93.3%; and 1977 and 1978: 97.6%; distillate fuel oil 1973: 32.8%; 1974: 34.1%; 1975: 34.1%; 1976: 33.7%; and 1977 through 1979: 34.0%; residual fuel oil 1973: 11.3%; 1974: 11.7%; 1975: 12.9%; 1976: 13.3%; and 1977 through 1979: 13.2%; all other petroleum products 1973: 4.6%; 1974: 4.5%; 1975: 4.2%; 1976: 4.2%; and 1977 through 1979: 3.9%. The remainder is distributed to the Residential and Commercial Sector and the Industrial Sector by applying the following percentage shares by year: Residential and Commercial Sector—1973: 51.47%; 1974: 49.75%; 1975: 49.62%; 1976: 48.49%; and 1977 through 1979: 45.59%; and the Industrial Sector— 1973: 48.53%; 1974: 50.25%; 1975: 50.38%; 1976: 51.51%; and 1977 through 1979: 48.53%. These percentages are developed on a Btu basis from the sources listed above for the other sectors.
Sources: • 1973 through 1975: DOI, BOM, *Mineral Industry Surveys,* "Petroleum Statement, Annual."
• 1976 through 1978: DOE, EIA, *Energy Data Reports,* "Petroleum Statement, Annual."
• 1979: DOE, EIA, *Energy Data Report,* "Petroleum Statement, Monthly" and "Monthly Petroleum Statistics Report."
• Electric Utility consumption of petroleum sources: 1973 through 1976: FPC, Form 4, "Monthly Power Plant Report."
• 1977 through 1979: DOE, FPC, Form 4, "Monthly Power Plant Report."
• Transportation Sector consumption of petroleum: 1973 through 1975, derived from DOI, BOM, *Mineral Industry Surveys,* "Fuel Oil Sales, Annual" and "Liquefied Petroleum Gas Sales, Annual."
• 1976 through 1979: DOE, *Energy Data Reports,* "Fuel Oil Sales, Annual" and "Liquefied Petroleum Gas Sales, Annual," and from the sources listed for total petroleum consumption.

[5] Industrial and electric utility generation of hydropower. *Sources:* • 1973 through 1976, FPC, Form 4, "Monthly Power Plant Report."
• 1977 through 1979: DOE, EIA, FPC, Form 4, "Monthly Power Plant Report."
• Imports and exports of electricity—*Sources:* FPC, Form 12, "Power System Statement."

[6] *Sources:* • 1973 through 1976: FPC, Form 4, "Monthly Power Plant Report."
• 1977 through 1979: DOE, EIA, FPC, Form 4, "Monthly Power Plant Report."

[7] Net coke imports is coke made from coal. *Sources:* • 1973 through 1975, DOI, BOM, *Minerals Yearbook,* "Coke and Coal Chemicals, Annual."
• 1976 through 1979: DOE, EIA, *Energy Data Reports,* "Coke and Coal Chemicals, Monthly."

[8] "Other" is electricity produced from geothermal power and from wood and waste. *Sources:* same as footnote 6 above.

[9] Electricity was distributed using EIA data in kilowatt-hour sales to ultimate customers. Electrical energy consumed by railroads was distributed to the Transportation Sector.
All "Other" sales, largely for use in government buildings, were distributed to the Residential and Commercial Sector. *Source:* • Sales data—FPC, Form 5, "Monthly Statement of Electric Operating Revenue and Income."

[10] 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.

Consumption

Energy Consumption Summary
November 1979 [Quadrillion (10^{15}) Btu]

Primary Energy Source	Sector[1] Residential and Commercial	Industrial	Transportation	Electric Utilities	TOTAL
Coal[2]	0.026	0.303	0.000	0.925	1.254
Natural Gas (dry)[3]	0.633	0.716	0.045	0.270	1.664
Petroleum[4]	0.550	0.656	1.527	0.246	2.980
Hydroelectric[5]	0.000	0.003	0.000	0.248	0.251
Nuclear[6]	0.000	0.000	0.000	0.207	0.207
Net Coke Imports[7]	0.000	0.000	0.000	0.000	0.000
Other[8]	0.000	0.000	0.000	0.008	0.008
TOTAL PRIMARY ENERGY	**1.210**	**1.678**	**1.572**	**1.905**	**6.365**
Electricity Distributed[9]	0.314	0.238	0.001	(0.553)	
Net Energy Consumption	1.523	1.916	1.574		5.013
Electrical Energy Loss Distributed[10]	0.767	0.582	0.003	(1.352)	1.352
TOTAL ENERGY	**2.290**	**2.498**	**1.577**		**6.365**

Footnotes

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

[1] See Explanatory Note 5 for definitions of the Residential and Commercial, Industrial, Transportation, and Electric Utilities Sectors.

Footnotes 2 through 10 apply to the table above and provide explanations and sources for the three individual sector tables, following in this publication.

[2] Bituminous coal, anthracite, and lignite. *Sources:* • Anthracite—1976: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook,* "Coal—Pennsylvania Anthracite, Annual."
• 1977 through 1979, U.S. Department of Energy (DOE), Energy Information Administration, (EIA) *Energy Data Report,* "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 through 1979, DOE, EIA, *Energy Data Report,* "Weekly Coal Report."
• Electric Utility consumption of coal sources: same as footnote 6 below.

[3] Natural gas consumption by the Transportation Sector is mostly for pipeline use. It is estimated to be the following percentages of non-utility gas consumption: 1973: 3.76%; 1974: 3.56%; 1975: 3.25%; and 1976 through 1979: 3.26%. American Gas Association (AGA) data are used to estimate monthly consumption of natural gas by the Residential and Commercial Sector. In completed years, the AGA consumption in each month is taken as a portion of the AGA year's total; that fraction is by the DOE total for that year to obtain a monthly estimate. For incomplete years, the AGA Residential and Commercial Sector's monthly consumption of natural gas is used directly. In 1973, 36 percent of the AGA's "other" sector is added to the Residential and Commercial Sector; in 1974 this percent is increased to 39 percent; and from 1975 all of the "other" sector is added to the Residential and Commercial Sector. The Industrial Sector consumption of natural gas is the difference between the total and the sum of the other sectors.
Sources: • 1973 through 1975: DOI, BOM, *Minerals Yearbook,* "Natural Gas" chapter.
• 1976 through 1979, DOE, *Energy Data Reports,* "Natural Gas Monthly Production and Consumption."
• Electric Utilities consumption: 1973 through 1976, FPC, Form 4, "Monthly Power Plant Report."
• 1977 through 1979, DOE, EIA, FPC, Form 4, "Monthly Power Plant Report." Residential and Commercial Sector annual data sources are the same as for total natural gas consumption.

[4] Petroleum products are allocated to the Transportation Sector as follows: motor gasoline 100% for all years; naphtha jet fuel 100% for all years; kerosene jet fuel 1973: 98.0%; 1974: 98.2%; 1975: 98.3%; 1976: 93.3%; and 1977 and 1978: 97.6%; distillate fuel oil 1973: 32.8%; 1974: 34.1%; 1975: 34.1%; 1976: 33.7%; and 1977 through 1979: 34.0%; residual fuel oil 1973: 11.3%; 1974: 11.7%; 1975: 12.9%; 1976: 13.3%; and 1977 through 1979: 13.2%; all other petroleum products 1973: 4.6%; 1974: 4.5%; 1975: 4.2%; 1976: 4.2%; and 1977 through 1979: 3.9%. The remainder is distributed to the Residential and Commercial Sector and the Industrial Sector by applying the following percentage shares by year: Residential and Commercial Sector—1973: 51.47%; 1974: 49.75%; 1975: 49.62%; 1976: 48.49%; and 1977 through 1979: 45.59%; and the Industrial Sector— 1973: 48.53%; 1974: 50.25%; 1975: 50.38%; 1976: 51.51%; and 1977 through 1979: 48.53%. These percentages are developed on a Btu basis from the sources listed above for the other sectors.
Sources: • 1973 through 1975: DOI, BOM, *Mineral Industry Surveys,* "Petroleum Statement, Annual."
• 1976 through 1978: DOE, EIA, *Energy Data Reports,* "Petroleum Statement, Annual."
• 1979: DOE, EIA, *Energy Data Report,* "Petroleum Statement, Monthly" and "Monthly Petroleum Statistics Report."
• Electric Utility consumption of petroleum sources: 1973 through 1976: FPC, Form 4, "Monthly Power Plant Report."
• 1977 through 1979: DOE, FPC, Form 4, "Monthly Power Plant Report."
• Transportation Sector consumption of petroleum: 1973 through 1975, derived from DOI, BOM, *Mineral Industry Surveys,* "Fuel Oil Sales, Annual" and "Liquefied Petroleum Gas Sales, Annual."
• 1976 through 1979: DOE, *Energy Data Reports,* "Fuel Oil Sales, Annual" and "Liquefied Petroleum Gas Sales, Annual," and from the sources listed for total petroleum consumption.

[5] Industrial and electric utility generation of hydropower. *Sources:* • 1973 through 1976, FPC, Form 4, "Monthly Power Plant Report."
• 1977 through 1979: DOE, EIA, FPC, Form 4, "Monthly Power Plant Report."
• Imports and exports of electricity—*Sources:* FPC, Form 12, "Power System Statement."

[6] *Sources:* • 1973 through 1976: FPC, Form 4, "Monthly Power Plant Report."
• 1977 through 1979: DOE, EIA, FPC, Form 4, "Monthly Power Plant Report."

[7] Net coke imports is coke made from coal. *Sources:* • 1973 through 1975, DOI, BOM, *Minerals Yearbook,* "Coke and Coal Chemicals, Annual."
• 1976 through 1979: DOE, EIA, *Energy Data Reports,* "Coke and Coal Chemicals, Monthly."

[8] "Other" is electricity produced from geothermal power and from wood and waste. *Sources:* same as footnote 6 above.

[9] Electricity was distributed using EIA data in kilowatt-hour sales to ultimate customers. Electrical energy consumed by railroads was distributed to the Transportation Sector.
All "Other" sales, largely for use in government buildings, were distributed to the Residential and Commercial Sector. *Source:* • Sales data—FPC, Form 5, "Monthly Statement of Electric Operating Revenue and Income."

[10] 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.

Consumption

Energy Consumption by the Residential and Commercial Economic Sector[1]

		Coal	Natural Gas (dry)	Petroleum	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Yearly Cumulative Total Energy Use
				Quadrillion (10^{15}) Btu				
1973	**TOTAL**	**0.293**	**7.626**	**6.831**	**3.489**	**8.295**	**26.534**	
1974	**TOTAL**	**0.292**	**7.518**	**6.214**	**3.469**	**8.419**	**25.912**	
1975	**TOTAL**	**0.248**	**7.581**	**5.839**	**3.584**	**8.729**	**25.981**	
1976	**TOTAL**	**0.239**	**7.866**	**6.290**	**3.725**	**9.060**	**27.180**	
1977	**TOTAL**	**0.234**	**7.462**	**6.327**	**3.932**	**9.589**	**27.545**	
1978	January	0.028	1.232	0.599	0.375	R0.972	R3.205	R3.205
	February	0.029	1.257	0.573	0.367	0.838	3.064	R6.270
	March	0.023	1.038	0.565	0.342	0.823	2.791	R9.060
	April	0.020	0.683	0.499	0.293	0.692	2.186	R11.247
	May	0.018	0.483	0.524	0.283	0.752	2.060	R13.306
	June	0.017	0.313	0.485	0.324	0.846	1.986	R15.292
	July	0.015	0.264	0.478	0.376	0.982	2.115	R17.408
	August	0.016	0.246	0.502	0.385	0.990	2.139	R19.547
	September	0.018	0.252	0.500	0.377	0.843	1.990	R21.537
	October	0.026	0.358	0.550	0.325	0.743	2.000	R23.536
	November	0.027	R0.588	0.554	R0.304	R0.745	R2.217	R25.754
	December	0.029	0.966	0.594	0.340	0.880	2.809	R28.563
	TOTAL	**0.265**	**R7.679**	**6.423**	**R4.090**	**R10.105**	**R28.563**	
1979	January	0.035	1.308	R0.642	0.397	R1.045	R3.427	R3.427
	February	0.022	1.329	R0.597	0.385	R0.873	R3.206	R6.634
	March	0.017	0.993	0.619	0.349	R0.821	2.800	R9.434
	April	0.016	0.748	0.508	0.309	R0.719	2.301	R11.734
	May	0.015	0.462	0.539	0.297	R0.750	2.063	R13.797
	June	0.015	0.320	R0.508	0.321	0.815	1.978	R15.775
	July	0.013	0.273	0.491	0.362	0.954	2.093	R17.868
	August	0.012	0.252	0.537	0.389	0.982	R2.172	R20.041
	September	0.016	0.263	R0.507	0.368	0.813	R1.967	R22.008
	October	0.022	0.363	R0.580	R0.321	R0.776	R2.061	R24.069
	November	0.026	0.633	0.550	0.314	0.767	2.290	26.359
	December	0.034	1.045	0.586	0.354	0.902	2.921	29.280
	TOTAL	**0.242**	**7.991**	**6.663**	**4.166**	**10.218**	**29.280**	

Totals may not equal sum of components due to independent rounding.
[1]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. Notes on the methodology used for sector calculations are provided in the footnotes on page 24.
R = Revised data.
Source: • See footnotes on page 24.

Consumption

Energy Consumption by the Industrial Economic Sector[1]

		Coal	Natural Gas (dry)	Petro-leum	Hydro-electric	Net Coke Imports[2]	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Yearly Cumulative Total Energy Use
		Quadrillion (10^{15}) Btu								
1973	**TOTAL**	**4.377**	**10.397**	**6.441**	**0.033**	**(0.008)**	**2.341**	**5.564**	**29.144**	
1974	**TOTAL**	**4.047**	**10.012**	**6.277**	**0.031**	**0.059**	**2.337**	**5.668**	**28.430**	
1975	**TOTAL**	**3.786**	**8.532**	**5.929**	**0.030**	**0.014**	**2.304**	**5.613**	**26.207**	
1976	**TOTAL**	**3.773**	**8.768**	**6.682**	**0.033**	**0.000**	**2.525**	**6.144**	**27.924**	
1977	**TOTAL**	**3.612**	**8.641**	**7.552**	**0.037**	**0.015**	**2.635**	**6.431**	**28.923**	
1978	January	0.286	0.893	0.715	0.003	0.001	R0.221	R0.573	R2.693	R2.693
	February	0.246	0.645	0.684	0.003	0.001	0.208	0.475	2.261	R4.954
	March	0.243	0.625	0.674	0.003	0.005	0.210	0.505	2.264	R7.218
	April	0.274	0.613	0.596	0.003	0.012	0.215	0.509	2.223	R9.440
	May	0.293	0.619	0.626	0.003	0.025	0.227	0.604	2.397	R11.837
	June	0.287	0.599	0.579	0.003	0.009	0.234	0.610	2.322	R14.159
	July	0.291	0.690	0.571	0.003	0.015	0.229	0.598	2.396	R16.555
	August	0.288	0.682	0.599	0.002	0.013	0.237	0.609	2.431	R18.986
	September	0.288	0.670	0.596	0.003	0.012	0.239	0.534	2.342	R21.328
	October	0.309	0.802	0.656	0.003	0.015	0.243	0.556	2.584	R23.912
	November	0.308	R0.821	0.661	0.003	0.013	R0.238	R0.583	R2.626	R26.538
	December	0.319	0.858	0.709	0.003	0.009	0.231	0.598	2.727	R29.266
	TOTAL	**3.433**	**R8.518**	**7.666**	**0.036**	**0.131**	**R2.731**	**6.752**	**R29.266**	
1979	January	0.314	0.807	R0.766	0.003	0.004	R0.232	R0.610	R2.736	R2.736
	February	0.288	0.567	R0.712	0.003	0.003	0.228	0.517	2.317	R5.054
	March	0.307	0.557	R0.739	0.003	0.002	0.235	0.552	2.395	R7.449
	April	0.292	R0.514	R0.607	0.003	0.005	0.235	0.546	R2.202	R9.651
	May	0.293	0.613	R0.644	0.003	0.011	0.240	0.608	2.413	R12.063
	June	0.275	0.608	0.606	0.003	0.010	0.242	R0.615	2.360	R14.423
	July	0.281	R0.622	R0.586	0.003	0.008	0.239	0.628	R2.366	R16.789
	August	0.288	R0.635	0.641	0.003	0.009	0.242	0.611	R2.429	R19.219
	September	0.290	R0.652	R0.605	0.003	0.008	0.239	0.529	R2.325	R21.544
	October	R0.308	R0.790	R0.692	0.003	0.004	0.244	R0.590	R2.630	R24.174
	November	0.303	0.716	0.656	0.003	0.000	0.238	0.582	2.498	26.672
	December	0.319	0.621	0.700	0.003	0.000	0.234	0.597	2.474	29.146
	TOTAL	**3.558**	**7.702**	**7.952**	**0.037**	**0.064**	**2.848**	**6.984**	**29.146**	

Totals may not equal sum of components due to independent rounding.
[1]The Industrial Sector is made up of construction, manufacturing, agriculture, and mining establishments. Notes on the methodology used for sector calculations are provided in the footnotes on page 24.
[2]Net Imports = imports minus exports. Parentheses indicate exports are greater than imports.
R = Revised data.
Source: ● See footnotes on page 24.

Consumption

Energy Consumption by the Transportation Sector[1]

		Coal	Natural Gas (dry)	Petroleum	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Yearly Cumulative Total Energy Use
				Quadrillion (10^{15}) Btu				
1973	**TOTAL**	**0.003**	**0.743**	**18.132**	**0.014**	**0.034**	**18.927**	
1974	**TOTAL**	**0.002**	**0.685**	**17.677**	**0.015**	**0.035**	**18.414**	
1975	**TOTAL**	**0.001**	**0.595**	**17.872**	**0.015**	**0.035**	**18.518**	
1976	**TOTAL**	**0.000**	**0.559**	**18.799**	**0.015**	**0.036**	**19.408**	
1977	**TOTAL**	**0.000**	**0.543**	**19.476**	**0.014**	**0.035**	**20.068**	
1978	January	0.000	0.072	1.644	0.001	0.004	1.721	1.721
	February	0.000	0.064	1.565	0.001	0.003	1.634	3.354
	March	0.000	0.056	1.735	0.001	0.003	1.796	5.150
	April	0.000	0.044	1.582	0.001	0.003	1.629	6.780
	May	0.000	0.037	1.711	0.001	0.003	1.752	8.532
	June	0.000	0.031	1.677	0.001	0.003	1.712	10.244
	July	0.000	0.032	1.657	0.001	0.003	1.693	11.937
	August	0.000	0.031	1.746	0.001	0.003	1.781	13.718
	September	0.000	0.031	1.595	0.001	0.003	1.630	15.348
	October	0.000	0.039	1.678	0.001	0.003	1.721	17.069
	November	0.000	0.048	1.674	0.001	0.003	1.726	18.795
	December	0.000	0.061	1.753	0.001	0.004	1.819	20.614
	TOTAL	**0.000**	**0.546**	**20.017**	**0.015**	**0.037**	**20.614**	
1979	January	0.000	0.071	1.708	0.001	0.004	1.784	1.784
	February	0.000	0.064	1.617	0.001	0.003	1.685	3.469
	March	0.000	0.052	1.692	0.001	0.003	1.749	5.218
	April	0.000	R0.043	1.536	0.001	0.003	R1.583	R6.801
	May	0.000	0.036	1.618	0.001	0.003	1.659	R8.460
	June	0.000	0.031	1.560	0.001	0.003	1.595	R10.055
	July	0.000	0.030	1.546	0.001	0.003	R1.581	R11.635
	August	0.000	0.030	1.642	0.001	0.003	1.676	R13.311
	September	0.000	R0.031	R1.514	0.001	0.003	R1.549	R14.860
	October	0.000	R0.039	1.602	0.001	0.003	R1.645	R16.505
	November	0.000	0.045	1.527	0.001	0.003	1.577	18.082
	December	0.000	0.056	1.617	0.001	0.003	1.678	19.760
	TOTAL	**0.000**	**0.529**	**19.180**	**0.015**	**0.036**	**19.760**	

Totals may not equal sum of components due to independent rounding.
[1]The 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 footnotes on page 24.
R = Revised data.
Source: • See footnotes on page 24.

Consumption

Energy Consumption by Electric Utilities

		Coal[1]	Natural Gas (dry)	Petroleum	Hydro-electric Power[2]	Nuclear Electric Power	Other[3]	Total	Yearly Cumulative Total
					Quadrillion (10^{15}) Btu				
1973	**TOTAL**	**8.627**	**3.746**	**3.433**	**2.975**	**0.910**	**0.046**	**19.738**	
1974	**TOTAL**	**8.535**	**3.518**	**3.286**	**3.276**	**1.272**	**0.056**	**19.943**	
1975	**TOTAL**	**8.788**	**3.241**	**3.092**	**3.187**	**1.900**	**0.072**	**20.280**	
1976	**TOTAL**	**9.720**	**3.153**	**3.407**	**3.032**	**2.111**	**0.081**	**21.505**	
1977	**TOTAL**	**10.264**	**3.285**	**3.821**	**2.482**	**2.702**	**0.082**	**22.636**	
1978	January	0.922	0.236	0.426	0.277	0.278	0.007	2.146	2.146
	February	0.772	0.218	0.412	0.249	0.235	0.006	1.892	4.037
	March	0.732	0.240	0.393	0.272	0.242	0.005	1.884	5.921
	April	0.743	0.231	0.265	0.279	0.189	0.004	1.712	7.634
	May	0.799	0.270	0.262	0.315	0.220	0.004	1.870	9.504
	June	0.880	0.332	0.286	0.277	0.239	0.005	2.019	11.523
	July	0.954	0.375	0.315	0.270	0.269	0.005	2.188	13.711
	August	0.998	0.353	0.346	0.247	0.276	0.006	2.225	15.937
	September	0.921	0.308	0.286	0.236	0.239	0.007	1.997	17.933
	October	0.856	0.272	0.272	0.218	0.248	0.005	1.871	19.804
	November	0.854	0.236	0.287	0.223	0.268	0.006	1.874	21.678
	December	0.940	0.227	0.360	0.246	0.274	0.007	2.053	23.730
	TOTAL	**10.372**	**3.297**	**3.908**	**3.109**	**2.977**	**0.068**	**23.730**	
1979	January	1.051	0.236	R0.420	0.277	0.299	0.007	R2.290	R2.290
	February	0.904	0.235	R0.347	0.238	0.279	0.006	R2.008	R4.298
	March	0.900	0.270	R0.236	0.286	0.262	0.008	R1.961	R6.259
	April	0.839	0.270	R0.219	0.280	0.198	0.007	R1.813	R8.072
	May	0.896	0.286	0.231	0.317	0.162	0.007	R1.899	R9.971
	June	0.953	0.331	R0.257	0.276	0.173	0.007	R1.997	R11.968
	July	1.047	R0.382	0.274	0.253	0.224	0.007	2.187	R14.155
	August	1.054	0.390	R0.277	0.238	0.261	0.008	2.229	R16.384
	September	0.909	0.350	0.238	0.213	0.235	0.007	R1.952	R18.336
	October	R0.924	R0.334	R0.214	0.227	0.227	0.008	R1.934	R20.270
	November	0.925	0.270	0.246	0.248	0.207	0.008	1.905	22.175
	December	1.009	0.258	0.305	0.266	0.245	0.009	2.092	24.267
	TOTAL	**11.412**	**3.611**	**3.264**	**3.119**	**2.773**	**0.088**	**24.267**	

Totals may not equal sum of components due to independent rounding.
[1]Includes bituminous coal, lignite, and anthracite.
[2]Includes net imports of electricity.
[3]Includes geothermal power and electricity produced from wood and waste.
R = Revised data.
Source: • See footnote on page 24.

Crude Oil and Refined Petroleum Products

Domestic crude oil production during December* 1979 maintained the 8.5 million barrels per day average of 1979. This production rate was 2.1 percent lower than in December 1978 and 0.6 percent lower than in November 1979.

Total petroleum imports** averaged 8.5 million barrels per day in December 1979, 5.2 percent less than the December 1978 rate and 14.4 percent higher than in November 1979. Imports** averaged 8.1 million barrels per day during 1979.

In December 1979, 18.7 million barrels per day of petroleum products were supplied for domestic use. Motor gasoline accounted for 35.7 percent of the total, distillate fuel 20.9 percent, and residual fuel oil 16.0 percent. During 1979 an average of 18.4 million barrels of petroleum products were supplied each day.

The average for motor gasoline supplied during December 1979 was 6.7 million barrels per day, 10.3 percent lower than the amount supplied in December 1978 and 1.1 percent lower than in November 1979. The 1979 average was 7.0 million barrels per day.

In December 1979, 3.9 million barrels of distillate fuel oil were supplied per day, 5.9 percent lower than a year ago and 20.4 percent higher than in November. The 1979 average was 3.3 million barrels per day. Distillate fuel oil stocks were 227.3 million barrels at the end of December, 5.0 percent above the stock level 1 year ago and 3.8 percent lower than in November 1979.

Residual fuel oil supplied in December averaged 3.0 million barrels per day, 3.3 percent lower than in December 1978. The 1979 average was 2.8 million barrels per day. Residual fuel oil stocks measured 94.4 million barrels at the end of December, 4.6 percent above the level a year ago and 4.2 percent higher than in the previous month.

*December 1979 estimates are based on preliminary data from the American Petroleum Institute and will be revised to conform with data from the EIA Petroleum Reporting System as available. Crude production figures are EIA estimates.

**Excludes crude petroleum imported for the Strategic Petroleum Reserve.

Petroleum

Crude Oil

		Crude Input to Refineries	Total Domestic Production[1,2]	Alaskan Production	Crude Oil Imports[1,3]	Strategic Petroleum Reserve (SPR) Imports[5]	Exports	Crude Oil Stocks[1,4]	Strategic Petroleum Reserve (SPR) Stocks[5]
		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**	**21**	**50**	**‡339,857**	**‡7,826**
1978	January	14,150	8,360	869	6,126	114	98	341,371	11,106
	February	13,969	8,377	854	5,655	109	8	335,890	14,276
	March	14,148	8,720	1,151	6,031	132	60	345,482	18,437
	April	13,886	8,818	1,289	5,519	108	92	343,363	21,825
	May	14,996	8,825	1,281	5,594	133	124	329,101	25,629
	June	14,693	8,832	1,306	6,322	146	195	333,340	30,140
	July	14,911	8,756	1,295	6,175	154	138	332,909	35,248
	August	15,196	8,758	1,316	6,251	184	182	316,866	40,968
	September	15,085	8,800	1,322	6,829	225	251	321,172	47,090
	October	15,005	8,820	1,342	6,400	195	272	325,081	53,113
	November	15,336	8,741	1,351	6,643	188	218	322,045	59,312
	December	15,421	8,662	1,347	6,751	245	251	309,421	66,860
	AVERAGE	**14,739**	**8,707**	**1,229**	**6,195**	**161**	**158**		
1979	January	14,658	8,457	1,351	6,562	204	177	302,728	73,142
	February	14,121	8,498	1,267	6,249	179	288	302,981	78,166
	March	14,062	8,585	1,355	6,180	122	370	317,432	82,501
	April	14,346	8,533	1,347	6,047	66	260	319,759	83,867
	May	14,273	8,585	1,350	6,092	97	171	316,355	86,880
	June	14,655	8,409	1,247	6,523	65	235	325,893	88,567
	July	14,977	8,355	1,405	6,120	41	244	312,852	90,101
	August	14,827	8,699	1,434	6,692	35	242	320,745	91,189
	September	R14,461	R8,466	R1,436	R6,321	0	175	R323,854	91,189
	October†	14,419	*8,460*	*1,314*	6,366	0	NA	344,640	[6]91,191
	November†	R14,533	*8,530*	*1,332*	R5,711	0	NA	R347,054	91,191
	December†	*14,833*	*8,480*	*1,350*	*6,415*	NA	NA	*342,365*	NA
	AVERAGE	**14,517**	**8,505**	**1,350**	**6,275**	**NA**	**NA**		

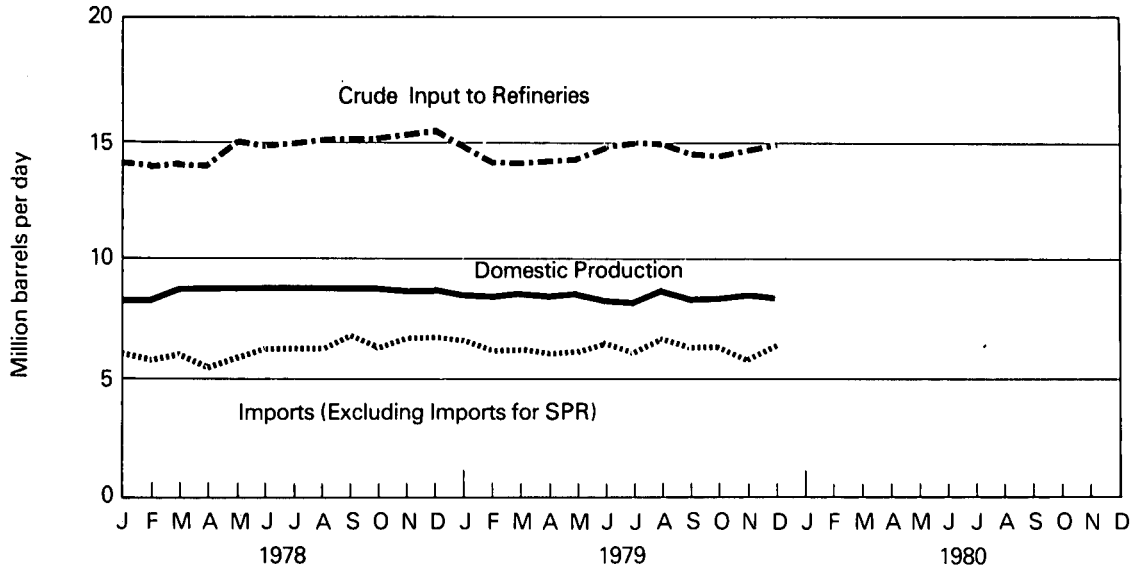
[1]See Definitions.
[2]Includes Alaskan production.
[3]Excludes SPR imports.
[4]Excludes SPR stocks.
[5]Strategic Petroleum Reserve storage began in October 1977.
[6]Indicates an adjustment in reported barrels in storage.
Estimated data in italics. These are likely to be revised next month.
‡Total as of December 31.
†Preliminary data.
R = Revised data.
NA = Not available.

Sources:
- 1973 through 1976: Bureau of Mines *Mineral Industry Surveys,* "Petroleum Statement, Annual."
- 1977 and 1978: Energy Information Administration (EIA) *Energy Data Reports,* "Petroleum Statement, Annual."
- January 1979 through September 1979: EIA *Energy Data Reports,* "Petroleum Statement, Monthly."
- October 1979 through November 1979: EIA "Monthly Petroleum Statistics Report" (except domestic production).
- December 1979 data are EIA estimates based on data from the American Petroleum Institute "Weekly Statistical Bulletin" (except domestic production).
- Domestic production for October through December 1979 is based on historical data from FEA Form P124, "Domestic Crude Oil Purchasers Report" and partial returns from State Conservation Agencies where available.
- Sources for the *Energy Data Report* and the "Monthly Petroleum Statistics Report" are: EIA Form 87 (Refinery Report), Form 90 (Crude Stock Report), Economic Regulatory Administration Form 60 (Imports); Bureau of the Census publication EM 522 (Exports).

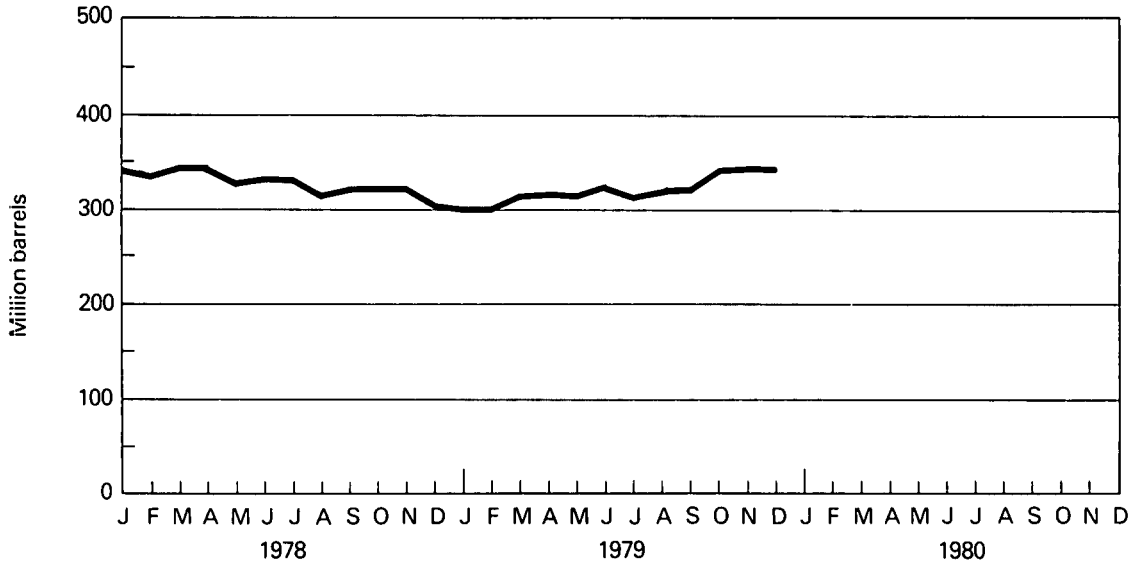
Petroleum

Crude Oil

Production, Refinery Input and Imports



Stocks (Excluding SPR)



Petroleum

Total Petroleum Products[1]

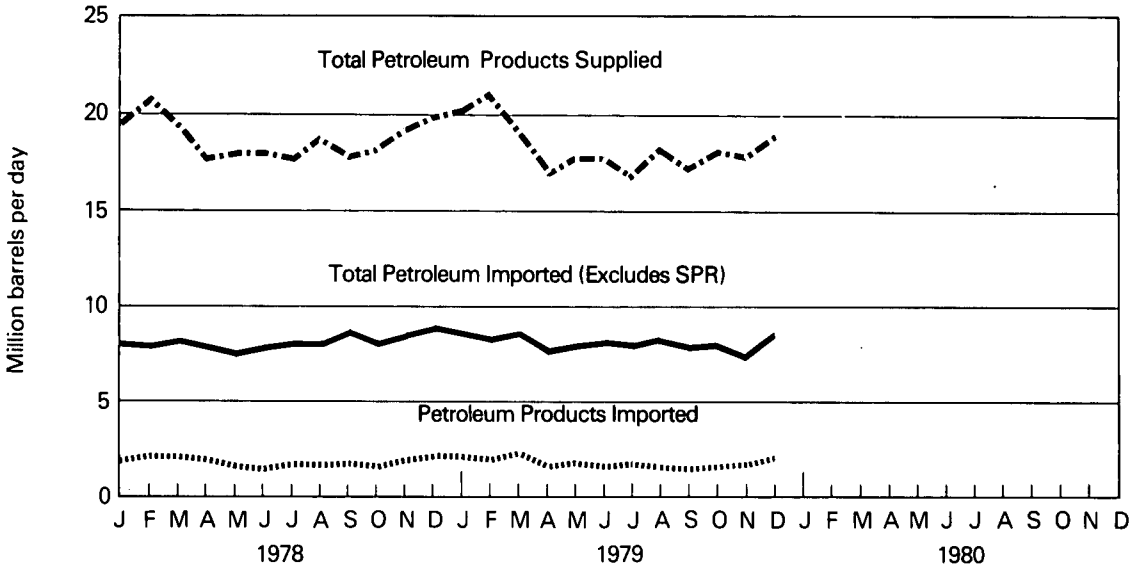
Total Petroleum Imports (Crude Oil and Products)

		Products Supplied	Imports	Exports	Total Imports (Excluding SPR)	SPR Imports[2]	Total Imports (Including SPR)[2]
		Thousand barrels per day			Thousand barrels per day		
1973	**AVERAGE**	**17,308**	**3,012**	**229**	**6,256**		
1974	**AVERAGE**	**16,653**	**2,635**	**218**	**6,112**		
1975	**AVERAGE**	**16,322**	**1,951**	**204**	**6,056**		
1976	**AVERAGE**	**17,461**	**2,026**	**215**	**7,313**		
1977	**AVERAGE**	**18,431**	**2,193**	**193**	**8,787**	**21**	**8,807**
1978	January	19,752	2,092	158	8,218	114	8,332
	February	20,900	2,355	200	8,010	109	8,119
	March	19,652	2,338	209	8,369	132	8,501
	April	17,747	2,115	245	7,634	108	7,743
	May	18,230	1,804	189	7,398	133	7,531
	June	18,260	1,640	204	7,962	146	8,108
	July	17,633	1,948	192	8,123	154	8,277
	August	18,639	1,858	229	8,109	184	8,292
	September	17,954	1,983	226	8,811	225	9,036
	October	18,417	1,718	197	8,119	195	8,313
	November	19,156	2,021	191	8,664	188	8,852
	December	19,944	2,245	205	8,996	245	9,241
	AVERAGE	**18,847**	**2,008**	**204**	**8,202**	**161**	**8,363**
1979	January	20,640	2,205	212	8,767	204	8,970
	February	21,152	2,069	200	8,318	179	8,497
	March	19,180	2,385	234	8,565	122	8,687
	April	17,311	1,666	235	7,713	66	7,779
	May	17,701	1,809	278	7,901	97	7,999
	June	17,675	1,672	220	8,195	65	8,260
	July	16,906	1,783	258	7,902	41	7,943
	August	18,081	1,675	210	8,367	35	8,402
	September	R17,273	R1,599	241	R7,921	0	R7,921
	October†	18,025	1,609	NA	7,976	0	7,976
	November†	R17,973	R1,745	NA	R7,456	0	7,456
	December†	*18,726*	*2,112*	NA	*8,527*	NA	NA
	AVERAGE	**18,373**	**1,861**	**NA**	**8,136**	**NA**	**NA**

Totals may not equal sum of components due to independent rounding.
[1]See Definitions.
[2]Strategic Petroleum Reserve storage began in October 1977.
Estimated data in italics. These are likely to be revised next month.
†Preliminary data.
R = Revised data.
NA = Not available.
Sources:
- 1973 through 1976: Bureau of Mines *Mineral Industry Surveys,* "Petroleum Statement, Annual."
- 1977 and 1978: Energy Information Administration (EIA) *Energy Data Reports,* "Petroleum Statement, Annual."
- January 1979 through September 1979: EIA *Energy Data Reports,* "Petroleum Statement, Monthly."
- October 1979 through November 1979: EIA "Monthly Petroleum Statistics Report."
- December 1979 data are EIA estimates based on data from the American Petroleum Institute "Weekly Statistical Bulletin."
- Sources for the *Energy Data Reports* and the "Monthly Petroleum Statistics Report" are: Economic Regulatory Administration Form 60 (Imports), Form FEA P133 (Imports from Puerto Rico), EIA Form 64 (Natural Gas Liquids Operations Report), Form 87 (Refinery Report), Form 88 (Bulk Terminal), Form 89 (Pipeline Report), Form 90 (Crude Stock Report), Form FEA P124 (First Purchasers — Crude Production); Bureau of the Census publications IM 145 (Imports), EM 522 (Exports), and FT 800 (Exports); and State Conservation Agencies.

Petroleum

Products Supplied and Imports



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	**136.0**	**213.3**	**222.8**	**164.4**	**458.8**	**485.7**	**70.6**	**1,134.9**	**106.4**	**2,992.9**	**914.7**
1974											
AVERAGE	**190.1**	**300.4**	**468.8**	**4.4**	**713.4**	**461.3**	**73.9**	**979.1**	**88.4**	**3,279.8**	**752.5**
1975											
AVERAGE	**282.4**	**389.6**	**280.4**	**231.8**	**761.8**	**714.6**	**116.7**	**702.5**	**121.5**	**3,601.3**	**1,382.6**
1976											
AVERAGE	**432.2**	**538.8**	**298.5**	**453.3**	**1,024.7**	**1,229.8**	**254.4**	**700.1**	**134.0**	**5,065.8**	**2,424.1**
1977											
AVERAGE	**558.6**	**541.0**	**535.0**	**722.6**	**1,143.0**	**1,380.4**	**335.3**	**690.4**	**286.7**	**6,193.1**	**3,182.2**
1978											
January	707.5	527.9	689.6	570.9	834.6	1,206.3	348.8	643.2	227.8	5,756.5	2,969.4
February	658.2	405.7	539.2	594.4	793.0	971.4	486.1	798.1	251.5	5,497.5	2,822.4
March	715.9	603.7	535.2	583.7	960.3	1,131.7	296.2	894.6	254.0	5,975.3	2,903.7
April	597.5	532.1	441.9	612.0	584.2	1,020.5	480.5	658.7	228.2	5,155.6	2,829.7
May	701.1	549.6	746.3	498.7	779.8	786.3	418.7	556.6	84.5	5,121.7	2,445.0
June	776.1	666.1	536.0	648.7	858.0	1,107.8	345.0	494.1	219.3	5,651.3	3,029.0
July	659.0	648.0	532.5	629.3	1,003.2	1,053.2	293.8	538.3	301.3	5,658.6	2,831.4
August	464.2	575.3	574.2	798.6	942.6	1,127.6	415.9	514.0	206.6	5,619.0	2,926.0
September	615.9	634.0	590.6	762.4	1,029.6	1,247.5	389.2	650.3	261.9	6,181.5	3,184.5
October	709.7	571.5	608.2	712.6	927.7	1,173.1	397.2	524.5	112.6	5,737.2	3,034.7
November	619.2	548.6	494.7	758.4	1,188.1	1,365.2	408.6	635.1	222.1	6,240.0	3,292.5
December	561.5	604.1	368.8	676.3	1,119.6	1,524.8	356.8	841.6	345.6	6,399.1	3,292.4
AVERAGE	**648.7**	**573.3**	**555.3**	**653.9**	**919.5**	**1,143.9**	**385.4**	**644.9**	**226.0**	**5,750.9**	**2,963.2**
1979											
January	663.1	502.8	187.1	734.9	1,115.0	1,557.1	341.4	656.9	229.0	5,987.3	3,393.9
February	723.7	504.8	85.8	609.3	963.1	1,613.4	309.8	754.8	170.7	5,735.4	3,362.0
March	579.0	400.5	22.2	598.3	1,385.5	1,296.7	298.3	843.0	272.5	5,696.0	2,936.6
April	673.5	348.3	34.9	770.8	963.0	1,483.5	285.2	612.0	129.5	5,300.7	3,297.6
May	718.0	333.1	196.5	650.5	1,104.4	1,266.9	291.9	671.2	147.6	5,380.1	2,979.7
June	543.8	390.5	318.3	764.2	932.0	1,262.1	290.5	596.4	363.9	5,461.7	3,152.9
July	591.4	354.8	410.7	627.9	937.6	1,319.5	244.3	609.2	170.5	5,265.9	2,880.9
August	666.4	480.7	501.7	657.3	1,158.4	1,330.5	268.2	666.5	232.9	5,962.6	3,068.1
September	R490.5	R327.4	R358.5	R610.7	R1,106.4	R1,330.8	R280.6	R721.4	R177.0	R5,403.3	R2,858.8
October†	551.5	413.1	453.1	712.5	894.5	1,235.6	221.6	580.1	227.3	5,289.2	2,849.0
November†	494.7	292.4	479.0	443.4	895.3	1,121.2	319.4	608.3	125.8	4,779.5	2,413.3
AVERAGE	**608.4**	**395.0**	**278.5**	**653.2**	**1,042.9**	**1,345.2**	**286.2**	**665.0**	**204.6**	**5,478.9**	**3,015.5**

Totals may not equal sum of components due to independent rounding.
Beginning in October 1977 Strategic Petroleum Reserve imports are included.
[1]Includes Ecuador, Gabon, Iraq, Kuwait, and Qatar.
[2]Includes Algeria, Libya, Saudi Arabia, United Arab Emirates, Iraq, Kuwait, and Qatar.
†Preliminary data.
R = Revised data.
Sources: • 1973 through 1976: Bureau of Mines' *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "PAD Districts Supply/Demand, Annual."
• 1977 and 1978: Energy Information Administration (EIA) *Energy Data Reports*, "PAD Districts Supply/Demand, Annual."
• January through September 1979: EIA *Energy Data Reports*, "PAD Districts Supply/Demand, Monthly."
• October 1979 through November 1979: EIA, "Monthly Petroleum Statistics Report."
• Sources for the *Energy Data Reports* and the "Monthly Petroleum Statistics Report" are: Economic Regulatory Administration Form 60 (Imports), FEA P133 (Imports from Puerto Rico); and Bureau of the Census publication IM 145 (Imports).

Petroleum

Petroleum Imports from Non-OPEC Sources

	Bahamas	Canada	Mexico	Netherlands Antilles	Puerto Rico	Trinidad and Tobago	Virgin Islands	Other	Total
				Thousand barrels per day					
1973									
AVERAGE	**174.0**	**1,324.8**	**15.7**	**584.7**	**99.5**	**254.8**	**329.4**	**480.3**	**3,263.2**
1974									
AVERAGE	**163.8**	**1,069.5**	**8.5**	**511.0**	**90.4**	**250.8**	**391.0**	**347.4**	**2,832.4**
1975									
AVERAGE	**152.4**	**846.4**	**71.4**	**331.8**	**89.7**	**242.4**	**406.4**	**313.9**	**2,454.4**
1976									
AVERAGE	**118.5**	**599.3**	**87.2**	**275.4**	**88.1**	**274.3**	**422.3**	**381.7**	**2,246.8**
1977									
AVERAGE	**170.5**	**516.9**	**179.4**	**210.9**	**105.1**	**289.3**	**466.2**	**675.8**	**2,614.1**
1978									
January	167.5	474.4	236.4	215.2	111.7	295.0	466.0	609.7	2,575.8
February	217.6	498.7	211.2	211.4	103.1	296.1	490.6	592.9	2,621.6
March	211.5	434.7	230.9	238.1	63.6	281.3	505.5	559.9	2,525.7
April	140.9	394.6	231.4	258.3	99.8	304.5	371.9	785.9	2,587.1
May	194.3	389.6	257.6	230.6	104.3	189.0	310.2	733.8	2,409.3
June	144.6	469.2	287.1	221.3	117.6	199.3	324.5	693.3	2,456.7
July	166.0	532.5	309.3	201.6	93.8	281.8	402.2	631.4	2,618.6
August	187.7	422.4	392.6	291.0	82.3	247.6	431.0	618.6	2,673.2
September	120.1	427.2	460.6	217.1	95.2	262.1	431.7	840.7	2,854.6
October	105.9	425.9	392.1	175.5	88.5	203.8	476.3	708.1	2,576.3
November	153.7	481.4	401.8	223.4	71.3	230.6	489.1	560.8	2,612.1
December	111.9	650.7	396.0	265.0	96.3	249.6	448.3	624.4	2,842.2
AVERAGE	**159.9**	**466.8**	**317.8**	**229.2**	**93.8**	**253.1**	**428.7**	**663.2**	**2,612.5**
1979									
January	159.5	564.1	560.3	227.0	109.1	116.0	477.0	770.1	2,983.1
February	103.5	561.7	415.4	254.8	68.2	191.4	421.1	745.4	2,761.5
March	93.7	614.5	397.4	314.1	63.8	214.7	561.6	731.1	2,990.9
April	129.4	576.9	301.6	175.9	64.9	144.1	474.7	610.6	2,478.1
May	134.8	554.8	389.7	183.1	101.7	216.6	382.0	655.7	2,618.4
June	138.1	468.4	457.7	171.4	105.7	169.5	413.7	874.1	2,798.6
July	120.8	488.6	357.4	208.7	117.2	169.1	451.2	764.7	2,677.5
August	130.0	463.1	427.0	246.5	92.5	237.9	357.1	485.2	2,439.2
September	R141.6	R463.4	R407.3	R275.8	R86.2	R166.2	R285.7	R691.1	R2,517.3
October†	142.1	422.5	450.2	242.4	60.2	199.8	403.0	766.6	2,686.8
November†	168.7	501.8	405.9	190.4	109.7	160.9	438.4	700.7	2,676.5
AVERAGE	**133.1**	**516.1**	**415.7**	**226.4**	**89.2**	**180.7**	**424.4**	**708.2**	**2,693.7**

Totals may not equal sum of components due to independent rounding.
Beginning in October 1977 Strategic Petroleum Reserve imports are included.
†Preliminary data.
R = Revised data.
Sources: • 1973 through 1976: Bureau of Mines' *Mineral Industry Surveys,* "Petroleum Statement, Annual" and "PAD Districts Supply/Demand, Annual."
• 1977 and 1978: Energy Information Administration (EIA) *Energy Data Reports,* "PAD Districts Supply/Demand, Annual."
• January 1979 through September 1979: EIA *Energy Data Reports,* "PAD Districts Supply/Demand, Monthly."
• October 1979 through November 1979: EIA, "Monthly Petroleum Statistics Report."
• Sources for the *Energy Data Reports* and the "Monthly Petroleum Statistics Report" are: Economic Regulatory Administration Form 60 (Imports), FEA P133 (Imports from Puerto Rico); and Bureau of the Census publication IM 145 (Imports).

Petroleum

Motor Gasoline

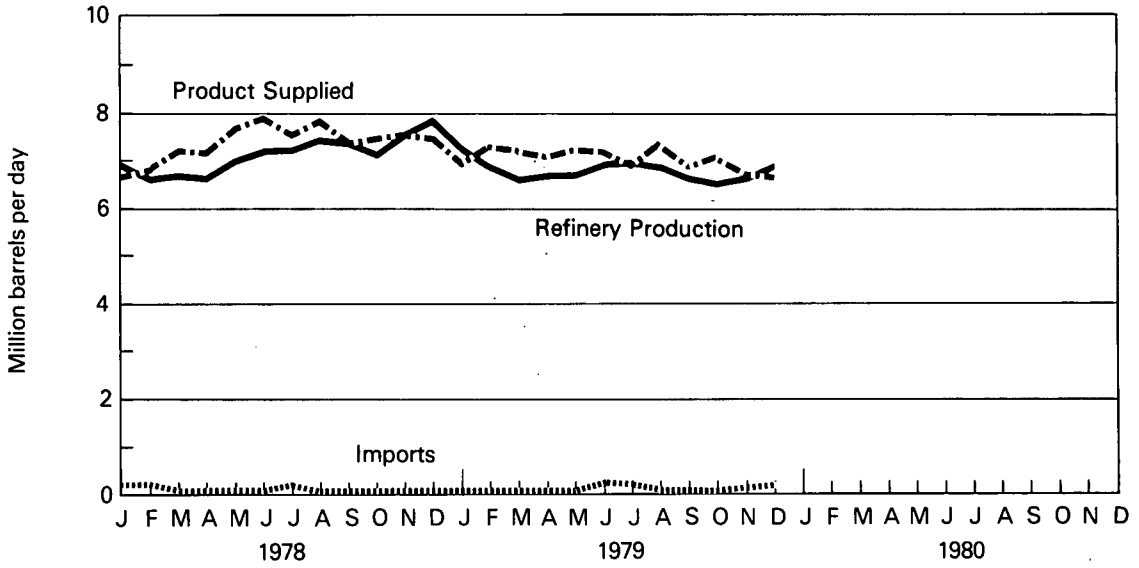
		Product Supplied						
		Total	Unleaded	Unleaded Percent of Total	Refinery Production[1]	Imports	Exports	Stocks[1]
		Thousand barrels per day						Thousand barrels
1973	**AVERAGE**	**6,674**	**NA**	**NA**	**6,527**	**134**	**4**	**‡209,395**
1974	**AVERAGE**	**6,537**	**NA**	**NA**	**6,358**	**204**	**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	January	6,681	2,097	31.4	6,933	214	1	272,064
	February	6,876	2,162	31.4	6,631	200	1	270,832
	March	7,255	2,425	33.4	6,750	141	1	259,556
	April	7,202	2,391	33.2	6,668	177	1	248,876
	May	7,724	2,343	30.3	7,059	169	2	233,471
	June	7,913	2,697	34.1	7,210	234	1	219,441
	July	7,576	2,629	34.7	7,264	212	2	216,368
	August	7,872	2,834	36.0	7,454	179	1	208,975
	September	7,399	2,607	35.2	7,399	251	2	216,500
	October	7,448	2,576	34.6	7,176	180	2	213,666
	November	7,503	2,713	36.2	7,583	147	1	220,523
	December	7,451	2,751	36.9	7,831	182	1	237,956
	AVERAGE	**7,412**	**2,521**	**34.0**	**7,167**	**190**	**1**	
1979	January	6,893	2,609	37.8	7,272	179	2	255,664
	February	7,267	2,715	37.4	6,941	160	2	251,346
	March	7,221	2,733	37.8	6,654	168	1	239,162
	April	7,068	2,786	39.4	6,765	156	1	235,192
	May	7,203	2,751	38.2	6,786	145	2	227,193
	June	7,187	2,787	38.8	6,987	261	1	229,349
	July	6,850	2,789	40.7	7,006	222	1	241,536
	August	7,332	2,970	40.5	6,882	147	1	232,742
	September	R6,878	2,815	R40.9	R6,626	R135	1	R229,608
	October	7,023	2,802	39.9	6,481	143	NA	217,585
	November†	R6,758	R2,928	R43.3	R6,653	R181	NA	R220,552
	December†	*6,682*	*2,776*	*41.5*	*6,948*	*201*	NA	*238,306*
	AVERAGE	**7,029**	**2,789**	**39.7**	**6,833**	**175**	**NA**	

[1]See Definitions.
Estimated data in italics. These are likely to be revised next month.
‡Total as of December 31.
†Preliminary data.
R = Revised data.
NA = Not available.
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: • 1973 through 1976: Bureau of Mines *Mineral Industry Surveys,* "Petroleum Statement, Annual" (except unleaded gasoline).
- 1977 and 1978: Energy Information Administration (EIA) *Energy Data Reports,* "Petroleum Statement, Annual."
- January 1979 through September 1979: EIA *Energy Data Reports,* "Petroleum Statement, Monthly."
- October 1979 through November 1979; EIA "Monthly Petroleum Statistics Report."
- Unleaded gasoline — November 1979 and back: EIA "Monthly Petroleum Statistics Report."
- December 1979 data are EIA estimates based on data from the American Petroleum Institute, "Weekly Statistical Bulletin."
- Sources for the *Energy Data Reports* and the "Monthly Petroleum Statistics Report" are: Economic Regulatory Administration Form 60 (Imports), FEA P133 (Imports from Puerto Rico); EIA Form 64 (Natural Gas Liquids Operation Report), Form 87 (Refinery Report), Form 88 (Bulk Terminals), Form 89 (Pipeline Report); Bureau of the Census publications IM 145 (Imports), and FT 800 (Exports).

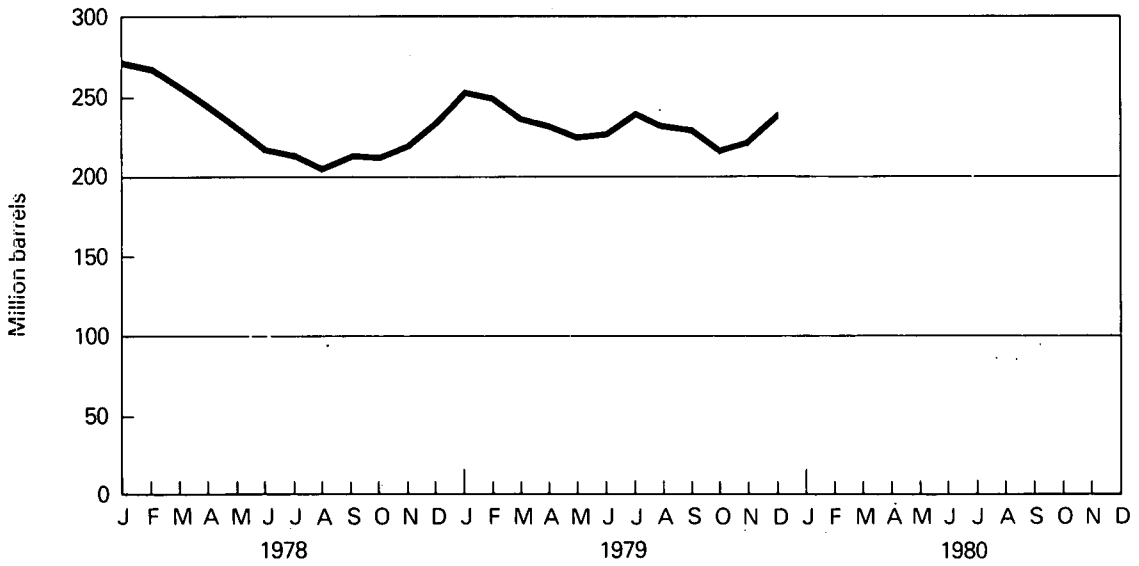
Petroleum

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	January	980	921	60	1	34,535
	February	1,108	989	76	2	33,297
	March	1,107	967	98	2	31,950
	April	1,011	980	122	1	34,631
	May	997	1,011	108	2	38,372
	June	1,044	963	59	2	37,654
	July	1,014	923	105	2	38,050
	August	1,126	966	86	1	35,747
	September	1,077	989	75	1	35,328
	October	1,067	932	65	2	33,104
	November	1,107	1,011	89	2	32,829
	December	1,046	989	86	2	33,665
	AVERAGE	**1,057**	**970**	**86**	**1**	
1979	January	1,100	950	97	1	31,993
	February	1,137	996	88	2	30,449
	March	1,088	1,097	61	1	32,607
	April	961	1,040	43	1	36,217
	May	1,008	976	75	1	37,547
	June	1,073	956	57	1	35,741
	July	1,105	964	90	1	34,152
	August	1,088	1,040	49	1	34,156
	September	R1,105	R958	R84	1	R32,251
	October†	1,040	1,046	77	NA	34,834
	November†	R1,071	R1,027	R82	NA	R36,005
	December†	*1,096*	*1,074*	*82*	NA	*37,927*
	AVERAGE	**1,072**	**1,011**	**74**	**NA**	

Estimated data in italics. These are likely to be revised next month.
‡Total as of December 31.
†Preliminary data.
R = Revised data.
NA = Not available.
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:
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- 1977 and 1978: Energy Information Administration (EIA) *Energy Data Reports,* "Petroleum Statement, Annual."
- January 1979 through September 1979: EIA *Energy Data Reports,* "Petroleum Statement, Monthly."
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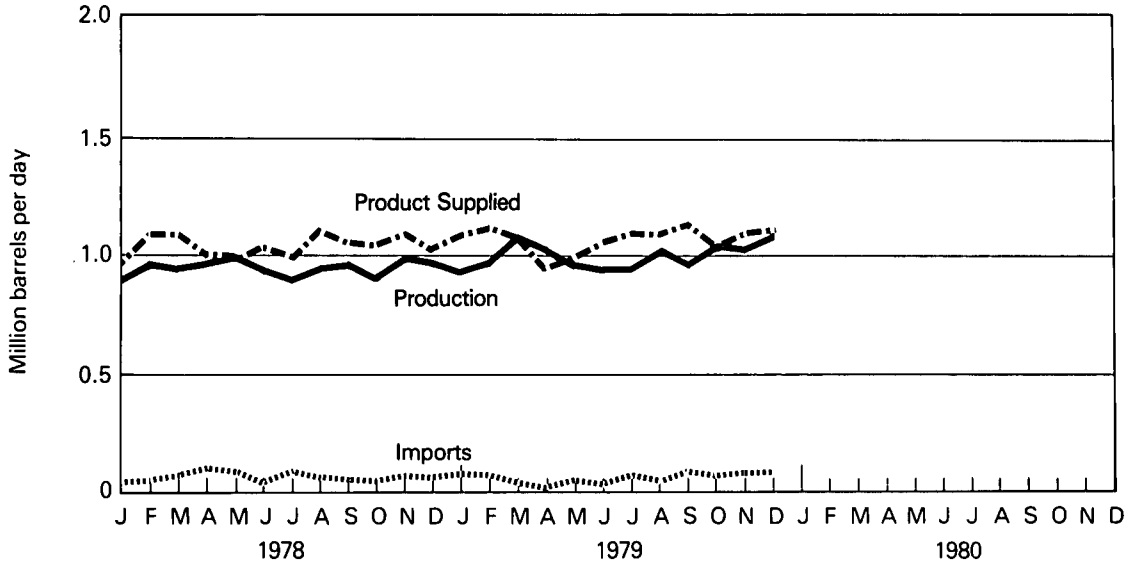
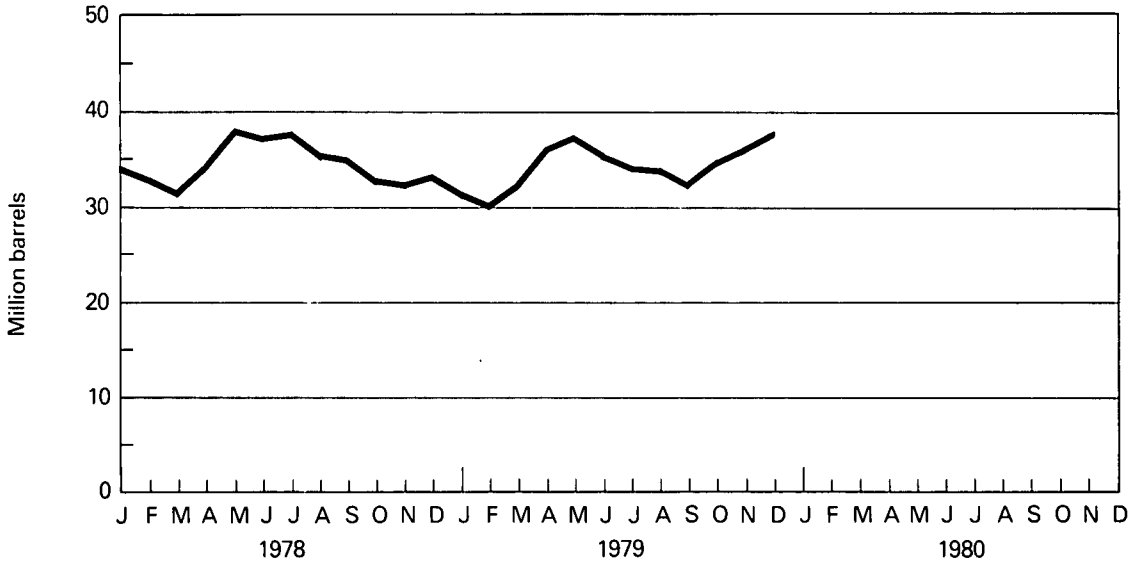
Petroleum

Jet Fuel

Product Supplied, Refinery Production and Imports



Stocks



Petroleum

Distillate Fuel Oil

		Product Supplied	Refinery Production[1]	Imports	Exports	Stocks[1]
		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	January	4,458	3,067	196	1	213,245
	February	4,848	2,952	212	16	165,697
	March	4,108	3,014	193	0	137,826
	April	3,111	2,959	100	6	136,143
	May	3,103	3,250	125	1	144,619
	June	2,837	3,109	146	0	157,237
	July	2,522	3,123	149	4	180,420
	August	2,800	3,296	143	4	200,157
	September	2,664	3,185	163	2	220,687
	October	3,077	3,299	178	2	233,082
	November	3,583	3,366	223	3	233,231
	December	4,156	3,360	254	2	216,439
	AVERAGE	**3,432**	**3,167**	**173**	**3**	
1979	January	4,543	3,005	226	1	175,695
	February	4,792	2,863	196	7	127,034
	March	3,627	2,992	176	5	112,728
	April	3,006	2,935	149	4	114,989
	May	2,989	3,064	185	2	123,059
	June	2,707	3,137	180	1	141,365
	July	2,552	3,305	219	9	171,243
	August	2,772	3,332	217	2	195,339
	September	R2,659	R3,368	R126	3	R220,328
	October†	3,100	3,214	197	NA	229,773
	November†	R3,247	R3,200	R231	NA	R236,242
	December†	*3,909*	*3,227*	*252*	NA	*227,254*
	AVERAGE	**3,318**	**3,139**	**196**	**NA**	

[1]See Definitions.
Estimated data in italics. These are likely to be revised next month.
‡Total as of December 31.
†Preliminary data.
R = Revised data.
NA = Not available.
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: • 1973 through 1976: Bureau of Mines *Mineral Industry Surveys,* "Petroleum Statement, Annual."
- 1977 and 1978: Energy Information Administration (EIA) *Energy Data Reports,* "Petroleum Statement, Annual."
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- December 1979 data are EIA estimates based on data from the American Petroleum Institute, "Weekly Statistical Bulletin."
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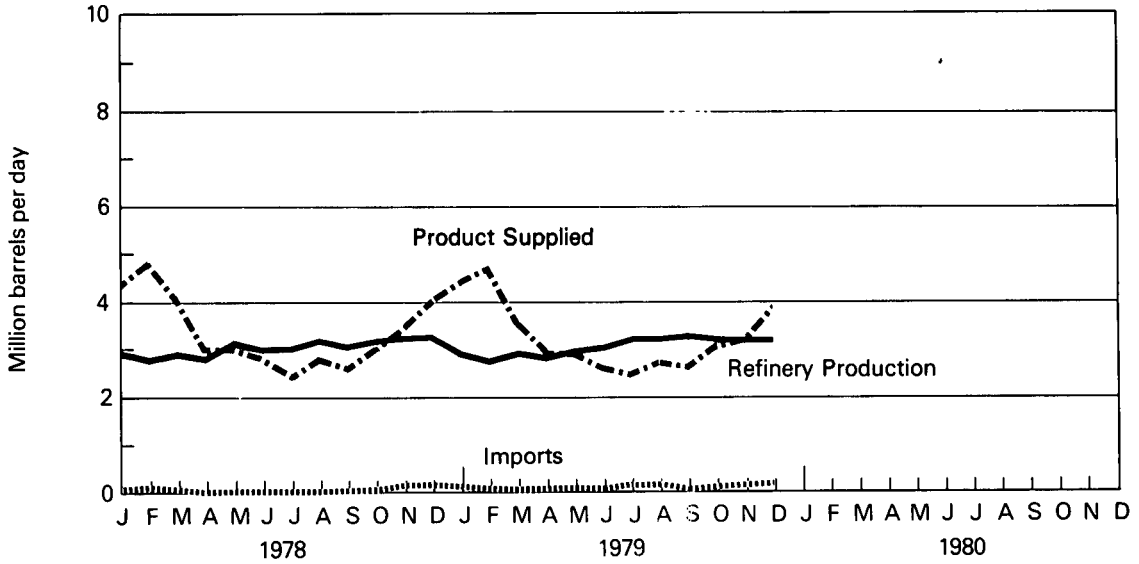
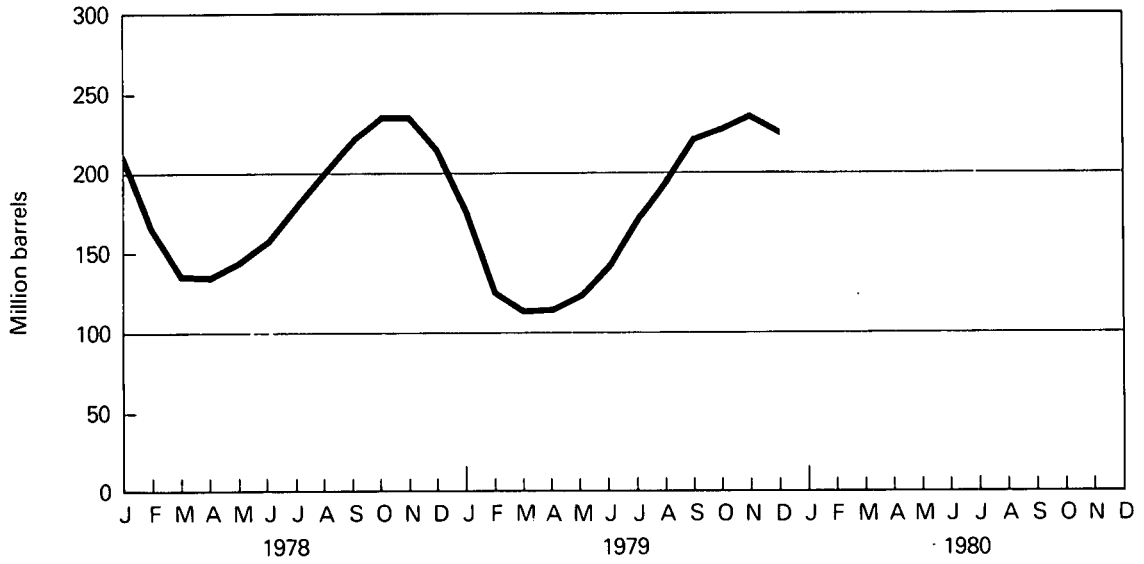
Petroleum

Distillate Fuel Oil

Product Supplied, Refinery Production and Imports



Stocks



Petroleum

Residual Fuel Oil

		Product Supplied	Refinery Production	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	January	3,518	1,868	1,380	13	81,657
	February	3,974	1,795	1,582	10	65,091
	March	3,540	1,751	1,710	22	62,388
	April	3,003	1,548	1,575	7	66,209
	May	2,686	1,653	1,231	16	72,233
	June	2,625	1,572	1,031	4	71,860
	July	2,772	1,586	1,295	10	75,320
	August	2,929	1,630	1,275	25	74,166
	September	2,716	1,636	1,318	12	81,314
	October	2,621	1,564	1,120	8	83,435
	November	2,845	1,662	1,352	6	88,729
	December	3,107	1,750	1,410	19	90,194
	AVERAGE	**3,023**	**1,667**	**1,355**	**13**	
1979	January	3,533	1,907	1,355	6	81,997
	February	3,596	1,792	1,307	10	68,229
	March	3,238	1,718	1,642	14	71,968
	April	2,479	1,643	1,126	2	81,002
	May	2,502	1,588	1,034	8	84,855
	June	2,552	1,534	880	8	80,893
	July	2,302	1,576	916	18	86,631
	August	2,479	1,590	920	14	87,542
	September	R2,620	R1,638	R982	2	R87,775
	October†	2,429	1,593	947	NA	91,318
	November†	R2,665	R1,712	R932	NA	R90,591
	December†	*3,003*	*1,833*	*1,208*	NA	*94,364*
	AVERAGE	**2,779**	**1,677**	**1,104**	**NA**	

Estimated data in italics. These are likely to be revised next month.
‡Total as of December 31.
†Preliminary data.
R = Revised data.
NA = Not available.
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- 1977 and 1978: Energy Information Administration (EIA) *Energy Data Reports,* "Petroleum Statement, Annual."
- January 1979 through September 1979: EIA *Energy Data Reports,* "Petroleum Statement, Monthly."
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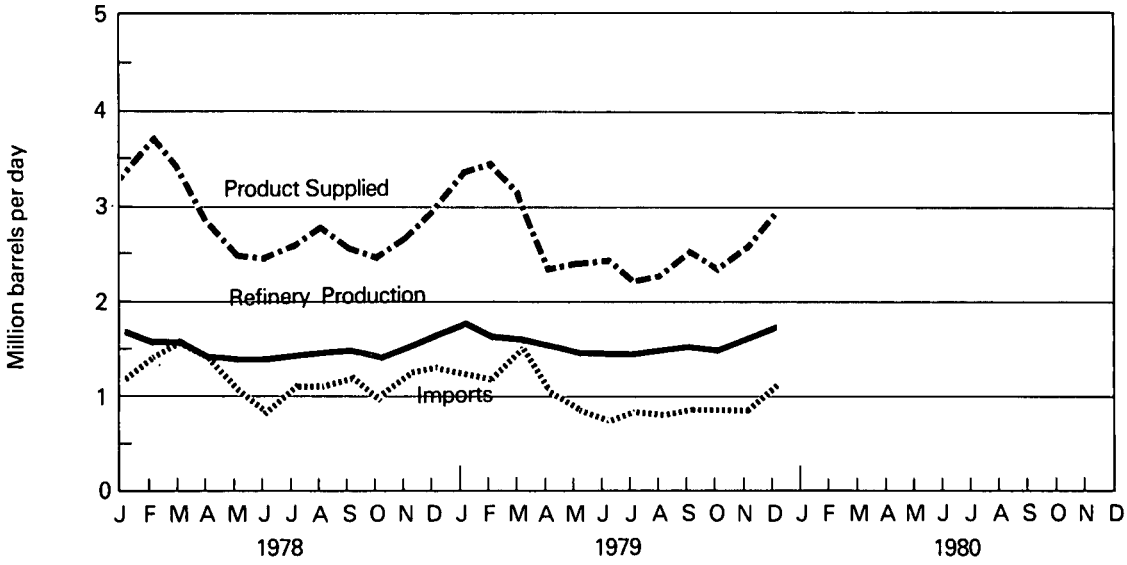
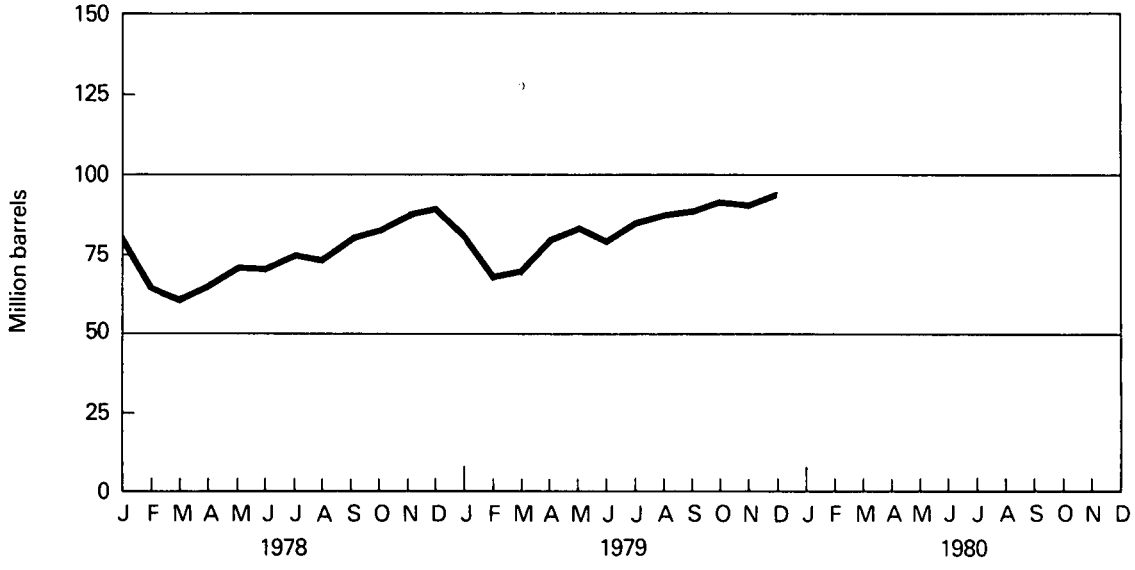
Petroleum

Residual Fuel Oil

Product Supplied, Refinery Production and Imports



Stocks



Petroleum

Natural Gas Plant Liquids, Including Liquefied Refinery Gases

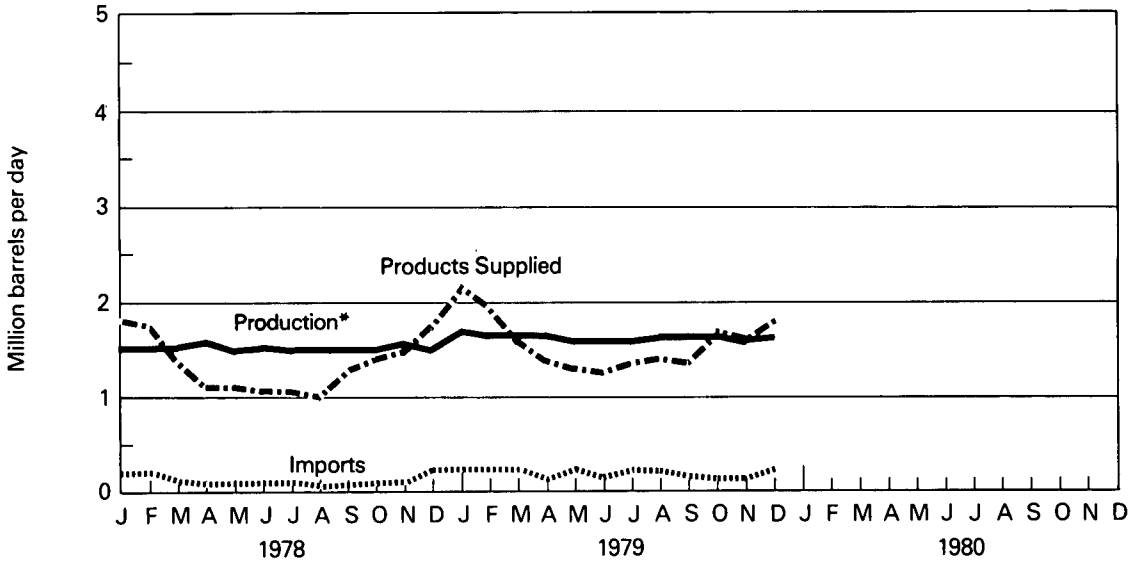
		Products Supplied[1]	Production[1]		Used at Refineries[1]	Imports	Stocks[1]
			At processing plants	At refineries			
		Thousand barrels per day					Thousand barrels
1973	**AVERAGE**	**1,454**	**1,738**	**375**	**815**	**239**	**‡106,659**
1974	**AVERAGE**	**1,422**	**1,688**	**338**	**746**	**212**	**‡120,175**
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	January	1,875	1,557	326	647	200	130,682
	February	1,803	1,562	338	657	207	120,217
	March	1,429	1,590	361	602	132	121,232
	April	1,164	1,619	352	601	101	129,870
	May	1,171	1,530	363	494	109	139,581
	June	1,125	1,583	367	649	109	147,540
	July	1,124	1,558	348	563	122	157,527
	August	1,090	1,556	351	657	93	164,537
	September	1,338	1,546	379	644	106	165,600
	October	1,481	1,540	352	658	116	161,006
	November	1,588	1,602	357	755	122	152,519
	December	1,832	1,566	363	743	258	[2]140,052
	AVERAGE	**1,416**	**1,567**	**355**	**639**	**139**	
1979	January	2,222	1,748	337	763	256	124,138
	February	1,998	1,703	325	757	252	110,412
	March	1,654	1,728	333	718	257	107,759
	April	1,449	1,708	354	679	160	110,216
	May	1,357	1,647	389	655	255	118,505
	June	1,316	1,641	382	606	175	126,468
	July	1,410	1,643	361	565	240	134,523
	August	1,477	1,614	363	599	236	138,491
	September	R1,376	R1,612	R323	R584	R194	R143,336
	October	1,728	1,661	343	682	160	142,000
	November	1,625	1,628	351	716	173	136,000
	December	1,808	1,638	348	708	252	127,000
	AVERAGE	**1,617**	**1,664**	**351**	**669**	**218**	

[1]See Explanatory Note 7, and Definitions.
[2]EIA natural gas plant coverage was expanded in January 1979 to include approximately 80 more plants. Calculated on the new basis, January 1979 opening stocks of natural gas plant liquids totaled 144,500 thousand barrels.
‡Total as of December 31.
R = Revised data.
Sources: • 1973 through 1977: Bureau of Mines *Mineral Industry Surveys,* "Petroleum Statement, Annual."
• 1978: Energy Information Administration (EIA) *Energy Data Reports,* "Petroleum Statement, Annual."
• January 1979 through September 1979: EIA *Energy Data Reports,* "Petroleum Statement, Monthly."
• October through December 1979: EIA estimates based on historical analyses.
• Sources for the *Energy Data Reports* are: Economic Regulatory Administration Form 60 (Imports), FEA P133 (Imports from Puerto Rico), EIA Form 64 (Natural Gas Liquids Operation Report), Form 87 (Refinery Report), Form 88 (Bulk Terminals), Form 89 (Pipeline Report); Bureau of the Census publications IM 145 (Imports), FM 522 (Exports), and FT 800 (Exports).

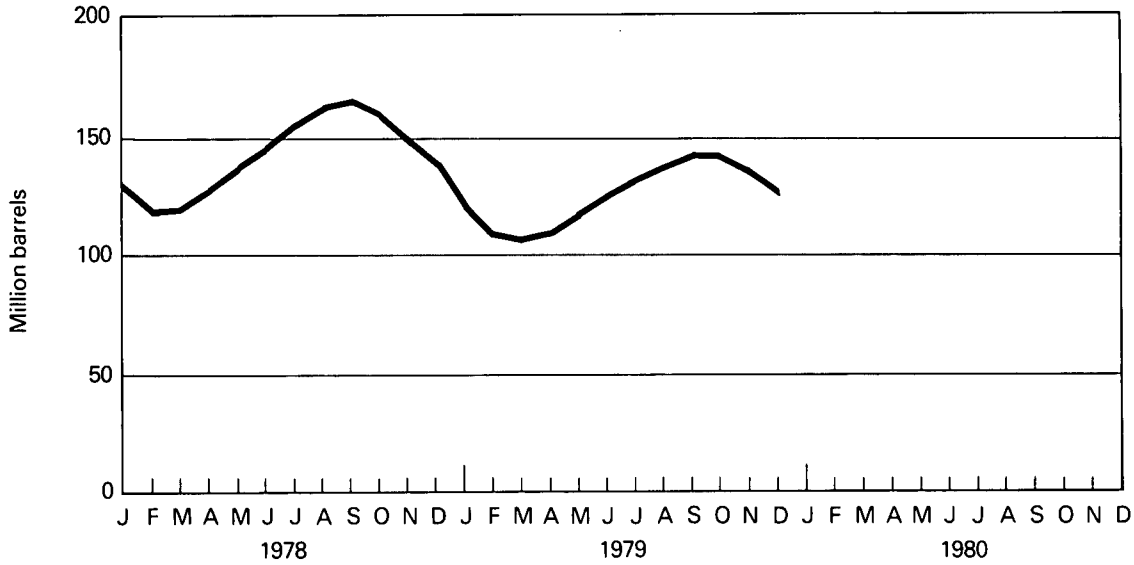
Petroleum

Natural Gas Plant Liquids

Products Supplied, Production and Imports



Stocks



*At processing plants.

Natural Gas

Consumption of natural gas in the United States during December 1979, when unusually warm temperatures were experienced in many areas, was an estimated 1,940 billion cubic feet (Bcf). This was 19.0 percent greater than in November 1979 and 6.2 percent less than in December 1978. Estimated consumption during 1979 totaled 19,425 Bcf, only 1.0 percent less than the 1978 level.

Production of dry natural gas in December 1979 was an estimated 1,620 Bcf, 6.6 percent higher than in November 1979 and approximately 1.0 percent lower than in December 1978. Output during 1979 totaled 18,772 Bcf, 1.8 percent less than during the previous year.

Imports of natural gas in December 1979 were an estimated 100 Bcf, 6.5 percent lower than in the previous December. Total imports of natural gas during 1979 were an estimated 1,217 Bcf, 17.8 percent above the previous annual peak recorded in 1973 and 26.0 percent above receipts in 1978. Most of the 1979 increase resulted from the receipt of Algerian liquefied natural gas (LNG), equivalent to approximately 227 Bcf shipped to the large-scale LNG receiving terminals at Cove Point, Maryland and Elba Island, Georgia. Of the 92 tanker loads landed during 1979, 56 were unloaded at Cove Point and 36 were unloaded at Elba Island.

Exports of natural gas during 1979 totaled an estimated 50 Bcf, 5.7 percent less than during 1978.

Domestic producer sales to major interstate pipeline companies in October 1979 totaled 888 Bcf, 4.8 percent above sales for the previous October. Total sales during the first 10 months of 1979 were 8,615 Bcf, 5.2 percent above those for the same period in 1978.

Net withdrawals of natural gas from underground storage reservoirs during December 1979 were 239 Bcf, 31.9 percent less than during the previous December. Stocks of working gas* in storage at the end of 1979 totaled 2,760 Bcf, 8.7 percent above those available a year earlier.

*Natural gas available for withdrawal.

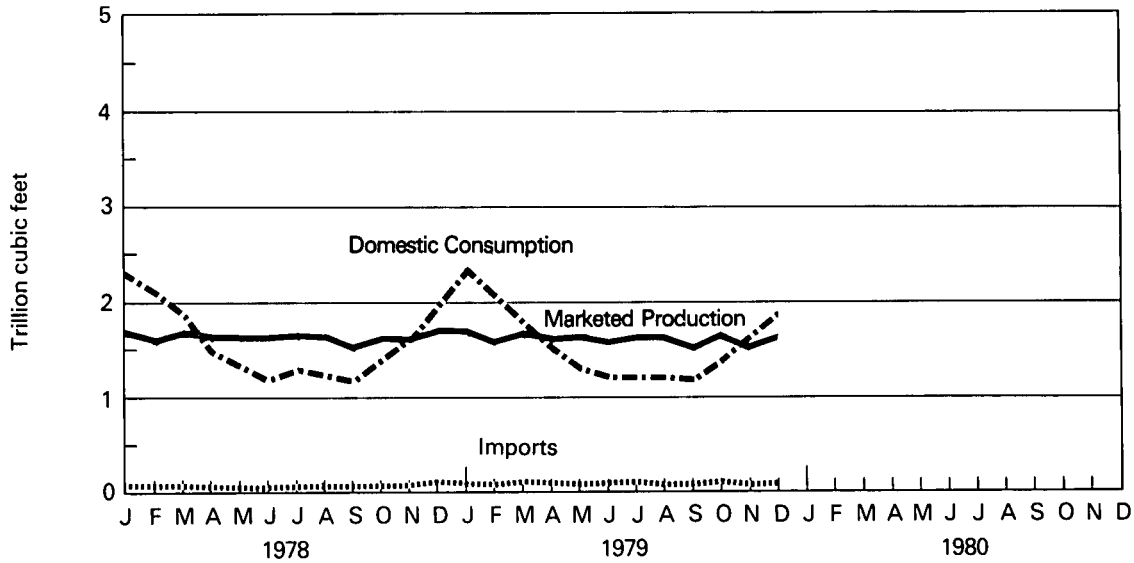
Natural Gas

		Domestic Consumption	Production		Domestic Producer Sales to Major Interstate Pipelines	Imports	Exports
			Marketed	Dry			
		Billion cubic feet					
1973	**TOTAL**	**22,049**	**22,648**	**21,731**	**12,067**	**1,033**	**77**
1974	**TOTAL**	**21,223**	**21,601**	**20,714**	**11,462**	**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	January	2,382	1,743	1,669	862	86	5
	February	2,139	1,649	1,579	756	77	5
	March	1,918	1,748	1,673	861	86	5
	April	1,539	1,668	1,597	836	78	3
	May	1,380	1,664	1,593	819	74	5
	June	1,249	1,623	1,554	768	68	4
	July	1,333	1,693	1,621	821	72	5
	August	1,285	1,658	1,587	821	74	5
	September	1,235	1,576	1,509	800	73	6
	October	1,440	1,635	1,565	847	80	3
	November	1,658	1,607	1,538	838	91	3
	December	2,069	1,710	1,637	882	107	4
	TOTAL	**19,627**	**19,974**	**19,122**	**9,911**	**966**	**53**
1979	January	2,372	1,714	1,641	890	100	5
	February	2,149	1,599	1,531	819	94	4
	March	1,834	1,698	1,625	907	116	3
	April	R1,542	R1,629	R1,559	871	109	3
	May	1,369	1,658	1,587	877	97	4
	June	1,264	1,593	1,525	812	101	5
	July	R1,280	R1,604	R1,536	851	107	5
	August	R1,280	R1,627	R1,558	880	94	6
	September	R1,270	R1,572	R1,505	820	97	5
	October	R1,495	R1,635	R1,565	888	R110	3
	November	1,630	1,590	1,520	NA	92	3
	December	1,940	1,690	1,620	NA	100	4
	TOTAL	**19,425**	**19,609**	**18,772**	**NA**	**1,217**	**50**

R = Revised data.
NA = Not available.
Sources: • Domestic Consumption — 1973 through 1976: U.S. Department of the Interior, Bureau of Mines, *Mineral Yearbook,* "Natural Gas" chapter; January 1977 forward: EIA estimates based on a supply/disposition balance calculation.
- Production — State reports to the Interstate Oil Compact Commission and EIA estimates for states that do not report monthly data on a regular or timely basis.
- Domestic Producer Sales — Federal Power Commission (FPC) Form 11, "Natural Gas Pipeline Company Monthly Statement."
- Imports — 1973 through 1978: FPC Form 14, "Imports and Exports of Natural Gas"; January 1979 forward: EIA estimates based on import data from FPC Form 11.
- Exports — 1973 through 1978: FPC Form 14; January 1979 forward: EIA estimates based primarily on historical data reported on FPC Form 14.

Natural Gas

Domestic Consumption, Marketed Production and Imports

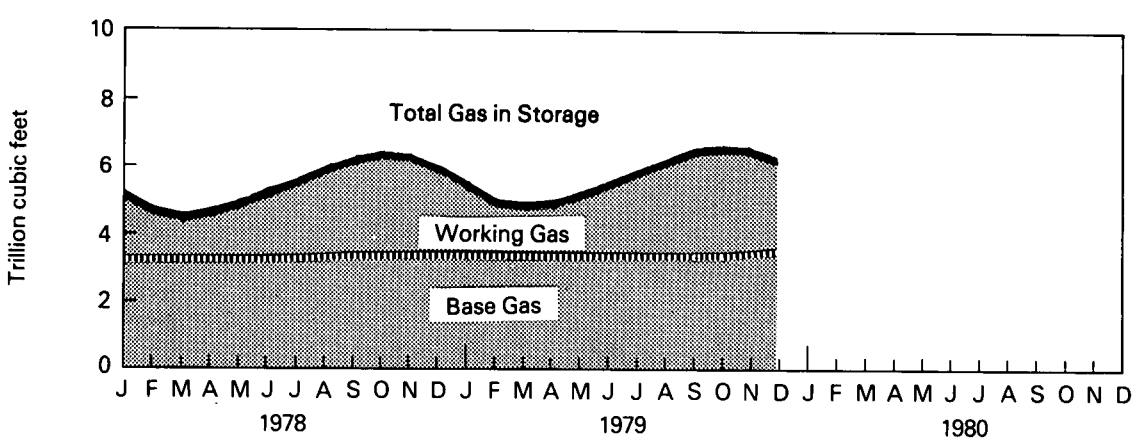


Natural Gas

Natural Gas in Underground Storage[1]

		Total Gas in Storage	Base Gas	Working Gas	Storage Injections	Storage Withdrawals	Net Storage Injections[2]
				Billion cubic feet			
1975		**‡5,358**	**‡3,150**	**‡2,208**	**NA**	**NA**	**NA**
1976		**‡5,231**	**‡3,310**	**‡1,921**	**1,952**	**2,074**	**(122)**
1977		**‡5,844**	**‡3,377**	**‡2,467**	**2,390**	**1,767**	**623**
1978	January	5,193	3,374	1,819	21	668	(647)
	February	4,683	3,373	1,310	21	530	(509)
	March	4,497	3,374	1,123	92	278	(186)
	April	4,608	3,377	1,231	179	68	111
	May	4,870	3,379	1,491	291	30	261
	June	5,217	3,381	1,836	365	18	347
	July	5,550	3,386	2,164	349	16	333
	August	5,904	3,403	2,501	359	12	347
	September	6,224	3,411	2,813	329	9	320
	October	6,402	3,444	2,958	209	28	181
	November	6,352	3,425	2,927	82	135	(53)
	December	5,999	3,459	2,540	33	384	(351)
1979	January	5,348	3,458	1,890	21	673	(652)
	February	4,806	3,457	1,349	23	566	(543)
	March	4,695	3,459	1,236	94	205	(111)
	April	4,762	3,427	1,335	182	73	109
	May	5,057	3,438	1,619	308	13	295
	June	5,399	3,449	1,950	350	8	342
	July	5,743	3,459	2,284	361	19	342
	August	6,095	3,467	2,628	362	12	350
	September	6,401	3,481	2,920	326	14	312
	October	6,563	3,484	3,079	196	34	162
	November	R6,541	3,496	R3,045	R108	R132	R(24)
	December	6,297	3,537	2,760	53	292	(239)

Gas in Storage



[1]See Explanatory Note 9.
[2]Net Storage Injections = storage injection minus storage withdrawal. Parentheses indictate withdrawal greater than injection.
‡Total as of December 31.
R = Revised data.
NA = Not available.
Source: • Federal Energy Administration System 8/EIA 191, (formerly Federal Energy Administration Form G–318–M–0), "Underground Gas Storage Report."

Part 5 Oil and Gas Resource Development

Oil and Gas Resource Development

The rotary rig count increased to 2,552 in December 1979, up from the 2,460 count of the month before. This represents an 11.6 percent increase over the December 1978 count of 2,286 rotary rigs.

Wells completed in December 1979 totaled 6,008. This is a 13.9 percent increase from the number completed during December 1978.

Oil well completions in December 1979 (2,383 well completions) were up 28.0 percent from December 1978 (1,861 completions). The number of gas wells completed increased. In December 1979, 1,739 gas wells were completed, 9.5 percent above the December 1978 level. Dry holes were up 3.2 percent (1,886 as compared to 1,828 during the previous December). Total footage drilled rose 12.0 percent (27.0 million feet as compared to 24.1 million feet the year before).

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	Thousand feet
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	January	2,128		1,184	783	1,233	3,200	15,394
	February	2,135		1,486	851	1,239	3,576	16,933
	March	2,158		1,499	1,247	1,420	4,166	20,392
	April	2,198		1,369	971	1,112	3,452	17,559
	May	2,249		1,209	1,004	1,166	3,379	17,189
	June	2,286		1,812	1,071	1,489	4,372	21,115
	July	2,307		1,503	985	1,191	3,679	17,258
	August	2,325		1,516	1,085	1,290	3,891	18,440
	September	2,332		1,619	1,227	1,511	4,357	21,234
	October	2,346		1,395	1,102	1,441	3,938	19,109
	November	2,356		1,294	1,027	1,308	3,629	17,805
	December	2,286		1,861	1,588	1,828	5,277	24,108
	AVERAGE	**2,259**	**TOTAL**	**17,775**	**13,064**	**16,218**	**47,057**	**227,110**
1979	January	2,199		1,372	996	1,278	3,646	17,963
	February	2,064		1,463	1,139	1,076	3,678	18,917
	March	1,970		1,544	1,343	1,372	4,259	21,175
	April	1,943		1,138	1,083	930	3,151	16,069
	May	1,960		1,307	992	1,130	3,429	16,974
	June	1,999		1,681	1,194	1,243	4,118	19,413
	July	2,094		1,526	1,080	1,130	3,736	16,749
	August	2,222		1,523	1,246	1,368	4,137	19,565
	September	2,284		1,819	1,374	1,428	4,621	22,590
	October	2,380		1,623	1,123	1,287	4,033	18,840
	November	2,460		1,867	1,273	1,496	4,636	21,846
	December	2,552		2,383	1,739	1,886	6,008	27,010
	AVERAGE	**2,177**	**TOTAL**	**19,331**	**14,673**	**15,739**	**46,743**	**238,275**

[1]Excludes service wells and stratigraphic and core tests.
[2]Data 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.
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: American Petroleum Institute (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	January	26	302	328			
	February	23	305	328			
	March	20	314	334			
	April	21	315	336			
	May	21	330	351			
	June	26	336	362			
	July	26	341	367			
	August	27	338	365			
	September	21	333	354			
	October	29	342	371			
	November	27	342	369			
	December	30	328	358			
	AVERAGE	**25**	**327**	**352**	**174,607**	**135,899**	**310,506**
1979	January	28	327	355			
	February	29	321	350			
	March	32	332	364			
	April	30	330	360			
	May	28	355	383			
	June	32	372	404			
	July	31	376	407			
	August	31	393	424			
	September	30	403	433			
	October	29	407	436			
	November	31	408	439			
	December	31	419	450			
	AVERAGE	**30**	**370**	**400**			

[1]Monthly data not available.
Sources: • Society of Exploration Geophysicists, "Monthly Seismic Crew Count" and annual reports published in their bulletin, *Geophysics.*

COAL

Coal production in December 1979 was 60.7 million tons, 10.8 percent below production in November 1979, but 0.9 percent above production in December 1978. Total production of coal in 1979 rose to 775.8 million tons, an increase of 115.5 million tons over production in 1978 and 78.5 million tons over the previous record output of 697.2 million tons in 1977. Coal production in Eastern coalfields (coal producing States east of the Mississippi River) increased from 476.5 million tons in 1978 to 563.9 million tons in 1979; output in Western States increased from 183.7 million tons in 1978 to 211.8 million tons in 1979.

Domestic consumption of coal in November 1979 totaled 55.6 million tons, virtually unchanged from consumption in October 1979, but 5.5 percent above consumption in November 1978. In the first 11 months of 1979 coal consumption totaled 613.8 million tons, an increase of 47.4 million tons, or 8.4 percent above consumption in the same period for 1978. Electric utility coal consumption* totaled 42.9 million tons in November 1979, 8.0 percent more than in November 1978. During the first 11 months of 1979, electric utilities consumed 481.5 million tons of coal, 10.0 percent above the 437.6 million tons consumed during the same period in 1978. Coke plants, the second largest coal consuming sector, used 69.8 million tons in the first 11 months of 1979, an increase of 8.1 percent above the amount consumed during the same period in 1978. Coal consumption by general industry totaled 54.3 million tons in the first 11 months of 1979, 1.2 percent below the amount consumed in the same period of 1978. The 8.2 million tons of coal delivered to retail dealers through the first 11 months of 1979 was 11.9 percent lower than during the first 11 months of 1978.

Total stocks of bituminous coal and lignite held by consumers increased 21.6 percent to 173.5 million tons at the end of November over end of November 1978 stock levels. Electric utility stockpiles** increased from 127.2 million tons at the end of November 1978 to 155.6 million tons at the end of November 1979. Bituminous coal stocks held by coke plants increased from 8.5 million tons at the end of November 1978 to 9.6 million tons at the end of November 1979. General industry stockpiles of bituminous coal and lignite at the end of November 1979 totaled 7.8 million tons, 1.2 million tons above the level at the end of the corresponding month in 1978.

Imports of bituminous coal in the first 11 months of 1979 totaled 1.8 million tons, 1.0 million tons below the amount imported during the first 11 months of 1978. Exports of bituminous coal and anthracite through the first 11 months of 1979 totaled 59.7 million tons, 65.4 percent more than the amount of coal exported in the first 11 months of 1978. During the first 11 months of 1979, coal exports were principally to Canada (29.5 percent) and Japan (23.6 percent).

*Includes bituminous, lignite, and anthracite consumption, but excludes petroleum coke consumption.

**Stocks include bituminous coal and lignite only.

Coal

Bituminous, Lignite, and Anthracite

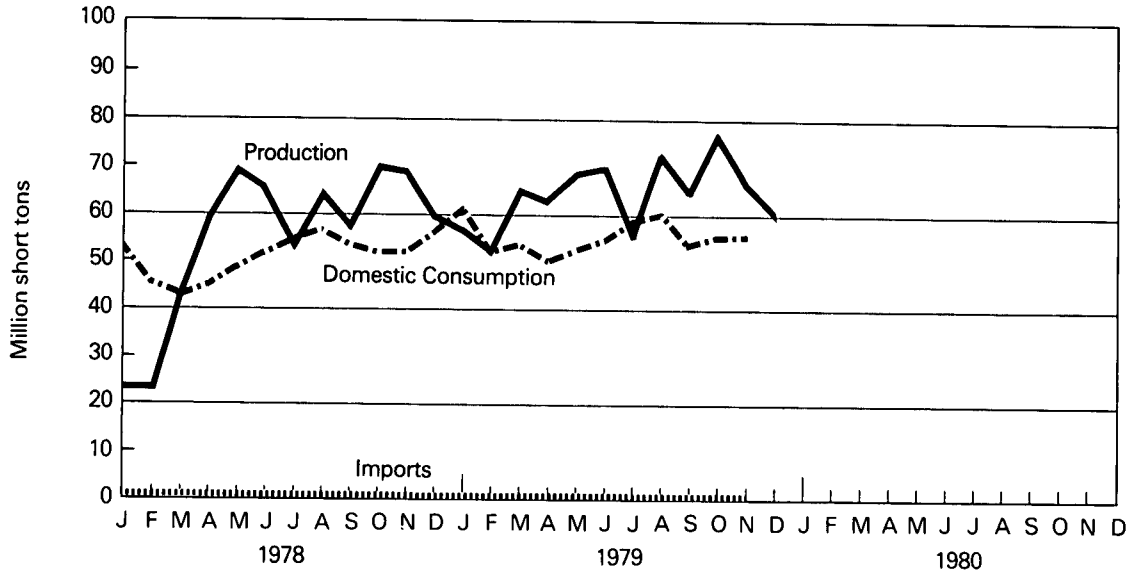
		Production	Domestic Consumption	Imports[1]	Exports[2]
			Thousand short tons		
1973	**TOTAL**	**598,568**	**562,583**	**127**	**53,587**
1974	**TOTAL**	**610,023**	**558,402**	**2,080**	**60,661**
1975	**TOTAL**	**654,641**	**562,643**	**940**	**66,309**
1976	**TOTAL**	**684,913**	**603,790**	**1,203**	**60,021**
1977	**TOTAL**	**697,205**	**625,308**	**1,647**	**54,312**
1978	January	23,545	54,758	139	894
	February	23,860	46,422	159	588
	March	39,290	44,230	231	377
	April	60,050	45,952	417	2,613
	May	69,300	49,174	323	4,473
	June	66,225	52,473	291	5,429
	July	54,195	55,876	313	3,574
	August	64,945	57,705	227	3,634
	September	58,355	54,405	196	3,454
	October	70,480	52,775	371	5,053
	November	69,820	52,669	98	6,030
	December	60,180	57,070	188	4,572
	TOTAL	**660,245**	**623,509**	**2,953**	**40,691**
1979	January	56,941	62,056	186	3,605
	February	53,988	53,791	252	2,726
	March	65,952	54,265	123	4,642
	April	R63,265	50,832	161	5,268
	May	R68,455	53,334	112	6,215
	June	R69,865	55,106	209	5,975
	July	R54,910	59,442	88	6,297
	August	R72,640	60,028	320	6,248
	September	64,380	53,832	180	5,145
	October	76,510	R55,568	34	7,446
	November	68,105	55,592	130	6,170
	December	60,739	NA	NA	NA
	TOTAL	**775,750**	**NA**	**NA**	**NA**

[1]Bituminous coal only.
[2]Bituminous coal and anthracite only.
R = Revised data.
NA = Not available.
Sources: • 1973 through September 1977, Bureau of Mines *Mineral Industry Surveys,* "Weekly Coal Report."
- October 1977 forward, Energy Information Administration (EIA) *Energy Data Reports,* "Weekly Coal Report."
- Sources for "Weekly Coal Report" are: Production — Bituminous coal and Anthracite: Latest month based on car loadings of coal reported to the Association of American Railroads (CS Form 54A). Bituminous and lignite data finalized from EIA Form 7, "Bituminous Coal and Lignite Production and Mine Operation." Anthracite data finalized from: Bureau of Mines Form 6–1385A, "Pennsylvania Anthracite Production;" BOM Form 6–1386A, "Pennsylvania Anthracite Production, Mines Without Preparation Plants;" BOM Form 6–1387A, "Pennsylvania Anthracite Production, Contractor's Report;" BOM Form 6–1388A, "Pennsylvania Anthracite Production, River Coal Report."
- Consumption — Federal Power Commission Form 4, "Monthly Power Plant Report;" EIA Form 2, "Monthly Coal Report, Retail Dealers and Upper Lake Docks;" Form 3, "Monthly Coal Consumption Report, Manufacturing Plants;" Form 5, "Monthly Survey of Coke and Coal Chemical Materials;" finalized coke data from Form 5A.
- Imports — Department of Commerce, Bureau of the Census: Bituminous coal: Schedules 5213120, 5213180.
- Exports — Department of Commerce, Bureau of the Census: Bituminous coal: Schedules 5213110, 5213120; Anthracite: Schedule 5213170.

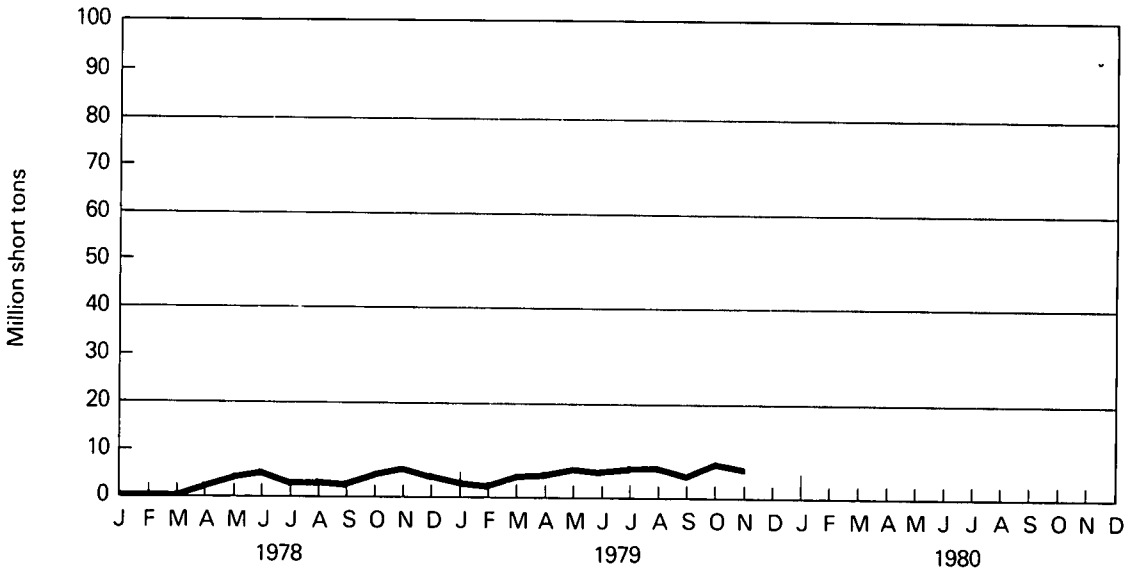
Coal

Bituminous, Lignite, and Anthracite

Domestic Production, Consumption, and Imports



Exports



Coal

Consumption — Bituminous, Lignite, and Anthracite

			Industry and Miscellaneous			
		Electric Utilities	Coke Plants[2]	Other Industry and Miscellaneous	Retail Dealers	Total
		Thousand short tons				
1973	**TOTAL**	**389,212**	**94,101**	**68,153**	**11,117**	**562,583**
1974	**TOTAL**	**391,811**	**90,191**	**64,983**	**11,417**	**558,402**
1975	**TOTAL**	**405,962**	**83,598**	**63,673**	**9,410**	**562,643**
1976	**TOTAL**	**448,371**	**84,704**	**61,799**	**8,916**	**603,790**
1977	**TOTAL**	**477,126**	**77,369**	**61,616**	**9,197**	**625,308**
1978	January	42,708	5,425	5,531	1,094	54,758
	February	35,832	4,182	5,270	1,138	46,422
	March	34,004	4,013	5,303	910	44,230
	April	34,617	5,528	5,032	775	45,952
	May	37,199	6,414	4,866	695	49,174
	June	40,794	6,385	4,619	675	52,473
	July	44,118	6,553	4,605	600	55,876
	August	46,062	6,460	4,561	622	57,705
	September	42,646	6,417	4,642	700	54,405
	October	39,853	6,710	5,211	1,001	52,775
	November	39,751	6,528	5,339	1,051	52,669
	December	43,669	6,763	5,513	1,125	57,070
	TOTAL	**481,254**	**71,378**	**60,492**	**10,386**	**623,509**
1979	January	48,646	6,523	5,519	1,368	62,056
	February	41,891	5,875	5,176	850	53,791
	March	41,779	6,755	5,050	680	54,265
	April	38,977	6,488	4,754	613	50,832
	May	41,532	6,609	4,620	572	53,334
	June	44,010	6,196	4,317	584	55,106
	July	48,219	6,447	4,267	509	59,442
	August	48,550	6,167	4,829	482	60,028
	September	42,099	6,271	4,835	626	53,832
	October	R42,888	R6,390	R5,429	R861	R55,568
	November	42,939	6,120	5,519	1,014	55,592
	TOTAL (Year to date)	**481,530**	**69,841**	**54,315**	**8,159**	**613,846**

Totals may not equal sum of components due to independent rounding.
[1]Bituminous coal and anthracite only.
R = Revised data.
Sources: • 1973 through September 1977, Bureau of Mines *Mineral Industry Surveys,* "Weekly Coal Report."
- October 1977 forward, Energy Information Administration (EIA) *Energy Data Reports,* "Weekly Coal Report."
- Sources for "Weekly Coal Report" are: Production — Bituminous coal and Anthracite: Latest month based on car loadings of coal reported to the Association of American Railroads (CS Form 54A). Bituminous and lignite data finalized from EIA Form 7, "Bituminous Coal and Lignite Production and Mine Operation." Anthracite data finalized from: Bureau of Mines Form 6–1385A, "Pennsylvania Anthracite Production;" BOM Form 6–1386A, "Pennsylvania Anthracite Production, Mines Without Preparation Plants;" BOM Form 6–1387A, "Pennsylvania Anthracite Production, Contractor's Report;" BOM Form 6–1388A, "Pennsylvania Anthracite Production, River Coal Report."
- Consumption and Stocks — Federal Power Commission Form 4, "Monthly Power Plant Report;" EIA Form 2, "Monthly Coal Report, Retail Dealers and Upper Lake Docks;" Form 3, "Monthly Coal Consumption Report, Manufacturing Plants;" Form 5, "Monthly Survey of Coke and Coal Chemical Materials;" finalized coke data from Form 5A.
- Imports — Department of Commerce, Bureau of the Census: Bituminous coal: Schedules 5213120, 5213180.
- Exports — Department of Commerce, Bureau of the Census: Bituminous coal: Schedules 5213110, 5213120; Anthracite: Schedule 5213170.

Coal

Bituminous and Lignite

		Production[1]	Domestic Consumption[1]	Imports[2]	Exports[2]	Stocks[3]
			Thousand short tons			
1973	**TOTAL**	**591,738**	**556,912**	**127**	**52,870**	**103,412**
1974	**TOTAL**	**603,406**	**552,954**	**2,080**	**59,926**	**95,477**
1975	**TOTAL**	**648,438**	**557,535**	**940**	**65,669**	**127,150**
1976	**TOTAL**	**678,685**	**598,750**	**1,203**	**59,406**	**133,555**
1977	**TOTAL**	**691,344**	**620,505**	**1,647**	**53,687**	**152,264**
1978	January	23,115	54,418	139	870	118,294
	February	23,520	46,022	159	555	93,134
	March	38,765	43,790	231	325	83,786
	April	59,530	45,492	417	2,594	96,589
	May	68,760	48,744	323	4,411	110,895
	June	65,565	51,923	291	5,398	122,624
	July	53,640	55,426	313	3,531	119,803
	August	64,395	57,225	227	3,568	122,656
	September	57,775	53,925	196	3,338	125,704
	October	69,860	52,275	371	4,911	133,579
	November	69,245	52,194	98	5,930	142,701
	December	59,630	56,640	188	4,394	141,616
	TOTAL	**653,800**	**618,073**	**2,953**	**39,825**	
1979	January	56,486	61,656	186	3,526	132,177
	February	53,628	53,401	252	2,691	125,320
	March	65,492	53,870	123	4,592	130,013
	April	R62,790	50,432	161	5,227	138,411
	May	R67,925	52,874	112	6,091	147,104
	June	R69,400	54,676	209	5,895	150,760
	July	54,495	59,027	88	6,249	144,098
	August	72,100	59,628	320	6,089	148,053
	September	63,895	53,422	180	5,019	153,652
	October	75,910	R55,133	34	7,315	R165,111
	November	67,560	55,125	130	6,017	173,533
	December	60,319	NA	NA	NA	NA
	TOTAL	**770,000**	**NA**	**NA**	**NA**	**NA**

[1]See Explanatory Note 10.
[2]Bituminous coal only.
[3]Total stocks held by utilities, industrial consumers, and retail dealers at end of year or month.
R = Revised data.
NA = Not available.
Sources: • 1973 through September 1977, Bureau of Mines *Mineral Industry Surveys,* "Weekly Coal Report."
- October 1977 forward, Energy Information Administration (EIA) *Energy Data Reports,* "Weekly Coal Report."
- Sources for "Weekly Coal Report" are: Production — Bituminous coal and lignite: Latest month based on car loadings of coal reported to the Association of American Railroads (CS Form 54A). Finalized from EIA Form 7, "Bituminous Coal and Lignite Production and Mine Operation."
- Consumption and Stocks — Federal Power Commission Form 4, "Monthly Power Plant Report;" EIA Form 2, "Monthly Coal Report, Retail Dealers and Upper Lake Docks;" Form 3, "Monthly Coal Consumption Report, Manufacturing Plants;" Form 5, "Monthly Survey of Coke and Coal and Chemical Materials;" finalized coke data from Form 5A.
- Imports — Department of Commerce, Bureau of the Census: Bituminous coal: Schedules 5213120, 5313180.
- Exports — Department of Commerce, Bureau of the Census: Bituminous coal: Schedules 5213110, 5213120; Anthracite: Schedule 5213170.

Coal

Stocks [1] — Bituminous and Lignite

		Industry and Miscellaneous				
		Electric Utilities	Coke Plants[2]	Other Industry and Miscellaneous	Retail Dealers	Total
		Thousand short tons				
1973		**85,902**	**6,875**	**10,345**	**290**	**103,412**
1974		**82,579**	**6,037**	**6,580**	**280**	**95,477**
1975		**109,742**	**8,671**	**8,504**	**233**	**127,150**
1976		**116,436**	**9,804**	**7,075**	**240**	**133,555**
1977		**130,898**	**12,721**	**8,425**	**220**	**152,264**
1978	January	102,965	8,130	7,017	182	118,294
	February	82,441	5,067	5,507	119	93,134
	March	74,925	3,750	4,997	114	83,786
	April	85,899	5,602	4,953	135	96,589
	May	98,481	7,129	5,110	175	110,895
	June	108,534	8,237	5,543	310	122,624
	July	107,455	6,604	5,454	290	119,803
	August	110,055	6,276	5,970	355	122,656
	September	112,935	6,202	6,205	362	125,704
	October	119,374	7,272	6,576	357	133,579
	November	127,176	8,520	6,625	380	142,701
	December	126,044	8,162	7,050	360	141,616
1979	January	117,755	7,437	6,620	365	132,177
	February	112,258	6,553	6,191	318	125,320
	March	116,364	7,352	6,022	275	130,013
	April	123,554	8,317	6,265	275	138,411
	May	131,550	8,854	6,385	315	147,104
	June	134,282	9,448	6,703	327	150,760
	July	128,805	8,115	6,806	372	144,098
	August	131,904	8,583	7,154	412	148,053
	September	136,747	8,876	7,597	432	153,652
	October	R147,521	R9,481	R7,664	R445	R165,111
	November	155,646	9,638	7,780	469	173,533

[1]Stocks held by utilities, general industry, and retail dealers at end of year or month.
[2]Bituminous coal only.
R = Revised data.
Sources: • 1973 through September 1977, Bureau of Mines *Mineral Industry Surveys,* "Weekly Coal Report."
- October 1977 forward, Energy Information Administration (EIA) *Energy Data Reports,* "Weekly Coal Report."
- Sources for "Weekly Coal Report" are: Production — Bituminous coal and Anthracite: Latest month based on car loadings of coal reported to the Association of American Railroads (CS Form 54A). Bituminous and lignite data finalized from EIA Form 7, "Bituminous Coal and Lignite Production and Mine Operation." Anthracite data finalized from: Bureau of Mines Form 6–1385A, "Pennsylvania Anthracite Production;" BOM Form 6–1386A, "Pennsylvania Anthracite Production, Mines Without Preparation Plants;" BOM Form 6–1387A, "Pennsylvania Anthracite Production, Contractor's Report;" BOM Form 1388A, "Pennsylvania Anthracite Production, River Coal Report."
- Consumption and Stocks — Federal Power Commission Form 4, "Monthly Power Plant Report;" EIA Form 2, "Monthly Coal Report, Retail Dealers and Upper Lake Docks;" Form 3, "Monthly Coal Consumption Report, Manufacturing Plants;" Form 5, "Monthly Survey of Coke and Coal Chemical Materials;" finalized coke data from Form 5A.
- Imports — Department of Commerce, Bureau of the Census: Bituminous coal: Schedules 5213120, 5213180.
- Exports — Department of Commerce, Bureau of the Census: Bituminous coal: Schedules 5213110, 5213120; Anthracite: Schedule 5213170.

Part 7 Electric Utilities

Electric Utilities

November 1979 production of electricity by utilities was 177.4 billion kilowatt-hours, 0.7 percent above the November 1978 production level. Coal-fired production totaled 87.3 billion kilowatt-hours, natural gas-fired production totaled 24.7 billion kilowatt-hours, and hydroelectric production totaled 22.4 billion kilowatt-hours. These figures reflect increases of 6.9, 12.1, and 12.0 percent, respectively, above the November 1978 output levels. Petroleum-fired production totaled 23.4 billion kilowatt-hours, and nuclear production totaled 19.3 billion kilowatt-hours, 14.4 and 22.7 percent, respectively, below the November 1978 levels.

Sales of electricity to all ultimate consumers in the United States in November 1979 totaled 162.1 billion kilowatt-hours, a decrease of 2.2 percent from sales of the month before but 1.9 percent above November 1978 sales. Sales to residential consumers during November 1979 were 49.5 billion kilowatt-hours, 4.8 percent above sales for the corresponding month in 1978. Commercial sales were 36.7 billion kilowatt-hours, 2.2 percent more than the amount for November 1978. Sales to industrial consumers totaled 69.8 billion kilowatt-hours in November 1979, about 0.1 percent over the November 1978 figure. In November 1979 other sales totaled 6.2 billion kilowatt-hours, 2.6 percent below the November 1978 level.

Electric utility petroleum consumption during November 1979 was 39.8 million barrels, a 14.8 percent drop from the November 1978 level. Coal consumption for November 1979 was 42.9 million tons, 8.0 percent above the November 1978 rate. During November 1979, consumption of natural gas by electric utilities was 260.9 billion cubic feet, 14.4 percent above the November 1978 consumption level.

On November 30, 1979, utility stocks of anthracite, bituminous and lignite totaled 158.1 million tons. Stockpiles were 22.2 percent above the level of November 1978.

Petroleum stocks on November 30, 1979, totaled 130.4 million barrels, 0.7 percent above the levels for the same month of 1978.

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	January	85,003	39,263	22,310	25,833	25,068	357	197,834
	February	70,567	38,212	20,370	21,833	22,369	309	173,659
	March	66,620	36,982	22,269	22,449	24,630	264	173,214
	April	70,326	24,978	21,339	17,580	25,306	208	159,736
	May	76,430	24,368	25,075	20,416	28,757	187	175,234
	June	84,033	26,129	30,618	22,185	25,121	225	188,311
	July	89,606	29,117	34,247	25,007	24,453	250	202,681
	August	93,454	32,301	32,582	25,599	22,185	318	206,441
	September	87,041	26,640	28,205	22,189	21,177	318	185,571
	October	82,082	25,753	25,232	22,997	19,479	257	175,800
	November	81,725	27,310	22,003	24,901	19,953	282	176,172
	December	88,860	34,034	21,130	25,415	22,082	341	191,862
	TOTAL	**975,749**	**365,088**	**305,380**	**276,403**	**280,579**	**3,316**	**2,206,515**
1979	January	94,975	39,474	R22,093	27,792	25,054	326	R209,714
	February	84,745	32,274	R21,846	25,911	21,275	285	R186,337
	March	85,219	22,075	24,918	24,335	25,921	382	182,850
	April	80,451	20,600	R24,761	18,418	25,389	342	R169,960
	May	86,155	21,471	26,135	15,025	28,939	350	178,074
	June	90,749	24,368	R30,107	16,065	24,990	347	186,626
	July	97,753	25,749	R34,673	20,825	22,761	364	R202,125
	August	97,854	26,123	R34,947	24,204	21,260	405	R204,792
	September	85,530	22,510	R31,432	21,804	18,978	354	R180,609
	October	R87,310	R20,279	R30,476	R20,934	R20,167	389	R179,555
	November	87,340	23,387	24,657	19,255	22,350	387	177,377
	TOTAL (Year to date)	**978,083**	**278,309**	**306,045**	**234,568**	**257,084**	**3,931**	**2,058,019**

Totals may not equal sum of components due to independent rounding.
[1]Includes Bituminous, Lignite, and Anthracite.
[2]Includes fuel oil No. 2, No. 4, No. 5, No. 6, crude oil, kerosene, and petroleum coke.
[3]Includes geothermal, wood and waste.
R = Revised data.
Source: • Federal Power Commission Form 4, "Monthly Power Plant Report".

Electric Utilities

Electrical Sales[1]

		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**	**423,640**	**739,964**	**69,558**	**1,836,025**
1977	**TOTAL**	**641,133**	**444,932**	**772,292**	**70,488**	**1,928,844**
1978	January	65,455	38,125	R64,765	6,581	R174,926
	February	64,140	37,465	60,823	6,274	168,703
	March	58,391	36,282	61,506	6,032	162,212
	April	47,118	33,625	63,103	5,355	149,201
	May	43,748	33,995	66,618	5,586	149,947
	June	50,511	39,080	68,563	5,826	163,981
	July	61,327	42,839	67,081	6,359	177,607
	August	63,434	43,694	69,402	6,136	182,666
	September	61,584	42,935	70,067	6,428	181,015
	October	51,108	38,354	71,259	6,001	166,722
	November	R47,220	R35,864	R69,701	R6,340	R159,125
	December	56,391	37,244	67,577	6,268	167,479
	TOTAL	**R670,427**	**R459,502**	**R800,465**	**R73,186**	**R2,003,584**
1979	January	69,912	40,200	R67,956	6,689	R184,757
	February	67,470	39,670	66,847	6,192	180,179
	March	58,806	37,938	68,770	6,002	171,515
	April	49,647	35,731	68,777	5,589	159,744
	May	45,378	36,259	70,421	5,630	157,688
	June	49,109	39,474	70,968	5,705	165,256
	July	58,054	42,528	69,938	5,975	176,495
	August	64,168	43,915	71,058	6,377	185,519
	September	59,251	42,416	70,075	6,479	178,220
	October	49,430	38,750	71,444	6,098	165,721
	November	49,480	36,656	69,787	6,173	162,096
	TOTAL (Year to date)	**620,705**	**433,537**	**766,041**	**66,909**	**1,887,190**

Totals may not equal sum of components due to independent rounding.
[1]Electricity sales to all ultimate consumers.
[2]Includes street lighting and transportation uses.
R = Revised data.
Source: • Federal Power Commission Form 5, "Monthly Statement of Electric Operating Revenue and Income."

Electric Utilities

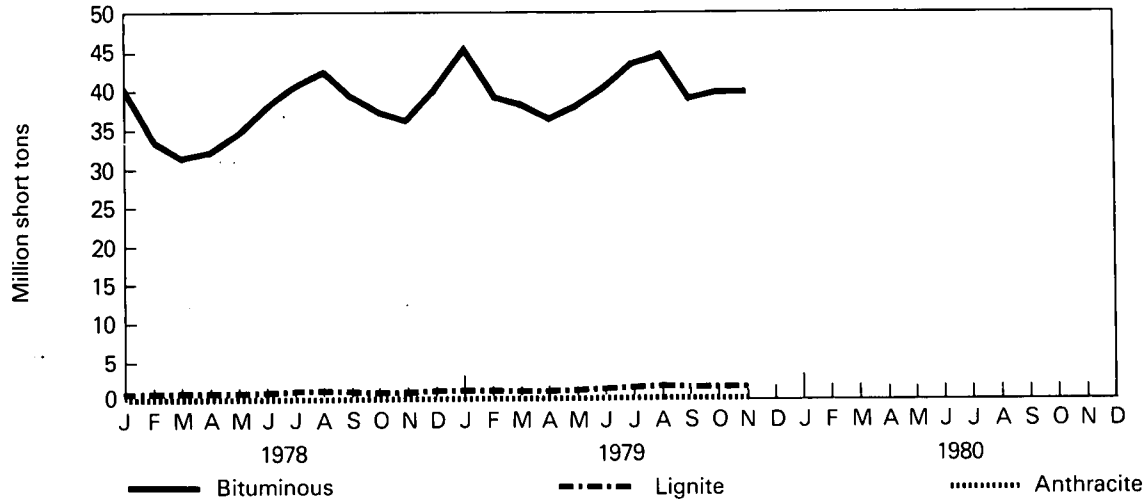
Primary Energy Resources Consumed to Produce Electricity

		Coal				Petroleum			Natural Gas
		Anthracite	Bituminous	Lignite	Total	Steam	Gas Turb./ Int. Comb.	Coke	
		Thousand short tons				Thousand barrels		Thousand short tons	Million cubic feet
1973	**TOTAL**	**1,443**	**376,975**	**10,794**	**389,212**	**513,190**	**47,058**	**507**	**3,660,172**
1974	**TOTAL**	**1,498**	**378,643**	**11,670**	**391,811**	**483,146**	**53,128**	**625**	**3,443,428**
1975	**TOTAL**	**1,480**	**388,523**	**15,960**	**405,962**	**467,221**	**38,907**	**70**	**3,157,669**
1976	**TOTAL**	**1,350**	**425,205**	**21,817**	**448,371**	**514,077**	**41,843**	**68**	**3,080,868**
1977	**TOTAL**	**1,425**	**451,051**	**24,650**	**477,126**	**574,869**	**48,837**	**98**	**3,191,200**
1978	January	101	40,506	2,101	42,708	61,271	8,256	10	229,187
	February	88	33,556	2,189	35,832	59,636	7,709	55	211,169
	March	100	31,275	2,629	34,004	58,772	5,475	64	232,198
	April	83	32,128	2,406	34,617	40,877	2,151	39	223,186
	May	73	34,902	2,224	37,199	40,244	2,293	28	260,798
	June	91	38,250	2,453	40,794	42,729	3,570	31	321,426
	July	85	40,906	3,127	44,118	47,547	3,569	32	362,192
	August	100	42,665	3,297	46,062	52,637	3,563	31	340,292
	September	86	39,835	2,725	42,646	43,114	3,300	28	296,976
	October	82	37,197	2,574	39,853	42,253	1,823	25	262,878
	November	88	36,982	2,681	39,751	44,516	2,161	27	228,001
	December	87	40,581	3,001	43,669	54,771	3,643	30	220,003
	TOTAL	**1,064**	**448,782**	**31,407**	**481,254**	**588,366**	**47,511**	**398**	**3,188,306**
1979	January	89	45,536	3,021	48,646	62,226	6,244	33	R228,479
	February	75	39,010	2,806	41,891	51,655	4,959	32	R226,896
	March	65	38,863	2,852	41,779	36,371	1,871	22	R260,411
	April	66	36,360	2,551	38,977	33,801	1,682	15	R260,974
	May	106	38,670	2,757	41,532	35,285	2,053	23	R277,313
	June	103	40,883	3,023	44,010	39,260	2,318	25	R320,195
	July	96	44,393	3,730	48,219	41,895	2,413	23	R369,316
	August	97	44,554	3,899	48,550	42,478	2,416	23	R375,361
	September	86	38,852	3,162	42,099	36,769	R1,747	17	R338,258
	October	75	R39,552	3,261	R42,888	R33,444	1,132	16	R323,076
	November	92	39,530	3,317	42,939	37,828	1,953	18	260,889
	TOTAL (Year to date)	**950**	**446,202**	**34,377**	**481,530**	**451,014**	**28,789**	**248**	**3,241,169**

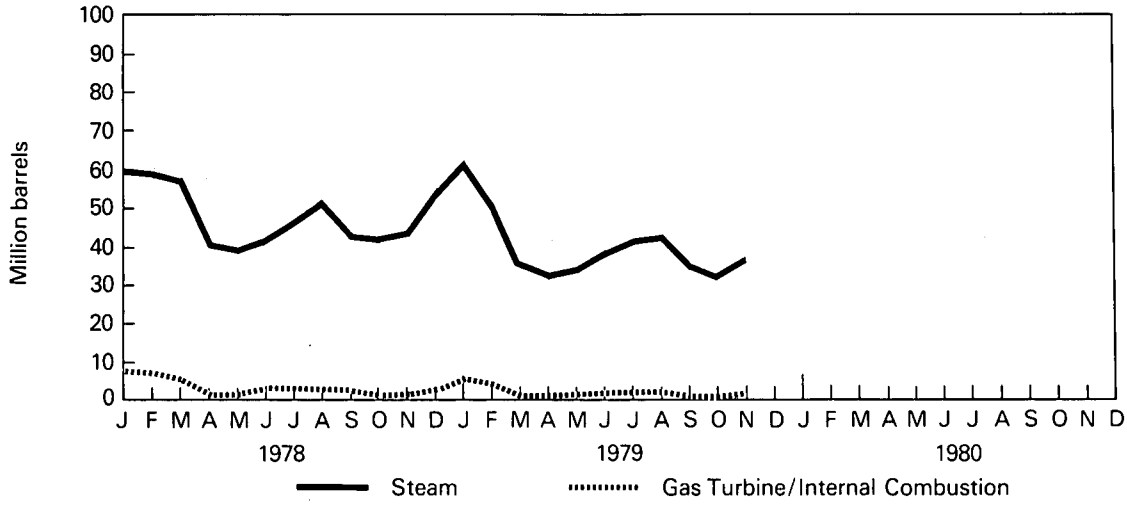
Totals may not equal sum of components due to independent rounding.
R = Revised data.
Source: • Federal Power Commission Form 4, "Monthly Power Plant Report."

Electric Utilities

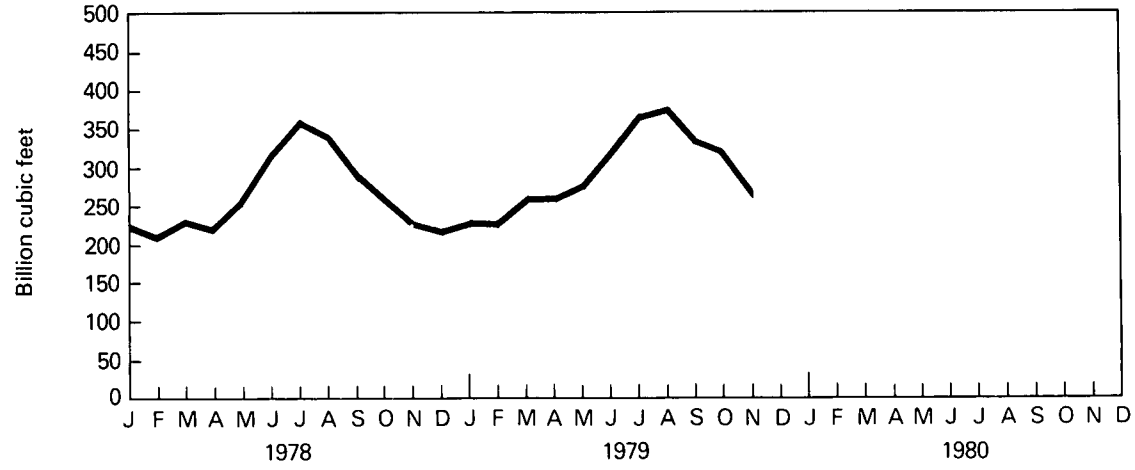
Coal Consumption



Petroleum Consumption



Natural Gas Consumption



Electric Utilities

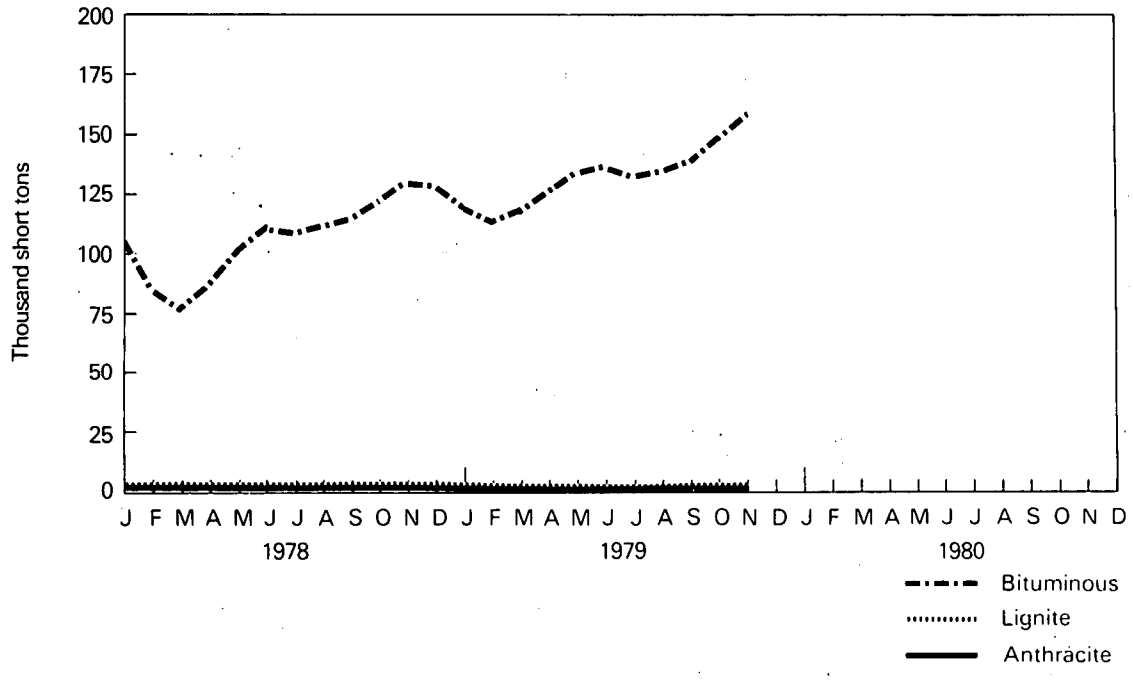
End-of-Month Coal and Petroleum Stocks

		Coal				Petroleum		
		Anthracite	Bituminous	Lignite	Total	Steam	Gas Turb./ Int. Comb.	Coke
		Thousand short tons				Thousand barrels		Thousand short tons
1973		**‡1,066**	**‡84,941**	**‡961**	**‡86,967**	**‡79,121**	**‡10,095**	**‡312**
1974		**‡930**	**‡81,712**	**‡867**	**‡83,509**	**‡97,718**	**‡15,199**	**‡35**
1975		**‡982**	**‡107,927**	**‡1,815**	**‡110,724**	**‡108,825**	**‡16,432**	**‡31**
1976		**‡1,000**	**‡114,130**	**‡2,306**	**‡117,436**	**‡106,993**	**‡14,703**	**‡32**
1977		**‡2,321**	**‡128,210**	**‡2,688**	**‡133,219**	**‡124,750**	**‡19,281**	**‡44**
1978	January	2,280	100,547	2,418	105,245	114,174	16,260	40
	February	2,112	80,092	2,349	84,553	111,158	17,043	197
	March	2,091	72,369	2,556	77,016	112,347	17,269	182
	April	2,083	83,287	2,612	87,982	116,101	17,386	164
	May	2,145	95,699	2,782	100,626	118,940	16,972	167
	June	2,215	105,611	2,923	110,749	120,186	17,581	167
	July	2,241	104,606	2,849	109,696	121,509	17,580	176
	August	2,208	106,915	3,140	112,263	119,358	17,389	173
	September	2,224	109,748	3,187	115,159	121,115	17,538	181
	October	2,220	115,943	3,431	121,594	117,681	17,355	189
	November	2,199	124,058	3,118	129,376	112,219	17,240	199
	December	2,178	123,017	3,027	128,222	102,401	16,385	198
1979	January	2,154	114,941	2,814	119,909	R89,583	15,635	181
	February	2,136	109,532	2,726	114,394	R82,078	15,541	166
	March	2,170	113,660	2,704	118,533	R96,034	16,386	170
	April	2,220	120,874	2,680	125,774	R99,501	16,835	170
	May	2,231	128,950	2,600	133,781	R106,018	16,975	159
	June	2,233	131,787	2,495	136,515	R104,514	17,180	150
	July	2,290	126,327	2,478	131,094	R104,170	17,579	160
	August	2,328	128,734	3,170	134,231	R103,965	17,910	163
	September	2,385	133,608	3,139	139,133	R104,857	18,733	164
	October	2,452	R144,059	3,462	R149,973	R109,583	R19,415	170
	November	2,496	152,253	3,393	158,142	110,740	19,689	170

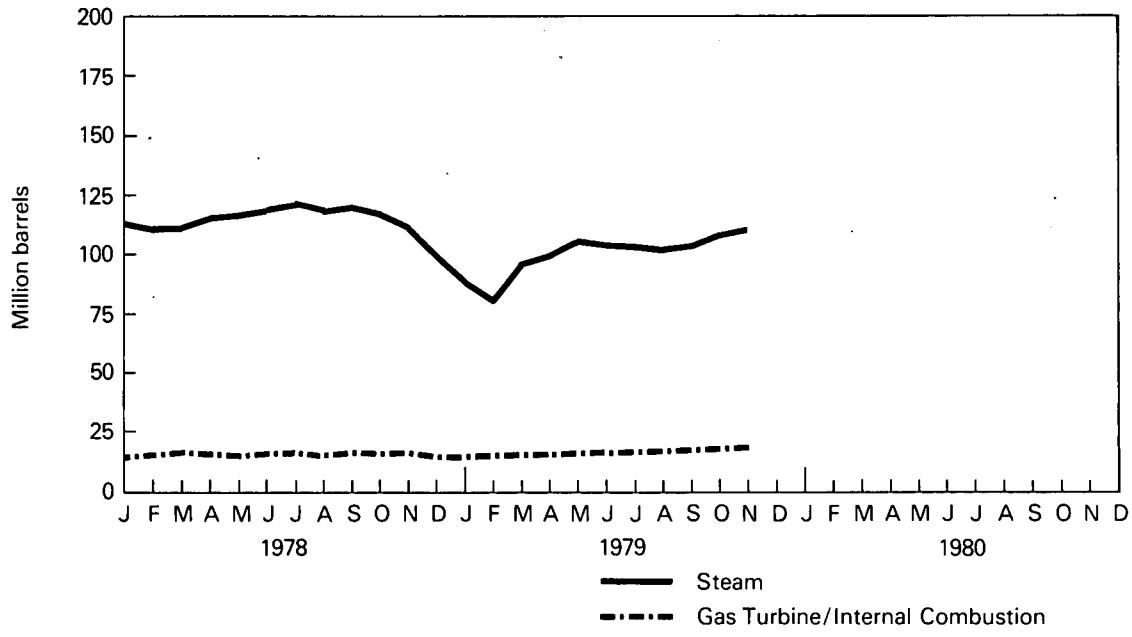
Totals may not equal sum of components due to independent rounding.
‡Total as of December 31.
R = Revised data.
Source: • Federal Power Commission Form 4, "Monthly Power Plant Report."

Electric Utilities

Coal Stocks (Bituminous, Lignite, and Anthracite)



Petroleum Stocks



Part 8

Nuclear Power

Nuclear Power

During December, the 71 operational nuclear powerplants generated 20.8 billion net kilowatt-hours* of electricity, approximately 10.8 percent of total net domestic electricity for the month. Nuclear generation for December 1979 represented an increase of 8.2 percent and a decrease of 18.1 percent, respectively, from November 1979 and December 1978 generations.

The total of 186 domestic nuclear powerplants planned or operating in December 1979 reflects a decrease of 2 from November 1979 and a decrease of 20 from December 1978.

*Preliminary data.

Nuclear Power

Domestic Nuclear Powerplant Operations

		Maximum Dependable Capacity[1] All Plants[2]	Capacity Factor[3]	Electricity Generation[4]	Nuclear Portion of Domestic Electricity Generation
		Million net kilowatts	Percent	Million net kilowatt-hours	Percent
1973	**AVERAGE**	**13.850**	**63.2**	**83,479**	**4.5**
1974	**AVERAGE**	**29.921**	**43.5**	**113,976**	**6.1**
1975	**AVERAGE**	**35.671**	**55.2**	**172,505**	**9.0**
1976	**AVERAGE**	**40.642**	**53.5**	**191,104**	**9.4**
1977	**AVERAGE**	**45.554**	**62.9**	**250,883**	**11.8**
1978	January	47.167	73.6	25,833	13.1
	February	48.080	67.6	21,833	12.6
	March	48.062	62.8	22,449	13.0
	April	48.926	50.0	17,580	11.0
	May	48.924	56.1	20,416	11.6
	June	49.714	62.0	22,185	11.8
	July	49.719	67.6	25,007	12.3
	August	49.815	69.1	25,599	12.4
	September	49.815	61.9	22,189	12.0
	October	50.776	60.9	22,997	13.1
	November	50.776	68.1	24,901	14.1
	December	50.774	67.3	25,415	13.2
	AVERAGE	**49.385**	**63.9**	**276,403**	**12.5**
1979	January	50.771	73.6	27,792	13.3
	February	50.720	76.0	25,911	13.9
	March	50.720	64.5	24,335	13.3
	April	50.705	50.5	18,418	10.8
	May	50.705	39.8	15,025	8.4
	June	50.705	44.0	16,065	8.6
	July	50.759	55.1	20,825	10.3
	August	50.732	64.1	24,204	11.8
	September	50.781	59.6	21,804	12.1
	October	50.814	55.7	21,068	11.7
	November	R49.917	53.6	R19,255	R10.9
	December†	49.917	56.1	20,828	10.8
	AVERAGE	**50.604**	**57.6**	**255,530**	**11.4**

[1]See Explanatory Note 11 and Definitions.
[2]Includes all units authorized to generate commercial electricity, including units in start-up testing (see definitions) and those owned by the Government.
[3]Average percentage of Maximum Dependable Capacity utilized yearly or monthly.
[4]Annual figures for 1973–1977 and monthly figures for 1978–1979 represent totals rather than averages.
†Preliminary data.
R = Revised data.
Sources: • Capacity data for units in commercial operation or start-up testing—Nuclear Regulatory Commission.
• Average power data for December 1979 computed from *Nucleonics Week* magazine.
• Nuclear Regulatory Commission Report NUREG 0020, "Operating Units Status Report."
• Remaining data from Federal Power Commission Form 4, "Monthly Power Plant Report."

Nuclear Power

Status of Nuclear Powerplants[1]

		In Operation or Start-up Testing[2]	Construction Permits Granted	Construction Permits Pending	Plants Ordered	Plants Announced	Total
1974		**53**	**58**	**80**	**28**	**16**	**235**
1975		**56**	**69**	**73**	**19**	**19**	**236**
1976		**62**	**72**	**66**	**16**	**19**	**235**
1977		**67**	**80**	**52**	**13**	**9**	**221**
1978	January	68	86	44	13	9	220
	February	69	86	43	13	9	220
	March	69	86	45	11	9	220
	April	69	90	41	11	5	216
	May	69	90	39	10	6	214
	June	70	89	39	9	7	214
	July	70	89	37	10	7	214
	August	70	89	37	10	6	212
	September	70	89	37	9	6	212
	October	70	89	37	9	6	211
	November	71	90	34	9	6	210
	December	71	90	32	9	4	206
1979	January	71	92	30	5	1	199
	February	71	92	28	5	1	197
	March	71	92	28	5	1	197
	April	71	92	27	5	0	195
	May	71	92	27	5	0	195
	June	71	92	27	5	0	195
	July	71	91	25	5	0	192
	August	71	91	25	5	0	192
	September	71	91	25	3	0	190
	October	71	91	25	3	0	190
	November	71	91	23	3	0	188
	December	71	91	21	3	0	186

[1]Monthly data are recorded the last day of the month. Annual data are recorded as of December 31 of each year.
[2]Includes Humboldt Bay shut-down for seismic modifications, and Three Mile Island 2 which was shut down due to an accident in March of 1979. Also includes two dual-purpose Department of Energy owned reactors, both operating. Does not include the Indian Point reactor which is in indefinite shut-down status.
Sources: • Compiled by the Energy Information Administration from various sources, but primarily from the Nuclear Regulatory Commission (NRC), Report NUREG 0380, "Program Summary Report."

Price

Crude Oil

During November 1979, the composite refiner acquisition cost of crude oil was $22.04 per barrel, $1.36 per barrel above the previous month's price. The imported price increased $1.97 per barrel from the October level to $27.02 per barrel in November. This price was 83.3 percent above the November 1978 level. The domestic average was $17.65, an increase of 72 cents per barrel above the October average.

The average price of domestic crude oil purchased at the wellhead was $14.06 per barrel in August 1979. The Alaskan North Slope price of $14.14 per barrel was 5.9 percent above the July 1979 figure. Actual stripper's price of $26.01 per barrel was a 5.0 percent increase over the July 1979 price, and Naval Petroleum Reserve crude oil price of $20.77 per barrel increased 3.2 percent over the July 1979 level. The upper tier price of $13.38 per barrel increased by 4.6 percent over the previous month's figure, and the lower tier price of $6.09 per barrel increased 1.5 percent over the July 1979 price.

Motor Gasoline

The national average retail price for all grades and all types of motor gasoline was 101.9 cents per gallon in November. Leaded regular gasoline at full serve stations sold for an average of 100.6 cents per gallon in November, 1.1 cents higher than the price in October. The price for unleaded regular gasoline at full serve stations was 105.3 cents per gallon in November, 1.0 cent higher than in October. The differential between unleaded regular and leaded regular decreased to 4.7 cents per gallon.

Heating Oil

The national average price of heating oil sold to residential customers rose 1.4 cents in November to 83.7 cents per gallon. The resulting figure was a 62.5 percent increase from the price of November 1978. The average residential distributor margin in November was 15.2 cents per gallon, 35.7 percent above the margin of November 1978. Refiner's national average selling price to resellers and retailers was 68.8 cents per gallon, 74.6 percent above the November 1978 average.

Residual Fuel Oil

The average price, excluding taxes, for No. 6 residual fuel oil sold to utilities, industry, and other ultimate consumers in November 1979 was $22.84 per barrel, $1.25 above the previous month's price, and 71.2 percent over the November 1978 average. The average price, excluding taxes, for No. 6 residual fuel oil sold to resellers, bulk plants, jobbers, and other wholesale accounts was $22.00 per barrel, $1.12 above the October 1979 average, and a 78.0 percent increase over the November 1978 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 November 1979 was 69.5 cents per gallon, or 1.1 cents over the previous month's average and a 76.4 percent increase over the November 1978 average.

Liquefied Petroleum Gases

The average wholesale price for propane during November 1979, excluding taxes, was 36.9 cents per gallon, 1.7 cents above the previous month's level. This was 67.0 percent above the November 1978 level.

In November 1979, the average wholesale price for butane, excluding taxes, was 57.0 cents per gallon, 0.9 cent above the previous month's price. This was 159.1 percent above the November 1978 average.

Price

Price

Domestic Prices and Percentages of Crude Oil Purchased at the Wellhead[1]

		Lower Tier[2]		Upper Tier[2]		Actual Stripper[3]		Alaskan North Slope[4]		Naval Petroleum Reserve[5]		Actual Domestic Average[6]	Imputed Domestic Average[6]
		Dollars per barrel											
		Price	Percent	Price	Percent	Price	Percent	Price	Percent	Price	Percent	Price	Price
1976	**AVERAGE**	**5.13**	**54.4**	**11.71**	**31.5**	**12.16**	**14.1**	**NA**	**NA**	**NA**	**NA**	**8.19**	**8.06**
1977	January	5.17	50.6	11.44	36.7	13.27	12.7	NA	NA	NA	NA	8.50	8.28
	February	5.18	49.5	11.39	37.2	13.32	13.3	NA	NA	NA	NA	8.57	8.33
	March	5.15	49.2	11.03	37.2	13.31	13.6	NA	NA	NA	NA	8.45	8.19
	April	5.15	49.5	10.97	36.9	13.28	13.6	NA	NA	NA	NA	8.40	8.14
	May	5.18	48.4	10.98	37.6	13.26	14.0	NA	NA	NA	NA	8.49	8.23
	June	5.16	48.8	10.92	37.0	13.28	14.2	NA	NA	NA	NA	8.44	8.17
	July	5.16	46.75	11.00	36.59	13.31	13.30	6.84	2.58	12.21	0.75	8.48	8.21
	August	5.18	43.31	10.93	36.65	13.95	13.32	6.91	5.79	12.29	0.91	8.62	8.25
	September	5.20	42.78	11.20	34.07	14.01	13.14	6.98	9.06	12.33	0.91	8.63	8.26
	October	5.23	42.23	11.42	34.58	14.01	12.92	6.66	9.09	12.38	1.15	8.72	8.36
	November	5.24	41.41	11.63	34.67	13.98	13.00	5.73	9.84	12.40	1.05	8.72	8.35
	December	5.25	40.42	11.76	34.61	13.98	13.00	5.73	10.92	12.36	1.03	8.77	8.40
	AVERAGE	**5.19**	**45.92**	**11.22**	**36.11**	**13.59**	**13.32**	**6.35**	**4.14**	**12.34**	**0.51**	**8.57**	**8.27**
1978	January	5.28	41.73	11.78	34.19	13.89	12.69	5.30	10.17	12.38	1.19	8.68	8.34
	February	5.29	40.78	11.81	34.35	13.90	13.68	5.68	9.94	12.46	1.23	8.84	8.48
	March	5.34	39.24	11.87	34.06	13.97	13.98	5.00	11.76	12.60	0.92	8.80	8.41
	April	5.35	37.94	11.94	34.04	13.95	13.72	5.15	13.26	12.67	1.02	8.82	8.44
	May	5.38	38.16	11.98	34.03	13.93	13.76	4.87	13.05	12.70	0.97	8.81	8.43
	June	5.46	36.79	12.08	35.01	13.95	13.89	5.63	13.45	13.08	0.84	9.05	8.68
	July	5.46	37.61	12.16	34.39	13.95	13.55	5.26	13.46	13.07	0.97	8.96	8.62
	August	5.50	36.49	12.22	34.45	13.93	14.42	5.09	13.66	13.04	0.95	9.05	8.67
	September	5.55	35.92	12.35	34.64	13.96	14.44	5.12	13.79	13.17	1.18	9.15	8.78
	October	5.60	36.27	12.42	34.38	13.97	14.15	5.21	13.95	13.08	1.22	9.17	8.81
	November	5.65	36.22	12.53	34.56	13.94	14.02	5.12	14.08	13.00	1.09	9.20	8.85
	December	5.68	33.65	12.59	34.74	14.08	15.88	5.40	14.42	12.92	1.28	9.47	9.07
	AVERAGE	**5.46**	**37.54**	**12.15**	**34.41**	**13.95**	**14.03**	**5.22**	**12.96**	**12.85**	**1.08**	**9.00**	**8.63**
1979	January	5.75	35.51	12.66	34.25	14.55	14.14	5.79	14.88	13.10	1.20	9.46	9.04
	February	5.76	35.20	12.78	34.97	14.88	15.08	5.87	13.71	13.94	1.01	9.69	9.21
	March	5.82	34.59	12.84	34.56	14.88	14.95	6.66	14.58	13.97	1.29	9.83	9.37
	April	5.85	33.98	12.94	34.93	16.71	15.27	7.45	14.52	14.56	1.28	10.33	9.60
	May	5.91	33.53	13.02	34.78	17.53	15.62	8.47	14.71	15.85	1.32	10.71	9.86
	June	6.07	R29.32	13.14	38.22	20.24	R15.97	8.97	R13.64	16.02	1.34	R11.70	10.48
	July	6.00	R26.96	12.79	37.49	24.76	16.01	13.35	R15.86	20.13	1.38	R13.39	11.31
	Augustt	6.09	R26.03	13.38	R36.72	26.01	R16.93	14.14	15.82	20.77	1.33	R14.00	11.88

[1]See Explanatory Note 12.
[2]See Definitions.
[3]Stripper oil was exempt from price controls beginning September 1, 1976. From February through August 1976 stripper oil was subject to upper tier price ceilings. Annual average is for 12 months (January through December 1976).
[4]Alaskan North Slope (ANS) crude oil prices are treated as Upper Tier for determining the applicable wellhead ceiling price. ANS is included in both the Actual Domestic Average and the Imputed Domestic Average price determinations.
[5]The Naval Petroleum Reserves (NPR) are exempt from pricing regulations but have been reported here as Upper Tier prior to July 1977. NPR is included in the Actual Domestic Average price determinations, but not in the Imputed Domestic Average.
[6]See Explanatory Note 13.
†Preliminary data.
R = Revised data.
NA = Not available.
Note: In June 1979, new categories of oil were adopted (10 CFR 212). These categories are not detailed above, consequently the components shown for months since May do not add to 100 percent. The shortfall (about 4 percent in August) includes incremental tertiary, newly discovered, and marginal property categories. These items are included in the Domestic Averages.
Sources: • January 1976: FEA Form 90, "Crude Petroleum Production Monthly Report."
- February 1976 through August 1976: FEA Form P124-M-0, "Domestic Crude Oil Purchasers Report" for Lower Tier percentages and EIA estimates for Upper Tier percentages.
- September 1976 forward: FEA Form P124-M-0, "Domestic Crude Oil Purchasers Report." Data provided by the Economic Regulatory Administration.

Price

FOB Cost of Crude Oil Imports from Selected Countries[1]

		Algeria	Canada	Indonesia	Iran	Libya	Mexico	Nigeria	Saudi Arabia	United Arab Emirates	United Kingdom	Venezuela
							Dollars per barrel					
1976	**AVERAGE**	**13.05**	**NA**	**12.76**	**11.61**	**12.55**	**NA**	**13.08**	**11.69**	**11.94**	**NA**	**11.32**
1977	January	14.03	NA	13.41	12.03	13.64	13.39	14.11	11.92	12.53	NA	13.39
	February	14.31	NA	13.43	12.36	13.89	13.42	14.24	12.04	12.33	NA	13.30
	March	14.29	NA	13.58	12.79	13.87	13.40	14.32	12.24	12.51	NA	12.98
	April	14.34	NA	13.55	12.79	13.98	13.38	14.51	12.23	12.53	NA	12.62
	May	14.31	NA	13.57	12.78	13.93	13.42	14.56	12.23	12.56	NA	12.60
	June	14.35	NA	13.55	12.68	13.94	13.41	14.55	12.21	12.44	NA	12.53
	July	14.43	NA	13.61	12.78	13.99	13.42	14.52	12.40	12.70	NA	12.48
	August	14.48	NA	13.63	12.80	13.95	13.45	14.54	12.56	13.15	NA	12.37
	September	14.43	NA	13.64	12.73	13.99	13.43	14.56	12.72	13.20	NA	12.55
	October	14.43	NA	13.65	12.79	13.93	13.42	14.48	12.70	13.22	NA	12.72
	November	14.37	NA	13.65	12.75	13.88	13.41	14.53	12.73	13.33	NA	12.71
	December	14.44	NA	13.61	12.71	13.85	13.41	14.45	12.77	13.27	NA	12.56
1978	January	14.29	NA	13.67	12.62	13.77	13.45	14.18	12.70	13.23	NA	12.73
	February	14.21	NA	13.62	12.68	13.91	13.43	14.18	12.78	13.18	NA	12.61
	March	14.19	NA	13.62	12.68	13.75	13.44	14.13	12.80	13.20	13.80	12.86
	April	14.09	NA	13.61	12.68	13.62	13.42	13.91	12.74	13.23	13.65	12.54
	May	13.99	NA	13.51	12.65	13.59	13.42	13.90	12.71	13.05	13.64	12.13
	June	14.06	NA	13.63	12.58	13.59	13.32	13.90	12.67	13.28	13.65	12.32
	July	14.06	NA	13.63	12.70	13.67	13.13	13.89	12.65	13.26	13.72	12.66
	August	14.05	NA	13.63	12.63	13.66	13.17	13.86	12.66	13.27	13.80	12.23
	September	14.05	NA	13.69	12.63	13.66	13.13	13.97	12.76	13.27	13.74	12.38
	October	14.08	NA	13.63	12.64	13.73	13.15	14.08	12.59	13.24	14.14	12.32
	November	14.13	NA	13.79	12.62	13.97	13.17	14.12	12.63	13.29	13.85	12.46
	December	14.16	NA	13.65	12.67	14.07	13.13	14.29	12.77	13.39	14.06	12.42
1979	January	14.87	NA	14.06	12.55	14.60	13.94	14.84	13.26	13.98	15.41	13.69
	February	14.89	NA	14.18	12.56	15.15	14.17	14.98	13.47	14.28	15.33	13.26
	March	15.54	NA	14.42	19.04	16.46	14.14	15.07	13.61	15.72	16.13	13.88
	April	16.80	NA	15.98	17.96	17.40	17.02	18.18	14.77	16.24	17.40	14.58
	May	19.14	NA	16.84	17.27	19.13	18.56	20.02	14.62	17.38	18.39	15.76
	June	21.04	NA	18.59	19.95	20.87	17.43	22.11	17.98	18.91	20.88	16.01
	July	22.42	NA	20.95	21.99	23.88	22.29	24.46	18.54	21.33	23.14	18.22
	August	23.44	NA	21.65	21.40	24.93	22.56	25.43	18.32	21.45	23.88	18.66
	September	23.60	NA	22.11	27.27	25.17	22.32	25.77	18.72	22.93	22.93	18.14
	October	24.40	NA	24.39	31.80	27.39	24.43	26.33	21.44	21.85	NA	22.36

[1]The FOB cost excludes all costs related to insurance and transportation. See Explanatory Note 14.
NA = Not available.
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 Countries[1]

		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	January	14.80	13.92	14.42	13.16	14.64	13.78	14.97	13.22	13.56	NA	13.29
	February	15.18	13.74	14.57	13.56	15.12	13.92	15.12	13.32	13.46	NA	13.76
	March	15.08	14.34	14.64	13.94	14.88	13.77	15.13	13.50	13.80	NA	13.41
	April	15.21	14.02	14.70	13.95	15.12	13.66	15.37	13.41	13.78	NA	13.19
	May	15.20	14.94	14.59	13.94	14.91	13.80	15.40	13.49	13.85	NA	13.10
	June	15.34	14.49	14.63	13.81	14.92	13.81	15.37	13.39	13.72	NA	13.06
	July	15.29	13.91	14.75	13.84	14.88	13.87	15.39	13.64	14.20	NA	13.02
	August	15.24	14.24	14.65	13.99	14.70	13.84	15.25	13.72	14.36	NA	12.82
	September	15.29	14.14	14.62	13.77	14.99	13.72	15.34	14.01	14.41	NA	13.08
	October	15.41	14.00	14.67	13.83	14.81	13.71	15.31	13.85	14.56	NA	13.16
	November	15.05	14.52	14.73	13.88	14.73	13.79	15.23	13.94	14.19	NA	13.11
	December	15.25	14.27	14.58	13.95	14.81	13.69	15.21	13.99	14.48	NA	12.99
	AVERAGE	**15.20**	**14.21**	**14.63**	**13.80**	**14.87**	**13.75**	**15.25**	**13.61**	**14.04**	**NA**	**13.13**
1978	January	15.01	14.37	14.60	13.91	14.63	13.83	14.88	13.93	14.40	NA	13.00
	February	14.91	14.31	14.53	13.75	14.85	13.67	14.90	13.96	14.07	NA	12.93
	March	14.74	13.56	14.56	14.06	14.62	13.66	14.89	14.07	14.44	14.75	13.22
	April	14.91	13.87	14.61	13.90	14.43	13.63	14.63	13.85	14.42	14.26	12.89
	May	14.70	14.39	14.50	13.94	14.56	13.65	14.72	13.86	14.20	14.35	12.49
	June	14.80	15.07	14.58	13.92	14.45	13.51	14.61	13.86	14.48	14.19	12.72
	July	14.83	14.64	14.73	13.93	14.65	13.35	14.64	13.81	14.29	13.81	12.41
	August	14.83	14.78	14.66	13.76	14.64	13.52	14.59	13.84	14.49	14.48	12.70
	September	14.74	13.92	14.73	13.83	14.62	13.45	14.78	14.03	14.36	14.53	12.94
	October	14.90	14.73	14.68	13.89	14.81	13.39	15.03	13.89	14.61	14.85	12.78
	November	15.30	14.72	14.85	13.89	15.04	13.61	15.06	14.02	14.38	14.81	13.08
	December	15.27	14.96	14.80	13.80	15.23	13.50	15.30	14.00	14.66	15.00	13.02
	AVERAGE	**14.91**	**14.50**	**14.64**	**13.88**	**14.72**	**13.54**	**14.86**	**13.92**	**14.39**	**NA**	**12.83**
1979	January	15.88	16.19	15.29	13.76	15.81	14.51	15.88	14.73	15.53	16.29	14.16
	February	16.18	16.68	15.62	14.25	16.49	14.76	16.13	14.88	16.05	16.07	14.17
	March	16.61	17.18	15.68	19.54	17.56	14.81	16.20	15.28	17.10	15.91	14.61
	April	17.93	17.39	17.31	19.06	18.59	17.40	19.11	16.18	17.70	18.23	15.19
	May	20.22	20.22	17.92	18.56	20.16	18.82	21.06	16.29	18.65	19.26	16.74
	June	22.52	NA	18.59	19.95	20.87	17.42	22.11	17.98	18.91	20.88	16.01
	July	23.54	NA	22.50	23.35	25.48	22.74	25.79	20.06	22.84	23.96	18.95
	August	24.85	NA	23.10	22.64	26.27	23.12	26.72	19.85	23.12	25.05	19.42
	September	25.09	NA	23.72	28.36	26.54	23.23	27.03	20.36	24.59	24.18	18.99
	October	25.59	NA	26.36	33.17	28.56	24.98	27.41	22.99	23.98	NA	23.05

[1]See Explanatory Note 15.
NA = Not available.
Sources: • 1975 through January 1979: FEA Form F701-M-0, "Transfer Pricing Report." Data provided by the Economic Regulatory Administration.
• February 1979 forward: ERA 51, "Transfer Pricing Report."

Price

Crude Oil Refiner Acquisition Cost[1]

		Domestic	Imported	Composite
		Dollars per barrel		
1976	**AVERAGE**	**8.84**	**13.48**	**10.89**
1977	January	9.23	14.11	11.64
	February	9.24	14.50	11.80
	March	9.32	14.54	11.88
	April	9.21	14.36	11.75
	May	9.21	14.62	11.87
	June	9.34	14.63	11.98
	July	9.32	14.44	11.90
	August	9.54	14.68	12.01
	September	9.75	14.50	12.01
	October	9.95	14.56	12.12
	November	10.17	14.61	12.18
	December	10.15	14.76	12.27
	AVERAGE	**9.55**	**14.53**	**11.96**
1978	January	10.14	14.52	12.13
	February	10.25	14.41	12.19
	March	10.46	14.57	12.23
	April	10.55	14.40	12.20
	May	10.60	14.51	12.35
	June	10.72	14.54	12.48
	July	10.58	14.49	12.45
	August	10.65	14.46	12.46
	September	10.65	14.53	12.57
	October	10.78	14.63	12.62
	November	10.87	14.74	12.76
	December	11.00	14.94	12.93
	AVERAGE	**10.61**	**14.57**	**12.46**
1979	January	11.02	15.50	13.11
	February	11.34	15.88	13.42
	March	11.45	16.41	13.70
	April	12.06	17.58	14.52
	May	12.41	19.00	15.40
	June	13.24	21.03	17.00
	July	14.61	23.09	18.58
	August	15.73	23.98	19.75
	September	16.05	25.06	20.14
	October	16.93	25.05	20.68
	November	17.65	27.02	22.04

[1]See Explanatory Note 16.

Note: Crude oil costs and volumes reported on the ERA 49 exclude unfinished oils but include Strategic Petroleum Reserve (SPR). Crude oil costs and volumes reported on the P-110-M-1 include unfinished oils but exclude SPR. Imported averages derived from the Economic Regulatory Administration (ERA) Form 49 exclude crude oil purchased as Strategic Petroleum Reserves (SPR), whereas, the composite averages derived from the ERA 49 include SPR.

Sources: • 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 forward: Economic Regulatory Administration Form 49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report."

Price

Unrecouped Costs for Refined Products for 29 Largest Refiners[1]

		Distillate[2]	Motor Gasoline	Aviation Jet Fuel[3]	Other Products	Total
				Million dollars		
1977	January	NA	901	166	325	1,392
	February	NA	1,038	187	303	1,528
	March	NA	956	180	287	1,423
	April	NA	1,029	194	343	1,566
	May	NA	967	224	351	1,542
	June	NA	957	234	344	1,535
	July	NA	869	210	391	1,470
	August	NA	764	279	455	1,498
	September	NA	784	186	500	1,470
	October	NA	879	248	511	1,638
	November	NA	904	218	538	1,660
	December	NA	818	185	470	1,473
1978	January	NA	1,055	191	420	1,666
	February	NA	1,265	198	435	1,898
	March	NA	1,065	175	378	1,618
	April	NA	1,013	170	400	1,583
	May	NA	849	186	500	1,535
	June	NA	718	180	562	1,460
	July	NA	713	136	449	1,298
	August	NA	353	74	461	888
	September	NA	554	155	491	1,200
	October	NA	627	131	701	1,459
	November	NA	709	102	540	1,351
	December	NA	532	94	791	1,417
1979	January	NA	836	64	799	1,699
	February	NA	1,110	36	842	1,988
	March	NA	1,551	NA	837	2,388
	April	NA	2,067	NA	1,649	3,716
	May	NA	2,245	NA	1,848	4,093
	June	NA	2,737	NA	1,754	4,491
	July	NA	2,989	NA	2,087	5,076
	August	NA	2,865	NA	2,331	5,196
	September	NA	3,176	NA	2,384	5,560
	October†	NA	3,158	NA	2,303	5,461

[1]Beginning with February 1977, data for only 29 refiners are included in this table due to the merger between Skelly Oil Company and Getty Oil Company.
[2]Includes No. 2 heating oil and No. 2 diesel fuel only. After May 1976, reporting of the distillate bank is no longer required due to decontrol of middle distillates. Aviation jet fuel was decontrolled on February 26, 1979.
[3]After February 1979, reporting of aviation jet fuel bank is no longer required due to the decontrol of kerosene-base jet fuel and aviation gasoline.
†Preliminary data.
NA = Not available.
Sources: • January 1977 through June 1978: FEA Form P110-M-1, "Refiners' Monthly Cost Allocation Report."
• July 1978 forward: EIA Form 14, "Refiners' Monthly Cost Allocation Report." Data provided by the Economic Regulatory Administration.

Price

Crude Oil Entitlements and Supply Ratio

		Entitlement Price[1] Dollars	National Old Oil (or Domestic Crude Oil) Supply Ratio[1]	Entitlement Benefit[1] Dollars
1977	January	8.30	0.266	2.21
	February	8.53	0.267	2.28
	March	8.71	0.273	2.38
	April	8.69	0.285	2.48
	May	8.77	0.280	2.46
	June	8.65	0.273	2.36
	July	8.68	0.258	2.24
	August	8.75	0.266	2.33
	September	8.75	0.250	2.19
	October	8.78	0.250	2.20
	November	8.61	0.239	2.06
	December	8.65	0.233	2.02
1978	January	8.61	0.240	2.07
	February	8.48	0.230	1.95
	March	8.47	0.225	1.91
	April	8.35	0.218	1.82
	May	8.26	0.197	1.63
	June	8.19	0.191	1.56
	July	8.16	0.184	1.50
	August	8.06	0.165	1.33
	September	8.13	0.174	1.41
	October	8.11	0.178	1.44
	November	8.16	0.166	1.35
	December	8.20	0.155	1.27
1979	January	8.74	0.178	1.56
	February	9.03	0.185	1.67
	March	9.50	0.189	1.80
	April	10.53	0.196	2.06
	May	11.74	0.208	2.44
	June	13.70	0.220	3.01
	July	16.01	0.221	3.54
	August	17.26	0.218	3.78
	September	17.97	0.218	3.92
	October	18.27	0.219	4.00
	November	20.12	0.218	4.39

[1]See Definitions.
Source: • Economic Regulatory Administration Form 49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report."

Price

National Average Retail Dealer Motor Gasoline Selling Prices

		Leaded Regular		Unleaded Regular		Leaded Premium		Unleaded Premium		Average for All Grades
		Full Serve	Self Serve	Full Serve	Self Serve	Full Serve	Self Serve	Full Serve	Self Serve	
		Cents per gallon, including tax								
1976	**AVERAGE**	**58.7**	**55.4**	**62.5**	**NA**	**63.8**	**60.7**	**NA**	**NA**	**NA**
1977	January	59.9	56.2	64.0	NA	65.2	61.7	68.4	NA	NA
	February	60.7	57.1	65.0	NA	66.1	62.7	67.2	NA	NA
	March	61.3	57.7	65.4	NA	66.8	63.3	70.7	NA	NA
	April	62.2	58.4	66.1	NA	67.6	64.1	71.7	NA	NA
	May	62.9	58.9	66.7	NA	68.4	64.8	71.2	NA	NA
	June	63.4	59.3	67.2	NA	68.9	65.2	71.7	NA	NA
	July	63.4	59.2	67.3	NA	68.9	65.2	71.4	NA	NA
	August	63.4	58.8	67.0	63.7	68.9	65.8	71.4	NA	NA
	September	63.3	58.5	67.0	63.7	68.9	65.8	71.3	NA	NA
	October	63.2	58.2	67.0	63.6	68.9	65.7	71.3	NA	NA
	November	63.1	58.1	67.0	63.4	68.9	65.6	71.3	NA	NA
	December	63.3	58.2	67.2	63.6	69.1	65.8	70.6	NA	NA
	AVERAGE	**62.6**	**58.2**	**66.4**	**63.6**	**68.1**	**64.7**	**71.0**	**NA**	**NA**
1978	January	61.7	57.2	65.8	61.6	67.7	63.5	69.6	66.0	63.1
	February	61.6	57.1	65.7	61.8	67.7	64.0	NA	66.1	63.0
	March	61.7	57.0	65.8	61.8	68.0	63.9	69.7	66.0	63.0
	April	61.9	57.2	66.1	62.0	68.3	64.3	70.4	NA	63.2
	May	62.5	58.2	66.9	62.9	69.0	65.3	NA	NA	64.0
	June	63.4	59.0	67.8	64.0	70.0	66.2	NA	NA	64.8
	July	64.6	60.6	68.8	65.6	71.1	68.2	73.5	70.3	66.1
	August	65.4	61.2	69.8	66.2	72.0	68.8	74.4	71.3	66.8
	September	65.8	61.7	70.2	66.9	72.4	69.2	75.2	71.3	67.2
	October	65.9	61.5	70.2	66.7	72.5	69.3	74.8	71.8	67.2
	November	66.7	62.3	71.1	67.7	73.3	70.1	76.3	73.9	68.2
	December	67.5	63.4	71.7	68.7	73.7	71.0	77.1	74.7	68.9
	AVERAGE	**63.9**	**59.8**	**68.4**	**64.9**	**69.4**	**67.1**	**72.8**	**69.7**	**65.5**
1979	January	68.4	64.0	72.9	69.3	74.8	71.3	78.6	75.1	69.8
	February	69.9	65.4	74.5	70.4	76.2	72.8	80.8	77.0	71.0
	March	72.6	68.7	77.4	73.9	78.9	76.0	83.7	78.8	74.0
	April	76.8	73.7	81.6	78.5	83.5	81.7	86.2	82.5	78.4
	May	81.2	78.6	85.8	83.2	88.0	86.4	89.9	86.3	82.9
	June	86.3	83.8	90.9	88.3	92.9	91.8	94.5	91.3	87.9
	July	91.3	88.4	95.6	92.6	96.9	95.2	100.4	97.8	92.6
	August	95.6	92.0	100.1	96.5	101.8	99.1	105.6	101.6	96.7
	September	98.2	94.3	103.2	99.3	105.4	102.2	108.9	104.4	99.4
	October	R99.5	R95.1	R104.3	R100.0	R106.5	R102.9	110.1	106.1	100.5
	November†	100.6	97.1	105.3	101.9	106.8	105.1	110.8	107.4	101.9
	AVERAGE	**85.3**	**81.7**	**90.9**	**87.2**	**90.0**	**87.0**	**95.8**	**91.9**	**87.0**

†Preliminary data.
R = Revised data.
NA = Not available.
Note: "Average for all grades" excludes mini-serve for January 1978 through June 1978. Mini-serve is included from July 1978 forward. No. 2 diesel fuel is included in the "Average for All Grades" beginning July 1979.
Sources: • January 1976 through December 1977: Lundberg Survey, Inc.
• January 1978 through June 1978: EIA 8, "Retail Motor Fuels Service Station Survey".
• July 1978 forward: EIA 79, "Monthly Motor Gasoline Service Station Survey".

Price

Average Retail Dealer Motor Gasoline Selling Prices for Major[1] and Nonmajor Brands—September, October, and November 1979

	Full Serve			Self Serve			Full Serve			Self Serve		
	Sept.	Oct.	Nov.†	Sept.	Oct.	Nov.†	Sept.	Oct.	Nov.†	Sept.	Oct.	Nov.†
	Leaded Regular						Unleaded Regular					
	Cents per gallon, including tax											
Major	98.9	R100.2	101.2	95.3	R96.2	97.9	103.8	R105.0	106.1	100.1	R101.2	102.9
Nonmajor	96.3	R97.8	100.3	93.2	R94.0	96.9	100.7	R101.7	104.9	98.1	R98.7	101.6
	Leaded Premium						Unleaded Premium					
Major	106.0	R107.1	107.9	103.3	R104.4	107.4	108.8	110.0	110.7	104.4	106.0	107.6
Nonmajor	101.8	R104.2	106.2	100.9	R101.2	104.3	NA	NA	110.9	NA	NA	107.2

Average Retail Dealer Motor Gasoline Selling Prices by Department of Energy (DOE) Regions[2]—September, October, and November 1979

DOE Region	Full Serve			Self Serve			Full Serve			Self Serve		
	Sept.	Oct.	Nov.†	Sept.	Oct.	Nov.†	Sept.	Oct.	Nov.†	Sept.	Oct.	Nov.†
	Leaded Regular						Unleaded Regular					
	Cents per gallon, including tax											
1	98.2	R99.0	100.4	96.3	R97.0	98.1	102.2	R103.2	104.2	100.5	R101.1	101.5
2	99.5	R100.4	101.5	97.2	R98.6	99.9	103.4	R104.4	105.4	102.2	R103.6	104.7
3	97.5	R98.6	100.0	95.0	95.5	97.7	101.4	102.5	103.8	99.2	99.7	101.6
4	96.1	R97.2	99.0	92.7	R93.5	95.2	101.2	R101.6	103.3	97.0	R98.1	99.5
5	99.5	R101.5	102.4	95.9	96.7	98.5	104.9	R106.6	107.6	101.0	101.6	103.3
6	93.6	R94.9	96.1	89.6	R90.8	92.9	97.4	R98.8	100.1	93.9	95.1	97.0
7	97.5	99.0	100.7	94.2	95.4	97.6	101.8	R103.2	105.3	98.8	99.9	101.8
8	98.2	99.3	101.3	93.2	R94.4	96.9	102.2	103.5	105.2	97.6	R98.7	100.8
9	101.9	R103.1	102.6	99.5	99.3	100.8	108.5	109.2	109.2	104.3	R104.2	106.1
10	99.8	R101.0	100.6	97.8	R99.4	100.3	105.2	106.1	106.1	103.1	R104.4	105.2
	Leaded Premium						Unleaded Premium					
1	103.4	R104.6	105.5	100.4	R101.7	NA	107.4	108.1	108.7	105.1	R107.8	109.4
2	104.7	R105.8	106.7	102.0	103.2	104.0	109.8	R110.8	115.5	111.5	R110.7	NA
3	102.8	R103.9	105.3	100.5	R101.6	102.6	108.0	108.4	110.2	106.0	R106.3	108.8
4	101.6	102.9	104.4	98.2	R99.3	100.6	106.9	R107.6	109.9	102.0	104.8	105.7
5	104.7	R108.0	106.2	102.4	R103.9	105.0	111.4	R113.1	113.4	107.6	R109.4	110.7
6	98.5	R100.5	100.3	95.1	R96.1	98.3	103.6	R104.4	105.5	97.3	R99.5	100.2
7	103.0	R103.2	106.6	99.6	99.8	102.0	106.8	108.3	109.9	105.4	R105.9	107.2
8	102.8	R104.3	105.8	98.9	R99.8	101.5	108.1	R109.2	110.6	105.4	R106.4	107.9
9	109.8	R110.9	110.3	106.1	R106.8	108.4	NA	NA	NA	NA	NA	NA
10	107.7	R107.8	108.5	105.9	R106.0	107.6	NA	NA	NA	NA	NA	NA

[1]See Explanatory Note 17.
[2]DOE regions are defined in Explanatory Note 18.
†Preliminary date.
R = Revised data.
NA = Not available.
Source: • EIA 79, "Monthly Motor Gasoline Service Station Survey."

Price

Aviation and Diesel Fuels

		Aviation					Diesel	
		Aviation Gasoline		Naphtha-Type[1]	Kerosene-Type		No. 2 Diesel	
		Wholesale[2]	Retail[2]	Retail[2]	Wholesale[2]	Retail[2]	Wholesale[3]	Retail[3]
		Cents per gallon, excluding tax						
1976	**AVERAGE**	**42.4**	**43.1**	**31.5**	**32.5**	**31.2**	**31.9**	**34.7**
1977	January	43.4	44.1	33.4	34.6	33.2	34.3	36.6
	February	44.7	45.0	34.0	37.1	34.1	35.3	38.2
	March	45.0	45.7	34.5	35.9	34.6	35.9	39.0
	April	46.0	47.2	34.3	35.9	34.9	36.1	39.6
	May	46.6	47.8	34.3	36.3	35.1	36.5	39.6
	June	46.7	47.6	35.1	36.8	35.7	36.3	39.6
	July	47.0	48.7	35.6	37.1	35.8	36.2	39.6
	August	47.9	50.1	35.5	36.6	36.0	36.2	39.5
	September	47.9	49.1	35.6	37.1	37.0	36.2	40.2
	October	48.1	49.0	35.7	37.3	37.3	36.5	40.3
	November	48.3	47.8	35.8	37.9	37.5	36.7	40.1
	December	47.8	48.1	36.2	37.2	37.8	36.6	39.9
	AVERAGE	**46.7**	**47.7**	**35.0**	**36.7**	**35.8**	**36.1**	**39.3**
1978	January	47.8	49.1	36.9	37.9	38.5	36.6	39.5
	February	48.3	48.4	36.5	38.3	38.2	36.6	39.8
	March	49.1	49.4	36.9	37.8	38.4	36.7	39.7
	April	49.5	51.5	36.8	38.1	38.5	36.5	39.6
	May	50.1	50.0	37.3	38.3	38.6	36.6	39.9
	June	50.4	52.8	37.2	38.9	38.9	36.7	40.1
	July	51.4	52.4	37.6	39.0	38.9	36.4	40.0
	August	52.0	54.0	37.5	38.9	39.3	36.6	40.0
	September	52.6	54.0	37.8	39.2	39.3	37.1	39.8
	October	52.5	56.1	38.5	39.7	39.3	37.7	40.9
	November	53.4	51.4	38.5	40.2	39.4	38.6	41.7
	December	53.2	54.3	38.4	40.6	39.5	39.1	42.0
	AVERAGE	**51.0**	**52.1**	**37.5**	**38.9**	**38.9**	**37.1**	**40.2**
1979	January	54.1	53.9	38.6	42.2	40.1	39.7	43.0
	February	54.6	55.1	39.1	44.3	40.2	41.8	46.1
	March	56.6	56.8	40.7	54.8	41.3	44.5	47.9
	April	58.2	59.1	43.2	60.1	45.4	47.7	50.6
	May	60.6	61.2	44.1	58.1	48.4	53.4	56.1
	June	64.8	66.8	49.5	59.9	50.9	58.7	65.0
	July	70.0	71.8	50.4	67.1	58.2	62.4	68.9
	August	74.2	75.6	55.0	71.4	60.8	66.0	72.3
	September	78.2	79.0	60.2	73.1	65.9	69.0	71.8
	October	79.8	80.4	64.6	80.6	68.4	R71.1	R74.8
	November†	81.3	80.6	66.4	82.8	69.5	NA	NA

[1]Nearly all naphtha-type fuels are sold directly to the Defense Fuel Supply Center. Consequently, wholesale prices are not applicable.
[2]Wholesale 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.
[3]Wholesale 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 consumers.
†Preliminary data.
R = Revised data.
NA = Not available.
Source: • FEA Form P302–M–1, "Petroleum Industry Monthly Report for Product Prices."

Price

National Average Heating Oil Prices[1]

		Refiners' Average Selling Price to Resellers and Retailers	Average Selling Price to Residential Customers[2]	Average Purchase Price Paid by Distributors for Residential Heating Oil[2]	Average Distributor Margin on Residential Heating Oil[2]
		Cents per gallon			
1976	**AVERAGE**	**31.4**	**40.6**	**32.6**	**NA**
1977	January	34.7	44.4	35.8	9.3
	February	35.4	45.3	36.7	9.4
	March	35.9	45.8	37.0	9.5
	April	35.8	45.9	37.1	9.6
	May	35.7	45.7	37.1	9.5
	June	35.7	45.7	37.1	9.3
	July	35.8	45.8	37.2	9.3
	August	35.7	46.0	37.3	9.2
	September	35.5	46.2	37.4	9.4
	October	36.0	46.7	37.5	9.8
	November	36.3	47.6	37.3	10.2
	December	36.6	47.9	37.2	10.4
	AVERAGE	**35.7**	**46.0**	**36.9**	**NA**
1978	January	36.8	48.5	38.1	10.5
	February	36.4	48.6	37.8	11.0
	March	36.2	48.6	37.6	11.1
	April	36.0	48.6	37.6	11.1
	May	36.2	48.3	37.6	11.0
	June	35.8	48.2	37.7	10.7
	July	35.9	48.2	37.7	10.7
	August	36.1	48.2	37.9	10.5
	September	36.9	49.0	38.6	10.6
	October	38.1	50.2	39.6	10.8
	November	39.4	51.5	40.5	11.2
	December	40.1	52.6	41.3	11.6
	AVERAGE	**37.2**	**49.4**	**38.7**	**11.0**
1979	January	40.9	53.7	42.1	11.8
	February	43.1	56.3	44.5	12.0
	March	45.8	58.8	47.0	12.0
	April	48.3	61.1	49.3	12.1
	May	53.2	64.2	52.6	12.1
	June	58.8	69.1	56.9	12.7
	July	62.5	73.8	61.1	13.0
	August	65.7	78.4	64.6	13.0
	September	69.0	81.0	67.8	13.7
	October	R68.6	R82.3	68.1	14.8
	November†	68.8	83.7	69.1	15.2
	AVERAGE	**53.8**	**62.8**	**50.6**	**12.4**

[1]See Explanatory Note 19.
[2]Average selling prices, purchase prices, and dealer margins represent sales for residential heating oil only.
†Preliminary data.
R = Revised data.
NA = Not available.
Source: • FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report."

Price

Residential Heating Oil Prices by Region

		Census Region								
		New England	Mid-Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Mountain	Pacific
		Cents per gallon								
1977	January	45.8	44.9	44.2	43.2	43.1	43.0	36.9	43.4	44.6
	February	46.6	45.8	45.7	43.9	43.4	44.0	38.8	44.2	45.2
	March	47.1	46.3	45.5	44.4	43.8	44.6	40.2	44.7	45.9
	April	47.2	46.5	45.5	44.8	43.3	44.2	40.8	44.8	46.4
	May	47.0	46.4	45.6	44.7	43.7	43.7	40.7	44.8	46.5
	June	47.1	46.4	45.7	44.7	44.0	43.3	41.2	45.8	46.8
	July	47.1	46.4	45.7	44.7	44.2	44.2	41.2	44.2	47.9
	August	47.4	46.6	45.6	44.7	43.7	44.5	41.0	44.9	48.2
	September	47.7	46.7	45.8	45.0	44.2	44.9	41.1	44.9	47.2
	October	48.0	47.3	46.4	45.3	43.9	45.4	41.1	45.4	47.4
		DOE Region[1]								
		1	2	3	4	5	6	7	8	9	10
	November	48.5	48.1	47.0	46.1	45.7	NA	44.2	45.4	44.9	47.4
	December	48.9	48.6	47.5	46.6	46.1	NA	44.5	45.7	44.5	47.3
1978	January	49.4	49.2	48.1	47.5	46.4	NA	44.5	45.2	44.7	47.4
	February	49.5	49.3	48.4	47.6	46.4	NA	45.2	45.5	45.6	47.5
	March	49.4	49.3	48.4	47.7	46.5	NA	44.4	45.0	47.0	47.8
	April	49.3	49.2	48.2	47.1	46.4	NA	44.6	45.0	45.1	47.6
	May	49.3	49.1	47.7	46.7	46.3	NA	44.7	45.0	44.4	47.4
	June	49.2	49.1	47.8	46.8	46.0	NA	44.8	45.4	43.9	47.7
	July	49.1	49.0	47.6	46.7	46.4	NA	45.0	45.8	43.5	48.1
	August	49.1	49.0	47.6	47.4	46.3	NA	45.1	45.5	44.8	47.3
	September	50.0	49.7	48.5	46.6	46.8	NA	45.6	46.3	45.0	47.7
	October	51.2	51.0	50.0	48.1	47.6	NA	45.9	46.3	45.9	48.3
	November	52.8	52.3	51.3	49.5	49.2	NA	47.6	47.9	45.8	49.1
	December	54.0	53.4	52.3	50.4	50.2	NA	48.2	48.7	46.7	49.9
1979	January	55.1	54.5	53.3	51.6	51.5	NA	49.6	50.4	47.6	50.8
	February	57.7	57.3	55.5	53.2	53.7	NA	51.3	51.4	49.4	52.9
	March	60.6	59.8	57.5	54.3	56.3	NA	54.7	55.3	50.8	55.3
	April	62.8	61.9	60.0	57.3	58.8	NA	58.2	58.4	53.8	57.8
	May	65.9	64.8	63.4	61.2	62.8	NA	62.0	62.7	56.2	60.8
	June	70.5	69.7	68.4	66.2	68.5	NA	68.9	67.8	62.2	66.4
	July	75.9	73.9	72.9	70.9	73.2	NA	72.0	72.5	68.4	72.3
	August	80.1	78.6	77.7	74.8	78.5	NA	76.4	77.1	71.7	77.2
	September	83.3	81.4	80.0	79.4	81.5	NA	79.5	80.1	76.8	81.4
	October	R84.1	R82.5	R81.7	R79.1	R82.6	NA	80.2	R81.3	81.2	82.6
	November†	85.2	83.8	82.4	80.4	83.9	NA	82.1	83.8	81.3	82.2

[1]DOE regions are defined in Explanatory Note 20.
†Preliminary data.
R = Revised data.
NA = Not available. Data for Region 6 are based on a sample of less than four reporting firms.
Note: Average regional distributor purchase prices for heating oil for the period January 1975 through December 1976 are published on page 67 of the April 1978 issue of the *Monthly Energy Review.*
Source: • FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/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	
		Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	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	January	14.06	14.34	12.79	13.68	11.51	12.32	12.45	13.32
	February	14.00	14.60	12.91	14.06	12.04	12.74	12.69	13.71
	March	14.00	14.58	13.47	14.51	11.62	12.70	12.68	13.84
	April	12.88	14.63	13.05	14.10	11.27	12.50	12.04	13.61
	May	13.56	14.48	11.90	13.73	11.05	12.15	11.64	13.42
	June	13.12	14.28	11.88	13.27	11.10	11.93	11.72	13.02
	July	13.31	14.38	11.73	13.12	11.02	12.06	11.62	13.01
	August	13.32	14.15	11.83	13.08	11.89	12.01	12.06	13.00
	September	13.35	14.33	11.79	13.11	11.78	12.19	12.03	12.94
	October	13.38	14.30	11.69	13.15	11.71	12.33	12.10	13.15
	November	12.85	14.24	11.66	12.93	11.44	12.15	11.76	12.96
	December	12.87	13.95	11.38	12.60	10.77	11.95	11.28	12.70
	AVERAGE	**13.45**	**14.36**	**12.09**	**13.45**	**11.31**	**12.27**	**11.96**	**13.23**
1978	January	12.72	14.19	11.56	12.70	10.71	12.00	11.33	12.79
	February	12.20	14.05	11.64	12.42	10.58	11.75	11.25	12.53
	March	12.73	13.99	11.94	12.75	10.48	11.70	11.36	12.63
	April	12.72	14.51	12.26	12.95	10.84	11.85	11.57	12.87
	May	12.67	14.21	12.01	12.88	10.79	11.74	11.70	12.79
	June	12.37	13.99	11.83	12.58	10.82	11.60	11.41	12.50
	July	11.26	13.93	11.29	12.01	10.51	11.48	10.86	12.21
	August	11.41	14.09	11.24	11.97	10.46	11.54	10.70	12.34
	September	12.29	14.18	11.46	12.30	10.69	11.39	11.26	12.43
	October	13.43	14.63	12.06	13.00	10.83	11.82	11.76	13.01
	November	14.12	15.55	13.26	13.77	10.87	11.54	12.36	13.34
	December	14.66	15.98	13.19	14.13	11.04	11.82	12.57	13.75
	AVERAGE	**12.77**	**14.47**	**11.95**	**12.78**	**10.73**	**11.70**	**11.51**	**12.75**
1979	January	15.16	16.12	13.68	14.79	11.00	11.92	12.78	14.13
	February	16.12	17.28	15.01	15.30	11.31	12.28	13.72	14.68
	March	16.08	18.05	15.90	16.94	13.48	14.00	14.82	15.95
	April	17.79	19.09	16.34	17.44	13.70	14.59	15.51	16.61
	May	18.04	19.45	15.74	17.89	14.69	15.37	15.71	17.18
	June	20.92	19.79	18.08	18.51	15.95	16.40	17.81	17.97
	July	21.85	23.07	21.25	20.47	16.51	17.86	19.18	19.89
	August	21.05	22.63	19.49	R21.28	17.51	18.32	19.00	20.33
	September	21.81	22.92	21.01	21.66	17.54	18.94	19.62	20.90
	October	24.03	23.29	22.99	22.33	18.31	19.53	20.88	21.59
	Novemberr	26.21	25.54	24.07	24.31	19.31	19.51	22.00	22.84

rPreliminary 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, "Petroleum Industry Monthly Report for Product Prices."

Price

Wholesale[1] Propane and Butane

		Propane	Butane
		Cents per gallon, excluding taxes	
1976	**AVERAGE**	**20.6**	**21.9**
1977	January	22.9	23.0
	February	24.0	24.3
	March	23.7	24.9
	April	23.6	24.2
	May	24.5	25.8
	June	24.5	25.6
	July	24.9	26.2
	August	25.5	26.1
	September	25.9	27.4
	October	26.8	26.3
	November	26.5	25.8
	December	26.7	25.8
	AVERAGE	**25.0**	**25.4**
1977	January	27.0	25.9
	February	26.5	25.1
	March	25.6	24.9
	April	24.4	23.9
	May	23.7	22.8
	June	23.3	22.9
	July	23.0	22.1
	August	22.7	21.8
	September	22.6	21.8
	October	22.5	20.9
	November	22.1	22.0
	December	22.1	22.7
	AVERAGE	**24.0**	**23.0**
1979	January	22.4	24.9
	February	21.8	28.5
	March	21.2	32.5
	April	22.0	35.4
	May	24.2	39.5
	June	27.9	46.9
	July	29.3	51.1
	August	30.8	48.0
	September	33.3	51.9
	October	35.2	R56.1
	November†	36.9	57.0

[1]Wholesale 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.
†Preliminary data.
R = Revised data.
Source: • FEA Form P302-M-1, "Petroleum Industry Monthly Report for Product Prices."

Price

Average Wellhead Value of Natural Gas Production[1]

		Cents per thousand cubic feet
1973	**AVERAGE**	**21.6**
1974	**AVERAGE**	**30.4**
1975	**AVERAGE**	**44.5**
1976	**AVERAGE**	**58.0**
1977	January	67.1
	February	71.0
	March	74.9
	April	77.2
	May	76.7
	June	82.3
	July	83.1
	August	82.3
	September	83.3
	October	84.0
	November	83.2
	December	84.4
	AVERAGE	**79.0**
1978	January	87.3
	February	87.9
	March	89.1
	April	88.0
	May	90.8
	June	90.7
	July	88.9
	August	91.2
	September	92.1
	October	92.0
	November	92.5
	December	96.1
	AVERAGE	**90.5**
1979	January	99.5
	February	R101.8
	March	R106.3
	April	R107.0
	May	R111.6
	June	112.9
	July	116.4
	August	119.0
	September	120.6
	October	124.0
	November	125.6
	December	128.9
	AVERAGE	**114.4**

Average Retail Prices for Natural Gas Sold to Residential Customers for Heating Use

		Cents per thousand cubic feet
1973	**AVERAGE**	**108.2**
1974	**AVERAGE**	**125.3**
1975	**AVERAGE**	**154.2**
1976	**AVERAGE**	**184.6**
1977	January	213.8
	February	217.0
	March	219.9
	April	223.7
	May	227.0
	June	227.3
	July	229.9
	August	230.1
	September	230.4
	October	235.1
	November	238.4
	December	237.3
1978	January	241.6
	February	243.0
	March	247.0
	April	248.7
	May	255.2
	June	254.2
	July	NA
	August	NA
	September	NA
	October	NA
	November	281.9
	December	286.2
1979	January	293.7
	February	296.5
	March	301.5
	April	300.5
	May	315.8
	June	320.9
	July	329.4
	August	331.7
	September	342.4
	October	353.8
	November	348.6

R = Revised data.
NA = Not available.
Sources: • Annual data for wellhead values from the appropriate agencies of the individual producing states; monthly data are estimated primarily on the basis of values reported by state agencies in New Mexico, Oklahoma, and Texas.
• Average retail prices, Bureau of Labor Statistics.

Price

Natural Gas Prices Reported by Major Interstate Pipeline Companies

		Purchases			Sales		
		From Domestic Producers	From Canadian and Foreign Sources	Total Purchases	To Industrial Users[1]	To Resellers[2]	Total Sales
		Cents per thousand cubic feet					
1976	**AVERAGE**	**47.9**	**172.7**	**58.4**	**97.2**	**100.3**	**100.5**
1977	January	59.4	201.8	71.6	143.2	124.3	125.4
	February	63.4	199.7	76.4	130.6	130.4	131.0
	March	69.8	200.4	83.4	129.3	132.1	132.5
	April	65.3	190.7	76.5	128.1	131.0	131.1
	May	69.1	191.3	80.5	128.1	133.9	133.5
	June	69.2	188.6	79.6	125.3	135.1	134.2
	July	72.1	187.7	81.8	134.3	135.9	135.7
	August	71.1	185.5	81.5	133.5	134.0	133.9
	September	71.8	194.7	84.0	131.8	135.7	135.4
	October	74.2	211.9	87.4	133.9	135.6	135.6
	November	74.8	214.2	87.7	134.4	141.6	141.4
	December	73.9	216.5	86.7	138.3	132.1	133.0
	AVERAGE	**69.5**	**199.0**	**81.4**	**131.9**	**132.2**	**132.5**
1978	January	74.0	211.2	86.4	150.4	138.2	139.2
	February	76.3	211.3	89.2	158.2	141.5	142.8
	March	79.3	212.5	91.1	149.7	144.7	145.5
	April	80.7	222.0	92.9	149.9	147.7	148.2
	May	81.2	218.5	.92.5	149.0	149.7	150.0
	June	82.6	220.5	93.5	148.3	153.0	152.7
	July	83.8	222.6	95.0	149.5	155.7	155.0
	August	84.2	222.5	95.6	148.9	154.9	154.0
	September	87.7	216.8	97.9	152.0	155.3	155.0
	October	90.6	225.3	101.3	158.5	157.4	157.7
	November	R89.7	219.3	R101.8	171.0	R160.9	R162.0
	December	95.8	215.1	107.6	169.9	159.8	161.0
	AVERAGE	**84.1**	**218.2**	**95.8**	**154.1**	**150.7**	**151.4**
1979	January	99.5	215.7	110.4	192.1	161.0	163.1
	February	101.7	219.0	114.0	195.4	164.5	166.7
	March	106.1	224.8	118.4	186.8	171.5	173.2
	April	116.7	222.1	127.9	190.7	167.6	170.2
	May	118.3	228.6	129.5	202.5	188.8	190.5
	June	118.3	233.4	130.9	180.5	184.4	184.2
	July	119.2	232.1	131.9	198.8	190.3	191.4
	August	125.6	263.6	138.6	205.4	192.5	193.8
	September	130.5	274.1	145.8	212.4	209.4	209.8
	October	135.6	284.2	151.7	218.9	216.2	216.5
	November	141.1	340.6	161.4	219.1	218.2	218.4
	AVERAGE	**119.4**	**249.8**	**132.9**	**201.0**	**185.4**	**187.0**

[1]Represents direct sales by pipeline companies to industrial users. Does not include sales to industrial users by resellers.
[2]Includes the cost of gas to the distributing utility at entrance of distribution system or point of receipt.
R = Revised data.
Source: • Federal Power Commission Form 11, "Natural Gas Pipeline Company Monthly Statement."

Price

Utility Fossil Fuels

Average Delivered Prices of Coal at Utilities

		Contract	Spot
		Dollars per short ton	
1976	**AVERAGE**	**17.90**	**21.33**
1977	January	17.87	21.93
	February	18.28	22.71
	March	18.75	23.27
	April	18.82	22.41
	May	18.97	23.73
	June	19.03	24.62
	July	19.35	25.13
	August	18.95	24.73
	September	19.75	26.14
	October	20.31	26.83
	November	20.51	27.01
	December	20.49	28.01
	AVERAGE	**19.25**	**24.99**
1978	January	16.94	30.27
	February	16.50	30.50
	March	18.59	31.52
	April	21.43	30.42
	May	22.23	29.62
	June	22.88	28.95
	July	22.08	28.94
	August	22.12	28.95
	September	22.66	29.06
	October	23.53	28.96
	November	24.03	29.29
	December	23.99	21.41
	AVERAGE	**21.41**	**29.63**
1979	January	24.40	27.82
	February	24.08	26.71
	March	24.82	27.64
	April	25.52	28.55
	May	26.40	27.64
	June	25.91	28.42
	July	25.13	28.36
	August	25.79	28.50
	September	26.45	28.85
	October	26.65	30.66

Source: • Federal Power Commission Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Price

Cost of Fossil Fuels Delivered to Steam-Electric Utility Plants

All Fossil Fuels[1]	1978				1979								
Region	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
	Cents per million Btu												
New England	190.9	194.9	192.9	207.5	206.8	223.3	249.2	244.9	267.4	283.6	302.9	313.0	319.2
Middle Atlantic	154.9	156.7	159.6	163.5	170.2	180.5	174.4	168.2	176.7	184.3	212.0	204.7	202.5
East North Central	125.3	130.2	132.5	137.0	142.5	146.9	143.5	140.7	145.1	144.0	150.9	146.9	150.3
West North Central	98.5	99.5	100.7	105.9	121.6	124.3	106.9	107.3	110.9	114.4	110.3	112.1	107.5
South Atlantic	148.5	148.0	147.8	154.6	158.9	163.3	168.3	168.2	172.7	185.0	197.7	187.9	189.3
East South Central	125.1	124.1	125.4	128.3	129.7	128.1	131.7	132.4	137.5	136.9	144.0	143.3	142.8
West South Central	132.3	127.3	129.4	131.7	144.4	143.6	139.6	141.7	155.7	158.7	156.5	154.0	149.1
Mountain	75.8	83.3	82.3	82.8	89.3	91.4	92.3	99.7	120.3	101.6	100.8	100.8	102.2
Pacific	232.2	237.3	245.2	245.8	245.9	243.1	234.3	240.8	242.2	250.9	263.6	274.1	280.9
NATIONAL AVG.	**135.8**	**138.1**	**138.8**	**142.9**	**150.4**	**154.3**	**152.3**	**151.4**	**158.0**	**161.2**	**168.7**	**167.1**	**167.9**
Coal													
New England	147.2	147.4	147.0	146.8	147.1	150.3	149.9	150.9	152.7	155.2	155.5	155.7	156.9
Middle Atlantic	121.4	121.1	120.6	120.3	121.2	122.6	123.7	121.9	120.4	122.8	129.6	123.8	127.7
East North Central	119.9	120.9	123.9	123.8	124.3	123.7	126.7	129.0	131.4	130.6	137.0	134.3	138.4
West North Central	92.0	93.6	95.2	95.1	96.0	95.3	95.6	98.5	100.6	106.9	103.6	98.5	100.5
South Atlantic	129.6	132.5	134.1	138.8	136.6	136.4	136.0	137.8	139.0	138.0	142.9	142.7	144.1
East South Central	119.0	119.3	120.8	122.6	122.6	121.3	125.8	129.6	132.7	131.8	134.7	134.2	136.4
West South Central	77.3	74.1	73.4	81.4	88.2	89.3	92.9	94.9	89.9	99.8	99.0	100.2	98.0
Mountain	57.8	61.5	60.2	58.7	62.6	62.9	65.0	74.0	97.8	69.3	65.4	66.8	69.5
Pacific	79.4	79.9	78.2	78.6	84.3	82.9	83.4	82.7	83.0	84.6	84.2	82.0	90.2
NATIONAL AVG.	**111.4**	**114.0**	**115.6**	**115.9**	**115.8**	**114.6**	**116.8**	**120.1**	**123.4**	**121.8**	**122.2**	**122.5**	**125.3**
Residual Fuel Oil[1]													
New England	191.9	196.8	195.6	211.3	210.6	227.8	255.8	250.8	272.7	293.2	309.1	321.0	331.5
Middle Atlantic	209.3	214.7	224.2	226.0	232.2	243.4	266.4	273.7	279.9	305.0	325.2	338.1	347.3
East North Central	253.4	247.9	260.6	261.5	282.2	295.9	302.5	307.2	320.0	321.8	352.6	383.2	385.4
West North Central	216.3	217.1	217.6	212.6	233.9	265.4	246.4	277.0	384.5	244.7	373.0	479.0	451.0
South Atlantic	196.5	207.0	211.7	215.3	224.7	233.0	255.7	266.4	270.7	288.1	312.8	320.6	325.3
East South Central	176.8	172.4	168.8	177.4	174.7	198.3	211.6	212.1	231.8	218.9	240.2	266.3	281.0
West South Central	188.3	184.1	189.8	207.0	306.8	227.3	255.1	232.4	242.8	247.1	305.8	298.6	318.1
Mountain	215.2	215.3	252.0	228.2	237.3	233.6	246.4	276.5	284.3	287.8	337.2	350.0	383.2
Pacific	260.5	266.8	270.1	266.4	262.9	267.9	265.2	283.1	277.8	283.3	307.4	323.1	339.3
NATIONAL AVG.	**211.2**	**219.8**	**225.6**	**228.7**	**231.8**	**245.6**	**261.4**	**268.0**	**277.7**	**289.3**	**314.7**	**328.0**	**337.8**
Natural Gas[2]													
New England	184.6	192.5	187.6	193.7	208.4	219.1	224.0	233.9	250.1	263.1	261.9	277.5	295.4
Middle Atlantic	178.7	223.1	190.8	180.7	179.2	183.0	179.3	190.1	192.5	210.0	226.7	241.7	263.9
East North Central	204.6	211.0	201.6	209.8	217.2	241.7	242.3	244.3	247.1	231.2	222.9	258.3	278.9
West North Central	122.3	125.5	128.1	135.2	143.0	145.5	137.6	143.8	147.1	146.1	148.8	152.1	152.6
South Atlantic	114.1	107.7	109.2	105.1	94.1	103.0	118.5	119.7	123.5	126.5	155.5	155.3	160.0
East South Central	160.3	163.1	164.5	187.3	175.6	177.9	169.1	172.3	195.0	185.6	182.0	192.2	188.3
West South Central	137.1	134.8	134.8	133.9	146.2	147.6	142.5	149.2	169.2	168.5	161.3	160.4	157.1
Mountain	145.3	150.0	160.3	177.0	178.1	174.9	196.9	182.3	193.0	198.3	205.1	216.3	212.4
Pacific	233.4	223.3	222.1	227.7	231.0	224.9	222.0	221.6	225.8	238.7	245.3	246.3	248.9
NATIONAL AVG.	**146.6**	**147.1**	**141.1**	**139.4**	**150.2**	**159.1**	**162.8**	**164.4**	**177.2**	**179.5**	**178.9**	**180.9**	**183.5**

[1]See Explanatory Note 20.
[2]Includes small quantities of coke oven gas, refinery gas, and blast furnace gas.
Source: • Federal Power Commission Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Price

Average Retail Electricity Prices[1]

		Residential	Commercial	Industrial	Other	Total[2]
				Cents per kilowatt-hour		
1973	**AVERAGE**	**2.54**	**2.41**	**1.25**	**2.10**	**1.96**
1974	**AVERAGE**	**3.10**	**3.04**	**1.69**	**2.75**	**2.49**
1975	**AVERAGE**	**3.51**	**3.45**	**2.07**	**3.08**	**2.92**
1976	**AVERAGE**	**3.73**	**3.69**	**2.21**	**3.27**	**3.09**
1977	January	3.62	3.78	2.35	3.36	3.20
	February	3.69	3.86	2.40	3.45	3.25
	March	3.95	4.00	2.44	3.40	3.33
	April	4.07	4.04	2.43	3.46	3.34
	May	4.19	4.09	2.45	3.64	3.38
	June	4.17	4.11	2.48	3.59	3.43
	July	4.20	4.12	2.58	3.59	3.56
	August	4.35	4.37	2.64	3.69	3.69
	September	4.26	4.21	2.60	3.59	3.58
	October	4.25	4.27	2.57	3.47	3.53
	November	4.18	4.22	2.55	3.56	3.47
	December	3.97	4.11	2.52	3.34	3.41
	AVERAGE	**4.05**	**4.09**	**2.50**	**3.51**	**3.42**
1978	January	3.90	4.11	2.60	3.47	3.46
	February	3.94	4.16	2.73	3.47	3.54
	March	4.14	4.34	2.86	3.68	3.69
	April	4.34	4.41	2.82	3.75	3.70
	May	4.46	4.42	2.77	3.89	3.69
	June	4.53	4.48	2.81	3.76	3.78
	July	4.50	4.40	2.84	3.69	3.82
	August	4.51	4.40	2.81	3.72	3.80
	September	4.48	4.41	2.79	3.72	3.78
	October	4.48	4.46	2.78	3.53	3.72
	November	4.39	4.38	R2.78	R3.55	R3.66
	December	4.20	4.31	2.76	3.54	3.63
	AVERAGE	**4.31**	**4.36**	**2.77**	**3.62**	**3.69**
1979	January	4.08	4.29	2.82	3.58	3.65
	February	4.09	4.30	2.86	3.69	3.66
	March	4.28	4.44	2.89	3.87	3.75
	April	4.51	4.54	2.90	3.88	3.81
	May	4.68	4.65	2.96	3.98	3.89
	June	4.88	4.73	3.02	4.05	4.02
	July	4.91	4.76	3.11	4.20	4.14
	August	4.94	4.79	3.11	NA	4.17
	September	4.95	4.84	3.14	4.08	4.18
	October	4.94	4.89	3.14	3.89	4.13
	November	4.83	4.92	3.16	4.09	4.12
	AVERAGE	**4.62**	**4.65**	**3.01**	**3.92**	**3.95**

[1]Prices are for Classes A and B privately owned electric utilities.
[2]Average price for total sales to ultimate consumers.
R = Revised data.
NA = Not available.
Source: • Federal Power Commission, Form 5, "Monthly Statement of Electric Operating Revenue and Income."

International

Petroleum Consumption

Petroleum consumption by the International Energy Agency (IEA) member nations averaged 33.7 million barrels per day in September 1979. These preliminary data indicate a decrease of 0.6 million barrels per day, or 1.7 percent, from the level during the previous month, and 1.7 percent below the corresponding month of 1978. The most significant decreases between September 1978 and September 1979 were: Canada, down 5.8 percent, to 1.7 million barrels per day; and the United States, down 4.5 percent, to 17.3 million barrels per day.

Year-to-date consumption, however, averaged nearly 0.4 million barrels per day above the corresponding 9 months of 1978.

Crude Oil Production

World crude oil production in November 1979 averaged 63.4 million barrels per day, 460,000 barrels per day above October 1979 production. Total OPEC output reached nearly 31.2 million barrels per day, due to moderate production increases in most OPEC nations. Although Iraq showed a significant increase of 400,000 barrels per day over the previous month's rate, this increase was more than offset by a 630,000 barrels per day decline in Iran.

Many non-OPEC producing countries showed moderate production increases as well in November 1979. Their production reached 32.2 million barrels per day, an increase of 1.0 percent over the previous month's level, and 0.5 percent above the level during November 1978.

Nuclear Energy Production

Beginning with this month's issue, this section includes statistics for the 18 non-Communist countries that produce electricity commercially from nuclear power. As of December 1979, these countries had a total of 192 reactor units, including 71 in the United States. The reactors had a total capacity of 114 million kilowatts, including 50 million kilowatts for those in the United States.

During December 1979 nuclear electricity generation from these 18 nations totaled 52.3 billion gross kilowatt-hours, an increase of 0.6 percent from the December 1978 total. Comparisons of December 1979 outputs to those of December 1978 show that generation in the United States decreased by 18.1 percent, while generation by the remaining 17 nations increased by 20.2 percent.

International

Petroleum Consumption for Major Free World Industrialized Countries[1]

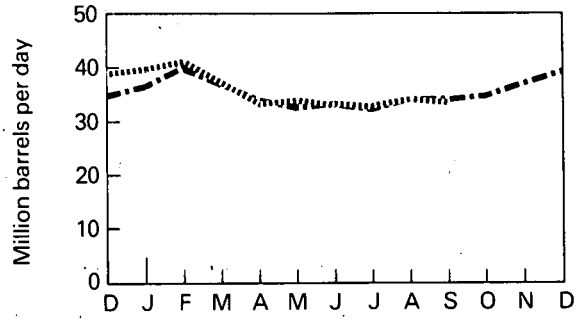
		Canada	France[2]	Italy	Japan	United Kingdom	United States	West Germany	Total IEA[3]
					Thousand barrels per day				
1973	**AVERAGE**	**1,597**	**2,219**	**1,525**	**5,000**	**1,958**	**17,308**	**2,693**	**R34,050**
1974	**AVERAGE**	**1,630**	**2,094**	**1,521**	**4,872**	**1,829**	**16,653**	**2,408**	**R32,850**
1975	**AVERAGE**	**1,595**	**1,925**	**1,468**	**4,568**	**1,633**	**16,322**	**2,319**	**R31,700**
1976	**AVERAGE**	**1,647**	**2,075**	**1,503**	**4,786**	**1,601**	**17,461**	**2,507**	**R33,660**
1977	**AVERAGE**	**1,661**	**1,973**	**1,476**	**5,015**	**1,655**	**18,431**	**2,478**	**R34,810**
1978	January	1,777	2,645	1,763	5,301	1,824	19,752	2,461	R37,100
	February	1,956	2,598	1,906	5,981	1,899	20,900	3,014	R40,500
	March	1,681	2,236	1,589	5,595	1,840	19,652	2,610	R37,400
	April	1,561	2,044	1,339	4,849	1,791	17,747	2,577	R34,000
	May	1,522	2,131	1,300	4,437	1,618	18,230	2,341	R33,300
	June	1,622	1,687	1,354	4,502	1,499	18,260	2,611	R33,800
	July	1,549	1,364	1,338	4,704	1,401	17,633	2,693	R32,800
	August	1,680	1,325	1,197	4,857	1,447	18,639	2,338	R34,200
	September	1,595	1,665	1,566	4,827	1,557	17,954	2,561	R34,300
	October	1,749	1,997	1,573	4,847	1,676	18,417	2,633	R35,200
	November	1,882	2,472	1,828	5,423	1,802	19,156	2,772	R37,600
	December	1,915	2,800	1,889	6,125	1,846	19,944	2,578	R39,200
	AVERAGE	**1,701**	**2,077**	**1,551**	**5,115**	**1,683**	**18,847**	**2,596**	**R35,750**
1979	January	1,881	2,754	1,950	5,579	1,883	20,640	2,893	R39,900
	February	2,019	2,709	1,912	6,006	2,067	21,152	2,708	R41,000
	March	1,654	2,287	1,601	5,706	1,949	19,180	2,592	R37,300
	April	1,605	2,129	1,447	5,009	1,703	17,311	2,590	R33,900
	May	1,650	2,003	1,402	4,755	1,648	17,701	2,641	R34,100
	June	1,704	1,652	1,312	4,709	1,517	17,675	2,613	R33,600
	July	1,695	1,590	1,285	R4,689	1,435	16,906	2,625	R33,000
	August	1,808	1,521	1,290	R4,894	R1,488	18,081	2,618	R34,300
	September†	1,703	1,698	1,617	R4,829	R1,517	17,273	2,598	R33,700
	October†	NA	2,005	1,755	4,906	NA	18,025	2,846	NA

[1]These 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. Experience has shown that the total IEA quantity is between 93 and 95 percent of total IEA consumption.
[2]Not a member of IEA.
[3]The 20 signatory nations of the International Energy Agency (IEA) are: Australia, Austria, Belgium, Canada, Denmark, West Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. In 1979 Australia joined IEA. In an effort to maintain comparability within this time series, consumption data for Australia have been incorporated into the IEA total for all years.
†Preliminary data
R = Revised data.
NA = Not available.
Sources: • Central Intelligence Agency, "International Energy Statistical Review," 16 January 1980 (except United States).
• 1973–1979 United States data: See sources on page 34.
• IEA total for latest month is an EIA estimate.

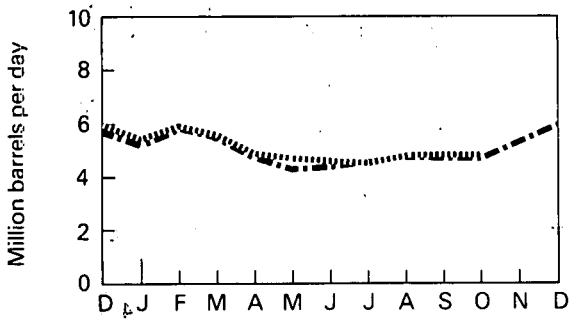
International

Petroleum Consumption

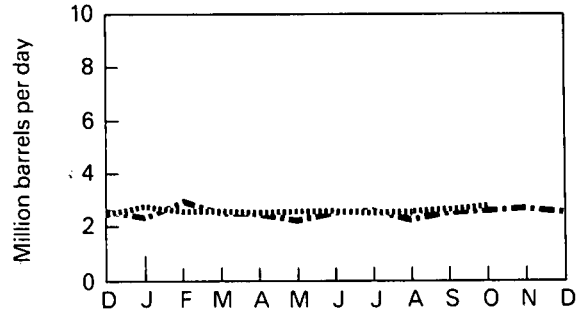
Total IEA



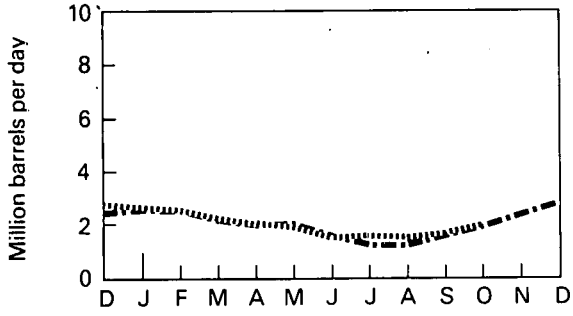
Japan*



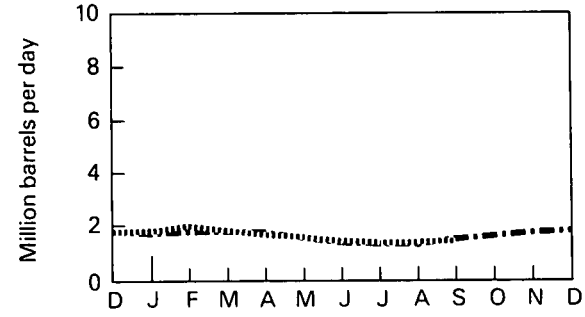
West Germany



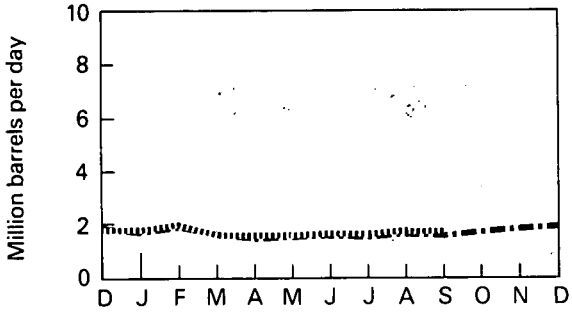
France**



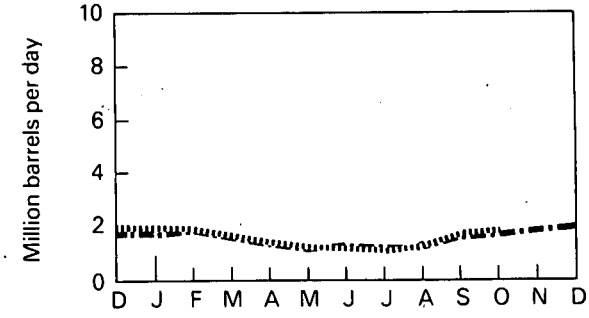
United Kingdom



Canada



Italy***



1978
1979

*Excludes liquefied petroleum gases and condensates.
**Not a member of IEA.

***Principal products only.

International

Crude Oil Production for Major Petroleum Exporting Countries

		Algeria	Iraq	Kuwait[1]	Libya	Qatar	Saudi Arabia[1]	United Arab Emirates	Arab OPEC	Indonesia	Iran
		Thousand barrels per day									
1973	**AVERAGE**	**1,070**	**2,018**	**3,020**	**2,175**	**570**	**7,596**	**1,533**	**17,982**	**1,339**	**5,860**
1974	**AVERAGE**	**960**	**1,971**	**2,546**	**1,521**	**518**	**8,480**	**1,679**	**17,675**	**1,375**	**6,022**
1975	**AVERAGE**	**960**	**2,262**	**2,084**	**1,480**	**438**	**7,075**	**1,664**	**15,963**	**1,307**	**5,350**
1976	**AVERAGE**	**980**	**2,415**	**2,145**	**1,933**	**497**	**8,577**	**1,936**	**18,483**	**1,504**	**5,863**
1977	**AVERAGE**	**1,095**	**2,495**	**1,970**	**2,065**	**445**	**9,200**	**2,000**	**19,270**	**1,684**	**5,665**
1978	January	1,100	2,130	1,720	1,790	450	7,790	1,740	16,720	1,700	5,290
	February	1,100	2,430	1,720	1,800	480	8,380	1,880	17,790	1,700	5,530
	March	1,100	2,230	2,130	1,880	420	7,690	1,850	17,300	1,710	5,600
	April	1,100	2,430	1,990	1,870	510	8,050	1,750	17,700	1,680	5,610
	May	1,100	2,130	1,813	1,930	380	7,250	1,870	16,473	1,700	5,720
	June	1,100	2,230	1,925	2,000	450	7,590	1,840	17,135	1,620	5,630
	July	1,100	2,100	1,952	2,040	490	7,410	1,830	16,922	1,580	5,800
	August	1,100	2,300	2,360	2,030	540	7,180	1,830	17,340	1,620	5,810
	September	1,100	3,000	2,591	2,020	500	8,380	1,830	19,421	1,590	6,050
	October	1,100	2,700	2,110	2,070	510	9,310	1,840	19,640	1,590	5,490
	November	1,100	3,300	2,650	2,100	470	10,250	1,840	20,710	1,590	3,490
	December	1,100	3,000	2,199	2,090	580	10,400	1,830	21,199	1,600	2,370
	AVERAGE	**1,100**	**2,515**	**2,095**	**1,975**	**480**	**8,295**	**1,831**	**18,291**	**1,635**	**5,200**
1979	January	1,100	3,500	2,615	2,175	550	9,790	1,835	21,565	1,605	410
	February	1,100	3,500	2,705	2,160	555	9,780	1,830	21,630	1,620	760
	March	1,100	3,500	2,590	2,080	370	9,780	1,825	21,245	1,630	2,190
	April	1,100	3,500	2,545	2,070	550	8,790	1,750	20,305	1,610	3,800
	May	1,100	3,500	2,585	2,050	540	8,780	1,855	20,410	1,570	4,100
	June	1,100	3,500	2,585	2,020	455	8,780	1,865	20,305	1,615	3,950
	July	900	3,300	2,550	2,080	520	9,780	1,830	20,960	1,605	3,750
	August	900	3,300	2,525	1,990	535	9,770	1,830	20,850	1,600	3,600
	September	900	3,300	2,375	2,030	455	9,780	1,835	20,675	1,580	3,600
	October	900	3,300	R2,375	2,030	490	R9,725	R1,780	R20,600	1,575	R3,930
	Novemberᵗ	900	3,700	2,445	2,095	525	9,795	1,865	21,325	1,575	3,300

ᵗPreliminary data.
R = Revised data.
[1]Includes about one-half of the former Kuwait-Saudi Arabia Neutral Zone. Production in November 1979 amounted to approximately 590,000 barrels per day.
Additional footnotes on following page.

International

Crude Oil Production for Major Petroleum Exporting Countries (continued)

		Nigeria	Vene-zuela	Total OPEC[2]	Canada	Mexico	United Kingdom	United States	China	USSR	Other[3]	World
		Thousand barrels per day										
1973	**AVERAGE**	**2,054**	**3,366**	**30,961**	**1,800**	**450**	**8**	**9,208**	**1,090**	**8,420**	**3,843**	**55,780**
1974	**AVERAGE**	**2,255**	**2,976**	**30,683**	**1,695**	**580**	**9**	**8,775**	**1,310**	**9,020**	**3,799**	**55,870**
1975	**AVERAGE**	**1,783**	**2,346**	**27,134**	**1,420**	**720**	**20**	**8,375**	**1,490**	**9,630**	**4,201**	**52,990**
1976	**AVERAGE**	**2,067**	**2,294**	**30,641**	**1,300**	**800**	**245**	**8,132**	**1,670**	**10,170**	**4,372**	**57,330**
1977	**AVERAGE**	**2,085**	**2,240**	**31,350**	**1,320**	**980**	**770**	**8,245**	**1,805**	**10,700**	**4,490**	**59,660**
1978	January	1,640	1,780	27,530	1,240	1,100	880	8,360	1,990	10,900	4,420	56,420
	February	1,570	1,620	28,600	1,310	1,100	950	8,377	1,990	11,000	4,493	57,820
	March	1,520	2,060	28,600	1,320	1,100	870	8,720	1,990	11,070	4,620	58,290
	April	1,690	2,230	29,330	1,100	1,140	980	8,818	1,990	11,100	4,562	59,020
	May	1,720	2,220	28,253	1,160	1,150	1,110	8,825	1,990	11,140	4,392	58,020
	June	1,890	2,320	29,015	1,500	1,170	1,110	8,832	1,990	11,120	4,573	59,310
	July	1,910	2,290	28,952	1,180	1,200	1,090	8,756	1,909	11,230	4,642	59,040
	August	2,060	2,100	29,330	1,310	1,240	1,100	8,758	1,990	11,280	4,832	59,840
	September	2,120	2,270	31,881	1,200	1,280	1,090	8,800	1,990	11,340	4,219	61,800
	October	2,110	2,260	31,520	1,390	1,300	1,160	8,820	2,010	11,440	4,650	62,290
	November	2,280	2,320	30,840	1,520	1,320	1,280	8,741	2,010	11,490	5,719	62,920
	December	2,380	2,320	30,299	1,540	1,370	1,350	8,662	2,010	11,470	4,949	61,650
	AVERAGE	**1,910**	**2,165**	**29,616**	**1,315**	**1,215**	**1,080**	**8,707**	**2,005**	**11,220**	**4,772**	**59,930**
1979	January	2,440	2,270	28,745	1,455	1,390	1,460	8,457	2,280	11,370	4,443	59,600
	February	2,430	2,350	29,245	1,580	1,395	1,500	8,498	2,280	11,370	4,322	60,190
	March	2,440	2,430	30,380	1,410	1,305	1,330	8,585	2,280	11,370	4,930	61,590
	April	2,420	2,390	30,960	1,515	1,395	1,455	8,533	2,280	11,510	4,508	62,230
	May	2,400	2,390	31,310	1,470	1,400	1,640	8,585	2,280	11,110	4,395	62,190
	June	2,420	2,250	30,980	1,470	1,435	1,740	8,409	2,280	11,460	4,466	62,240
	July	2,380	2,330	31,380	1,525	1,435	1,705	8,355	2,130	11,400	5,480	63,410
	August	2,185	2,330	30,995	1,455	1,455	1,635	8,699	2,130	11,560	5,250	63,050
	September	2,115	2,370	30,760	1,495	1,470	1,670	R8,466	2,130	11,460	R4,979	62,430
	October	2,135	R2,375	R31,035	R1,450	1,510	R1,610	8,460	2,130	R11,630	R5,120	R62,945
	November†	2,150	2,395	31,165	1,530	1,615	1,515	8,530	2,130	11,920	5,000	63,405

[2]OPEC total includes production in Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, United Arab Emirates; Indonesia, Iran, Nigeria, Venezuela, Ecuador, and Gabon.
[3]Other is a calculated total derived from the difference between world production and the nations represented above.
†Preliminary data.
R = Revised data.
Note: Monthly data may not average to annual data.
Sources: • 1973–1976 annual data for OPEC nations: *OPEC Annual Statistical Bulletin.*
• 1973–1979 United States data: See sources on page 32.
• All other monthly and annual data: Central Intelligence Agency, *International Energy Statistical Review.*

International

Nuclear Power Generation by Non-Communist Countries[1,2]

		Argentina	Belgium	Britain	Canada	Finland	France	India	Italy	Japan	Nether-lands
						Million gross kilowatt-hours					
1973	**TOTAL**	**0**	**0**	**27,996**	**18,273**	**0**	**11,217**	**1,936**	**3,142**	**9,439**	**1,038**
1974	**TOTAL**	**1,035**	**121**	**34,020**	**15,410**	**0**	**14,703**	**2,475**	**3,410**	**18,097**	**3,349**
1975	**TOTAL**	**2,517**	**6,763**	**30,508**	**13,243**	**0**	**18,296**	**2,514**	**3,801**	**16,696**	**3,335**
1976	**TOTAL**	**2,572**	**10,011**	**36,799**	**18,016**	**0**	**15,764**	**3,194**	**3,797**	**36,689**	**3,872**
1977	**TOTAL**	**1,637**	**11,855**	**38,043**	**26,759**	**2,675**	**17,940**	**2,779**	**3,384**	**27,260**	**3,710**
1978	January	266	869	3,383	3,418	314	2,508	73	313	2,910	389
	February	241	344	3,513	2,840	141	2,529	77	266	2,287	337
	March	138	708	4,132	2,047	18	2,474	164	342	3,155	369
	April	261	1,103	3,236	2,809	308	2,659	169	394	3,165	375
	May	270	1,287	2,361	2,469	309	2,113	223	370	4,506	380
	June	163	1,199	3,099	2,696	236	1,882	184	359	4,695	368
	July	262	1,192	2,455	3,364	314	2,074	135	375	5,699	373
	August	271	1,277	2,556	2,427	310	2,401	140	471	5,705	375
	September	265	1,239	2,692	2,416	304	2,726	226	297	4,634	362
	October	271	1,237	2,617	2,759	318	3,083	298	382	4,311	147
	November	259	880	2,891	2,692	291	2,986	306	406	4,476	198
	December	229	1,158	3,707	2,988	318	3,112	268	454	5,318	387
	TOTAL	**2,896**	**12,490**	**36,642**	**32,925**	**3,179**	**30,547**	**2,264**	**4,429**	**50,861**	**4,060**
1979	January	266	838	3,787	3,816	320	3,831	356	401	5,471	390
	February	175	559	3,811	2,945	721	3,465	248	277	4,967	353
	March	181	786	3,969	2,909	467	3,192	215	241	4,160	383
	April	261	1,047	3,210	3,104	623	3,151	218	290	3,756	223
	May	254	1,293	2,265	2,717	520	3,294	239	200	3,864	343
	June	229	1,161	3,150	3,194	394	2,963	285	132	4,570	365
	July	168	992	2,731	3,848	491	2,604	166	0	5,862	373
	August	275	558	2,409	2,820	391	2,341	125	122	6,724	254
	September	142	792	3,116	2,956	709	3,094	248	169	5,238	362
	October	247	1,119	2,771	3,316	780	3,808	314	203	6,186	267
	November	255	964	3,279	2,909	561	3,563	304	227	5,353	37
	December	239	1,263	4,070	3,849	692	4,613	209	365	5,852	140
	TOTAL	**2,692**	**11,370**	**38,568**	**38,383**	**6,671**	**39,920**	**2,927**	**2,627**	**62,003**	**3,489**

Totals may not equal sum of components due to independent rounding.
[1]Figures are for gross electrical generation as opposed to net electrical generation. Net figures are generally less than gross figures by about 5 percent, which represents the energy consumed by the generating plants themselves.
[2]In some cases, monthly figures are adjusted to reflect amended cumulative totals from *Nucleonics Week*.
Sources: • Data for the United States are based on figures from Federal Power Commission Form 4. Data for the remaining 17 countries were obtained from *Nucleonics Week*.

International

Nuclear Power Generation by Non-Communist Countries[1,2] (continued)

		Pakistan	South Korea	Spain	Sweden	Switzer-land	Taiwan	West Germany	Non-Communist World Excluding U.S.	United States	Total Non-Communist World
						Million gross kilowatt-hours					
1973	**TOTAL**	**458**	**0**	**6,545**	**2,111**	**6,192**	**0**	**12,561**	**100,908**	**87,440**	**188,348**
1974	**TOTAL**	**584**	**0**	**7,223**	**1,647**	**7,037**	**0**	**11,154**	**120,265**	**119,919**	**240,184**
1975	**TOTAL**	**546**	**0**	**7,544**	**12,021**	**7,721**	**0**	**21,672**	**147,177**	**181,808**	**328,985**
1976	**TOTAL**	**487**	**0**	**7,555**	**15,992**	**7,900**	**0**	**24,524**	**187,172**	**201,570**	**388,742**
1977	**TOTAL**	**338**	**71**	**6,525**	**19,890**	**8,070**	**99**	**35,807**	**206,842**	**262,644**	**469,486**
1978	January	0	223	685	2,618	797	173	3,095	22,034	27,125	49,159
	February	32	223	633	2,265	722	54	3,348	19,852	22,925	42,777
	March	46	223	663	2,530	791	136	3,871	21,807	23,571	45,378
	April	31	223	627	1,989	731	151	2,666	20,897	18,459	39,356
	May	17	223	113	1,543	736	205	3,134	20,259	21,437	41,696
	June	33	223	504	1,668	509	171	2,230	20,219	23,294	43,513
	July	7	223	761	1,143	531	299	2,090	21,297	26,257	47,554
	August	0	245	731	996	421	340	2,669	21,335	26,879	48,214
	September	0	282	708	1,796	734	316	2,194	21,191	23,298	44,489
	October	25	237	742	2,316	799	211	2,097	21,850	24,147	45,997
	November	15	0	734	2,307	772	171	2,368	21,752	26,146	41,898
	December	23	0	748	2,608	805	443	2,717	25,283	26,686	51,969
	TOTAL	**229**	**2,324**	**7,649**	**23,781**	**8,349**	**2,670**	**32,478**	**257,772**	**290,223**	**547,995**
1979	January	23	272	549	2,326	804	445	3,866	27,761	29,182	56,943
	February	12	354	622	1,973	725	306	3,045	24,558	27,207	51,765
	March	0	324	706	2,679	796	521	3,300	24,829	25,552	50,381
	April	0	262	637	1,449	774	565	4,674	24,244	19,339	43,583
	May	0	250	216	1,268	714	482	3,243	21,162	15,776	36,938
	June	0	300	360	1,003	827	645	3,048	22,626	16,868	39,494
	July	0	337	444	1,008	981	691	3,094	23,790	21,866	45,656
	August	0	384	663	1,099	826	646	2,667	22,304	25,414	47,718
	September	0	386	425	1,370	1,234	644	2,441	23,326	22,894	46,220
	October	0	282	676	2,048	1,288	509	3,456	27,270	22,121	49,391
	November	0	0	719	2,302	1,418	316	3,642	25,849	20,218	46,050
	December	0	0	683	2,515	1,461	559	3,874	30,384	21,869	52,253
	TOTAL	**35**	**3,152**	**6,700**	**21,039**	**11,848**	**6,329**	**40,350**	**298,103**	**268,307**	**566,410**

Totals may not equal sum of components due to independent rounding.
[1]Figures are for gross electrical generation, as opposed to net electrical generation. Net figures are generally less than gross figures by about 5 percent, which represents the energy consumed by the generating plants themselves.
[2]In some cases monthly figures are adjusted to reflect amended cumulative totals from *Nucleonics Week.*
Sources: • Data for the United States are based on figures from Federal Power Commission Form 4. Data for the remaining 17 countries were obtained from *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.

Base Production Control Level

1. Prior to February 1, 1976: the total number of barrels of domestic crude oil produced and sold from a particular property in the corresponding month of 1972. If domestic crude oil was not produced and sold from that property in every month of 1972, the total number of barrels of domestic crude oil produced and sold from that property in 1972, is then divided by 12.

2. Effective February 1, 1976: the total number of barrels of crude oil produced and sold from the property during calendar year 1975, divided by 365, and multiplied by the number of days in the particular month during 1975. A producer may elect to use the total number of barrels of crude oil produced and sold from the property during calendar year 1972, divided by 366, and multiplied by the number of days in the particular month during 1972.

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.

Ceiling Price

The maximum permissible selling price, prior to February 1, 1976, for a particular grade of domestic crude oil in a particular field is the May 15, 1973, posted price, plus $1.35 per barrel.

Coke

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 Entitlement Value

The average value a refiner receives from the entitlement program for each incremental barrel of imported crude oil. It is calculated by multiplying the entitlement price by the National Old Oil Supply Ratio for November 1974 through January 1976, and by the National Domestic Crude Oil Supply Ratio for February 1976 forward.

Crude Oil Imports

The volume of crude oil imported into the 50 States and the District of Columbia, including imports from U.S. territories, but excluding imports of crude oil into the Hawaiian Foreign Trade Zone.

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.

Electricity Production

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

Entitlement Position

The monthly entitlement position of a refiner indicates whether he bought or sold entitlements in that month. An entitlement is the right to process "deemed old oil," which is the sum of a refiner's receipts of "old" oil and a fraction of his receipts of "upper tier" crude oil. This fraction is set monthly by the Economic Regulatory Administration (ERA). A refiner must purchase entitlements for the amount of his "deemed old oil" receipts in excess of the national domestic crude oil supply ratio (NDCOSR). The NDCOSR, as calculated by ERA, reflects the differences in costs to refiners of "old" oil, "upper tier" crude oil, and imported crude oil.

Entitlement Price

The price of an entitlement, fixed by ERA, is the exact differential as reported for the month between the weighted average delivered cost per barrel to refiners of both imported crude oil and stripper crude oil, and the weighted average delivered cost per barrel to refiners of "old oil".

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.

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 gas turbines to produce electricity.

Landed Cost

The cost of imported crude oil equal to actual cost of the crude oil at point of origin plus transportation cost to the United States.

Line Miles of Seismic Exploration

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

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.

Lower Tier Crude Oil

The total number of barrels of crude oil produced and sold from a property in a specific month up to the amount of base period production. Base period production equals the lesser of 1972 or 1975 production, with a downward adjustment to take account of depletion of the oil field (see **Base Production Control Level**).

Lower Tier Ceiling Price Determination

The lower tier ceiling price for a particular grade of domestic crude oil in a particular field is the sum of (1) the highest posted price at 6 A.M., local time, May 15, 1973, for transactions in that grade of crude oil in that field; or if there was no posted price in that field for that grade of domestic crude oil, the related price for that grade of domestic crude oil which is most similar in kind and quality in the nearest field for which prices were posted; and (2) the amount mandated in the Monthly Price Adjustment Schedules published by ERA in the **Federal Energy Guidelines** (Part 212.77–13847 Appendix).

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

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.

National Domestic Crude Oil Supply Ratio

Old oil receipts adjusted for upper tier receipts, small refiner bias, and other minor adjustments, divided by crude runs to stills adjusted for residual fuel entitlements.

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

Products obtained from lease separators, field facilities, and natural gas processing plants. Natural gas liquids include natural gas plant liquids and lease condensate.

Natural Gas Plant Liquids

Products obtained from processing natural gas at natural gas processing plants, including natural gasoline plants, cycling plants and fractionators. Products obtained include ethane, liquefied petroleum gases (propanes, butanes, and propane-butane mixtures), isopentane, natural gasoline, 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.

New Crude Oil

(See **Upper Tier Crude Oil**).

Old Crude Oil

1. Prior to February 1, 1976: the total number of barrels of crude oil produced and sold from a property in a specific month, less the total number of barrels of new crude oil for that property in that month and less the total number of barrels of released crude oil for that property in that month.

2. Effective February 1, 1976: the total number of barrels of crude oil produced and sold from a property in a specific month, less the total number of barrels of new crude oil for that property in that month.

Petroleum

A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oil, 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 artifical 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.

Primary Stocks of Petroleum Products

Stocks held at refineries, bulk terminals, and pipelines. They do not include stocks held in secondary storage facilities, such as those held by jobbers, dealers, independent marketers, and consumers.

Product Supplied—Specific Petroleum Products

A calculated value, computed as domestic production plus net imports (imports less exports), less the net increase in primary stocks. It, therefore, represents the total disappearance of products from primary supplies. (See definition for **Product Supplied—Total Petroleum Products**).

Product Supplied—Total Petroleum Products

Total domestic products supplied is calculated as inputs to refineries, plus estimated refinery gain, plus hydrogen input, plus natural gas plant liquids production, plus direct use of crude as fuel, plus product imports, less product exports, less the net increase in product stocks (See definition for **Product Supplied—Specific Petroleum Products**).

Property

Prior to August 26, 1976, a property was defined as the right to produce domestic crude oil, which arises from a lease or from a fee interest. This definition was interpreted to apply only to a surface lease. In August 1976 the definition of a property was changed so that a producer may treat as a separate property each separate and distinct producing reservoir subject to the same right to produce crude oil, provided that such reservoir is recognized by the appropriate governmental regulatory authority as a producing formation that is separate and distinct from, and not in communication with any other producing formation. Although this new definition was not implemented until August 25, 1976, it was made effective retroactively to February 1, 1976. (F.R. 36171, August 26, 1976.)

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.

Released Crude Oil

An amount of crude oil produced from a property in a particular month prior to February 1, 1976, which is equal to the total number of barrels of new crude oil produced and sold from that property in that month. The amount of released crude oil for a property in a particular month shall not exceed the base production control level for that property in that month.

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 Oil, Bunker C 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 Reserves

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.

Stripper Well Property

A property whose average daily production of crude oil per well (excluding condensate recovered in nonassociated natural gas production) did not exceed 10 barrels per day during any preceding consecutive 12-month period beginning after December 31, 1972.

Synthetic Natural Gas (SNG)

A product resulting from the manufacture, conversion, or reforming of petroleum 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 imports, exports of crude oil, oil burned as fuel, and losses of oil.

Unrecouped Costs

Costs which have not been recovered in the current month's product prices but which have been "banked" for later use.

Upper Tier Crude Oil

1. Prior to February 1, 1976: the total number of barrels of domestic crude oil produced and sold in a specific month, less the base production control level for that month and less the current cumulative deficiency.

2. February 1, 1976 through August 31, 1976: the total number of barrels of domestic crude oil produced and sold in a specific month, less the property's base production control level for that month and less the current cumulative deficiency since February 1, 1976. Includes new crude oil and crude oil produced from a stripper well property.

3. Since September 1, 1976: upper tier crude oil excludes crude oil produced from a stripper well property.

Upper Tier Ceiling Price Determination

The upper tier ceiling price for a particular grade of domestic crude oil in a particular field is (1) the highest posted price on September 30, 1975, for transactions in that grade of crude oil in that field in September 1975, or if there was no posted price in that field for that grade of domestic crude oil, the related price for that grade of domestic crude oil which is most similar in kind and quality in the nearest field for which prices were posted; less (2) the amount mandated in the Monthly Price Adjustment Schedules published by ERA in the *Federal Energy Guidelines* (Part 212.77–13847 Appendix).

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 the Units of Measure.

2. Domestic consumption of energy includes consumption of coal (anthracite, bituminous, 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 the Units of Measure.

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 relate energy consumption to 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) as reported by the Bureau of Mines and reproduced 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). NGL produced at refineries is extracted from crude oil and hence, to avoid double counting, should not be included in calculations of total U.S. production of petroleum liquids. 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 re 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. Bituminous coal and lignite consumption is calculated by Energy Information Administration (EIA)

from information provided by the Federal Energy Regulatory Commission, Department of Commerce, and reports from selected manufacturing industries and retailers.

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

Bituminous coal and lignite production is calculated from the number of railroad cars loaded at mines, based on the assumption that approximately 60 percent of the coal produced is transported by rail. Production data are estimated by EIA from Association of American Railroads reports of carloadings.

11. The units used to describe power generation at nuclear plants are based on the watt, which is a unit of power. (Power is energy produced per unit of time.) As with fossil-fueled plants, nuclear plants have three design power ratings. The normal rating (expressed in thermal megawatts) is the rate of heat production by the reactor core. The gross electrical rating (expressed in electrical megawatts, MWe) is the generator capacity at the stated thermal rating of the plant. The net electrical rating (also expressed in MWe) is the power available as input to the electrical grid after subtracting the power needed to operate the plant. (A typical nuclear plant needs 5 percent of its generated electricity for its own operation.)

The electrical energy produced by a plant is expressed either as megawatt hours (MWh) or kilowatt-hours (kWh). Tables in the nuclear section show generated electricity as average electrical power. This enables a more direct comparison to design capacity and to previous months' performances. To obtain the quantity of electricity generated during a given time period (in kilowatt-hours), multiply the average power level (in kilowatts) by the number of hours during that period.

The energy extracted from uranium fuel is expressed as thermal megawatt days per metric ton of uranium (MWD/MTU). The production of plutonium in the fuel rods is expressed as kilograms of plutonium per metric ton of discharged uranium (kg/MTU).

12. 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. For the 2-year period January 1974 through January 1976, the old oil price at the wellhead was originally estimated to be $5.25 per barrel based on representative postings. This estimate was revised in July 1976 after a survey of crude oil purchasers was implemented and more complete data became available. Estimates of the average old oil price given in the table for months prior to February 1976 are based on prices for old oil reported on new leases, and were not derived from a statistically valid sample of old oil leases.

13. The actual domestic average price represents the average price at which all domestic crude oil, except that from Naval Petroleum Reserves, is purchased. The imputed domestic average price is the average price used to establish ceiling prices for domestic crude oil in accordance with the provisions of the Energy Conservation and Production Act. It is calculated as the weighted average of lower tier, upper tier, and an imputed stripper crude oil price. The imputed stripper crude oil price is equal to $11.63 per barrel plus the difference between the composite price of crude oil in August 1976 (excluding stripper oil) and the composite price of crude oil in the month of measurement (excluding stripper oil).

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 refiner acquisition cost of domestic crude oil is the price paid by refiners for domestic crude oil and natural gas plant liquids and includes transportation costs from the wellhead to the refinery. The refiner acquisition cost of imported crude oil is the average landed cost of imported crude oil to the refiner and represents the amount which may be passed on to the consumer. It incorporates transportation costs and fees (including the supplemental import fees) and any other costs incurred in purchasing and shipping crude oil to the United States.

17. The major brand category includes those stations using the primary brand of a major refiner. Primary brands are the brand names or logos that are associated most commonly with the 15 integrated major refiners as defined in the Emergency Petroleum Allocation Act of 1973. These refiners are: Amoco, Atlantic Richfield, Chevron, Cities Service, Continental, Exxon, Getty, Gulf, Marathon, Mobil, Phillips, Shell, Sun, Texaco, and Union Oil of California. The nonmajor brand category includes all the other stations in the survey. Stations using secondary brands of major refiners are included in the nonmajor brand category, as these stations typically price their gasoline to compete with independent refiner and market-brand stations.

Stations owned and operated directly by refiners are not included in this survey.

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. 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.

20. The weighted average for all fossil fuels includes peaking fuels and distillate fuel oil delivered to utilities for the total United States, whereas the regional and total United States breakdown for residual fuel oil prices represents all heavy fuel oil prices.

Conversion Factors

Thermal Conversion Factors

Approximate Heat Content of Various Fuels		1973	1974	1975	1976	1977–78–79
Anthracite						
Production	Btu/short ton	23,170,000	22,560,000	23,390,000	22,770,000	22,500,000
Imports and Exports	Btu/short ton	25,400,000	25,400,000	25,400,000	25,400,000	25,400,000
Consumption, average	Btu/short ton	22,710,00	21,950,000	21,740,000	22,150,000	22,000,000
Electric utility consumption	Btu/short ton	17,200,000	17,200,000	17,060,000	17,530,000	17,240,000
Non-utility consumption	Btu/short ton	24,590,000	23,750,000	23,650,000	23,840,000	23,790,000
Bituminous coal and lignite						
Production	Btu/short ton	24,010,000	23,730,000	23,200,000	23,150,000	22,900,000
Imports	Btu/short ton	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000
Exports	Btu/short ton	27,000,000	27,000,000	27,000,000	27,000,000	27,000,000
Consumption, average	Btu/short ton	23,650,000	23,070,000	22,800,000	22,750,000	22,570,000
Electric utility consumption	Btu/short ton	22,180,000	21,800,000	21,660,000	21,690,000	21,520,000
Non-utility consumption	Btu/short ton	27,020,000	26,120,000	25,810,000	25,870,000	26,020,000
Coal Coke	Btu/short ton	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000
Crude petroleum[1]						
Production	Btu/barrel	5,800,000	5,800,000	5,800,000	5,800,000	5,800,000
Imports	Btu/barrel	5,817,131	5,825,768	5,821,375	5,808,452	5,809,909
Exports	Btu/barrel	5,800,000	5,800,000	5,800,000	5,800,000	5,800,000
Crude petroleum and products						
Imports, average	Btu/barrel	5,897,122	5,883,985	5,857,876	5,856,076	5,834,208
Exports, average	Btu/barrel	5,752,455	5,773,577	5,748,482	5,745,450	5,796,948
Petroleum products						
Consumption, average	Btu/barrel	5,514,605	5,503,841	5,494,291	5,504,484	5,526,069
Electric utility consumption	Btu/barrel	6,128,488	6,128,058	6,109,112	6,129,283	6,126,858
Non-utility consumption	Btu/barrel	5,454,865	5,443,438	5,437,208	5,444,956	5,464,678
Imports	Btu/barrel	5,983,262	5,959,487	5,934,666	5,980,372	5,907,512
Exports	Btu/barrel	5,752,055	5,773,222	5,746,991	5,743,408	5,796,155
Natural gas plant liquid production	Btu/barrel	4,049,369	4,010,663	3,983,763	3,964,050	3,941,159
Natural gas, dry						
Production and consumption	Btu/cubic foot	1,021	1,024	1,021	1,020	1,021
Electric utility consumption	Btu/cubic foot	1,024	1,022	1,026	1,023	1,029
Non-utility consumption	Btu/cubic foot	1,020	1,024	1,020	1,019	1,019
Imports	Btu/cubic foot	1,026	1,027	1,026	1,025	1,026
Exports	Btu/cubic foot	1,023	1,016	1,014	1,013	1,013
Hydropower[2]	Btu/kWh	10,389	10,442	10,406	10,373	10,435
Nuclear power[2]	Btu/kWh	10,903	11,161	11,013	11,047	10,769
Geothermal power[2]	Btu/kWh	21,674	21,674	21,611	21,611	21,611
Electricity consumption	Btu/kWh	3,412	3,412	3,412	3,412	3,412

Refined Petroleum Products:	Btu/barrel
Asphalt	6,636,000
Aviation gasoline	5,048,000
Butane	4,326,000
Butane-propane mixture[3]	4,130,000
Distillate fuel oil	5,825,000
Ethane	3,082,000
Isobutane	3,974,000
Jet fuel—kerosene type	5,670,000
Jet fuel—naphtha type	5,355,000
Kerosene	5,670,000
Lubricants	6,065,000
Motor gasoline	5,253,000
Natural gasoline	4,620,000
Petrochemical feedstocks	
Naphtha 400°	5,248,000
Other oils over 400°	5,825,000
Still gas	6,000,000
Petroleum coke	6,024,000
Plant condensate	5,418,000
Propane	3,836,000
Residual fuel oil	6,287,000
Road oil	6,636,000
Special naphtha	5,248,000
Still gas	6,000,000
Unfinished oils	5,825,000
Wax	5,537,000
Miscellaneous	5,796,000

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_3O_8) **contains** 0.769 metric tons of uranium
1 short ton (UF_6) **contains** 0.613 metric tons of uranium
1 metric ton (UF_6) **contains** 0.676 metric tons of uranium

[1]Includes lease condensate
[2]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.
[3] 60 percent butane and 40 percent propane.

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