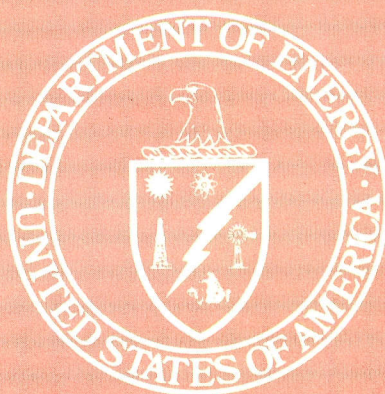


DOE/EIA-0035/3  
NTISUB/D/127-003

**March 1978**

# Monthly Energy Review



**U.S. Department of Energy  
Energy Information Administration  
National Energy Information Center**

The *Monthly Energy Review* is prepared in the Energy Information Administration, U.S. Department of Energy, under the general supervision of Albert Linden.

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Feature articles appearing in previous issues:

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 Fore-  
casting 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

The cooperation of other government agencies and private establishments which provide data appearing in this publication is gratefully acknowledged.

This periodical is available on a subscription basis from the following:

Subscriptions  
National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161

For addresses within the North American Continent, the cost is \$50 per year (12 issues), or \$68 per year for priority mailing. For addresses outside the North American Continent, the cost is \$100 per year. Single copies are available at \$6.25 each within the North American Continent and \$12.50 each outside the North American Continent.

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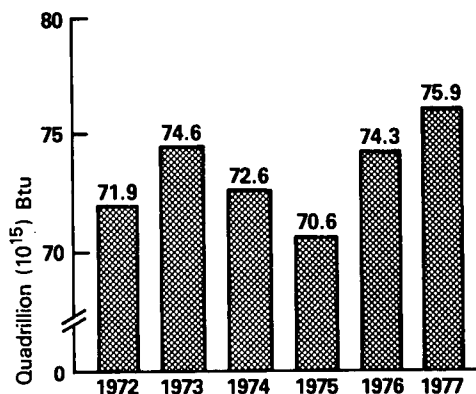
## Overview

Energy production in the United States during January 1978 declined to its lowest level in 12 years on an annualized basis, with the bulk of the decrease attributable to the coal strike. Energy output during the month totaled 4.53 quadrillion Btu (or 25.2 million barrels per day of crude oil equivalent\*), 6 percent below the January 1977 output level and 11 percent below the output in January 1976. Coal production in January 1978 was 43 percent lower than for the previous January, and estimated natural gas production was down 2 percent. Crude oil output, on the other hand, was 11 percent greater (due to the startup of Alaskan North Slope production), and nuclear electric power production increased 16 percent to an all-time high of 25.6 billion net kilowatt hours (equal to 13 percent of the Nation's total electricity generation for the month). Estimated hydroelectric power production was about 10 percent higher than the January 1977 level.

Imports of fossil fuels during January 1978 fell below previous year levels for the third consecutive month. Imports totaled 1.5 quadrillion Btu (or 8.4 million barrels per day of crude oil equivalent\*), 12 percent less than for January 1977, but 16 percent more than for the same month of 1976. Imports of crude oil and refined petroleum products were, respectively, 8 percent and 24 percent lower than for a year ago, while imports of natural gas were estimated to have increased 5 percent.

Consumption of energy in the United States during 1977 totaled 75.93 quadrillion Btu (the equivalent of 35.9 million barrels per day of crude oil\*), surpassing the previous record high of 74.55 quadrillion Btu achieved in 1973, and 2 percent greater than consumption in 1976 (see Figure 1). It was the second year in a row that domestic energy consumption increased after declining in both 1974 and 1975. The growth rate in 1977, however, was far less than the 5-percent growth in 1976. Refined petroleum product consumption, which accounted for 48 percent of the energy used during 1977, was 6 percent greater than in 1976. Natural gas use, constituting 26 percent of the total, decreased almost 4 percent. Coal consumption, 19 percent of the total, was 3

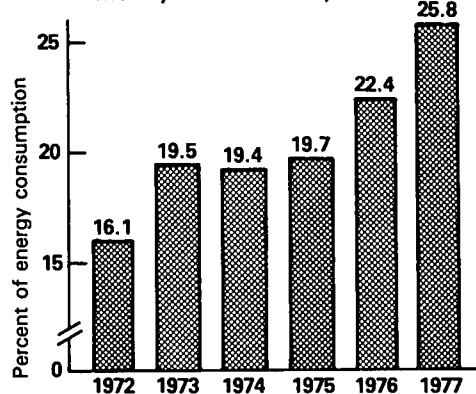
Figure 1. U.S. Consumption of Energy



percent higher in 1977. The largest increase of the year, 31 percent, was posted for nuclear electric power consumption, but hydroelectric power consumption dropped 21 percent because of the prolonged drought in some of the Nation's major watersheds. Combined consumption of nuclear and hydroelectric power constituted 7 percent of domestic energy requirements.

During 1977, imports continued to play a major role in filling the gap between domestic energy production and demand. Fossil fuel imports satisfied 25.8 percent of U.S. energy requirements during 1977 compared with 22.4 percent in 1976 (see Figure 2). During the 3-year period prior to 1976, import dependence was relatively stable at about 19.5 percent of demand.

Figure 2. Percent of U.S. Energy Consumption Met by Fossil Fuel Imports



Stocks of heating oils exhibited normal seasonal patterns during January. Distillate fuel oil stocks were drawn down 36 million barrels to

\*One barrel of crude oil contains approximately 5.8 million Btu.

214 million (a 50-day supply at January consumption rates), the largest drawdown of the current heating season. Residual fuel oil stocks were depleted by 4 million barrels to 86 million barrels (a 26-day supply). End-of-January crude oil stocks were 339 million barrels (equal to 24 days of crude input to refineries), about the same as stocks 1 month before. The amount of natural gas in underground storage reservoirs declined 656 billion cubic feet during January but was 612 billion cubic feet (11 percent) above the January 1976 storage level. End-of-December coal stocks began to reflect the effects of the strike by dropping 20.5 million tons from the November level to 153 million tons, which is much larger than the normal seasonal decline.

Utilities produced 197 billion net kilowatt hours of electricity during January 1978, slightly more than in January 1977, and only 1 percent less than the record production of July 1977.

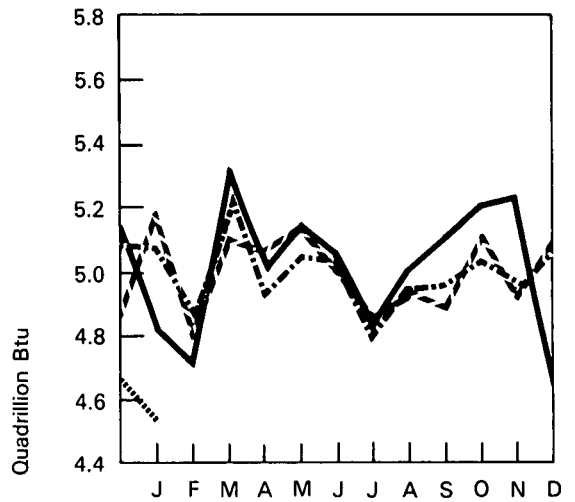
Temperatures in the continental United States during February 1978 were colder than for the same period in 1977, and for the first time in the current heating season there were more degree-days than last year. February heating degree-days were 22 percent above last year and 23 percent above normal. Cumulative degree-days for the 1977-78 heating season, however, were 8 percent below the 1976-77 season, but 9 percent above normal.

The average price paid by first purchasers for domestic crude oil was \$8.76 per barrel in December 1977, 12 cents more than the price a year earlier. The composite refiner acquisition cost of imported and domestic crude oil (which includes transportation costs) was \$12.25 per barrel in December, up \$1.36 from the December 1976 level.

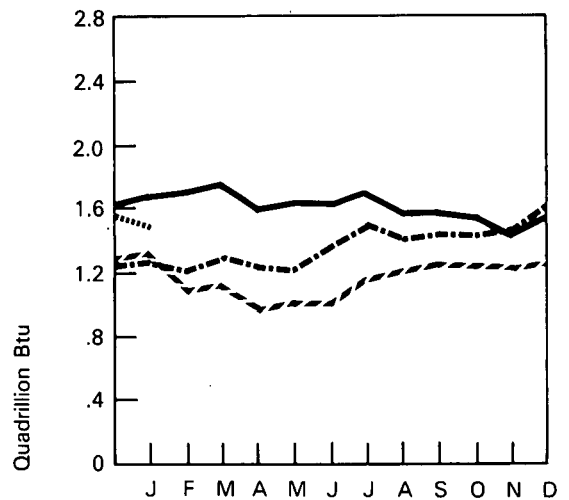
World crude oil production rose to 62.1 million barrels per day in December, bringing the 1977 annual average to 59.6 million barrels per day, up 4 percent from the 1976 output rate. The increase reflects expanded output from the North Sea and Mexico, and the start-up of production on the Alaskan North Slope.

		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	5.087	1.297	R7.179
	February	4.867	1.209	R6.253
	March	5.219	1.300	R6.259
	April	4.957	1.246	R5.736
	May	5.071	1.231	R5.664
	June	5.067	1.390	R5.697
	July	4.808	1.506	5.889
	August	4.964	1.417	R5.831
	September	4.974	1.465	R5.607
	October	5.045	1.448	6.110
	November	4.964	1.498	R6.604
	December	5.182	1.609	R7.510
	TOTAL	60.206	16.617	R74.338
1977	January	4.819	1.700	R7.695
	February	R4.701	1.718	R6.503
	March	R5.321	1.786	R6.399
	April	R5.001	1.604	R5.817
	May	R5.151	1.638	R5.827
	June	R5.056	1.632	R5.919
	July	R4.817	1.714	R6.028
	August	5.023	R1.638	R6.124
	September	5.138	†1.587	R†5.933
	October	†5.231	R†1.569	R†6.122
	November	R†5.223	R†1.476	†6.293
	December	R†4.667	R†1.559	†7.275
	TOTAL	R60.148	R19.621	R75.934
1978	January	††4.535	†1.502	NA

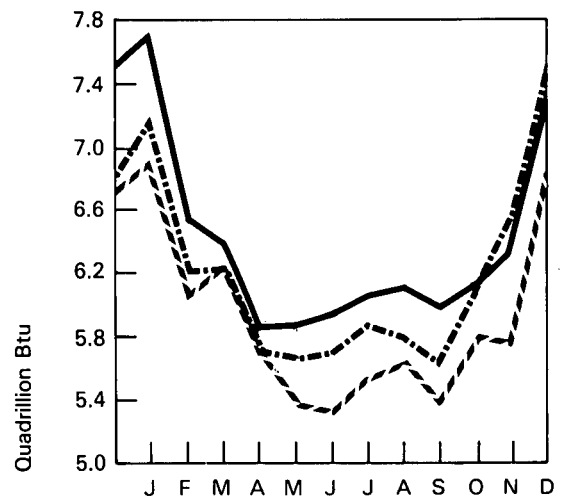
Domestic Production of Energy



Imports of Fossil Fuels



Domestic Consumption of Energy



--- 1975 -.- 1976 — 1977 ..... 1978

\*See Explanatory Note 1.  
\*\*See Explanatory Note 2.  
\*\*\*See Explanatory Note 3.

†Preliminary data.  
††Partially estimated.

R=Revised data.  
NA=Not available.

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

# Part 2 Crude Oil and Refined Petroleum Products

## Crude Oil and Refined Petroleum Products

Total petroleum imports averaged 7.8 million barrels per day in January 1978,\* 12.4 percent below the January 1977 rate. Crude oil imports averaged 5.8 million barrels per day and accounted for 74.6 percent of the January import total.

Total domestic demand for petroleum products averaged 19.2 million barrels per day in January 1978, 6.3 percent below that of a year ago. The major components of domestic demand in January were motor gasoline (33.7 percent), distillate fuel oil (22.4 percent), and residual fuel oil (17.2 percent).

Motor gasoline demand averaged 6.5 million barrels per day in January 1978, unchanged from the level 1 year earlier.

Residual fuel oil demand in January averaged 3.3 million barrels per day, 11.6 percent less than last January's rate. Distillate fuel oil demand averaged 4.3 million barrels per day, down 16.0 percent from a year ago.

Stocks of residual fuel oil totaled 85.6 million barrels at the end of January, 32.2 percent higher than a year ago. Stocks of distillate fuel oil were 214.2 million barrels at the end of January, 49.8 percent above the level of January 1977.

Domestic crude oil production averaged 8.6 million barrels per day in January, 10.7 percent above the January 1977 production level.

---

\*January 1978 estimates are based upon preliminary data from the American Petroleum Institute and will be revised to conform with data published in EIA *Energy Data Reports* as available.

# 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	270,462
	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	14,185	8,079	6,785	318,588
	May	14,605	8,009	6,821	328,559
	June	14,867	8,039	6,997	333,635
	July	14,884	8,040	7,021	335,193
	August	R14,645	8,244	R6,416	R338,300
	September	14,966	8,416	6,557	323,327
	October	14,711	8,589	6,363	330,956
	November	14,611	R8,699	R6,207	337,921
	December	R14,741	R8,602	R6,053	R338,911
	AVERAGE	R14,612	R8,217	R6,565	
1978	January	14,137	8,626	5,805	339,147

\*See Definitions.

\*\*Total as of December 31.

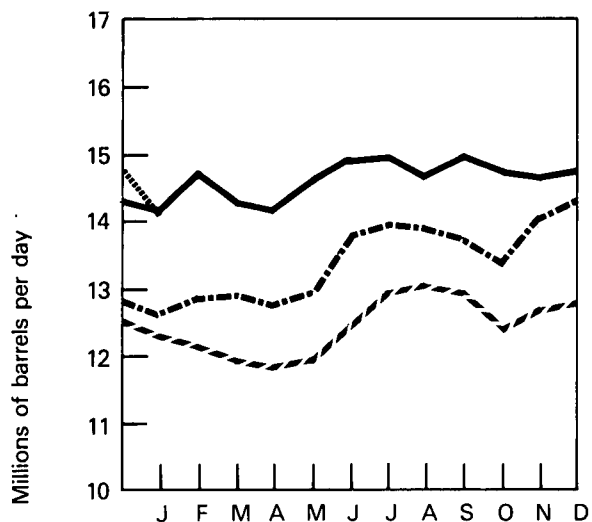
R=Revised data.

Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through April 1977; Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly" for May through August 1977 (through September for Domestic Production) and "Monthly Petroleum Statistics Report" for September through December 1977; January 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

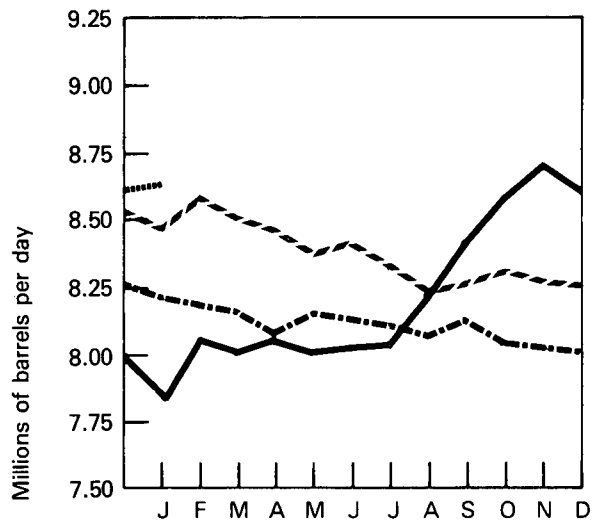
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# Crude Oil

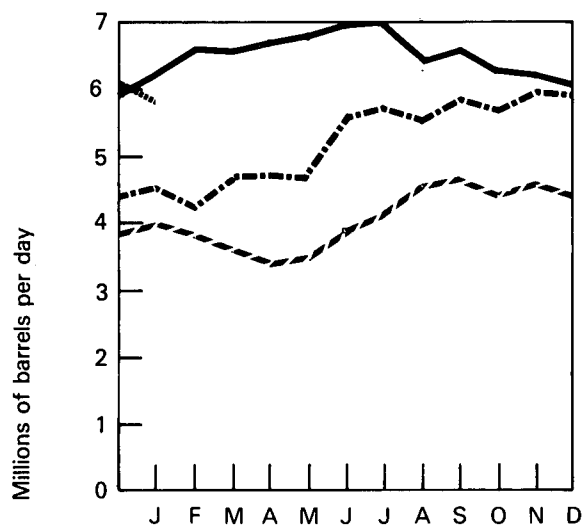
## Crude Input to Refineries



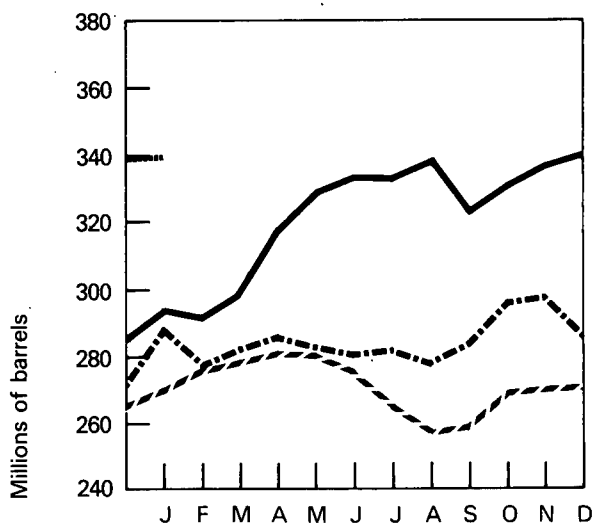
## Domestic Production



## Imports



## Stocks



--- 1975 BOM  
 -.- 1976 BOM  
 — 1977 BOM, EIA  
 ..... 1978 API

## Total Refined Petroleum Products

		Domestic Demand	Imports*
		Thousands of barrels per day	
1972	AVERAGE	16,367	2,525
1973	AVERAGE	17,308	3,012
1974	AVERAGE	16,653	2,635
1975	January	18,004	2,832
	February	17,084	2,348
	March	16,315	2,074
	April	16,048	1,662
	May	15,155	1,728
	June	15,610	1,502
	July	15,740	1,767
	August	15,806	1,717
	September	15,768	2,115
	October	16,377	1,940
	November	15,777	1,796
	December	18,185	1,949
	AVERAGE	16,322	1,951
1976	January	18,598	2,071
	February	17,429	2,423
	March	17,299	1,945
	April	16,671	1,805
	May	15,977	1,654
	June	16,836	1,858
	July	16,613	2,099
	August	16,642	1,826
	September	16,825	2,038
	October	17,052	1,808
	November	18,847	2,115
	December	20,506	2,468
	AVERAGE	17,443	2,007
1977	January	20,481	2,594
	February	20,427	3,278
	March	18,056	2,610
	April	17,570	1,886
	May	16,960	1,753
	June	18,048	1,872
	July	17,549	2,021
	August	R18,009	R2,175
	September	17,863	2,036
	October	17,889	1,818
	November	R18,300	R1,711
	December	R20,050	R2,038
	AVERAGE	R18,422	R2,143
1978	January	19,185	1,976

## Total Petroleum Imports (Crude Oil and Refined Products)

Thousands of barrels per day

4,741

6,256

6,112

6,861

6,176

5,730

5,040

5,214

5,406

5,959

6,298

6,804

6,329

6,419

6,425

6,056

6,666

6,631

6,683

6,595

6,323

7,479

7,890

7,382

7,913

7,508

8,060

8,393

7,295

8,882

9,930

9,243

8,671

8,574

8,869

9,042

R8,591

8,593

8,181

R7,918

R8,091

R8,708

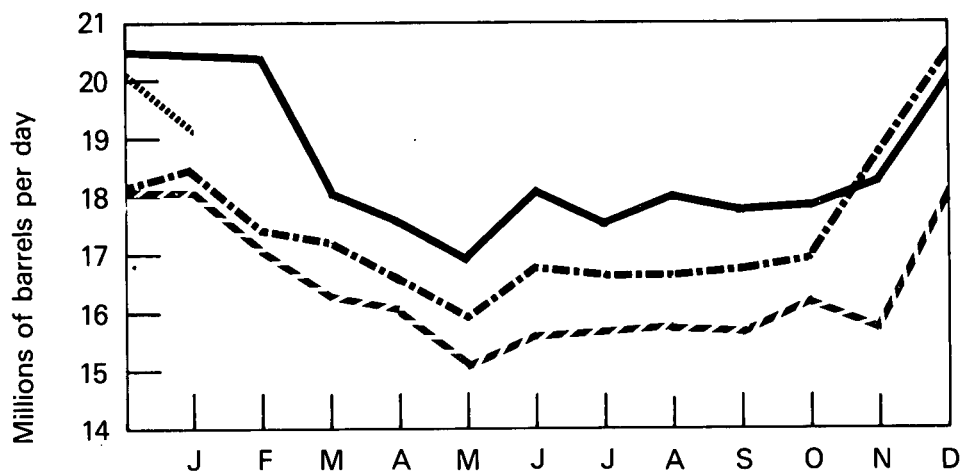
7,781

\*See Definitions.

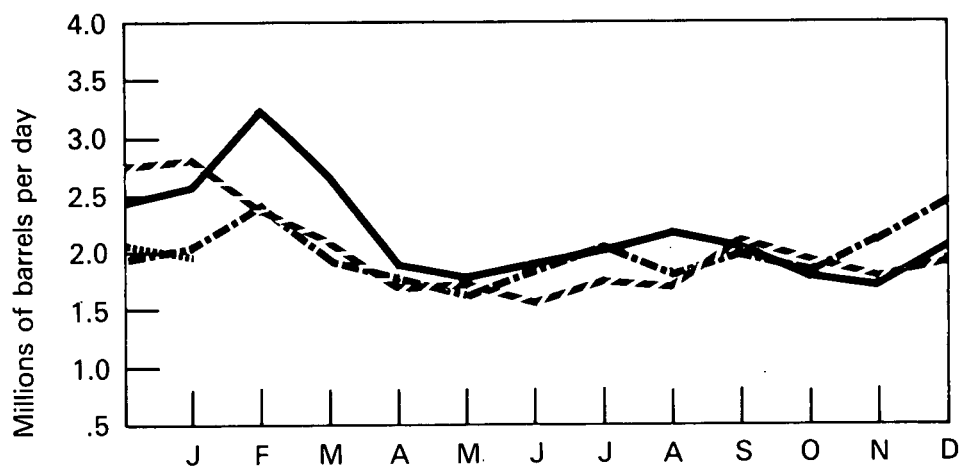
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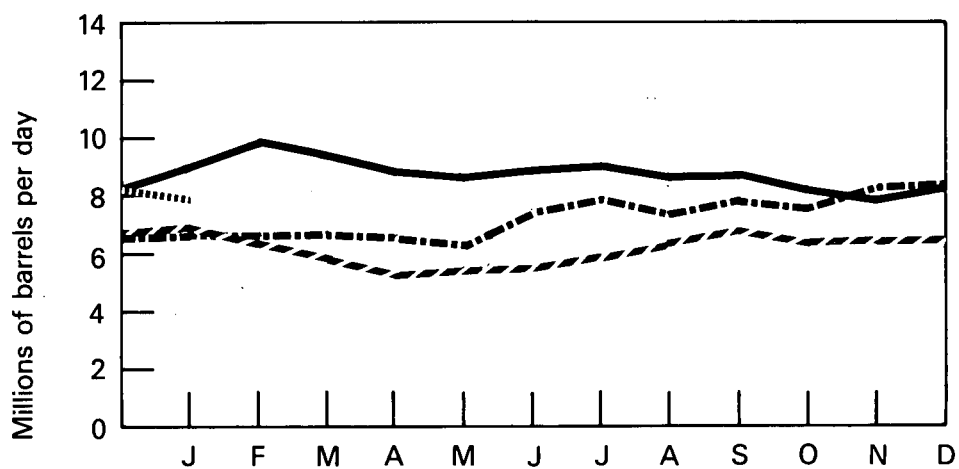
### Total Refined Product Domestic Demand



### Refined Product Imports



### Total Petroleum Imports



--- 1975 BOM  
 -.- 1976 BOM  
 — 1977 BOM, EIA  
 ..... 1978 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											
<b>1973</b>											
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
<b>TOTAL</b>	<b>151.2</b>	<b>237.7</b>	<b>433.7</b>	<b>308.3</b>	<b>607.9</b>	<b>740.3</b>	<b>83.6</b>	<b>1,633.7</b>	<b>194.5</b>	<b>4,390.9</b>	<b>1,377.4</b>
<b>1974</b>											
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
<b>TOTAL</b>	<b>207.1</b>	<b>310.9</b>	<b>731.0</b>	<b>40.3</b>	<b>912.2</b>	<b>675.2</b>	<b>87.8</b>	<b>1,457.8</b>	<b>217.0</b>	<b>4,669.3</b>	<b>1,106.4</b>
<b>1975</b>											
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
<b>TOTAL</b>	<b>288.2</b>	<b>437.7</b>	<b>524.8</b>	<b>329.3</b>	<b>837.8</b>	<b>891.6</b>	<b>154.2</b>	<b>1,030.1</b>	<b>259.3</b>	<b>4,753.0</b>	<b>1,790.1</b>
<b>1976</b>											
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
<b>TOTAL</b>	<b>438.3</b>	<b>569.4</b>	<b>546.5</b>	<b>529.3</b>	<b>1,119.2</b>	<b>1,365.8</b>	<b>323.2</b>	<b>972.2</b>	<b>216.0</b>	<b>6,079.9</b>	<b>2,773.0</b>
<b>1977</b>											
Direct											
January	493.0	619.2	396.8	627.0	1,285.8	1,328.0	319.5	841.8	324.2	6,236.0	3,000.0
February	666.1	570.3	412.4	638.0	1,265.1	1,441.8	316.7	920.6	241.0	6,472.0	3,141.1
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
April	660.7	523.9	517.2	782.9	1,242.4	1,437.4	323.5	663.3	250.5	6,401.8	3,363.2
May	392.8	512.7	539.3	784.1	1,072.3	1,724.1	237.1	534.4	435.9	6,232.7	3,451.3
June	436.6	671.6	553.0	827.1	1,190.8	1,432.7	438.6	668.7	343.5	6,562.6	3,374.1
July	573.9	519.0	857.3	763.4	1,194.7	1,369.8	286.1	625.8	377.8	6,567.8	3,232.1
August	632.2	552.8	500.1	640.0	960.5	1,449.4	308.6	744.4	276.9	6,064.9	3,169.8
Total Direct	537.7	566.8	566.0	720.8	1,187.8	1,444.5	324.6	705.6	305.1	6,358.9	3,218.9
Indirect	14.5	47.1	256.2	124.9	94.3	152.0	113.3	229.4	89.8	1,121.5	476.7
<b>TOTAL</b> (8 months)	<b>552.2</b>	<b>613.9</b>	<b>822.2</b>	<b>845.7</b>	<b>1,282.1</b>	<b>1,596.5</b>	<b>437.9</b>	<b>935.0</b>	<b>394.9</b>	<b>7,480.4</b>	<b>3,695.6</b>

\*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" and "PAD Districts Supply/Demand, Monthly" through April 1977; EIA *Energy Data Reports*, "PAD Districts Supply/Demand, Monthly" for May 1977 forward; and EIA 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								
<b>1973</b>	<b>170.8</b>	<b>1,312.9</b>	<b>573.6</b>	<b>99.3</b>	<b>250.6</b>	<b>329.2</b>	<b>537.8</b>	<b>3,274.2</b>
<b>1974</b>	<b>159.3</b>	<b>1,067.6</b>	<b>509.6</b>	<b>90.4</b>	<b>241.2</b>	<b>391.7</b>	<b>392.6</b>	<b>2,852.4</b>
<b>1975</b>								
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
<b>TOTAL</b>	<b>152.0</b>	<b>845.2</b>	<b>323.6</b>	<b>89.7</b>	<b>240.9</b>	<b>406.5</b>	<b>377.5</b>	<b>2,435.4</b>
<b>1976</b>								
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	90.4	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
<b>TOTAL</b>	<b>116.5</b>	<b>599.3</b>	<b>274.6</b>	<b>88.1</b>	<b>272.6</b>	<b>422.3</b>	<b>460.6</b>	<b>2,234.0</b>
<b>1977</b>								
January	170.0	505.9	304.1	82.5	316.2	619.6	647.7	2,646.0
February	289.5	605.1	406.6	86.3	406.3	548.8	1,115.9	3,458.5
March	200.4	561.7	257.3	97.4	286.5	505.5	981.9	2,890.7
April	130.7	506.1	110.1	85.3	210.5	409.0	817.6	2,269.3
May	138.5	437.8	153.7	105.8	308.1	376.2	821.2	2,341.3
June	137.7	493.0	196.2	89.4	271.1	322.0	796.7	2,306.1
July	169.8	482.9	239.0	129.7	275.8	477.7	698.8	2,473.7
August	168.8	501.5	224.5	88.4	281.2	461.6	800.5	2,526.5
<b>TOTAL</b> (8 months)	<b>174.6</b>	<b>510.7</b>	<b>235.0</b>	<b>95.8</b>	<b>293.5</b>	<b>464.8</b>	<b>831.8</b>	<b>2,606.2</b>

Source: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly" and "PAD Districts Supply/Demand, Monthly," through April 1977; EIA *Energy Data Reports*, "PAD Districts Supply/Demand Monthly" for May 1977 forward.

# 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	6,775	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	6,838	131	
1977	January	6,466	6,934	222	252,608
	February	6,897	6,817	184	255,519
	March	6,899	6,864	245	262,118
	April	7,348	6,968	269	258,831
	May	7,034	6,950	202	262,498
	June	7,595	7,145	246	256,389
	July	7,441	7,248	248	258,152
	August	R7,419	R7,191	R187	R256,904
	September	7,315	7,062	221	255,848
	October	7,140	6,931	179	254,885
	November	R7,196	7,123	179	258,039
	December	R7,378	R7,145	R196	R256,864
	AVERAGE	R7,178	R7,033	R215	
1978	January	6,473	6,965	138	274,438

\*See Definitions.

\*\*Total as of December 31.

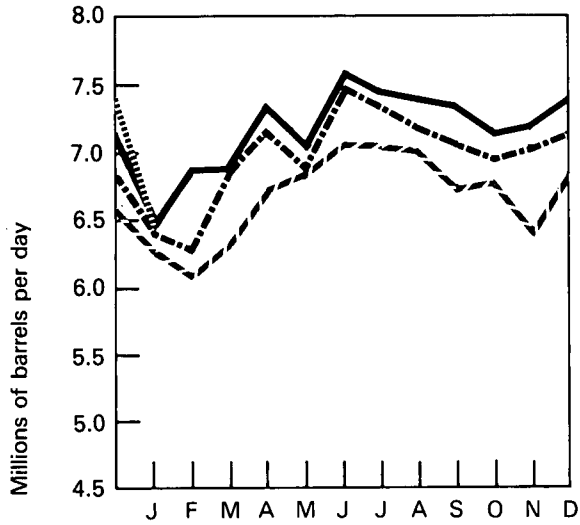
\*\*\*Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.

R=Revised data.

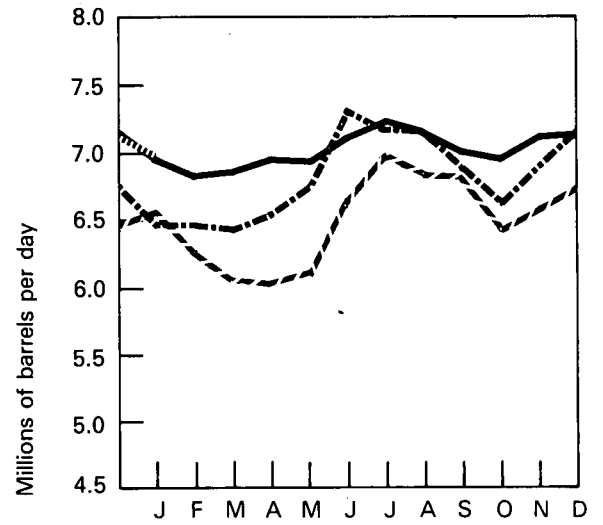
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through April 1977; Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly" for May through August 1977 and "Monthly Petroleum Statistics Report" for September through December 1977; January 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

# Motor Gasoline

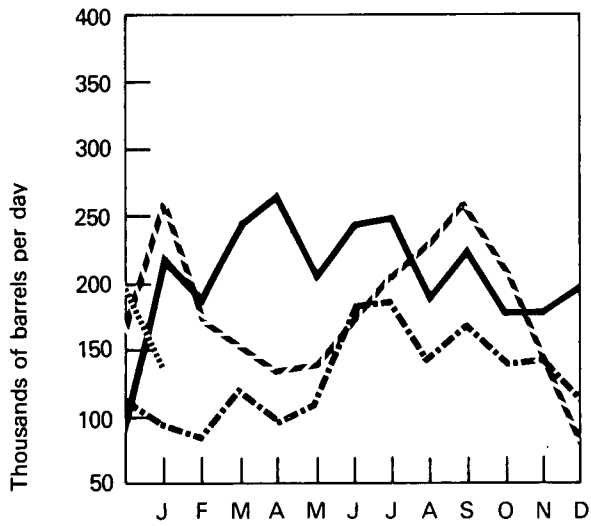
## Domestic Demand



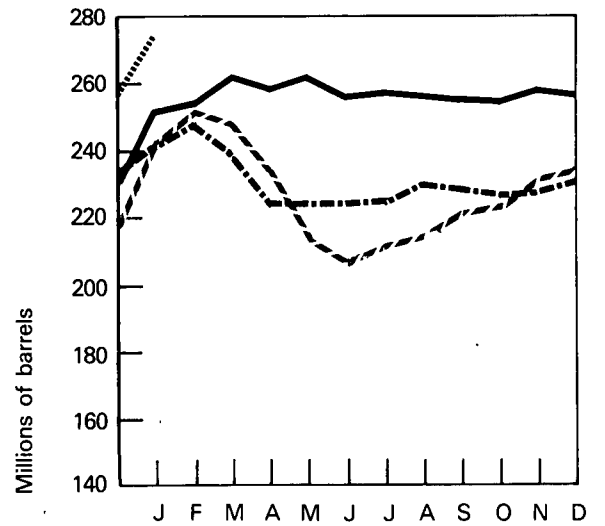
## Production



## Imports



## Stocks



--- 1975 BOM  
 -.- 1976 BOM  
 — 1977 BOM, EIA  
 ..... 1978 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	1,019	991	86	32,355
	May	993	979	57	33,644
	June	989	996	30	34,707
	July	1,043	969	85	35,048
	August	R1,113	1,009	R71	33,986
	September	1,027	1,004	30	34,161
	October	1,010	973	61	34,878
	November	R1,015	950	R86	35,483
	December	R1,105	R978	R80	R33,991
	AVERAGE	R1,037	R974	R70	
1978	January	1,037	956	62	33,334

\*Total as of December 31.

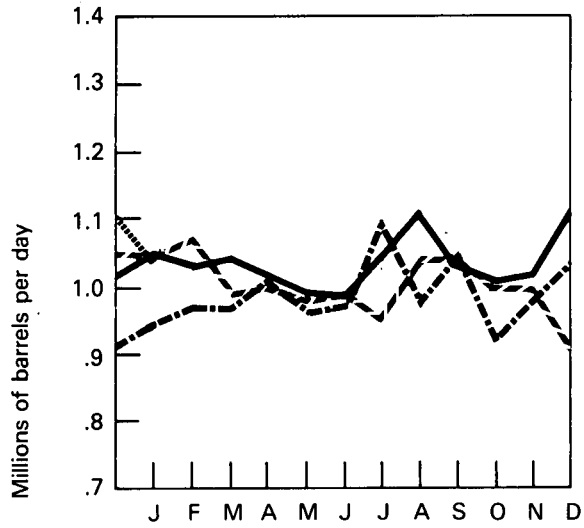
\*\*Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.

R=Revised data.

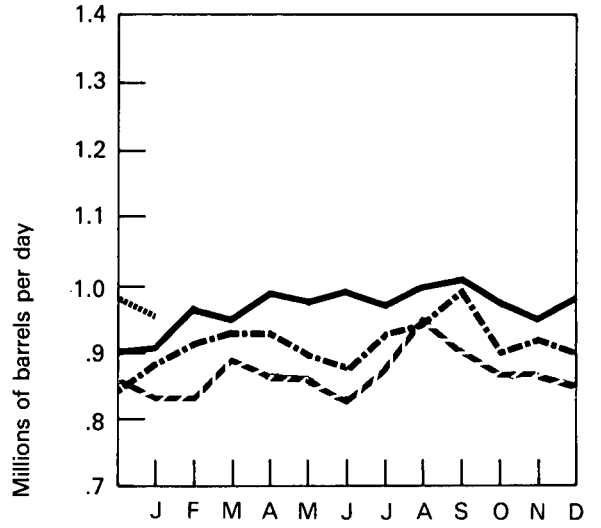
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through April 1977; Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly" for May through August 1977 and "Monthly Petroleum Statistics Report" for September through December 1977; January 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

# Jet Fuel

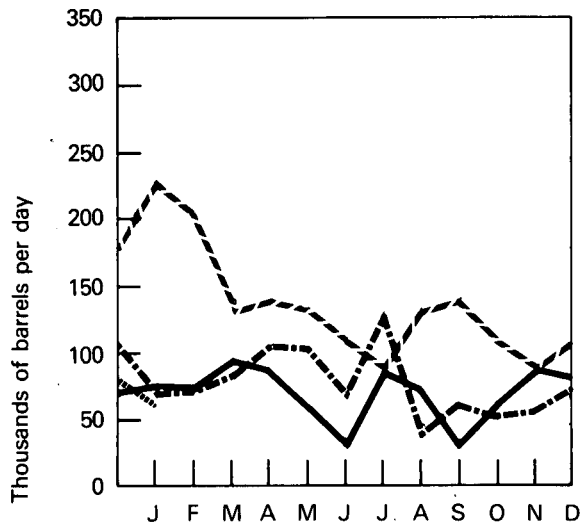
## Domestic Demand



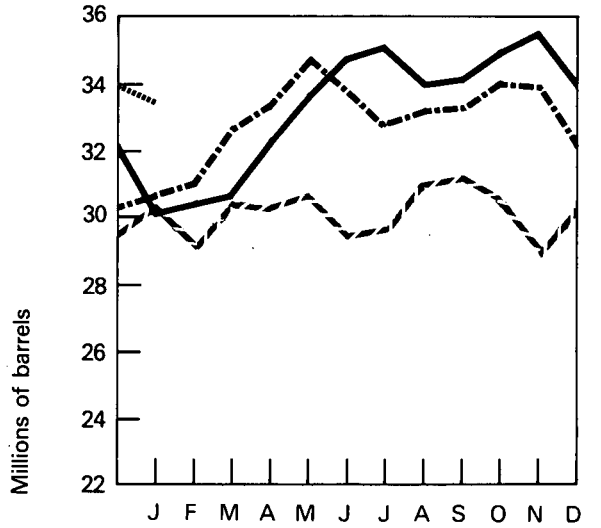
## Production



## Imports



## Stocks



--- 1975 BOM  
 -.- 1976 BOM  
 — 1977 BOM, EIA  
 ..... 1978 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	3,180	135	223,648
	December	4,650	3,255	179	185,948
	AVERAGE	3,130	2,924	143	
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	2,942	3,001	153	148,246
	May	2,777	3,124	99	162,123
	June	2,776	3,198	135	178,842
	July	2,545	R3,192	192	204,899
	August	R2,635	R3,274	R161	R229,757
	September	2,706	3,311	161	252,775
	October	3,009	3,328	155	267,440
	November	R3,414	3,336	R180	270,481
	December	R4,168	R3,280	R229	R250,063
	AVERAGE	R3,345	R3,272	R247	
1978	January	4,291	3,124	184	214,219

\*See Definitions.

\*\*Total as of December 31.

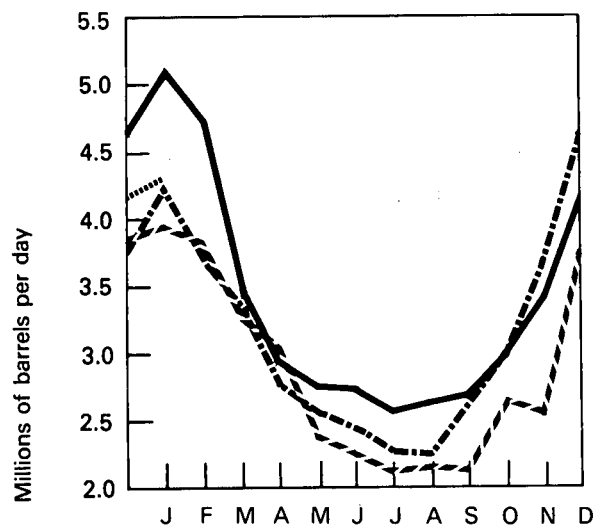
\*\*\*Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.

R=Revised data.

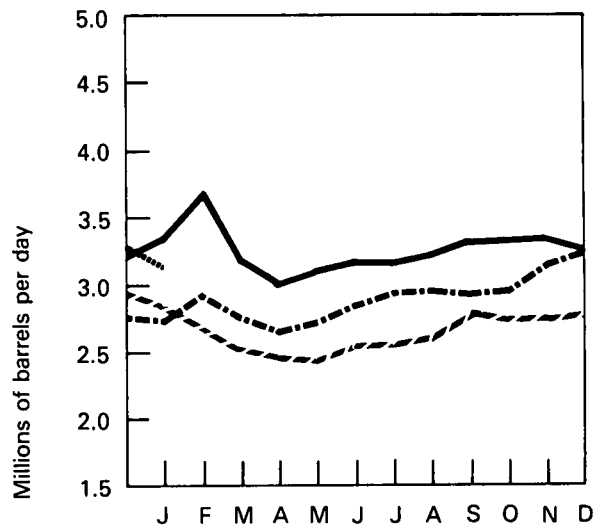
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through April 1977; Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly" for May through August 1977 and "Monthly Petroleum Statistics Report" for September through December 1977; January 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

# Distillate Fuel Oil

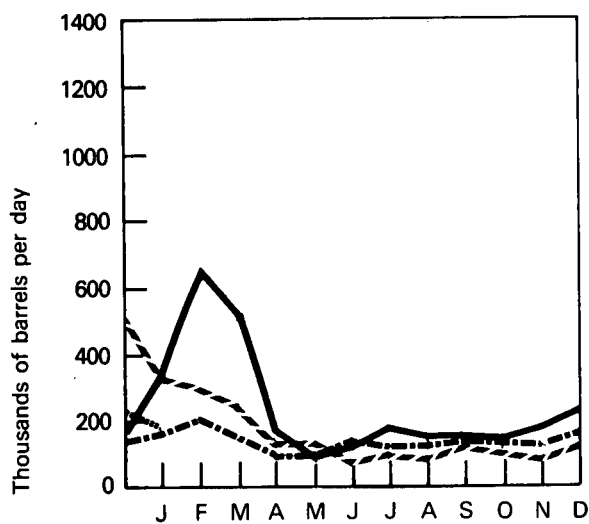
## Domestic Demand



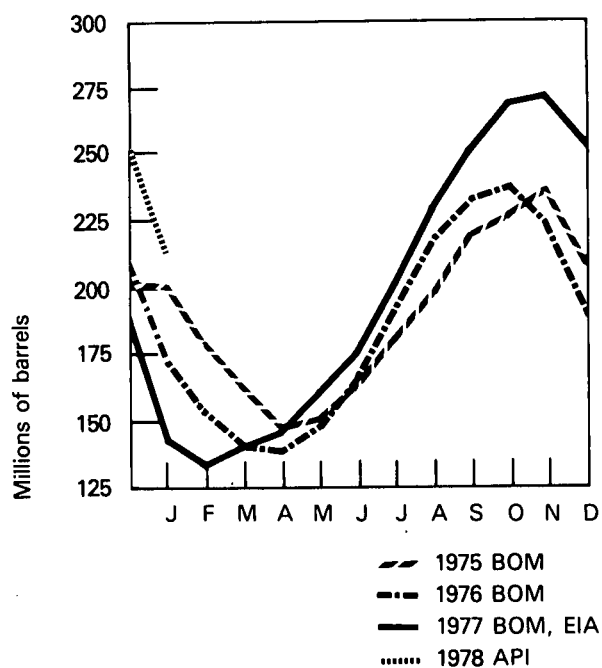
## Production



## Imports



## Stocks



--- 1975 BOM  
 -.- 1976 BOM  
 — 1977 BOM, EIA  
 ..... 1978 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	3,006	1,394	1,703	68,859
	March	2,779	1,311	1,342	65,132
	April	2,495	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	1,398	
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	2,855	1,687	1,125	70,165
	May	2,719	1,671	1,145	73,376
	June	2,954	1,714	1,181	71,924
	July	2,805	1,729	1,271	77,770
	August	R3,046	R1,634	R1,441	R78,762
	September	2,897	1,742	1,455	87,547
	October	2,662	1,726	1,221	95,801
	November	R2,803	1,696	R1,094	95,098
	December	R3,319	R1,809	R1,340	R89,548
	AVERAGE	R3,048	R1,746	R1,349	
1978	January	3,306	1,841	1,321	85,626

\*Total as of December 31.

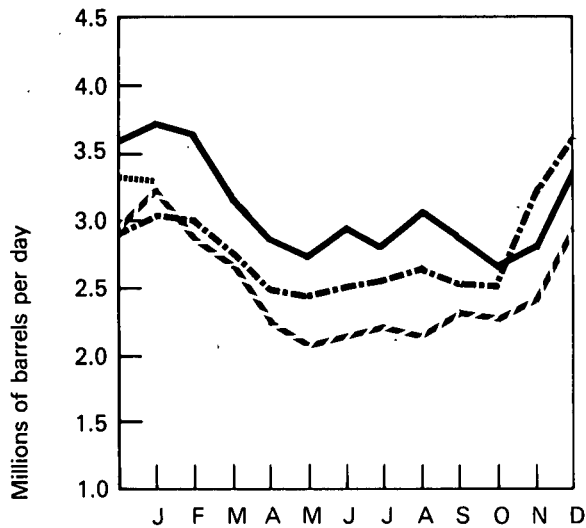
\*\*Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.

R=Revised data.

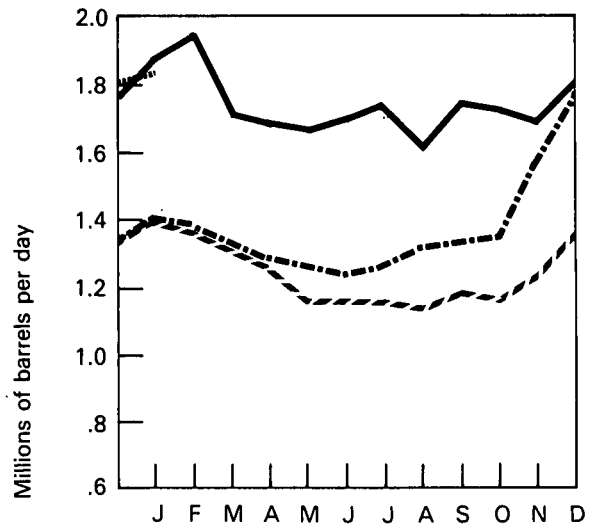
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through April 1977; Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly" for May through August 1977 and "Monthly Petroleum Statistics Report" for September through December 1977; January 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

# Residual Fuel Oil

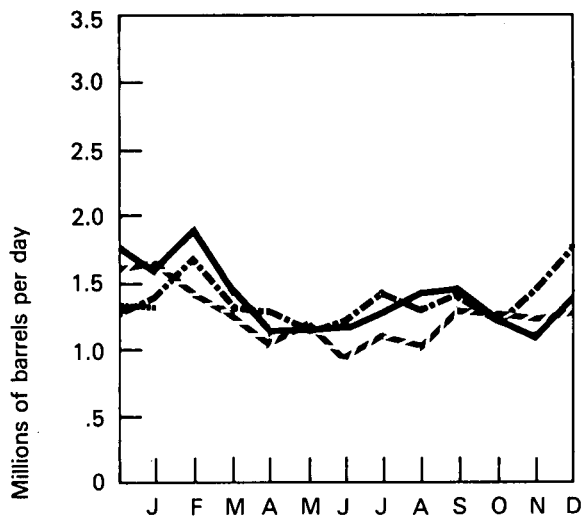
## Domestic Demand



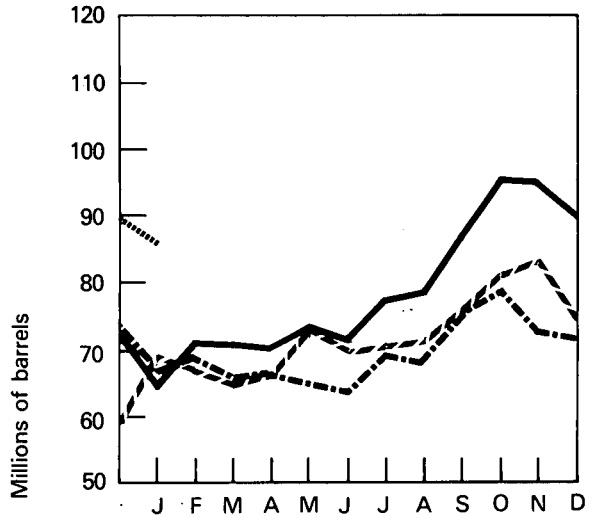
## Production



## Imports



## Stocks



--- 1975 BOM  
 -.- 1976 BOM  
 — 1977 BOM, EIA  
 ..... 1978 API

# Natural Gas Liquids

		Domestic Demand*	Production*		Used at Refineries*	Imports	Stocks*
			At processing plants	At refineries			
		Thousands of barrels per day					Thousands of barrels
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	1,602	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
	April	1,228	1,664	337	672	198	108,235
	May	1,167	1,620	397	614	165	120,018
	June	1,235	1,616	364	622	203	129,315
	July	1,133	1,609	381	594	157	141,631
	August	1,181	1,593	360	659	204	150,830
	AVERAGE (8 months)	1,400	1,616	354	659	217	

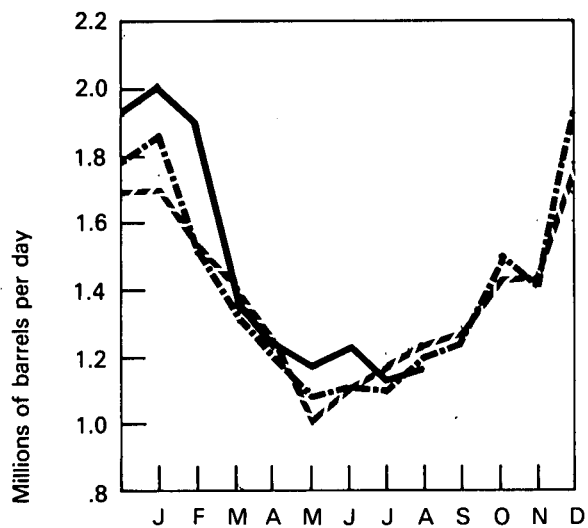
\*See Explanatory Note 4.

\*\*Total as of December 31.

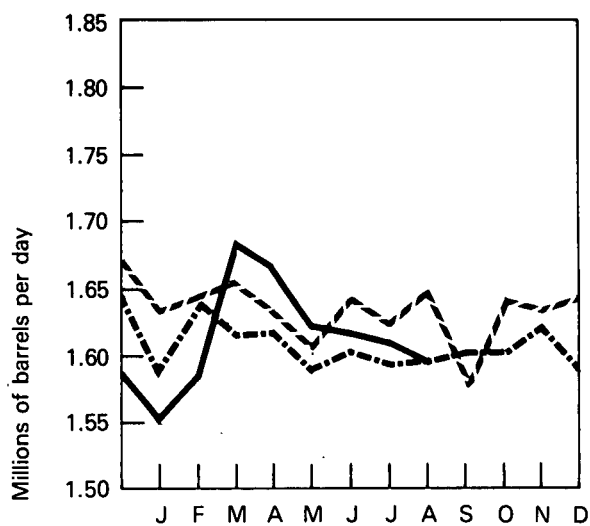
Source: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly" through April 1977; and EIA *Energy Data Reports*, "Petroleum Statement, Monthly" for May 1977 forward.

# Natural Gas Liquids

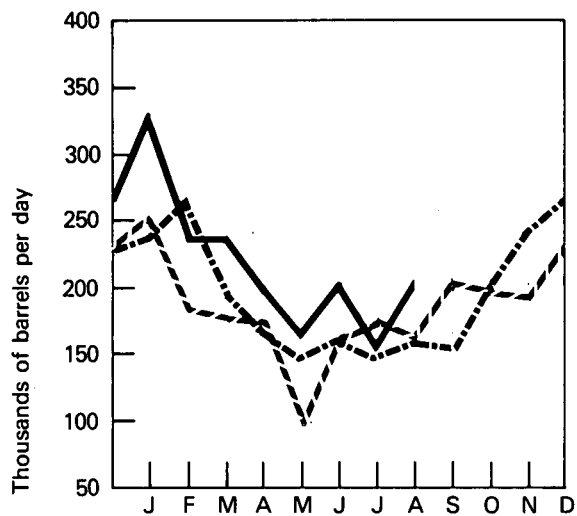
## Domestic Demand



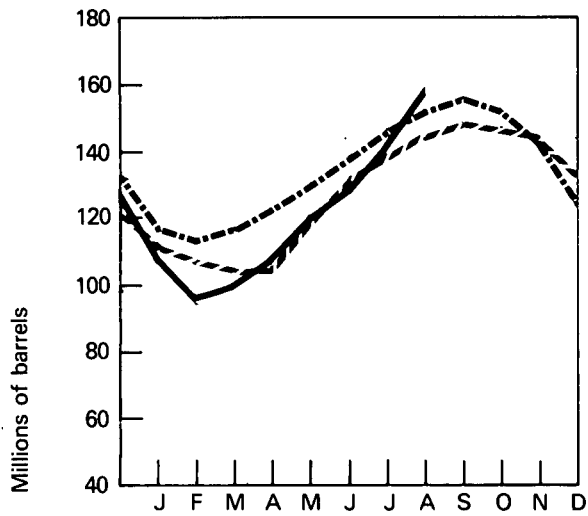
## Production at Processing Plants



## Imports



## Stocks



--- 1975 BOM  
 ---- 1976 BOM  
 ——— 1977 BOM, EIA

# 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				
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Year
	Thousands of barrels per day				
Supply					
Crude oil and lease condensate production	7,956	8,042	8,231	8,629	8,217
Natural gas plant liquids production	1,609	1,633	1,596	1,629	1,617
Other hydrocarbon supply	43	54	52	52	50
Crude oil imports	6,520	6,867	6,666	6,207	6,565
Refined products imports*	2,813	1,836	2,078	1,857	2,143
Total new supply	18,941	18,432	18,623	18,374	18,592
Processing gain	521	450	552	526	512
Stock change—all oils	-278	+1,190	+1,095	-57	+543
Total net supply	19,740	17,692	18,080	18,957	18,561
Unaccounted for crude oil**	+114	+88	-16	NA	NA
Demand					
Crude oil and refined products exports	210	245	242	NA	NA
Crude oil losses	15	15	16	NA	NA
Domestic demand for refined products***	19,629	17,520	17,806	18,751	18,422
Total demand	19,854	17,780	18,064	NA	NA

\*Includes plant condensate and unfinished oils.

\*\*Balancing item resulting from statistical inconsistencies.

\*\*\*Includes international bunkers.

NA=Not available.

Note: 3rd and 4th Quarter and Year 1977 data are preliminary.

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

# Strategic Petroleum Reserve

		Crude Oil Deliveries*	Cumulative Deliveries	Average Delivered Price	Cumulative Average Delivered Price
		Barrels		Dollars per barrel	
1977	July	414,172	414,172	13.565	13.565
	August	0	414,172	—	—
	September	674,961	1,089,133	13.59	13.58
	October	1,539,263	2,628,396	14.22	13.95
	November	2,434,463	5,062,859	14.50	14.21
	December	2,455,466	7,518,325	14.58	14.33
1978	January	3,531,481	11,049,806	14.46	14.37

\*Does not include cargoes in transit at the end of the reporting month, nor cargoes that discharged into Caribbean transshipment terminals for eventual transfer to SPRO terminals.

Source: U.S. Department of Energy, Strategic Petroleum Reserve Office.

## Natural Gas

Consumption of natural gas in January 1978 was an estimated 1.0 percent less than that in January 1977 when record low temperatures were experienced in a number of areas east of the Rocky Mountains. (January 1978 heating degree-days, although 14 percent above normal, were 12 percent less than during January 1977.)

Marketed production of natural gas in January was an estimated 1.8 percent less than in January 1977. On the other hand, imports were an estimated 4.7 percent higher than for the previous January.

Net withdrawals of natural gas from underground storage reservoirs in January 1978 were slightly greater than the previous record high level of January 1977, but working gas\* in storage at the end of January exceeded that available a year earlier by 41.3 percent. This was the result of successful efforts to rebuild the level of underground storage following the heavy drawdown during the 1976-77 winter season. Net storage injections during the April-October 1977 storage injection season were 25.3 percent above those of the previous injection season, bringing the working gas storage inventory to a record high level (2.9 trillion cubic feet) at the beginning of the 1977-78 winter heating season (November 1, 1977). Net withdrawals during the first 2 months of the 1977-78 winter heating season were 38.3 percent lower than the previous year's withdrawals because of milder weather.

Domestic producer sales to major interstate pipeline companies in November 1977 were down 1.3 percent from those in November 1976. Sales during the first 11 months of 1977 were 2.9 percent below the level for the same period of 1976.

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\*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	2,291	1,751	894	84
	February	R1,938	1,647	850	78
	March	R1,721	1,714	894	85
	April	R1,508	1,623	849	86
	May	R1,434	1,673	860	82
	June	1,335	1,640	815	76
	July	R1,372	1,676	822	73
	August	1,317	1,636	810	77
	September	1,302	1,565	793	74
	October	R1,621	1,639	840	85
	November	R1,875	1,635	841	81
	December	R2,232	1,753	872	83
	TOTAL	R19,946	19,952	10,140	964
1977	January	2,394	1,742	848	85
	February	R1,793	R1,668	807	85
	March	R1,693	R1,742	910	106
	April	R1,408	R1,634	830	82
	May	R1,355	R1,691	830	84
	June	R1,311	R1,643	789	76
	July	R1,304	R1,669	801	74
	August	1,343	1,639	784	78
	September	1,403	1,587	741	78
	October	R1,496	1,621	831	R85
	November	R1,660	R**1,590	830	R86
	December	R2,080	R**1,700	NA	R**90
	TOTAL	R19,240	R19,926	9,001 (11 months)	R1,009
1978	January	2,370	**1,710	NA	**89

\*See Explanatory Note 5.

\*\*Preliminary data.

R=Revised data.

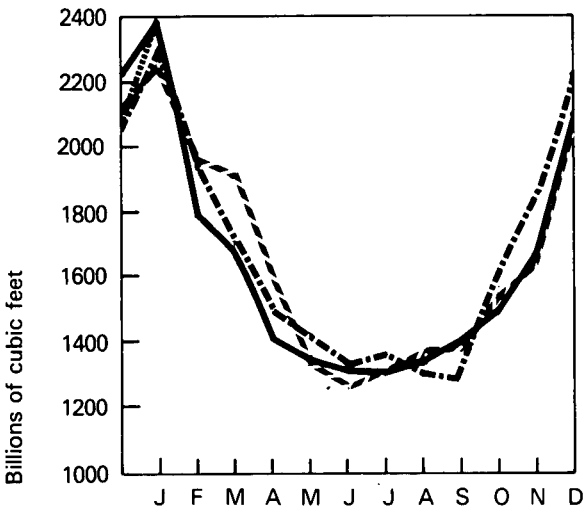
NA=Not available.

Note: All monthly Domestic Consumption data are estimated.

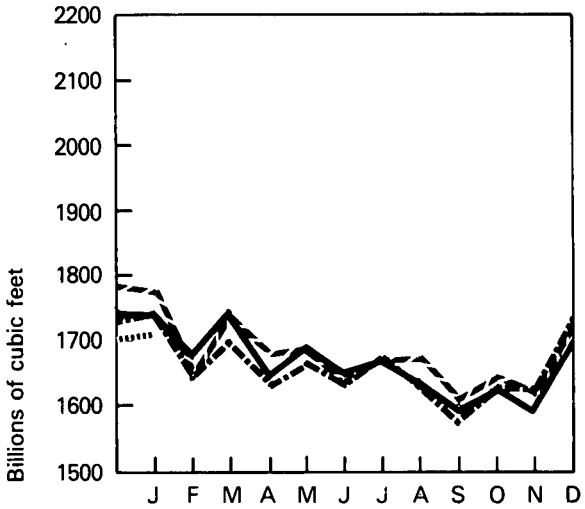
Sources: Domestic Consumption—Bureau of Mines, "Minerals and Materials/A Monthly Survey" (advance estimates are subject to revision prior to publication by BOM); Marketed Production and Imports—Bureau of Mines *Mineral Industry Surveys*, "Natural Gas, Monthly" through June 1977 and EIA *Energy Data Reports*, "Natural Gas, Monthly" for July 1977 forward; Domestic Producer Sales—Federal Power Commission Form 11, "Monthly Statement of Gas Operating Revenues, Sales."

# Natural Gas

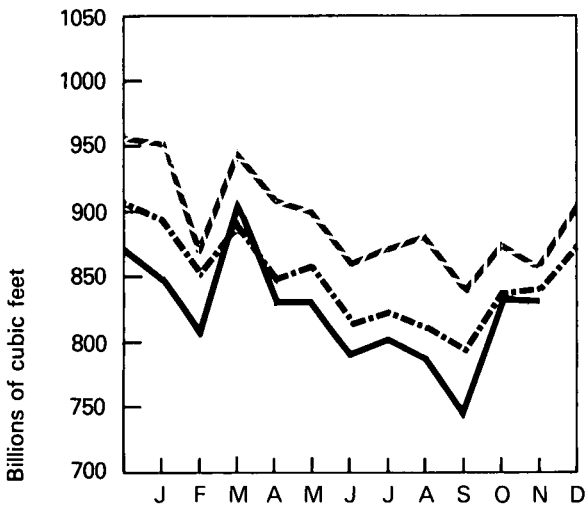
Domestic Consumption



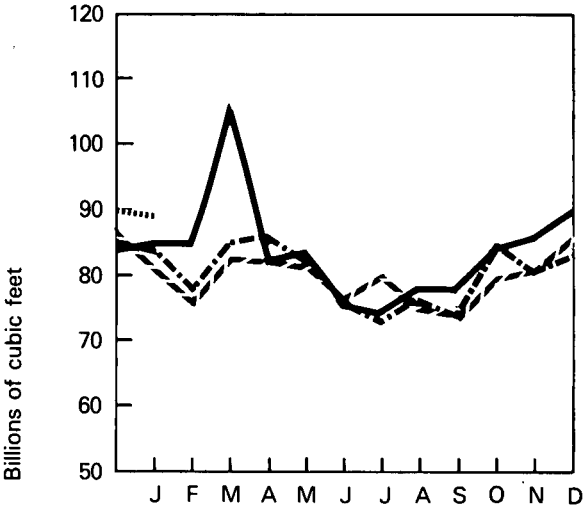
Marketed Production



Domestic Producer Sales to Major Interstate Pipelines



Imports



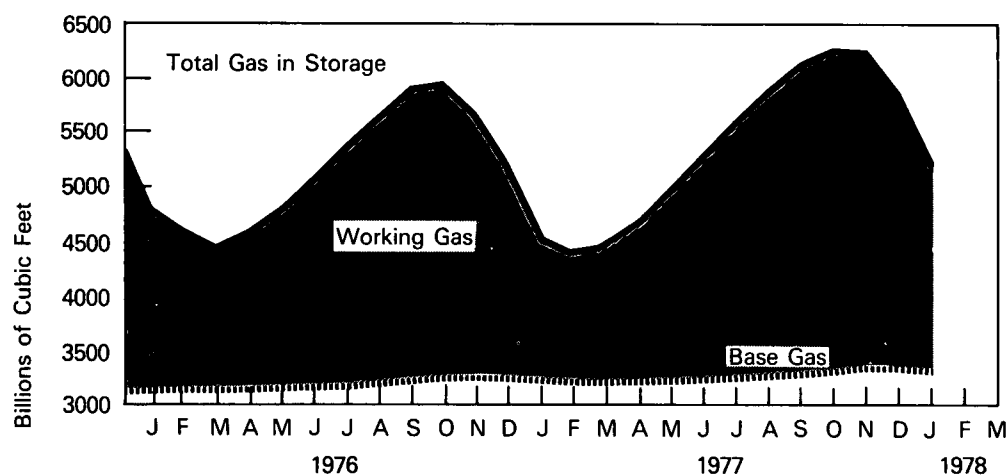
--- 1975  
--- 1976  
--- 1977  
.... 1978

# 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					
1975	September	5,553	3,085	2,468	220	31	189
	October	5,706	3,107	2,599	190	51	139
	November	5,691	3,150	2,541	98	146	-48
	December	5,358	3,150	2,208	38	371	-333
1976	January	4,817	3,169	1,648	17	526	-509
	February	4,617	3,173	1,444	66	265	-199
	March	4,496	3,170	1,326	79	200	-121
	April	4,607	3,184	1,423	185	75	110
	May	4,827	3,190	1,637	245	24	221
	June	5,116	3,208	1,908	304	27	277
	July	5,412	3,220	2,192	301	6	295
	August	5,698	3,251	2,447	298	17	281
	September	5,946	3,296	2,650	259	22	237
	October	5,966	3,302	2,664	135	116	19
	November	5,713	3,305	2,408	40	291	-251
	December	5,231	3,310	1,921	23	505	-482
1977	January	4,580	3,293	1,287	18	670	-652
	February	4,446	3,283	1,163	101	235	-134
	March	4,501	3,286	1,215	187	132	55
	April	4,713	3,286	1,427	256	43	213
	May	5,024	3,293	1,731	329	17	312
	June	5,330	3,300	2,030	317	12	305
	July	5,665	3,317	2,348	348	15	333
	August	5,945	3,346	2,599	290	21	269
	September	6,188	3,364	2,824	262	2	260
	October	6,302	3,373	2,929	157	44	113
	November	6,224	3,403	2,821	84	160	-76
	December	5,848	3,390	2,458	41	417	-376
1978	January	5,192	3,374	1,818	21	677	-655

## Gas in Storage



\*See Explanatory Note 6.

Sources: Federal Energy Administration Form G318-M-O and Federal Power Commission Form 8 "Underground Gas Storage Report."

## Coal

The labor strike by members of the United Mine Workers of America (UMWA) against the Bituminous Coal Operators of America (BCOA), which began on December 6, 1977, had been in effect for 85 days by the end of February 1978—the longest coal strike on record. Bituminous coal and lignite production continued to decline in January to 25.1 million tons from 32.1 million tons in December. Total coal production for December and January was approximately 46 percent below the output for the same months a year earlier. Production from mines not affected by the strike (mainly in the West) increased moderately during the first 3 weeks of February as weather conditions improved.

Domestic consumption of bituminous coal and lignite was 53.7 million tons in December, up 6.9 percent over consumption in November. Total coal consumption for 1977 was 619.6 million tons, 3.5 percent greater than in 1976. Electric utility coal consumption\* was 41.1 million tons in December 1977, down from 41.5 million tons in December 1976. Total utility coal consumption for the year, however, increased 6.2 percent from the 1976 level to 474.8 million tons. A decline in steel production in 1977 resulted in a decline in consumption for coking coal. Coal consumption at coke plants in 1977 totaled 77.4 million tons, down 6.9 million tons (8.2 percent). Coal consumption in the general industrial sector totaled 57.1 million tons in 1977, slightly below the 57.8 million tons consumed in 1976.

Stocks of bituminous coal and lignite, which were at record levels at the start of the strike, declined 20.5 million tons by the end of December. Electric utility stocks\* declined from 147.1 million tons on November 30 to 131.0 million tons on December 31. Coal stocks at steel company coke plants were depleted by 2.5 million tons during December—from 15.5 million tons to 13.0 million tons. Coal stocks held by general industry were reduced by 1.5 million tons. There were no reported shortages of coal during December that could be directly attributed to the strike.

Total coal exports in 1977 declined to 53.7 million tons from 59.4 million tons in 1976. In 1977, Canada replaced Japan as the principal

\*Does not include anthracite or coke consumption/stocks.

U.S. foreign market for coal with a 32.0-percent share of total U.S. coal exports. Shipments of coal to Japan and Europe accounted for 29.6 and 27.8 percent, respectively.

# Bituminous and Lignite

		Domestic Consumption*	Production*	Exports	Stocks**
Thousands of short tons					
1972	TOTAL	516,776	595,386	55,997	R115,372
1973	TOTAL	556,022	591,738	R52,870	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	R52,932	52,568	3,697	R119,220
	February	R46,832	53,773	3,050	R119,004
	March	R48,624	60,918	3,979	R123,471
	April	R46,415	59,145	5,780	R128,393
	May	R46,681	57,934	5,667	R136,013
	June	R48,445	59,680	6,569	R140,144
	July	R51,717	44,318	4,880	R129,661
	August	R52,082	53,622	4,223	R123,853
	September	R47,689	60,634	5,614	R129,878
	October	R49,312	58,899	5,871	R133,624
	November	R51,877	58,780	5,451	R135,019
	December	R56,144	58,414	4,625	R133,555
	TOTAL	R598,750	678,685	59,406	
1977	January	R56,561	44,555	2,143	R118,116
	February	R50,033	50,365	3,079	R114,363
	March	R50,278	65,020	3,390	R122,593
	April	R46,290	58,893	5,637	R129,878
	May	R49,120	60,799	5,673	R137,673
	June	R51,690	61,078	6,019	R145,914
	July	R56,141	47,785	5,158	R137,463
	August	R54,758	55,920	4,279	136,832
	September	R50,622	65,505	5,037	144,953
	October	R50,191	64,415	4,871	158,164
	November	R50,245	65,545	R4,491	R173,063
	December	53,687	32,120	3,910	152,562
	TOTAL	619,616	672,000	53,687	
1978	January	NA	25,118	NA	NA

\*See Explanatory Note 7.

\*\*Total stocks held by utilities, industrial consumers, and retail dealers at end of year or month.

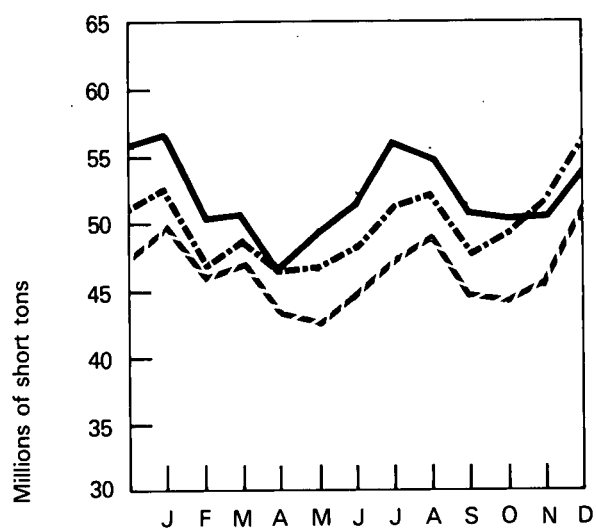
R=Revised data.

NA=Not available.

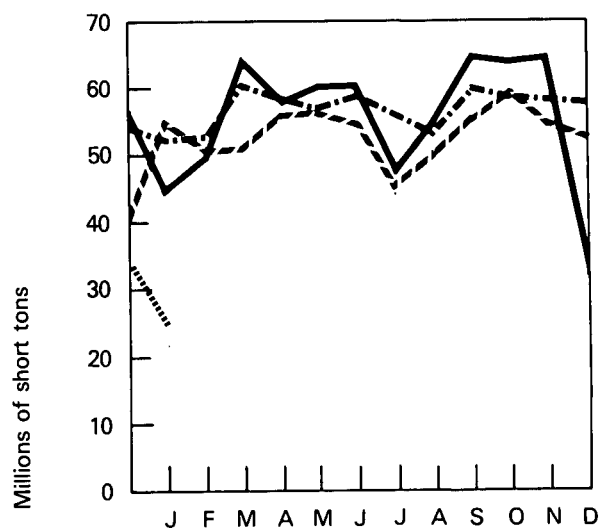
Source: Bureau of Mines *Mineral Industry Surveys*, "Weekly Coal Report" through September 1977; and EIA *Energy Data Reports*, "Weekly Coal Report" for October 1977 forward.

# Bituminous and Lignite

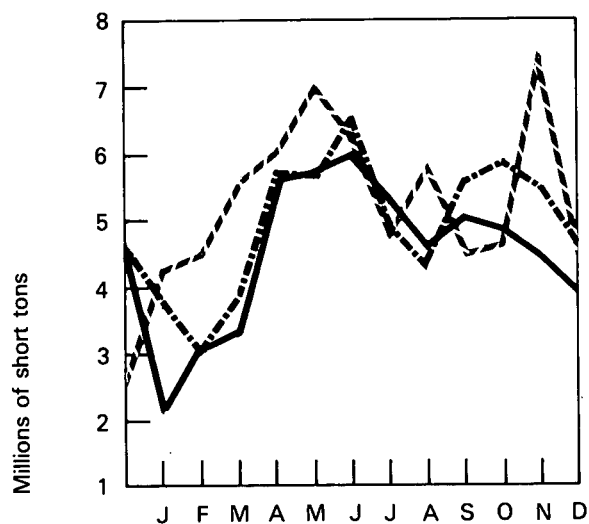
## Domestic Consumption



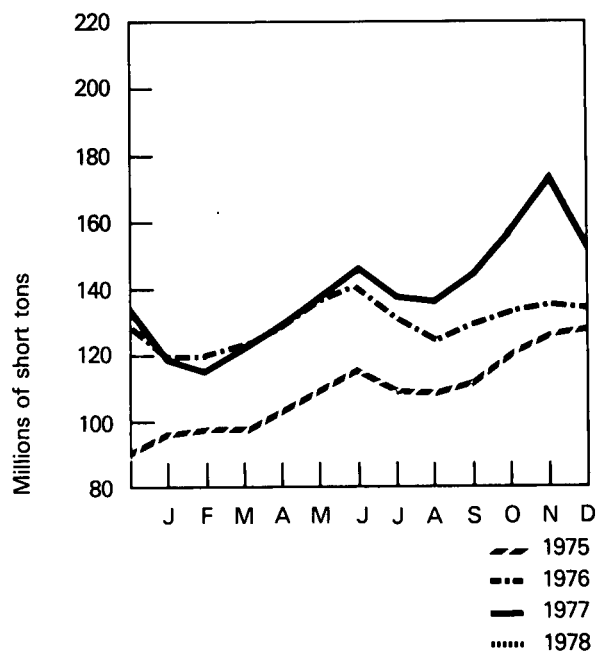
## Production



## Exports



## Stocks

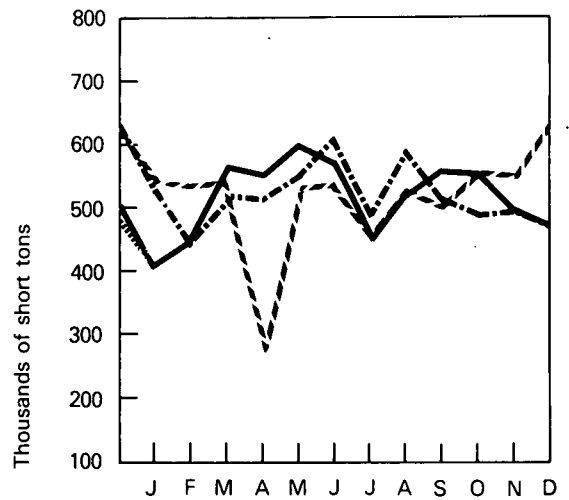


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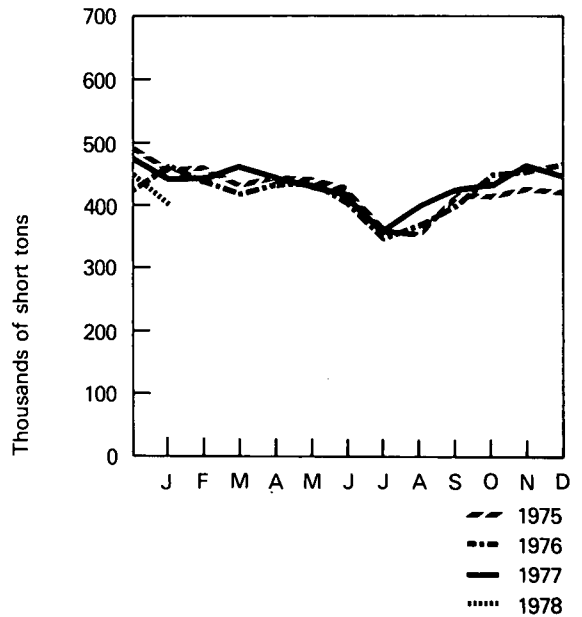
# Anthracite

		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	R525	460
	February	440	430
	March	R525	420
	April	R520	435
	May	555	440
	June	R610	400
	July	R490	350
	August	R590	375
	September	R515	400
	October	R490	455
	November	R493	R400
	December	R475	475
	TOTAL	R6,228	R5,040
1977	January	400	440
	February	450	450
	March	570	470
	April	550	450
	May	600	440
	June	570	420
	July	450	360
	August	525	400
	September	560	430
	October	550	435
	November	500	470
	December	475	450
	TOTAL	6,200	5,215
1978	January	405	400

Production



Apparent Domestic Consumption



Source: Bureau of Mines *Mineral Industry Surveys*, "Weekly Coal Report" through September 1977; and EIA *Energy Data Reports*, "Weekly Coal Report" for October 1977 forward.

## Electric Utilities

December 1977 production of electricity by utilities totaled 183.9 billion kilowatt hours, about the same as production in December 1976. Total production during 1977 was 2.1 trillion kilowatt hours, 4.2 percent above the 1976 output. Edison Electric Institute has preliminarily estimated January 1978 electricity generation at 197.3 billion kilowatt hours.

Electric utility consumption of coal,\* oil, and gas during December 1977 was 41.2 million tons, 56.6 million barrels, and 221.0 billion cubic feet, which represents a decrease of 1.0 percent and 4.9 percent and an increase of 2.8 percent, respectively, when compared with consumption levels for the same month in 1976. During 1977, utility consumption of all fossil fuels increased; coal was up 6.4 percent, oil was up 12.2 percent, and natural gas was up 3.7 percent. The increase in natural gas consumption is significant, as it was the first since 1976. The increase occurred mainly in the Southwestern and Pacific Coast States where normal supplies of hydroelectric power were drastically reduced by the drought.

The coal strike that began on December 6, 1977, resulted in a curtailment of coal deliveries to powerplants; coal stocks at coal-fired plants\* on December 31, 1977, were diminished to 133.3 million tons from the record high 149.7-million-ton level of the previous month. This represented an increase of 13.5 percent over the stock level for the same period of 1976, however. Oil stocks on December 31, 1977, were 144.1 million barrels, up 18.4 percent from the stock level for the same month a year earlier.

Sales of electricity to ultimate industrial customers during October 1977 totaled 66.4 billion kilowatt hours, 3.8 percent above the level for October 1976. Sales to ultimate residential customers rose 8.8 percent to 48.7 billion kilowatt hours. Sales to ultimate commercial customers totaled 36.5 billion kilowatt hours, up 4.5 percent from the level 1 year earlier.

The primary causes of the increase in ultimate industrial sales of electricity are a 6.3-percent

increase in industrial production\*\* coupled with a 4.5-percent increase in the number of industrial customers reported by Class A and B utilities.\*\*\* The sharp increase in ultimate residential sales is largely due to an 8.3-percent rise in the number of Class A and B residential electricity customers. A major factor affecting the growth in ultimate commercial sales was a 4.8-percent increase in the number of Class A and B commercial electricity customers.

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\*\*Industrial production is based upon information obtained from the Federal Reserve Bulletin.

\*\*\*See Explanatory Note 8.

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\*Utility coal consumption/stocks include bituminous and anthracite coal, lignite, and coke.

# Electric Utilities

## Net Electricity Production

		Coal	Oil	Gas	Nuclear	Hydro- electric	Other*	Total
		Millions of kilowatt hours						
<b>1971</b>	<b>TOTAL</b>	<b>714,680</b>	<b>218,622</b>	<b>374,027</b>	<b>38,105</b>	<b>266,301</b>	<b>859</b>	<b>1,612,593</b>
<b>1972</b>	<b>TOTAL</b>	<b>772,857</b>	<b>272,550</b>	<b>375,735</b>	<b>54,091</b>	<b>272,612</b>	<b>1,783</b>	<b>1,749,629</b>
<b>1973</b>	<b>TOTAL</b>	<b>848,988</b>	<b>312,940</b>	<b>340,804</b>	<b>83,334</b>	<b>272,081</b>	<b>2,294</b>	<b>1,860,440</b>
<b>1974</b>	<b>TOTAL</b>	<b>829,973</b>	<b>299,363</b>	<b>320,055</b>	<b>113,976</b>	<b>301,032</b>	<b>2,704</b>	<b>1,867,103</b>
<b>1975</b>	January	74,860	30,608	19,689	13,938	25,011	219	164,325
	February	67,301	24,905	18,049	12,733	23,886	206	147,080
	March	69,188	23,111	20,099	14,882	27,970	231	155,481
	April	64,465	21,246	20,323	13,327	26,624	231	146,217
	May	64,749	21,04	25,707	13,764	27,713	255	153,231
	June	70,362	23,047	28,830	12,745	27,143	316	162,442
	July	76,314	25,113	34,181	15,372	25,522	313	176,815
	August	78,895	27,944	34,041	15,880	22,612	341	179,714
	September	68,575	21,410	30,020	14,396	20,519	302	155,223
	October	69,057	21,980	26,296	14,626	22,639	346	154,944
	November	70,440	21,598	21,830	14,164	24,429	333	152,794
	December	78,762	26,904	20,706	16,679	25,978	345	169,372
	<b>TOTAL</b>	<b>852,968</b>	<b>288,908</b>	<b>299,772</b>	<b>172,506</b>	<b>300,047</b>	<b>3,437</b>	<b>1,917,638</b>
<b>1976</b>	January	83,707	32,214	19,895	16,099	26,070	344	178,329
	February	73,532	24,767	19,163	14,377	24,521	323	156,683
	March	76,570	25,420	21,282	13,993	26,563	346	164,174
	April	72,571	23,299	21,867	10,982	24,137	312	153,168
	May	72,512	21,794	25,319	11,929	25,516	300	157,370
	June	76,939	25,103	R29,715	15,757	25,563	314	R173,391
	July	83,294	26,997	32,032	17,709	26,064	338	186,434
	August	84,222	28,248	31,394	18,363	23,843	336	186,406
	September	75,384	23,608	28,058	17,290	20,369	327	165,036
	October	76,955	24,168	23,918	17,355	21,042	319	163,757
	November	81,702	30,060	21,119	16,134	19,805	293	169,113
	December	87,220	34,130	20,897	21,115	20,220	332	183,914
	<b>TOTAL</b>	<b>944,608</b>	<b>319,808</b>	<b>R294,659</b>	<b>191,103</b>	<b>283,713</b>	<b>3,884</b>	<b>R2,037,775</b>
<b>1977</b>	January	89,846	43,363	R19,951	22,107	20,700	359	R196,326
	February	78,752	29,429	19,480	19,601	15,150	322	162,734
	March	77,521	28,344	22,464	20,672	19,801	356	169,158
	April	70,898	25,840	21,305	19,863	18,642	319	156,867
	May	77,071	27,936	24,705	20,479	18,677	341	169,209
	June	83,152	R28,961	R29,615	21,268	17,226	335	R180,557
	July	92,408	R34,867	32,712	21,825	16,797	328	R198,937
	August	90,764	32,302	33,292	22,739	16,712	317	196,126
	September	82,593	26,348	30,945	19,588	16,455	342	176,271
	October	79,401	R23,066	R27,361	18,967	R17,220	360	R166,375
	November	R79,496	R24,848	R22,525	18,840	R20,428	347	R166,484
	December	R83,413	R32,512	R21,138	R23,771	R22,759	R337	R183,930
	<b>TOTAL</b>	<b>R985,315</b>	<b>R357,816</b>	<b>R305,493</b>	<b>R249,720</b>	<b>R220,567</b>	<b>R4,063</b>	<b>R2,122,974</b>
<b>1978</b>	January	NA	NA	NA	25,605	NA	NA	197,282

(See chart on page 37)

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

R=Revised data.

NA=Not available.

Source: Federal Power Commission Form 4, "Monthly Powerplant Report" through December 1977; Edison Electric Institute for January 1978 Total and Nuclear Regulatory Commission for January 1978 Nuclear.

# Electric Utilities (Continued)

## Fuel Consumption

		Coal	Oil			Gas
			Steam*	Gas Turbine/ Internal Combustion**	Total	
		Thousands of short tons		Thousands of barrels		Millions of cubic feet
1971	TOTAL	327,887	362,186	34,282	396,468	3,975,971
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	205,095
	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	33,457	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	406,030	466,940	39,188	506,128	3,157,584
1976	January	39,986	51,114	4,974	56,088	206,528
	February	34,965	40,452	2,676	43,128	199,441
	March	36,099	41,154	2,800	43,954	222,765
	April	33,805	37,663	2,489	40,152	227,826
	May	33,944	35,651	2,220	37,871	266,632
	June	36,381	40,065	3,574	43,639	313,369
	July	39,841	43,143	4,084	47,227	337,640
	August	40,330	45,627	3,443	49,070	329,737
	September	35,895	38,245	2,526	40,771	295,071
	October	36,783	39,101	3,106	42,207	250,046
	November	38,845	47,346	4,971	52,317	217,362
	December	41,582	53,949	5,564	59,513	214,869
	TOTAL	448,456	513,510	42,427	555,937	3,081,286
1977	January	43,255	66,250	R9,646	75,896	R205,071
	February	37,645	47,606	3,206	50,812	R200,405
	March	37,284	46,069	2,600	48,669	R231,789
	April	33,982	42,138	2,294	44,432	223,326
	May	37,159	44,714	3,911	48,625	259,841
	June	40,151	R46,140	4,414	R50,554	R310,682
	July	44,977	54,527	R7,896	62,423	R347,097
	August	44,172	51,783	4,815	56,598	350,772
	September	40,168	43,192	2,631	45,823	R324,681
	October	R38,379	R38,014	1,959	R39,973	R284,872
	November	R38,724	R40,569	R2,555	R43,124	R234,263
	December	R41,184	R52,573	R4,029	R56,602	R220,957
	TOTAL	R477,080	R573,575	R49,956	R623,531	R3,193,756

\*Primarily residual fuel oil.

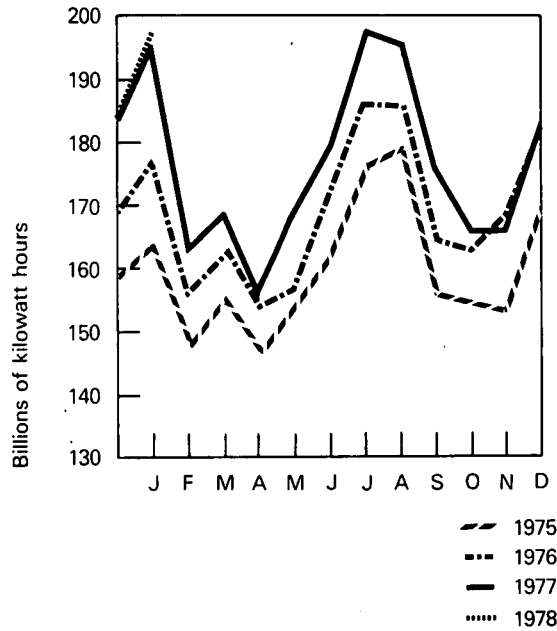
\*\*Primarily middle distillates.

R=Revised.

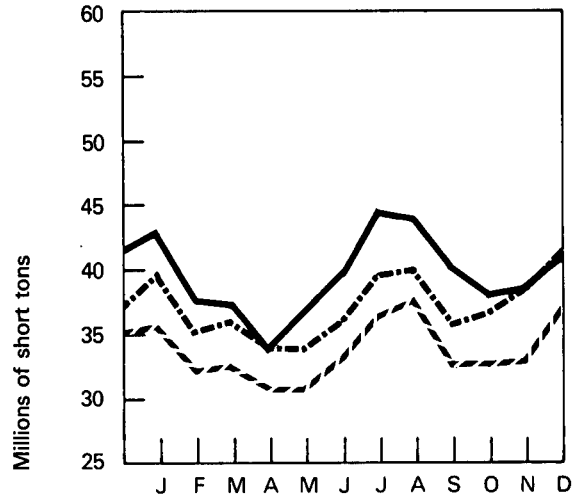
Source: Federal Power Commission Form 4, "Monthly Powerplant Report."

# Electric Utilities

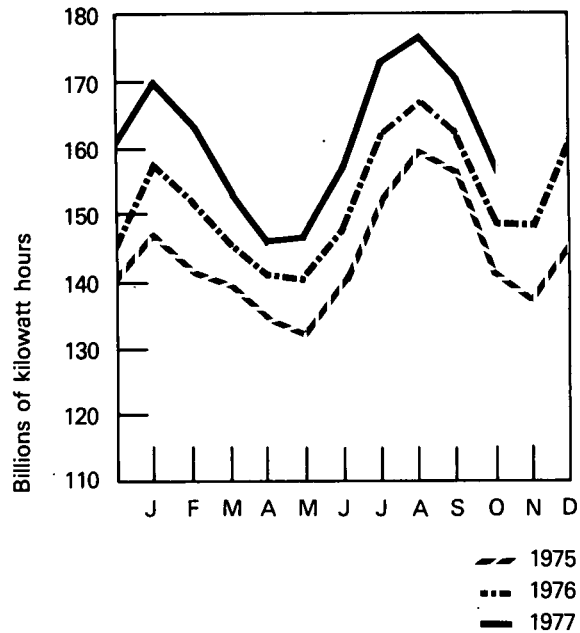
## Total Net Electricity Production



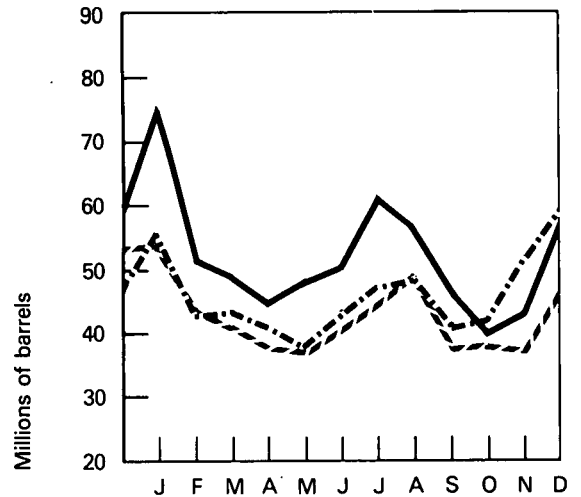
## Coal Consumption



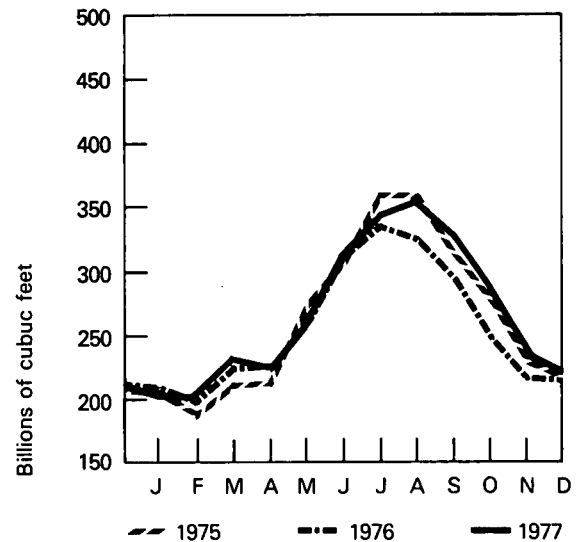
## Total Electricity Sales



## Oil Consumption



## Gas Consumption



# Electric Utilities (Continued)

## Stocks at End of Month

		Coal	Oil		
			Steam*	Gas Turbine/ Internal Combustion**	Total
		Thousands of short tons	Thousands of barrels		
1971		***78,069	***46,451	***3,194	***49,645
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	16,706	118,853
	March	108,450	104,082	16,467	120,550
	April	112,862	103,757	16,642	120,399
	May	119,611	109,142	16,962	126,105
	June	123,048	109,660	16,621	126,281
	July	115,204	110,829	15,862	126,691
	August	110,752	109,823	16,007	125,830
	September	115,399	112,965	17,059	130,024
	October	118,591	114,437	16,954	131,391
	November	119,323	111,137	15,517	126,655
	December	R117,493	106,744	14,980	121,724
1977	January	106,183	89,877	12,965	102,842
	February	103,262	95,641	14,389	R110,031
	March	109,620	96,872	R15,781	R112,653
	April	115,915	101,502	16,117	117,619
	May	122,834	103,802	R16,135	119,936
	June	128,817	R107,661	15,914	R123,575
	July	123,367	112,938	R16,347	129,284
	August	123,856	119,301	17,394	136,695
	September	130,380	125,065	R18,161	R143,226
	October	R139,704	R128,158	R19,420	R147,579
	November	R149,703	R129,813	R19,273	R149,085
	December	133,316	124,752	19,391	144,143

\*Primarily residual fuel oil.

\*\*Primarily middle distillates.

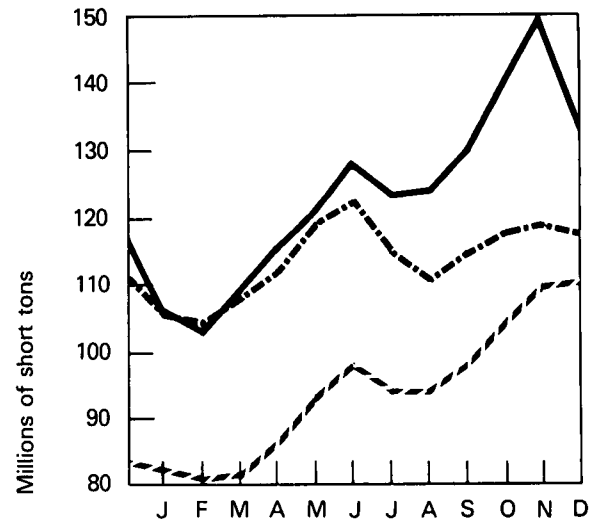
\*\*\*As of December 31.

R=Revised.

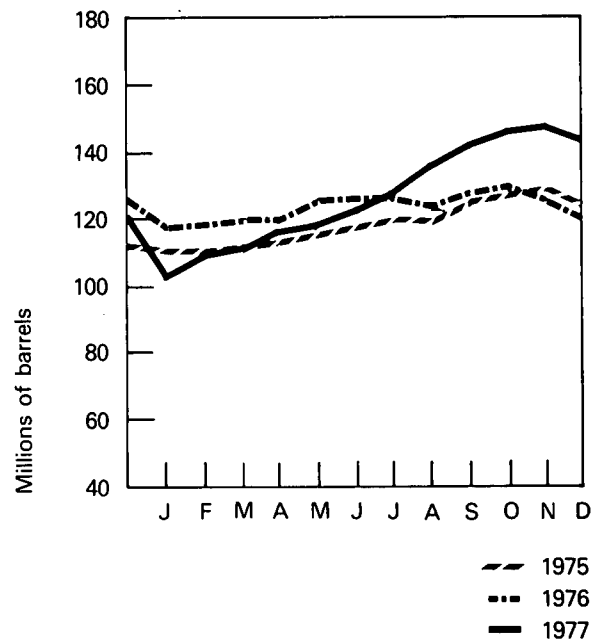
Source: Federal Power Commission Form 4, "Monthly Powerplant Report."

# Electric Utilities

Coal Stocks



Oil Stocks



# Electric Utilities (Continued)

## Electricity Sales\*

		Residential	Commercial	Industrial	Other**	Total
Millions of kilowatt hours						
<b>1972</b>	<b>TOTAL</b>	<b>538,609</b>	<b>359,265</b>	<b>640,978</b>	<b>56,309</b>	<b>1,595,161</b>
<b>1973</b>	<b>TOTAL</b>	<b>579,231</b>	<b>388,266</b>	<b>686,085</b>	<b>59,326</b>	<b>1,712,909</b>
<b>1974</b>	<b>TOTAL</b>	<b>578,184</b>	<b>384,826</b>	<b>684,875</b>	<b>58,039</b>	<b>1,705,924</b>
<b>1975</b>	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	53,972	37,631	55,524	5,644	152,771
	August	57,291	38,576	57,868	5,709	159,444
	September	54,362	37,325	58,619	5,978	156,284
	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
	<b>TOTAL</b>	<b>584,711</b>	<b>402,220</b>	<b>674,798</b>	<b>68,153</b>	<b>1,729,882</b>
<b>1976</b>	January	60,126	34,955	57,463	6,359	158,903
	February	54,264	33,809	58,064	5,855	151,992
	March	47,041	32,520	60,322	5,967	145,850
	April	43,563	31,813	59,967	5,386	140,729
	May	41,044	32,538	61,133	5,473	140,188
	June	44,131	35,325	62,654	5,371	147,481
	July	53,702	39,489	62,388	5,856	161,436
	August	57,349	39,933	63,921	5,829	167,032
	September	R53,459	R38,817	R64,382	R6,125	R162,783
	October	R44,751	R34,981	R64,028	R5,649	R149,408
	November	46,674	33,372	63,106	5,606	148,758
	December	56,750	35,579	62,842	5,626	160,797
	<b>TOTAL</b>	<b>R602,854</b>	<b>R423,131</b>	<b>R740,270</b>	<b>R69,102</b>	<b>R1,835,357</b>
<b>1977</b>	January	65,280	37,362	61,638	6,006	170,286
	February	61,492	35,969	60,687	5,549	163,697
	March	50,374	33,660	63,275	5,748	153,057
	April	44,564	33,051	63,583	5,078	146,276
	May	41,497	34,111	65,559	5,240	146,407
	June	49,438	37,601	66,073	5,595	158,707
	July	60,955	41,745	64,708	5,935	173,343
	August	62,440	42,433	66,521	5,837	177,231
	September	57,231	40,845	66,579	5,951	170,606
	October	48,696	36,547	66,442	5,979	157,664
	<b>TOTAL</b> (10 months)	<b>541,967</b>	<b>373,324</b>	<b>645,065</b>	<b>56,918</b>	<b>1,617,274</b>

(See chart on page 37)

\*Electricity sales to ultimate consumers.

\*\*Includes street lighting and transportation uses.

R=Revised.

Source: Federal Power Commission Form 5, "Monthly Statement of Electric Operating Revenue and Income."

## Nuclear Power

The Nation's 65 fully operating nuclear power reactors (including two units owned by the U.S. Department of Energy but excluding three units in startup testing), with a maximum dependable capacity of 45,737 electrical megawatts, performed at 76 percent of capacity during January 1978 (an alltime high), 6 percentage points above the performance level for both the previous month and for January 1977. Total electricity generated by nuclear powerplants in January (including the two units owned by DOE and the units in startup testing which generated electricity during the month) amounted to a record 25.6 billion net kilowatt hours, which was 13 percent of total net electricity production.

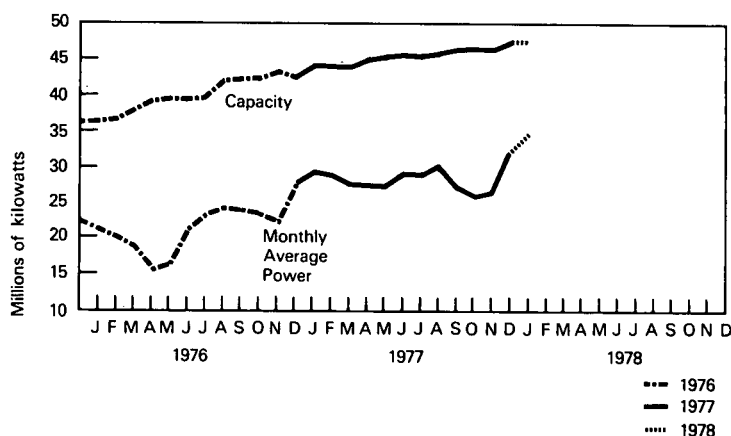
Construction permits were issued for a total of six reactors at two sites during January. Two of these permits were for Phipps Bend 1 and 2, owned by the Tennessee Valley Authority and located near Surgoinsville in eastern Tennessee. The remaining permits were for the four-unit Harris project at Bonsal, North Carolina, in the central portion of the State. Two reactor projects were cancelled during the month, Douglas Point 2 of the Potomac Electric Power Company, and Summit 1 of the Delmarva Power and Light Company.

The government-owned Shippingport reactor resumed full operation as a light-water breeder reactor during December. The full operation status followed an extended shutdown that began in 1974 for the purpose of installing a thorium/U-233 core. This plant, which originally began operating in December 1957 as a pressurized water reactor, was the first U.S. nuclear powerplant designed to provide commercial electric power. Although government-owned, the reactor is operated by the Duquesne Light Company of Pennsylvania.

# U.S. Nuclear Powerplant Operations\*

		Maximum Dependable Capacity	Average Power	Percent of Total Domestic Electricity Generation
		Thousands of net kilowatts		
<b>1972 AVERAGE</b>		<b>7,726</b>	<b>6,174</b>	<b>3.1</b>
<b>1973 AVERAGE</b>		<b>13,850</b>	<b>8,760</b>	<b>4.5</b>
<b>1974 AVERAGE</b>		<b>29,921</b>	<b>13,011</b>	<b>6.1</b>
<b>1975</b>	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
<b>AVERAGE</b>		<b>35,671</b>	<b>19,692</b>	<b>9.0</b>
<b>1976</b>	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
<b>AVERAGE</b>		<b>40,642</b>	<b>21,756</b>	<b>9.4</b>
<b>1977</b>	January	44,316	29,714	11.3
	February	44,282	29,168	12.0
	March	44,289	27,785	12.2
	April	45,131	27,625	12.7
	May	45,222	27,526	12.1
	June	45,991	29,539	11.8
	July	45,984	29,335	11.0
	August	45,982	30,563	11.6
	September	R46,051	27,206	11.1
	October	R46,088	25,459	11.4
	November	R46,088	26,167	11.3
	December	R47,133	R31,950	R12.9
<b>AVERAGE</b>		<b>R45,554</b>	<b>R28,507</b>	<b>R11.8</b>
<b>1978</b>	January	**47,184	**34,415	13.0

U.S. Nuclear Powerplants



\*Includes all units authorized to generate commercial electricity, including units in startup testing and those owned by the government.

\*\*Preliminary data.

R=Revised data.

Sources: Capacity data for units in commercial operation or startup testing from Nuclear Regulatory Commission. Remaining data from U.S. Department of Energy.

## Status of Nuclear Powerplants—January 31, 1978

Status	Number of Plants				Total	Design Capacity
	Boiling Water Reactors	High Temperature Gas Reactors	Pressurized Water Reactors	Other*		Net Electrical Megawatts
In operation or startup testing	25	1	40	2	68	50,000
Construction permit granted	29	0	57	0	86	93,000
Construction permit pending	8	0	33	3	44	49,000
Orders placed for plant	3	0	10	0	13	16,000
Publicly announced	—	—	—	9	9	11,000
<b>TOTAL</b>	<b>65</b>	<b>1</b>	<b>140</b>	<b>14</b>	<b>220</b>	<b>219,000</b>

\*Does not include the Indian Point 1 reactor which is in an indefinite shutdown status and was previously reported as licensed to operate.

\*\*Includes two dual-purpose Department of Energy-owned reactors, both operating and not previously reported. Also includes 1 Liquid Metal Fast Breeder Reactor and 12 announced intentions to order for which a reactor type has not been chosen.

Source: Department of Energy.

## Nuclear Power Generation by Non-Communist Countries—January 1978

Country	Number of Reactors*	Capacity Thousands of gross electrical kilowatts	Electricity Generation Millions of gross kilowatt hours	Generation of Electricity Percent of Design Capacity Used			
				January 1978	Year**		
					1975	1976	1977
<b>Asia</b>							
Japan	14	7,990	2,910	49	R46	57	41
India	3	620	73	16	46	58	51
Pakistan	1	140	0	0	46	41	28
Taiwan	1	640	173	37	—	—	—
<b>Europe</b>							
Belgium	3	1,740	867	67	83	65	78
England	31	8,100	3,383	62	57	R62	55
Finland	1	440	314	96	—	—	92
France	12	4,930	2,508	68	68	59	52
Germany (FR)	10	6,410	3,095	65	72	R57	64
Italy	3	630	313	67	69	69	61
Netherlands	2	520	389	100	73	84	81
Spain	3	1,120	685	82	77	77	67
Sweden	6	3,880	2,618	91	44	55	59
Switzerland	3	1,060	797	101	84	R85	87
<b>North America</b>							
Canada	8	4,790	3,418	85	64	80	76
United States	66	49,250	27,089	74	R56	R55	64
<b>South America</b>							
Argentina	1	340	266	105	85	86	55
<b>Total or Average</b>	<b>167</b>	<b>92,610</b>	<b>48,897</b>	<b>71</b>	<b>58</b>	<b>R59</b>	<b>62</b>

\*Includes fully operational units and those in startup testing which generated electricity during, or prior to, the current month. Capacity and generation figures are shown as gross values, as opposed to net values shown in previous tables of this chapter.

\*\*Averages are computed for those units in operation, including startup units beginning with first month of electricity generation.

\*\*\*Figures are based on 5-week period.

†Figures for 21 units are based on 4-week period; figures for remaining units are for 31 days.

R=Revised data.

Source: *Nucleonics Week* magazine.

## U.S. Uranium Enrichment—January 1978

	Domestic Customers	Foreign Customers	Total
Separative work performed (in metric tons of separative work units)	104.916	300.518	405.464
Cost (in millions of dollars)	7.323	21.510	28.883
Product quantity (in metric tons of uranium)	19.449	71.485	90.934
Feed requirement (in metric tons of uranium)	126.793	383.042	509.835

Source: U.S. Department of Energy.

## Summary of Monthly Fuel Cycle—December 1977

Fuel Cycle Activity	Product	Processed Material <sup>1</sup>	Percent Utilization of Industry Capacity	Energy Content of Processed Material <sup>2</sup>	Energy Consumed in Fuel Cycle Activity <sup>3</sup>	Cost Contribution to Electric Power <sup>4</sup>
		MTU except where noted		Billion Btu		Mills per kilowatt hour
Milling	Yellowcake (U <sub>3</sub> O <sub>8</sub> ) Deliveries	NA	NA	NA	NA	1.27
Conversion	Uranium Hexafluoride (UF <sub>6</sub> ) Deliveries	723	<sup>5</sup> 50	247,000	109	0.16
Enrichment	Enriched UF <sub>6</sub> Deliveries	451 (1,737 MT-SWU)	( <sup>6</sup> )	923,000	4,108	1.53
Fabrication	Finished Fuel Assemblies Shipped	122	NA	249,000	34	0.47
Powerplant Operation	Electricity Generated	23,596 (million kWhe)	69	260,000	1,188 (million kWhe)	10.93
	Spent Fuel Discharged	NA	—	—	—	71.57
Reprocessing	Spent Fuel Received	3	—	—	—	
	Spent Fuel Reprocessed	0	—	—	—	

<sup>1</sup> Units of measure are discussed in Explanatory Notes 9 and 10.

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

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

<sup>4</sup> 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.

<sup>5</sup> Figure for conversion utilization represents material shipped.

<sup>6</sup> 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.

<sup>7</sup> 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: DOE.

## Energy Consumption

Domestic energy consumption in December 1977 was 7.28 quadrillion Btu, 3.1 percent less than in December 1976, but 6.7 percent more than in December 1975. The sectoral breakdown for December is not yet available.

In November 1977, the combined residential/commercial sector consumed 2.19 quadrillion Btu, which was 7.5 percent less than in November 1976. To a considerable extent, this reflects warmer weather. Heating degree-days for November 1977 were about 27 percent less than in November 1976.

Industrial energy consumption for November 1977 was 2.46 quadrillion Btu, 5.1 percent less than in November 1976. Transportation consumption in November was 1.64 quadrillion Btu, about equal to consumption a year earlier.

There was a slight change in methodology made this month. A small amount of coal, which had previously been assigned to railroad transportation in 1975, 1976, and 1977, was reassigned to the industrial sector. Current information indicates that railroad consumption of coal is essentially zero.

## Heating Degree-Days

The period January 30 through February 26, 1978, was much colder than normal, and colder than last year. (Last year, the February period was about normal). National average population-weighted heating degree-days for the February period were 23 percent above normal and 22 percent above last year. New England accumulated 9.6 percent more degree-days than normal; the Middle Atlantic States, 18.7 percent more than normal; and the Lower Atlantic States, 37.0 percent more than normal. Degree-days in the Midwest were 28.8 percent above normal and in the South Central States, were 58.7 percent above normal. The Mountain States were about normal and the West Coast has 21.4 percent fewer degree-days than normal.

The heating season through February 26 has been significantly colder than normal, but warmer than last year. Heating degree-days were 8.7 percent above normal, but 8.2 percent lower than for the previous season.

# Energy Consumption

## Domestic Energy Consumption by Primary Energy Type

		Coal*	Natural Gas (dry)	Petroleum	Hydroelectric Power**	Nuclear Electric Power	Total	Cumulative Total
Quadrillion (10 <sup>15</sup> ) 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	R1.219	2.339	3.169	0.281	0.172	7.179	7.179
	February	R1.079	R1.979	2.778	0.265	0.153	R6.253	13.432
	March	1.119	R1.757	2.947	0.286	0.149	R6.259	R19.691
	April	R1.069	R1.540	2.749	0.261	0.117	R5.736	25.427
	May	R1.076	R1.464	2.722	0.275	0.127	R5.664	R31.091
	June	1.115	1.363	2.776	0.276	0.168	R5.697	R36.788
	July	1.188	R1.401	2.830	0.281	0.189	5.889	R42.677
	August	1.197	1.345	2.835	0.258	0.196	R5.831	R48.507
	September	R1.097	1.329	2.774	0.222	0.184	R5.607	54.114
	October	R1.136	R1.655	2.905	0.229	0.185	6.110	60.224
	November	R1.194	R1.914	3.107	0.216	0.172	R6.604	R66.828
	December	R1.292	R2.279	3.494	0.220	0.225	R7.510	R74.338
	TOTAL	R13.781	R20.365	35.087	3.068	2.037	R74.338	
1977	January	R1.301	2.444	3.489	0.225	0.236	R7.695	R7.695
	February	R1.152	R1.831	3.143	0.168	0.209	R6.503	R14.198
	March	R1.158	R1.729	3.076	0.216	0.220	R6.399	R20.597
	April	R1.067	R1.438	2.897	0.204	0.212	R5.817	R26.413
	May	R1.131	R1.383	2.890	0.204	0.218	R5.827	R32.240
	June	R1.189	R1.339	2.976	0.189	0.227	R5.919	R38.159
	July	R1.289	R1.331	2.990	0.185	0.233	R6.028	R44.187
	August	R1.259	1.371	R3.068	0.184	0.242	R6.125	R50.312
	September	R1.165	1.432	2.945	0.181	0.209	R5.933	R56.244
	October	R1.155	R1.527	3.048	0.189	0.202	R6.122	R62.366
	November	R1.158	R1.695	R3.017	0.222	0.201	R6.293	R68.659
	December	1.235	2.124	3.416	0.247	0.253	7.275	75.934
	TOTAL	14.260	19.644	36.956	2.413	2.662	75.934	

\*Includes bituminous coal, lignite, and anthracite coal.

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

R=Revised.

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

# Domestic Energy Consumption by Economic Sector\*

		Residential/ Commercial	Industrial	Transportation	Total
		Quadrillion (10 <sup>15</sup> ) Btu			
<b>1973**</b>	<b>TOTAL</b>	<b>26.515</b>	<b>29.161</b>	<b>18.877</b>	<b>74.553</b>
<b>1974**</b>	<b>TOTAL</b>	<b>25.853</b>	<b>28.486</b>	<b>18.261</b>	<b>72.600</b>
<b>1975</b>	January	2.845	2.489	R1.593	6.927
	February	2.583	2.064	R1.407	6.054
	March	2.554	R2.177	R1.536	6.267
	April	2.302	1.861	R1.522	5.685
	May	1.897	1.934	1.537	5.368
	June	1.811	1.987	1.517	5.315
	July	1.943	R2.058	1.550	5.550
	August	1.925	2.144	1.564	5.634
	September	1.789	2.125	R1.473	5.388
	October	1.860	R2.381	R1.560	5.801
	November	1.953	2.343	R1.451	5.747
	December	2.649	2.523	R1.648	6.821
	<b>TOTAL</b>	<b>26.111</b>	<b>R26.088</b>	<b>R18.357</b>	<b>70.557</b>
<b>1976</b>	January	R3.116	R2.435	1.629	7.179
	February	2.681	2.111	R1.461	R6.253
	March	2.429	2.204	1.626	R6.259
	April	R2.083	R2.072	R1.580	R5.736
	May	R1.915	R2.196	R1.553	R5.664
	June	R1.864	R2.234	R1.599	R5.697
	July	1.969	2.283	1.637	5.889
	August	1.974	2.264	R1.592	R5.831
	September	1.835	2.215	R1.557	R5.607
	October	1.942	2.569	1.599	6.110
	November	R2.369	R2.593	1.642	R6.604
	December	R2.998	R2.720	1.792	R7.510
	<b>TOTAL</b>	<b>R27.177</b>	<b>R27.895</b>	<b>R19.266</b>	<b>R74.338</b>
<b>1977</b>	January	R3.425	R2.548	R1.722	R7.695
	February	R2.970	R1.953	1.580	R6.503
	March	R2.496	2.252	1.652	R6.399
	April	R2.096	R2.097	R1.624	R5.817
	May	1.920	R2.299	R1.607	R5.827
	June	R1.974	R2.297	R1.648	R5.919
	July	R2.120	R2.239	R1.669	R6.028
	August	R2.112	R2.325	R1.688	R6.125
	September	R1.971	R2.352	R1.609	R5.933
	October	R2.011	R2.463	1.648	R6.122
	November	2.193	2.462	1.638	6.293
	<b>TOTAL</b> (11 months)	<b>25.287</b>	<b>25.286</b>	<b>18.086</b>	<b>68.659</b>

\*See Explanatory Note 11 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.

\*\*Monthly data for 1973 and 1974 are published in the September 1977 issue of the *Monthly Energy Review*.

# Energy Consumption by Economic Sector and Primary Source—November 1977 [Quadrillion (10<sup>15</sup>) Btu]

Sector <sup>1</sup>	Primary Energy Source					Primary Energy Consumption	Electricity Distributed <sup>7</sup>	Net Energy Consumption	Electrical Energy Loss Distributed <sup>8</sup>	Ultimate Energy Disposition
	Coal <sup>2</sup>	Natural Gas (dry) <sup>3</sup>	Petroleum <sup>4</sup>	Hydroelectric <sup>5</sup>	Nuclear <sup>6</sup>					
Residential and Commercial	0.025	0.552	0.602	—	—	1.179	0.302	1.481	0.712	2.193
Industrial	0.303	0.850	0.585	0.003	—	1.741	0.215	1.956	0.506	2.462
Transportation	0.000	0.052	1.567	—	( <sup>9</sup> )	1.619	0.006	1.625	0.013	1.638
Electric Utilities	0.829	0.240	0.264	0.220	0.201	1.754	—	—	—	—
<b>TOTAL</b>	<b>1.158</b>	<b>1.695</b>	<b>3.017</b>	<b>0.222</b>	<b>0.201</b>	<b>6.293</b>	<b>0.523</b>	<b>5.062</b>	<b>1.231</b>	<b>6.293</b>

<sup>1</sup> See Explanatory Note 11 for definitions of the Residential and Commercial, Industrial, Transportation, and Electric Utilities Sectors.

<sup>2</sup> Data are from the Bureau of Mines. Includes anthracite and bituminous coal and lignite.

<sup>3</sup> 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, which includes 100 percent 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.

<sup>4</sup> 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.

<sup>5</sup> 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, 0.005 quadrillion Btu per month for 1975, and 0.007 quadrillion Btu per month for 1976 and 1977. Monthly industrial hydroelectric power consumption is estimated to be one-twelfth of the preliminary Bureau of Mines

annual figure for 1976.

<sup>6</sup> FPC nuclear power production.

<sup>7</sup> 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.

<sup>8</sup> 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.

<sup>9</sup> Negligible.

# Energy Consumption (Continued)

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

	November 1977 Consumption	Percent Change from November 1976*	Cumulative Percent Change from 1976 (January through November)*
	Quadrillion Btu		
<b>Refined Petroleum Products</b>	3.017	-2.9	+6.5
Motor Gasoline	1.133	+2.2	+2.8
Jet Fuel	0.170	+3.8	+4.8
Distillate	0.597	-8.1	+9.3
Residual	0.529	-13.8	+11.6
Other Petroleum Products	0.589	+0.2	+7.9
<b>Natural Gas (Dry)</b>	1.695	-11.5	-2.8
<b>Coal (Anthracite, bituminous, and lignite)</b>	1.158	-3.1	+4.6
<b>Hydroelectric and Nuclear Electric Power</b>	0.523	+3.0	+6.1
<b>TOTAL ENERGY USE</b>	<b>6.293</b>	<b>-4.7</b>	<b>+3.0</b>
<b>Economic Sector Consumption</b>			
Residential and Commercial	2.193	-7.5	+4.9
Industrial	2.462	-5.1	+0.7
Transportation	1.638	-0.2	+3.8

\*Computed on a daily average basis.

# Energy Consumption (Continued)

## Energy Consumption by the Residential and Commercial Economic Sector<sup>1</sup>

		Coal	Natural Gas (dry)	Petroleum <sup>2</sup>	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 <sup>15</sup> ) Btu								
<b>1973</b>	<b>TOTAL</b>	<b>0.295</b>	<b>7.577</b>	<b>7.077</b>	<b>3.445</b>	<b>8.120</b>	<b>26.515</b>	
<b>1974</b>	<b>TOTAL</b>	<b>0.297</b>	<b>7.427</b>	<b>6.484</b>	<b>3.424</b>	<b>8.222</b>	<b>25.853</b>	
<b>1975</b>	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	0.327	0.843	1.943	15.934
	August	0.015	0.267	0.447	0.342	0.855	1.925	17.859
	September	0.021	0.284	0.484	0.328	0.673	1.789	19.648
	October	0.023	0.375	0.539	0.273	0.650	1.860	21.509
	November	0.024	0.526	0.503	0.266	0.634	1.953	23.462
	December	0.033	0.930	0.635	0.297	0.754	2.649	26.111
	<b>TOTAL</b>	<b>0.255</b>	<b>7.688</b>	<b>6.135</b>	<b>3.538</b>	<b>8.495</b>	<b>26.111</b>	
<b>1976</b>	January	0.031	1.254	0.656	0.340	0.834	R3.116	R3.116
	February	0.020	1.090	0.575	0.315	0.681	2.681	R5.797
	March	0.018	0.856	0.571	0.286	0.698	2.429	R8.226
	April	0.021	0.671	0.500	0.271	R0.621	R2.083	R10.310
	May	0.016	0.488	0.506	0.265	R0.641	R1.915	R12.225
	June	0.015	0.333	0.489	0.285	R0.743	R1.864	R14.089
	July	0.011	0.281	0.487	0.333	R0.857	1.969	R16.059
	August	0.015	0.259	0.506	0.347	0.847	1.974	R18.033
	September	0.017	0.272	0.517	0.329	R0.699	1.835	R19.868
	October	0.020	0.395	0.566	0.283	R0.677	1.942	R21.810
	November	0.025	0.723	0.622	0.287	R0.712	R2.369	R24.179
	December	0.037	1.083	0.726	0.328	R0.824	R2.998	R27.177
	<b>TOTAL</b>	<b>0.246</b>	<b>7.706</b>	<b>6.722</b>	<b>3.669</b>	<b>R8.834</b>	<b>R27.177</b>	
<b>1977</b>	January	0.036	1.376	0.712	0.365	R0.936	R3.425	R3.425
	February	0.025	1.216	0.674	0.346	R0.710	R2.970	R6.395
	March	0.019	0.845	0.608	0.301	0.722	R2.496	R8.890
	April	0.021	0.623	0.538	0.277	0.637	R2.096	R10.986
	May	0.017	0.405	0.529	0.271	R0.699	1.920	R12.906
	June	0.015	0.315	0.544	0.311	R0.789	R1.974	R14.880
	July	0.014	0.283	0.503	0.366	R0.954	R2.120	R17.000
	August	0.014	0.256	R0.551	0.373	R0.918	R2.112	R19.112
	September	0.015	0.264	0.564	R0.350	R0.778	R1.971	R21.083
	October	0.019	0.376	0.617	R0.306	R0.693	R2.011	R23.094
	November	0.025	0.552	0.602	0.302	0.712	2.193	25.287
	<b>TOTAL</b> (11 months)	<b>0.220</b>	<b>6.510</b>	<b>6.441</b>	<b>3.567</b>	<b>8.549</b>	<b>25.287</b>	

(See footnotes on page 52)

# Energy Consumption by the Industrial Economic Sector<sup>1</sup>

		Coal	Natural Gas (dry)	Petroleum <sup>3</sup>	Hydro-electric	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 <sup>15</sup> ) Btu									
<b>1973</b>	<b>TOTAL</b>	<b>4.370</b>	<b>10.493</b>	<b>6.403</b>	<b>0.036</b>	<b>2.341</b>	<b>5.518</b>	<b>29.161</b>	
<b>1974</b>	<b>TOTAL</b>	<b>4.062</b>	<b>10.137</b>	<b>6.305</b>	<b>0.036</b>	<b>2.337</b>	<b>5.609</b>	<b>28.486</b>	
<b>1975</b>	January	R0.342	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	R4.554
	March	R0.363	0.648	0.531	0.003	0.186	0.447	R2.177	R6.731
	April	R0.341	0.433	0.475	0.003	0.184	0.425	1.861	R8.592
	May	0.321	0.516	0.431	0.003	0.187	0.475	1.934	R10.526
	June	R0.300	0.595	0.423	0.003	0.189	0.478	1.987	R12.514
	July	0.286	0.640	0.450	0.003	0.189	0.489	R2.058	R14.571
	August	R0.292	0.724	0.435	0.003	0.197	0.494	2.144	R16.716
	September	R0.293	0.725	0.470	0.003	0.199	0.408	2.125	R18.841
	October	0.303	0.872	0.524	0.003	0.201	0.478	R2.381	R21.222
	November	0.316	0.863	0.489	0.003	0.199	0.473	2.343	R23.565
	December	R0.335	0.875	0.617	0.003	0.196	0.498	2.523	R26.088
	<b>TOTAL</b>	<b>R3.834</b>	<b>8.425</b>	<b>5.966</b>	<b>0.035</b>	<b>2.302</b>	<b>5.527</b>	<b>R26.088</b>	
<b>1976</b>	January	R0.321	0.796	0.638	0.003	0.196	R0.481	R2.435	R2.435
	February	R0.303	R0.620	0.559	0.003	0.198	0.428	2.111	R4.546
	March	0.321	R0.618	0.555	0.003	0.206	0.501	2.204	R6.750
	April	0.320	R0.588	0.487	0.003	0.205	0.470	R2.072	R8.822
	May	R0.328	R0.660	0.492	0.003	0.209	R0.505	R2.196	R11.018
	June	0.312	0.671	0.475	0.003	0.214	0.558	R2.234	R13.251
	July	0.311	R0.735	0.473	0.003	0.213	0.547	2.283	R15.534
	August	R0.305	0.711	0.492	0.003	0.219	0.535	2.264	R17.798
	September	0.303	0.717	0.503	0.003	0.220	0.468	2.215	R20.013
	October	R0.319	R0.953	0.551	0.003	0.219	R0.524	2.569	R22.582
	November	R0.328	R0.907	0.605	0.003	0.215	R0.535	R2.593	R25.167
	December	R0.358	R0.902	0.706	0.003	0.214	R0.538	R2.720	R27.895
	<b>TOTAL</b>	<b>R3.829</b>	<b>R8.878</b>	<b>6.536</b>	<b>0.033</b>	<b>2.528</b>	<b>R6.091</b>	<b>R27.895</b>	
<b>1977</b>	January	R0.326	0.777	0.693	0.003	0.210	R0.540	R2.548	R2.548
	February	R0.312	R0.351	0.655	0.003	0.207	R0.425	R1.953	R4.501
	March	R0.332	R0.592	0.591	0.003	0.216	0.518	2.252	R6.753
	April	R0.313	R0.542	0.523	0.003	0.217	R0.499	R2.097	R8.850
	May	R0.310	R0.672	0.514	0.003	0.224	R0.577	R2.299	R11.148
	June	R0.301	R0.668	0.529	0.003	0.225	R0.571	R2.297	R13.446
	July	R0.292	R0.657	0.489	0.003	0.221	R0.576	R2.239	R15.684
	August	R0.280	0.719	R0.536	0.003	0.227	R0.559	R2.325	R18.009
	September	R0.273	0.796	0.548	0.003	R0.227	R0.505	R2.352	R20.362
	October	R0.305	R0.815	0.600	0.003	R0.227	R0.514	R2.463	R22.824
	November	0.303	0.850	0.585	0.003	0.215	0.506	2.462	25.286
	<b>TOTAL</b> (11 months)	<b>3.348</b>	<b>7.439</b>	<b>6.263</b>	<b>0.030</b>	<b>2.416</b>	<b>5.790</b>	<b>25.286</b>	

(See footnotes on page 52)

# Energy Consumption (Continued)

## Energy Consumption by the Transportation Economic Sector<sup>1</sup>

		Coal	Natural Gas (dry)	Petroleum <sup>2</sup>	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 <sup>15</sup> ) Btu								
<b>1973</b>	<b>TOTAL</b>	<b>0.009</b>	<b>0.733</b>	<b>17.940</b>	<b>0.058</b>	<b>0.137</b>	<b>18.877</b>	
<b>1974</b>	<b>TOTAL</b>	<b>0.009</b>	<b>0.656</b>	<b>17.392</b>	<b>0.060</b>	<b>0.144</b>	<b>18.261</b>	
<b>1975</b>	January	—	0.075	1.499	0.006	0.013	R1.593	R1.593
	February	—	0.064	1.325	0.005	0.012	R1.407	R3.000
	March	—	0.062	1.456	0.005	0.013	R1.536	R4.537
	April	—	0.050	1.455	0.005	0.012	R1.522	R6.059
	May	—	0.039	1.481	0.005	0.012	1.537	R7.595
	June	—	0.035	1.465	0.005	0.012	1.517	R9.112
	July	—	0.035	1.497	0.005	0.012	1.550	R10.661
	August	—	0.037	1.510	0.005	0.012	1.564	R12.225
	September	—	0.039	1.419	0.005	0.010	R1.473	R13.698
	October	—	0.047	1.495	0.005	0.013	R1.560	R15.258
	November	—	0.052	1.380	0.006	0.013	R1.451	R16.709
	December	—	0.067	1.560	0.006	0.015	R1.648	R18.357
	<b>TOTAL</b>	<b>—</b>	<b>0.602</b>	<b>17.544</b>	<b>0.062</b>	<b>0.149</b>	<b>R18.357</b>	
<b>1976</b>	January	—	0.077	1.532	0.006	0.015	1.629	1.629
	February	—	0.064	1.380	0.006	0.012	R1.461	R3.090
	March	—	0.055	1.552	0.005	0.013	1.626	R4.715
	April	—	0.047	1.516	0.005	0.012	R1.580	R6.295
	May	—	0.043	1.493	0.005	0.012	R1.553	R7.848
	June	—	0.037	1.545	0.005	0.012	R1.599	R9.447
	July	—	0.038	1.581	0.005	0.013	1.637	R11.084
	August	—	0.036	1.538	0.005	0.013	R1.592	R12.676
	September	—	0.037	1.504	0.005	0.011	R1.557	R14.233
	October	—	0.050	1.530	0.006	0.013	1.599	R15.832
	November	—	0.061	1.561	0.006	0.014	1.642	R17.474
	December	—	0.074	1.697	0.006	0.015	1.792	R19.266
	<b>TOTAL</b>	<b>—</b>	<b>R0.619</b>	<b>18.428</b>	<b>0.064</b>	<b>0.154</b>	<b>R19.266</b>	
<b>1977</b>	January	—	0.080	1.620	0.006	0.016	R1.722	R1.722
	February	—	0.059	1.503	0.006	0.012	1.580	R3.302
	March	—	0.054	1.580	0.005	0.012	1.652	R4.954
	April	—	0.044	1.564	0.005	0.011	R1.624	R6.578
	May	—	0.040	1.549	0.005	0.013	R1.607	R8.185
	June	—	0.037	1.594	0.005	0.012	R1.648	R9.833
	July	—	0.035	1.616	0.005	0.013	R1.669	R11.502
	August	—	0.036	R1.635	0.005	0.012	R1.688	R13.190
	September	—	0.040	1.553	0.005	0.011	R1.609	R14.799
	October	—	0.044	1.586	0.005	0.012	1.648	R16.447
	November	—	0.052	1.567	0.006	0.013	1.638	18.086
	<b>TOTAL</b> (11 months)	<b>—</b>	<b>0.521</b>	<b>17.369</b>	<b>0.058</b>	<b>0.138</b>	<b>18.086</b>	

<sup>1</sup> See Explanatory Note 11 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.

<sup>2</sup> 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.

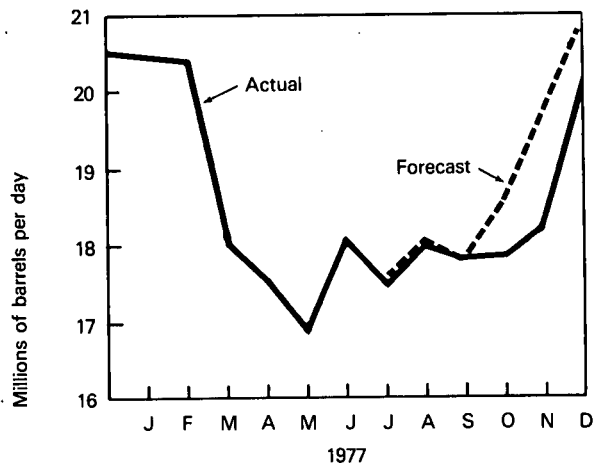
<sup>3</sup> The percentage share used in calculating Industrial consumption of petroleum was 47.5 percent for 1973 and 49.3 percent for 1974, 1975, 1976, and 1977.

<sup>4</sup> 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.

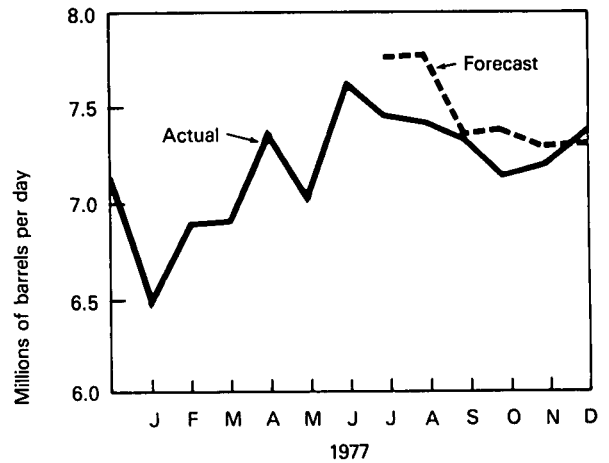
R=Revised data.

# Petroleum Consumption and Forecast

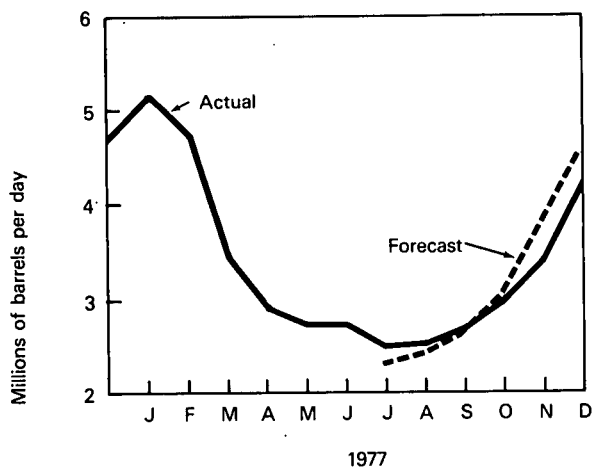
Total Domestic Demand for Petroleum Products



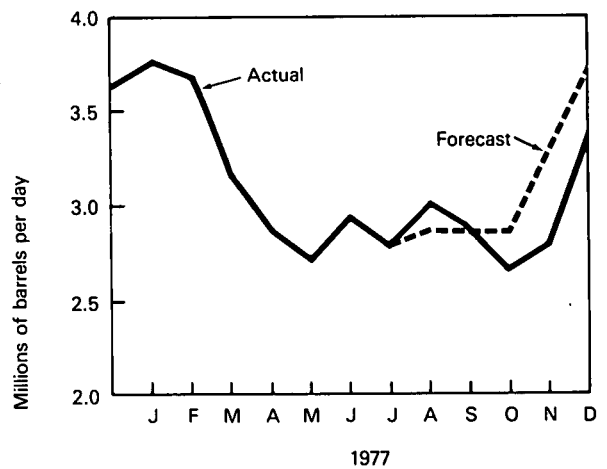
Domestic Demand for Motor Gasoline



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 April 1977, EIA data for May through December 1977.

Forecast—The EIA forecast is shown for July through December 1977. See Explanatory Note 12 for discussion of basic assumptions of forecast.

# Heating Degree-Days\*

Petroleum Administration For Defense (PAD) Districts	January 30, 1978 through February 26, 1978					Cumulative July 1, 1977 through February 26, 1978				
	1978	1977**	Normal (1941-70)**			1977-78	1976-77**	Normal (1941-70)**		
PAD District I	980.8	860.3	(14.0)	812.2	(20.7)	3,636.3	4,059.7	(-10.4)	3,344.8	(8.7)
New England	1,147.3	1,075.2	(6.7)	1,047.1	(9.6)	4,472.3	4,945.1	(-9.6)	4,382.0	(2.1)
Conn., Maine, Mass., N.H., R.I., Vt.										
Middle Atlantic	1,132.2	993.8	(13.9)	953.8	(18.7)	4,239.4	4,711.3	(-10.0)	3,920.3	(8.1)
Del., Md., N.J., N.Y., Pa.										
Lower Atlantic	679.7	565.0	(20.3)	496.2	(37.0)	2,361.6	2,690.4	(-12.2)	2,024.0	(16.7)
Fla., Ga., N.C., S.C., Va., W. Va.										
PAD District II	1,317.1	1,037.4	(27.0)	1,022.2	(28.8)	5,026.7	5,389.9	(-6.7)	4,412.5	(13.9)
Ill., Ind., Iowa, Kans., Ky., Mich., Minn., Mo., Nebr., N. Dak., Ohio, Okla., S. Dak., Tenn., Wisc.										
PAD District III	690.1	443.4	(55.7)	435.0	(58.7)	2,270.2	2,498.1	(-9.1)	1,845.7	(23.0)
Ala., Ark., La., Miss., N. Mex., Tex.										
PAD District IV	948.3	830.6	(14.2)	944.4	(0.4)	4,356.4	4,493.9	(-3.1)	4,550.0	(-4.3)
Colo., Idaho, Mont., Utah, Wyo.										
PAD District V	318.6	288.9	(10.3)	405.3	(-21.4)	1,507.5	1,578.4	(-4.5)	1,981.0	(-23.9)
Ariz., Calif., Nev., Oreg., Wash.										
<b>U.S. AVERAGE</b>	<b>961.4</b>	<b>787.2</b>	<b>(22.1)</b>	<b>781.9</b>	<b>(23.0)</b>	<b>3,644.8</b>	<b>3,968.5</b>	<b>(-8.2)</b>	<b>3,353.2</b>	<b>(8.7)</b>

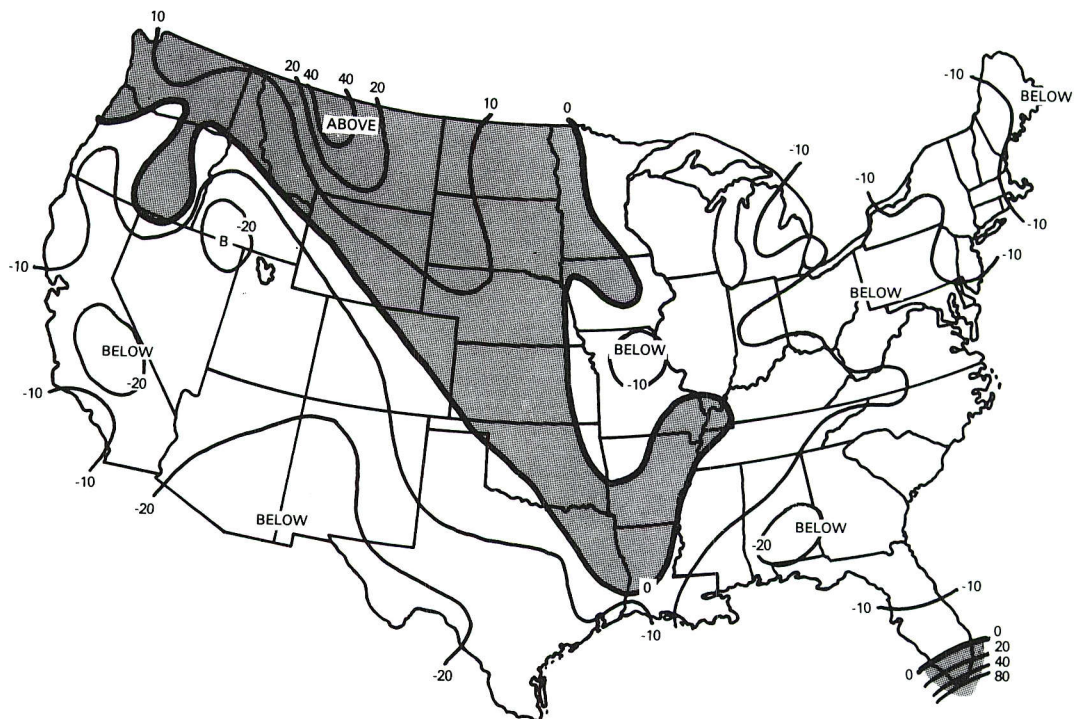
\*See Explanatory Note 13 for explanation of degree-days.

\*\*Percentage change in parentheses.

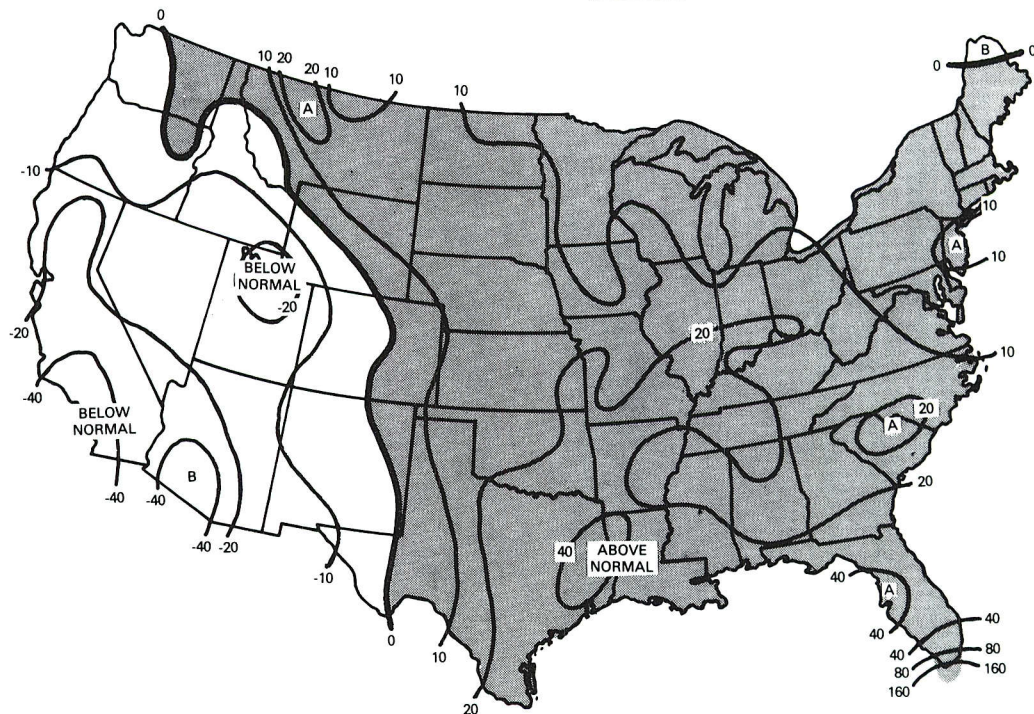
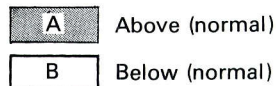
## Heating Degree-Days (Continued)

Heating Degree-Days Accumulated from July 1, 1977, through February 26, 1978

Percent Departure from 1976-1977



Percent Departure from Normal (1941-70)



Note: Above normal heating-days correspond to below normal temperatures.

Source: Department of Commerce—NOAA.

# Part 8

## Oil and Gas Exploration and Development

An average of 2,131 rotary drilling rigs were in use during January and February 1978, 15 percent more than for the same period in 1977. Well completions, however, were 1 percent lower in January 1978 than in January 1977, the first decline in nearly a year. Oil well completions were down 15 percent, but gas well completions and dry holes increased by 7 percent and 13 percent, respectively. Total footage of wells drilled was up 6 percent.

Seismic petroleum exploration activity was strong in January, with an average of 328 crews (302 land, 26 marine) at work in the United States and its territorial waters. In comparison, last January 280 crews were active.

# Resource Development

# 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		1,400	961	1,179	3,540	16,838
	September	2,084		1,924	1,105	1,288	4,317	19,333
	October	2,101		1,562	1,024	1,254	3,840	18,000
	November	2,113		1,785	1,091	1,447	4,323	19,537
	December	2,141		1,875	1,387	1,569	4,831	21,365
		AVERAGE	2,001	TOTAL**	18,889	11,363	14,642	44,894
1978	January	2,128		1,184	783	1,233	3,200	15,394
	February	2,135		NA	NA	NA	NA	NA
	AVERAGE (2 months)	2,131						

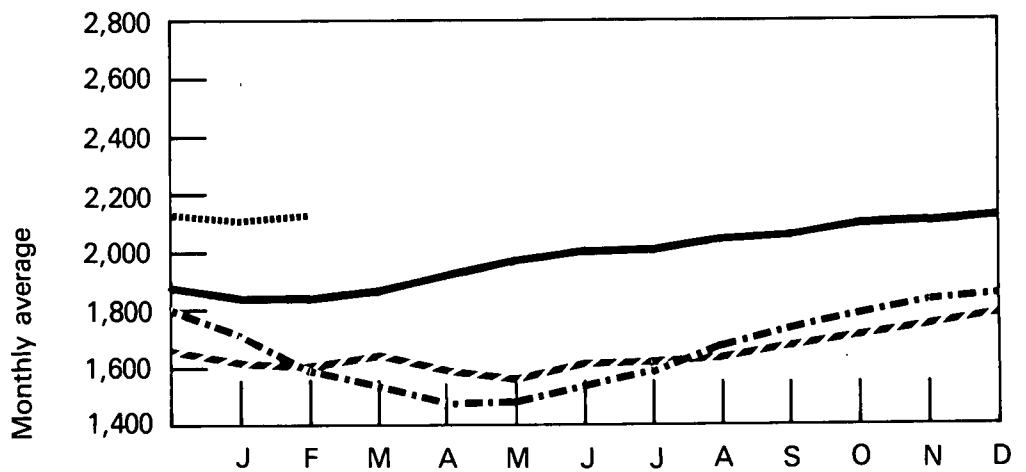
\*Excludes service wells and stratigraphic and core tests.

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

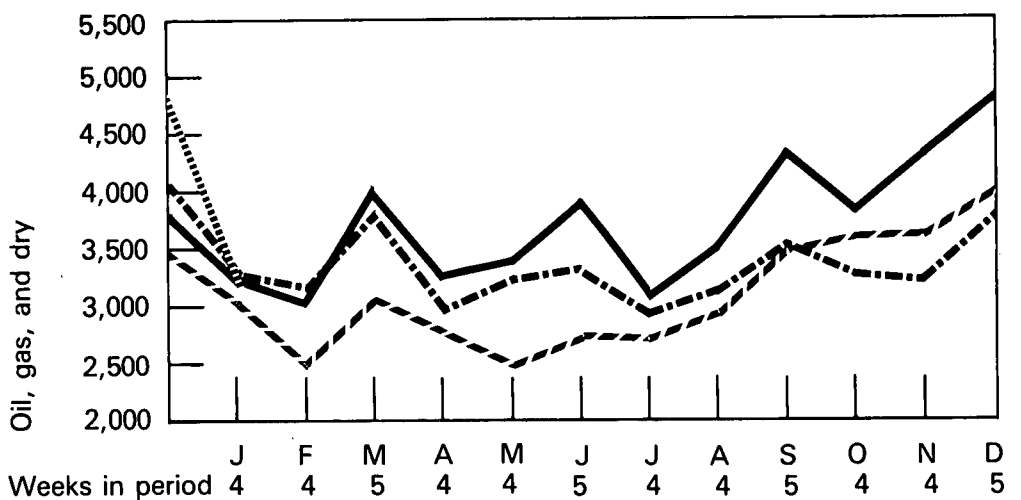
NA=Not available.

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."

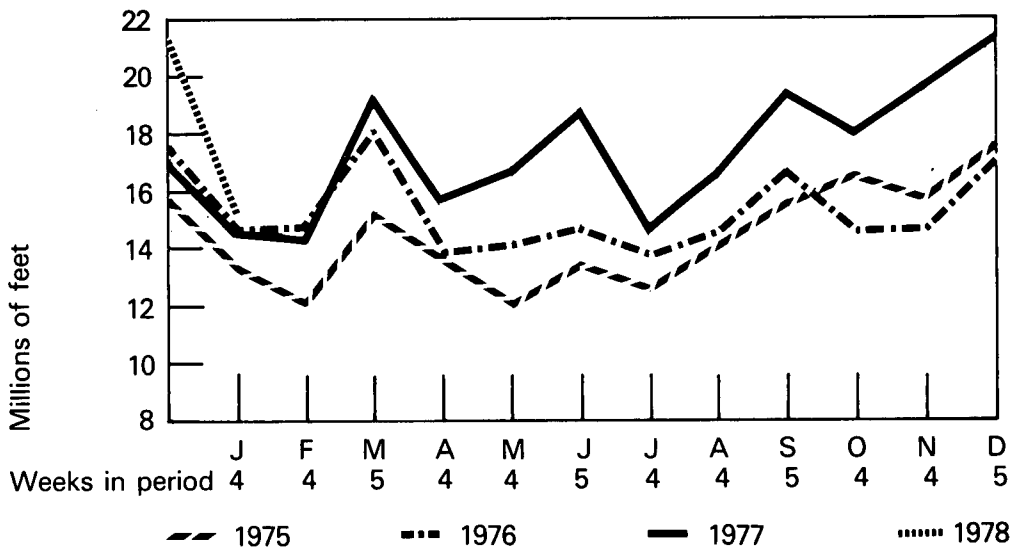
## Rotary Rigs in Operation



## Total Wells Drilled



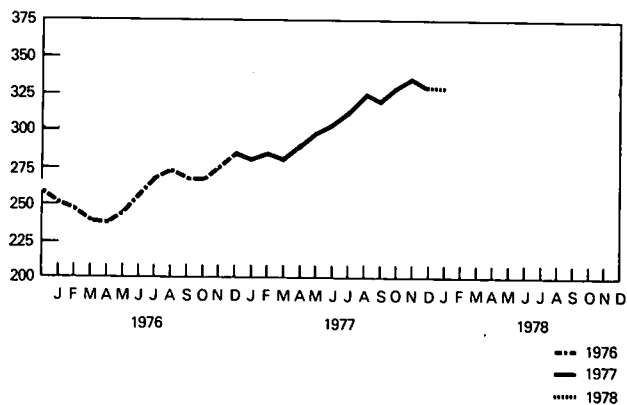
## Total Footage of Wells Drilled



# 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	25	237	262	18,859	11,910	30,769
1977	Year	27	281	308	NA	NA	NA
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			
	August	31	295	326			
	September	29	291	320			
	October	28	302	330			
	November	26	309	335			
	December	26	303	329			
	<b>AVERAGE</b>	<b>28</b>	<b>279</b>	<b>307</b>			
1978	January	26	302	328			

Total Seismic Crews



NA=Not available.

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

## Price

December, 13 cents more than the cost in November.

### Motor Gasoline

No motor gasoline price information is available for January as yet.

The composite price of domestic and imported crude oil purchased by refiners (including transportation costs) was \$12.25 per barrel in December, 7 cents more than the revised November price.

### Heating Oil

The average retail price of heating oil sold to residential customers increased in December by 0.3 cent from its November level to 47.9 cents per gallon. This price is 4.9 cents per gallon higher than it was 1 year earlier.

### Residual Fuel Oil

The average retail price of residual fuel oil decreased in December by 0.7 cent to 30.2 cents per gallon. This price is 0.6 cent more than the price in December 1976.

### Aviation Fuels

The average retail price for kerosene-type aviation fuel increased slightly (0.3 cent) in December to 37.8 cents per gallon. This brings the increase since December 1976 to 5.6 cents per gallon.

### Natural Gas

The average price for natural gas sold to residential customers for heating use increased 4.3 cents in January to 241.6 cents per thousand cubic feet.

### Crude Oil

The average price paid by first purchasers for upper tier crude oil was \$11.76 per barrel in December, up 13 cents from the price paid in November. The lower tier crude oil price increased by 1 cent in December to \$5.25 per barrel. The average stripper oil price (\$13.98 per barrel) and the average Alaskan North Slope crude oil price (\$5.73 per barrel) were unchanged in December from the November price. The average price paid for all first purchases of domestic crude oil was \$8.76 per barrel in December, an increase of 4 cents from the November average.

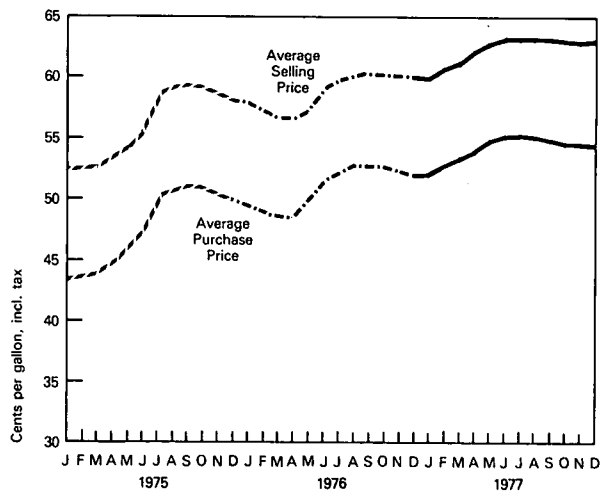
The average cost of imported crude oil purchased by refiners was \$14.74 per barrel in

# Motor Gasoline

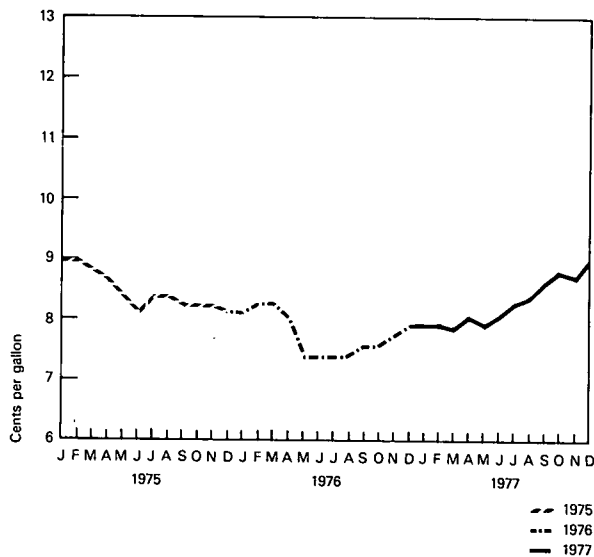
## Regular Gasoline at Full Service Retail Outlets

		Average Selling Price	Average Purchase Price	Average Dealer Margin
Cents per gallon, including tax*				
<b>1974</b>	<b>AVERAGE</b>	<b>52.8</b>	<b>43.1</b>	
<b>1975</b>	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
	<b>AVERAGE</b>	<b>56.2</b>	<b>47.8</b>	
<b>1976</b>	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
	<b>AVERAGE</b>	<b>58.7</b>	<b>51.0</b>	
<b>1977</b>	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
	August	63.4	55.0	8.4
	September	63.3	54.7	8.6
	October	63.2	54.4	8.8
	November	63.1	54.4	8.7
	December	63.3	54.3	9.0

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	
<b>1975</b>	November	55.4	5.5
	December	54.9	5.3
<b>1976</b>	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
<b>1977</b>	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
	August	58.8	4.2
	September	58.5	4.2
	October	58.2	4.2
	November	58.1	4.0
	December	58.2	4.2

Source: Lundberg Survey, Inc.

## 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
	August	68.9	67.0
	September	68.9	67.0
	October	68.9	67.0
	November	68.9	67.0
	December	69.1	67.2

NA=Not available.

Source: Lundberg Survey, Inc.

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

### Regular Gasoline—Full Service

Cents per gallon, including tax

**Selling Price      Margin**

Major	64.4	9.3
Independent	58.4	7.0
National Average	63.3	9.0

### Unleaded Gasoline (Regular)—Full Service

Cents per gallon, including tax

**Selling Price      Margin**

Major	68.1	10.2
Independent	62.0	8.1
National Average	67.2	9.9

### Regular Gasoline—Self Service

**Selling Price      Margin**

Major	59.1	4.1
Independent	55.8	4.5
National Average	58.2	4.2

### Unleaded Gasoline (Regular)—Self Service

**Selling Price      Margin**

Major	64.8	6.9
Independent	59.8	5.9
National Average	63.6	6.7

### Premium Gasoline—Full Service

**Selling Price      Margin**

Major	69.9	10.4
Independent	63.5	9.1
National Average	69.1	10.2

### Unleaded Gasoline (Premium)—Full Service

**Selling Price**

Major	71.6
Independent	63.6
National Average	70.6

### Premium Gasoline—Self Service

**Selling Price      Margin**

Major	66.9	7.4
Independent	61.6	7.3
National Average	65.8	7.4

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

**Region      Selling Price      Margin**

Cents per gallon,  
including tax

1A New England	61.2	6.6
1B Mid-Atlantic	63.8	7.9
1C Lower Atlantic	63.1	9.0
2 Mid-Continent	63.4	8.8
3 Gulf Coast	61.7	11.1
4 Rocky Mountain	64.0	10.2
5 West Coast	65.1	8.7
<b>National Average</b>	<b>63.3</b>	<b>9.0</b>

# 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
	August	57.0	57.2	6.7	7.2
	September	56.8	57.3	6.5	7.1
	October	56.9	57.2	6.4	6.9
	November	56.9	57.3	6.5	6.7
	December	57.4	57.5	6.6	6.9

\*See Explanatory Note 14.

NA=Not available.

Source: Lundberg Survey, Inc.

## Average Selling Prices and Margins for Major and Independent No. 2 Diesel Fuel Retail Dealers—December 1977

Cents per gallon, including tax

### Truckstops

	Selling Price	Margin
Major	58.4	5.9
Independent	56.8	7.3
National Average	57.4	6.6

### Service Stations

	Selling Price	Margin
Major	59.0	5.9
Independent	56.4	7.5
National Average	57.5	6.9

Source: Lundberg Survey, Inc.

## No. 1 Diesel Fuel Prices

Wholesale      Retail

Cents per gallon, excluding tax

<b>1975</b>	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
<b>1976</b>	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	36.0	38.2
	September	35.3	37.7
	October	36.3	36.4
	November	35.7	37.0
	December	35.5	36.7
<b>1977</b>	January	37.1	37.8
	February	38.4	39.2
	March	39.0	39.6
	April	39.7	40.6
	May	39.5	41.7
	June	40.2	41.2
	July	40.3	41.3
	August	40.9	41.3
	September	39.0	41.1
	October	40.1	39.8
	November*	40.9	40.4
	December*	39.4	35.6

\*Preliminary.

NA=Not available.

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		
<b>1974</b>	<b>AVERAGE</b>	<b>34.7</b>	<b>26.9</b>	
<b>1975</b>	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
	<b>AVERAGE</b>	<b>37.7</b>	<b>31.2</b>	
<b>1976</b>	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
<b>1977</b>	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
	July	45.8	NA	NA
	August	46.0	NA	NA
	September	46.2	NA	NA
	October	46.7	NA	NA
	November	47.6	NA	NA
	December	47.9	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	South Atlantic	East North Central	East South Central	West North Central	West South Central	Mountain	Pacific
		Cents per gallon								
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
	July	47.1	46.4	45.7	44.7	44.2	44.2	41.2	44.2	47.9
	August	47.4	46.6	45.6	44.7	43.7	44.5	41.0	44.9	48.2
	September	47.7	46.7	45.8	45.0	44.2	44.9	41.1	44.9	47.2
	October	48.0	47.3	46.4	45.3	43.9	45.4	41.1	45.4	47.4

NA=Not available.

Note: Data for West South Central Region are based on a sample of less than four reporting firms. Average regional distributor purchase prices for heating oil for the period January 1975 through February 1976 are published on page 70 of the October 1977 issue of the *Monthly Energy Review*. 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."

		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
	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
	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
	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
	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
	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
1976	January	11.08	11.63	12.13	12.39	10.62	11.61	9.57	10.23	10.53	11.35	8.75	10.35
	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
	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
	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
	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
	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
	July	10.06	11.70	11.73	12.12	10.22	11.36	9.83	10.04	10.25	11.04	9.23	10.34
	August	9.78	11.48	11.85	12.29	10.45	11.46	9.61	10.22	10.20	11.20	8.93	9.98
	September	10.36	11.37	11.85	12.50	10.33	11.55	10.04	10.28	10.35	11.30	9.22	10.05
	October	10.40	11.86	11.96	12.85	11.08	11.99	10.00	10.73	10.75	11.82	9.57	10.81
	November	11.04	12.04	12.41	13.15	11.57	12.21	10.40	10.99	11.16	11.95	10.31	10.88
	December	11.49	12.64	13.18	13.29	11.80	12.76	11.04	11.48	11.87	12.44	9.95	11.24
1977	January	12.00	13.20	14.06	14.34	12.79	13.68	11.51	12.32	12.45	13.32	10.34	11.89
	February	12.28	13.63	14.00	14.60	12.91	14.06	12.04	12.74	12.69	13.71	10.24	12.00
	March	12.15	13.76	14.00	14.58	13.47	14.51	11.62	12.70	12.68	13.84	9.97	11.74
	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
	May	11.54	12.69	13.56	14.48	11.90	13.73	11.05	12.15	11.64	13.42	9.97	11.41
	June	11.25	13.10	13.12	14.28	11.88	13.27	11.10	11.93	11.72	13.02	10.30	11.39
	July	11.24	12.67	13.31	14.38	11.73	13.12	11.02	12.06	11.62	13.01	10.91	11.44
	August	11.61	12.75	13.32	14.15	11.83	13.08	11.89	12.01	12.06	13.00	11.08	11.58
	September	11.70	12.84	13.35	14.33	11.79	13.11	11.78	12.19	12.03	12.94	11.20	11.72
	October	R11.52	R13.14	R13.38	R14.30	R11.69	R13.15	R11.71	R12.33	12.10	13.15	R10.98	R11.87
	November*	R11.27	R13.17	R12.90	14.24	R11.67	R12.93	R11.44	12.15	11.76	12.96	R10.42	R11.66
	December*	11.71	13.75	13.02	13.93	11.27	12.60	10.77	12.00	11.28	12.70	11.27	11.37

\*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	32.1	32.5	31.9
	November	43.4	43.9	32.8	33.4	32.4
	December	43.5	43.7	32.9	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	36.3	35.1
	June	46.7	47.6	35.1	36.8	35.7
	July	47.0	48.7	35.6	37.1	35.8
	August	47.9	50.1	35.5	36.6	36.0
	September	47.9	49.1	35.6	37.1	37.0
	October	48.1	49.0	35.7	37.3	37.3
	November**	48.3	48.2	R35.8	37.9	37.5
	December**	47.8	48.1	36.2	37.2	37.8

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

\*\*Preliminary.

R=Revised data.

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."

# Propane and Butane

## Wholesale Propane and Butane Prices\*

		Propane	Butane
		Cents per gallon	
1975	July	17.9	17.5
	August	18.8	18.2
	September	19.8	19.7
	October	19.9	20.4
	November	20.2	20.5
	December	20.6	20.2
	<b>AVERAGE</b> (6 months)	<b>19.7</b>	<b>19.4</b>
1976	January	21.2	20.6
	February	21.0	21.6
	March	20.1	21.3
	April	19.4	20.9
	May	19.0	21.6
	June	19.5	21.4
	July	19.9	22.2
	August	20.2	22.3
	September	20.6	22.0
	October	20.9	22.7
	November	21.4	22.4
	December	22.1	23.6
	<b>AVERAGE</b>	<b>20.6</b>	<b>21.9</b>
1977	January	22.9	23.0
	February	24.0	24.3
	March	23.7	24.9
	April	23.6	24.2
	May	24.5	25.8
	June	24.5	25.6
	July	24.9	26.2
	August	25.5	26.1
	September	25.9	27.4
	October	26.8	26.3
	November**	26.5	25.8
	December**	26.7	25.8

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

\*\*Preliminary data.

Source: FEA Form P302-M-1.

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<sup>2</sup> See Definitions.

<sup>4</sup> The actual domestic average price represents the average price at which all domestic crude oil is purchased. The imputed domestic average price is the average price used to establish ceiling prices for domestic crude oil in accordance with the provisions of the Energy Conservation and Production Act. It is calculated as the weighted average of lower tier, upper tier, and an imputed stripper crude oil price. The imputed stripper crude oil price is equal to \$11.63 per barrel plus the difference between the composite price of crude oil in August 1976 (excluding stripper oil) and the composite price of crude oil in the month of measurement (excluding stripper oil).

<sup>6</sup> The Naval Petroleum Reserves (NPR) are exempt from pricing regulations but have been reported here as Upper Tier prior to July 1977. NPR is included in the Actual Domestic Average price determinations, but not in the Imputed Domestic Average.

Sources: 1974 through January 1976—Form FEA-90 "Crude Petroleum Production Monthly Report;" February 1976 forward—FEA Form P124-M-O "Domestic Crude Oil Purchasers Report."

# Crude Oil (Continued)

## 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		
	<b>AVERAGE</b>	<b>62</b>	<b>16</b>	<b>8</b>	<b>13</b>		
1976	January	54	21	10	15		
		<b>Lower Tier</b>		<b>Upper Tier</b>			
	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		
		<b>Lower Tier</b>		<b>Upper Tier</b>		<b>Stripper</b>	
	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		
	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	48.4	37.6		14.0		
	June	48.8	37.0		14.2		
1977		<b>Lower Tier</b>		<b>Upper Tier</b>		<b>Stripper</b>	
	July	46.75	36.59		13.30	<b>Alaskan North Slope**</b>	<b>Naval Petroleum Reserve**</b>
	August	43.31	36.65		13.32	2.58	0.75
	September	42.78	34.07		13.14	5.79	0.91
	October	42.23	34.58		12.92	9.06	0.91
	November	R41.41	R34.67		12.90	9.09	1.15
	December***	40.43	34.61		12.99	R9.84	R1.05
						10.92	1.03

\*Totals do not add to 100 due to rounding.

\*\*See footnotes 5 and 6 of previous table.

\*\*\*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 EIA estimates for Upper Tier percentages; September 1976 forward—FEA Form P124-M-0 "Domestic Crude Oil Purchasers Report."

		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
<b>National Domestic Crude Oil Supply Ratio</b>				
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
	July	8.77	.258	2.26
	August	8.65	.266	2.30
	September	8.75	.250	2.19
	October	8.75	.250	2.19
	November	8.75	.239	2.09
	December	8.78	.253	2.22

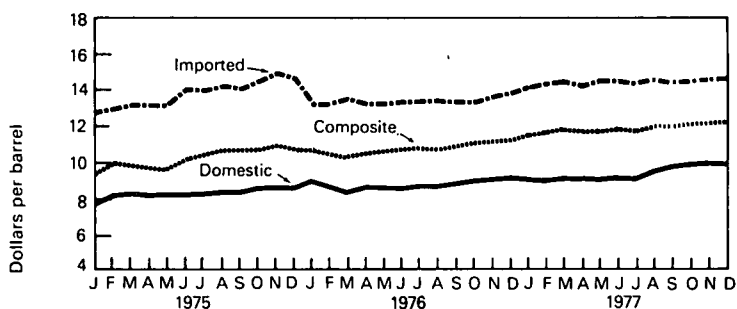
\*See Definitions.  
Source: DOE.

# Crude Oil (Continued)

## 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	9.21	14.62	11.87
	June	9.34	14.63	11.98
	July	9.32	14.44	11.90
	August	9.54	14.68	12.01
	September	9.75	14.50	12.01
	October	9.95	14.56	12.12
	November	R10.17	14.61	R12.18
	December**	10.13	14.74	12.25

Crude Oil Refiner Acquisition Cost



\*See Explanatory Note 16.

\*\*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."

# Estimated Landed Cost of Imported Crude Petroleum From Selected Countries\*

		Algeria	Canada	Indonesia	Iran	Libya	Nigeria	Saudi Arabia	U.A. Emirates	Venezuela
		Dollars per barrel								
1975	January	12.72	12.43	13.30	12.11	12.56	12.07	12.07	13.14	11.37
	February	12.11	12.15	13.52	11.86	11.80	12.18	11.94	12.67	11.56
	March	12.46	12.79	13.94	12.08	12.47	12.56	11.78	13.40	11.66
	April	12.36	12.95	13.71	12.34	11.98	12.46	12.16	12.55	11.61
	May	12.41	12.08	13.71	11.93	11.85	12.34	12.27	13.29	11.54
	June	12.37	11.90	13.73	12.51	12.25	12.49	11.93	12.48	11.51
	July	12.69	12.15	13.98	11.83	11.96	12.37	12.08	12.78	11.46
	August	12.68	12.27	13.85	12.17	12.01	12.32	12.10	12.60	11.44
	September	12.52	12.63	13.75	11.97	12.08	12.42	12.17	12.49	11.42
	October	13.45	13.02	14.00	12.27	12.64	13.18	12.64	12.85	12.08
	November	13.28	14.00	13.81	12.47	13.17	13.37	12.58	13.23	12.38
	December	13.46	13.96	13.92	13.01	13.27	13.57	12.93	13.21	12.31
	<b>AVERAGE</b>	<b>12.72</b>	<b>12.72</b>	<b>13.79</b>	<b>12.21</b>	<b>12.35</b>	<b>12.62</b>	<b>12.30</b>	<b>12.87</b>	<b>11.65</b>
1976	January	13.56	12.95	13.89	13.01	13.52	13.61	13.18	13.50	11.60
	February	13.57	13.24	13.94	12.87	13.45	13.52	13.21	13.36	12.09
	March	13.83	13.30	13.94	12.77	13.36	13.62	13.18	13.37	11.71
	April	13.73	13.61	13.78	12.91	13.38	13.60	13.11	13.18	11.95
	May	13.47	13.62	13.84	12.82	13.59	13.62	13.05	13.39	11.61
	June	13.75	14.19	13.84	13.00	13.38	13.78	13.14	13.09	11.55
	July	13.77	13.79	13.80	12.76	13.53	13.81	13.02	13.45	11.44
	August	13.91	13.78	13.78	13.09	13.51	13.87	13.03	13.23	11.77
	September	14.03	13.70	13.80	12.78	13.72	13.82	12.87	13.44	11.98
	October	13.81	13.71	13.84	12.73	13.83	13.99	12.87	13.22	11.84
	November	13.84	13.59	13.77	12.58	13.73	13.95	13.01	13.18	12.01
	December	14.14	13.52	13.75	12.69	13.79	14.11	13.02	13.29	12.19
	<b>AVERAGE</b>	<b>13.81</b>	<b>13.57</b>	<b>13.82</b>	<b>12.82</b>	<b>13.58</b>	<b>13.80</b>	<b>13.04</b>	<b>13.30</b>	<b>11.80</b>
1977	January	14.80	13.92	14.42	13.16	14.64	14.97	13.22	13.56	13.29
	February	15.18	13.74	14.57	13.56	15.12	15.12	13.32	13.46	13.76
	March	15.08	14.34	14.64	13.94	14.88	15.13	13.50	13.80	13.41
	April	15.21	14.02	14.70	13.95	15.12	15.37	13.41	13.78	13.19
	May	15.20	14.94	14.59	13.94	14.91	15.40	13.49	13.85	13.10
	June	15.34	14.49	14.63	13.81	14.92	15.37	13.39	13.72	13.06
	July	15.29	13.91	14.75	13.84	14.88	15.39	13.64	14.20	13.02
	August	15.24	14.24	14.65	13.99	14.70	15.25	13.72	14.36	12.82
	September	15.29	14.14	14.62	13.77	14.99	15.34	14.01	14.41	13.08
	October	15.41	14.00	14.67	13.83	14.81	15.31	13.85	14.56	13.16
	November	15.05	14.52	14.73	13.88	14.73	15.23	13.94	14.19	13.11
	December	15.25	14.27	14.58	13.95	14.81	15.21	13.49	14.48	12.99

\*See Explanatory Note 17.

Source: FEA Form F701-M-O "Transfer Pricing Report."

# Crude Oil (Continued)

## Estimated FOB Cost of Imported Crude Petroleum from Selected Countries\*

		Algeria	Canada	Indonesia	Iran	Libya	Nigeria	Saudi Arabia	U.A. Emirates	Venezuela
		Dollars per barrel								
1975	January	12.09	10.10	11.98	10.78	11.93	11.51	10.63	11.26	10.91
	February	11.83	9.05	12.20	10.62	11.60	11.57	10.55	11.43	11.15
	March	12.02	11.28	12.55	10.81	11.94	11.77	10.78	11.13	11.11
	April	11.82	10.49	12.60	10.85	11.36	11.77	10.78	11.05	11.06
	May	11.69	10.79	12.64	10.62	11.10	11.63	10.93	10.90	10.91
	June	11.52	10.05	12.59	10.90	11.02	11.64	10.66	10.74	10.89
	July	11.80	9.93	12.44	10.67	11.08	11.49	10.70	11.04	10.87
	August	11.72	10.20	12.56	10.80	11.17	11.60	10.64	10.87	10.78
	September	11.78	10.33	12.48	10.59	11.23	11.59	10.96	11.04	10.82
	October	12.63	10.86	12.73	10.97	11.81	12.45	11.17	11.14	11.49
	November	12.59	11.17	12.72	11.54	12.34	12.69	11.50	11.67	11.59
	December	12.74	NA	12.76	11.61	12.32	12.81	11.48	11.88	11.67
1976	January	12.96	NA	12.77	11.61	12.34	12.85	11.67	11.91	11.15
	February	12.89	NA	12.77	11.48	12.34	12.85	11.64	11.93	11.61
	March	12.93	NA	12.78	11.45	12.34	12.94	11.71	11.91	11.26
	April	12.98	NA	12.74	11.58	12.39	12.95	11.72	11.94	11.38
	May	13.01	NA	12.76	11.58	12.45	12.97	11.61	11.85	11.10
	June	13.02	NA	12.74	11.62	12.40	12.97	11.64	11.92	11.03
	July	13.06	NA	12.79	11.64	12.64	13.11	11.58	11.89	10.87
	August	13.06	NA	12.75	11.61	12.52	13.08	11.58	11.92	11.19
	September	13.12	NA	12.73	11.66	12.66	13.06	11.55	11.97	11.53
	October	13.09	NA	12.79	11.63	12.70	13.25	11.65	11.92	11.41
	November	13.12	NA	12.71	11.62	12.74	13.25	11.62	11.96	11.58
	December	13.21	NA	12.82	11.78	12.83	13.36	11.65	12.16	11.77
1977	January	14.03	NA	13.41	12.03	13.64	14.11	11.92	12.53	12.91
	February	14.31	NA	13.43	12.36	13.89	14.24	12.04	12.33	13.30
	March	14.29	NA	13.58	12.79	13.87	14.32	12.24	12.51	12.98
	April	14.34	NA	13.55	12.79	13.98	14.51	12.23	12.53	12.62
	May	14.31	NA	13.57	12.78	13.93	14.56	12.23	12.56	12.60
	June	14.35	NA	13.55	12.68	13.94	14.55	12.21	12.44	12.53
	July	14.43	NA	13.61	12.78	13.99	14.52	12.40	12.70	12.48
	August	14.48	NA	13.63	12.80	13.95	14.54	12.56	13.15	12.37
	September	14.43	NA	13.64	12.73	13.99	14.56	12.72	13.20	12.55
	October	14.43	NA	13.65	12.79	13.93	14.48	12.70	13.22	12.72
	November	14.37	NA	13.65	12.75	13.88	14.53	12.73	13.33	12.71
	December	14.44	NA	13.61	12.71	13.85	14.45	12.77	13.27	12.56

\*The FOB cost excludes all costs related to insurance and transportation. See Explanatory Note 18.  
Source: FEA Form F701-M-0 "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	—	968	199	328	1,495
	June	—	956	232	347	1,535
	July	—	869	210	387	1,466
	August	—	735	208	454	1,397
	September	—	746	182	494	1,422
	October	—	833	243	504	1,580
	November	—	R857	R213	R534	R1,604
	December***	—	766	193	471	1,430

\*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.

R=Revised data.

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	118.8
1977	January	58.8	201.8	71.5	143.1	124.4	125.4
	February	63.5	199.0	76.5	131.0	130.0	130.7
	March	69.8	200.4	83.4	129.8	132.2	132.5
	April	65.2	190.7	76.4	R128.4	130.9	131.4
	May	69.1	191.3	80.4	128.4	133.9	133.6
	June	69.2	189.1	79.6	125.6	135.1	134.2
	July	72.1	187.7	81.8	134.5	135.9	135.8
	August	71.1	185.5	81.5	133.9	134.0	134.0
	September	71.8	194.7	84.0	131.8	135.7	135.2
	October	74.2	211.9	87.4	133.9	135.6	135.6

\*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.

R=Revised.

Source: Federal Power Commission Form 11, "Natural Gas Pipeline Company Monthly Statement."

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

	California		Kansas		Louisiana		Oklahoma		Texas	
	New Contracts	Renego- tiated or Amended	New Contracts	Renego- tiated or Amended	New Contracts	Renego- tiated or Amended	New Contracts	Renego- tiated or Amended	New Contracts	Renego- tiated or Amended
Cents per thousand cubic feet										
<b>1975</b>										
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
<b>1976</b>										
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
<b>1977</b>										
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
July	—	139.02	88.57	174.53	174.90	169.64	172.95	168.25	206.96	202.46
August	—	—	131.97	90.49	177.99	166.66	164.33	158.46	188.96	183.57
September	—	—	—	136.66	163.72	162.49	171.78	172.70	167.14	212.44

\*Prices are for FERC 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."

## Natural Gas (Continued)

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### 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
	<b>AVERAGE</b>	<b>185.8</b>
1977	January	213.8
	February	217.0
	March	219.9
	April	223.7
	May	227.0
	June	227.3
	July	229.9
	August	230.1
	September	230.4
	October	235.1
	November	238.4
	December	237.3
1978	January	241.6

Source: Bureau of Labor Statistics.

# Utility ~~Fossil~~ Fuels

## U.S. Average Delivered Prices of Coal at Utilities

		Contract	Spot
		Dollars per short ton	
<b>1975</b>	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
<b>1976</b>	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
<b>1977</b>	January	17.87	21.93
	February	18.28	22.71
	March	18.75	23.27
	April	18.82	22.41
	May	18.97	23.73
	June	19.03	24.62
	July	19.35	25.13
	August	18.95	24.73

Source: Federal Power Commission Form 423.

## Utility Fossil Fuels (Continued)

### COST OF FOSSIL FUELS DELIVERED TO STEAM ELECTRIC UTILITY PLANTS

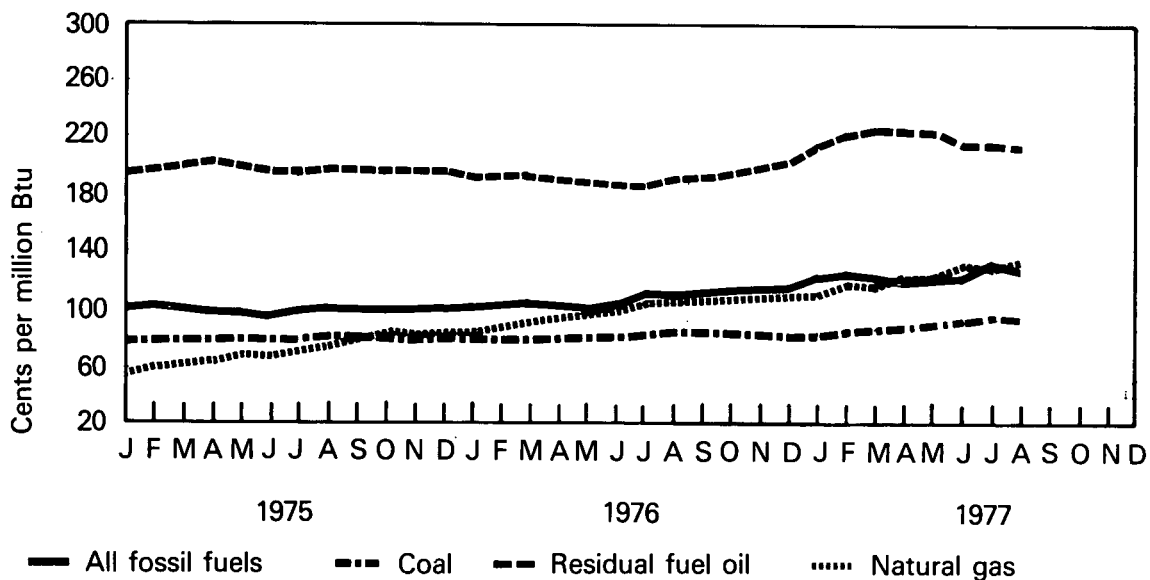
#### All Fossil Fuels\*

Region	1976					1977							
	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG
Cents per million Btu													
New England	173.7	176.6	184.0	186.9	197.0	207.7	211.4	225.3	213.9	215.1	213.3	209.9	206.7
Middle Atlantic	140.2	135.2	136.8	139.8	146.5	161.8	162.1	152.2	149.9	149.4	152.1	167.9	158.8
East North Central	97.6	95.2	95.8	96.8	94.4	104.1	102.7	104.0	102.6	103.9	107.3	109.7	105.2
West North Central	75.1	76.1	73.5	76.1	78.5	85.4	85.3	82.0	79.0	82.5	84.0	87.9	86.2
South Atlantic	126.2	125.6	127.2	129.1	134.7	146.5	142.5	137.3	132.7	133.8	137.9	148.9	146.6
East South Central	94.6	94.4	93.8	92.3	96.7	99.8	101.8	100.1	100.3	102.3	104.5	110.4	106.6
West South Central	102.9	102.4	101.6	106.2	106.9	113.6	119.8	116.9	117.5	117.2	124.3	123.2	122.5
Mountain	57.9	55.3	55.4	54.2	53.9	53.0	55.2	60.4	64.3	68.8	69.9	71.8	72.6
Pacific	195.7	195.9	199.1	214.5	218.9	219.2	213.6	209.8	217.6	219.0	212.6	221.2	223.8
<b>NATIONAL AVG.</b>	<b>112.9</b>	<b>110.7</b>	<b>111.1</b>	<b>115.2</b>	<b>118.6</b>	<b>126.8</b>	<b>128.4</b>	<b>123.5</b>	<b>122.0</b>	<b>123.1</b>	<b>125.1</b>	<b>133.2</b>	<b>129.4</b>

\*See Explanatory Note 19.

Source: Federal Power Commission Form 423.

#### National Average



## Coal

Region	1976					1977							
	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG
	Cents per million Btu												
New England	127.8	125.4	125.6	125.6	124.4	127.6	126.8	127.5	127.9	128.1	130.1	130.6	133.1
Middle Atlantic	103.3	102.6	102.6	100.2	101.2	105.9	101.2	100.8	102.5	103.1	107.4	111.7	107.0
East North Central	90.9	89.8	89.2	90.2	90.7	90.7	91.5	94.1	93.9	94.3	95.5	99.8	97.3
West North Central	70.1	71.0	69.3	69.6	67.6	66.5	68.4	71.5	72.5	75.5	77.0	77.9	77.4
South Atlantic	103.5	103.4	105.4	103.8	104.1	105.4	106.5	108.1	108.4	110.9	113.9	119.2	115.9
East South Central	85.7	87.2	88.3	87.4	90.6	91.2	94.1	93.6	96.5	95.8	95.0	99.9	98.4
West South Central	36.4	42.4	43.7	51.5	56.6	58.8	61.1	64.3	60.2	60.3	63.9	59.2	62.1
Mountain	36.8	36.2	38.2	39.1	38.1	37.6	38.9	41.1	42.4	46.3	47.4	43.0	50.1
Pacific	75.7	75.7	76.0	75.6	74.5	77.6	80.5	74.0	70.8	70.9	71.2	71.7	71.1
<b>NATIONAL AVG.</b>	<b>86.4</b>	<b>86.9</b>	<b>86.9</b>	<b>86.6</b>	<b>86.6</b>	<b>85.9</b>	<b>88.0</b>	<b>89.9</b>	<b>90.1</b>	<b>91.8</b>	<b>93.3</b>	<b>96.2</b>	<b>94.3</b>

## Residual Fuel Oil\*

Region	1976					1977							
	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG
	Cents per million Btu												
New England	182.8	179.5	188.1	192.0	198.9	213.6	223.5	231.7	218.5	223.4	216.2	212.5	211.3
Middle Atlantic	189.3	190.0	199.5	200.5	208.3	220.5	235.8	237.2	230.8	227.7	223.1	220.5	218.5
East North Central	222.8	221.4	225.8	223.9	227.9	247.5	267.7	257.8	256.3	250.9	248.6	247.1	241.6
West North Central	148.4	149.6	156.8	167.9	191.5	201.0	210.3	205.5	298.7	193.6	186.6	179.0	185.0
South Atlantic	176.6	180.4	184.1	189.2	197.0	212.4	213.7	222.8	217.8	211.7	210.1	207.2	199.2
East South Central	171.3	163.8	166.6	167.8	166.4	166.2	182.7	180.4	180.5	175.7	177.7	175.9	178.3
West South Central	178.6	166.4	176.6	180.3	179.9	192.0	198.1	201.9	200.3	198.3	194.3	187.6	188.5
Mountain	224.8	213.0	221.9	209.3	181.2	201.0	210.9	220.9	220.6	224.9	215.3	232.5	230.7
Pacific	228.8	230.2	231.2	234.1	233.4	231.3	231.0	232.1	235.8	235.2	235.7	240.0	240.1
<b>NATIONAL AVG.</b>	<b>191.8</b>	<b>191.9</b>	<b>198.8</b>	<b>203.5</b>	<b>207.5</b>	<b>217.2</b>	<b>223.3</b>	<b>228.0</b>	<b>226.2</b>	<b>227.7</b>	<b>217.8</b>	<b>217.0</b>	<b>213.0</b>

## Natural Gas\*\*

Region	1976					1977							
	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG
	Cents per million Btu												
New England	153.9	154.4	155.4	185.2	186.1	200.1	200.1	200.1	200.1	195.9	193.9	185.8	187.2
Middle Atlantic	114.5	122.7	125.2	111.9	127.8	211.3	349.8	155.9	155.4	154.7	144.2	165.5	162.4
East North Central	147.8	148.4	153.0	168.8	188.9	186.5	174.7	170.6	184.7	176.7	177.3	183.5	185.9
West North Central	81.4	81.9	80.8	84.1	84.0	86.1	93.4	88.8	96.0	102.9	104.8	106.7	106.8
South Atlantic	82.9	88.3	89.3	89.1	90.4	80.4	112.1	93.6	85.7	76.2	74.4	91.1	100.9
East South Central	132.5	137.7	158.5	162.2	160.8	165.1	170.3	157.8	154.7	139.7	134.3	148.5	149.9
West South Central	101.6	101.8	101.0	106.6	106.8	108.1	114.6	111.2	113.7	116.5	122.1	122.5	123.7
Mountain	101.7	104.3	112.2	118.2	136.0	133.3	115.0	129.1	134.9	134.4	132.9	133.3	130.7
Pacific	155.3	166.5	169.0	177.5	188.7	196.8	189.2	181.0	204.5	208.9	200.5	211.0	218.8
<b>NATIONAL AVG.</b>	<b>106.5</b>	<b>109.8</b>	<b>109.9</b>	<b>113.1</b>	<b>111.3</b>	<b>111.1</b>	<b>123.5</b>	<b>121.1</b>	<b>125.6</b>	<b>125.6</b>	<b>130.5</b>	<b>131.7</b>	<b>135.4</b>

\*See Explanatory Note 19.

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

Source: Federal Power Commission Form 423.

## **International**

### **Petroleum Consumption**

Petroleum consumption figures for all 12 months of 1977 are available for Japan, France, and Italy. Consumption in Japan increased by 4.6 percent, while France and Italy showed reduced consumption levels (4.7 percent and 1.8 percent, respectively) compared with 1976 rates. During the January-November period, petroleum use in West Germany decreased 2.1 percent from the level for the same period of 1976; consumption in Canada and the United Kingdom, on the other hand, was 4.5 percent and 3.3 percent greater, respectively. The International Energy Agency as a whole showed a 4.4-percent increase in petroleum use during the first 11 months of 1977.

### **Crude Oil Production**

World crude oil production in December rose 1.3 million barrels per day (MMBD) to 62.1 MMBD. Production by the Organization of Petroleum Exporting Countries (OPEC) increased 1.2 MMBD to 32.9 MMBD; production gains in Saudi Arabia, Kuwait, Iran, the U.A.E., Iraq, Indonesia, and Ecuador totaling 1.5 MMBD were slightly offset by minor declines in other OPEC nations. World crude oil output for the year averaged 59.6 MMBD, up 3.8 percent from the 1976 production rate.

# 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	1,471	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	1,493	1,234	2,961
	Aug	29,200	4,234	2,360	1,300	1,208	1,449	1,105	3,032
	Sept	30,400	4,543	2,309	1,785	1,501	1,469	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	1,595	1,468	3,382
1976	Jan	35,100	4,941	2,464	2,432	1,679	1,785	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	2,747	2,372	1,879	1,747	1,641	3,907
	Apr	31,500	4,526	2,339	2,116	1,716	1,518	1,423	3,457
	May	29,900	4,218	2,320	1,795	1,417	1,509	1,253	3,221
	June	31,300	4,429	2,393	1,603	1,416	1,560	1,236	3,479
	July	31,100	4,416	2,624	1,624	1,346	1,531	1,355	3,331
	Aug	31,100	4,461	2,515	1,668	1,276	1,585	1,372	3,401
	Sept	32,200	4,517	2,521	1,966	1,477	1,514	1,604	3,818
	Oct	32,300	4,523	2,391	1,908	1,544	1,560	1,464	3,780
	Nov	35,900	5,160	2,700	2,204	1,750	1,822	1,393	4,233
	Dec	39,100	5,846	2,571	2,687	1,869	2,008	1,779	4,593
	AVG.	33,180	4,786	2,507	2,071	1,601	1,658	1,503	3,761
1977	Jan	R37,700	R5,434	2,389	2,518	1,830	1,797	R1,696	R4,073
	Feb	R38,600	R6,025	2,441	2,386	1,844	1,919	R1,822	R4,122
	Mar	R35,000	R5,548	R2,519	2,109	1,818	1,664	R1,573	R3,822
	Apr	32,800	R4,715	2,425	2,044	1,670	1,526	R1,326	R3,568
	May	31,300	R4,315	2,359	1,846	1,545	1,523	R1,268	R3,330
	June	R32,900	R4,485	2,495	1,715	1,477	1,633	R1,340	R3,422
	July	31,800	R4,717	2,381	1,348	1,321	1,530	R1,251	R3,047
	Aug	R33,000	R4,709	2,468	1,390	1,371	1,724	R1,140	R3,298
	Sept	R34,700	R4,742	2,566	1,781	1,580	1,767	R1,453	4,707
	Oct	33,700	4,669	2,324	R1,882	R1,570	1,821	R1,452	3,653
	Nov.	34,400	5,100	2,571	R2,181	1,925	1,827	1,605	3,910
	Dec.	NA	5,832	NA	2,519	NA	NA	1,817	NA
	AVG.	34,139	5,019	2,448	1,974	1,630	1,701	1,476	3,717
	(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.

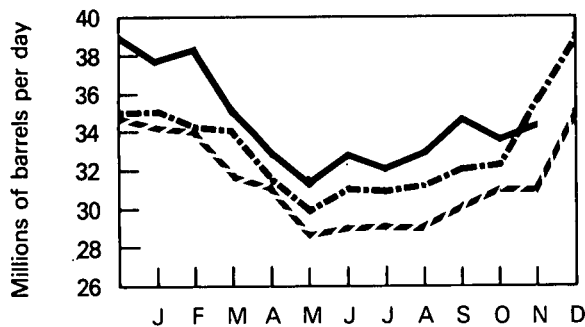
R=Revised data.

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

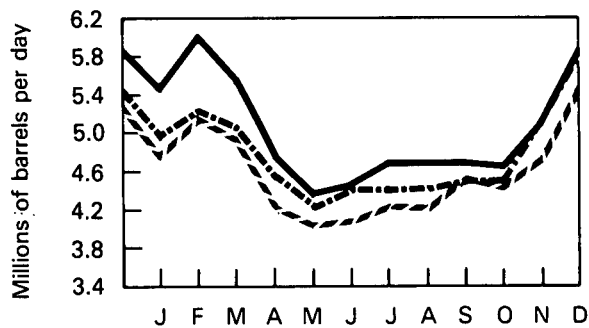
Source: Central Intelligence Agency, National Foreign Assessment Center, *International Energy Biweekly Statistical Review*, 22 February 1978.

# Petroleum Consumption

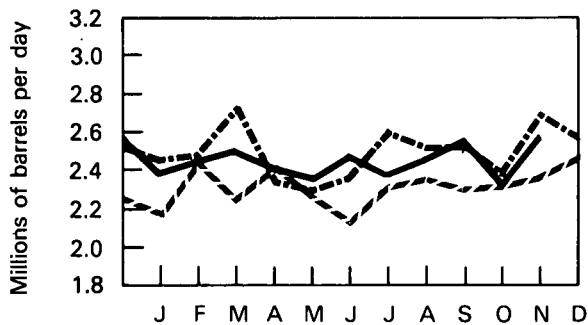
Total IEA



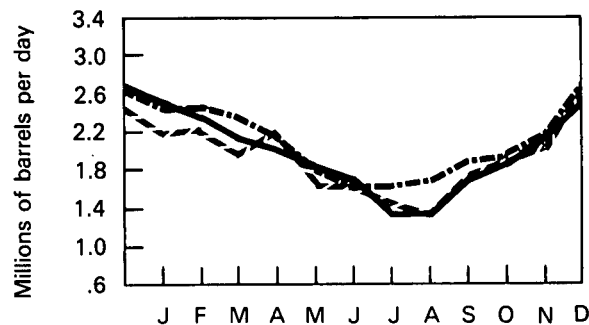
Japan\*



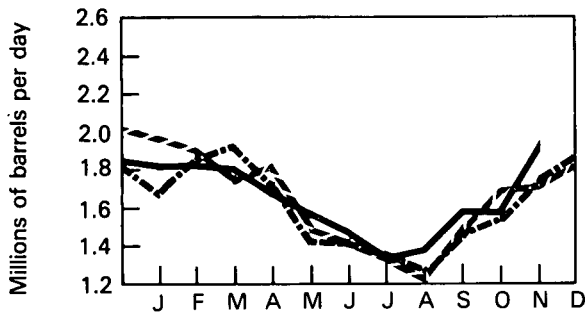
West Germany



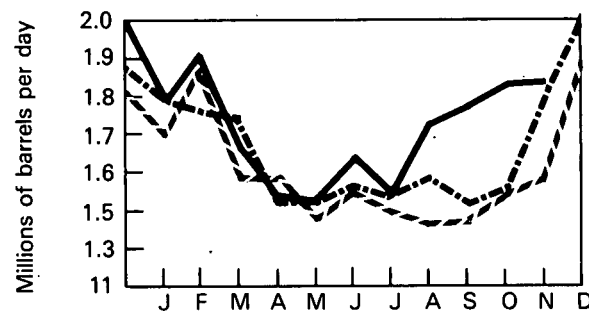
France\*\*



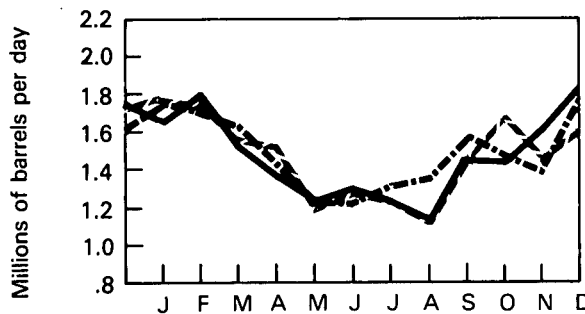
United Kingdom



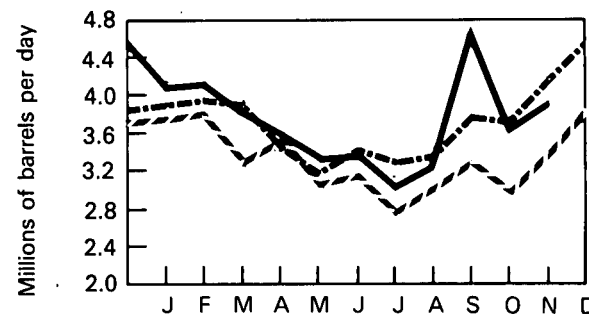
Canada



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—December 1977

Country	Production						Production Capacity	Production Shut in
	1972 Year	1973 Year	1974 Year	1975 Year	1976 Year	1977 December**	December	December
Thousands of barrels per day								
Algeria	1,040	1,070	960	960	990	950	R1,080	12.0
Iraq	1,465	2,020	1,970	2,260	2,415	2,900	3,000	3.3
Kuwait*	3,283	3,020	2,545	2,085	2,145	2,670	3,300	19.1
Libya	2,239	2,175	1,520	1,480	1,935	1,960	2,300	14.8
Qatar	482	570	520	440	495	470	600	21.6
Saudi Arabia*	6,016	7,595	8,480	7,075	8,575	9,620	10,500	8.4
United Arab Emirates	1,202	1,535	1,680	1,665	1,935	2,000	R2,290	12.6
<b>Subtotal: Arab OPEC</b>	<b>15,727</b>	<b>17,985</b>	<b>17,675</b>	<b>15,965</b>	<b>18,490</b>	<b>R20,570</b>	<b>R23,070</b>	<b>10.8</b>
Ecuador	78	210	175	160	185	200	225	11.1
Gabon	125	150	200	225	225	230	250	8.0
Indonesia	1,080	1,340	1,375	1,305	1,505	***1,720	R1,700	—
Iran	5,023	5,860	6,020	5,350	5,885	***6,380	R6,000	—
Nigeria	1,815	2,055	2,255	1,785	2,070	1,850	2,300	16.5
Venezuela	3,219	3,365	2,975	2,345	2,295	1,960	2,600	20.4
<b>Subtotal: Non-Arab OPEC</b>	<b>11,340</b>	<b>12,980</b>	<b>13,000</b>	<b>11,170</b>	<b>12,165</b>	<b>12,340</b>	<b>R13,075</b>	<b>5.6</b>
<b>TOTAL OPEC</b>	<b>27,067</b>	<b>30,965</b>	<b>30,675</b>	<b>27,135</b>	<b>30,655</b>	<b>32,910</b>	<b>R36,145</b>	<b>8.9</b>
Canada	1,540	1,800	1,695	1,460	1,300	1,447	1,800	19.6
Mexico	440	465	580	720	850	1,080	1,100	2.0
<b>TOTAL OPEC, Canada, Mexico</b>	<b>29,047</b>	<b>33,230</b>	<b>32,950</b>	<b>29,315</b>	<b>32,805</b>	<b>35,437</b>	<b>R39,045</b>	<b>9.2</b>
<b>TOTAL WORLD</b>	<b>50,550</b>	<b>55,755</b>	<b>55,875</b>	<b>52,990</b>	<b>57,350</b>	<b>62,100</b>		

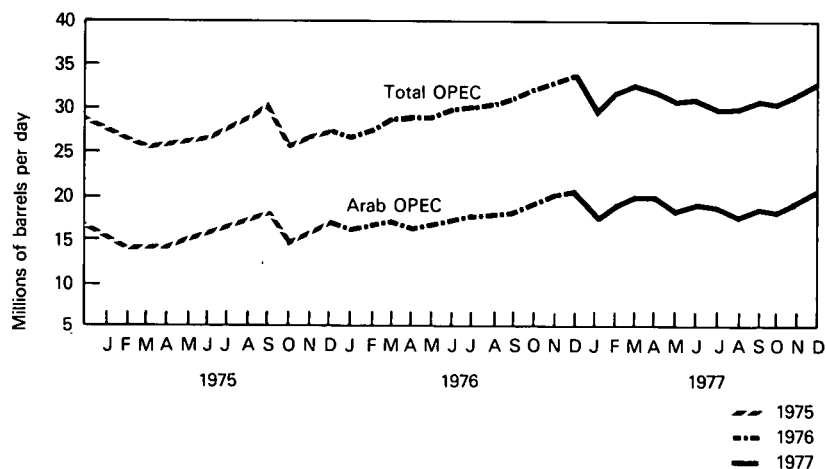
\*Includes about one-half of the former Kuwait-Saudi Arabia Neutral Zone. Production in December 1977 amounted to approximately 540,000 barrels per day.

\*\*Estimated.

\*\*\*It is possible to produce above capacity for a brief period of time.

Sources: Central Intelligence Agency, National Foreign Assessment Center, *International Energy Biweekly Statistical Review*, 22 February 1978, 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 wellhead and includes lease condensate, which is a natural gas liquid recovered from lease separators or field facilities.

## Crude Oil Entitlement Value

The average value a refiner receives from the entitlement program for each incremental barrel of imported crude oil.

It is calculated by multiplying the entitlement price by the National Old Oil Supply Ratio for November 1974 through January 1976 and by the National Domestic Crude Oil Supply Ratio for February 1976 forward.

## Crude Oil Imports

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

## Crude Oil Input to Refineries

Total crude oil input to crude oil distillation units and other units for processing.

## 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 Specific Refined Petroleum Products

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

## Domestic Demand for Total Refined Petroleum Products

Total domestic demand for petroleum products is calculated as inputs to refineries, plus estimated refinery gain, plus hydrogen input, plus natural gas plant liquids production, plus direct use of crude as fuel, plus product imports, less product exports, plus or minus stock change of products. (See definition for Domestic Demand for Specific Refined Petroleum Products.)

## **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 ERA. A refiner must purchase entitlements for the amount of his "deemed old oil" receipts in excess of the national domestic crude oil supply ratio (NDCOSR). The NDCOSR, as calculated by ERA, reflects the differences in costs to refiners of "old" oil, "upper tier" crude oil, and imported crude oil.

## **Entitlement Price**

The price of an entitlement, fixed by ERA, is the exact differential as reported for the month between the weighted average delivered cost per barrel to refiners of both imported crude oil and stripper crude oil, and the weighted average delivered cost per barrel to refiners of "old oil," 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 ERA in the *Federal Energy Guidelines* (Part 212.77-13847 Appendix).

## **Major Brand**

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

## **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.

## **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 uranium feed and 3 kilograms of separative work units (3 SWU).

### **Startup Test Phase of Nuclear Powerplant**

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

### **Stripper Well Property**

A property whose average daily production of crude oil per well (excluding condensate recovered in nonassociated 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 ERA 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. 1977 electricity imports were estimated on the basis of the import level for 1976.

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. 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.

6. 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.

7. Bituminous coal and lignite consumption is calculated by EIA from 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 EIA from Association of American Railroads reports of carloadings.

8. Class A and B utilities are the only utilities required to report their number of customers on Form 5. Class A and B investor-owned utilities are defined, respectively, as those with annual sales that exceed \$2.5 million, and those with annual sales that are between \$1 million and \$2.5 million. In 1976 there were 212 Class A and B utilities; collectively they represented 80 percent of the total industry kilowatt-hour sales. In the month of June 1977 Class A and B utilities accounted for 77.9 percent of ultimate industrial sales, 74.7 percent of ultimate residential sales, and 85.2 percent of ultimate commercial sales.

9. 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  $UF_6$  or metric tons of uranium (MTU). The later designation expresses only the elemental uranium content of  $UF_6$ .

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 Units of Measure section.

10. 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

(KWhe). 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).

11. 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.

12. 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 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.

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

There are two degree-day data bases maintained by the National Oceanic and Atmospheric Administration. Weekly degree-day information is based on mean daily temperatures recorded at about 200 major weather

stations around the country. Monthly data are based on readings at more than 8,000 weather stations. The temperature information recorded at these weather stations is used to calculate statewide degree-day averages based on population. The State figures are then aggregated into Petroleum Administration for Defense (PAD) Districts and into the national average, also using a population weighting method.

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

14. 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.

15. 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.

16. 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.

17. 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.

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

19. The weighted average utility fuel cost for the total United States includes 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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	F	133401	
	M	145120	
	A	138254	
	M	141540	
	J	135690	
	J	138198	
	A	139215	
	S	129604	
	O	128205	
	N	120477	
	D	124144	
78	J	121378	
	F	110181	
	M	121644	
	A	117746	
	M	118587	
	J	115609	90263
	J	115322	94373
	A	111529	87100
	S	109368	92070
	O	112461	90534
	N	108135	92289
	D	107773	87074
78	J	105998	

CRN780313-00108  
DAR-M764/M(7803)

Monthly Energy Review