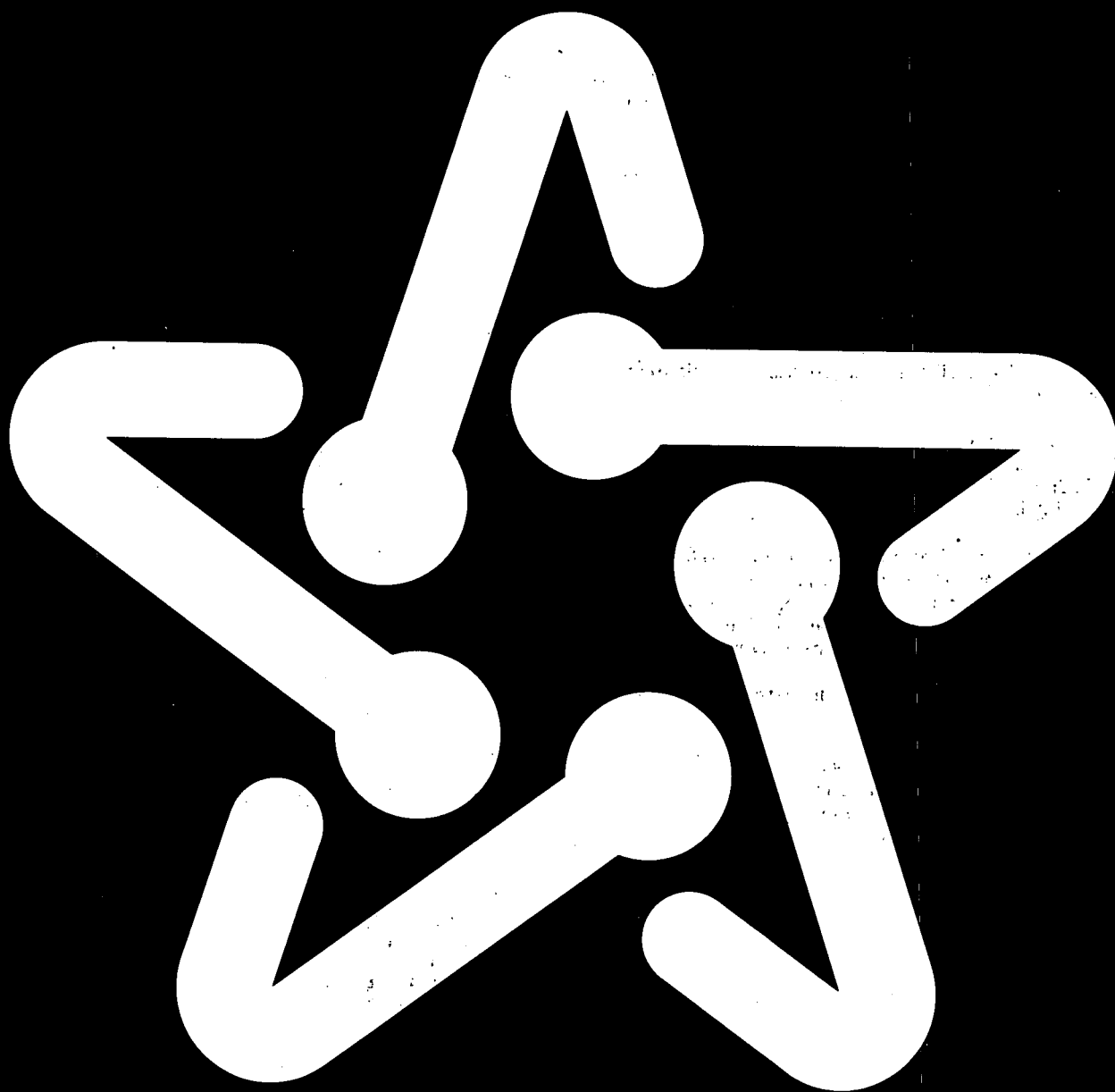


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September 1977

Monthly Energy Review



**Office of Energy Information and Analysis,
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**National Energy
Information Center**

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Energy Consumption — March 1975

Nuclear Power — April 1975

The Price of Crude Oil — June 1975

U.S. Coal Resources and Reserves — July 1975

Propane, A National Energy Resource — September 1975

Short-Term Energy Supply and Demand Forecasting at FEA — October 1975

Curtailments of Natural Gas Service — January 1976

Home Heating Conservation Alternatives and the Solar Collector Industry — March 1976

Trends in United States Petroleum Imports — September 1976

Crude Oil Entitlements Program — January 1977

Motor Gasoline Supply and Demand—July 1977

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Part 1

Overview

Domestic energy production in July 1977 exceeded the production level for the same month a year ago by nearly 1 percent, continuing the uptrend that began in March. Energy output for the first 7 months of the year averaged 165 trillion Btu per day (the equivalent of 28.4 million barrels per day of crude oil), 0.5 percent higher than for the January-July period of 1976. Increased coal production in the West was responsible for a 3-percent rise in coal output over the period, counterbalancing the production lost due to wildcat strikes in the East. Crude oil output for the January-July period was down 2.5 percent despite the commencement of North Slope oil flow through the Alaskan pipeline. (North Slope production amounted to an estimated 100,000 barrels per day in June and 200,000 barrels per day in July.) Natural gas production showed a 1.5-percent rise compared with the level for the first 7 months of 1976, and nuclear electric power generation was 45.2 percent greater, the result of increased capacity and high reactor performance levels. Hydroelectric power output was down nearly one-fourth because of the drought.

Imports of fossil fuels continued strong in July, averaging 52 trillion Btu per day (or 8.9 million barrels per day of crude oil equivalent), up 6.8 percent from the July 1976 import rate. During the January-July 1977 period fossil fuel imports were 25.8 percent greater than in the same months of 1976, with the largest increase of 34.2 percent posted for crude oil. Imports of refined petroleum products increased 9.9 percent during the period, and natural gas imports were 7.0 percent higher. Not included in these import statistics was a total of 414,000 barrels of crude oil received in July designated for the Strategic Petroleum Reserve (SPR). Imports for the SPR will not appear in the statistics until the oil is withdrawn for actual consumption.

The United States consumed an average of 212 trillion Btu per day of energy (or 36 million barrels per day of crude oil equivalent) during the first half of 1977, 4.8 percent more than in the first half of 1976. Substantial increases in demand for residual and distillate fuel oils and a moderate rise in motor gasoline consumption resulted in an overall increase of 8.6 percent in refined petroleum product consumption. Coal use was 6.5 percent higher during the period,

and natural gas consumption was 1.8 percent lower.

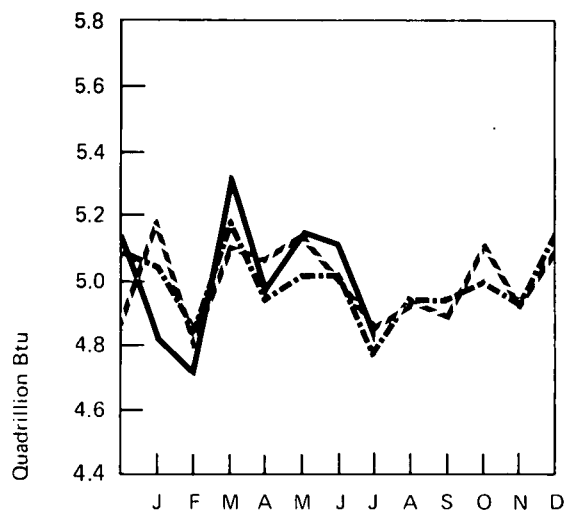
Increased use of fuel oil and coal by utilities for electricity generation was a major reason for the high demand for these fuels. Utility oil consumption in the first 5 months of 1977 was 21.3 percent greater than in the same period of 1976 while coal consumption was up 5.9 percent. Utilities generally account for about one-fourth of the Nation's fuel oil use and three-fourths of the Nation's coal use. During the first 7 months of the year, electric utilities generated 5.6 percent more power than in the same months of 1976.

Retail motor gasoline prices were stable in July, in contrast to the seasonal price increase that normally occurs during this month. The full service regular gasoline selling price was 63.4 cents per gallon, the same as in June, while the self service price for regular declined by 0.1 cent to 59.2 cents per gallon. Full service premium gasoline was unchanged at 68.9 cents per gallon, and unleaded rose 0.1 cent to 67.3 cents per gallon.

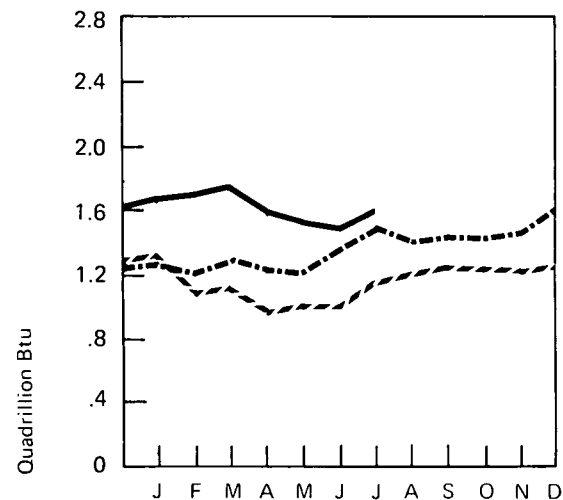
Total world crude oil production increased 710,000 barrels per day in June to 59.5 million barrels per day, recovering about half of the production drop that occurred in May. The Organization of Petroleum Exporting Countries produced an average of 31.0 million barrels per day during June, up 2.6 percent from the production level during the same month in 1976.

		Domestic Production of Energy*	Imports of Fossil Fuels**	Domestic Consumption of Energy***
1972	TOTAL	62.937	11.563	71.895
1973	TOTAL	62.373	14.519	74.551
1974	TOTAL	61.138	14.114	72.601
1975	January	5.199	1.334	6.927
	February	4.793	1.093	6.054
	March	5.118	1.128	6.267
	April	5.060	0.971	5.685
	May	5.148	1.030	5.368
	June	4.999	1.027	5.315
	July	4.849	1.164	5.550
	August	4.942	1.220	5.634
	September	4.896	1.272	5.388
	October	5.118	1.232	5.801
	November	4.918	1.210	5.747
	December	5.095	1.255	6.821
	TOTAL	60.134	13.935	70.557
1976	January	5.056	1.296	7.173
	February	4.834	1.210	6.247
	March	5.194	1.301	6.252
	April	4.937	1.245	5.731
	May	5.034	1.232	5.655
	June	5.035	1.391	5.692
	July	4.777	1.507	5.883
	August	4.952	1.416	5.824
	September	4.949	1.465	5.602
	October	5.005	1.448	6.103
	November	4.916	1.498	6.585
	December	5.141	1.610	7.493
	TOTAL	59.830	16.619	74.242
1977	January	4.819	1.700	7.704
	February	R4.704	1.718	6.520
	March	R5.323	R1.786	R6.398
	April	R4.963	R†1.617	R†5.833
	May	R†5.150	R†1.564	R†5.907
	June	R†5.113	R†1.505	††5.937
	July	†4.817	†1.609	NA
	TOTAL	34.889	11.499	38.299
		(7 months)	(7 months)	(6 months)

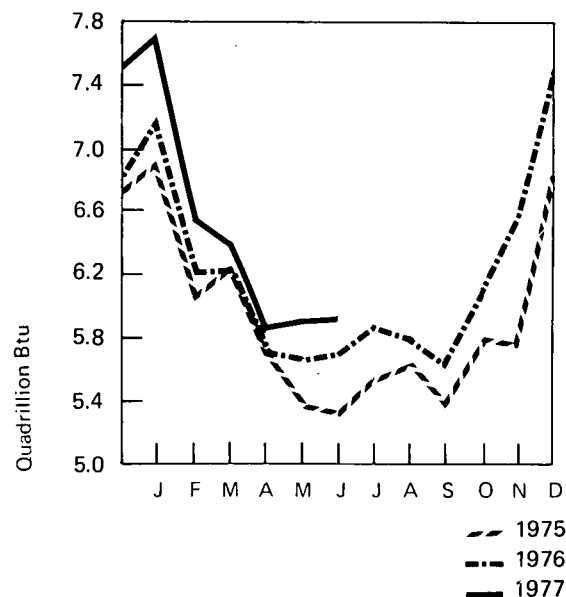
Domestic Production of Energy



Imports of Fossil Fuels



Domestic Consumption of Energy



*See Explanatory Note 1.

**See Explanatory Note 2.

***See Explanatory Note 3.

†Preliminary data.

††Partially estimated.

R=Revised data.

NA=Not available.

Source: FEA calculations based on data appearing elsewhere in this publication.

Part 2

Crude Oil and Refined Petroleum Products

Crude Oil and Refined Petroleum Products

Domestic demand for petroleum products averaged 17.6 million barrels per day in July, 6.1 percent above demand for July 1976. Most of the increased demand was for residual and distillate fuel oils.

Residual fuel oil demand for July is estimated at 2.8 million barrels per day, 10.6 percent above the July 1976 rate. To accommodate the increased demand, domestic refinery production of residual increased 29.1 percent from the July 1976 level, while imports declined 18.7 percent. Stocks of residual fuel oil on July 31, 1977, were 1.0 percent lower than stocks last July.

Distillate fuel oil demand for July of 2.5 million barrels per day was 9.2 percent higher than last July's rate. Domestic refinery production was 6.5 percent higher than last year. Stocks, which are being built up in anticipation of winter, were 206 million barrels at the end of July, 7.7 percent higher than the level a year earlier.

Motor gasoline demand in July is estimated at 7.6 million barrels per day, 3.2 percent greater than for a year ago. Stocks, which are much higher than in previous years, measured 251.5 million barrels at the end of July.

Total petroleum imports averaged close to 8.5 million barrels per day in July 1977, 7.2 percent higher than in July 1976. Crude oil imports averaged over 6.6 million barrels per day, nearly 15 percent greater than for a year ago.

Domestic crude oil production in July 1977 was 7.9 million barrels per day, 2.7 percent below the July 1976 level. The July 1977 level included an estimated 200,000 barrels per day of Alaskan North Slope production.

The first shipment of crude oil for the Strategic Petroleum Reserve, amounting to 414,000 barrels, was unloaded into bonded storage on July 20, 1977. This shipment will not be included in import and demand statistics until it is released for use from the Strategic Petroleum Reserve.

Crude Oil

		Crude Input to Refineries	Domestic Production*	Imports*	Stocks*
		Thousands of barrels per day			Thousands of barrels
1972	AVERAGE	11,696	9,441	2,216	**246,395
1973	AVERAGE	12,431	9,208	3,244	**242,478
1974	AVERAGE	12,133	8,774	3,477	**265,020
1975	January	12,297	8,455	4,029	R270,462
	February	12,135	8,591	3,828	276,755
	March	11,905	8,493	3,656	279,989
	April	11,803	8,457	3,378	281,908
	May	11,983	8,379	3,486	280,961
	June	12,417	8,421	3,905	276,132
	July	12,915	8,336	4,192	264,157
	August	13,046	8,249	4,581	256,616
	September	12,945	8,280	4,689	259,446
	October	12,365	8,324	4,389	269,584
	November	12,689	8,278	4,623	270,950
	December	12,779	8,254	4,476	271,354
	AVERAGE	12,442	8,375	4,105	
1976	January	12,560	8,211	4,595	289,296
	February	12,834	8,196	4,208	277,414
	March	12,877	8,175	4,738	283,112
	April	12,727	8,080	4,790	286,628
	May	12,920	8,168	4,669	283,982
	June	13,799	8,144	5,621	281,715
	July	13,901	8,104	5,792	282,599
	August	13,888	8,074	5,556	277,272
	September	13,716	8,185	5,875	284,357
	October	13,319	8,049	5,699	297,683
	November	14,101	8,043	5,946	298,836
	December	14,333	8,006	5,925	285,471
	AVERAGE	13,416	8,119	5,287	
1977	January	14,140	7,790	6,288	294,037
	February	14,740	8,067	6,652	291,387
	March	14,270	8,022	6,633	299,464
	April	14,246	R8,079	R6,936	310,137
	May	R14,657	R7,899	R6,609	R319,331
	June	R14,861	R7,896	R6,461	R325,499
	July	14,853	7,888	6,656	R344,101
	AVERAGE (7 months)	14,535	7,947	6,603	

*See Definitions.

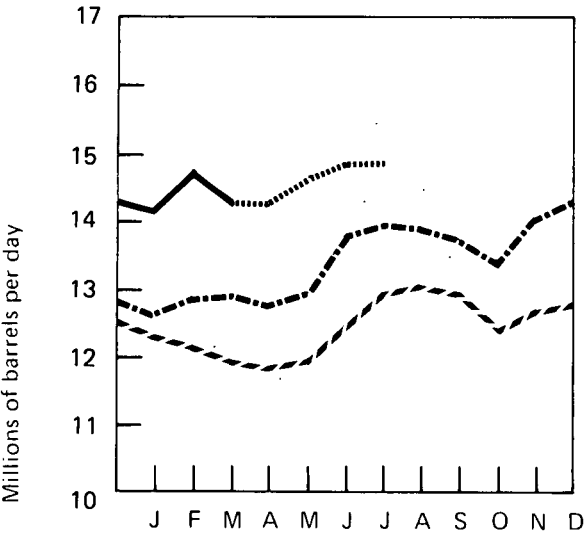
**Total as of December 31.

R=Revised data.

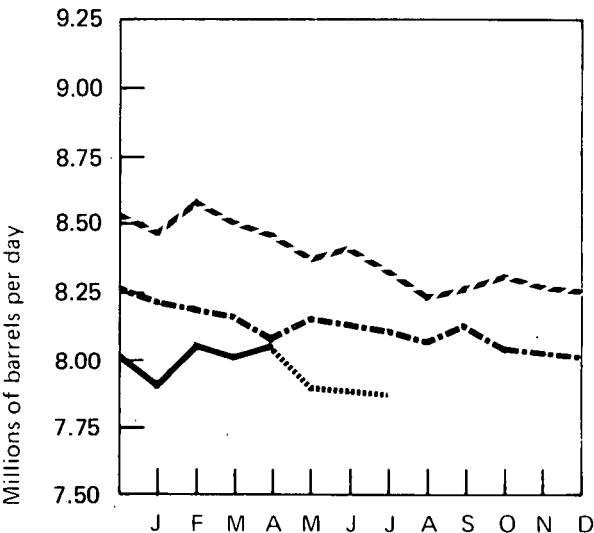
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through March 1977 and through April 1977 for domestic crude oil production; Federal Energy Administration (FEA) "Monthly Petroleum Statistics Report" for April, May, and June 1977 and for July 1977 domestic crude oil production; remaining July 1977 data are FEA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

Crude Oil

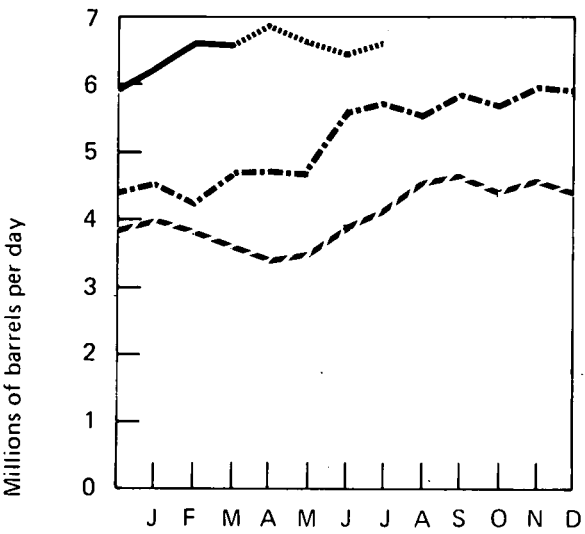
Crude Input to Refineries



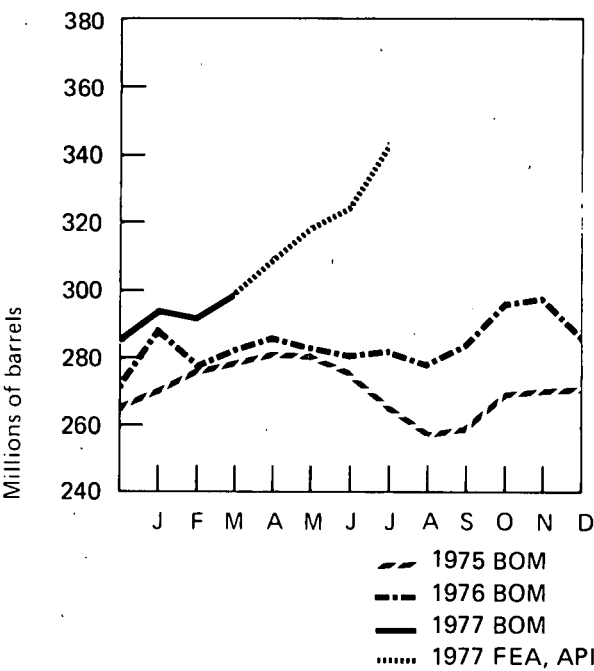
Domestic Production



Imports



Stocks



--- 1975 BOM
 -.- 1976 BOM
 — 1977 BOM
 1977 FEA, API

Total Refined Petroleum Products

Total Petroleum Imports

(Crude Oil and Refined Products)

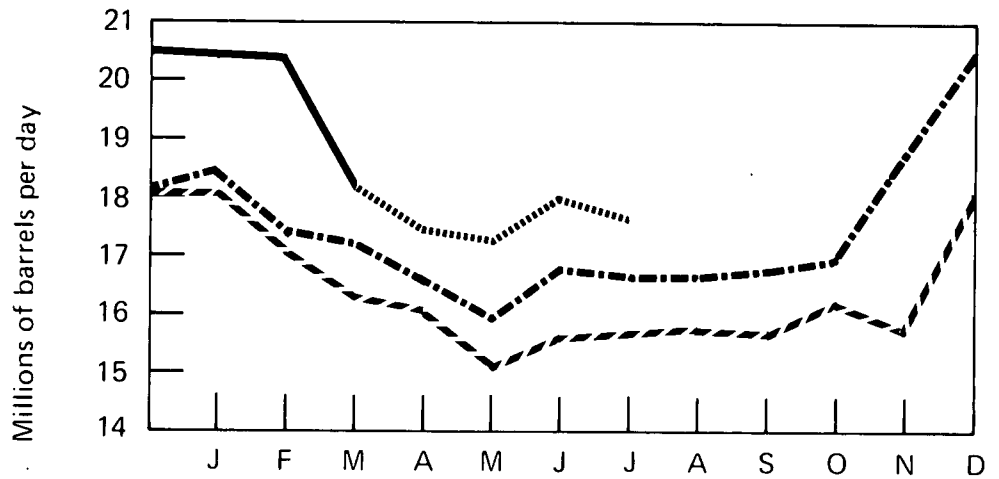
		Domestic Demand	Imports*	
		Thousands of barrels per day		Thousands of barrels per day
1972	AVERAGE	16,367	2,525	4,741
1973	AVERAGE	17,308	3,012	6,256
1974	AVERAGE	16,653	2,635	6,112
1975	January	18,004	2,832	6,861
	February	17,084	2,348	6,176
	March	16,315	2,074	5,730
	April	16,048	1,662	5,040
	May	15,155	1,728	5,214
	June	15,610	1,502	5,407
	July	15,740	1,767	5,959
	August	15,806	1,717	6,298
	September	15,768	2,115	6,804
	October	16,377	1,940	6,329
	November	15,777	1,796	6,419
	December	18,185	1,949	6,425
	AVERAGE	16,322	1,951	6,056
1976	January	18,599	2,070	6,665
	February	17,429	2,423	6,631
	March	17,299	1,946	6,684
	April	16,672	1,806	6,596
	May	15,977	1,654	6,323
	June	16,836	1,858	7,479
	July	16,613	2,098	7,890
	August	16,642	1,826	7,382
	September	16,825	2,038	7,913
	October	17,052	1,808	7,507
	November	18,847	2,114	8,060
	December	20,506	2,468	8,393
	AVERAGE	17,443	2,007	7,295
1977	January	20,481	2,595	8,883
	February	20,427	3,278	9,930
	March	18,056	2,611	9,244
	April	17,545	R1,778	R8,714
	May	R17,298	R1,551	R8,160
	June	R18,005	R1,672	R8,133
	July	17,621	1,800	8,456
	AVERAGE (7 months)	18,470	2,172	8,776

*See Definitions.

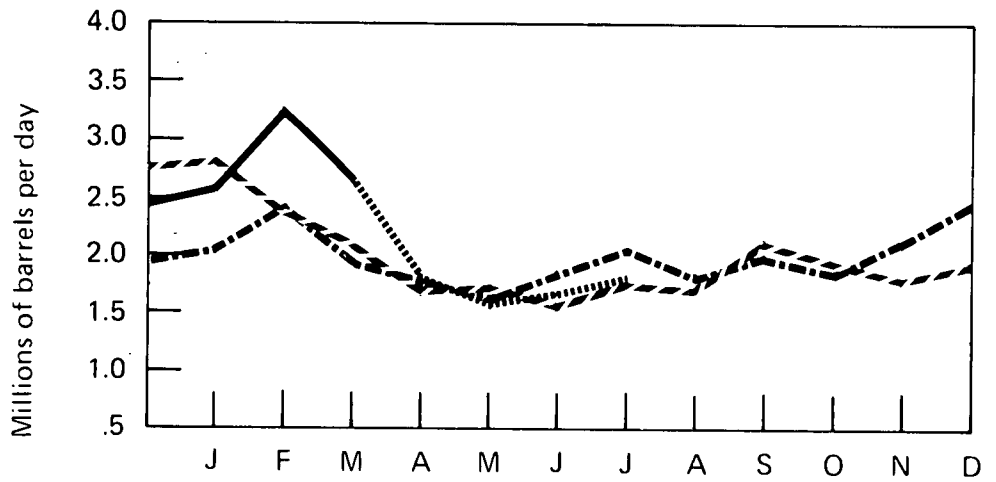
R=Revised data.

Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through March 1977; Federal Energy Administration (FEA) "Monthly Petroleum Statistics Report" for April, May, and June 1977; July 1977 data are FEA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

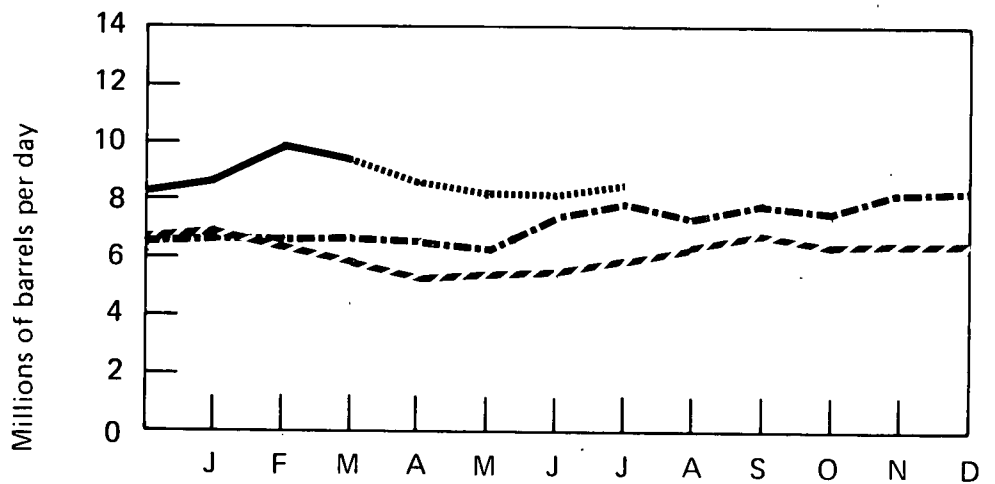
Total Refined Product Domestic Demand



Refined Product Imports



Total Petroleum Imports



--- 1975 BOM
 -.- 1976 BOM
 — 1977 BOM
 1977 FEA, API

Direct and Indirect* U.S. Petroleum Imports from OPEC Countries

	Algeria	Indonesia	Iran	Libya	Nigeria	Saudi Arabia	United Arab Emirates	Venezuela	Other OPEC**	Total OPEC	Arab Members of OPEC
Thousands of barrels per day											
1973											
Direct	134.2	212.7	222.7	164.3	458.9	487.3	70.6	1,124.7	106.5	2,981.9	914.4
Indirect	17.0	25.0	211.0	144.0	149.0	253.0	13.0	509.0	88.0	1,409.0	463.0
Total	151.2	237.7	433.7	308.3	607.9	740.3	83.6	1,633.7	194.5	4,390.9	1,377.4
1974											
Direct	190.2	300.1	468.8	4.4	697.6	460.6	70.5	979.3	88.3	3,259.8	748.5
Indirect	16.9	40.8	262.2	35.9	214.6	214.6	17.3	478.5	128.7	1,409.5	357.9
Total	207.1	340.9	731.0	40.3	912.2	675.2	87.8	1,457.8	217.0	4,669.3	1,106.4
1975											
Direct											
January	280.1	293.9	394.1	18.7	882.3	847.6	46.9	1,016.1	130.6	3,910.3	1,267.0
February	239.4	318.7	297.1	82.2	846.1	794.5	105.9	763.2	135.5	3,582.6	1,260.3
March	295.8	286.4	180.6	174.7	835.5	637.4	113.2	722.2	168.7	3,414.5	1,281.8
April	225.9	351.1	345.9	124.9	618.7	427.6	70.4	823.9	61.6	3,050.0	853.1
May	345.4	358.7	225.5	211.4	643.5	335.2	124.7	801.3	159.1	3,204.8	1,041.2
June	346.8	480.9	231.5	182.9	619.1	500.5	77.3	711.3	130.7	3,281.0	1,131.1
July	346.6	463.4	217.4	248.0	714.9	587.7	107.2	679.0	115.6	3,479.8	1,301.7
August	268.8	472.4	203.4	407.0	804.1	748.5	259.5	521.8	90.5	3,776.0	1,718.0
September	284.1	410.0	276.7	456.6	817.0	730.7	216.1	624.4	145.1	3,960.7	1,701.7
October	235.6	402.2	310.7	236.3	772.5	961.1	93.3	514.9	109.2	3,634.8	1,575.4
November	295.7	396.9	472.9	275.6	801.7	933.9	69.1	584.7	72.2	3,902.7	1,585.0
December	211.0	390.6	186.2	354.6	784.9	1,074.7	114.2	622.1	130.1	3,868.4	1,777.7
Total Direct	281.5	388.4	280.4	232.0	761.5	715.0	116.7	697.6	116.1	3,589.2	1,381.3
Indirect	6.7	49.3	244.4	97.3	76.3	176.6	37.5	332.5	143.2	1,163.8	408.8
Total	288.2	437.7	524.8	329.3	837.8	891.6	154.2	1,030.1	259.3	4,753.0	1,790.1
1976											
Direct											
January	345.5	478.0	387.5	451.3	781.7	1,111.9	118.8	533.7	86.3	4,294.7	2,045.7
February	357.4	465.3	241.2	328.4	830.9	1,080.9	118.5	838.6	102.8	4,364.0	1,925.3
March	347.2	552.0	292.5	372.2	896.8	1,145.0	159.4	468.1	111.8	4,345.0	2,058.5
April	446.5	467.6	323.3	356.2	997.0	1,027.5	195.5	496.8	81.6	4,392.0	2,036.2
May	410.6	485.5	183.7	362.0	855.1	1,141.5	214.5	487.7	135.9	4,276.5	2,138.8
June	501.2	603.6	323.2	487.8	1,127.6	1,205.0	290.1	668.0	70.5	5,277.0	2,486.5
July	451.0	581.0	374.3	487.1	1,136.7	1,327.7	305.2	808.0	208.8	5,679.8	2,711.4
August	510.0	554.5	294.2	463.5	1,029.4	1,317.6	228.1	704.0	133.6	5,234.9	2,597.4
September	435.3	570.2	274.6	491.0	1,173.0	1,288.1	335.1	932.4	198.7	5,698.4	2,748.2
October	357.2	487.4	284.2	456.2	1,097.5	1,366.2	304.4	772.8	232.7	5,358.5	2,578.8
November	502.0	647.1	316.8	533.9	1,173.8	1,316.1	341.1	810.8	170.7	5,812.3	2,768.4
December	379.9	556.4	289.5	637.2	1,193.6	1,404.0	448.0	868.4	194.8	5,971.8	2,956.6
Total Direct	428.3	537.4	298.5	453.3	1,025.2	1,229.8	255.2	699.2	134.0	5,060.9	2,421.0
Indirect	10.0	32.0	248.0	76.0	94.0	136.0	68.0	273.0	82.0	1,019.0	352.0
TOTAL	438.3	569.4	546.5	529.3	1,119.2	1,365.8	323.2	972.2	216.0	6,079.9	2,773.0
1977											
Direct											
January	493.0	571.6	316.4	543.8	1,278.2	1,346.1	297.4	785.6	344.4	5,976.5	2,932.1
February	659.7	545.9	412.7	638.0	1,265.1	1,442.7	316.7	918.4	241.0	6,440.2	3,135.6
March	459.8	567.0	735.0	701.2	1,300.0	1,371.6	369.5	664.3	184.3	6,352.7	3,022.1
Total Direct	533.6	562.2	490.5	627.3	1,614.9	1,385.1	328.4	785.0	256.8	6,250.6	3,026.5
Indirect	18.8	99.2	332.3	159.8	146.2	204.9	102.3	278.5	129.6	1,471.6	583.0
TOTAL	552.4	661.4	822.8	787.1	1,761.1	1,590.0	430.7	1,063.5	386.4	7,722.2	3,609.5
(3 months)											

*Indirect imports refer to U.S. imports of petroleum products, primarily from Caribbean and European areas, that have been refined from crude oil produced in other areas. U.S. imports of these products have been prorated to each OPEC country of origin based on the share of total crude oil supply in the Caribbean and European areas which was imported from each OPEC country.

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

Sources: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly;" "PAD Districts Supply/Demand, Monthly;" and FEA estimates.

U.S. Petroleum Imports from Non-OPEC Sources

	Bahamas	Canada	Netherlands Antilles	Puerto Rico	Trinidad and Tobago	Virgin Islands	Other	Total
Thousands of barrels per day								
1973	170.8	1,312.9	573.6	99.3	250.6	329.2	537.8	3,274.2
1974	159.3	1,067.6	509.6	90.4	241.2	391.7	392.6	2,852.4
1975								
January	216.1	949.1	549.4	99.0	232.9	563.5	319.5	2,929.5
February	213.9	854.5	315.2	148.8	255.1	490.3	315.7	2,593.5
March	162.6	746.9	279.5	139.0	185.7	506.4	295.7	2,315.8
April	168.9	704.3	237.7	73.1	171.8	353.3	273.9	1,983.0
May	122.3	574.2	242.9	77.9	237.1	413.4	304.2	1,971.7
June	130.0	872.7	261.6	75.1	204.5	352.6	229.6	2,126.1
July	178.3	889.1	368.3	104.9	281.1	320.8	358.7	2,501.2
August	135.8	887.9	333.1	72.9	289.4	399.1	364.9	2,483.1
September	143.6	918.0	428.6	66.9	283.2	389.7	614.3	2,844.3
October	135.8	946.3	357.8	105.8	222.2	336.3	557.6	2,661.8
November	88.8	893.1	280.0	60.6	265.5	353.0	518.8	2,459.8
December	119.5	907.3	238.0	50.9	262.5	405.9	375.0	2,359.1
Total	152.0	845.2	323.6	89.7	240.9	406.5	377.5	2,435.4
1976								
January	134.1	681.7	291.7	71.0	343.2	468.4	380.2	2,370.3
February	127.6	644.9	262.4	122.2	326.3	462.3	321.7	2,267.4
March	50.4	590.2	328.7	114.0	315.6	424.5	475.5	2,338.9
April	131.9	578.4	274.9	68.5	291.9	341.2	516.5	2,203.3
May	95.2	614.9	214.1	70.6	257.5	388.5	405.7	2,046.5
June	104.2	653.3	190.4	54.3	319.3	427.5	453.0	2,202.0
July	112.8	581.7	259.1	77.9	279.2	386.5	513.4	2,210.6
August	98.5	580.9	268.7	81.5	163.6	437.2	516.6	2,147.0
September	143.1	564.8	273.3	104.1	182.6	408.5	537.9	2,214.3
October	78.3	562.0	239.0	92.2	215.2	460.5	502.0	2,149.2
November	140.4	561.8	267.6	104.1	254.3	454.4	465.3	2,247.9
December	141.5	578.3	400.3	98.5	324.2	408.4	470.5	2,421.3
Total	116.5	599.3	274.6	88.1	272.6	422.3	460.6	2,234.0
1977								
January	166.9	614.2	288.3	82.5	303.4	424.4	563.6	2,443.3
February	292.2	590.2	428.6	86.3	413.3	547.7	1,097.6	3,455.9
March	200.4	561.7	257.3	97.4	286.5	505.5	981.9	2,890.7
TOTAL (3 months)	217.3	588.6	321.2	88.8	331.7	490.8	874.1	2,912.5

Source: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly" and "PAD Districts Supply/Demand, Monthly."

Motor Gasoline

		Domestic Demand	Production*	Imports	Stocks*
		Thousands of barrels per day			Thousands of barrels
1972	AVERAGE	6,376	6,281	68	**212,770
1973	AVERAGE	6,674	6,527	134	**209,395
1974	AVERAGE	6,537	6,358	204	**218,346
1975	January	6,206	6,509	262	***242,285
	February	6,096	6,276	171	251,915
	March	6,326	6,070	150	248,685
	April	6,718	6,046	133	232,556
	May	6,871	6,126	142	213,947
	June	7,076	6,669	177	207,114
	July	7,041	7,003	209	212,454
	August	7,008	6,872	232	215,480
	September	6,729	6,823	269	226,447
	October	6,778	6,410	207	221,493
	November	6,390	6,602	139	232,091
	December	6,808	6,786	119	234,925
	AVERAGE	6,675	6,518	184	
1976	January	6,398	6,483	92	240,464
	February	6,263	6,472	84	248,854
	March	6,890	6,455	123	239,049
	April	7,159	6,562	99	223,965
	May	6,853	6,774	112	225,037
	June	7,482	7,303	188	225,365
	July	7,315	7,174	190	226,922
	August	7,168	7,149	141	230,578
	September	7,079	6,878	171	229,751
	October	6,929	6,678	138	226,300
	November	7,038	6,938	146	227,742
	December	7,138	7,176	84	231,387
	AVERAGE	6,978	6,837	131	
1977	January	6,466	6,934	222	252,608
	February	6,897	6,817	184	255,519
	March	R6,899	R6,864	245	264,686
	April	R7,337	6,967	233	R262,118
	May	R7,032	6,950	202	262,066
	June	R7,567	R7,104	R243	R255,463
	July	7,550	7,274	206	251,458
	AVERAGE (7 months)	7,107	6,989	220	

*See Definitions.

**Total as of December 31.

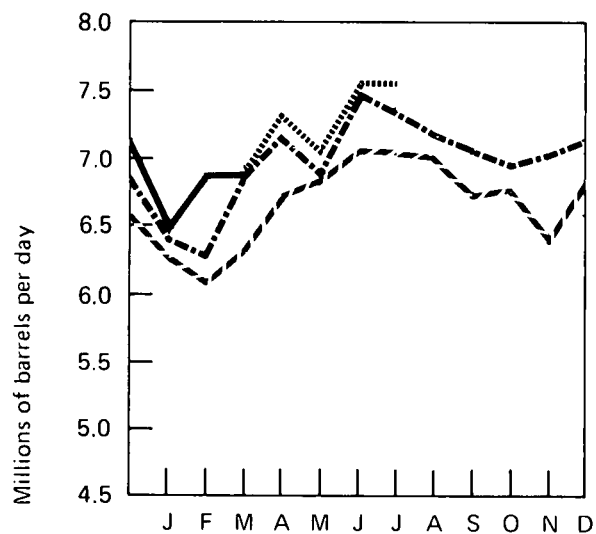
***Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.

R=Revised data.

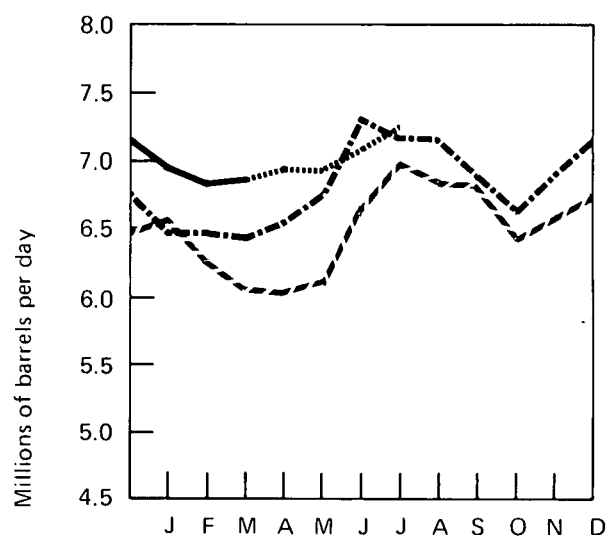
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through March 1977; Federal Energy Administration (FEA) "Monthly Petroleum Statistics Report" for April, May, and June 1977; July 1977 data are FEA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

Motor Gasoline

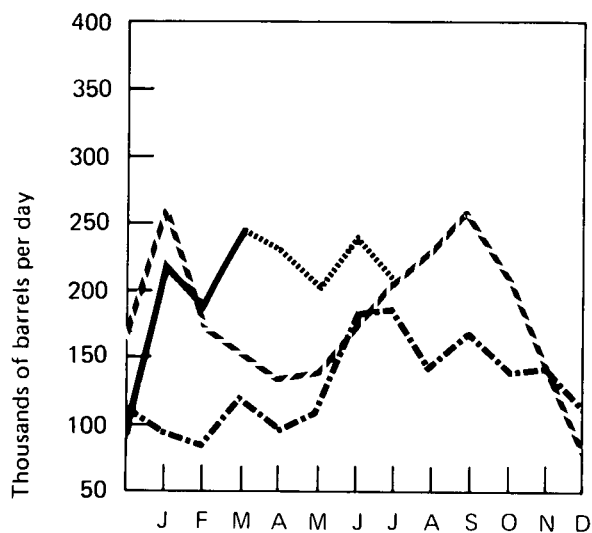
Domestic Demand



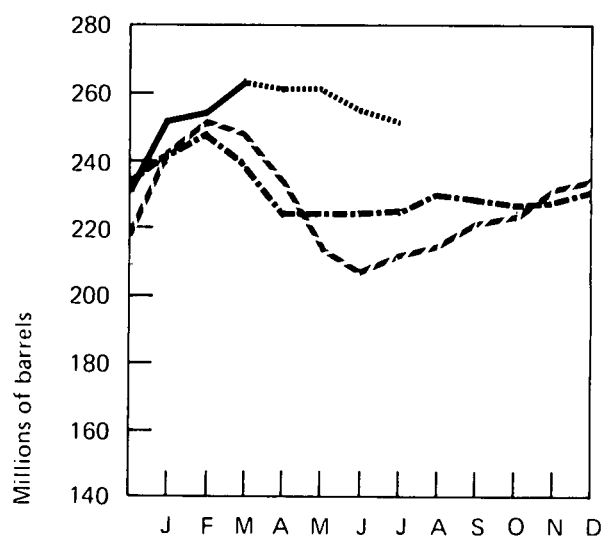
Production



Imports



Stocks



--- 1975 BOM
 -.- 1976 BOM
 — 1977 BOM
 1977 FEA, API

Jet Fuel

		Domestic Demand	Production	Imports	Stocks
		Thousands of barrels per day			Thousands of barrels
1972	AVERAGE	1,045	847	194	*25,493
1973	AVERAGE	1,059	859	212	*28,544
1974	AVERAGE	993	836	163	*29,435
1975	January	1,041	831	229	**30,321
	February	1,075	835	200	29,133
	March	982	896	130	30,456
	April	1,006	864	137	30,263
	May	977	861	133	30,719
	June	989	839	106	29,337
	July	954	883	88	29,798
	August	1,046	958	132	31,103
	September	1,040	907	140	31,291
	October	997	864	106	30,410
	November	999	864	89	28,977
	December	911	849	109	30,380
	AVERAGE	1,001	871	133	
1976	January	948	889	69	30,618
	February	965	918	71	31,180
	March	965	927	86	32,619
	April	1,010	927	108	33,332
	May	960	899	106	34,664
	June	972	879	68	33,879
	July	1,099	933	130	32,732
	August	965	942	38	33,121
	September	1,048	990	63	33,204
	October	911	890	50	34,032
	November	978	920	56	33,859
	December	1,027	900	72	32,085
	AVERAGE	987	918	76	
1977	January	1,054	917	77	30,170
	February	1,036	974	74	30,455
	March	1,041	954	98	30,739
	April	1,027	990	90	32,271
	May	R981	979	R48	R33,644
	June	R992	R995	R33	R34,651
	July	1,019	949	66	35,155
	AVERAGE (7 months)	1,021	965	69	

*Total as of December 31.

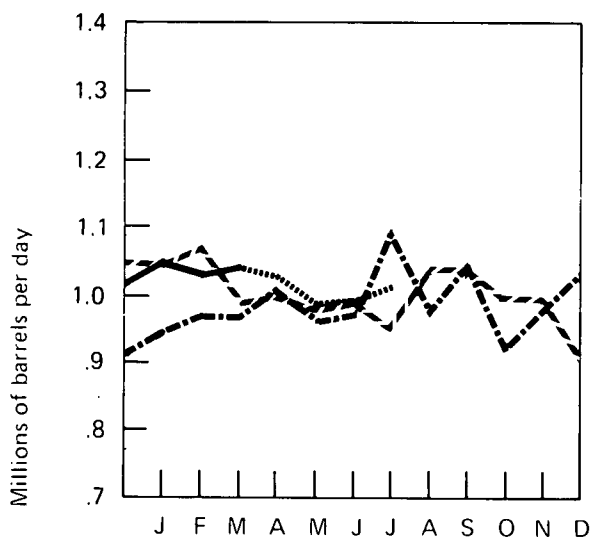
**Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.

R=Revised data.

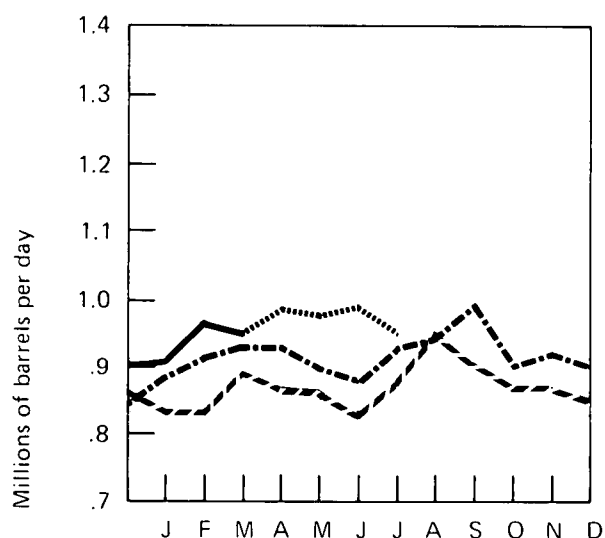
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through March 1977; Federal Energy Administration (FEA) "Monthly Petroleum Statistics Report" for April, May, and June 1977; July 1977 data are FEA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

Jet Fuel

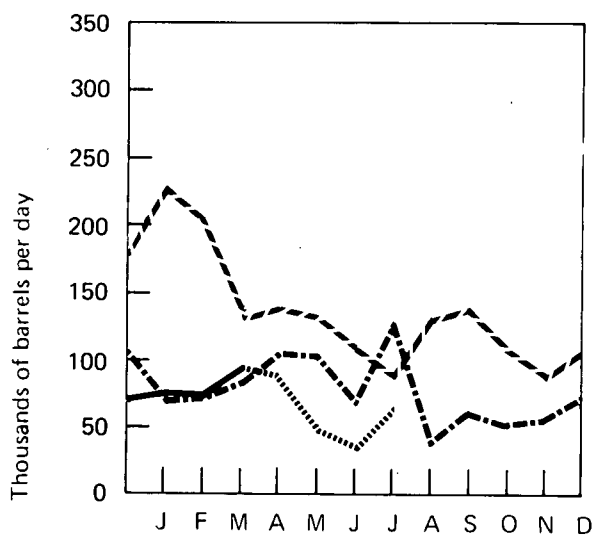
Domestic Demand



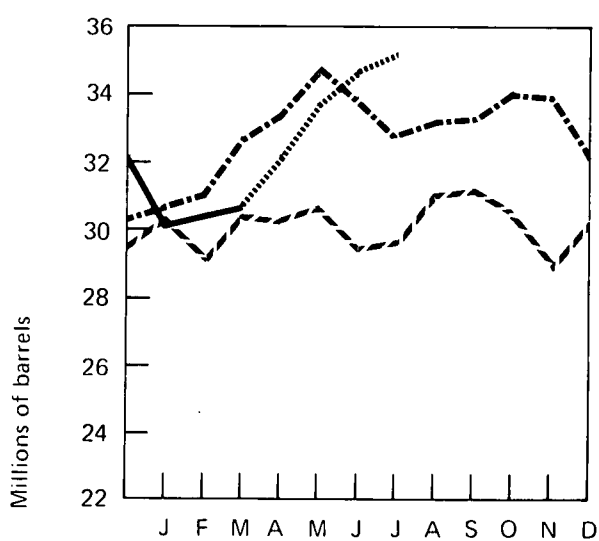
Production



Imports



Stocks



--- 1975 BOM
 -.- 1976 BOM
 — 1977 BOM
 1977 FEA, API

Distillate Fuel Oil

		Domestic Demand	Production*	Imports	Stocks*
		Thousands of barrels per day			Thousands of barrels
1972	AVERAGE	2,913	2,630	182	**154,284
1973	AVERAGE	3,092	2,820	392	**196,421
1974	AVERAGE	2,948	2,668	289	**200,029
1975	January	3,963	2,852	334	***199,715
	February	3,803	2,679	302	176,696
	March	3,292	2,532	255	161,111
	April	3,094	2,487	110	146,214
	May	2,382	2,431	136	152,027
	June	2,267	2,574	69	163,306
	July	2,109	2,590	104	181,472
	August	2,173	2,592	92	197,323
	September	2,163	2,812	130	220,732
	October	2,677	2,745	104	226,113
	November	2,544	2,767	96	235,749
	December	3,792	2,783	138	208,787
	AVERAGE	2,851	2,653	155	
1976	January	4,298	2,734	164	165,428
	February	3,687	2,961	207	150,439
	March	3,336	2,793	151	138,306
	April	2,788	2,655	96	137,249
	May	2,519	2,738	97	147,057
	June	2,436	2,885	151	165,064
	July	2,255	2,959	126	190,861
	August	2,237	2,982	131	217,930
	September	2,618	2,947	147	232,230
	October	3,029	2,995	141	235,599
	November	3,714	3,181	135	223,648
	December	4,650	3,255	179	185,948
	AVERAGE	3,130	2,924	144	
1977	January	5,111	3,375	350	142,989
	February	4,714	3,702	664	133,261
	March	3,421	3,179	519	141,882
	April	2,978	3,021	157	148,094
	May	R2,747	3,118	R83	162,123
	June	R2,775	R3,200	R132	R178,795
	July	2,462	3,151	119	205,649
	AVERAGE (7 months)	3,446	3,244	285	

*See Definitions.

**Total as of December 31.

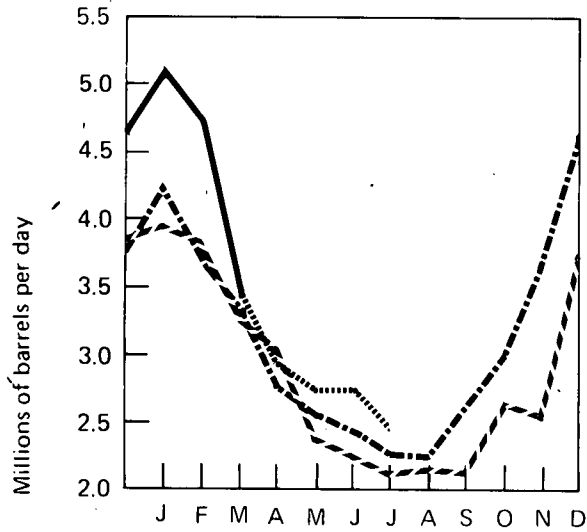
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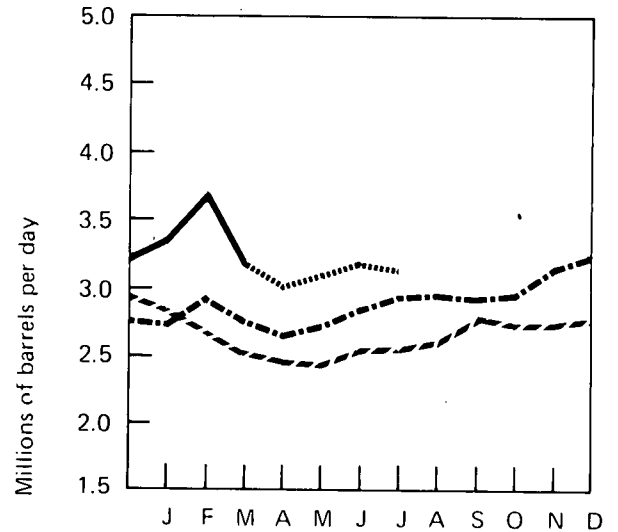
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through March 1977; Federal Energy Administration (FEA) "Monthly Petroleum Statistics Report" for April, May, and June 1977; July 1977 data are FEA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

Distillate Fuel Oil

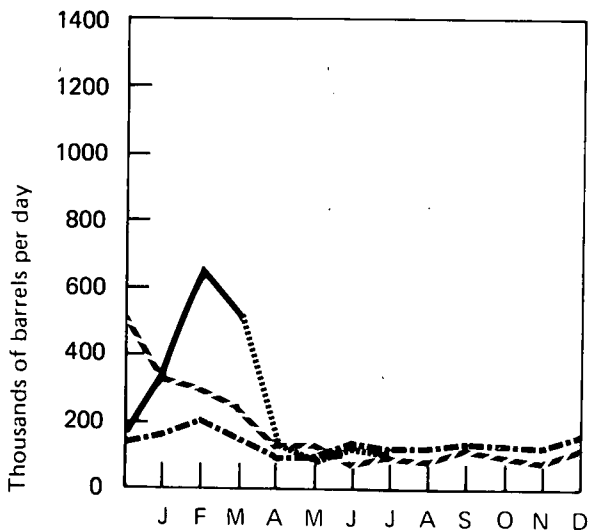
Domestic Demand



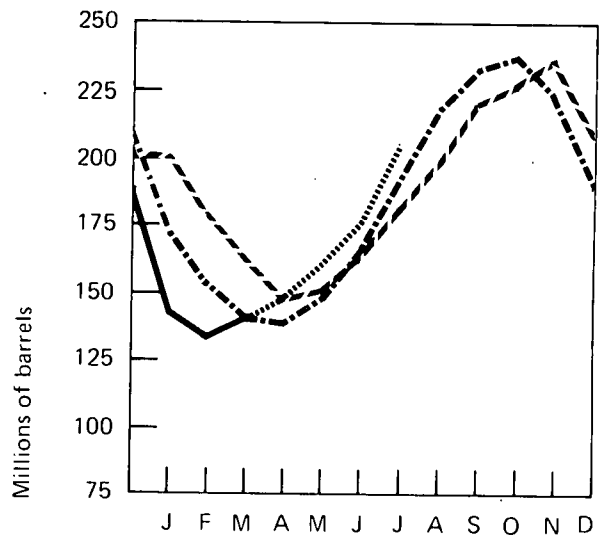
Production



Imports



Stocks



--- 1975 BOM
 -.- 1976 BOM
 — 1977 BOM
 1977 FEA, API

Residual Fuel Oil

		Domestic Demand	Production	Imports	Stocks
		Thousands of barrels per day			Thousands of barrels
1972	AVERAGE	2,529	799	1,742	*55,216
1973	AVERAGE	2,822	971	1,853	*53,480
1974	AVERAGE	2,639	1,070	1,587	*59,694
1975	January	3,253	1,415	1,657	**69,233
	February	2,849	1,354	1,402	66,495
	March	2,669	1,299	1,293	64,148
	April	2,232	1,245	1,054	66,340
	May	2,087	1,151	1,160	73,498
	June	2,177	1,152	902	69,660
	July	2,220	1,155	1,125	71,526
	August	2,157	1,146	1,021	71,857
	September	2,328	1,183	1,311	76,938
	October	2,268	1,165	1,251	81,858
	November	2,405	1,214	1,225	83,131
	December	2,912	1,354	1,283	74,126
	AVERAGE	2,462	1,235	1,223	
1976	January	3,069	1,415	1,406	66,592
	February	3,007	1,394	1,703	68,859
	March	2,779	1,311	1,342	65,132
	April	2,496	1,283	1,258	66,458
	May	2,439	1,257	1,134	65,147
	June	2,520	1,241	1,240	64,272
	July	2,555	1,266	1,462	69,812
	August	2,678	1,321	1,307	68,490
	September	2,517	1,330	1,442	76,436
	October	2,511	1,351	1,234	79,117
	November	3,253	1,581	1,474	73,284
	December	3,608	1,772	1,791	72,344
	AVERAGE	2,786	1,377	1,402	
1977	January	3,741	1,889	1,596	64,749
	February	3,662	1,951	1,943	71,414
	March	3,150	1,715	1,417	71,186
	April	2,861	1,703	1,131	70,165
	May	R2,650	1,668	R1,089	73,376
	June	R2,880	R1,700	R1,128	R71,730
	July	2,825	1,634	1,188	69,139
	AVERAGE (7 months)	3,104	1,749	1,350	

*Total as of December 31.

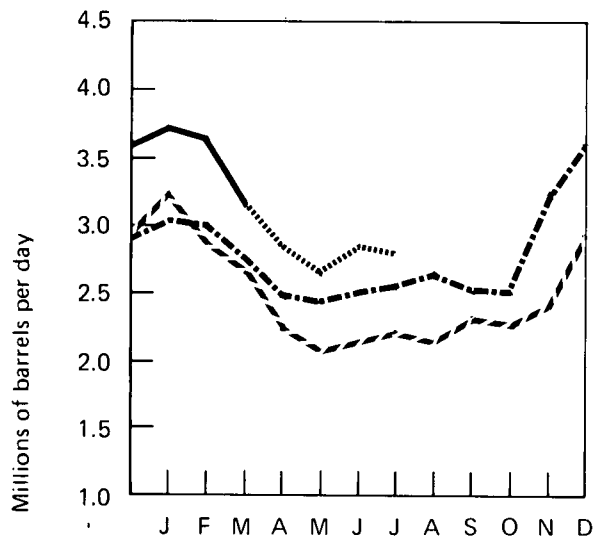
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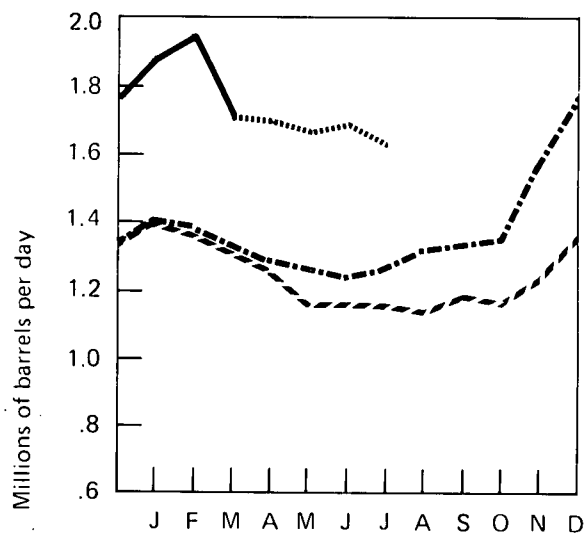
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through March 1977; Federal Energy Administration (FEA) "Monthly Petroleum Statistics Report" for April, May, and June 1977; July 1977 data are FEA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

Residual Fuel Oil

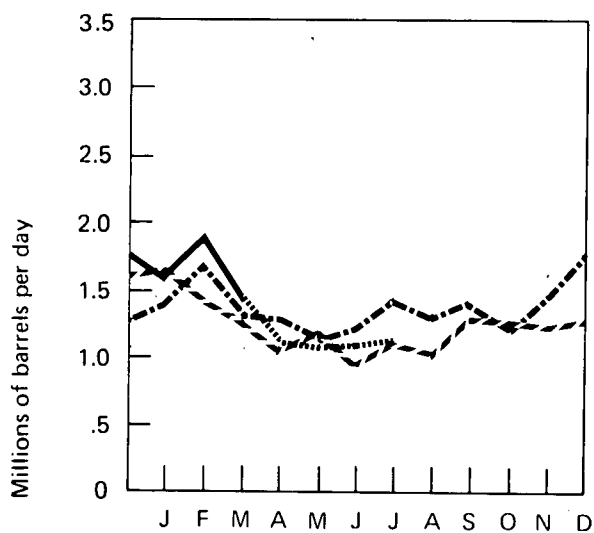
Domestic Demand



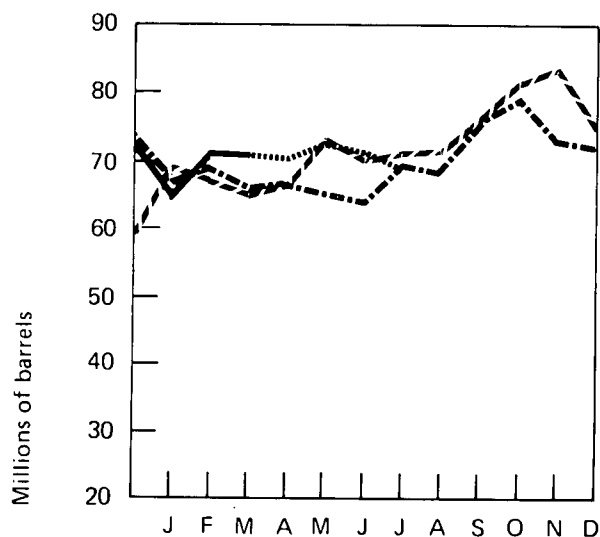
Production



Imports



Stocks



--- 1975 BOM
 -.- 1976 BOM
 — 1977 BOM
 1977 FEA, API

Natural Gas Liquids

		Domestic Demand*	Production*		Used at Refineries*	Imports	Stocks*, Thousands of barrels
			At processing plants	At refineries			
			Thousands of barrels per day				
1972	AVERAGE	1,420	1,744	365	826	174	**92,024
1973	AVERAGE	1,454	1,738	375	815	239	**106,659
1974	AVERAGE	1,422	1,688	338	746	212	**120,175
1975	January	1,708	1,630	307	756	257	110,697
	February	1,512	1,646	296	734	181	106,205
	March	1,404	1,658	280	731	178	104,365
	April	1,242	1,635	273	667	176	105,521
	May	1,002	1,607	299	628	97	119,052
	June	998	1,646	323	659	166	132,553
	July	1,191	1,621	336	701	173	139,095
	August	1,227	1,650	357	690	163	145,920
	September	1,278	1,577	326	703	209	148,948
	October	1,429	1,643	310	729	198	147,793
	November	1,444	1,635	309	759	196	145,052
	December	1,787	1,646	310	768	232	132,653
	AVERAGE	1,352	1,633	311	710	185	
1976	January	1,885	1,585	305	728	240	116,707
	February	1,518	1,640	316	793	270	113,373
	March	1,303	1,615	333	674	194	117,486
	April	1,201	1,616	349	716	171	123,100
	May	1,074	1,588	376	695	144	131,421
	June	1,110	1,606	356	718	163	139,291
	July	1,103	1,592	354	710	147	147,034
	August	1,213	1,596	362	695	160	152,704
	September	1,243	1,601	352	713	152	156,436
	October	1,497	1,601	309	709	203	152,666
	November	1,413	1,621	331	726	244	143,422
	December	1,921	1,589	341	853	269	124,518
	AVERAGE	1,407	1,604	340	725	196	
1977	January	2,018	1,549	323	730	331	106,524
	February	1,887	1,589	336	693	238	94,128
	March	1,354	1,687	331	688	239	100,025
	AVERAGE (3 months)	1,749	1,609	330	704	270	

*See Explanatory Note 4.

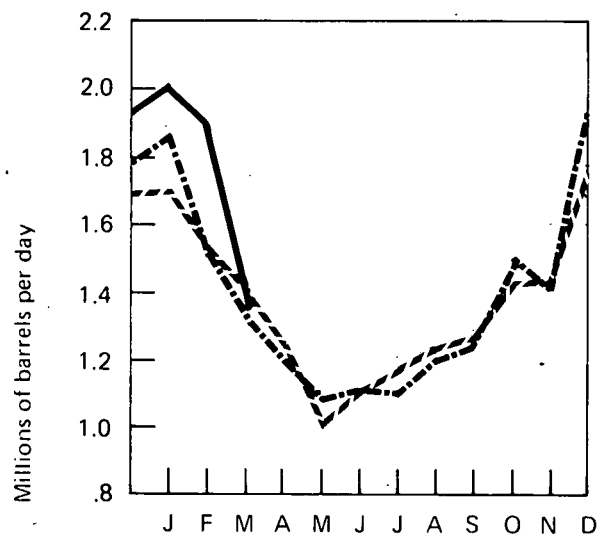
**Total as of December 31.

Note: The stocks series has been revised to include stocks of liquefied refinery gas (LRG).

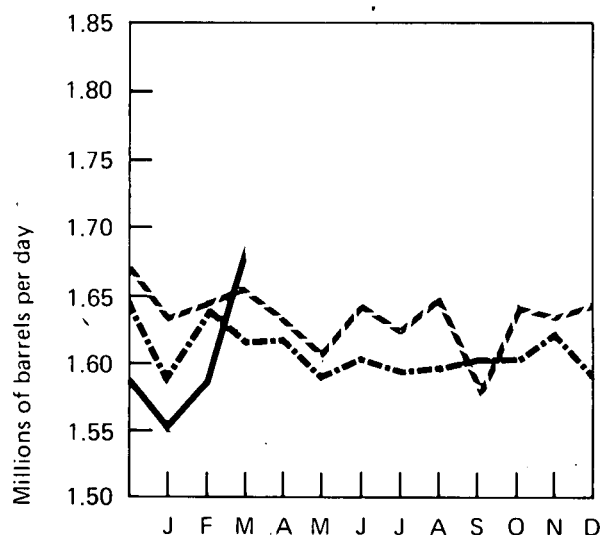
Source: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly."

Natural Gas Liquids

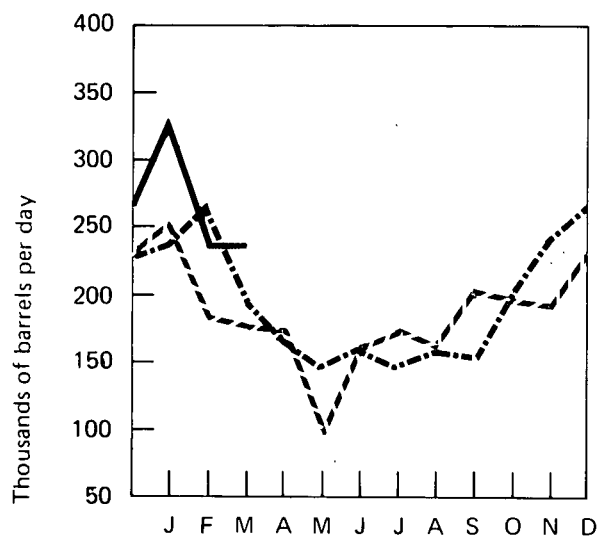
Domestic Demand



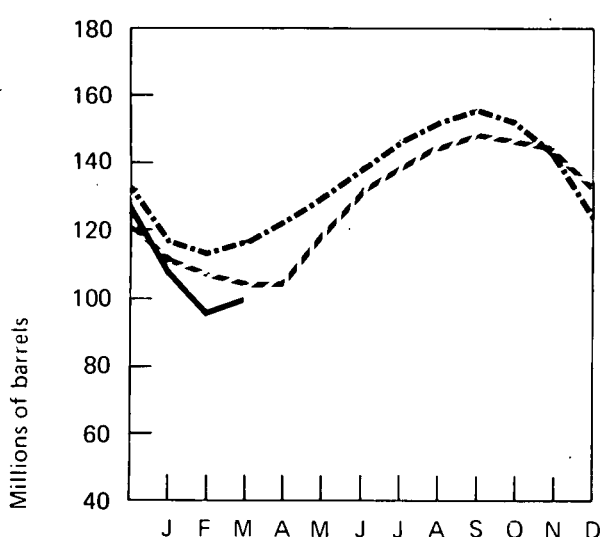
Production at Processing Plants



Imports



Stocks



--- 1975
 -.- 1976
 — 1977

U.S. Petroleum Supply and Demand

1976
Actual

1st Qtr. 2nd Qtr. 3rd Qtr. 4th Qtr. Year

Thousands of barrels per day

Supply

Crude oil and lease condensate production	8,194	8,131	8,120	8,033	8,119
Natural gas plant liquids production	1,612	1,604	1,597	1,604	1,604
Other hydrocarbon supply	37	38	37	40	38
Crude oil imports	4,520	5,023	5,740	5,856	5,287
Refined products imports*	2,140	1,771	1,987	2,130	2,008
Total new supply	16,503	16,567	17,481	17,663	17,056
Processing gain	485	495	469	460	478
Stock change—all oils	-797	+363	+1,065	-866	-58
Total net supply	17,785	16,699	16,885	18,989	17,592
Unaccounted for crude oil**	+204	+8	+42	+101	+89

Demand

Crude oil and refined products exports	192	204	220	274	223
Crude oil losses	14	14	15	15	14
Domestic demand for refined products***	17,783	16,489	16,692	18,801	17,444
Total demand	17,989	16,707	16,927	19,090	17,681

1977

Actual

Forecast †

1st Qtr. 2nd Qtr. 3rd Qtr. 4th Qtr. Year ††

Thousands of barrels per day

Supply

Crude oil and lease condensate production	7,956	8,107	8,600	8,988	8,416
Natural gas plant liquids production	1,609	1,541	1,524	1,541	1,553
Other hydrocarbon supply	44	36	36	36	38
Crude oil imports	6,520	6,106	6,007	5,635	6,064
Refined products imports*	2,813	1,673	1,659	2,504	2,160
Total new supply	18,942	17,463	17,826	18,704	18,231
Processing gain	520	512	523	518	518
Stock change—all oils	-278	+565	+594	-165	+180
Total net supply	19,740	17,410	17,755	19,387	18,569
Unaccounted for crude oil**	+114	0	0	0	+28

Demand

Crude oil and refined products exports	210	206	198	195	202
Crude oil losses	15	13	13	13	13
Domestic demand for refined products***	19,629	17,191	17,544	19,179	18,382
Total demand	19,854	17,410	17,755	19,387	18,597

*Includes plant condensate and unfinished oils.

**Balancing item resulting from statistical inconsistencies.

***Includes international bunkers.

†See Explanatory Note 5 for discussion of basic assumptions for forecast.

††Calculated using actual 1st Quarter data and FEA forecast for remainder of year.

Note: 1st Quarter and year data for 1977 have been partially revised.

Sources: 1976—Bureau of Mines *Mineral Industry Surveys*, "PAD Districts Supply/Demand;" 1st Quarter 1977—BOM *Mineral Industry Surveys*, "Petroleum Statement, Monthly;" 2nd, 3rd, and 4th Quarters 1977—FEA forecast.

Natural Gas

Marketed production of natural gas in July was estimated at about the same level as July 1976 production. Production for the first 7 months of 1977 was estimated to be 0.8 percent above the total for the corresponding period of 1976.

Imports of natural gas in July were estimated to be 2.7 percent greater than the July 1976 import level, and for the first 7 months of the year, were estimated to be 6.5 percent greater than for the same period a year ago.

Domestic consumption of natural gas was estimated to be down 4.3 percent in July and down 2.5 percent in the first 7 months of 1977 compared to the same periods in 1976.

Underground natural gas storage inventories of working gas* at the end of July totaled 2,386 billion cubic feet, up 6.9 percent from the July 31, 1976, level. Net injections into storage during July were 13.3 percent greater than July 1976 injections.

*Gas available for withdrawal.

Natural Gas

		Domestic Consumption*	Marketed Production*	Domestic Producer Sales to Major Interstate Pipelines	Imports
Billion cubic feet					
1972	TOTAL	22,102	22,532	12,429	1,019
1973	TOTAL	22,049	22,648	12,067	1,033
1974	TOTAL	21,223	21,601	11,462	959
1975	January	2,248	1,778	950	81
	February	1,939	1,640	867	75
	March	1,903	1,740	948	83
	April	1,575	1,677	906	82
	May	1,331	1,689	898	80
	June	1,257	1,634	859	76
	July	1,313	1,677	873	80
	August	1,369	1,677	882	75
	September	1,370	1,603	836	74
	October	1,544	1,646	877	80
	November	1,640	1,618	853	81
	December	2,049	1,730	903	86
	TOTAL	19,538	20,109	10,652	953
1976	January	2,288	1,745	894	83
	February	1,935	1,641	850	79
	March	1,717	1,709	894	85
	April	1,505	1,633	849	85
	May	1,431	1,668	860	83
	June	1,331	1,637	815	77
	July	1,369	1,671	822	74
	August	1,313	1,631	810	76
	September	1,298	1,562	793	74
	October	1,618	1,632	840	85
	November	1,871	1,629	841	81
	December	2,229	1,745	872	84
	TOTAL	19,905	19,903	10,140	966
1977	January	2,394	1,742	848	85
	February	1,796	1,671	807	85
	March	R1,695	1,744	910	R106
	April	R1,417	R1,637	NA	R***88
	May	R1,360	R**1,693	NA	***85
	June	R1,310	R***1,640	NA	***78
	July	1,310	***1,670	NA	***76
	TOTAL (7 months)	11,282	11,797	2,565 (3 months)	603

*See Explanatory Note 6.

**Preliminary data.

***Projected data.

R=Revised data.

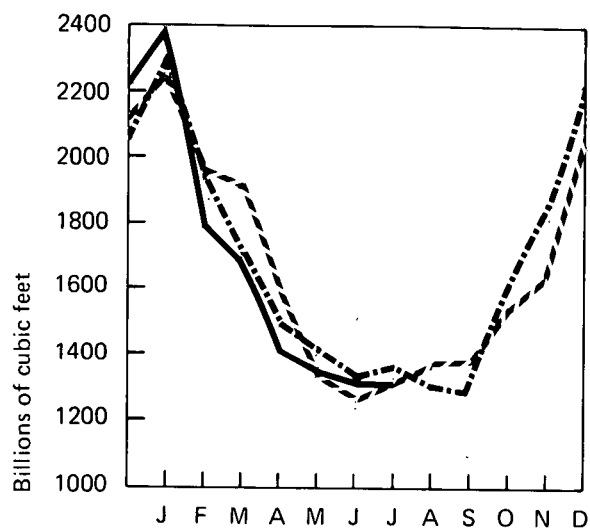
NA=Not available.

Note: All monthly Domestic Consumption data are estimated.

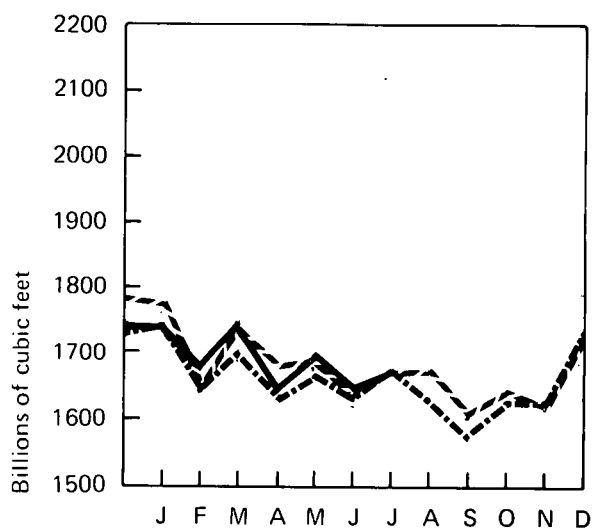
Sources: Domestic Consumption—Bureau of Mines, "Minerals and Materials/A Monthly Survey" (advance estimates are subject to revision prior to publication by BOM); Marketed Production and Imports—Bureau of Mines *Mineral Industry Surveys*, "Natural Gas, Monthly;" Domestic Producer Sales—Federal Power Commission Form 11, "Monthly Statement of Gas Operating Revenues, Sales."

Natural Gas

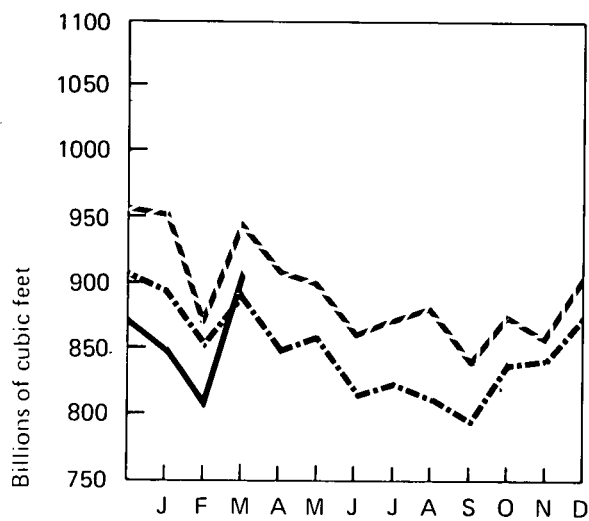
Domestic Consumption



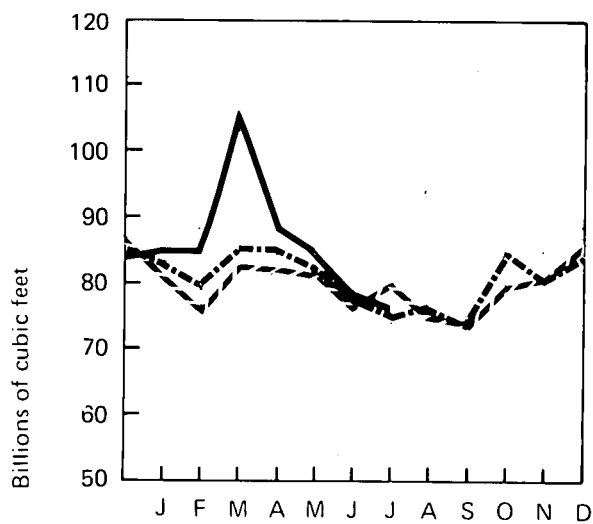
Marketed Production



Domestic Producer Sales to Major Interstate Pipelines



Imports



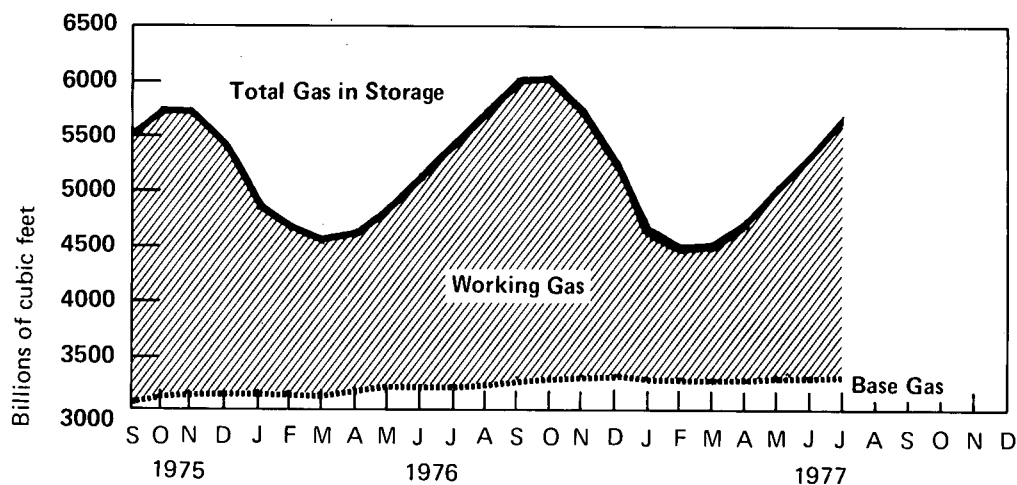
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Natural Gas (Continued)

Natural Gas in Underground Storage*

		Total Gas in Storage	Base Gas	Working Gas	Storage Injections	Storage Withdrawals	Net Storage Injections
Billion cubic feet							
1974	October**	5,445	3,042	2,403	***	***	***
1975	September	5,558	3,084	2,474	225	31	193
	October	5,770	3,128	2,642	248	94	154
	November	5,760	3,172	2,588	99	150	-51
	December	5,423	3,173	2,250	35	375	-340
1976	January	4,868	3,194	1,674	22	574	-552
	February	4,660	3,197	1,463	67	275	-208
	March	4,543	3,195	1,348	81	199	-118
	April	4,650	3,208	1,443	176	70	106
	May	4,878	3,214	1,664	262	34	228
	June	5,163	3,220	1,943	312	27	285
	July	5,476	3,244	2,232	311	11	300
	August	5,759	3,272	2,487	295	13	282
	September	6,021	3,317	2,704	267	21	246
	October	6,030	3,327	2,703	132	123	9
	November	5,779	3,330	2,449	41	298	-257
	December	5,284	3,334	1,950	23	518	-495
1977	January	4,621	3,317	1,304	17	681	-664
	February	4,490	3,307	1,183	104	234	-130
	March	4,544	3,310	1,234	190	137	53
	April	4,755	3,311	1,444	256	45	211
	May	5,074	3,317	1,757	338	18	320
	June	5,386	3,324	2,062	322	10	312
	July	5,728	3,342	2,386	355	15	340

Gas in Storage



*See Explanatory Note 7.

**Data reported as of November 1, 1974.

***Between November 1, 1974, and August 31, 1975, a total of 1,658 billion cubic feet of gas was injected into storage and 1,686 billion cubic feet was withdrawn, for net storage injections of -28 billion cubic feet.

Sources: Federal Energy Administration Form G318-M-O and Federal Power Commission Form 8.

Coal

Production of bituminous coal and lignite declined to 47.8 million tons in July 1977 after reaching a high of 63.8 million tons in June. This decrease was due to wildcat work stoppages in the Appalachian coal fields where members of the United Mine Workers of America (UMWA) are protesting cutbacks in their union health benefits. Absenteeism is reported to have involved up to 85,000 miners, or approximately half the UMWA membership, since mid-June. Also contributing to the production decline was the miners' annual vacation which continued through July 23. Production for the first 7 months of 1977, however, was up 2.6 percent from production during the same period in 1976, although production losses in 1977 are actually quite large when compared with expected full capacity. Weekly production had reached a record high level of 15 million tons during 2 separate weeks in June, reflecting the startup of new production capacity located primarily in the West.

Domestic consumption of bituminous coal and lignite totaled 50.0 million tons in May 1977, up 17.3 percent and 7.6 percent from consumption in May 1975 and 1976, respectively. The increases are due primarily to steadily climbing consumption in the electric utility sector. Utility coal consumption was 30.1 million tons in May 1975, 33.7 million tons in May 1976, and 37.0 million tons in May 1977. However, coal's share of gross energy input to electricity production rose only 3 percentage points between May 1975 and May 1977. The second largest coal consuming sector, metallurgical coke plants, consumed 7.0 million tons of coal in May 1977. The remaining 6.0 million tons were consumed by general industry and retail dealers.

Stocks of bituminous coal and lignite on May 31, 1977, were 137.5 million tons, or 85 days' supply at current burn rates, down 3.0 million tons from the level for the same month last year. Electric utilities built up their coal stockpiles from 103.9 million tons, or 75 days' supply, on January 31, 1977, to 120.4 million tons, or 101 days' supply, on May 31, 1977. This 4-month buildup may be in anticipation of further labor disputes when the UMWA contract expires in December 1977. The current

wildcat work stoppages have already resulted in lower May stock levels. Stocks of coking coal, plus the effective coking coal supply represented by coke stocks,* were 20.5 million tons at the end of May, or 92 days' supply. Coal stocks for general industry (nonutility, noncoke) were 6.4 million tons, or 35 days' supply.

In June the United States exported 6.0 million tons of coal, the highest monthly level in 1977 to date. Canada received 38.3 percent of the shipments, and Japan received 26.9 percent. Exports for the first half of 1977 were 25.9 million tons, 9.8 percent below the amount exported a year earlier, and 23.3 percent below the amount for the January-June period of 1975.

*Coking-coal stocks were 10.6 million tons and coke stocks were 6.7 million tons, the latter representing 9.9 million tons of original coking coal at a 1.47 coal to coke ratio.

Bituminous and Lignite

		Domestic Consumption*	Production*	Exports	Stocks
		Thousands of short tons			
1972	TOTAL	516,776	595,386	55,997	**117,442
1973	TOTAL	556,022	591,738	52,903	**103,022
1974	TOTAL	552,709	603,406	59,926	**95,528
1975	January	49,841	55,610	4,254	95,512
	February	45,699	51,135	4,470	97,028
	March	47,202	51,910	5,653	97,832
	April	43,537	56,330	6,159	102,663
	May	42,658	57,045	7,011	109,666
	June	44,777	55,730	6,269	114,857
	July	47,454	45,560	4,691	109,133
	August	49,190	51,160	5,859	108,522
	September	44,032	56,060	4,529	111,922
	October	44,929	60,030	4,647	120,344
	November	45,946	54,655	7,593	125,808
	December	51,036	53,213	4,534	127,115
	TOTAL***	556,301	648,438	65,669	
1976	January	52,919	51,501	3,697	119,149
	February	46,800	52,636	3,050	118,970
	March	48,607	60,056	3,979	123,441
	April	46,450	57,856	5,780	128,343
	May	46,506	56,611	5,667	134,621
	June	48,472	58,436	6,569	140,237
	July	51,696	43,250	4,879	129,606
	August	52,069	53,440	4,223	123,662
	September	47,750	59,675	5,613	129,867
	October	49,248	57,498	5,871	133,581
	November	51,320	56,995	5,451	135,402
	December	55,642	57,046	4,625	133,673
	TOTAL***	597,479	665,000	59,406	
1977	January	57,032	44,555	2,143	118,080
	February	50,756	R50,365	3,079	114,387
	March	50,238	65,020	3,390	122,584
	April	46,886	57,160	5,637	129,830
	May	50,015	61,560	5,673	137,518
	June	NA	63,810	6,019	NA
	July	NA	47,785	NA	NA
	TOTAL	254,927 (5 months)	390,255 (7 months)	25,941 (6 months)	

*See Explanatory Note 8.

**Total as of December 31.

***Totals may not add due to rounding.

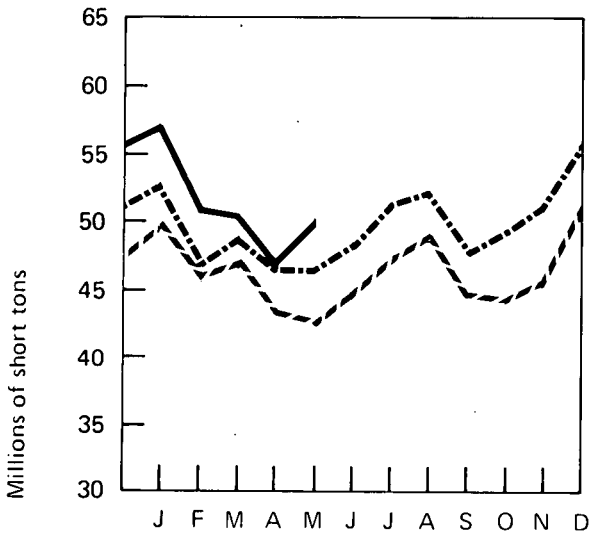
R=Revised data.

NA=Not available.

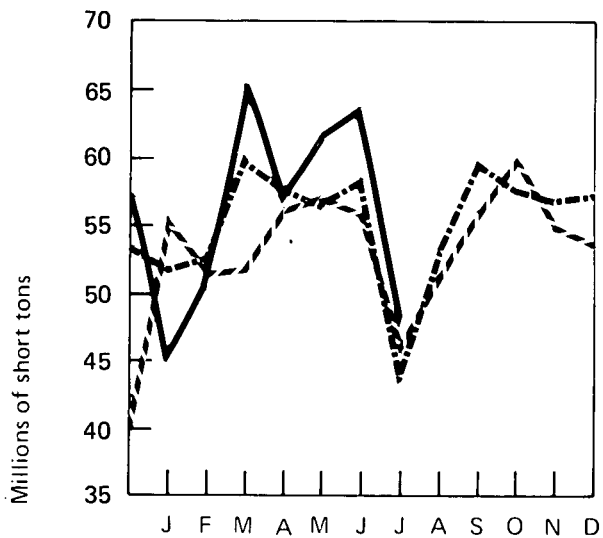
Source: Bureau of Mines *Mineral Industry Surveys*, "Weekly Coal Report."

Bituminous and Lignite

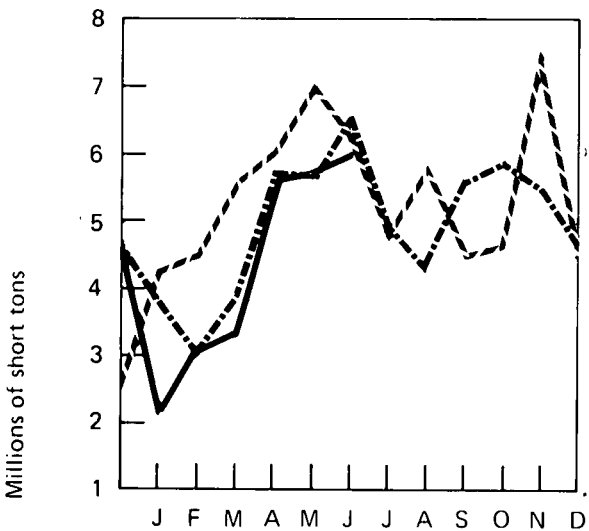
Domestic Consumption



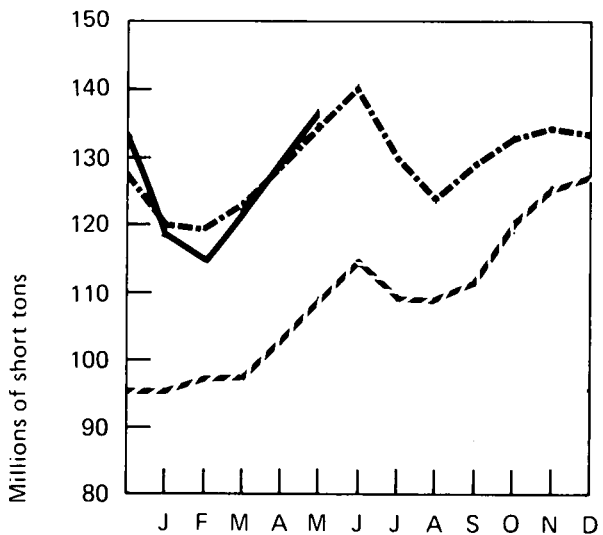
Production



Exports



Stocks

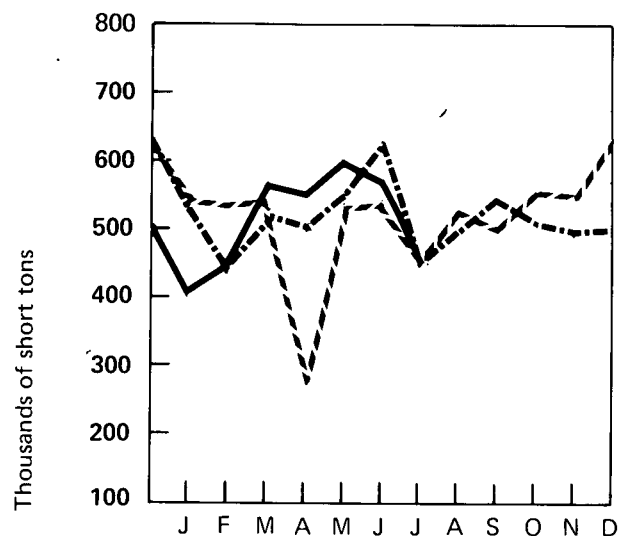


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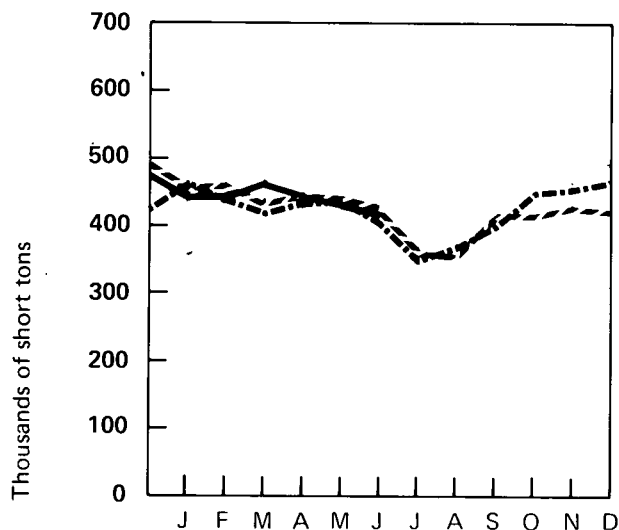
Anthracite

		Production	Apparent Domestic Consumption
		Thousands of short tons	
1972	TOTAL	7,106	5,915
1973	TOTAL	6,830	5,671
1974	TOTAL	6,617	5,448
1975	January	540	459
	February	535	465
	March	544	435
	April	270	450
	May	535	445
	June	544	430
	July	455	360
	August	535	356
	September	500	425
	October	560	420
	November	555	435
	December	630	428
	TOTAL	6,203	5,108
1976	January	530	460
	February	440	430
	March	530	420
	April	500	435
	May	555	440
	June	630	400
	July	450	350
	August	500	375
	September	550	400
	October	510	455
	November	500	460
	December	505	475
	TOTAL	6,200	5,100
1977	January	400	440
	February	450	450
	March	R570	470
	April	550	450
	May	R600	440
	June	570	420
	July	450	NA
	TOTAL	3,590 (7 months)	2,670 (6 months)

Production



Apparent Domestic Consumption



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NA=Not available.

Source: Bureau of Mines "Minerals and Materials/A. Monthly Survey."

Electric Utilities

July 1977 production of electricity by utilities is estimated at 200.8 billion kilowatt hours, 7.7 percent above the level for July 1976. Total production during the first 7 months of 1977 is estimated at 1.23 trillion kilowatt hours, 5.6 percent above the level for the same months of 1976.

Electric utility oil consumption during the first 5 months of 1977 was 21.3 percent higher than during the same period in 1976, corresponding to a 21.5-percent increase in kilowatt-hour generation from oil. Electric utility coal consumption during the first 5 months was up 5.9 percent, and natural gas consumption declined 0.2 percent.

Edison Electric Institute data indicate that sales of electricity to industrial customers during May 1977 totaled 63.5 billion kilowatt hours, 6.9 percent above the level for May 1976. Sales to commercial customers totaled 36.2 billion kilowatt hours, up 6.6 percent. Sales to residential customers rose 2.8 percent to 44.0 billion kilowatt hours.

Sales of electricity to industrial customers increased despite a 3.6-percent increase in the real price of electricity to these customers. The primary causes of the increase appear to be a 6.2-percent increase in industrial production during the period and a 3.9-percent increase in the number of industrial electricity customers.

Factors contributing to the sharp rise in sales of electricity to commercial customers were a 1.8-percent growth in the number of commercial electricity customers, increased activity in the services sector of the economy, and a modest 2.6-percent real increase in commercial electricity prices.

The increase in residential electricity sales appears to be due to a 2.2-percent rise in the number of residential electricity customers moderated by a 2.9-percent increase in real residential electricity prices.

Cooling Degree-Days

Temperatures in August were only slightly above normal, but the summer as a whole has been considerably warmer than normal.

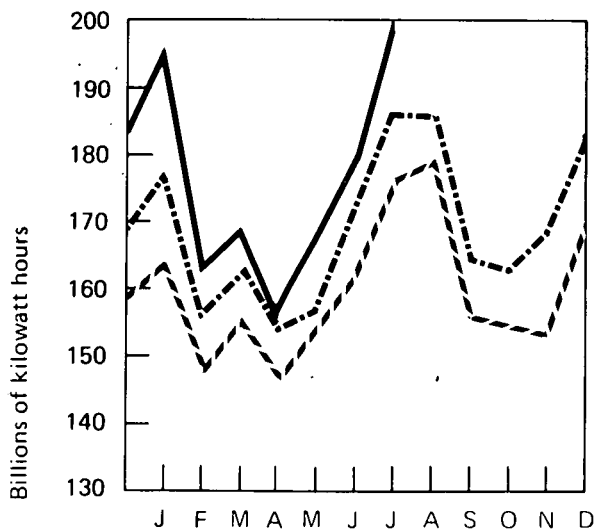
National average cooling degree-days accumulated from January 1 through August 28, 1977, were 11 percent above normal and 15 percent above that for the same period last year. Cooling degree-days for the period August 1 through August 28 were only 1 percent above normal, but 10 percent more than last year.

Regionally, cooling degree-day accumulations in August ranged from 14 percent below normal in the Midwestern States to 29 percent above normal in the West Coast States.

Electric Utilities

		Total Net Production	Percentage Produced from Each Source					
		Millions of kilowatt hours	Coal	Oil	Gas	Nuclear	Hydro- electric	Other*
1972	TOTAL	1,749,629	AVG. 44.2	15.6	21.4	3.1	15.6	0.1
1973	TOTAL	1,860,440	AVG. 45.7	16.8	18.3	4.5	14.6	0.1
1974	TOTAL	1,867,103	AVG. 44.5	16.0	17.2	6.1	16.1	0.1
1975	January	164,325	45.6	18.6	12.0	8.5	15.2	0.1
	February	147,080	45.8	16.9	12.3	8.7	16.2	0.1
	March	155,481	44.5	14.9	12.9	9.6	18.0	0.1
	April	146,217	44.1	14.5	13.9	9.1	18.2	0.2
	May	153,231	42.2	13.7	16.8	9.0	18.1	0.2
	June	162,442	43.3	14.2	17.8	7.8	16.7	0.2
	July	176,815	43.2	14.2	19.3	8.7	14.4	0.2
	August	179,714	43.9	15.6	18.9	8.8	12.6	0.2
	September	155,223	44.2	13.8	19.3	9.3	13.2	0.2
	October	154,944	44.6	14.2	17.0	9.4	14.6	0.2
	November	152,794	46.1	14.1	14.3	9.3	16.0	0.2
	December	169,372	46.5	15.9	12.2	9.9	15.3	0.2
	TOTAL	1,917,638	AVG. 44.5	15.1	15.6	9.0	15.6	0.2
1976	January	178,314	46.9	18.1	11.2	9.0	14.6	0.2
	February	156,671	46.9	15.8	12.2	9.2	15.7	0.2
	March	R164,161	46.6	15.5	13.0	8.5	16.2	0.2
	April	R153,155	47.4	15.2	14.3	7.2	15.7	0.2
	May	R157,356	46.1	13.8	16.1	7.6	16.2	0.2
	June	R173,372	44.4	14.5	17.1	9.1	14.7	0.2
	July	R186,411	44.7	14.5	17.1	9.5	14.0	0.2
	August	R186,382	45.2	15.2	16.8	9.8	12.8	0.2
	September	R165,011	45.7	14.3	17.0	10.5	12.3	0.2
	October	R163,712	47.0	14.8	14.6	10.6	12.8	0.2
	November	R169,056	48.3	17.8	12.5	9.5	11.7	0.2
	December	R183,852	47.4	18.6	11.3	11.5	11.0	0.2
	TOTAL	R2,037,842	AVG. 46.4	15.7	14.4	9.4	13.9	0.2
1977	January	R196,352	45.7	22.1	10.2	11.2	10.6	0.2
	February	R162,729	48.4	18.1	12.0	12.0	9.3	0.2
	March	R169,133	45.8	16.8	13.3	12.2	11.7	0.2
	April	R156,809	R45.2	R16.5	R13.6	R12.6	R11.9	0.2
	May	R168,937	45.5	16.5	14.6	12.1	11.1	0.2
	June	180,028	NA	NA	NA	11.8	NA	NA
	July	200,849	NA	NA	NA	10.9	NA	NA
	TOTAL (7 months)	1,234,837						

Total Net Production



*Includes electricity produced from geothermal power, wood, and waste.

NA=Not available.

R=Revised.

Sources: 1972 through May 1977—Federal Power Commission Form 4; June and July 1977—Edison Electric Institute.

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Electric Utilities (Continued)

Fuel Consumption

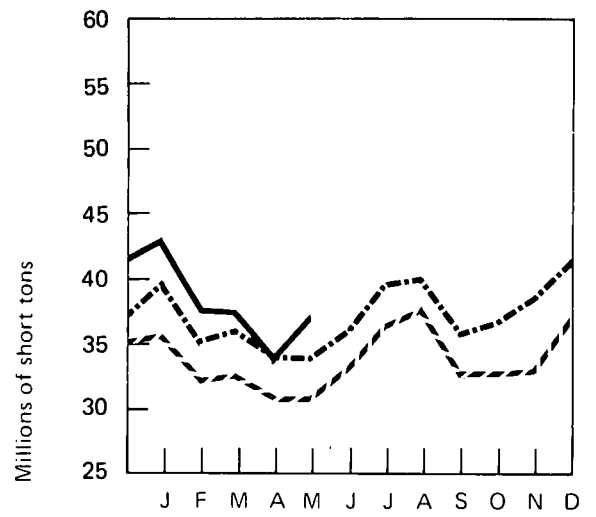
		Coal	Oil			Gas
		Thousands of short tons	Steam *	Gas Turbine/ Internal Combustion **	Total	Millions of cubic feet
			Thousands of barrels			
1972	TOTAL	352,392	440,229	53,463	493,692	3,976,770
1973	TOTAL	389,707	513,127	47,020	560,147	3,659,388
1974	TOTAL	392,423	482,524	53,721	536,245	3,443,293
1975	January	35,843	48,678	5,370	54,048	205,096
	February	32,097	39,794	3,750	43,544	188,922
	March	32,793	37,408	3,007	40,415	211,184
	April	30,547	34,702	2,335	37,037	214,250
	May	30,574	33,720	3,266	36,986	275,097
	June	33,456	36,825	4,118	40,943	307,901
	July	36,567	40,520	3,893	44,413	362,088
	August	37,967	44,565	4,755	49,320	360,199
	September	32,609	35,124	1,917	37,041	315,877
	October	32,853	36,137	1,893	38,030	275,266
	November	33,333	35,743	1,794	37,537	227,748
	December	37,390	43,724	3,090	46,814	213,957
	TOTAL	406,029	466,940	39,188	506,128	3,157,585
1976	January	39,986	51,114	4,968	56,082	206,365
	February	34,965	40,452	2,671	43,123	R199,300
	March	36,099	41,154	R2,796	R43,950	R222,617
	April	33,805	37,663	2,483	R40,146	R227,709
	May	33,944	35,651	2,215	37,866	R266,481
	June	36,381	40,065	3,568	43,633	R313,156
	July	39,841	43,143	R4,078	R47,221	R337,390
	August	40,329	45,626	3,437	49,063	R329,511
	September	35,894	38,245	R2,519	R40,764	R294,841
	October	36,775	39,095	R3,098	42,193	R249,761
	November	38,837	47,340	R4,963	R52,303	R216,931
	December	41,575	53,940	R5,550	R59,490	R214,414
	TOTAL	448,431	513,488	R42,346	R555,834	R3,078,475
1977	January	43,254	R66,251	R9,645	R75,896	R205,067
	February	37,644	R47,605	R3,218	R50,823	R200,371
	March	37,283	46,069	R2,596	R48,665	R231,520
	April	R33,981	R42,137	R2,292	R44,429	R223,308
	May	37,169	44,630	3,899	48,529	259,459
	TOTAL (5 months)	189,331	246,692	21,650	268,342	1,119,725

*Primarily residual fuel oil.

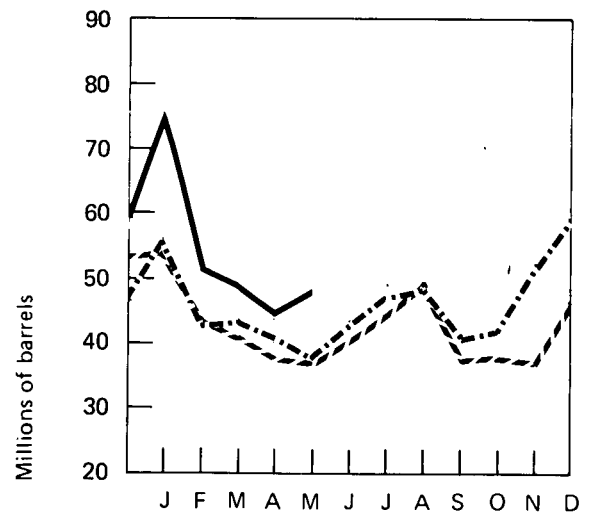
**Primarily middle distillates.

Source: Federal Power Commission Form 4.

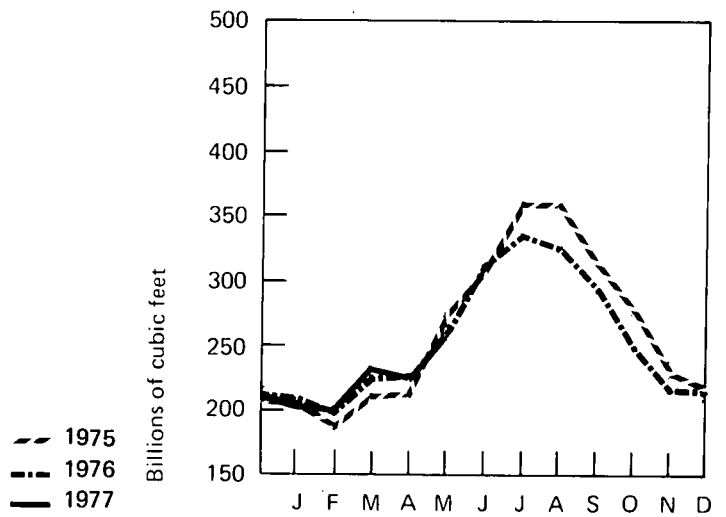
Coal Consumption



Oil Consumption



Gas Consumption



Electric Utilities (Continued)

Stocks at End of Month

		Coal	Oil		
		Thousands of short tons	Steam *	Gas Turbine/ Internal Combustion **	Total
			Thousands of barrels		
1972		***100,009	***52,575	***5,079	***57,654
1973		***87,279	***79,121	***10,095	***89,216
1974		***83,542	***97,201	***15,715	***112,916
1975	January	82,088	95,579	15,716	111,295
	February	80,972	95,762	15,738	111,500
	March	81,885	97,333	16,310	113,643
	April	86,829	98,004	16,294	114,298
	May	93,869	101,464	15,767	117,231
	June	98,031	103,222	15,714	118,936
	July	94,278	105,334	15,905	121,239
	August	94,213	104,926	15,739	120,665
	September	98,096	109,678	16,635	126,313
	October	105,415	112,107	16,774	128,881
	November	110,313	113,231	17,110	130,341
	December	110,750	108,358	16,886	125,244
1976	January	105,518	102,023	15,922	117,945
	February	104,874	102,147	16,705	118,852
	March	108,450	104,072	R16,466	R120,538
	April	112,862	103,747	16,640	120,387
	May	119,611	109,132	R16,961	126,092
	June	123,048	109,649	R16,619	R126,268
	July	115,204	110,818	R15,860	R126,678
	August	110,752	109,812	15,993	125,805
	September	115,399	112,955	R17,042	R129,997
	October	118,566	114,426	R16,936	R131,362
	November	119,298	111,127	R15,499	R126,626
	December	117,468	106,730	R14,956	R121,686
1977	January	R104,839	R89,870	R12,963	R102,833
	February	R101,919	R95,632	R14,387	R110,019
	March	R108,283	R96,684	R15,770	R112,454
	April	R114,585	R101,286	16,090	R117,376
	May	121,368	103,479	16,076	119,555

*Primarily residual fuel oil.

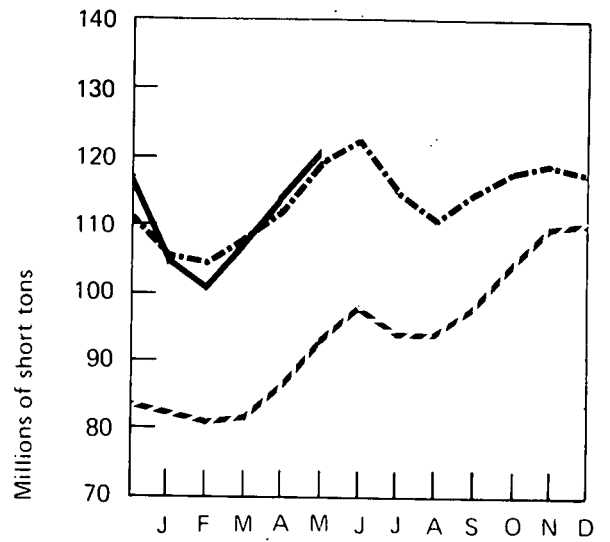
**Primarily middle distillates.

***As of December 31.

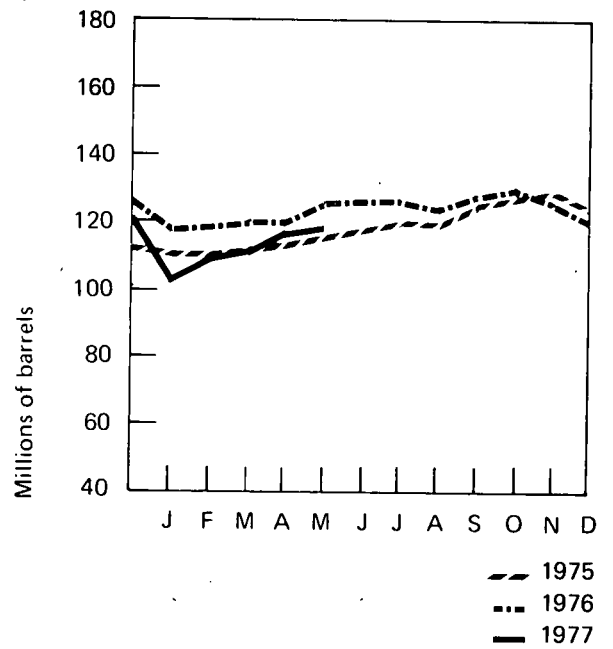
R=Revised.

Source: Federal Power Commission Form 4.

Coal Stocks



Oil Stocks

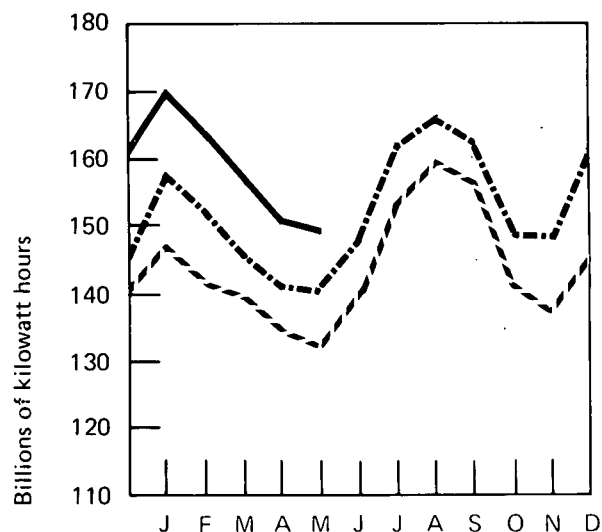


Electric Utilities (Continued)

Electricity Sales

		Residential	Commercial	Industrial	Other*	Total
		Millions of kilowatt hours				
1972	TOTAL	538,609	359,265	640,978	56,309	1,595,161
1973	TOTAL	579,231	388,266	686,085	59,326	1,712,909
1974	TOTAL	578,183	384,824	684,874	58,042	1,705,923
1975	January	54,003	32,405	55,505	5,954	147,867
	February	50,219	31,459	54,328	5,544	141,550
	March	47,968	31,194	54,437	5,639	139,238
	April	44,762	30,473	53,910	5,269	134,414
	May	41,077	30,926	54,767	5,404	132,174
	June	45,766	35,210	55,369	5,384	141,729
	July	54,586	38,031	55,645	5,668	153,930
	August	57,291	38,576	57,868	5,709	159,444
	September	54,362	37,325	58,405	5,978	156,070
	October	43,024	32,817	58,815	5,745	140,401
	November	42,054	31,608	58,223	5,976	137,861
	December	50,213	32,596	57,433	5,907	146,149
	TOTAL	585,325	402,620	674,705	68,177	1,730,827
1976	January	60,126	34,955	57,463	6,359	158,903
	February	R54,264	R33,809	R58,064	R5,855	R151,992
	March	47,060	32,273	60,516	5,990	145,839
	April	43,551	31,598	60,106	5,407	140,662
	May	41,036	32,347	61,271	5,478	140,132
	June	44,157	35,707	62,419	5,344	147,627
	July	54,314	39,455	62,877	5,895	162,541
	August	57,256	39,517	64,184	5,835	166,792
	September	53,460	38,503	64,333	6,134	162,430
	October	44,762	34,388	64,208	5,420	148,778
	November	46,674	33,372	63,106	5,606	148,758
	December	56,750	35,579	62,842	5,626	160,797
	TOTAL	R603,410	R421,503	R741,389	R68,949	R1,835,251
1977	January	65,280	37,362	61,638	6,006	170,286
	February	R61,492	R35,969	R60,687	R5,549	R163,697
	March	52,686	36,222	62,043	5,936	156,887
	April	47,736	35,341	62,004	5,752	150,833
	May	44,005	36,227	63,549	5,764	149,545
	TOTAL (5 months)	271,199	181,121	309,921	29,007	791,248

Total Sales



*Includes street lighting and trolley cars.

R=Revised.

Sources: 1972 through February 1977—Federal Power Commission Form 5; March 1977 forward—Edison Electric Institute.

— 1975
- - - 1976
- . - 1977

Cooling Degree-Days*

Petroleum Administration for Defense (PAD) Districts	1977	August 1-August 28, 1977		1977	Cumulative Since January 1	
		1976**	Normal (1941-70)**		1976**	Normal (1941-70)**
PAD District I	289.0	270.8 (6.7)	279.1 (3.5)	1,089.1	1,031.3 (5.6)	1,009.9 (7.8)
New England	201.2	191.6 (5.0)	169.5 (18.7)	648.2	684.6 (-5.3)	514.2 (26.1)
Conn., Maine, Mass., N.H., R.I., Vt.						
Middle Atlantic	233.5	238.6 (-2.2)	241.2 (-3.2)	807.8	831.7 (-2.9)	778.7 (3.7)
Del., Md., N.M., N.Y., Pa.						
Lower Atlantic	411.2	353.8 (16.2)	384.3 (7.0)	1,705.8	1,483.6 (15.0)	1,575.0 (8.3)
Fla., Ga., N.C., S.C., Va., W.Va.						
PAD District II	216.1	222.5 (-2.9)	250.7 (-13.8)	997.2	784.2 (27.2)	831.2 (20.0)
Ill., Ind., Iowa, Kans., Ky., Mich., Minn., Mo., Nebr., N. Dak., Ohio, Okla., S. Dak., Tenn., Wisc.						
PAD District III	497.2	442.7 (12.3)	484.8 (2.6)	1,995.0	1,604.7 (24.3)	1,896.9 (5.2)
Ala., Ark., La., Miss., N. Mex., Tex.						
PAD District IV	207.9	157.7 (31.9)	206.1 (0.9)	707.6	582.4 (21.5)	595.7 (18.8)
Colo., Idaho, Mont., Utah, Wyo.						
PAD District V	239.1	156.2 (53.1)	184.9 (29.3)	664.9	631.5 (5.3)	597.8 (11.2)
Ariz., Calif., Nev., Oreg., Wash.						
U.S. AVERAGE	281.1	256.6 (9.6)	279.3 (0.6)	1,097.6	951.7 (15.3)	988.9 (11.0)

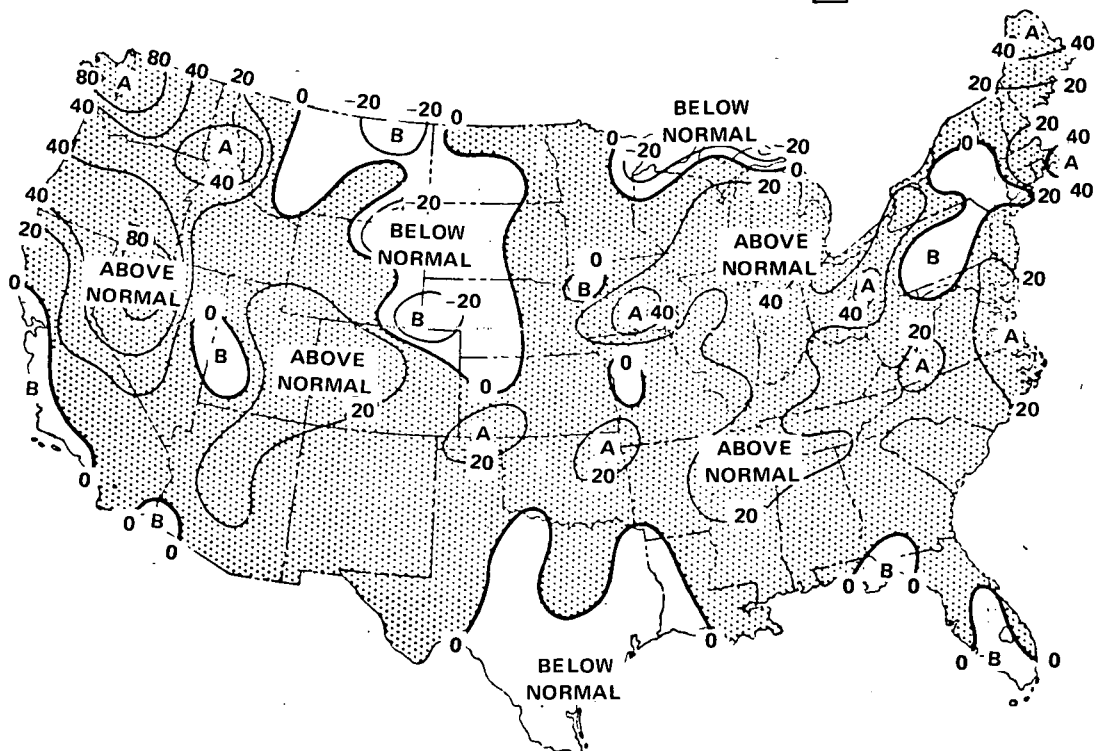
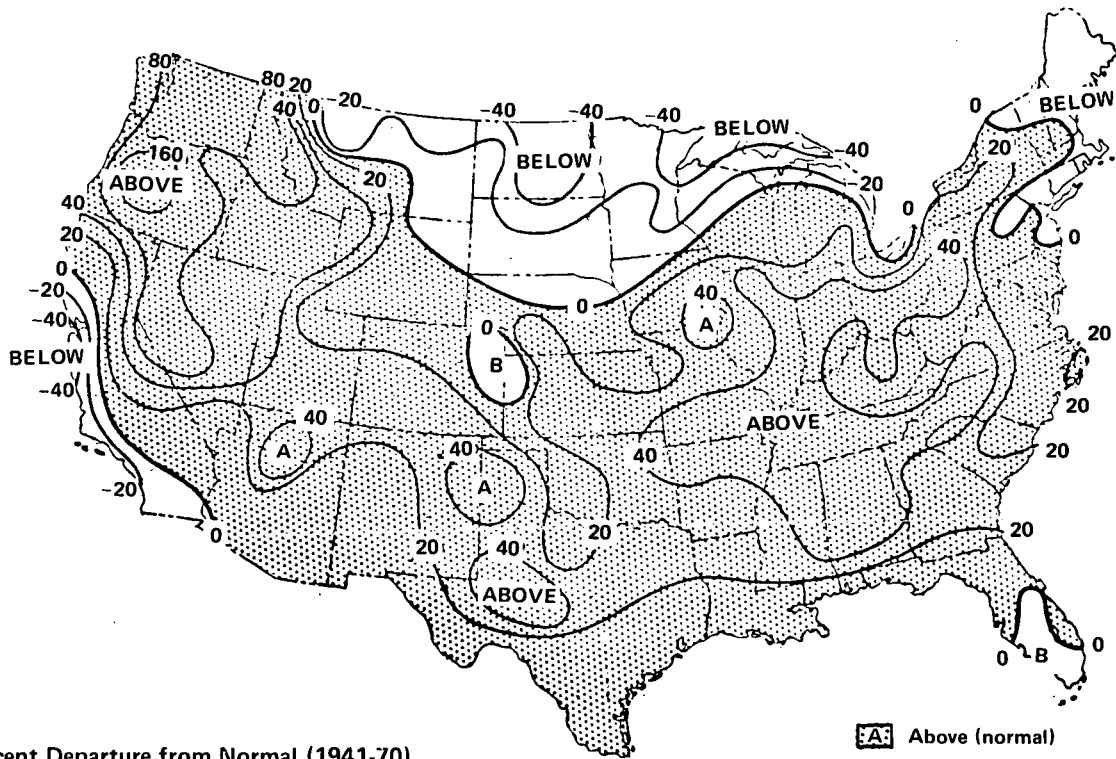
*See Explanatory Note 9 for explanation of cooling degree-days.

**Percentage change in parentheses.

Cooling Degree-Days (Continued)

Cooling Degree-Days Accumulated from January 1, 1977 through August 28, 1977

Percent Departure from 1976



Note: Above normal cooling degree-days correspond to above normal temperatures.
 Source: Department of Commerce—NOAA.

Nuclear Power

The 61 domestic reactors in commercial operation, with a maximum dependable capacity of 43,101 megawatts, performed at 67 percent of capacity during July and provided 10.8 percent of the Nation's electricity. Major outages were experienced at 21 reactors during the month, including 9 that were undergoing refueling. Twenty-six reactors operated at or above 80 percent of capacity in response to the high power demands typical of a summer month.

In early July, the New York State Electric and Gas Company placed formal orders with the Combustion Engineering Company for two 1,250-megawatt pressurized water reactors (PWR). These unnamed PWR's represent the first nuclear reactor orders in 1977; they are scheduled for commercial operation in 1988 and 1990.

The President approved the Portsmouth, Ohio, location for a new ERDA* enrichment plant that will use gaseous centrifuge technology. The plant consists of four production units with a total annual enrichment capacity of 8.8 million separative work units (SWU, see definitions), and construction costs are estimated at about \$4.5 billion in 1978 dollars. Under current schedules, construction will begin in 1978, initial production will begin in 1986, and full production will be reached in 1988.

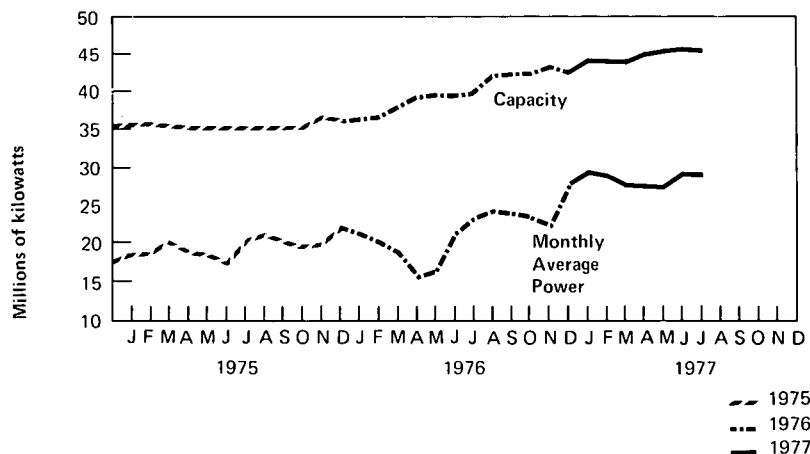
A superior operational characteristic of centrifuge technology is its energy consumption efficiency. It uses only one-tenth of the electricity required to operate a gaseous diffusion system of comparable capacity. The approval of this facility will immediately allow ERDA to accept new orders for enrichment services which have been unavailable since July 1974 due to capacity limitations.

*Energy Research and Development Administration.

U.S. Nuclear Powerplant Operations*

		Maximum Dependable Capacity	Average Power	Percent of Total Domestic Electricity Generation
Thousands of net kilowatts				
1972	AVERAGE	7,726	6,174	3.1
1973	AVERAGE	13,850	8,760	4.5
1974	AVERAGE	29,921	13,011	6.1
1975	January	35,691	18,734	8.5
	February	35,899	18,948	8.7
	March	35,686	20,003	9.6
	April	35,017	18,510	9.1
	May	35,017	18,500	9.0
	June	35,322	17,701	7.8
	July	35,596	20,661	8.7
	August	35,589	21,344	8.8
	September	35,540	19,994	9.3
	October	35,540	19,659	9.4
	November	36,752	19,672	9.3
	December	36,424	22,418	9.9
	AVERAGE	35,671	19,692	9.0
1976	January	36,750	21,638	9.0
	February	36,879	20,657	9.2
	March	38,072	18,808	8.5
	April	39,763	15,142	7.2
	May	39,902	16,034	7.6
	June	39,781	21,885	9.1
	July	40,168	23,802	9.5
	August	42,067	24,681	9.8
	September	42,896	24,014	10.5
	October	42,877	23,327	10.6
	November	43,673	22,408	9.5
	December	42,877	28,380	11.5
	AVERAGE	40,642	21,756	9.4
1977	January	44,316	R29,715	11.2
	February	44,282	R29,168	12.0
	March	44,289	R27,785	12.2
	April	45,131	R27,544	R12.6
	May	45,222	R27,441	12.1
	June	45,991	**29,489	**11.8
	July	**45,984	**29,397	**10.9
	AVERAGE (7 months)	45,036	28,642	11.8

U.S. Nuclear Powerplants



*Includes all units licensed to operate, whether in commercial operation or power ascension status.

**Preliminary data.

R=Revised data.

Sources: Average Power for latest 2 months and Capacity are from U.S. Nuclear Regulatory Commission; Percent of Total Domestic Electricity Generation for latest 2 months is based on data from Edison Electric Institute; remaining data are from Federal Power Commission Form 4.

Status of Nuclear Powerplants — July 31, 1977

Status	Number of Plants				Design Capacity	
	Boiling Water Reactors	High Temperature Gas Reactors	Pressurized Water Reactors	Other*	Total	Net Electrical Megawatts
Licensed to operate	25	1	39	0	65	47,000
Construction permit granted	27	0	50	0	77	82,000
Construction permit pending	13	0	43	4	60	67,000
Orders placed for plant	3	0	8	0	11	13,000
Publicly announced	—	—	—	17	17	21,000
TOTAL	68	1	140	21	230	230,000

*Includes 1 Liquid Metal Fast Breeder Reactor and 20 announced intentions to order for which a reactor type has not been chosen.

Source: U.S. Nuclear Regulatory Commission.

U.S. Uranium Enrichment — July 1977

	Domestic Customers	Foreign Customers	Total
Separative work performed (in metric tons of separative work units)	505.445	407.442	912.897
Cost (in millions of dollars)	34.388	26.655	61.043
Product quantity (in metric tons of uranium)	123.831	108.237	232.068
Feed requirement (in metric tons of uranium)	651.704	539.410	1,191.114

Source: U.S. Energy Research and Development Administration.

Nuclear Power Generation by Major Non-Communist Countries — July 1977

Country	Number of Reactors*	Capacity	Generation of Electricity					
			Generation	Percent of Design Capacity				
				July	July			Year**
					1974	1975	1976	
		Thousands of gross electrical kilowatts	Millions of gross kilowatt hours					
Canada	7	4,000	2,792	83	74	64	85	
Federal Republic of Germany	10	6,410	2,707	57	57	72	68	
France	11	3,970	1,065	36	57	68	58	
Great Britain	***31	8,100	2,381	42	61	57	64	
India	3	620	291	63	55	46	58	
Italy	3	630	156	33	61	69	69	
Japan	13	7,430	2,356	43	61	36	57	
Spain	3	1,120	412	49	75	77	77	
Sweden	6	3,880	1,209	42	20	44	55	
Switzerland	3	1,060	396	50	76	84	86	
United States	64	47,110	23,040	66	57	60	56	
TOTAL	154	84,330	36,805	59	58	58	60	

*Includes only operational units, i.e., those which have generated electricity during, or prior to, the current month.

**Averages are computed for those units in operation on January 1 of each year.

***Figures for 17 units are based on 4-week period; figures for remaining units are for 31 days.

Source: *Nucleonics Week*.

Summary of Monthly Fuel Cycle — June 1977

Fuel Cycle Activity	Product	Processed Material ¹	Percent Utilization of Industry Capacity	Energy Content of Processed Material ²	Energy Consumed in Fuel Cycle Activity ³	Cost Contribution to Electric Power ⁴
		MTU except where noted		Billion Btu		Mills per kilowatt hour
Milling	Yellowcake (U ₃ O ₈) Deliveries	957	91	327,000	524	1.27
Conversion	Uranium Hexafluoride (UF ₆) Deliveries	1,843	128 ⁵	629,000	277	0.16
Enrichment	Enriched UF ₆ Deliveries	164 (572 MT-SWU)	(⁶)	336,000	5,211	1.53
Fabrication	Finished Fuel Assemblies Shipped	59	NA	121,000	16	0.47
Powerplant Operation	Electricity Generated	20,710 (million kWhe)	67	221,000	1,081 (million kWhe)	10.93
	Spent Fuel Discharged	59	—	—	—	1.57 ⁷
Reprocessing	Spent Fuel Received	10	—	—	—	
	Spent Fuel Reprocessed	0	—	—	—	

¹ Units of measure are discussed in Explanatory Notes 10 and 11.

² Assumes 25,000 MWD/MTU for heat content of enriched uranium and a 6.1 feed to product ratio at the enrichment plant.

³ Energy requirements for processing are obtained from U.S.A.E.C. Report No. WASH 1248.

⁴ Cost contribution is computed from unit prices paid for current month's production and requirement for a model 1000 MWe reactor operating at 65 percent capacity factor. Because of the long lead time required for nuclear fuel processing, the sum of numbers in this column does not necessarily reflect the fuel cost of current electricity production.

⁵ Figure for conversion utilization represents material shipped.

⁶ ERDA's enrichment plants are presently operating at maximum utilization of available electric power, with the excess production being placed in the "Preproduction stockpile" in anticipation of high demand for enriched uranium in the 1980's.

⁷ Figure represents current industry estimate for cost of spent fuel shipment, reprocessing, and waste disposition, exclusive of cost credits for recovered uranium and plutonium.

NA=Not available.

Source: ERDA.

Energy Consumption

Domestic energy consumption in June 1977 was 5.94 quadrillion Btu, 4.3 percent more than during June 1976, and 11.7 percent more than for the same month in 1975. The sectoral breakout for June is not yet available.

In May 1977, the combined residential/commercial sector consumed 2.00 quadrillion Btu, which was 4.5 percent greater than consumption in May 1976 and 5.4 percent greater than in May 1975.

Industrial energy consumption for May 1977 was 2.30 quadrillion Btu, which was 5.2 percent more than in May 1976 and 19.0 percent more than in May 1975. Industrial natural gas consumption for May 1977 totaled 0.67 quadrillion Btu, up 1.8 percent from the May 1976 level.

Transportation consumption for May 1977 totaled 1.61 quadrillion Btu, which represented increases of 3.4 percent and 4.5 percent compared with May 1976 and May 1975, respectively.

Energy Consumption

Domestic Energy Consumption by Primary Energy Type

		Coal*	Natural Gas (dry)	Petroleum	Hydroelectric Power**	Nuclear Electric Power	Total	Cumulative Total
Quadrillion (10 ¹⁵) Btu								
1972	TOTAL	12.424	22.984	32.965	2.946	0.567	71.895	
1973	TOTAL	13.294	22.512	34.852	3.006	0.888	74.553	
1974	TOTAL	12.889	21.732	33.468	3.295	1.215	72.600	
1975	January	1.148	2.295	3.067	0.268	0.149	6.927	6.927
	February	1.054	1.980	2.629	0.256	0.136	6.054	12.982
	March	1.087	1.943	2.780	0.299	0.159	6.267	19.249
	April	1.004	1.608	2.646	0.285	0.142	5.685	24.934
	May	0.984	1.359	2.582	0.296	0.147	5.368	30.301
	June	1.032	1.283	2.574	0.290	0.136	5.315	35.616
	July	1.091	1.341	2.682	0.273	0.164	5.550	41.167
	August	1.131	1.398	2.693	0.243	0.169	5.634	46.800
	September	1.015	1.399	2.600	0.221	0.153	5.388	52.188
	October	1.035	1.576	2.790	0.243	0.156	5.801	57.989
	November	1.059	1.674	2.601	0.262	0.151	5.747	63.736
	December	1.174	2.092	3.098	0.278	0.178	6.821	70.557
	TOTAL	12.813	19.948	32.742	3.215	1.839	70.557	
1976	January	1.218	2.336	3.169	0.279	0.172	7.173	7.173
	February	1.078	1.976	2.778	0.263	0.153	6.247	13.421
	March	1.119	1.753	2.947	0.284	0.149	6.252	19.673
	April	1.070	1.537	2.749	0.259	0.117	5.731	25.404
	May	1.072	1.461	2.722	0.273	0.127	5.655	31.059
	June	1.115	1.359	2.776	0.273	0.168	5.692	36.751
	July	1.188	1.398	2.830	0.279	0.189	5.883	42.634
	August	1.197	1.341	2.835	0.256	0.196	5.824	48.458
	September	1.099	1.325	2.774	0.220	0.184	5.602	54.060
	October	1.134	1.652	2.905	0.227	0.185	6.103	60.163
	November	1.182	1.910	3.107	0.214	0.172	6.585	66.748
	December	1.281	2.276	3.494	0.218	0.225	7.493	74.242
	TOTAL	13.752	20.323	35.087	3.043	2.037	74.242	
1977	January	1.312	2.444	3.489	0.223	0.236	7.704	7.704
	February	1.169	1.834	3.143	0.165	0.209	6.520	14.224
	March	1.157	1.731	3.076	0.214	0.220	6.398	20.622
	April	1.080	1.447	2.893	0.201	0.211	5.833	26.455
	May	1.152	1.389	2.947	0.202	0.218	5.907	32.362
	June***	1.196	1.338	2.969	0.208	0.226	5.937	38.299
	TOTAL (6 months)	7.066	10.182	18.518	1.214	1.320	38.299	

*Includes bituminous coal, lignite, and anthracite coal.

**Includes utility production, industrial production, and net imports.

***Partially estimated.

Source: FEA calculations based on data appearing elsewhere in this publication.

Domestic Energy Consumption by Economic Sector¹

		Residential/ Commercial	Industrial	Transportation	Total
		Quadrillion (10 ¹⁵) Btu			
1973	January	3.017	2.508	1.615	7.140
	February	2.693	2.305	1.510	6.507
	March	2.471	2.366	1.589	6.426
	April	2.109	2.257	1.490	5.857
	May	1.980	2.395	1.612	5.987
	June	1.873	2.301	1.533	5.707
	July	1.934	2.328	1.589	5.851
	August	1.997	2.444	1.651	6.092
	September	1.859	2.320	1.499	5.678
	October	1.902	2.587	1.592	6.080
	November	2.180	2.644	1.607	6.431
	December	2.500	2.708	1.589	6.797
	TOTAL	26.515	29.161	18.877	74.553
1974	January	2.836	2.468	1.492	6.796
	February	2.509	2.310	1.386	6.205
	March	2.394	2.369	1.500	6.263
	April	2.142	2.151	1.466	5.759
	May	1.906	2.298	1.549	5.753
	June	1.831	2.200	1.504	5.535
	July	1.963	2.331	1.573	5.867
	August	1.930	2.378	1.591	5.900
	September	1.771	2.372	1.454	5.596
	October	1.903	2.586	1.577	6.066
	November	2.062	2.532	1.533	6.128
	December	2.605	2.492	1.636	6.733
	TOTAL	25.853	28.486	18.261	72.600
1975	January	2.845	2.489	1.594	6.927
	February	2.583	2.064	1.408	6.054
	March	2.554	2.176	1.537	6.267
	April	2.302	1.861	1.523	5.685
	May	1.897	1.934	1.537	5.368
	June	1.811	1.987	1.517	5.315
	July	1.947	2.053	1.550	5.550
	August	1.925	2.144	1.564	5.634
	September	1.789	2.125	1.474	5.388
	October	1.860	2.380	1.561	5.801
	November	1.953	2.343	1.452	5.747
	December	2.649	2.523	1.649	6.821
	TOTAL	26.115	26.077	18.365	70.557
1976	January	3.091	2.453	1.629	7.173
	February	2.675	2.111	1.462	6.247
	March	2.423	2.203	1.626	6.252
	April	2.071	2.080	1.581	5.731
	May	1.913	2.188	1.553	5.655
	June	1.895	2.197	1.600	5.692
	July	1.983	2.263	1.637	5.883
	August	1.986	2.246	1.592	5.824
	September	1.835	2.209	1.558	5.602
	October	1.942	2.562	1.599	6.103
	November	2.338	2.606	1.642	6.585
	December	2.985	2.716	1.792	7.493
	TOTAL	27.137	27.833	19.271	74.242

Energy Consumption (Continued)

Domestic Energy Consumption by Economic Sector¹

		Residential/ Commercial	Industrial	Transportation	Total
		Quadrillion (10 ¹⁵) Btu			
1977	January	3.398	2.583	1.723	7.704
	February	2.971	1.969	1.580	6.520
	March	2.530	2.216	1.652	6.398
	April	2.131	2.076	1.626	5.833
	May	2.000	2.301	1.606	5.907
	TOTAL (5 months)	13.030	11.145	8.187	32.362

¹See Explanatory Note 12 for definitions of the Residential/Commercial, Industrial, and Transportation sectors. The methodology used for sector calculations is provided in the footnotes of the next table.

Energy Consumption by Economic Sector and Primary Source — May 1977 [Quadrillion (10¹⁵) Btu]

Sector ¹	Primary Energy Source					Primary Energy Consumption	Electricity Distributed ⁷	Net Energy Consumption	Electrical Energy Loss Distributed ⁸	Ultimate Energy Disposition
	Coal ²	Natural Gas (dry) ³	Petroleum ⁴	Hydroelectric ⁵	Nuclear ⁶					
Residential and Commercial	0.017	0.416	0.559	—	—	0.992	0.289	1.280	0.719	2.000
Industrial	0.331	0.666	0.544	0.003	—	1.544	0.217	1.761	0.541	2.301
Transportation	0.001	0.040	1.548	—	(⁹)	1.589	0.005	1.594	0.012	1.606
Electric Utilities	0.803	0.266	0.297	0.199	0.218	1.783	—	—	—	—
TOTAL	1.152	1.389	2.947	0.202	0.218	5.907	0.510	4.634	1.272	5.907

¹ See Explanatory Note 12 for definitions of the Residential and Commercial, Industrial, Transportation, and Electric Utilities Sectors.

² Data are from the Bureau of Mines. Includes anthracite and bituminous coal and lignite.

³ Aggregate data are from the Bureau of Mines. FPC provided data on natural gas consumed by electric utilities. Data from the American Gas Association are used for the Residential and Commercial Sector, adjusted to include a portion of the AGA "Other" category. Natural gas used in transportation, mostly for pipeline use, is estimated to be 3.6 percent of total natural gas consumption less electric utilities. This percentage is derived from 1974, 1975, and 1976 Bureau of Mines data on consumption. The Industrial Sector is then the difference between the total and the sum of the other sectors.

⁴ Aggregate petroleum data are from the Bureau of Mines. FPC provided data on oil consumed by electric utilities.

Petroleum consumed in transportation was calculated based on Department of Transportation data as follows: Motor gasoline - 100 percent; naphtha jet fuel - 100 percent; kerosene jet fuel - 97 percent; distillate fuel oil - 30.3 percent; residual fuel oil - 11.2 percent; all other products - 4.7 percent. The remainder is distributed to economic sectors using the following percentage shares, derived from 1974, 1975, and 1976 Bureau of Mines data on consumption: Residential and Commercial - 50.7 percent; Industrial - 49.3 percent.

⁵ FPC hydroelectric power production plus net imports of electricity. These imports are assumed to be from hydroelectric power sources and are estimated at 0.011 quadrillion Btu per month in 1974 and 0.005 quadrillion Btu per month for 1975 and 1976. Monthly industrial hydroelectric power consumption is estimated to be one-twelfth of the preliminary Bureau of Mines annual figure for 1976.

⁶ FPC nuclear power production.

⁷ Electricity was distributed using Edison Electric Institute data on kilowatt-hour sales to ultimate customers. Electrical energy consumed by railroads and for street and highway lighting was distributed to the Transportation Sector. All "Other" sales, largely for use in government buildings, were distributed to the Residential and Commercial Sector.

⁸ 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., ultimate energy disposition), the electricity losses are allocated to the final end-use sectors in proportion to their direct kilowatt-hour usage.

⁹ Negligible.

Energy Consumption (Continued)

Percent Changes in Energy Consumption for May 1977 by Sources and Economic Sectors

	May 1977 Consumption	Percent Change from May 1976*	Cumulative Percent Change from 1976 (January through May)*
	Quadrillion Btu		
Refined Petroleum Products	2.947	+8.3	+9.0
Motor Gasoline	1.144	+2.6	+3.1
Jet Fuel	0.170	+2.2	+6.0
Distillate	0.496	+9.1	+13.7
Residual	0.516	+8.7	+16.3
Other Petroleum Products	0.620	+21.3	+10.7
Natural Gas (Dry)	1.389	-5.0	-1.8
Coal (Anthracite, bituminous, and lignite)	1.152	+7.5	+6.3
Hydroelectric and Nuclear Electric Power	0.510	+6.7	+8.0
TOTAL ENERGY USE	5.907	+4.5	+4.9
Economic Sector Consumption			
Residential and Commercial	2.000	+4.5	+7.7
Industrial	2.301	+5.2	+1.7
Transportation	1.606	+3.4	+5.0

*Computed on a daily average basis.

Energy Consumption by the Residential and Commercial Economic Sector¹

		Coal	Natural Gas (dry)	Petroleum ²	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 ¹⁵) Btu								
1973	TOTAL	0.295	7.577	7.077	3.445	8.120	26.515	
1974	TOTAL	0.297	7.427	6.688	3.424	8.222	26.058	
1975	January	0.035	1.124	0.627	0.310	0.748	2.845	2.845
	February	0.023	1.105	0.526	0.292	0.637	2.583	5.427
	March	0.022	1.018	0.546	0.284	0.684	2.554	7.981
	April	0.015	0.905	0.489	0.270	0.623	2.302	10.283
	May	0.012	0.522	0.444	0.259	0.660	1.897	12.180
	June	0.013	0.338	0.435	0.290	0.735	1.811	13.991
	July	0.016	0.294	0.463	0.331	0.844	1.947	15.938
	August	0.015	0.267	0.447	0.342	0.855	1.925	17.863
	September	0.021	0.284	0.484	0.328	0.673	1.789	19.652
	October	0.023	0.375	0.539	0.273	0.650	1.860	21.513
	November	0.024	0.526	0.503	0.266	R0.634	R1.953	R23.466
	December	0.033	0.930	0.635	0.297	0.754	2.649	R26.115
	TOTAL	0.255	7.688	6.135	3.541	R8.495	R26.115	
1976	January	0.031	1.232	0.656	0.340	0.832	3.091	3.091
	February	0.020	1.086	0.575	R0.315	R0.679	R2.675	R5.766
	March	0.018	0.854	0.571	0.286	0.695	2.423	R8.189
	April	0.021	R0.661	0.500	0.270	0.619	R2.071	R10.260
	May	0.016	R0.491	0.506	0.264	0.636	R1.913	R12.173
	June	0.015	R0.361	0.489	0.286	0.745	R1.895	R14.069
	July	0.011	0.297	0.487	0.335	0.852	1.983	R16.052
	August	0.015	0.275	0.506	0.345	0.845	1.986	R18.038
	September	0.017	0.271	0.517	0.329	0.700	1.835	R19.873
	October	0.020	0.397	0.567	0.283	0.675	1.942	R21.815
	November	0.025	0.700	0.622	0.287	0.704	2.338	R24.152
	December	0.037	1.078	0.726	0.328	0.815	2.985	R27.137
	TOTAL	0.246	R7.703	6.722	3.668	R8.798	R27.137	
1977	January	0.036	1.353	0.712	0.365	0.933	3.398	3.398
	February	0.025	1.220	0.674	R0.346	R0.707	R2.971	R6.370
	March	0.019	0.849	R0.608	0.318	0.736	R2.530	R8.900
	April	0.021	0.623	R0.535	0.298	R0.653	R2.131	R11.031
	May	0.017	0.416	0.559	0.289	0.719	2.000	13.030
	TOTAL (5 months)	0.118	4.460	3.088	1.615	3.749	13.030	

(See footnotes on page 51)

Energy Consumption (Continued)

Energy Consumption by the Industrial/Economic Sector¹

		Coal	Natural Gas (dry)	Petroleum ³	Hydro-electric	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 ¹⁵) Btu									
1973	TOTAL	4.370	10.493	6.403	0.036	2.341	5.518	29.161	
1974	TOTAL	4.062	10.156	6.100	0.036	2.337	5.609	28.299	
1975	January	0.341	0.887	0.610	0.003	0.189	0.458	2.489	2.489
	February	0.342	0.619	0.511	0.003	0.185	0.404	2.064	4.553
	March	0.362	0.648	0.531	0.003	0.186	0.447	2.176	6.729
	April	0.340	0.433	0.475	0.003	0.184	0.425	1.861	8.590
	May	0.321	0.516	0.431	0.003	0.187	0.475	1.934	10.523
	June	0.299	0.595	0.423	0.003	0.189	0.478	1.987	12.510
	July	0.286	0.640	0.450	0.003	0.190	0.485	2.053	14.563
	August	0.291	0.724	0.435	0.003	0.197	0.494	2.144	16.707
	September	0.292	0.752	0.470	0.003	0.199	0.408	2.125	18.832
	October	0.303	0.872	0.524	0.003	0.201	0.478	2.380	21.212
	November	0.316	R0.863	0.489	0.003	0.199	R0.473	R2.343	R23.555
	December	0.334	0.875	0.617	0.003	0.196	0.498	2.523	R26.077
	TOTAL	3.826	R8.425	5.966	0.035	2.302	R5.523	R26.077	
1976	January	0.320	0.816	0.638	0.003	0.196	0.480	2.453	2.453
	February	0.302	0.622	0.559	0.003	R0.198	R0.427	R2.111	R4.564
	March	0.321	0.616	0.555	0.003	0.206	0.502	2.203	R6.767
	April	0.320	R0.595	0.487	0.003	0.205	0.471	R2.080	R8.847
	May	0.327	R0.654	0.492	0.003	0.209	0.504	R2.188	R11.035
	June	0.312	R0.640	0.475	0.003	0.213	0.554	R2.197	R13.232
	July	0.310	0.717	0.473	0.003	0.215	0.546	2.263	R15.495
	August	0.304	0.691	0.492	0.003	0.219	0.537	2.246	R17.741
	September	0.303	0.715	0.503	0.003	0.220	0.466	2.209	R19.950
	October	0.318	0.948	0.551	0.003	0.219	0.522	2.562	R22.512
	November	0.327	0.927	0.605	0.003	0.215	0.529	2.606	R25.117
	December	0.357	0.904	0.706	0.003	0.214	0.532	2.716	R27.833
	TOTAL	3.821	R8.843	6.537	0.033	2.530	R6.070	R27.833	
1977	January	0.338	0.801	0.693	0.003	0.210	0.538	2.583	2.583
	February	0.330	0.350	0.655	0.003	R0.207	R0.424	R1.969	R4.551
	March	0.331	R0.590	R0.591	0.003	0.212	0.489	R2.216	R6.767
	April	0.327	R0.551	R0.520	0.003	0.212	R0.464	R2.076	R8.843
	May	0.331	0.666	0.544	0.003	0.217	0.541	2.301	11.145
	TOTAL (5 months)	1.658	2.958	3.003	0.014	1.057	2.455	11.145	

(See footnotes on page 51)

Energy Consumption by the Transportation Economic Sector¹

		Coal	Natural Gas ⁴ (dry)	Petroleum	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 ¹⁵) Btu								
1973	TOTAL	0.009	0.733	17.940	0.058	0.137	18.877	
1974	TOTAL	0.009	0.638	17.392	0.060	0.144	18.242	
1975	January	0.001	0.075	1.499	0.006	0.013	1.594	1.594
	February	0.001	0.064	1.325	0.005	0.012	1.408	3.002
	March	0.001	0.062	1.456	0.005	0.013	1.537	4.538
	April	0.001	0.050	1.455	0.005	0.012	1.523	6.061
	May	0.001	0.039	1.481	0.005	0.012	1.537	7.598
	June	0.001	0.035	1.465	0.005	0.012	1.517	9.115
	July	0.001	0.035	1.497	0.005	0.012	1.550	10.665
	August	0.001	0.037	1.510	0.005	0.012	1.564	12.230
	September	0.001	0.039	1.419	0.005	0.010	1.474	13.704
	October	0.001	0.047	1.495	0.005	0.013	1.561	15.264
	November	0.001	R0.052	1.380	0.006	R0.013	R1.452	R16.716
	December	0.001	0.067	1.560	0.006	0.015	1.649	R18.365
	TOTAL	0.008	R0.602	17.544	0.062	R0.149	R18.365	
1976	January	0.001	0.076	1.532	0.006	0.014	1.629	1.629
	February	0.001	0.064	1.380	0.006	0.012	1.462	3.091
	March	0.001	0.055	1.552	0.005	0.013	1.626	4.717
	April	0.001	0.047	1.516	0.005	0.012	1.581	6.297
	May	0.001	0.043	1.493	0.005	0.012	1.553	7.851
	June	0.001	0.037	1.545	0.005	0.012	1.600	9.450
	July	0.001	0.038	1.581	0.005	0.012	1.637	11.087
	August	0.001	0.036	1.538	0.005	0.013	1.592	12.680
	September	0.001	0.037	1.504	0.005	0.011	1.558	14.237
	October	0.001	0.050	1.530	0.006	0.013	1.599	15.837
	November	0.001	0.061	1.561	0.006	0.014	1.642	17.479
	December	0.001	0.074	1.697	0.006	0.014	1.792	19.271
	TOTAL	0.008	0.618	18.428	0.064	0.153	19.271	
1977	January	0.001	0.080	1.620	0.006	0.016	1.723	1.723
	February	0.001	0.059	1.503	0.006	0.012	1.580	3.303
	March	0.001	R0.054	R1.580	0.005	0.012	R1.652	R4.955
	April	0.001	0.044	1.565	0.005	0.011	1.626	R6.581
	May	0.001	0.040	1.548	0.005	0.012	1.606	8.187
	TOTAL (5 months)	0.003	0.277	7.817	0.027	0.062	8.187	

¹ See Explanatory Note 12 for definitions of the Residential and Commercial, Industrial, and Transportation Sectors. The methodology used for sector calculations is provided in the footnotes of the previous table. Printed totals may differ slightly from the sum of their row/column components due to independent rounding.

² The percentage share used in calculating Residential and Commercial consumption of petroleum was 52.5 percent for 1973 and 50.7 percent for 1974, 1975, 1976, and 1977.

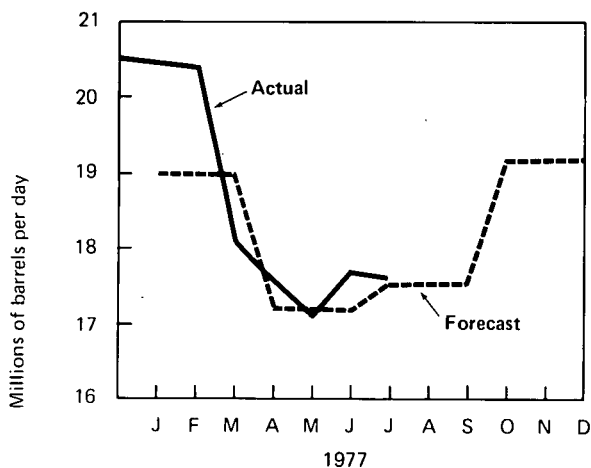
³ The percentage share used in calculating Industrial consumption of petroleum was 47.5 percent for 1973 and 49.3 percent for 1974, 1975, 1976, and 1977.

⁴ The percentage share used in calculating Transportation consumption of natural gas was 3.9 percent for 1973 and 3.6 percent for 1974, 1975, 1976, and 1977.

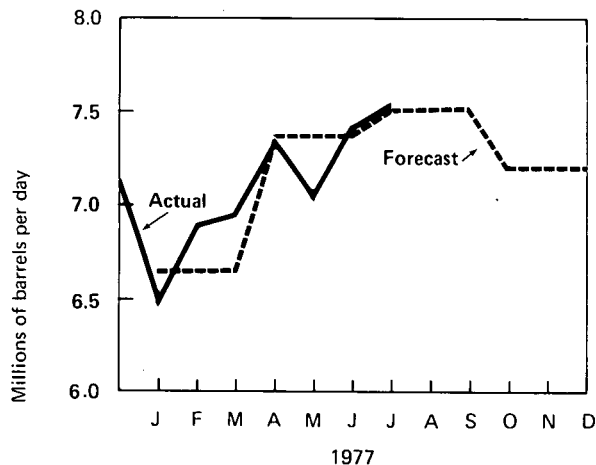
R=Revised data.

Petroleum Consumption and Forecast

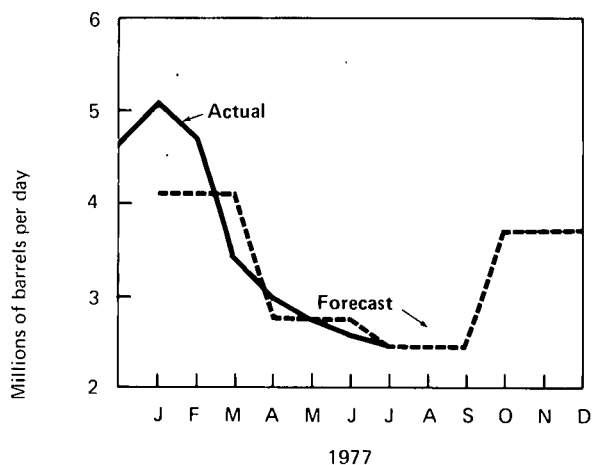
Total Domestic Demand for Petroleum Products



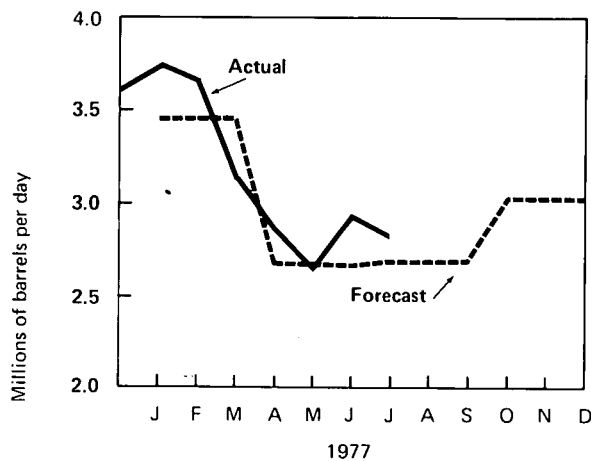
Domestic Demand for Motor Gasoline



Domestic Demand for Distillate Fuel Oil



Domestic Demand for Residual Fuel Oil



Sources:

Actual — Monthly figures are based on Bureau of Mines data for December 1976 and January through March 1977, FEA data for April, May, and June 1977, and API data for July 1977.

Forecast — The FEA forecast is shown for quarterly intervals. See Explanatory Note 5 for discussion of basic assumptions of forecast.

Oil and Gas Exploration and Development

The rotary drilling rig count for August continued at an 18-year high with 2,066 rigs in use, up 22 percent from the August 1976 count.

The number of wells completed during July also compared favorably with well completions 1 year ago. A total of 3,050 exploratory and development wells were drilled during the month, 3 percent more than in July 1976. For the January-July period, well completions were close to 6 percent higher than the total for the corresponding 1976 period.

There were 315 seismic crews (285 land, 30 marine) exploring for oil and gas in July, an increase of 10 from the June count, and the highest monthly figure since October 1974. This total, however, is still less than half of the 700 plus seismic crews that were active in 1952-53, the period of peak domestic petroleum exploration.

In late August the Department of the Interior released a revised planning schedule for oil and gas lease sales on the Outer Continental Shelf (OCS) between 1979-81. Fifteen sales are proposed for the 3-year period, including five each in the Atlantic and in Alaskan waters, three in the Gulf of Mexico, and two off the coast of California. This schedule supplements one released earlier in the year covering the 1977 and 1978 period (see *Monthly Energy Review*, June 1977, page 49).

Oil and Gas Exploration and Development

		Rotary Rigs in Operation	Exploratory and Development Wells Drilled*				Total Footage of Wells Drilled	
		Monthly average		Oil	Gas	Dry	Total	Thousands of feet
1972	AVERAGE	1,107	TOTAL	11,306	4,928	11,057	27,291	134,602
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	January	1,615		1,299	655	1,040	2,994	13,189
	February	1,611		1,097	458	933	2,488	12,071
	March	1,651		1,341	658	1,091	3,090	15,472
	April	1,604		1,181	506	1,071	2,758	13,545
	May	1,592		1,100	451	891	2,442	12,054
	June	1,613		1,246	509	1,022	2,777	13,540
	July	1,616		1,229	557	920	2,706	12,545
	August	1,645		1,272	587	1,122	2,981	14,221
	September	1,699		1,504	831	1,165	3,500	15,636
	October	1,716		1,633	682	1,310	3,625	16,689
	November	1,757		1,619	776	1,270	3,665	15,788
	December	1,793		1,817	832	1,424	4,073	17,556
		AVERAGE	1,660	TOTAL**	16,408	7,580	13,247	37,235
1976	January	1,710		1,465	772	1,055	3,292	14,517
	February	1,594		1,341	652	1,159	3,152	14,888
	March	1,540		1,726	821	1,301	3,848	18,126
	April	1,480		1,237	672	994	2,903	13,765
	May	1,496		1,501	658	1,104	3,263	14,196
	June	1,546		1,500	709	1,123	3,332	14,780
	July	1,597		1,312	730	916	2,958	13,716
	August	1,691		1,265	711	1,140	3,116	14,697
	September	1,744		1,474	909	1,199	3,582	16,777
	October	1,794		1,396	750	1,123	3,269	14,542
	November	1,840		1,291	698	1,222	3,211	14,642
	December	1,860		1,512	926	1,414	3,852	17,093
		AVERAGE	1,656	TOTAL**	17,059	9,085	13,621	39,765
1977	January	1,850		1,391	732	1,096	3,219	14,517
	February	1,856		1,321	705	999	3,025	14,443
	March	1,887		1,817	958	1,297	4,072	19,400
	April	1,907		1,405	818	1,059	3,282	15,523
	May	1,982		1,382	877	1,150	3,409	16,702
	June	2,008		1,720	952	1,270	3,942	18,767
	July	2,023		1,304	724	1,022	3,050	14,529
	August	2,066		NA	NA	NA	NA	NA
	AVERAGE (8 months)	1,949	TOTAL** (7 months)	10,336	5,778	7,894	24,008	114,886

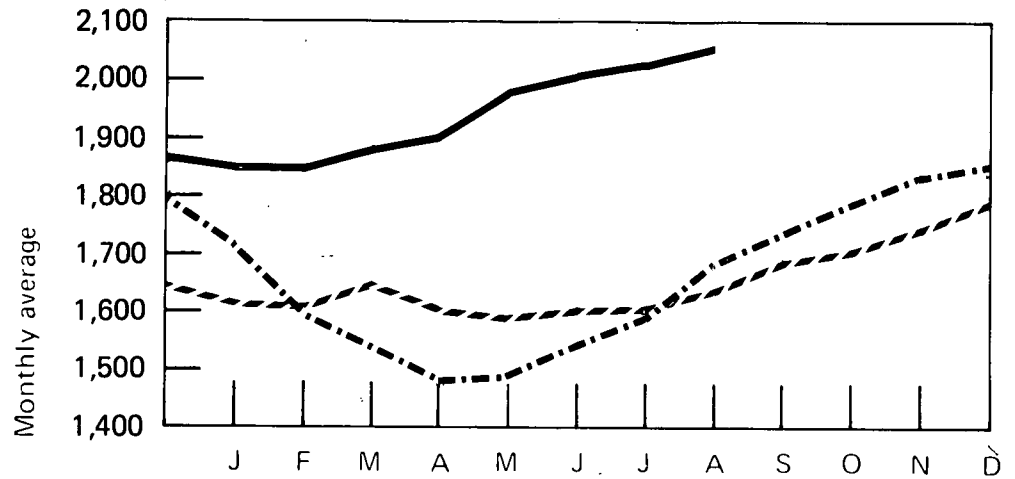
*Excludes service wells and stratigraphic and core tests.

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

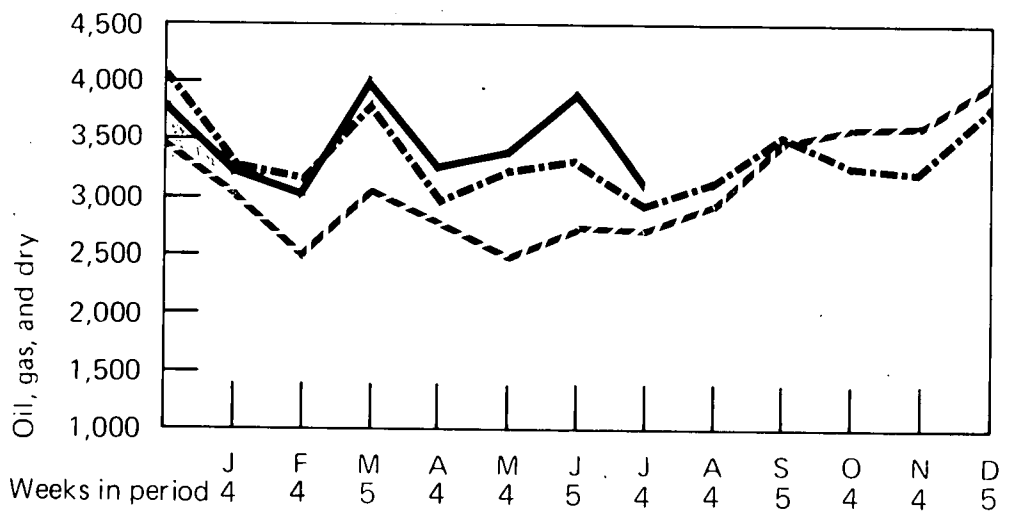
NA=Not available.

Sources: Rotary Rigs: Hughes Tool Company "Rotary Rigs Running—By State;" Wells: American Petroleum Institute "Monthly Drilling Report" and "Quarterly Review of Drilling Statistics for the United States."

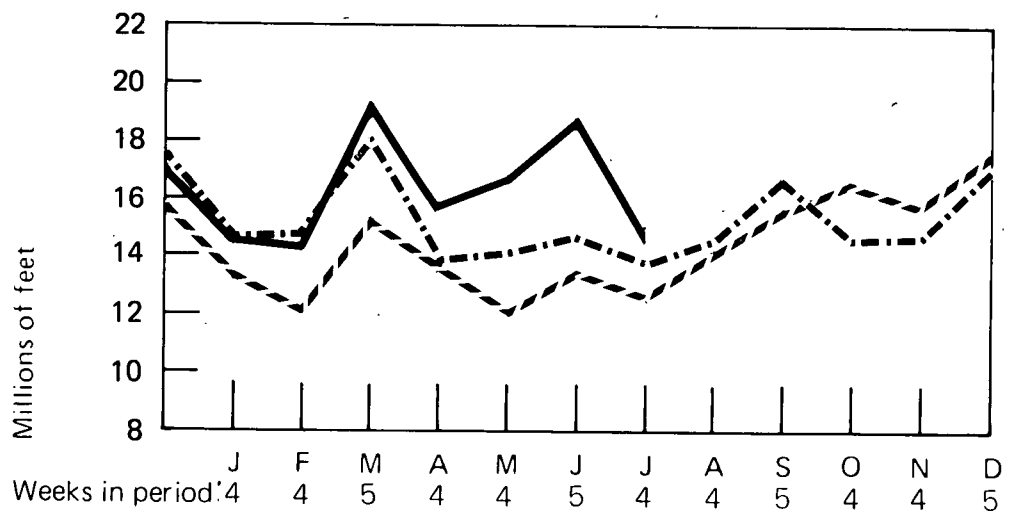
Rotary Rigs in Operation



Total Wells Drilled



Total Footage of Wells Drilled



--- 1975
 --- 1976
 --- 1977

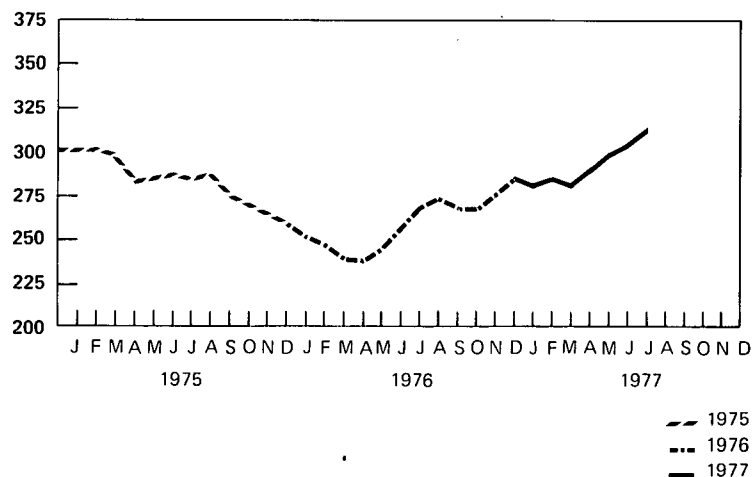
Oil and Gas Exploration and Development (Continued)

		Crews Engaged in Seismic Exploration			Line Miles of Seismic Exploration		
		Offshore	Onshore	Total	Offshore	Onshore	Total
		Monthly average			Monthly average		
1972	Year	12	239	251	10,306	9,333	19,639
1973	Year	23	227	250	21,579	10,597	32,175
1974	Year	31	274	305	28,482	13,219	41,701
1975	Year	30	254	284	25,773	12,558	38,331
1976	Year	R25	237	R262	18,859	11,910	30,769
1975	January	27	274	301			
	February	24	278	302			
	March	23	276	299			
	April	23	260	283			
	May	32	254	286			
	June	38	251	289			
	July	37	249	286			
	August	40	249	289			
	September	40	234	274			
	October	29	241	270			
	November	27	238	265			
	December	26	233	259			
1976	January	20	232	252			
	February	17	232	249			
	March	18	222	240			
	April	17	221	238			
	May	21	226	247			
	June	29	229	258			
	July	30	240	270			
	August	33	242	275			
	September	28	240	268			
	October	21	246	267			
	November	25	250	275			
	December	27	259	286			
1977	January	26	254	280			
	February	27	259	286			
	March	22	260	282			
	April	26	266	292			
	May	29	272	301			
	June	31	274	305			
	July	30	285	315			
	AVERAGE (7 months)	27	267	294			

R=Revised.

Source: Society of Exploration Geophysicists "Monthly Seismic Crew Count" and annual reports published in *Geophysics*.

Total Seismic Crews



Motor Gasoline

The national average selling price for regular gasoline at full service retail outlets was unchanged in July. This compares to a 0.6 cent price increase in July 1976. The average price that retailers paid for regular gasoline decreased by 0.2 cent per gallon, increasing the dealer margin 0.2 cent per gallon to 8.3 cents per gallon. The average self service retail price for regular gasoline was 59.2 cents per gallon in July, 0.1 cent below the price in June.

The average price for unleaded gasoline at full service retail outlets increased slightly (0.1 cent) in July to 67.3 cents per gallon. The average price for premium gasoline in July was the same as in June (68.9 cents per gallon).

Diesel Fuel

The average price for diesel fuel sold at truckstops was unchanged in July at 57.3 cents per gallon, while the average price at service stations decreased slightly (0.1 cent) to 57.3 cents per gallon.

Heating Oil

The average price for heating oil sold to residential customers was unchanged in June at 45.7 cents per gallon.

Crude Oil

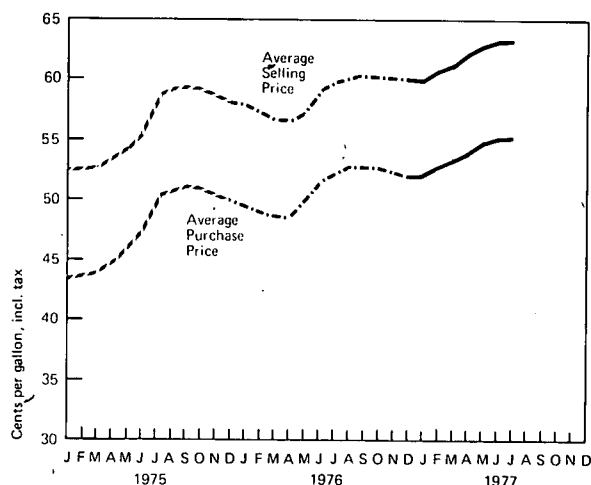
The average price paid by first purchasers for upper tier crude oil was \$10.92 per barrel in June. This was 6 cents below the revised May figure. The domestic average price for all crude oil purchased was \$8.44 per barrel, 5 cents below the price in the previous month.

Motor Gasoline

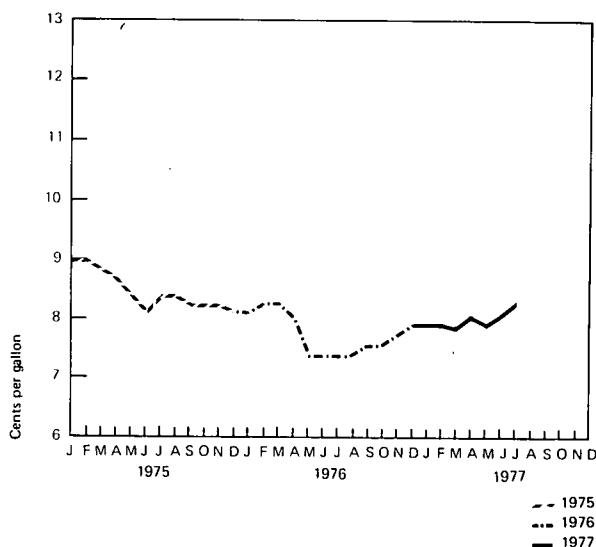
Regular Gasoline at Full Service Retail Outlets

		Average Selling Price	Average Purchase Price	Average Dealer Margin
		Cents per gallon, including tax*		
1974	AVERAGE	52.8	43.1	
1975	January	52.4	43.4	9.0
	February	52.5	43.5	9.0
	March	52.6	43.8	8.8
	April	53.5	44.9	8.6
	May	54.3	46.0	8.3
	June	55.6	47.5	8.1
	July	58.7	50.3	8.4
	August	59.2	50.8	8.4
	September	59.3	51.1	8.2
	October	58.9	50.7	8.2
	November	58.4	50.2	8.2
	December	58.0	49.9	8.1
	AVERAGE	56.2	47.8	
1976	January	57.7	49.6	8.1
	February	57.1	48.8	8.3
	March	56.6	48.3	8.3
	April	56.6	48.6	8.0
	May	57.4	50.0	7.4
	June	59.0	51.6	7.4
	July	59.6	52.2	7.4
	August	60.1	52.7	7.4
	September	60.2	52.6	7.6
	October	60.2	52.6	7.6
	November	60.0	52.2	7.8
	December	59.9	52.0	7.9
	AVERAGE	58.7	51.0	
1977	January	59.9	52.0	7.9
	February	60.7	52.8	7.9
	March	61.3	53.5	7.8
	April	62.2	54.1	8.1
	May	62.9	55.0	7.9
	June	63.4	55.3	8.1
	July	63.4	55.1	8.3

Average Retail Prices For Regular



Average Margins For Regular



*To derive prices excluding taxes, 12.2 cents per gallon may be deducted for 1974 and 1975, and 12.5 cents per gallon may be deducted for 1976 and 1977.

Sources: FEA for 1974; Lundberg Survey, Inc., for January 1975 forward.

Regular Gasoline at Self Service Retail Outlets

		Average Selling Price	Average Dealer Margin
		Cents per gallon, including tax	
1975	November	55.4	5.5
	December	54.9	5.3
1976	January	54.7	5.4
	February	53.8	5.4
	March	53.2	5.3
	April	53.2	4.9
	May	54.4	4.5
	June	56.3	4.8
	July	56.6	4.6
	August	56.7	4.4
	September	56.5	4.3
	October	56.5	4.4
	November	56.4	4.5
	December	56.1	4.5
1977	January	56.2	4.5
	February	57.1	4.4
	March	57.7	4.4
	April	58.4	4.4
	May	58.9	4.2
	June	59.3	4.3
	July	59.2	4.4

Motor Gasoline (Continued)

Average Selling Prices for Premium and Unleaded
Gasoline at Full Service Retail Outlets

		Premium	Unleaded (Regular)
		Cents per gallon, including tax	
1975	January	57.1	NA
	February	57.3	56.1
	March	57.5	56.2
	April	58.2	57.1
	May	59.0	57.9
	June	60.3	58.8
	July	63.1	61.5
	August	63.6	62.0
	September	63.8	62.1
	October	63.4	62.1
	November	63.2	62.0
	December	62.9	61.4
1976	January	62.7	61.2
	February	62.1	60.6
	March	61.6	60.1
	April	61.6	60.4
	May	62.4	61.1
	June	63.9	62.9
	July	64.6	63.2
	August	65.2	63.9
	September	65.3	64.0
	October	65.2	64.0
	November	65.2	63.9
	December	65.0	63.9
1977	January	65.2	64.0
	February	66.1	65.0
	March	66.8	65.4
	April	67.6	66.1
	May	68.4	66.7
	June	68.9	67.2
	July	68.9	67.3

NA=Not available.
Source: Lundberg Survey, Inc.

Average Selling Prices and Margins for Major and Independent Retail Dealers — July 1977

Regular Gasoline—Full Service

Cents per gallon, including tax

	Selling Price	Margin
Major	64.3	8.7
Independent	58.9	6.5
National Average	63.4	8.3

Regular Gasoline—Self Service

	Selling Price	Margin
Major	60.0	4.3
Independent	57.3	4.7
National Average	59.2	4.4

Premium Gasoline—Selling Prices

	Full Service	Self Service
Major	69.6	66.3
Independent	63.8	62.6
National Average	68.9	65.2

Unleaded Gasoline—Full Service Selling Prices

	Regular	Premium
Major	67.9	71.6
Independent	62.1	66.3
National Average	67.3	71.4

NA=Not available.

Source: Lundberg Survey, Inc.

Average Regional Selling Prices and Dealer Margins for Regular Gasoline at Full Service Outlets — July 1977

Region	Selling Price	Margin
	Cents per gallon, including tax	
1A New England	61.7	6.3
1B Mid-Atlantic	64.4	7.4
1C Lower Atlantic	63.4	8.4
2 Mid-Continent	63.5	7.9
3 Gulf Coast	61.7	10.2
4 Rocky Mountain	64.2	10.0
5 West Coast	64.7	9.0
National Average	63.4	8.3

Source: Lundberg Survey, Inc.

Motor Gasoline (Continued)

Retail Gasoline Price Changes for 21 Leading Refiners During July 1977
and Entitlement Position* During June

Company	Effective Date of Change	Amount of Change Cents per gallon	Entitlement Position (June)
Amerada Hess		None	Seller
American Petrofina		None	Buyer
Ashland	July 14	-0.50 (St. Paul Park only)	Seller
Atlantic Richfield	July 15	-0.50 (Customer service, Wisc., Ill.)	Seller
B.P.		None	Seller
Champlin	July 13	-1.00 (PAD I, all grades)	Buyer
	July 14	-1.50 (PADs II, III, IV, all grades)	
Chevron	July 16	-1.00 (PADs IV, V, leaded regular)	Seller
		-1.50 (PADs IV, V, leaded premium)	
		-0.50 (PADs IV, V, unleaded)	
Cities Service		None	Buyer
Continental		None	Buyer
Exxon	July 29	-0.70 (PAD V, regular)	Buyer
		-0.40 (PAD V, unleaded, premium)	
Getty Refining and Marketing Company		None	Buyer
Gulf	July 23	1.00 (PADs I, III, regular, unleaded)	Buyer
		2.00 (PADs I, III, premium)	
Kerr McGee		None	Buyer
Mobil	July 6	-0.80 (PADs I, III, all grades)	Buyer
	July 27	-0.70 (PAD V, all grades)	
Phillips		None	Buyer
Shell	July 23	-0.80 (PADs IV, V)	Buyer
Standard of Indiana		None	Buyer
Standard of Ohio		None	Seller
Sun		None	Buyer
Texaco		None	Buyer
Union Oil of California	July 23	-0.50 (PADs I, II, III unleaded regular, premium)	Buyer

*See Definitions.
Source: REA.

Jobber Prices for Regular Gasoline Sold by 21 Leading Refiners

		PAD IA	PAD IB	PAD IC	PAD II	PAD III	PAD IV	PAD V	National Average
		Cents per gallon, excluding tax							
1974	AVERAGE								26.7
1975	January	27.8	27.8	27.4	28.2	27.2	28.5	27.8	27.8
	February	28.4	28.2	27.8	28.7	27.6	28.3	27.5	28.1
	March	28.9	28.8	28.4	29.1	27.8	29.0	28.0	28.6
	April	29.6	29.9	29.4	30.4	29.2	29.8	29.8	29.7
	May	30.9	31.0	30.5	31.6	30.4	31.2	31.0	30.9
	June	32.4	32.5	32.0	33.1	31.6	32.6	32.6	32.4
	July	34.4	34.6	33.9	34.9	33.4	34.5	33.7	34.2
	August	35.3	35.1	34.6	35.6	34.1	35.2	34.5	34.9
	September	35.2	35.1	34.5	35.4	34.1	35.0	34.5	34.8
	October	34.3	34.6	34.0	34.9	33.8	34.3	34.2	34.3
	November	34.1	34.3	33.9	34.6	33.6	34.3	34.0	34.1
	December	33.7	34.1	33.6	34.3	33.3	33.8	33.7	33.8
	AVERAGE								32.0
1976	January	33.3	33.9	33.2	34.0	33.1	33.2	33.5	33.5
	February	33.0	33.4	32.6	33.8	32.9	32.6	33.5	33.1
	March	32.4	33.0	31.8	33.4	32.6	32.5	33.2	32.7
	April	33.0	33.5	32.3	33.9	33.2	33.2	33.2	33.2
	May	34.4	34.9	33.6	35.3	34.8	34.8	34.7	34.6
	June	35.7	35.9	34.8	36.5	35.9	36.1	35.5	35.8
	July	36.1	36.3	35.4	36.8	36.3	36.3	36.3	36.2
	August	36.5	36.6	35.7	37.3	36.5	36.4	36.7	36.5
	September	35.8	36.1	35.3	36.9	36.6	35.9	36.5	36.2
	October	35.7	35.8	35.2	36.7	36.4	35.9	36.5	36.0
	November	34.9	35.1	34.4	36.3	36.3	35.3	36.5	35.6
	December	34.9	35.1	34.4	36.3	36.3	35.3	36.5	35.6
	AVERAGE								35.0
1977	January	35.6	35.8	35.2	36.9	36.7	35.9	37.0	36.2
	February	36.2	36.5	35.8	37.5	37.5	36.7	38.1	36.9
	March	37.0	37.3	36.7	38.2	38.0	37.0	38.1	37.5
	April	37.6	37.8	37.2	39.0	38.9	37.8	38.8	38.2
	May	38.3	38.4	37.9	39.7	39.3	38.5	39.0	38.7
	June	38.5	38.4	38.1	39.7	39.5	38.7	39.0	38.8
	July	38.4	38.3	38.0	39.6	39.4	38.6	38.8	38.7

Source: FEA.

Diesel Fuel

Average Selling Prices and Margins for No. 2 Diesel Fuel*

		Selling Price		Margin	
		Truckstops	Service Stations	Truckstops	Service Stations
Cents per gallon, including tax					
1975	January	NA	50.6	NA	6.8
	February	49.7	50.2	7.0	7.3
	March	50.1	50.2	7.5	7.4
	April	50.5	50.6	7.4	7.5
	May	50.3	51.0	7.0	7.7
	June	51.4	51.4	7.5	7.9
	July	51.2	52.4	7.3	8.2
	August	52.1	52.6	8.1	8.9
	September	52.1	52.7	7.4	8.7
	October	51.8	53.0	6.2	7.7
	November	52.0	53.0	5.3	6.5
	December	51.7	52.4	5.3	6.7
1976	January	52.0	52.5	5.6	7.2
	February	52.1	52.0	6.0	7.3
	March	51.4	52.4	5.6	7.1
	April	51.1	52.8	5.8	7.8
	May	51.4	52.9	6.9	7.8
	June	52.0	53.3	7.0	7.7
	July	52.1	53.1	6.4	7.1
	August	52.3	53.2	6.0	7.0
	September	52.2	53.1	5.7	6.8
	October	52.4	53.1	5.8	6.5
	November	52.9	53.3	6.1	6.4
	December	53.1	53.5	5.7	5.9
1977	January	53.9	54.3	4.9	5.3
	February	55.3	55.6	5.5	5.9
	March	56.0	56.4	5.7	6.2
	April	56.6	56.7	6.5	6.7
	May	56.9	57.1	6.5	6.8
	June	57.3	57.4	7.1	7.2
	July	57.3	57.3	7.2	7.2

*See Explanatory Note 13.

NA=Not available.

Source: Lundberg Survey, Inc.

Average Selling Prices and Margins for Major and Independent No. 2 Diesel Fuel Retail Dealers -- July 1977

Cents per gallon, including tax

Truckstops

	Selling Price	Margin
Major	58.3	6.5
Independent	56.0	7.9
National Average	57.3	7.2

Service Stations

	Selling Price	Margin
Major	59.1	6.5
Independent	56.1	7.3
National Average	57.3	7.2

Source: Lundberg Survey, Inc.

No. 1 Diesel Fuel

Wholesale Retail
Cents per gallon, excluding tax

1975	July	30.1	37.7
	August	30.8	38.2
	September	31.5	36.9
	October	33.1	35.4
	November	33.3	35.0
	December	34.2	35.5
1976	January	33.8	37.1
	February	33.6	35.3
	March	33.9	34.8
	April	34.2	35.4
	May	34.5	37.5
	June	34.7	37.9
	July	35.0	38.1
	August	35.9	38.2
	September	35.3	37.7
	October	36.3	36.4
	November	35.7	36.9
	December	35.5	36.7
1977	January	37.1	37.8
	February	38.4	39.2
	March	R39.0	39.6
	April	R39.7	40.6
	May	R39.5	41.7
	June*	40.3	41.2

*Preliminary.

Note: 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.

Source: FEA Form P302-M-1 "Petroleum Industry Monthly Report for Product Prices."

Heating Oil

Residential Heating Oil Prices

		Average Selling Price*	Average Purchase Price*	Average Dealer Margin*
		Cents per gallon		
1974	AVERAGE	34.7	26.9	
1975	January	37.4	29.1	8.3
	February	37.0	28.7	8.3
	March	36.6	28.4	8.2
	April	36.1	29.3	6.8
	May	36.7	30.0	6.7
	June	37.1	30.3	6.8
	July	37.2	30.6	6.6
	August	38.0	31.2	6.8
	September	38.4	31.0	7.4
	October	39.3	31.8	7.5
	November	39.4	32.1	7.3
	December	40.1	32.4	7.7
	AVERAGE	37.7	31.2	
1976	January	40.1	32.4	7.7
	February	40.1	32.4	7.7
	March	39.4	NA	NA
	April	39.0	NA	NA
	May	39.0	NA	NA
	June	39.3	NA	NA
	July	39.3	NA	NA
	August	39.8	NA	NA
	September	40.2	NA	NA
	October	40.7	NA	NA
	November	41.9	NA	NA
	December	43.0	NA	NA
1977	January	44.4	NA	NA
	February	45.3	NA	NA
	March	45.8	NA	NA
	April	45.9	NA	NA
	May	45.7	NA	NA
	June	45.7	NA	NA

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

NA=Not available.

Sources: 1974 through February 1976—Form CLC-92 "No. 2 Heating Oil Monthly Price Adjustment Report;" June 1976 forward—FEA Form P112-M-1 "No. 2 Heating Oil Supply/Price Monitoring Report."

Residential Heating Oil Prices by Region

		New England	Mid-Atlantic	Southeast	East North Central	East South Central	West North Central	West South Central	Mountain	West Coast
		Cents per gallon, including tax								
1975	January	40.2	38.9	36.5	33.2	34.7	34.0	NA	37.5	38.0
	February	39.2	38.4	36.8	33.4	34.7	33.3	NA	36.6	37.7
	March	38.0	37.8	36.4	34.2	33.2	34.3	NA	NA	36.8
	April	37.4	36.8	36.8	33.2	33.7	34.5	NA	38.9	36.8
	May	37.6	36.9	36.4	35.1	34.7	35.4	NA	37.0	37.8
	June	37.7	37.7	36.4	35.8	NA	35.9	NA	37.6	37.6
	July	37.9	36.9	36.9	36.4	34.7	36.8	NA	NA	38.8
	August	38.8	38.2	37.9	36.3	35.7	36.3	NA	41.3	39.3
	September	39.4	38.7	37.6	36.5	35.7	36.8	NA	38.9	40.1
	October	40.3	39.9	38.3	37.4	36.6	37.9	NA	39.0	41.0
	November	41.0	39.6	38.7	37.9	NA	38.1	NA	40.2	41.3
	December	41.0	41.1	39.0	38.5	34.1	38.0	NA	44.8	40.9
1976	January	41.5	40.0	39.6	38.3	37.8	38.2	35.0	41.2	41.6
	February	41.4	40.3	39.4	38.0	37.7	38.3	34.4	41.0	42.1
	March	41.5	39.8	39.2	37.0	36.7	37.6	34.5	40.4	41.9
	April	41.2	40.0	38.9	37.1	35.9	37.3	34.6	40.3	40.8
	May	41.1	39.7	38.2	37.1	35.6	37.3	34.0	40.4	42.1
	June	40.9	41.1	39.1	37.7	37.2	37.3	34.3	40.3	42.8
	July	40.7	39.8	39.1	37.9	36.9	37.3	34.4	40.1	45.0
	August	41.5	40.3	39.5	38.2	37.2	37.7	34.3	39.7	44.7
	September	41.9	40.8	37.5	38.3	38.0	38.8	34.8	41.1	46.0
	October	42.3	41.4	40.4	39.0	38.5	38.7	35.1	42.1	46.0
	November	43.3	42.4	42.1	40.1	39.8	39.5	36.3	42.8	46.5
	December	44.4	43.6	42.9	41.5	41.0	41.9	36.3	42.7	43.8
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

NA=Not available.

Note: Data for West South Central Region are based on a sample of less than four reporting firms.

Sources: January through December 1975—Form CLC-92 "No. 2 Heating Oil Monthly Price Adjustment Report;"
January 1976 forward—FEA Form P112-M-1 "No. 2 Heating Oil Supply/Price Monitoring Report."

Average Distributor Purchase Prices for Heating Oil by Region

Heating Oil (Continued)

		New England	Mid-Atlantic	Southeast	East North Central	East South Central	West North Central	West South Central	Mountain	West Coast
		Cents per gallon								
1975	January	30.3	29.7	28.5	27.2	28.8	27.5	NA	28.5	29.7
	February	29.6	29.3	28.6	27.2	28.8	27.3	NA	29.4	28.5
	March	29.5	29.3	29.1	28.1	26.8	28.1	NA	NA	27.6
	April	29.4	29.5	29.7	28.3	27.8	29.5	NA	29.0	28.5
	May	30.5	30.0	30.0	30.0	28.8	29.4	NA	30.9	28.7
	June	30.4	30.2	30.6	30.5	NA	30.7	NA	31.8	29.0
	July	30.7	30.1	29.9	31.6	28.8	31.4	NA	NA	30.4
	August	31.6	30.8	30.9	31.2	29.8	30.2	NA	31.6	32.8
	September	31.4	30.9	30.7	30.6	29.8	30.6	NA	31.9	31.4
	October	32.0	31.9	31.3	31.5	31.1	31.4	NA	34.4	32.5
	November	32.5	31.7	32.0	32.1	NA	32.0	NA	34.1	32.3
	December	32.9	32.7	31.8	32.0	29.4	31.4	NA	33.9	32.8
1976	January	32.5	32.5	31.9	32.3	NA	32.3	NA	33.6	32.9
	February	32.8	32.9	31.6	31.9	31.3	32.1	NA	NA	31.1

NA=Not available.

Source: Form CLC-92 "No. 2 Heating Oil Monthly Price Adjustment Report."

Residual Fuel Oil

RESIDUAL FUEL OIL (Dollars per barrel)

		NO. 5		NO. 6								BUNKER "C"		TOTAL
				0.0 to 0.3 percent sulfur		0.31 to 1.0 percent sulfur		Greater than 1.0 percent sulfur		Total				
		Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail	
1975	July	10.19	11.28	11.57	12.86	10.90	12.05	10.25	10.59	10.66	11.70	7.88	10.54	11.27
	August	10.19	11.04	11.53	13.22	10.85	12.34	9.72	10.53	10.49	11.89	8.76	10.43	11.32
	September	10.58	11.07	11.75	12.94	10.63	11.65	9.87	10.52	10.48	11.52	8.93	10.29	11.09
	October	10.15	11.12	11.50	12.98	10.37	12.09	9.75	10.38	10.30	11.69	8.88	10.31	11.13
	November	10.90	11.27	12.21	12.96	10.33	12.03	9.90	10.34	10.47	11.68	9.01	10.43	11.24
	December	10.83	11.64	11.89	12.87	10.37	11.83	9.65	10.06	10.24	11.42	9.07	10.15	10.97
1976	January	11.08	11.63	12.13	12.39	10.62	11.61	9.58	10.23	10.53	11.35	8.75	10.35	11.02
	February	10.55	11.57	12.42	12.78	10.87	11.84	9.70	10.35	10.73	11.52	8.53	10.27	11.15
	March	10.41	11.89	12.36	12.81	11.05	11.80	9.56	10.21	10.74	11.43	8.59	10.35	11.12
	April	10.21	11.58	11.44	12.34	10.86	11.77	9.53	10.28	10.38	11.43	8.66	10.12	11.02
	May	9.87	11.49	11.71	11.87	10.80	11.40	9.47	9.89	10.11	10.95	8.75	10.65	10.63
	June	9.91	11.23	11.71	12.24	10.33	11.36	9.73	10.03	10.12	11.04	8.57	10.10	10.70
	July	10.06	11.70	11.71	12.12	10.22	11.36	9.83	10.04	10.25	11.04	9.23	10.34	10.74
	August	9.78	11.48	11.67	12.79	10.45	11.46	9.61	10.22	10.20	11.20	8.93	9.98	10.82
	September	10.36	11.37	11.75	12.50	10.33	11.55	10.04	10.28	10.35	11.30	9.22	10.05	R10.90
	October	10.25	11.64	11.86	12.94	R11.08	R11.99	10.00	10.73	10.75	11.82	9.57	10.81	R11.38
	November	10.84	12.04	12.33	13.15	R11.57	12.21	10.40	R10.99	11.16	11.95	10.31	R10.88	11.61
	December	11.49	12.64	13.16	13.32	R11.80	12.76	11.04	11.48	11.87	12.44	9.95	11.24	R12.16
1977	January	12.00	R13.20	14.06	14.34	R12.79	13.68	11.51	12.32	12.45	13.32	10.34	11.89	12.94
	February	12.28	R13.63	14.60	14.60	12.91	R14.06	12.04	12.74	12.69	13.71	10.24	12.00	R13.21
	March	R12.15	R13.76	14.00	R14.58	R13.47	14.51	11.62	R12.70	12.68	13.84	9.97	11.74	13.27
	April	11.62	13.26	12.88	14.63	13.05	14.10	11.27	12.50	12.04	13.61	10.14	11.75	12.92
	May	R11.54	R12.69	R13.56	R14.48	R11.90	R13.73	R11.05	12.15	R11.64	R13.42	R9.97	R11.41	R12.67
	June*	11.36	13.57	13.27	14.20	11.83	13.32	11.15	11.85	11.72	13.00	10.24	11.37	12.45

*Preliminary.

R=Revised data.

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

Source: FEA Form P302-M-1 "Petroleum Industry Monthly Report for Product Prices."

Aviation Fuels

AVIATION FUELS (Cents per gallon)

		Aviation Gasoline		Naphtha-Type*	Kerosene-Type	
		Wholesale	Retail	Retail	Wholesale	Retail
1975	July	40.6	40.6	31.4	29.8	29.2
	August	41.3	42.1	30.8	32.1	29.5
	September	41.2	39.9	30.3	31.5	29.6
	October	41.1	41.2	30.2	31.7	30.0
	November	39.7	42.1	30.6	31.6	30.2
	December	40.9	40.9	30.7	31.9	30.5
1976	January	41.4	41.2	31.0	30.6	31.3
	February	41.2	42.0	31.1	31.1	31.2
	March	41.1	41.9	30.9	31.2	30.7
	April	41.2	42.5	30.5	31.9	30.5
	May	42.1	43.1	30.6	33.0	30.2
	June	42.6	42.3	31.5	32.1	30.3
	July	43.6	44.2	31.3	32.9	30.8
	August	43.7	44.1	31.7	32.1	31.1
	September	43.6	44.7	32.1	32.5	31.4
	October	43.6	43.8	32.4	33.5	31.9
	November	43.4	43.9	32.7	33.4	32.4
	December	43.5	43.7	32.7	34.7	32.2
1977	January	43.4	44.1	33.4	34.6	33.2
	February	44.7	45.0	34.0	37.1	34.1
	March	45.0	45.7	34.5	35.9	34.6
	April	46.0	47.2	34.3	35.9	34.9
	May	46.6	47.8	34.3	36.6	35.1
	June **	46.9	47.1	35.1	36.8	35.7

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

**Preliminary.

Note: Wholesale refers to the price of aviation fuel sold to 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.

Source: FEA Form P302-M-1 "Petroleum Industry Monthly Report for Product Prices."

Percentages of Domestic Production Sold at the Wellhead

		Old Oil	New Oil	Released	Stripper
1975	January*	58	19	10	12
	February*	61	17	9	12
	March	60	18	10	12
	April	61	17	9	12
	May	62	17	8	13
	June	63	16	8	13
	July	62	16	8	14
	August	63	16	7	14
	September*	63	15	7	14
	October	63	16	7	14
	November	64	15	7	14
	December	63	16	7	14
	AVERAGE	62	16	8	13
1976	January	54	21	10	15
		Lower Tier	Upper Tier		
	February	56	30	—	14
	March	57	29	—	14
	April	57	29	—	14
	May	57	29	—	14
	June	56	29	—	15
	July	56	30	—	14
	August	56	30	—	14
		Lower Tier	Upper Tier		Stripper
	September	53.4	33.7		12.9
	October	52.4	34.7		12.9
	November	49.9	36.6		13.4
	December	50.1	36.4		13.6
1977	January	50.6	36.7		12.7
	February	49.5	37.2		13.3
	March	49.2	37.2		13.6
	April	49.5	36.9		13.6
	May	R48.4	R37.6		14.0
	June**	48.8	37.0		14.2

*Totals do not add to 100 due to rounding.

**Preliminary.

Sources: January 1975 through January 1976—Form FEA-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 FEA estimates for Upper Tier percentages; September 1976 forward—FEA Form P124-M-0 "Domestic Crude Oil Purchasers Report" for Lower Tier, Upper Tier, and Stripper percentages.

Crude Oil (Continued)

		Entitlement Price* (Dollars)	National Old Oil Supply Ratio*	Crude Oil Entitlement Benefit* (Dollars)
1974	November	5.00	.411	2.06
	December	5.00	.400	2.00
1975	January	6.00	.352	2.11
	February	6.75	.373	2.52
	March	7.31	.359	2.62
	April	7.29	.390	2.84
	May	7.39	.383	2.83
	June	7.82	.360	2.82
	July	8.13	.354	2.88
	August	8.31	.352	2.93
	September	8.31	.355	2.95
	October	8.62	.356	3.07
	November	8.94	.343	3.07
	December	8.55	.363	3.10
1976	January	8.09	.309	2.50
			National Domestic Crude Oil Supply Ratio	
1976	February	7.85	.352	2.76
	March	7.89	.358	2.82
	April	7.85	.356	2.79
	May	7.82	.356	2.78
	June	7.91	.328	2.59
	July	7.80	.314	2.45
	August	8.02	.319	2.56
	September	7.80	.296	2.31
	October	7.84	.293	2.30
	November	7.90	.273	2.16
	December	7.97	.263	2.10
1977	January	8.30	.266	2.21
	February	8.53	.267	2.28
	March	8.71	.273	2.38
	April	8.69	.285	2.48
	May	8.77	.280	2.46
	June	8.65	.273	2.36

*See Definitions.

Source: FEA.

Refiner Acquisition Cost of Crude Petroleum*

		Domestic	Imported	Composite
		Dollars per barrel		
1974	AVERAGE	7.18	12.52	9.07
1975	January	7.78	12.77	9.48
	February	8.29	13.05	10.09
	March	8.38	13.28	9.91
	April	8.23	13.26	9.83
	May	8.33	13.27	9.79
	June	8.33	14.15	10.33
	July	8.37	14.03	10.57
	August	8.48	14.25	10.81
	September	8.49	14.04	10.79
	October	8.68	14.66	10.85
	November	8.67	15.04	11.05
	December	8.66	14.81	10.98
	AVERAGE	8.39	13.93	10.38
1976	January	9.14	13.27	10.76
	February	8.67	13.26	10.54
	March	8.48	13.51	10.44
	April	8.66	13.39	10.63
	May	8.62	13.41	10.66
	June	8.60	13.48	10.88
	July	8.72	13.51	10.97
	August	8.65	13.58	10.78
	September	8.95	13.47	11.08
	October	9.13	13.49	11.20
	November	9.23	13.58	11.26
	December	9.25	13.71	11.32
	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	R9.21	R14.62	R11.87
	June**	9.30	14.54	11.94

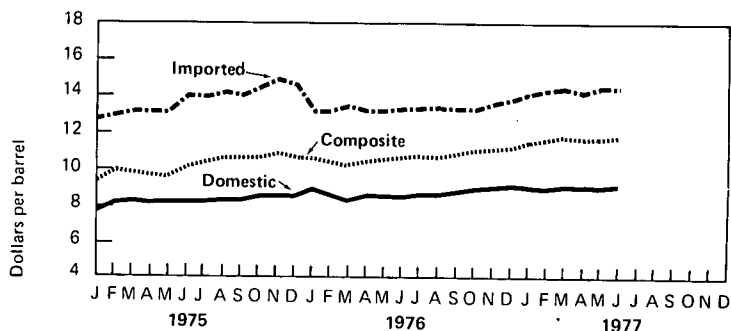
*See Explanatory Note 15.

**Preliminary data.

R=Revised data.

Sources: 1974 through January 1976—Form FEO-96 "Monthly Cost Allocation Report;" February 1976 forward—FEA Form P110-M-1 "Refiners' Monthly Cost Allocation Report."

Crude Oil Refiner Acquisition Cost



Crude Oil (Continued)

Estimated Landed Cost of Imported Crude Petroleum From Selected Countries*

		Algeria	Canada	Indonesia	Iran	Nigeria	Saudi Arabia	U.A. Emirates	Venezuela
Dollars per barrel									
1975	January	12.72	12.43	13.30	12.11	12.07	12.07	13.14	11.37
	February	12.11	12.15	13.52	11.86	12.18	11.94	12.67	11.56
	March	12.46	12.79	13.94	12.08	12.56	11.78	13.40	11.66
	April	12.36	12.95	13.71	12.34	12.46	12.16	12.55	11.61
	May	12.41	12.08	13.71	11.93	12.34	12.27	13.29	11.54
	June	12.37	11.90	13.73	12.51	12.49	11.93	12.48	11.51
	July	12.69	12.15	13.98	11.83	12.37	12.08	12.78	11.46
	August	12.68	12.27	13.85	12.17	12.32	12.10	12.60	11.44
	September	12.52	12.63	13.75	11.97	12.42	12.17	12.49	11.42
	October	13.45	13.02	14.00	12.27	13.18	12.64	12.85	12.08
	November	13.28	14.00	13.81	12.47	13.37	12.58	13.23	12.38
	December	13.46	13.96	13.92	13.01	13.57	12.93	13.21	12.31
1976	January	13.56	12.95	13.89	13.01	13.61	13.18	13.50	11.60
	February	13.57	13.24	13.94	12.87	13.52	13.21	13.36	12.09
	March	13.83	13.30	13.94	12.77	13.62	13.18	13.37	11.71
	April	13.73	13.61	13.78	12.91	13.60	13.11	13.18	11.95
	May	13.47	13.62	13.84	12.82	13.62	13.05	13.39	11.61
	June	13.75	14.19	13.84	13.00	13.78	13.14	13.09	11.55
	July	13.77	13.79	13.80	12.76	13.81	13.02	13.45	11.44
	August	13.91	13.78	13.78	13.09	13.87	13.03	13.23	11.77
	September	14.03	13.70	13.80	12.78	13.82	12.87	13.44	11.98
	October	13.81	13.71	13.84	12.73	13.99	12.87	13.22	11.84
	November	13.84	13.59	13.77	12.58	13.95	13.01	13.18	12.01
	December	14.14	13.52	13.75	12.69	14.11	13.02	13.29	12.19
1977	January	14.80	13.92	14.42	13.16	14.97	13.22	13.56	13.29
	February	15.18	13.74	14.57	13.56	15.12	13.32	13.46	13.76
	March	15.08	14.34	14.64	13.94	15.13	13.50	13.80	13.41
	April	15.21	14.02	14.70	13.95	15.37	13.41	13.78	13.19
	May	15.20	14.94	14.59	13.94	15.40	13.49	13.85	13.10
	June	15.34	14.49	14.63	13.81	15.37	13.39	13.72	13.06

* See Explanatory Note 16.

Source: FEA Form F 701-M-O "Transfer Pricing Report."

Unrecouped Costs for Refined Products for 30 Largest Refiners

		Distillate*	Motor Gasoline	Aviation Jet Fuel**	Other Products	Total
Millions of dollars						
1975	January	254	431	—	672	1,357
	February	300	418	—	790	1,508
	March	282	452	—	966	1,700
	April	302	485	—	807	1,594
	May	292	370	—	771	1,433
	June	284	266	—	785	1,334
	July	233	219	—	624	1,075
	August	280	344	—	583	1,208
	September	347	335	—	661	1,342
	October	338	245	—	673	1,255
	November	426	275	—	796	1,497
	December	446	211	—	826	1,483
1976	January	336	242	131	515	1,224
	February	279	336	145	456	1,216
	March	263	316	163	456	1,198
	April	237	398	180	524	1,339
	May	264	632	161	446	1,503
	June	—	628	135	349	1,112
	July	—	587	129	384	1,100
	August	—	679	125	352	1,156
	September	—	619	134	340	1,093
	October	—	733	151	372	1,256
	November	—	796	168	368	1,332
	December	—	723	139	317	1,179
1977	January	—	901	166	325	1,392
	February	—	1,038	187	303	1,528
	March	—	956	180	287	1,423
	April	—	1,029	194	343	1,566
	May	—	R968	199	328	R1,495
	June**	—	958	232	342	1,532

*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.

**Prior to January 1976 refiners were not required to maintain separate banks for aviation jet fuel.

***Preliminary.

Source: FEA Form P110-M-1 "Refiners' Monthly Cost Allocation Report."

Natural Gas

Natural Gas Prices Reported by Major Interstate Pipeline Companies

		PURCHASES			SALES		
		From Domestic Producers	From Canadian and Mexican Sources	Total Purchases	To Industrial Users*	To Resellers**	Total Sales
Cents per thousand cubic feet							
1975	January	30.4	104.0	35.8	67.8	70.9	71.2
	February	29.5	105.9	35.2	70.1	74.0	74.3
	March	33.5	102.5	38.8	70.4	77.7	77.8
	April	32.8	102.8	38.3	71.1	82.3	81.9
	May	34.7	100.6	39.8	71.1	83.7	82.8
	June	35.3	98.9	40.2	72.2	85.1	83.9
	July	36.7	101.1	41.7	73.9	84.6	83.6
	August	35.5	141.0	43.3	73.4	86.5	85.1
	September	36.5	141.1	44.4	72.8	85.9	84.7
	October	36.0	140.1	44.3	77.2	85.9	85.4
	November	36.5	162.5	46.7	77.8	86.9	86.6
	December	35.9	161.8	46.0	81.1	79.6	80.1
1976	January	38.6	164.0	48.6	87.5	88.7	89.2
	February	39.5	165.3	49.5	87.7	92.3	92.7
	March	39.5	164.5	49.7	86.4	89.8	90.2
	April	40.6	164.3	51.2	88.6	100.2	99.7
	May	42.4	165.1	52.5	86.9	98.3	97.6
	June	43.7	166.6	53.7	89.5	98.2	98.5
	July	43.6	168.4	53.2	94.3	101.8	101.1
	August	56.4	167.7	65.3	97.8	104.8	104.1
	September	68.5	183.7	77.7	103.5	92.5	94.1
	October	57.4	190.1	68.8	106.4	105.4	105.7
	November	52.6	182.4	63.3	112.9	106.1	106.9
	December	54.0	189.4	65.2	131.3	117.3	118.1
1977	January	58.8	201.8	71.5	143.1	124.4	125.4

*Represents direct sales by pipeline companies to industrial users. Does not include sales to industrial users by resellers.

**Includes the cost of gas to the distributing utility at entrance of distribution system or point of receipt.

Source: Federal Power Commission Form 2.

Intrastate Natural Gas Prices for Selected States by Type of Contract*

	California		Kansas		Louisiana		Oklahoma		Texas	
	New Contracts	Renegotiated or Amended	New Contracts	Renegotiated or Amended	New Contracts	Renegotiated or Amended	New Contracts	Renegotiated or Amended	New Contracts	Renegotiated or Amended
Cents per thousand cubic feet										
1975										
January	75.00	76.89	55.30	—	98.04	102.96	95.99	76.03	139.90	164.04
February	—	—	—	—	128.68	113.06	97.30	64.49	154.72	163.11
March	—	—	—	—	115.78	125.89	107.70	55.05	96.66	97.50
April	—	—	64.65	45.24	149.78	134.81	132.58	87.79	160.09	176.32
May	—	—	—	—	126.80	123.53	129.31	106.56	156.72	158.59
June	—	53.68	65.00	—	130.91	129.57	94.22	120.29	165.00	187.54
July	—	65.51	—	—	117.22	125.63	133.87	114.62	183.22	178.22
August	—	75.00	198.24	—	132.87	114.20	136.77	121.21	151.87	132.50
September	—	86.00	152.89	70.38	121.89	141.23	143.73	106.69	169.87	180.77
October	135.53	—	—	—	75.16	117.60	143.09	144.14	168.10	187.30
November	—	—	157.95	139.02	138.42	71.65	140.61	133.15	149.43	182.17
December	—	—	—	80.00	139.64	131.92	132.50	153.86	187.20	140.90
1976										
January	—	83.97	103.81	84.54	138.75	131.23	149.87	109.39	181.05	193.31
February	—	40.00	—	109.68	125.00	145.30	133.72	146.71	176.63	191.54
March	—	—	150.36	—	145.66	155.39	162.83	168.57	178.70	176.44
April	195.00	—	150.00	—	142.99	154.05	162.12	148.30	202.60	152.95
May	122.00	60.39	180.39	149.84	125.54	106.05	156.35	164.02	154.00	197.22
June	—	—	114.45	150.82	147.11	137.67	169.56	168.14	178.01	192.98
July	—	117.15	137.57	150.83	127.55	141.71	148.20	95.00	151.19	176.23
August	—	97.38	—	—	138.70	164.23	151.81	171.49	157.98	198.81
September	—	—	—	125.68	164.10	156.39	164.85	172.00	184.07	197.66
October	—	—	—	111.72	144.64	149.91	163.48	161.16	196.58	188.80
November	—	—	150.82	144.21	—	131.91	162.57	90.73	186.80	182.82
December	—	97.47	160.73	—	194.51	152.45	167.55	175.98	198.71	202.54
1977										
January	—	105.58	155.49	—	155.82	137.65	172.35	167.49	193.36	204.06
February	—	107.27	121.66	—	141.33	120.84	147.86	131.27	185.55	203.22
March	119.79	116.28	148.18	—	219.43	208.97	168.57	168.28	197.14	190.83
April	—	—	137.10	156.38	216.41	150.35	165.61	167.89	192.22	205.44
May	—	107.20	119.00	—	197.53	158.97	156.52	171.09	204.06	201.27
June	—	112.21	91.49	—	180.21	169.61	166.69	169.51	194.54	206.41

*Prices are for FPC jurisdictional natural gas companies selling more than 1 billion cubic feet per year in interstate commerce.
Source: Federal Power Commission Form 45 "Summary of Intrastate Natural Gas Prices."

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

		Cents per thousand cubic feet
1975	January	141.2
	February	144.7
	March	146.1
	April	150.6
	May	153.7
	June	155.7
	July	154.7
	August	155.4
	September	159.4
	October	160.6
	November	166.2
	December	170.2
1976	January	171.4
	February	175.2
	March	177.0
	April	178.4
	May	180.8
	June	183.2
	July	184.5
	August	185.8
	September	191.2
	October	195.0
	November	198.3
	December	208.3
	AVERAGE	185.8
1977	January	213.8
	February	217.0
	March	219.9
	April	223.7
	May	227.0
	June	227.3
	July	229.9

Source: Bureau of Labor Statistics.

Utility Fossil Fuels

U.S. Average Delivered Prices of Coal at Utilities

		Contract	Spot
		Dollars per short ton	
1975	January	14.57	28.12
	February	15.71	25.93
	March	15.68	25.02
	April	15.88	24.52
	May	16.45	23.78
	June	16.40	23.36
	July	16.06	22.35
	August	16.65	22.39
	September	16.76	22.46
	October	16.72	22.52
	November	16.79	22.50
	December	16.90	22.40
1976	January	16.53	21.75
	February	17.04	21.23
	March	17.65	21.36
	April	17.76	21.43
	May	18.12	21.17
	June	18.05	20.88
	July	17.93	21.00
	August	18.19	21.35
	September	18.55	21.46
	October	18.49	21.28
	November	18.26	21.56
	December	18.15	21.49
1977	January	17.87	21.93
	February	18.28	22.71
	March	18.75	23.27
	April	18.82	22.41

Source: Federal Power Commission Form 423.

Utility Fossil Fuels (Continued)

COST OF FOSSIL FUELS DELIVERED TO STEAM ELECTRIC UTILITY PLANTS

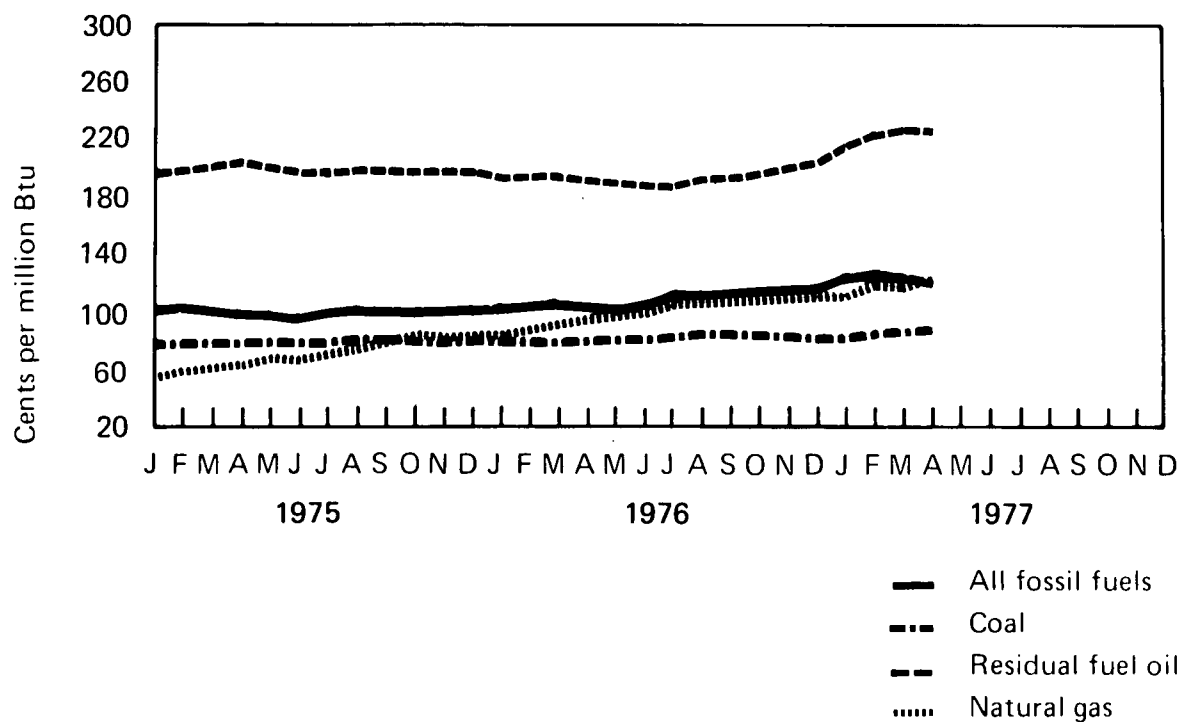
All Fossil Fuels*

Region	1976									1977			
	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR
Cents per million Btu													
New England	184.3	174.6	174.2	172.4	173.7	176.6	184.0	186.9	197.0	207.7	211.4	225.3	213.9
Middle Atlantic	136.9	136.6	137.9	144.5	140.2	135.2	136.8	139.8	146.5	161.8	162.1	152.2	149.9
East North Central	91.3	92.1	93.8	100.9	97.6	95.2	95.8	96.8	94.4	104.1	102.7	104.0	102.6
West North Central	67.2	68.9	69.1	70.8	75.1	76.1	73.5	76.1	78.5	85.4	85.3	82.0	79.0
South Atlantic	119.2	120.0	118.9	130.7	126.2	125.6	127.2	129.1	134.7	146.5	142.5	137.3	132.7
East South Central	90.4	90.9	90.0	93.2	94.6	94.4	93.8	92.3	96.7	99.8	101.8	100.1	100.3
West South Central	93.5	94.6	98.6	101.2	102.9	102.4	101.6	106.2	106.9	113.6	119.8	116.9	117.5
Mountain	56.1	50.1	53.0	55.4	57.9	55.3	55.4	54.2	53.9	53.0	55.2	60.4	64.3
Pacific	196.2	180.3	177.2	180.2	195.7	195.9	199.1	214.5	218.9	219.2	213.6	209.8	217.6
NATIONAL AVG.	106.4	105.8	107.0	113.2	112.9	110.7	111.1	115.2	118.6	126.8	128.4	123.5	122.0

*See Explanatory Note 17.

Source: Federal Power Commission Form 423.

National Average



Coal

Region	1976									1977			
	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR
Cents per million Btu													
New England	124.8	127.0	122.3	127.9	127.8	125.4	125.6	125.6	124.4	127.6	126.8	127.5	127.9
Middle Atlantic	100.2	101.7	102.5	107.5	103.3	102.6	102.6	100.2	101.2	105.9	101.2	100.8	102.5
East North Central	85.0	86.8	86.6	92.4	90.9	89.8	89.2	90.2	90.7	90.7	91.5	94.1	93.9
West North Central	64.1	65.8	64.7	65.3	70.1	71.0	69.3	69.6	67.6	66.5	68.4	71.5	72.5
South Atlantic	100.8	100.8	100.7	104.4	103.5	103.4	105.4	103.8	104.1	105.4	106.5	108.1	108.4
East South Central	83.4	85.1	84.5	85.5	85.7	87.2	88.3	87.4	90.6	91.2	94.1	93.6	96.5
West South Central	26.4	26.4	27.3	32.4	36.4	42.4	43.7	51.5	56.6	58.8	61.1	64.3	60.2
Mountain	34.6	32.2	35.9	35.3	36.8	36.2	38.2	39.1	38.1	37.6	38.9	41.1	42.4
Pacific	75.5	75.7	75.2	75.8	75.7	75.7	76.0	75.6	74.5	77.6	80.5	74.0	70.8
NATIONAL AVG.	83.7	84.6	84.6	85.7	86.4	86.9	86.9	86.6	86.6	85.9	88.0	89.9	90.1

Residual Fuel Oil*

Region	1976									1977			
	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR
Cents per million Btu													
New England	185.7	170.0	177.8	175.4	182.8	179.5	188.1	192.0	198.9	213.6	223.5	231.7	218.5
Middle Atlantic	197.1	190.3	187.3	184.3	189.3	190.0	199.5	200.5	208.3	220.5	235.8	237.2	230.8
East North Central	198.4	202.8	211.8	214.8	222.8	221.4	225.8	223.9	227.9	247.5	267.7	257.8	256.3
West North Central	153.0	145.6	148.8	151.3	148.4	149.6	156.8	167.9	191.5	201.0	210.3	205.5	298.7
South Atlantic	179.6	171.3	171.9	174.1	176.6	180.4	184.1	189.2	197.0	212.4	213.7	222.8	217.8
East South Central	176.0	170.9	166.9	171.0	171.3	163.8	166.6	167.8	166.4	166.2	182.7	180.4	180.5
West South Central	187.4	182.0	176.4	173.3	178.6	166.4	176.6	180.3	179.9	192.0	198.1	201.9	200.3
Mountain	220.8	206.4	212.4	217.2	224.8	213.0	221.9	209.3	181.2	201.0	210.9	220.9	220.6
Pacific	232.7	229.2	229.1	228.7	228.8	230.2	231.2	234.1	233.4	231.3	231.0	232.1	235.8
NATIONAL AVG.	196.7	188.1	187.4	187.0	191.8	191.9	198.8	203.5	207.5	217.2	223.3	228.0	226.2

Natural Gas**

Region	1976									1977			
	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR
Cents per million Btu													
New England	134.5	144.0	153.7	154.1	153.9	154.4	155.4	185.2	186.1	200.1	200.1	200.1	200.1
Middle Atlantic	150.3	111.5	108.0	114.8	114.5	122.7	125.2	111.9	127.8	211.3	349.8	155.9	155.4
East North Central	127.7	135.3	139.8	138.2	147.8	148.4	153.0	168.8	188.9	186.5	174.7	170.6	184.7
West North Central	68.0	73.4	78.1	78.4	81.4	81.9	80.8	84.1	84.0	86.1	93.4	88.8	96.0
South Atlantic	78.2	84.0	83.1	88.7	82.9	88.3	89.3	89.1	90.4	80.4	112.1	93.6	85.7
East South Central	148.0	128.6	123.0	136.9	132.5	137.7	158.5	162.2	160.8	165.1	170.3	157.8	154.7
West South Central	92.3	94.0	98.1	100.4	101.6	101.8	101.0	106.6	106.8	108.1	114.6	111.2	113.7
Mountain	90.4	87.4	89.5	90.8	101.7	104.3	112.2	118.2	136.0	133.3	115.0	129.1	134.9
Pacific	152.6	147.3	147.6	146.6	155.3	166.5	169.0	177.5	188.7	196.8	189.2	181.0	204.5
NATIONAL AVG.	97.4	100.8	104.4	106.2	106.5	109.8	109.9	113.1	111.3	111.1	123.5	121.1	125.6

*See Explanatory Note 17.

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

Source: Federal Power Commission Form 423.

Petroleum Consumption

Of the major Free World industrialized nations (other than the United States), Japan showed the largest increase (6.5 percent) in petroleum consumption for the first half of 1977 compared with the same period in 1976. Consumption in West Germany was essentially the same, while Italy showed a 2.2-percent decrease. For the January-May 1977 period, France had a 2.5-percent decrease in consumption and the United Kingdom, a 1.6-percent increase.

Crude Oil Production

World crude oil production rose by about 700,000 barrels per day between May and June 1977 (from 58.8 to 59.5 million barrels per day). A rise in Arab OPEC production (from 18.3 million barrels per day in May to 19.4 million barrels per day in June) was responsible for the increase. Saudi Arabia's output rose nearly 1 million barrels per day as it recovered from pipeline accidents in the spring, and Iraq's production increased by 400,000 barrels per day.

Non-Arab OPEC production, on the other hand, dropped by nearly 900,000 barrels per day, mostly due to a major reduction in Iran's production of 630,000 barrels per day.

Oil output in Canada was up slightly, reversing a long-term downward trend, and Mexico reached its announced production goal of 1 million barrels per day.

Petroleum Consumption

Petroleum Consumption for Major Free World Industrialized Countries

		Total IEA*	Japan**	West Germany	France***	United Kingdom	Canada	Italy†	Other IEA††
		Thousands of barrels per day							
1973	AVG.	33,600	5,000	2,693	2,219	1,974	1,597	1,525	3,467
1974	AVG.	32,390	4,872	2,408	2,094	1,857	1,630	1,521	3,449
1975	Jan	34,100	4,729	2,183	2,190	1,981	1,691	1,792	3,741
	Feb	34,100	5,191	2,455	2,243	1,907	1,872	1,767	3,825
	Mar	31,600	4,918	2,234	1,952	1,731	1,558	1,558	3,285
	Apr	31,200	4,202	2,431	2,202	1,826	1,592	1,530	3,578
	May	28,600	4,041	2,253	1,640	1,482	1,474	1,174	3,058
	June	29,300	4,135	2,106	1,642	1,416	1,550	1,289	3,195
	July	29,400	4,265	2,319	1,491	1,322	1,537	1,234	2,961
	Aug	29,200	4,234	2,360	1,300	1,208	1,444	1,105	3,082
	Sept	30,400	4,543	2,309	1,785	1,501	1,474	1,465	3,338
	Oct	31,000	4,409	2,328	1,917	1,707	1,555	1,679	2,981
	Nov	31,000	4,747	2,361	2,077	1,723	1,577	1,448	3,423
	Dec	35,100	5,447	2,502	2,658	1,821	1,880	1,600	3,863
	AVG.	31,235	4,568	2,319	1,925	1,633	1,594	1,468	3,382
1976	Jan	35,100	4,941	2,464	2,432	1,679	R1,785	1,775	3,943
	Feb	34,400	5,246	2,497	2,492	1,865	1,754	1,743	3,991
	Mar	34,300	5,165	2,742	2,372	1,879	1,747	1,641	3,907
	Apr	31,500	4,526	R2,339	R2,116	1,716	1,518	1,423	3,457
	May	29,900	4,218	2,325	R1,795	1,417	1,509	1,253	3,226
	June	31,300	4,429	2,373	R1,603	1,416	1,560	1,236	3,459
	July	31,100	4,416	2,624	1,624	1,346	1,531	1,343	3,323
	Aug	31,100	4,461	2,522	1,668	1,276	R1,585	1,360	3,395
	Sept	32,200	4,517	2,521	1,966	1,477	R1,514	1,592	3,806
	Oct	32,300	4,523	2,391	1,908	1,544	1,560	1,464	3,780
	Nov	35,900	5,160	2,700	R2,204	1,750	1,822	1,393	4,233
	Dec	39,100	5,846	2,571	R2,687	1,869	2,008	1,779	4,593
	AVG.	33,180	4,786	R2,507	R2,071	1,603	1,658	1,500	3,758
1977	Jan	37,372	5,428	2,389	R2,518	1,830	1,792	R1,682	4,018
	Feb	38,239	R6,019	2,441	2,372	1,844	R1,911	1,809	3,825
	Mar	34,663	R5,540	2,521	2,127	1,802	R1,660	1,546	3,664
	Apr	NA	4,716	R2,425	2,048	1,671	NA	1,359	NA
	May	NA	4,321	2,359	1,866	1,542	NA	1,252	NA
	June	NA	4,400	2,622	NA	NA	NA	1,324	NA
	AVG.	36,709	5,061	2,459	R2,183	1,736	1,784	1,492	3,836
	(Year to date)								

*The 19 signatory nations of the International Energy Agency (IEA) are: Austria, Belgium, Canada, Denmark, Federal Republic of Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. Except for the United States, inland consumption excludes bunkers, refinery fuel, and losses.

**Excludes liquefied petroleum gases and condensates.

***Not a member of IEA.

†Principal products only.

††Excludes the United States.

NA=Not available.

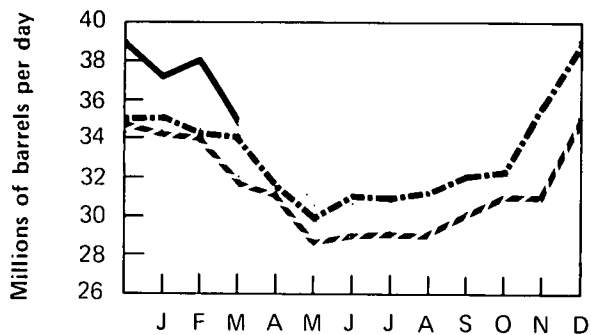
R=Revised data.

Note: All Total IEA, Other IEA, and recent figures are estimates.

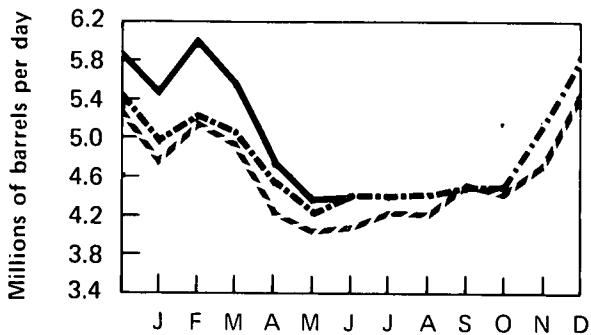
Source: Central Intelligence Agency, *International Oil Developments, Statistical Survey*, 24 August 1977.

Petroleum Consumption

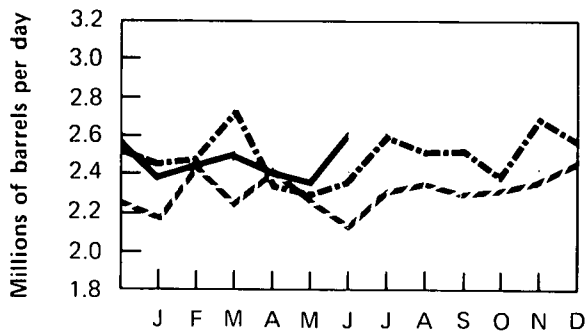
Total IEA



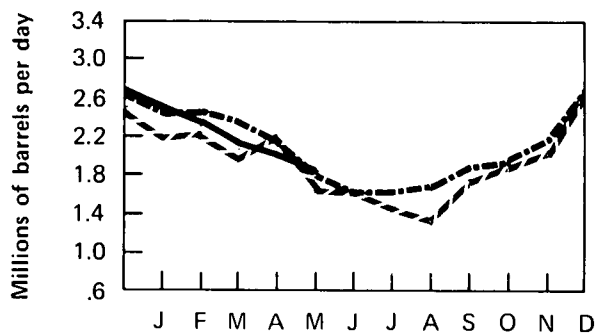
Japan*



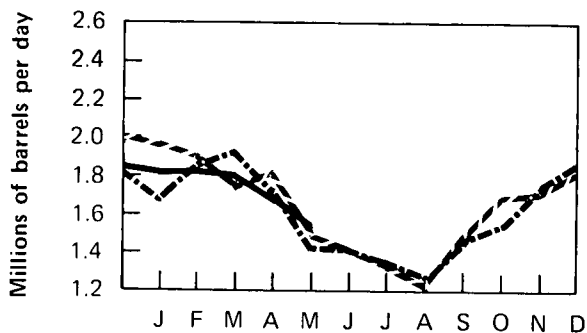
West Germany



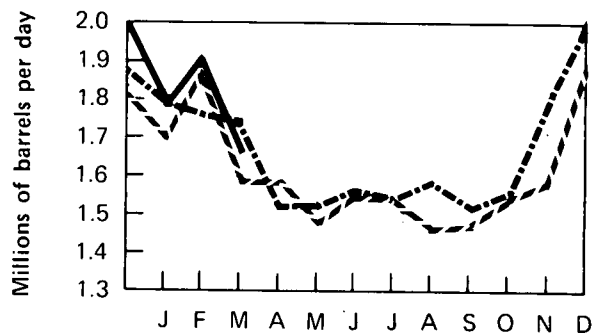
France**



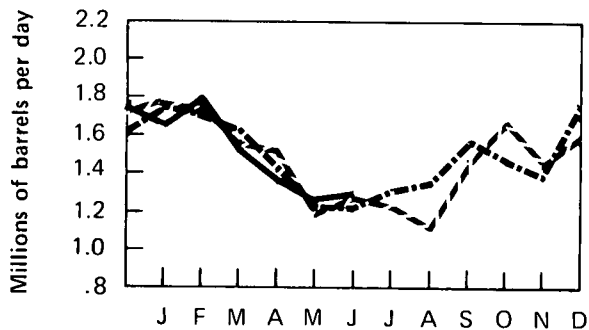
United Kingdom



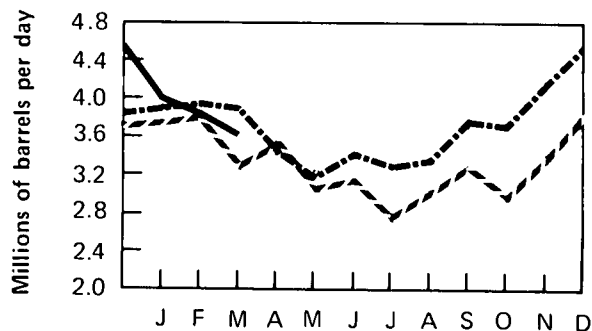
Canada



Italy***



Other IEA†



*Excludes liquefied petroleum gases and condensates.

**Not a member of IEA.

***Principal products only.

†Excludes the United States.

--- 1975
-.- 1976
— 1977

Crude Oil Production

Crude Oil Production for Major Petroleum Exporting Countries — June 1977

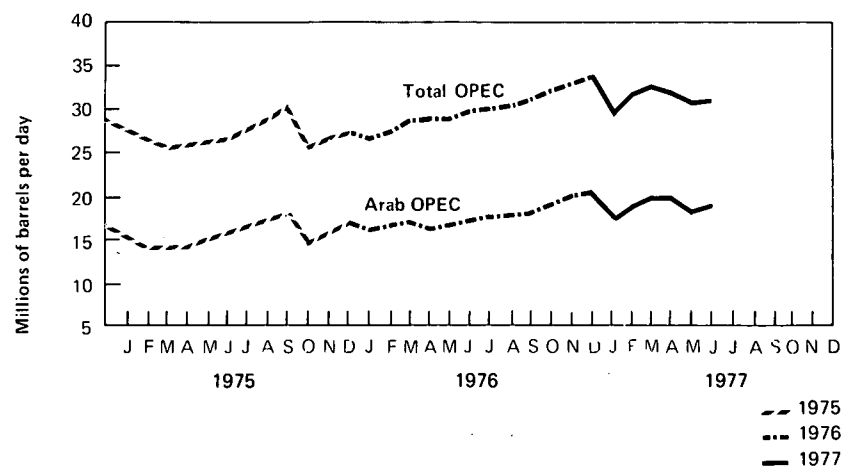
Country	Production						Production Capacity	Production Shut in
	1972 Year	1973 Year	1974 Year	1975 Year	1976 Year	1977 June**	June	June
	Thousands of barrels per day							Percent
Algeria	1,040	1,070	960	960	990	1,050	1,080	2.8
Iraq	1,465	2,020	1,970	2,260	2,280	2,400	3,000	20.0
Kuwait*	3,283	3,020	2,545	2,085	2,150	1,790	3,500	48.8
Libya	2,239	2,175	1,520	1,480	1,930	2,090	2,500	16.4
Qatar	482	570	520	440	490	400	700	42.8
Saudi Arabia*	6,016	7,595	8,480	7,075	8,580	9,560	11,500	16.9
United Arab Emirates	1,202	1,535	1,680	1,665	1,940	2,080	2,390	13.0
Subtotal: Arab OPEC	15,727	17,985	17,675	15,965	18,360	19,370	24,670	21.5
Ecuador	78	210	175	160	190	160	225	28.9
Gabon	125	150	200	225	220	220	250	12.0
Indonesia	1,080	1,340	1,375	1,305	1,500	1,700	1,800	5.5
Iran	5,023	5,860	6,020	5,350	5,880	5,100	6,700	23.9
Nigeria	1,815	2,055	2,255	1,785	2,070	2,240	2,300	2.6
Venezuela	3,219	3,365	2,975	2,345	2,290	2,220	2,600	14.6
Subtotal: Non-Arab OPEC	11,340	12,980	13,000	11,170	12,150	11,640	13,875	16.1
TOTAL OPEC	27,067	30,965	30,675	27,135	30,510	31,010	38,545	19.5
Canada	1,540	1,800	1,695	1,460	1,300	1,410	1,800	21.7
Mexico	440	465	580	720	850	1,000	1,100	9.1
TOTAL OPEC, Canada, Mexico	29,047	33,230	32,950	29,315	32,660	33,420	41,445	19.4
Total World	50,550	55,745	55,865	52,990	57,170	59,510		

*Includes about one-half of the former Kuwait-Saudi Arabia Neutral Zone. Production in June 1977 amounted to approximately 380,000 barrels per day.

**Estimated.

Sources: Central Intelligence Agency, *International Oil Developments, Statistical Survey*, 24 August 1977, and National Energy Board of Canada.

OPEC Countries Crude Oil Production



Definitions

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 same 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, divided by 12.

2. Effective February 1, 1976: the total number of barrels of old 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.

Branded Independent Marketer

A firm which is engaged in the marketing or distribution of refined petroleum products pursuant to (1) an agreement or contract with a refiner (or a firm which controls, is controlled by, or is under common control with such refiner) to use a trademark, trade name, service mark, or other identifying symbol or name owned by such refiner (or any such firm), or (2) an agreement or contract under which any such firm engaged in the marketing or distribution of refined petroleum products is granted authority to occupy premises owned, leased, or in any way controlled by a refiner (or firm which controls, is controlled by, or is under common control with such refiner), but which is not affiliated with, controlled by, or under common control with any refiner (other than by means of a supply contract, or an agreement or contract described in parts (1) and (2) of this definition), and which does not control such refiner.

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.

Controlled Crude Oil

Crude oil that was domestically produced prior to February 1, 1976, subject to the ceiling price for crude oil. For a particular property which is not a stripper well lease, the volume of controlled oil equals the base production control level minus an amount of released oil equal to the new oil production from that property.

Crude Oil Domestic Production

Domestic crude oil production is measured at the well-head 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 Input to Refineries

Total crude oil used as input for the refining process, less crude oil lost or used for refinery fuel.

Crude Oil Stocks

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

Cumulative Deficiency

A measure of the cumulative deficit of production below the base production control level after the first month in which new oil was produced and sold from a specific property.

Dealer Tankwagon (DTW) Price

The price at which a dealer purchases gasoline from a distributor or a jobber.

Distillate Fuel Oil

The lighter fuel oils distilled off during the refining process. Included are products known as ASTM grades Nos. 1 and 2 heating oils, diesel fuels, and No. 4 fuel oil. The major uses of distillate fuel oils include heating, fuel for on- and off-highway diesel engines, and railroad diesel fuel. Minor quantities of distillate fuel oils produced and/or held as stocks at natural gas processing plants are not included in this series.

Domestic Demand for Refined Petroleum Products

A calculated value, computed as domestic production plus net imports (imports less exports), less the net in-

crease in primary stocks. It, therefore, represents the total disappearance of refined products from primary supplies.

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 FEA. 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 FEA, 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 FEA, 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," less 21 cents.

Firm Natural Gas Service

High priority gas service in which the pipeline company is under contract to deliver a specified volume of gas to the customer on a non-interruptible basis. Residential and small commercial facilities usually fall into this category.

Interruptible Natural Gas Service

Low priority gas service in which the pipeline company has the contractual option to temporarily terminate deliveries to customers by reason of claim of firm service customers or higher priority users. Large commercial facilities, industrial users, and electric utilities usually fall into this category.

Jet Fuel

Includes both naphtha-type and kerosene-type fuels meeting standards for use in aircraft turbine engines. Although most jet fuel is used in aircraft, some is used for other purposes, such as for generating electricity in gas turbines.

Jobber

A petroleum distributor who purchases refined product from a refiner or terminal operator for the purpose of

reselling to retail outlets and commercial accounts or for the purpose of retailing through his own retail outlets.

Jobber Margin

The difference between the price at which a jobber purchases refined product from a refiner or terminal operator and the price at which the jobber sells to retail outlets. This does not reflect margins obtained by jobbers through retail sales or commercial accounts.

Jobber Price

The price at which a petroleum jobber purchases refined product from a refiner or terminal operator.

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.

Limited Work Authorization

A Limited Work Authorization (LWA) may be granted by the Atomic Safety and Licensing Board of the Nuclear Regulatory Commission to an applicant who wants to construct a nuclear powerplant providing that the project has been cleared for all requirements of the National Environmental Protection Act and that the geologic and topographic suitability of the reactor site has been found satisfactory. The LWA allows an applicant to proceed with site excavation, install temporary construction and service facilities, construct service roads, and erect structures and components not subject to normal quality assurance inspections. It may save a utility from 6 to 8 months in total construction time. However, because the ultimate approval of a construction permit is based on all evidence revealed during the licensing hearings, the successful award of an LWA is no guarantee that a construction permit will also be granted.

Line Miles of Seismic Exploration

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

Lower Tier Crude Oil

Old crude oil.

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 FEA 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.

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 Stocks

Primary motor gasoline stocks held by gasoline producers. Stocks at natural gas processing plants are not included.

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.

National Old Oil Supply Ratio

Old oil receipts, adjusted for small refiner bias and exemptions, divided by crude runs to stills adjusted for entitlements issued for imported refined products.

Natural Gas Liquids (NGL)

Products obtained from natural gasoline plants, cycling plants, and fractionators after processing the natural gas. Included are ethane, liquefied petroleum (LP) gases (propane, butane, and propane-butane mixtures), natural gasoline, plant condensate, and minor quantities of finished products such as gasoline, special naphthas, jet fuel, kerosene, and distillate fuel oil.

New 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 for that month and less the current cumulative deficiency.
2. Effective February 1, 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.

Nonbranded Independent Marketer

A firm which is engaged in the marketing or distribution of refined petroleum products, but which (1) is not a refiner, (2) is not a firm which controls, is controlled by, is under common control with, or is affiliated with a refiner (other than by means of a supply contract), and (3) is not a branded independent marketer.

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.

Power Ascension 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.

Primary Stocks of Refined 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.

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 26, 1976, it was made effective retroactively to February 1, 1976. (F.R. 36171, August 26, 1976)

Refined Petroleum Products Imports

Imports (into the 50 States and the District of Columbia) of motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, liquefied petroleum gases, petrochemical feedstocks, special naphtha, lubricants, waxes, asphalt, plant condensate, and unfinished oils. Included are imports of refined products for bonded and military use, and imports from U.S. territories and the Hawaiian Foreign Trade Zone.

Refiner Acquisition Cost

The cost to the refiner, including transportation and fees, of crude petroleum. The composite cost is the average of domestic and imported crude costs and represents the amount of crude 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 ASTM grades Nos. 5 and 6 oil, 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, for heating, and for various industrial purposes.

Rotary Rig

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

Separative Work Unit (SWU)

The measure of work required to produce enriched uranium from natural uranium. Enrichment plants separate natural uranium feed material into two groups, an enriched product group with a higher percentage of U-235 than the feed material and a depleted tails group with a lower percentage of U-235 than the feed material. To produce 1 kilogram of enriched uranium containing 2.8 percent U-235, and a depleted tails assay containing 0.3 percent U-235, it requires 6 kilograms of natural ura-

nium feed and 3 kilograms of separative work units (3 SWU).

Stripper Well Property

A property whose average daily production of crude oil per well (excluding condensate recovered in nonassociated 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.

Uncontrolled Crude Oil

That portion of domestic crude oil production including new, released, and stripper oil which, before February 1, 1976, could be sold at a price exceeding the ceiling price.

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

Effective February 1, 1976, upper tier crude oil included new crude oil and crude oil produced from a stripper well lease. Effective September 1, 1976, upper tier crude oil includes new crude oil only.

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 FEA in the *Federal Energy Guidelines* (Part 212.77 .13847 Appendix).

Well

A hole drilled for the purpose 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. This is a standard definition of the American Petroleum Institute.

Explanatory Notes

1. Domestic production of energy includes production of crude oil and lease condensate, natural gas (wet), and coal (anthracite, bituminous, and lignite), as well as electricity output from hydroelectric and nuclear powerplants and industrial hydroelectric power production. The volumetric data were converted to approximate heat contents (Btu-values) of the various energy sources using conversion factors listed in the Units of Measure.

2. U.S. imports of fossil fuels include imports of crude oil, refined petroleum products, and natural gas (dry).

3. Domestic consumption of energy includes domestic demand for refined petroleum products, consumption of coal (anthracite, bituminous, and lignite) and natural gas (dry), electricity output from hydroelectric and nuclear powerplants, industrial hydroelectric power production, and net imports of electric power. Approximate heat contents (Btu-values) were derived using conversion factors listed in the Units of Measure. Electricity imports were converted using the Btu-content of hydroelectric power. 1976 and 1977 electricity imports were estimated on the basis of the import level for 1975.

4. Domestic demand figures for natural gas liquids (NGL) as reported by BOM 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.

5. The petroleum short-term demand forecasting model uses historical consumption data to construct regression equations for each of eight major petroleum products on a regional level. Each equation attempts to capture the relationship between final demand for that product and the factors influencing that demand. The explanatory factors used in predicting product demand include (1) macroeconomic variables such as real adjusted gross income, (2) real product prices, (3) variables representing the effects of weather and other seasonal variations in demand, and (4) other factors relevant to a particular product.

Assumptions underlying the current short-term forecast are: normal weather and a level of economic activity

producing real GNP growth rates of 5.8, 5.4, and 5.1 percent for 1977, 1978, and 1979, respectively.

The supply model includes an assumed level of domestic crude oil and NGL production and inventory changes. Imports are determined as the incremental supply required to meet total demand for refined products not satisfied by domestic production or inventory drawdown.

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

7. 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.

8. Bituminous coal and lignite consumption as reported by the Bureau of Mines are derived for information provided by the Federal Power 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 a 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 the Bureau of Mines from Association of American Railroads reports of carloadings.

9. Cooling degree-days can be used as a measurement of energy consumption by air-conditioning systems. 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. Mean daily temperature information is forwarded to the National Oceanic and Atmospheric Administration from approximately 200 weather stations around the country. These data are used to calculate statewide cooling degree-day averages based on the population of the area surrounding each weather station. The population-weighted State figures are aggregated into Petroleum Administration for Defense Districts and the national average, also using a population weighting scheme.

10. Quantities of uranium are measured by various units at different stages in the fuel cycle. At the mill, quantities are usually expressed as pounds or short tons of U_3O_8 . After the conversion stage, the units of measure are either metric tons (MT) of F_6 or metric tons of uranium (MTU). The later designation expresses only the Units of Measure section.

Following the enrichment stage, the same units are used, but the U-235 content has been enhanced at the expense of loss of material. At the fabrication stage, UF_6 is changed to UO_2 , and the standard unit of measure is the MTU. We have chosen to present all uranium quantities as MTU; conversion factors to other units are given in the section of Units of Measure.

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 thermal 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. 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.

13. Prior to January 1975, diesel fuel prices were obtained from retail gasoline dealers that also sold diesel fuel. Beginning in January 1975, the diesel fuel survey was expanded to include selected truckstops plus additional retail gasoline dealers that sold diesel fuel. Selling price estimates are based on a survey of 31 cities. Margins are based on a survey of 10 cities.

14. Prior to February 1976, the domestic crude petroleum 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 oil leases, and were not derived from a statistically valid sample of old oil leases.

15. The refiner acquisition cost of domestic crude petroleum is the price paid by refiners for domestic crude petroleum, unfinished oils, and natural gas liquids and includes transportation costs from the wellhead to the refinery. The refiner acquisition cost of imported crude petroleum is the average landed cost of imported crude petroleum 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.

16. The estimated landed cost of imported crude petroleum 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 petroleum 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.

17. The weighted average utility fuel cost for the total United States include distillate fuel oil delivered to utilities whereas the regional breakdown for residual fuel oil prices represents only No. 6 fuel oil prices.

Units of Measure

Weight

1 metric ton	<i>contains</i>	1.102 short tons
1 long ton	<i>contains</i>	1.120 short tons

Conversion Factors for Crude Oil

Average gravity

1 barrel	<i>contains</i>	42 gallons
1 barrel	<i>weighs</i>	0.136 metric tons (0.150 short tons)
1 metric ton	<i>contains</i>	7.33 barrels
1 short ton	<i>contains</i>	6.65 barrels

Conversion Factors for Uranium

1 short ton (U_3O_8)	<i>contains</i>	0.769 metric tons of uranium
1 short ton (UF_6)	<i>contains</i>	0.613 metric tons of uranium
1 metric ton (UF_6)	<i>contains</i>	0.676 metric tons of uranium

Approximate Heat Content of Various Fuels

Petroleum

Crude Oil	5.800 million Btu/barrel
Refined products	
Imports, average	6.000 million Btu/barrel
Consumption, average	5.4959 million Btu/barrel
Gasoline	5.248 million Btu/barrel
Jet Fuel, average	5.604 million Btu/barrel
Naphtha-type	5.355 million Btu/barrel
Kerosene-type	5.670 million Btu/barrel
Distillate fuel oil	5.825 million Btu/barrel
Residual fuel oil	6.287 million Btu/barrel

Natural gas liquids	4.023 million Btu/barrel
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Natural gas

Wet	1,095 Btu/cubic foot
Dry	1,021 Btu/cubic foot

Coal

Bituminous and lignite	
Production	23.50 million Btu/short ton
Consumption	22.80 million Btu/short ton
Anthracite	25.40 million Btu/short ton

Electricity Conversion Heat Rates

Fossil fuel steam-electric

Coal	10,280 Btu/kilowatt hour
Gas	10,784 Btu/kilowatt hour
Oil	10,804 Btu/kilowatt hour

Nuclear steam-electric	10,660 Btu/kilowatt hour
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Hydroelectric	10,383 Btu/kilowatt hour
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Electricity Consumption	3,412 Btu/kilowatt hour
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