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**April 1978**

# Monthly Energy Review



**U.S. Department of Energy**  
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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

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## Overview

U.S. energy production during the first 2 months of 1978 totaled 8.7 quadrillion Btu (the equivalent of 25.5 million barrels per day of crude oil\*), 8.3 percent less than for the same period in 1977. Coal production was down 46.3 percent as the United Mine Workers of America (UMWA) strike continued into March. Estimated natural gas production was also lower, by 2.1 percent. Crude oil output, on the other hand, was 5.5 percent greater during the January-February period, and nuclear electric power generation was up 14.3 percent. Estimated hydroelectric power production was nearly one-third higher than a year ago as watershed capacities returned to normal in the Western States following the prolonged drought.

Domestic energy consumption during January and February 1978 averaged 243 trillion Btu per day (or 41.9 million barrels per day of crude oil equivalent\*), approaching the record rate posted in December 1976 and January 1977 of 245 trillion Btu per day. Energy use during the 2-month period was up 1.1 percent from the level a year earlier, with major increases reported for natural gas (estimated at 7.5 percent), nuclear power (14.3 percent), and hydroelectric power (estimated at 30.0 percent). In contrast, refined petroleum product and coal consumption were both lower, by 3.1 percent and 5.7 percent, respectively.

The United States imported 14.2 percent less fossil fuels in January and February 1978 than during the same 2 months in 1977, reflecting lower demand and higher inventory levels. Crude oil imports, constituting more than two-thirds of the total fuels imported, were off 8.9 percent. Imports of refined products, about one-quarter of the total, were down 28.3 percent. Imports of natural gas registered the only increase (estimated at 1.8 percent) and accounted for 6 percent of total imports.

Despite large drawdowns during February, stocks of heating oils on February 28, 1978, were well above year ago levels. Distillate fuel oil stocks totaled 171 million barrels, up 28.3 percent. Residual fuel oil stocks, at 73 million barrels, were 2.7 percent higher than at the

end of last February. Similarly, the amount of working gas\*\* in underground natural gas storage reservoirs at the end of February was 12.1 percent greater than at the end of February 1977 even though withdrawals during the month were more than double last year's. Stocks of bituminous coal and lignite, which had been built up to record levels prior to the UMWA strike, were an estimated 93 million tons on February 28, 18.7 percent lower than a year earlier.

Subnormal temperatures dominated the national weather pattern for the third consecutive month during March. Heating degree-days were 9 percent above the normal for the month and 35 percent above the March 1977 total. Cumulative degree-days for the current heating season are also 9 percent above normal, but are 3 percent below the previous season's count.

Utility electricity output during February 1978 was 6.5 percent greater than that for February 1977, reflecting in part a 22-percent increase in degree-days.

World crude oil production dropped seasonally to 56.7 million barrels per day (MMBD) in January 1978 from 62.1 MMBD in December, with nearly all OPEC members reporting declines. In comparison, January 1977 world production averaged 56.2 MMBD.

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

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\*\*Gas available for withdrawal.

		Domestic Production of Energy*	Imports of Fossil Fuels**	Domestic Consumption of Energy***
<b>1972</b>	<b>TOTAL</b>	<b>62.937</b>	<b>11.563</b>	<b>R71.609</b>
<b>1973</b>	<b>TOTAL</b>	<b>62.373</b>	<b>14.519</b>	<b>74.551</b>
<b>1974</b>	<b>TOTAL</b>	<b>61.138</b>	<b>14.114</b>	<b>72.601</b>
<b>1975</b>	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
	<b>TOTAL</b>	<b>60.134</b>	<b>13.935</b>	<b>70.557</b>
<b>1976</b>	January	R5.091	R1.306	R7.187
	February	R4.873	R1.223	R6.266
	March	R5.230	R1.301	6.259
	April	R4.956	1.246	5.736
	May	R5.063	1.231	5.664
	June	R5.058	R1.389	R5.695
	July	R4.813	R1.505	R5.888
	August	R4.971	1.417	5.831
	September	R4.968	R1.467	R5.609
	October	R5.047	R1.453	R6.116
	November	R4.970	1.498	R6.603
	December	R5.191	R1.619	R7.519
	<b>TOTAL</b>	<b>R60.233</b>	<b>R16.656</b>	<b>R74.373</b>
<b>1977</b>	January	4.819	1.700	7.695
	February	4.701	1.718	6.503
	March	5.321	1.786	6.399
	April	5.001	1.604	5.817
	May	5.151	1.638	5.827
	June	5.056	1.632	5.919
	July	4.817	1.714	6.028
	August	5.023	1.638	6.124
	September	5.138	R1.583	R5.911
	October	R5.217	†1.569	R†6.116
	November	†5.223	†1.476	R†6.296
	December	R†4.689	R†1.577	R†7.277
	<b>TOTAL</b>	<b>R60.166</b>	<b>R19.634</b>	<b>R75.912</b>
<b>1978</b>	January	R†4.530	R†1.537	†7.538
	February	††4.201	†1.394	††6.816
	<b>TOTAL</b> (2 months)	<b>8.731</b>	<b>2.931</b>	<b>14.354</b>

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

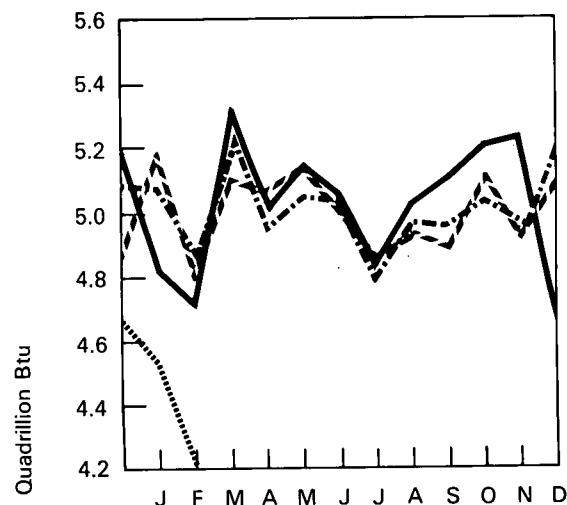
†Preliminary data.

††Partially estimated.

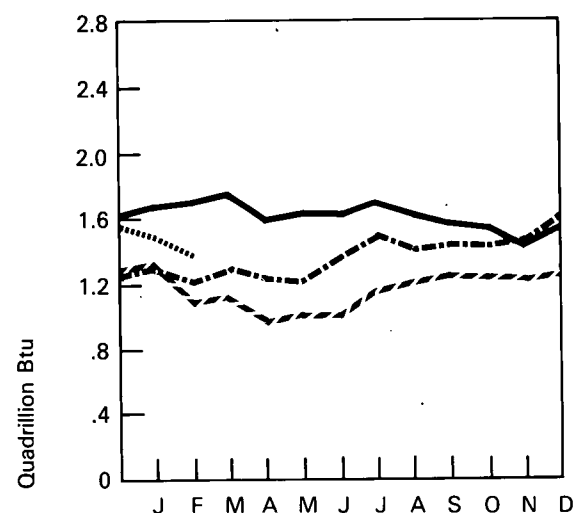
R=Revised data.

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

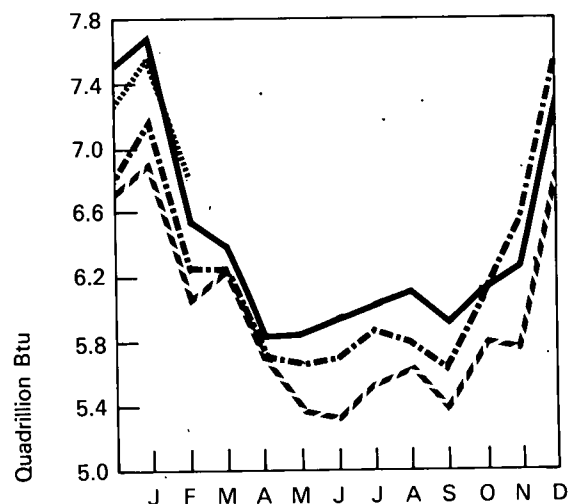
Domestic Production of Energy



Imports of Fossil Fuels



Domestic Consumption of Energy



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

# Part 2 Crude Oil and Refined Petroleum Products

## Crude Oil and Refined Petroleum Products

Total petroleum imports averaged 8.0 million barrels per day in February 1978,\* 19.7 percent less than in February 1977. Crude oil imports averaged 5.8 million barrels per day and accounted for 72.2 percent of all petroleum imported during the month.

Total domestic demand for petroleum products averaged 20.3 million barrels per day in February 1978, 0.7 percent less than last February's rate. The major components of domestic demand in February were motor gasoline (34.6 percent), distillate fuel oil (23.6 percent), and residual fuel oil (18.0 percent).

Motor gasoline demand averaged 7.0 million barrels per day in February 1978, 1.8 percent above the February 1977 rate. Motor gasoline stocks were 271.9 million barrels at the end of February, 6.4 percent above the level 1 year earlier.

Residual fuel oil demand in February averaged 3.7 million barrels per day, 0.2 percent less than a year ago. Distillate fuel oil demand in February averaged 4.8 million barrels per day, 1.4 percent above the rate for the same month in 1977.

Stocks of residual fuel oil totaled 73.3 million barrels at the end of February, 2.7 percent higher than for February 1977. Stocks of distillate fuel oil were 171.0 million barrels, 28.3 percent higher than last February's level.

Domestic crude oil production averaged 8.4 million barrels per day in February 1978, 3.9 percent above the February 1977 rate.

## Strategic Petroleum Reserve

Twelve crude oil shipments totaling just over 3.0 million barrels\* were imported in February 1978 for the Strategic Petroleum Reserve (SPR), bringing the total SPR volume to 14.1 million barrels at the end of the month. The approximate cost of the February deliveries was \$14.38 per barrel (including transportation fees).

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\*February 1978 estimates are based upon preliminary data from the American Petroleum Institute and will be revised to conform with data provided through the EIA Petroleum Reporting System as available.

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\*Foreign crude oil volumes purchased for the SPR are included in petroleum imports and stocks statistics.

# 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	R8,232	R4,594	289,296
	February	12,834	R8,231	4,208	277,414
	March	12,877	R8,232	4,738	283,112
	April	12,727	R8,077	4,790	286,628
	May	12,920	R8,125	4,669	283,982
	June	13,799	R8,094	R5,628	281,715
	July	13,901	R8,127	5,792	282,599
	August	13,888	R8,111	5,556	277,272
	September	13,716	R8,150	5,875	284,357
	October	13,319	R8,063	R5,689	297,683
	November	14,101	R8,080	5,946	298,836
	December	14,333	R8,061	5,925	285,471
	AVERAGE	13,416	R8,132	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	14,645	8,244	6,416	338,300
	September	R14,930	8,416	R6,429	R334,180
	October	14,711	R8,518	6,363	330,956
	November	14,611	8,699	6,207	337,921
	December	14,741	R8,606	R6,124	338,911
	AVERAGE	R14,609	R8,211	R6,560	
1978	January	R14,149	R8,341	R5,999	R341,961
	February	13,945	8,381	5,757	331,800
	AVERAGE (2 months)	14,052	8,360	5,884	

\*See Definitions.

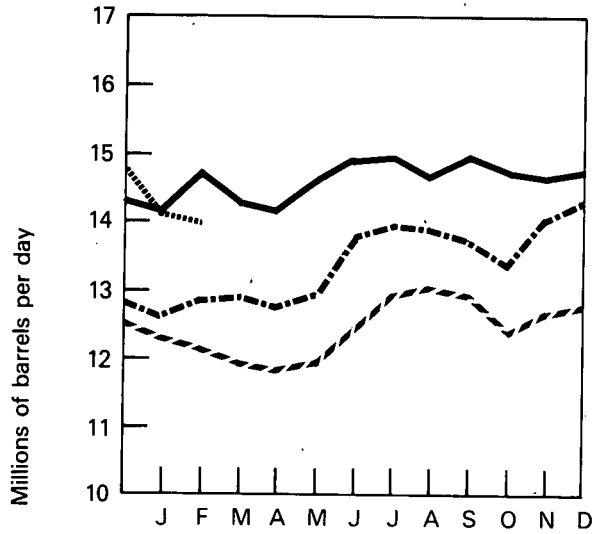
\*\*Total as of December 31.

R=Revised data.

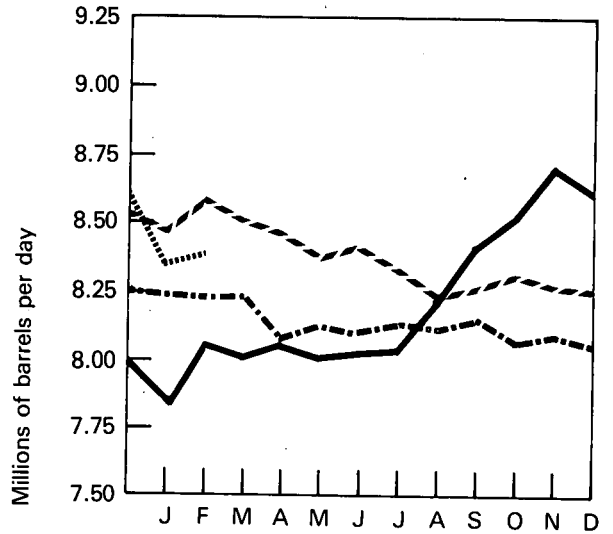
Sources: 1972 through 1976: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual;" January 1977 through April 1977: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly;" May 1977 through September 1977 (through October for Domestic Production): Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly;" October 1977 through January 1978: EIA "Monthly Petroleum Statistics Report;" February 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

# Crude Oil

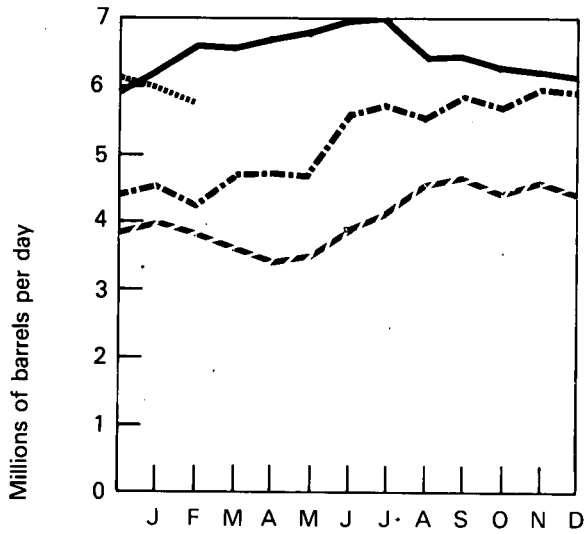
## Crude Input to Refineries



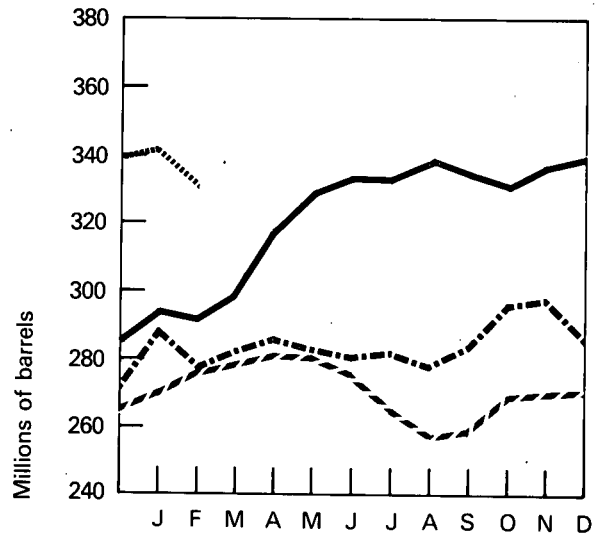
## Domestic Production



## Imports



## Stocks



--- 1975 BOM  
 -.- 1976 BOM  
 — 1977 BOM, EIA  
 ..... 1978 EIA, 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	R18,647	R2,119
	February	R17,509	R2,504
	March	R17,302	R1,949
	April	R16,672	R1,806
	May	15,977	1,654
	June	R16,825	R1,847
	July	R16,607	R2,092
	August	16,642	R1,827
	September	R16,837	R2,050
	October	R17,090	R1,847
	November	18,847	2,115
	December	R20,560	R2,522
	AVERAGE	R17,461	R2,026
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	18,009	2,175
	September	R17,733	R2,136
	October	17,889	1,818
	November	18,300	1,711
	December	R20,049	R2,064
	AVERAGE	R18,412	R2,153
1978	January	R19,411	1,976
	February	20,283	2,221
	AVERAGE (2 months)	19,825	2,092

## 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

R6,714

R6,712

R6,687

6,595

6,323

R7,474

R7,884

7,382

R7,924

R7,536

8,060

R8,447

R7,313

8,882

9,930

9,243

8,671

8,574

8,869

9,042

8,591

R8,565

8,181

7,918

R8,188

R8,714

R7,975

7,978

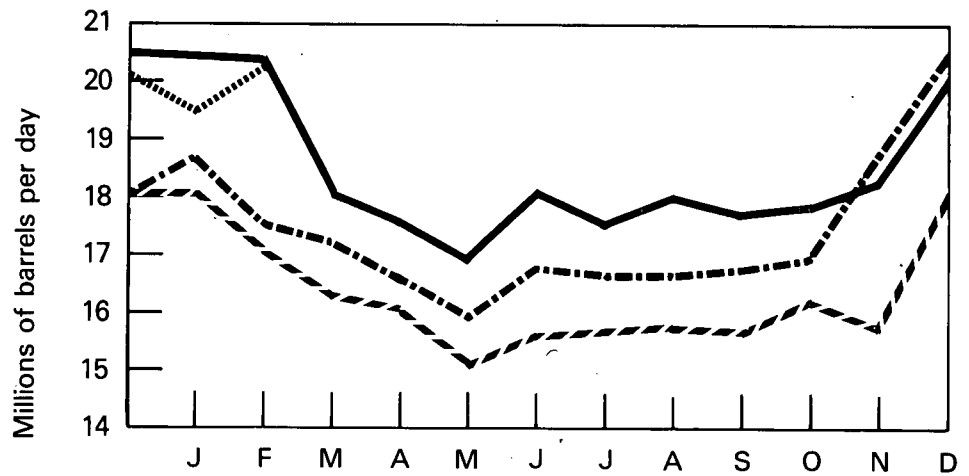
7,976

\*See Definitions.

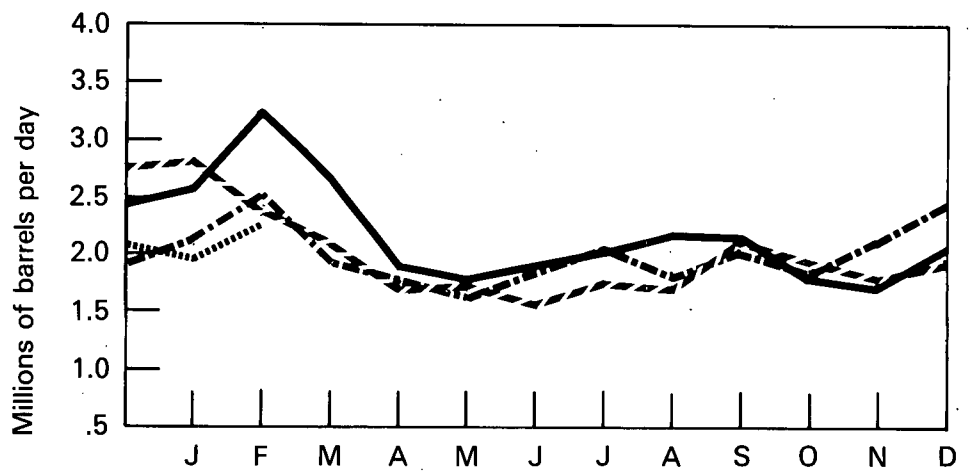
R=Revised data.

Sources: 1972 through 1976: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual;" January 1977 through April 1977: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly;" May 1977 through September 1977: Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly;" October 1977 through January 1978: EIA "Monthly Petroleum Statistics Report;" February 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

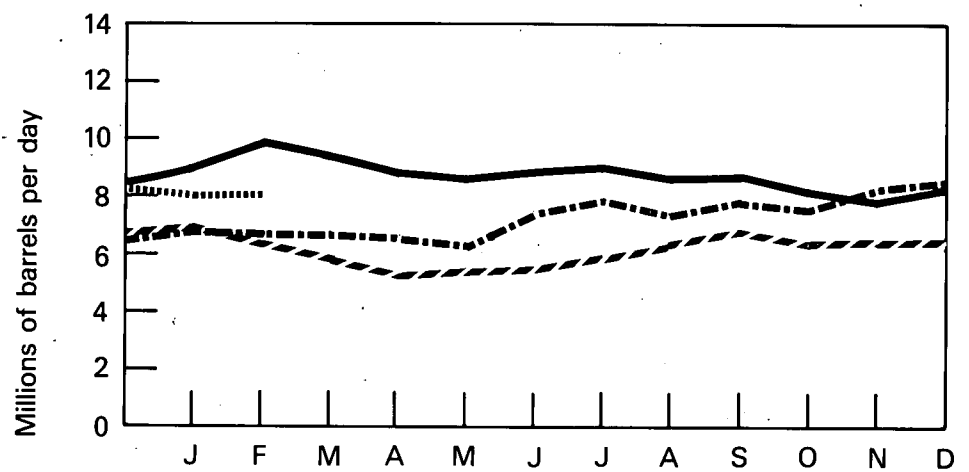
# Total Refined Product Domestic Demand



## Refined Product Imports



## Total Petroleum Imports



- 1975 BOM
- .- 1976 BOM
- 1977 BOM, EIA
- ..... 1978 EIA, 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	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
September	550.8	391.0	448.9	679.2	1,084.8	1,487.4	348.4	744.8	201.0	5,936.3	3,215.1
October	632.4	460.5	413.0	687.5	1,103.8	1,303.3	245.6	580.3	271.9	5,698.3	3,072.2
November	569.1	495.8	422.7	840.1	946.9	1,065.7	417.3	499.2	262.7	5,519.5	3,088.6
December	553.0	467.8	549.0	585.2	987.1	1,054.7	390.4	683.7	282.6	5,553.5	2,799.5
<b>Total Direct</b>	<b>550.7</b>	<b>529.1</b>	<b>530.2</b>	<b>712.8</b>	<b>1,135.3</b>	<b>1,371.8</b>	<b>333.0</b>	<b>679.4</b>	<b>288.3</b>	<b>6,130.6</b>	<b>3,159.8</b>
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>	<b>565.2</b>	<b>576.2</b>	<b>786.4</b>	<b>837.7</b>	<b>1,229.6</b>	<b>1,523.8</b>	<b>446.3</b>	<b>908.8</b>	<b>378.1</b>	<b>7,252.2</b>	<b>3,636.5</b>
<b>1978</b>											
Direct											
January	653.5	543.2	659.3	545.9	828.1	1,137.6	348.7	624.3	122.0	5,462.6	2,817.6
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>	<b>668.0</b>	<b>590.3</b>	<b>915.5</b>	<b>670.8</b>	<b>922.4</b>	<b>1,289.6</b>	<b>462.0</b>	<b>853.7</b>	<b>211.8</b>	<b>6,584.1</b>	<b>3,294.3</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 through September 1977 and EIA "Monthly Petroleum Statistics Report" for October 1977 through January 1978; and EIA estimates.

## U.S. Petroleum Imports from Non-OPEC Sources

	Bahamas	Canada	Netherlands Antilles	Puerto Rico	Trinidad and Tobago	Virgin Islands	Mexico	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>15.2</b>	<b>523.5</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>8.4</b>	<b>384.2</b>	<b>2,852.4</b>
<b>1975</b>									
January	216.1	949.1	549.4	99.0	232.9	563.5	20.4	299.1	2,929.5
February	213.9	854.5	315.2	148.8	255.1	490.3	46.0	269.7	2,593.5
March	162.6	746.9	279.5	139.0	185.7	506.4	37.6	258.1	2,315.8
April	168.9	704.3	237.7	73.1	171.8	353.3	37.2	236.7	1,983.0
May	122.3	574.2	242.9	77.9	237.1	413.4	85.8	218.4	1,971.7
June	130.0	872.7	261.6	75.1	204.5	352.6	72.4	157.2	2,126.1
July	178.3	889.1	368.3	104.9	281.1	320.8	85.4	273.3	2,501.2
August	135.8	887.9	333.1	72.9	289.4	399.1	71.4	293.5	2,483.1
September	143.6	918.0	428.6	66.9	283.2	389.7	98.0	516.3	2,844.3
October	135.8	946.3	357.8	105.8	222.2	336.3	109.4	448.2	2,661.8
November	88.8	893.1	280.0	60.6	265.5	353.0	107.0	411.8	2,459.8
December	119.5	907.3	238.0	50.9	262.5	405.9	85.0	290.0	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>71.4</b>	<b>306.1</b>	<b>2,435.4</b>
<b>1976</b>									
January	134.1	681.7	291.7	71.0	343.2	468.4	58.7	321.5	2,370.3
February	127.6	644.9	262.4	122.2	326.3	462.3	70.0	251.7	2,267.4
March	90.4	590.2	328.7	114.0	315.6	424.5	108.0	367.5	2,338.9
April	131.9	578.4	274.9	68.5	291.9	341.2	112.0	404.5	2,203.3
May	95.2	614.9	214.1	70.6	257.5	388.5	89.3	316.4	2,046.5
June	104.2	653.3	190.4	54.3	319.3	427.5	79.5	373.5	2,202.0
July	112.8	581.7	259.1	77.9	279.2	386.5	79.4	434.0	2,210.6
August	98.5	580.9	268.7	81.5	163.6	437.2	88.1	428.5	2,147.0
September	143.1	564.8	273.3	104.1	182.6	408.5	84.8	453.1	2,214.3
October	78.3	562.0	239.0	92.2	215.2	460.5	79.2	422.8	2,149.2
November	140.4	561.8	267.6	104.1	254.3	454.4	132.1	333.2	2,247.9
December	141.5	578.3	400.3	98.5	324.2	408.4	65.5	405.0	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>87.1</b>	<b>373.5</b>	<b>2,234.0</b>
<b>1977</b>									
January	170.0	505.9	304.1	82.5	316.2	619.6	97.9	549.8	2,646.0
February	289.5	605.1	406.6	86.3	406.3	548.8	168.1	947.8	3,458.5
March	200.4	561.7	257.3	97.4	286.5	505.5	171.5	810.4	2,890.7
April	130.7	506.1	110.1	85.3	210.5	409.0	155.2	662.4	2,269.3
May	138.5	437.8	153.7	105.8	308.1	376.2	173.6	647.6	2,341.3
June	137.7	493.0	196.2	89.4	271.1	322.0	180.7	616.0	2,306.1
July	169.8	482.9	239.0	129.7	275.8	477.7	158.7	540.1	2,473.7
August	168.8	501.5	224.5	88.4	281.2	461.6	213.6	586.9	2,526.5
September	140.2	528.5	201.1	156.7	250.9	433.9	167.6	750.1	2,629.0
October	125.3	451.2	196.5	114.1	288.4	451.9	246.6	608.7	2,482.7
November	184.4	458.3	100.4	98.7	237.5	462.8	230.7	626.3	2,399.1
December	170.3	511.1	240.2	97.8	305.5	555.6	186.5	567.1	2,634.1
<b>TOTAL</b>	<b>168.0</b>	<b>502.8</b>	<b>218.3</b>	<b>102.8</b>	<b>286.0</b>	<b>468.7</b>	<b>179.3</b>	<b>657.1</b>	<b>2,583.0</b>
<b>1978</b>									
January	170.5	432.7	253.0	57.7	285.3	466.0	236.4	610.9	2,512.5

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 through September 1977; and EIA "Monthly Petroleum Statistics Report" for October 1977 through January 1978.

# Motor Gasoline

## Domestic Demand

		Total	Unleaded	Unleaded Percent of Total	Production*	Imports	Stocks* Thousands of barrels
		Thousands of barrels per day					
1972	AVERAGE	6,376	NA	NA	6,281	68	**212,770
1973	AVERAGE	6,674	NA	NA	6,527	134	**209,395
1974	AVERAGE	6,537	NA	NA	6,358	204	**218,346
1975	January	6,206	NA	NA	6,509	262	***242,285
	February	6,096	NA	NA	6,276	171	251,915
	March	6,326	NA	NA	6,070	150	248,685
	April	6,718	NA	NA	6,046	133	232,556
	May	6,871	NA	NA	6,126	142	213,947
	June	7,076	NA	NA	6,669	177	207,114
	July	7,041	NA	NA	7,003	209	212,454
	August	7,008	NA	NA	6,872	232	215,480
	September	6,729	NA	NA	6,823	269	226,447
	October	6,778	NA	NA	6,410	207	221,493
	November	6,390	NA	NA	6,602	139	232,091
	December	6,808	NA	NA	6,786	119	234,925
	AVERAGE	6,675	NA	NA	6,518	184	
1976	January	6,398	NA	NA	6,483	92	240,464
	February	6,263	1,117	17.8	R6,473	84	248,854
	March	6,890	1,456	21.1	6,455	123	239,049
	April	7,159	1,312	18.3	6,562	99	223,965
	May	6,853	1,393	20.3	6,775	112	225,037
	June	7,482	1,549	20.7	7,303	188	225,365
	July	7,315	1,594	21.8	7,174	190	226,922
	August	7,168	1,553	21.7	7,149	141	230,578
	September	7,079	1,628	23.0	6,878	171	229,751
	October	6,929	1,552	22.4	6,678	138	226,300
	November	7,038	1,604	22.8	6,938	146	227,742
	December	7,138	1,797	25.2	7,176	84	231,387
	AVERAGE	6,978	1,508	21.6	6,838	131	
1977	January	6,466	1,549	24.0	6,934	222	252,608
	February	6,897	1,773	25.7	6,817	184	255,519
	March	6,899	1,657	24.0	6,864	245	262,118
	April	7,348	1,863	25.4	6,968	269	258,831
	May	7,034	1,803	25.6	6,950	202	262,498
	June	7,595	2,142	28.2	7,145	246	256,389
	July	7,441	2,146	28.8	7,248	248	258,152
	August	7,419	2,096	28.3	7,191	187	256,904
	September	R7,317	2,080	28.4	7,062	R220	R255,859
	October	7,140	2,135	29.9	6,931	179	254,885
	November	7,196	2,060	28.6	7,123	179	258,039
	December	7,378	2,400	32.5	7,145	196	256,864
	AVERAGE	7,178	1,976	27.8	7,033	215	
1978	January	R6,634	2,097	31.6	R6,934	R206	R272,525
	February	7,022	2,162	30.8	6,714	184	271,898
	AVERAGE (2 months)	6,818	2,128	31.2	6,830	196	

\*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.

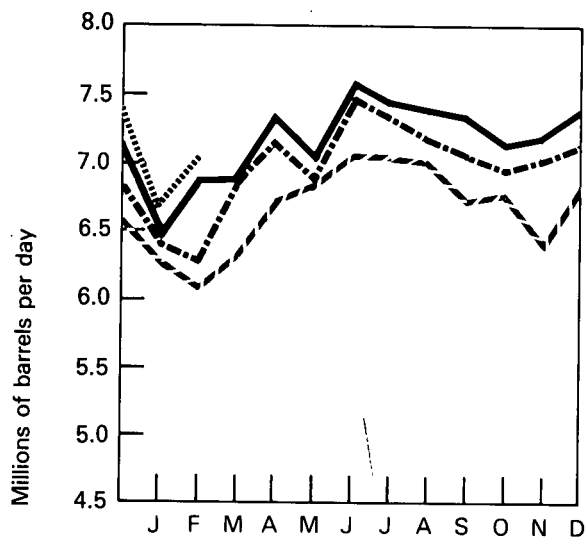
R=Revised data.

NA=Not available.

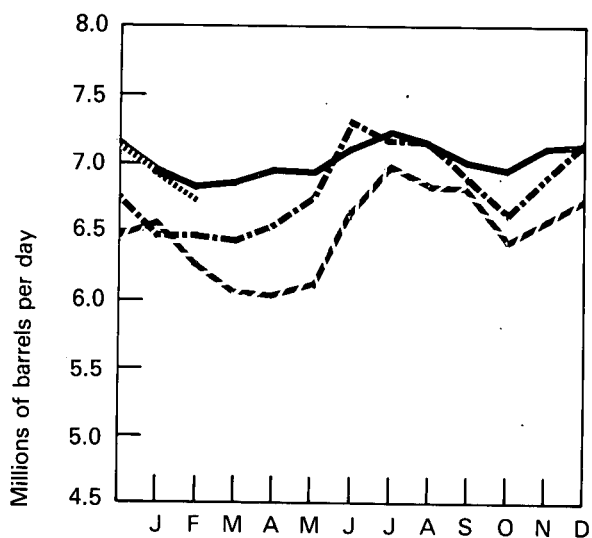
Sources: 1972 through 1976: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual;" January 1977 through April 1977: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly;" May 1977 through September 1977: Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly;" October 1977 through January 1978: EIA "Monthly Petroleum Statistics Report;" February 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

# Motor Gasoline

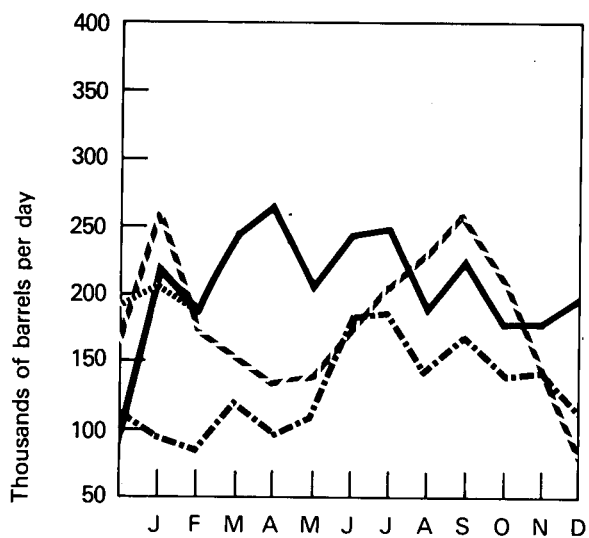
## Domestic Demand



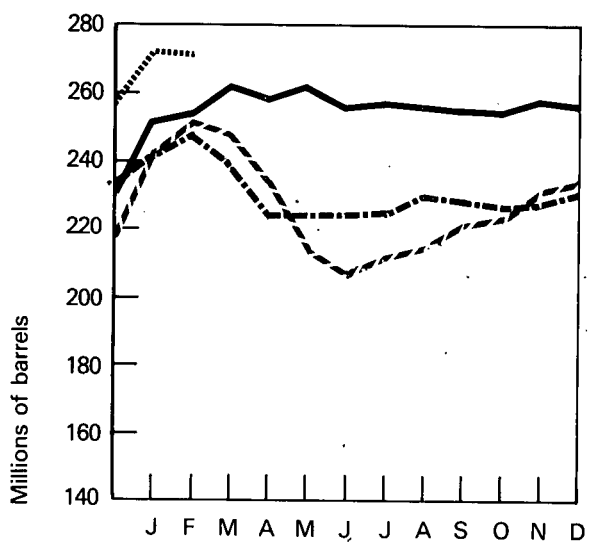
## Production



## Imports



## Stocks



--- 1975 BOM  
 -.- 1976 BOM  
 — 1977 BOM, EIA  
 ..... 1978 EIA, 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	1,113	1,009	71	33,986
	September	R1,050	1,004	R53	R34,159
	October	1,010	973	61	34,878
	November	1,015	950	86	35,483
	December	R1,108	978	R83	33,991
	AVERAGE	R1,040	974	R72	
1978	January	R960	R922	R60	R34,605
	February	1,069	978	67	32,606
	AVERAGE (2 months)	1,012	949	63	

\*Total as of December 31.

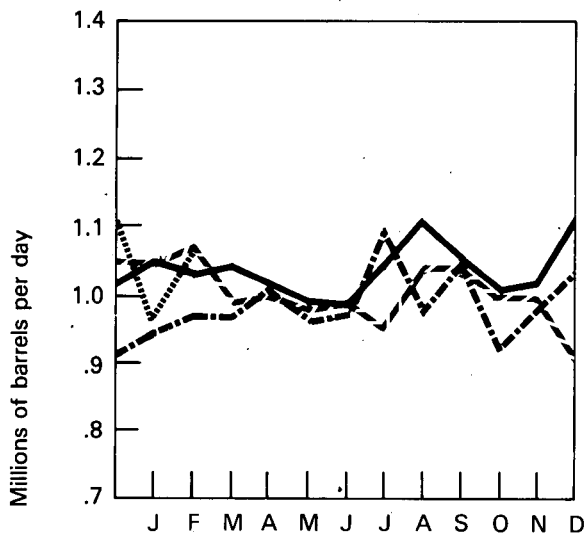
\*\*Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.

R=Revised data.

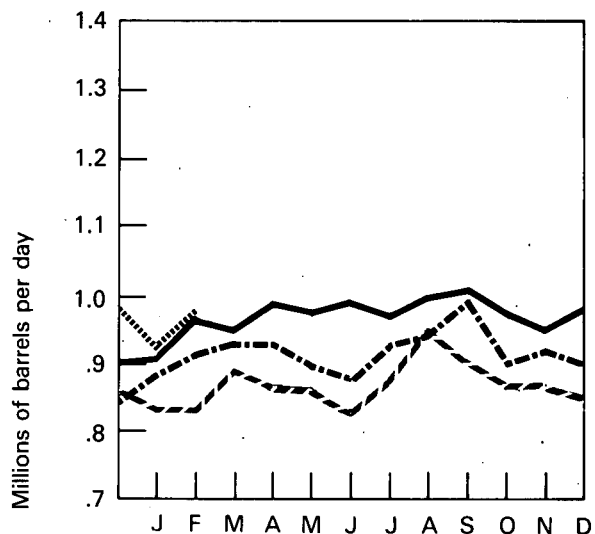
Sources: 1972 through 1976: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual;" January 1977 through April 1977: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly;" May 1977 through September 1977: Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly;" October 1977 through January 1978: EIA "Monthly Petroleum Statistics Report;" February 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

# Jet Fuel

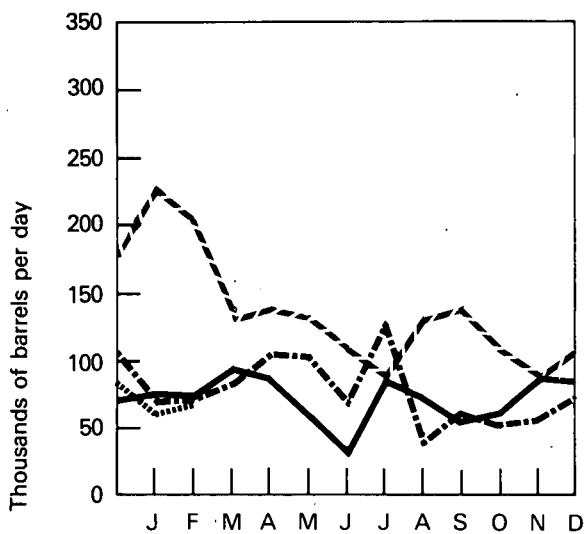
## Domestic Demand



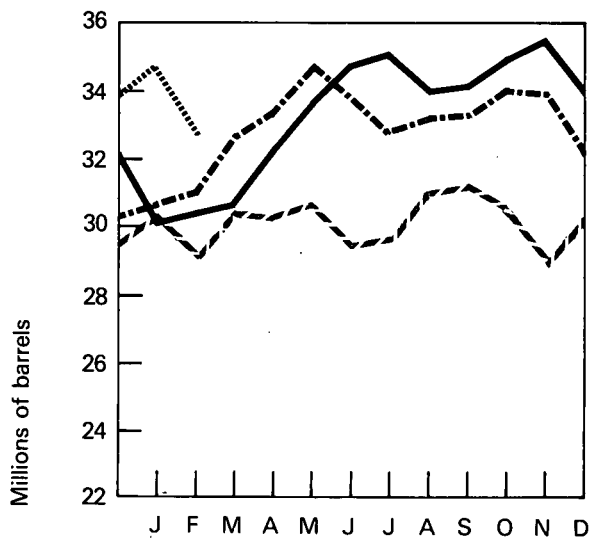
## Production



## Imports



## Stocks



--- 1975 BOM  
 -.- 1976 BOM  
 — 1977 BOM, EIA  
 ..... 1978 EIA, 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	R4,297	2,734	R163	165,428
	February	R3,697	2,961	R218	150,439
	March	R3,339	2,793	R153	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	R2,620	2,947	R149	232,230
	October	R3,031	2,995	R144	235,599
	November	3,714	3,180	135	223,648
	December	R4,667	3,255	R196	185,948
	AVERAGE	R3,133	2,924	R146	
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	3,192	192	204,899
	August	2,635	3,274	161	229,757
	September	R2,717	R3,314	R169	R252,783
	October	3,009	3,328	155	267,440
	November	3,414	3,336	180	270,481
	December	R4,172	3,280	R236	R250,153
	AVERAGE	R3,346	3,272	R249	
1978	January	R4,411	R3,096	R181	R214,983
	February	4,781	2,964	271	171,013
	AVERAGE (2 months)	4,587	3,033	228	

\*See Definitions.

\*\*Total as of December 31.

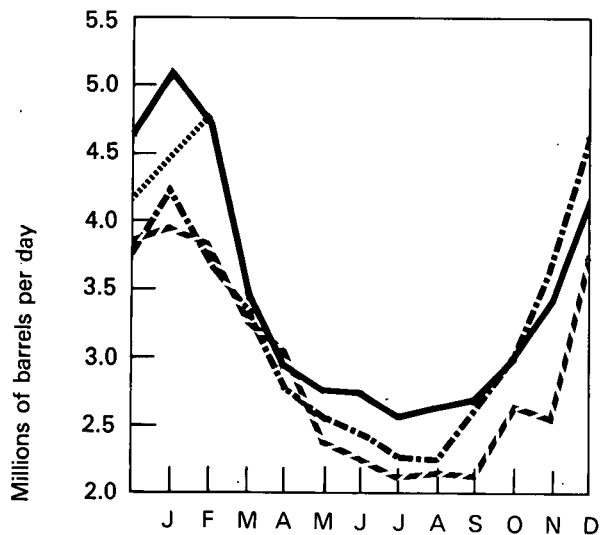
\*\*\*Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.

R=Revised data.

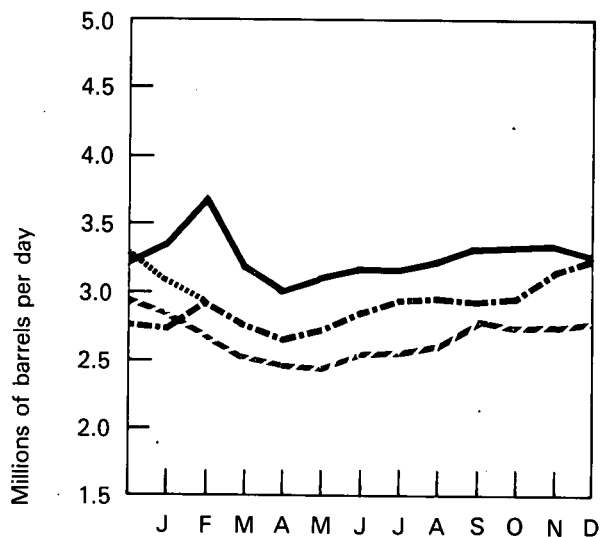
Sources: 1972 through 1976: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual;" January 1977 through April 1977: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly;" May 1977 through September 1977: Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly;" October 1977 through January 1978: EIA "Monthly Petroleum Statistics Report;" February 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

# Distillate Fuel Oil

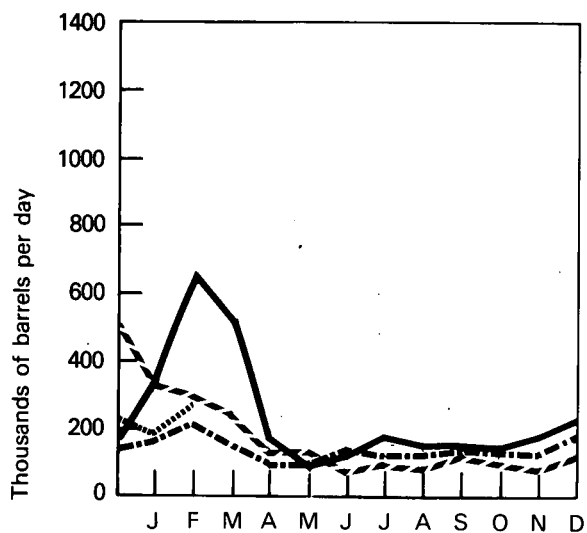
## Domestic Demand



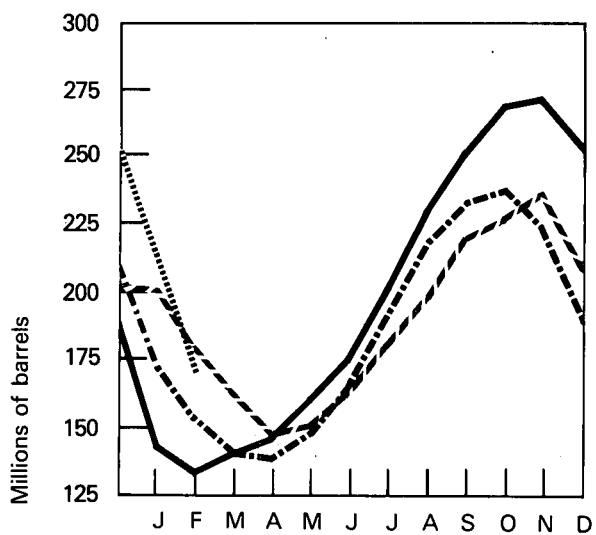
## Production



## Imports



## Stocks



--- 1975 BOM  
 --- 1976 BOM  
 --- 1977 BOM, EIA  
 ..... 1978 EIA, 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	R3,118	1,415	R1,455	66,592
	February	R3,077	1,394	R1,774	68,859
	March	2,779	1,311	1,342	65,132
	April	R2,496	1,283	1,258	66,458
	May	2,439	1,257	1,134	65,147
	June	R2,509	1,241	R1,229	64,272
	July	R2,548	1,266	R1,455	69,812
	August	2,678	1,321	1,307	68,490
	September	R2,526	1,330	R1,452	76,436
	October	R2,547	1,351	R1,270	79,117
	November	3,253	1,581	1,474	73,284
	December	R3,645	1,772	R1,828	72,344
	AVERAGE	R2,801	1,377	R1,413	
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	3,046	1,634	1,441	78,762
	September	R2,926	R1,750	R1,458	R87,522
	October	2,662	1,726	1,221	95,801
	November	2,803	1,696	1,094	95,098
	December	R3,339	1,809	R1,354	89,548
	AVERAGE	R3,023	1,746	R1,351	
1978	January	R3,504	R1,882	R1,362	R81,406
	February	3,656	1,788	1,416	73,343
	AVERAGE (2 months)	3,576	1,837	1,388	

\*Total as of December 31.

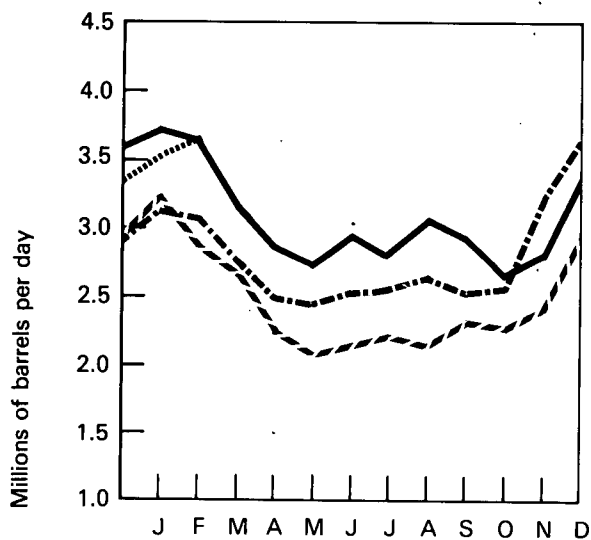
\*\*Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.

R=Revised data.

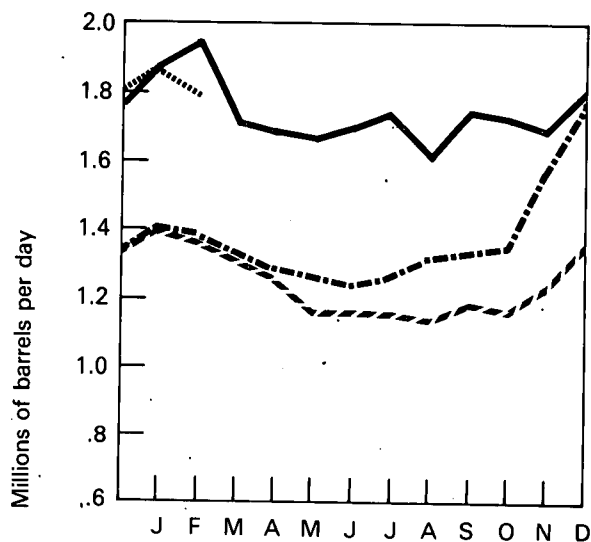
Sources: 1972 through 1976: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual;" January 1977 through April 1977: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly;" May 1977 through September 1977: Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly;" October 1977 through January 1978: EIA "Monthly Petroleum Statistics Report;" February 1978 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

# Residual Fuel Oil

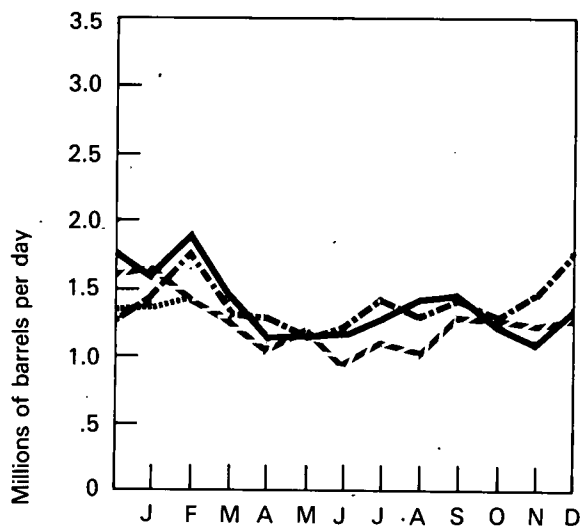
## Domestic Demand



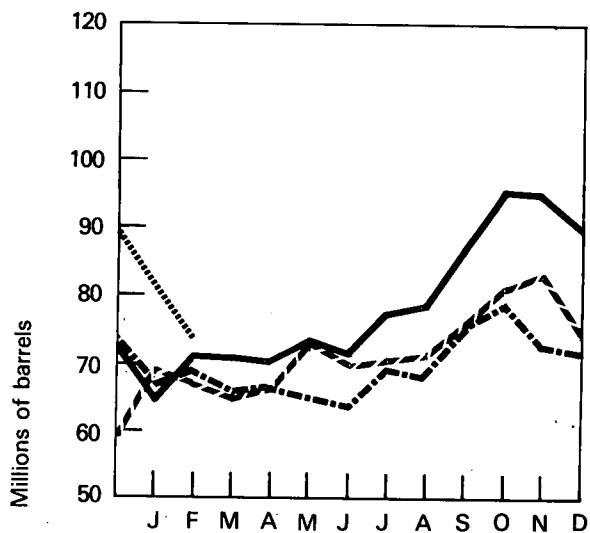
## Production



## Imports



## Stocks



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

# Natural Gas Liquids

		Domestic Demand*	Production*		Used at Refineries*	Imports	Stocks*
			At processing plants	At refineries			Thousands of barrels
		Thousands of barrels per day					
1972	AVERAGE	1,420	1,744	365	826	174	**92,024
1973	AVERAGE	1,454	1,738	375	815	239	**106,659
1974	AVERAGE	1,422	1,688	338	746	212	**120,175
1975	January	1,708	1,630	307	756	257	110,697
	February	1,512	1,646	296	734	181	106,205
	March	1,404	1,658	280	731	178	104,365
	April	1,242	1,635	273	667	176	105,521
	May	1,002	1,607	299	628	97	119,052
	June	998	1,646	323	659	166	132,553
	July	1,191	1,621	336	701	173	139,095
	August	1,227	1,650	357	690	163	145,920
	September	1,278	1,577	326	703	209	148,948
	October	1,429	1,643	310	729	198	147,793
	November	1,444	1,635	309	759	196	145,052
	December	1,787	1,646	310	768	232	132,653
	AVERAGE	1,352	1,633	311	710	185	
1976	January	1,885	1,585	305	728	240	116,707
	February	1,518	1,640	316	793	270	113,373
	March	1,303	1,615	333	674	194	117,486
	April	1,201	1,616	349	716	171	123,100
	May	R1,138	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	R1,747	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
	September	1,220	1,585	355	654	148	156,726
	October	1,411	1,632	355	710	168	157,209
	November***	1,748	1,627	352	753	217	147,619
	December***	2,074	1,637	345	756	239	128,133
	AVERAGE	1,469	1,618	353	679	209	
1978	January***	2,080	1,551	327	674	294	109,554
	February***	1,926	1,578	340	640	211	96,846
	AVERAGE (2 months)	2,007	1,564	333	658	255	

\*See Explanatory Note 4.

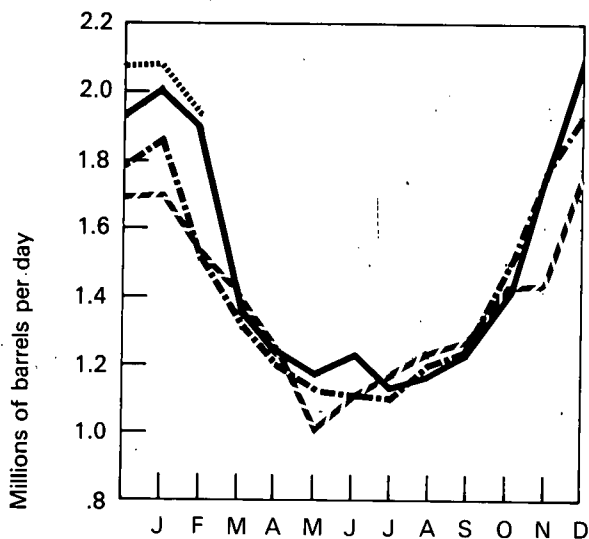
\*\*Total as of December 31.

\*\*\*Estimated.

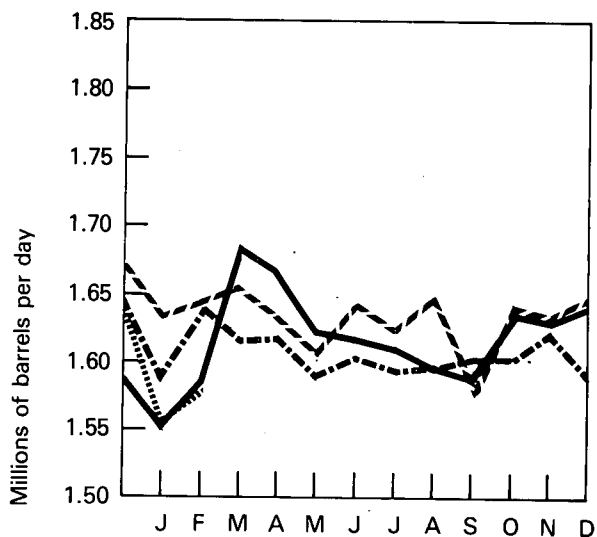
Source: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly" through April 1977; EIA *Energy Data Reports*, "Petroleum Statement, Monthly" and EIA estimates for May 1977 forward.

# Natural Gas Liquids

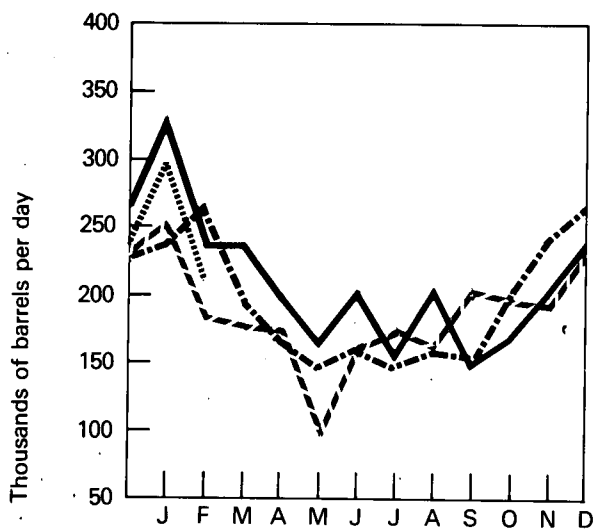
## Domestic Demand



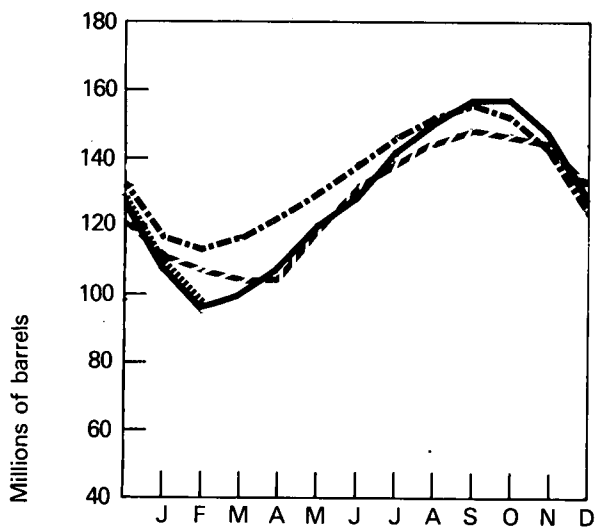
## Production at Processing Plants



## Imports



## Stocks



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

# U.S. Petroleum Supply and Demand

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	8,607	8,211
Natural gas plant liquids production	1,609	1,633	1,596	1,629	1,617
Other hydrocarbon supply	43	54	52	51	50
Crude oil imports	6,520	6,867	6,624	6,232	6,560
Refined products imports*	2,813	1,836	2,110	1,866	2,153
Total new supply	18,941	18,432	18,613	18,384	18,591
Processing gain	521	450	543	526	510
Stock change—all oils	-278	+1,190	+1,177	-57	+511
Total net supply	19,740	17,692	17,979	18,966	18,591

Unaccounted for crude oil\*\* +114 +88 +59 NA NA

## Demand

Crude oil and refined products exports	210	245	259	NA	NA
Crude oil losses	15	15	16	NA	NA
Domestic demand for refined products***	19,629	17,520	17,764	18,751	18,412
Total demand	19,854	17,780	18,039	NA	NA

1978 Annual Forecast†

Low Demand Medium Demand High Demand

Thousands of barrels per day

## Supply

Crude oil and lease condensate production	8,896	8,896	8,896
Natural gas plant liquids production	1,548	1,548	1,548
Other hydrocarbon supply	52	52	52
Crude oil imports	6,544	6,544	6,544
Refined products imports*	1,981	2,021	2,165
Total new supply	19,021	19,061	19,205
Processing gain	556	556	556
Stock change—all oils	0	0	0
Total net supply	19,577	19,617	19,761

Unaccounted for crude oil\*\*\* 0 0 0

## Demand

Crude oil and refined products exports	200	200	200
Crude oil losses	14	14	14
Domestic demand for refined products***	19,363	19,403	19,547
Total demand	19,577	19,617	19,761

\*Includes plant condensate and unfinished oils.

\*\*Balancing item resulting from statistical inconsistencies.

\*\*\*Includes international bunkers.

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

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

Sources: 1st Quarter 1977—BOM Mineral Industry Surveys, "Petroleum Statement, Monthly;" 2nd, 3rd, and 4th Quarters 1977-BOM Mineral Industry Surveys, "Petroleum Statement, Monthly;" Energy Information Administration (EIA) Energy Data Reports, "Petroleum Statement, Monthly;" EIA "Monthly Petroleum Statistics Report," and EIA estimates. 1978—EIA forecast.

# 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
	February	3,058,683	14,108,489	14.38	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 February 1978 was an estimated 18.2 percent higher than in February 1977 reflecting, in part, considerably colder weather in February 1978.\* In addition, according to the Department of Energy's Natural Gas Advisory Committee, some gas was consumed in place of coal during February 1978 as stocks of coal continued to decline as a result of the prolonged strike by the United Mine Workers of America.

Marketed production of natural gas in February was an estimated 3.5 percent less than in February 1977. Last year, production was higher than normal because restrictions limiting production from gas reservoirs on Outer Continental Shelf leases to the Maximum Efficient Rate were temporarily suspended so that storage reservoirs that had been severely depleted in the earlier winter months could be replenished.

Total imports of natural gas in February 1978 were an estimated 1.2 percent lower than in February 1977.

Net withdrawals of gas from underground storage during February were more than double those of February 1977, but working gas\*\* in storage at the end of February 1978 exceeded that available a year earlier by 12.1 percent. This was the result of the record storage buildup during the April-October 1977 storage injection season and a low level of withdrawals during the first 2 months of the 1977-78 winter heating season when temperatures were relatively mild.

Domestic producer sales to major interstate pipeline companies in December 1977 were 1.1 percent higher than in December 1976. Total 1977 sales to major interstate pipelines declined 2.5 percent from the previous year. The ratio of such sales to marketed production dropped from 50.8 percent in 1976 to 49.5 percent in 1977, as the intrastate market continued to capture a larger share of the Nation's natural gas output.

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\*February 1978 degree-days were 22 percent above those for February 1977.

\*\*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	1,938	1,647	850	78
	March	1,721	1,714	894	85
	April	1,508	1,623	849	86
	May	1,434	1,673	860	82
	June	1,335	1,640	815	76
	July	1,372	1,676	822	73
	August	1,317	1,636	810	77
	September	1,302	1,565	793	74
	October	1,621	1,639	840	85
	November	1,875	1,635	841	81
	December	2,232	1,753	872	83
	TOTAL	19,946	19,952	10,140	964
1977	January	2,394	1,742	848	85
	February	1,793	1,668	807	85
	March	1,693	1,742	910	106
	April	1,408	1,634	830	82
	May	1,355	1,691	830	84
	June	1,311	1,643	789	76
	July	1,304	1,669	801	74
	August	1,343	1,639	784	78
	September	1,403	1,587	741	78
	October	R1,490	R1,620	831	85
	November	R1,663	R1,599	830	86
	December	R2,082	R1,719	882	90
	TOTAL	R19,239	R19,953	9,883	1,009
1978	January	R2,380	R**1,730	NA	**89
	February	2,120	**1,610	NA	**84

\*See Explanatory Note 6.

\*\*Preliminary data.

R=Revised data.

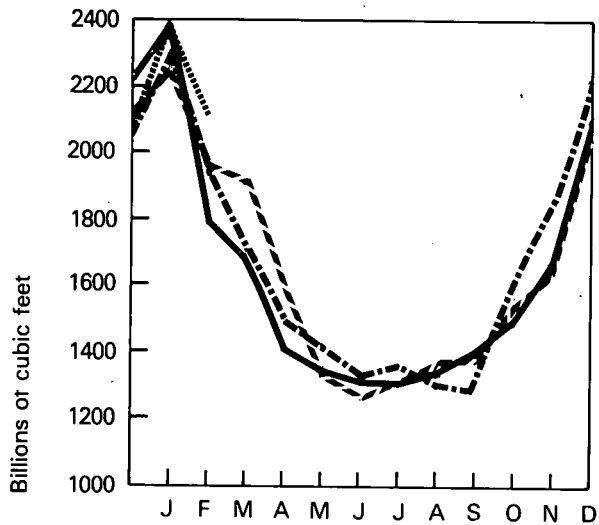
NA=Not available.

Note: All monthly Domestic Consumption data are estimated.

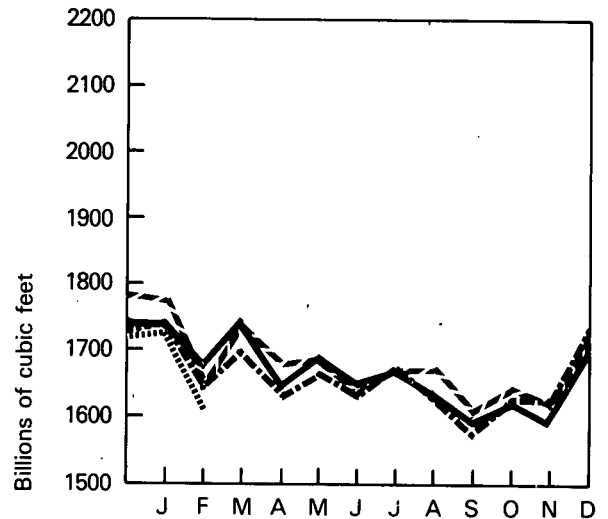
Sources: Domestic Consumption—EIA estimates; Marketed Production and Imports—Bureau of Mines *Mineral Industry Surveys*, "Natural Gas, Monthly" through June 1977 and EIA *Energy Data Reports*, "Natural Gas, Monthly" for July 1977 forward; Domestic Producer Sales—Federal Power Commission Form 11, "Monthly Statement of Gas Operating Revenues, Sales."

# Natural Gas

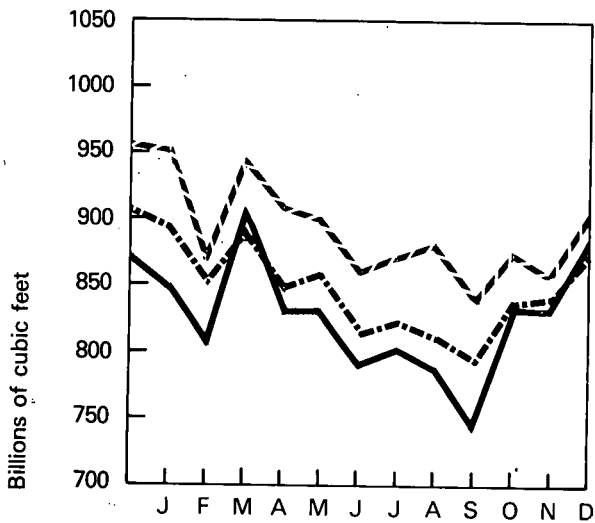
## Domestic Consumption



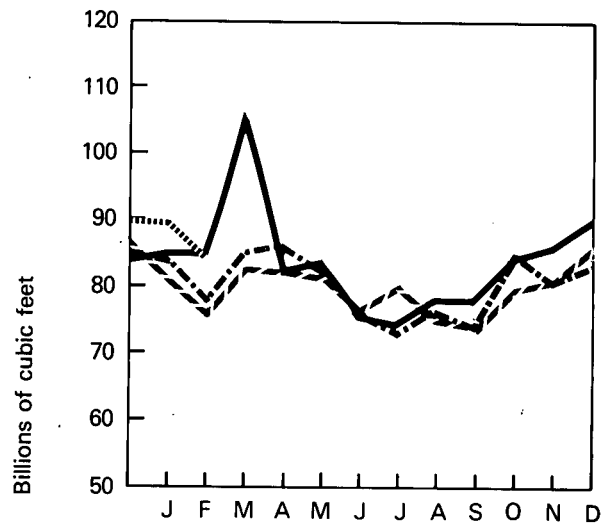
## Marketed Production



## Domestic Producer Sales to Major Interstate Pipelines



## Imports



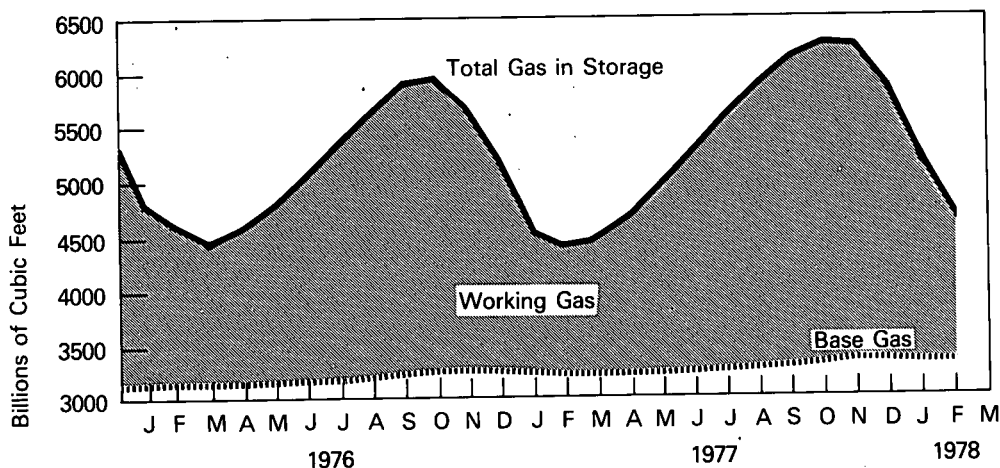
--- 1975  
 --- 1976  
 --- 1977  
 .... 1978

# 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	R5,844	R3,377	R2,467	41	R416	R-375
1978	January	R5,193	3,374	R1,819	21	R668	R-647
	February	4,677	3,373	1,304	20	533	-513

Gas in Storage



\*See Explanatory Note 7.

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

## Coal

The United States exported only 870,000 tons of coal in January 1978 compared with 3.9 million tons in December. Exports in February were approximately 650,000 tons.

The labor strike by the United Mine Workers of America (UMWA) against the Bituminous Coal Operators Association (BCOA) officially came to an end on March 24 with the ratification of a new 3-year contract by the miners. Most of the UMWA miners returned to work on Monday, March 27, and railroads, utilities, and other affected industries moved quickly to resume full operations. Despite the 109-day walkout, the longest coal strike on record, the impact on the economy was less severe than had been anticipated. The relatively mild impact was attributable to the buildup of coal stocks prior to the strike, conservation of coal, switchover to other forms of energy, and increases in coal production from nonstriking mines in Western and Midwestern States. Total coal production during the 3 1/2-month strike was approximately 45 percent below the output for the same period a year earlier.

Domestic consumption of bituminous coal and lignite totaled 45.8 million tons in February, down 8.5 percent from the consumption level in February 1977. Utility coal consumption\* was 36.0 million tons in February 1978 compared with 37.5 million tons in February 1977. The second largest consuming sector, steel company coke plants, consumed 4.1 million tons of coal in February 1978, or one-third less than in February 1977. Coal consumption in the general industrial sector amounted to 4.8 million tons, a decline of 13.1 percent from the amount consumed in February 1977. The balance was consumed through retail sales.

Total stocks of bituminous coal and lignite, which were at a record 173 million tons immediately prior to the coal strike, declined 80 million tons during the December-February period. Electric utility stocks\* declined from 147 million tons on November 30 to 82 million tons on February 28, 1978. Stocks of coking coal during this period fell from 15.5 million tons to 5.2 million. Coal stocks held by general industry were drawn down from 9.7 million tons to 5.6 million tons during the December-February period.

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

# Bituminous and Lignite

		Domestic Consumption*	Production*	Exports	Stocks**
Thousands of short tons					
1972	TOTAL	516,776	595,386	55,997	115,372
1973	TOTAL	556,022	591,738	52,870	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	52,932	52,568	3,697	119,220
	February	46,832	53,773	3,050	119,004
	March	48,624	60,918	3,979	123,471
	April	46,415	59,145	5,780	128,393
	May	46,681	57,934	5,667	136,013
	June	48,445	59,680	6,569	140,144
	July	51,717	44,318	4,880	129,661
	August	52,082	53,622	4,223	123,853
	September	47,689	60,634	5,614	129,878
	October	49,312	58,899	5,871	133,624
	November	51,877	58,780	5,451	135,019
	December	56,144	58,414	4,625	133,555
	TOTAL	598,750	678,685	59,406	
1977	January	56,561	44,555	2,143	118,116
	February	50,033	50,365	3,079	114,363
	March	50,278	65,020	3,390	122,593
	April	46,290	58,893	5,637	129,878
	May	49,120	60,799	5,673	137,673
	June	51,690	61,078	6,019	145,914
	July	56,141	47,785	5,158	137,463
	August	54,758	55,920	4,279	136,832
	September	50,622	65,505	5,037	144,953
	October	50,191	64,415	4,871	158,164
	November	50,245	65,545	4,491	173,063
	December	53,687	32,120	3,910	R152,317
	TOTAL	619,616	672,000	53,687	
1978	January	54,738	R25,115	870	117,612
	February	***45,778	25,520	***650	***93,000
	TOTAL (2 months)				

See Explanatory Note 8.

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

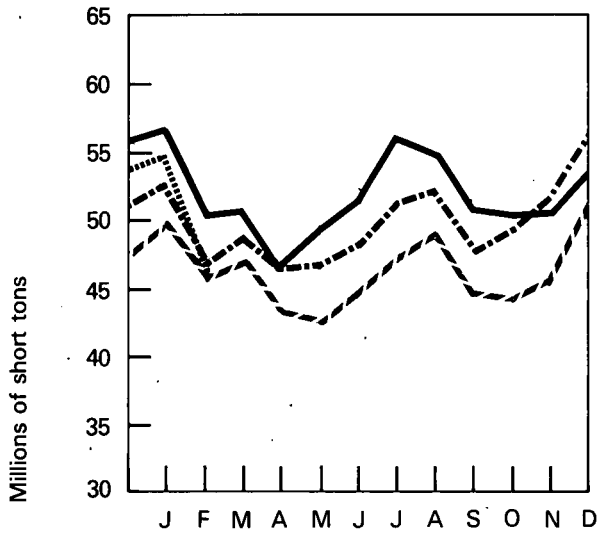
\*\*\*Estimated.

R=Revised data.

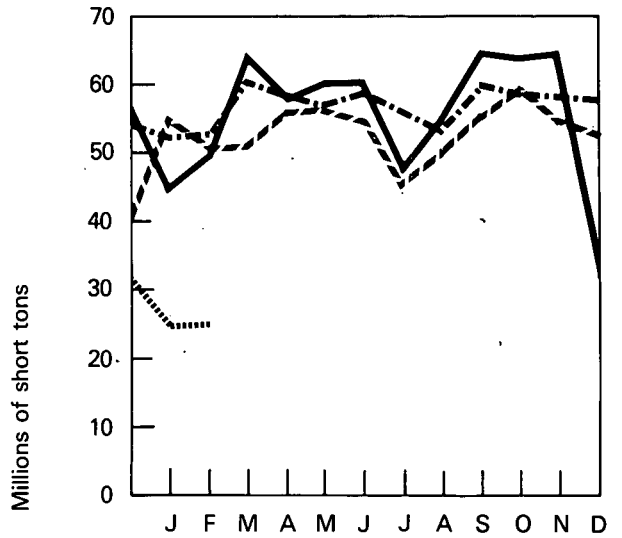
Source: Bureau of Mines *Mineral Industry Surveys*, "Weekly Coal Report" through September 1977; and EIA *Energy Data Reports*, "Weekly Coal Report" for October 1977 forward.

# Bituminous and Lignite

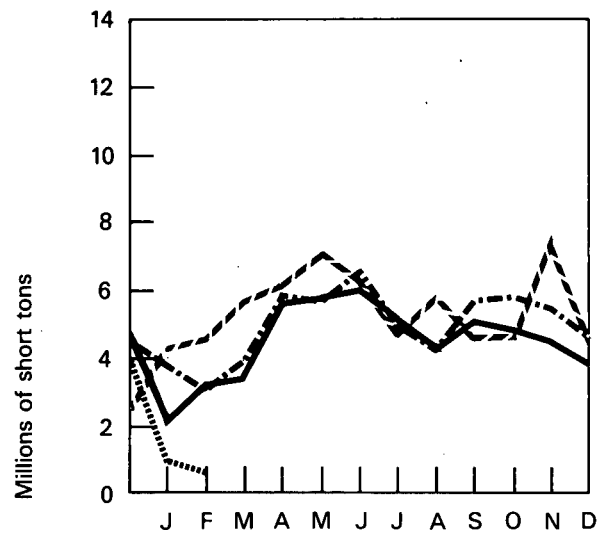
## Domestic Consumption



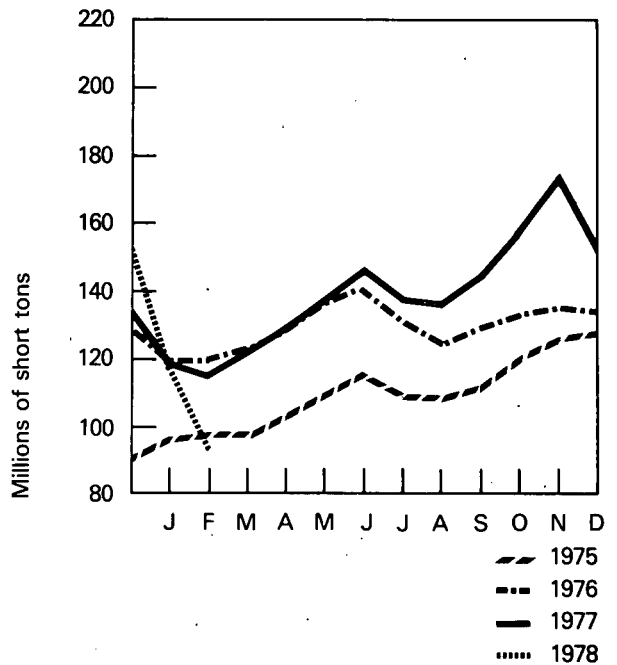
## Production



## Exports



## Stocks

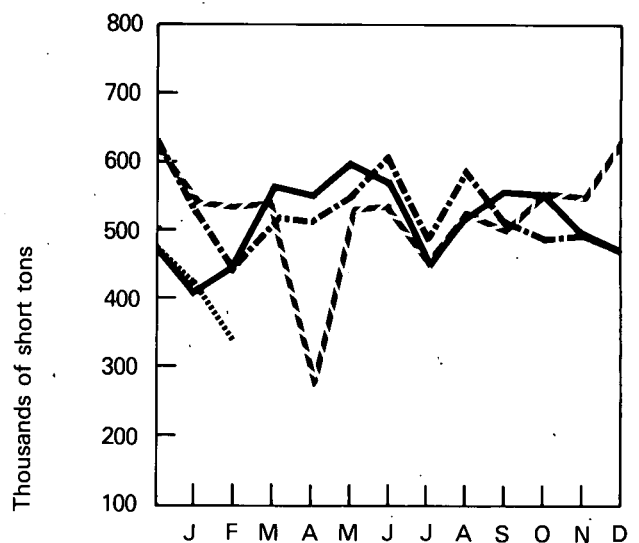


--- 1975  
 --- 1976  
 --- 1977  
 ..... 1978

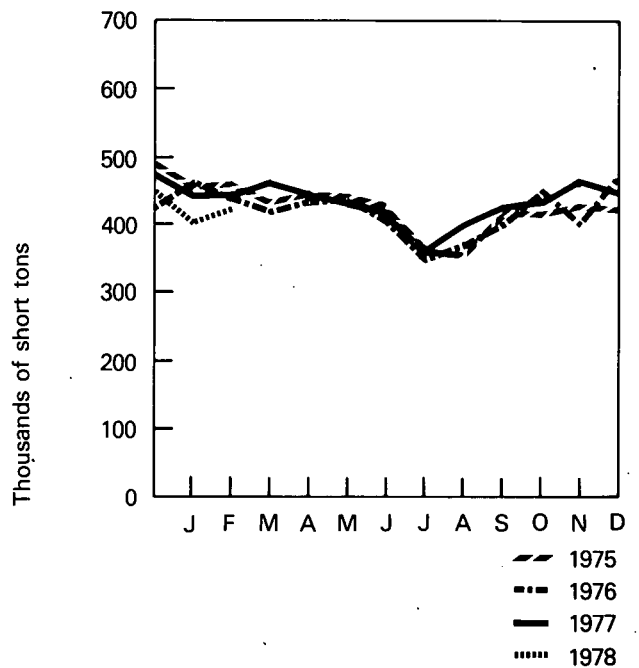
# Anthracite

		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	525	460
	February	440	430
	March	525	420
	April	520	435
	May	555	440
	June	610	400
	July	490	350
	August	590	375
	September	515	400
	October	490	455
	November	493	400
	December	475	475
	TOTAL	6,228	5,040
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	430	400
	February	340	425

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.



# Part 5

## Electric Utilities

### Electric Utilities

January 1978 production of electricity by utilities totaled 197.3 billion kilowatt hours, 0.5 percent above the level for January 1977. Production by coal-fired and oil-fired plants in January 1978 dropped 5.4 percent and 10.0 percent, respectively, from the production levels of January 1977. Conversely, production by gas-fired and nuclear plants increased 11.6 and 16.7 percent, respectively. While the increased production by nuclear plants is in line with recent trends, the production rise for gas plants in January 1978 is the largest increase for that month in the past 6 years. The decrease in generation from oil-fired plants is large because in January 1977 output from these plants was abnormally high due to increased electric heating requirements resulting from the extremely cold weather. Hydroelectric power production in January 1978 was up 19.7 percent over the January 1977 level, reflecting the end of drought conditions in the Pacific Northwest. Edison Electric Institute has preliminarily estimated February 1978 production at 173.4 billion kilowatt hours.

Electric utility consumption of coal,\* oil, and gas during January 1978 was 42.7 million tons, 69.2 million barrels, and 228.6 billion cubic feet, respectively, representing decreases of 1.3 percent for coal and 8.9 percent for oil, and an increase of 11.5 percent for gas, when compared to consumption in the same month of 1977.

As a result of the stockpiling at coal-fired plants prior to the UMWA strike, coal stocks\* on January 31, 1978, were 105.3 million tons, only 0.8 percent below the January 31, 1977, level. Oil stocks on January 31, 1978, were 130.0 million barrels, an increase of 26.4 percent over the stock level for the same period of 1977.

Sales of electricity to ultimate industrial customers during December 1977 totaled 63.8 billion kilowatt hours, 1.9 percent above the level in December 1976. Sales to ultimate residential customers declined 2.9 percent to 55.1 billion kilowatt hours. Sales to ultimate commercial customers totaled 36.0 billion kilowatt hours, up 0.6 percent from the level 1 year earlier.

The primary cause of the increase in ultimate industrial sales of electricity are a 1.1-percent increase in industrial production\*\* coupled with a 5.6-percent increase in the number of industrial customers reported by Class A and B utilities.\*\*\* Sales to ultimate residential customers decreased, although the number of Class A and B residential electricity customers increased 2.3 percent over the December 1976 level. A major factor affecting the growth in ultimate commercial sales was a 2.1-percent increase in the number of Class A and B commercial electricity customers.

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

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

\*\*\*See Explanatory Note 9.

# Electric Utilities

## Net Electricity Production

		Coal	Oil	Gas	Nuclear	Hydro-electric	Other*	Total
		Millions of kilowatt hours						
1971	TOTAL	714,680	218,622	374,027	38,105	266,301	859	1,612,593
1972	TOTAL	772,857	272,550	375,735	54,091	272,612	1,783	1,749,629
1973	TOTAL	848,988	312,940	340,804	83,334	272,081	2,294	1,860,440
1974	TOTAL	829,973	299,363	320,055	113,976	301,032	2,704	1,867,103
1975	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	21,046	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
	TOTAL	852,968	288,908	299,772	172,506	300,047	3,437	1,917,638
1976	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	29,715	15,757	25,563	314	173,391
	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
	TOTAL	944,608	319,808	294,659	191,103	283,713	3,884	2,037,775
1977	January	R89,844	43,363	R19,953	22,107	20,700	359	196,326
	February	78,752	29,429	19,480	19,601	15,150	322	162,734
	March	77,521	R28,345	22,464	20,672	19,801	356	R169,159
	April	70,898	R25,834	R21,297	19,863	18,642	319	R156,853
	May	77,071	R27,945	R24,704	20,479	18,677	341	R169,217
	June	83,152	R28,948	R29,620	21,268	17,226	335	R180,549
	July	92,408	R34,866	32,712	21,825	R16,798	328	198,937
	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	R79,406	R23,061	R27,360	18,967	17,220	360	R166,374
	November	R79,495	24,848	R22,602	18,840	20,428	347	R166,560
	December	R83,617	R32,566	R21,166	23,771	R22,787	337	R184,244
	TOTAL	R985,521	R357,855	R305,595	249,720	R220,596	4,063	R2,123,350
1978	January	85,016	39,046	22,268	25,803	24,783	357	197,271
	February	NA	NA	NA	21,860	NA	NA	173,351

(See chart on page 35)

\*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 January 1978; Edison Electric Institute for February 1978 Total and Nuclear Regulatory Commission for February 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	9,646	75,896	R205,072
	February	37,645	R47,603	3,206	R50,809	R200,407
	March	R37,218	46,069	2,600	48,669	R231,790
	April	R34,051	42,138	2,294	44,432	R223,080
	May	37,159	44,714	3,911	48,625	R259,840
	June	40,151	46,140	4,414	50,554	R310,683
	July	44,977	R54,525	R7,881	R62,406	R346,441
	August	44,172	R51,782	4,815	R56,597	R350,742
	September	40,168	R43,190	2,631	R45,821	R324,672
	October	38,379	R38,012	1,959	R39,971	R284,847
	November	38,724	R40,567	2,555	R43,122	R234,253
	December	R41,301	R52,518	R4,184	R56,702	R219,976
	TOTAL	R477,200	R573,508	R50,096	R623,604	R3,191,803
1978	January	42,705	60,965	8,215	69,180	228,579

\*Primarily residual fuel oil.

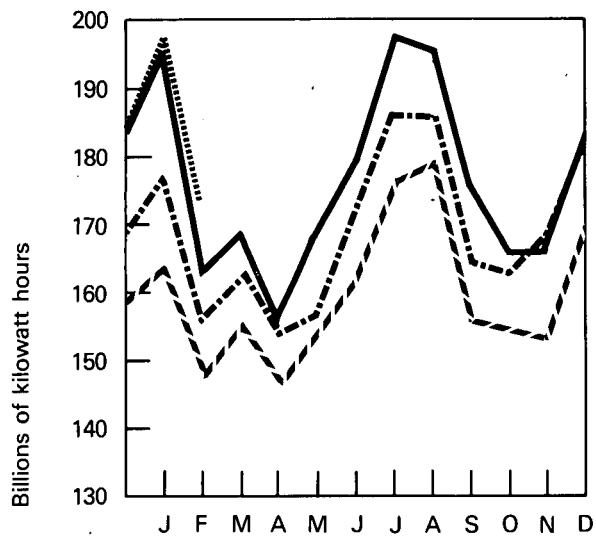
\*\*Primarily middle distillates.

R=Revised.

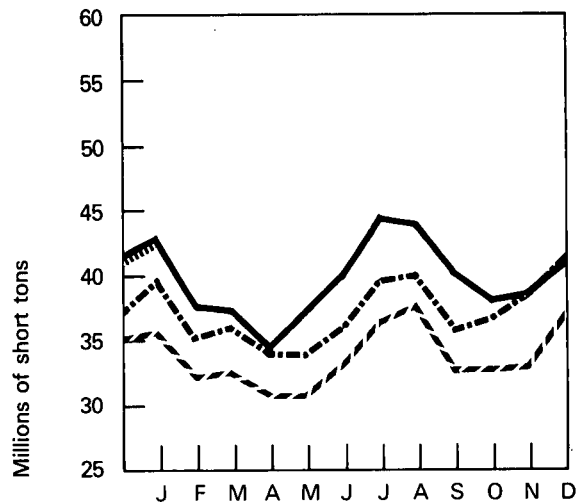
Source: Federal Power Commission Form 4, "Monthly Powerplant Report."

# Electric Utilities

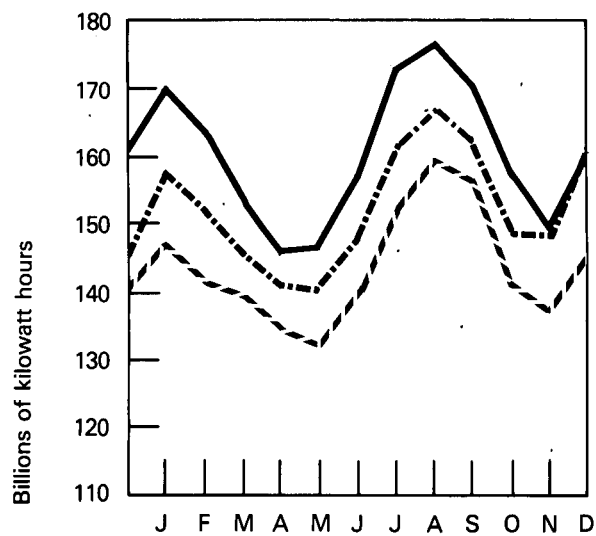
## Total Net Electricity Production



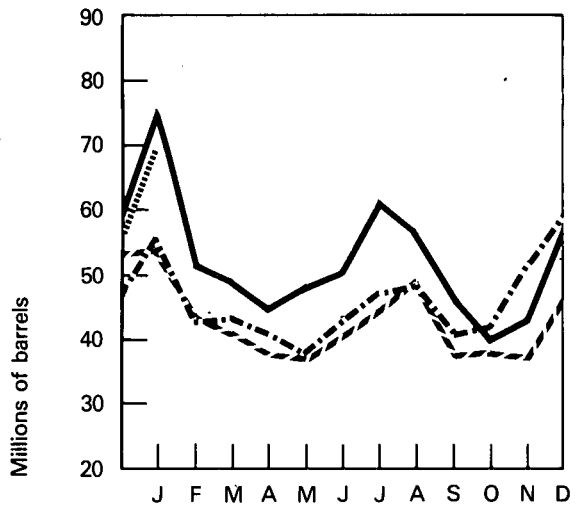
## Coal Consumption



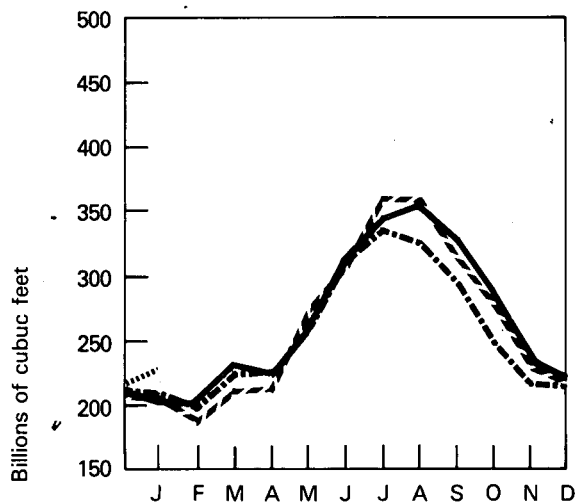
## Total Electricity Sales



## Oil Consumption



## Gas Consumption



1975    
 1976    
 1977    
 1978

# 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	117,493	106,744	14,980	121,724
1977	January	106,183	89,877	R12,966	R102,843
	February	103,262	95,641	R14,390	110,031
	March	109,620	R97,845	R15,782	R113,627
	April	115,915	101,502	16,117	117,619
	May	122,834	103,802	R16,134	119,936
	June	128,817	R107,662	15,914	R123,576
	July	R123,405	R112,937	R16,348	R129,285
	August	123,856	R119,300	17,394	R136,694
	September	130,380	R125,064	18,161	R143,225
	October	R139,705	128,158	R19,424	R147,582
	November	R149,725	R129,419	R19,433	R148,852
	December	R133,278	R124,969	R19,605	R144,574
1978	January	105,304	113,471	16,493	129,964

\*Primarily residual fuel oil.

\*\*Primarily middle distillates.

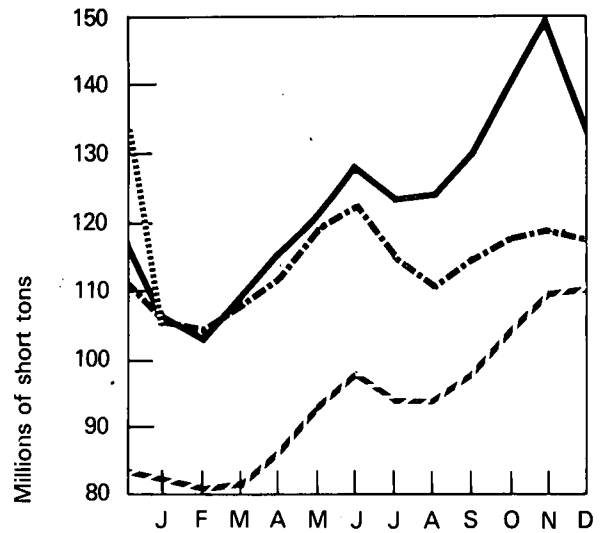
\*\*\*As of December 31.

R=Revised.

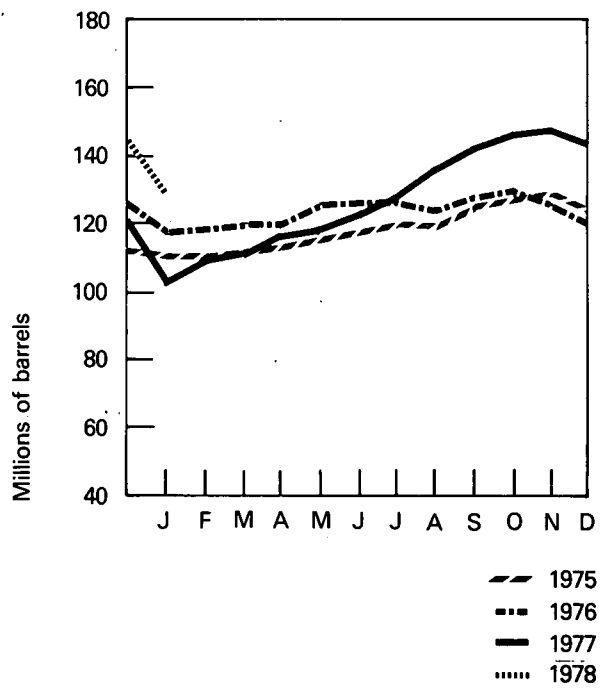
Source: Federal Power Commission Form 4, "Monthly Powerplant Report."

# 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	R161,435
	August	57,349	39,933	63,921	5,829	167,032
	September	53,459	38,817	64,382	6,125	162,783
	October	44,751	34,981	64,028	5,649	R149,409
	November	R46,682	R33,622	R63,002	R5,802	R149,108
	December	R56,751	R35,838	R62,640	R5,886	R161,115
	<b>TOTAL</b>	<b>R602,863</b>	<b>R423,640</b>	<b>R739,964</b>	<b>R69,558</b>	<b>R1,836,025</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
	November	44,962	33,979	64,959	5,866	149,766
	December	55,101	36,047	63,809	6,083	161,040
	<b>TOTAL</b>	<b>642,030</b>	<b>443,350</b>	<b>773,833</b>	<b>68,867</b>	<b>1,928,080</b>

(See chart on page 35)

\*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 65 fully operable domestic nuclear reactors (including two units owned by the U.S. Department of Energy), with a maximum dependable capacity of 45,754 electrical megawatts,\* performed at 71 percent of capacity during February 1978. Total electricity generated by these reactors amounted to 21.9 billion net kilowatt hours, which was 12.6 percent of total net domestic electricity production for February.

An additional four units are in some phase of startup testing leading to full (commercial) operation. One of these units, the recently completed North Anna 1 reactor owned by the Virginia Electric Power Company, was licensed to load fuel in November 1977, but restrained from generating electricity pending the outcome of hearings related to safety equipment.

One operating license was issued during February to the Metropolitan Edison Company for the second unit of the 3 Mile Island reactor located near Harrisburg, Pennsylvania, on the Susquehanna River. The first unit of this project began operating in 1974. One construction permit was issued during the month to the Washington Public Power Supply System for the WPPSS 4 unit at Richland, Washington.

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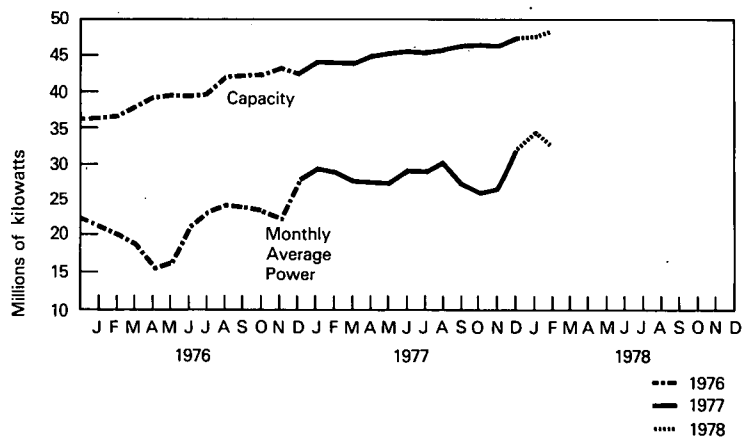
\*Does not include 3 units in startup testing having a total capacity of 2,374 electrical megawatts.



# 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	46,051	27,206	11.1
	October	46,088	25,459	11.4
	November	46,088	26,167	11.3
	December	47,133	31,950	12.9
<b>AVERAGE</b>		<b>45,554</b>	<b>28,507</b>	<b>11.8</b>
<b>1978</b>	January	R47,167	R34,688	R13.1
	February	**48,128	**32,530	**12.6

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—February 28, 1978

Status	Number of Plants				Design Capacity	
	Boiling Water Reactors	High Temperature Gas Reactors	Pressurized Water Reactors	Other**	Total	Net Electrical Megawatts
In operation or startup testing	25	1	41	2	69	50,000
Construction permit granted	29	0	57	0	86	94,000
Construction permit pending	8	0	32	3	43	48,000
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 11 announced intentions to order for which a reactor type has not been chosen.

Source: Department of Energy.

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

### Generation of Electricity

Country	Number of Reactors*	Capacity  Thousands gross electrical kilowatts	Electricity Generation  Millions of gross kilowatt hours	Percent of Design Capacity Used			
				February 1978	Year**		
					1975	1976	1977
Asia							
Japan	14	7,990	1,889	35	46	57	41
India	3	620	77	18	46	58	51
Pakistan	1	140	32	34	46	41	28
Taiwan	1	640	54	13	—	—	—
Europe							
Belgium	3	1,740	344	29	83	65	78
England	***31	8,100	3,513	65	57	62	55
Finland	1	440	141	48	—	—	92
France	12	4,930	2,529	76	68	59	52
Germany (FR)	10	6,410	3,348	78	72	57	64
Italy	3	630	266	63	69	69	61
Netherlands	2	520	337	96	73	84	81
Spain	3	1,120	633	84	77	77	67
Sweden	6	3,850	2,266	88	44	55	59
Switzerland	3	1,060	722	101	84	85	87
North America							
Canada	18	4,790	2,839	88	64	80	76
United States	66	49,300	22,958	69	56	55	64
South America							
Argentina	1	340	241	105	85	86	55
Total or Average	168	92,630	42,187	68	58	59	62

\*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 for all units are based on 4-week period.

†Figures are based on 4-week period.

R = Revised data.

Source: *Nucleonics Week* magazine.

## U.S. Uranium Enrichment—February 1978

	Domestic Customers	Foreign Customers	Total
Separative work performed (in metric tons of separative work units)	353.147	206.388	559.535
Cost (in millions of dollars)	24.649	15.063	39.712
Product quantity (in metric tons of uranium)	96.409	48.874	145.283
Feed requirement (in metric tons of uranium)	472.600	263.988	736.588

Source: U.S. Department of Energy.

## Summary of Monthly Fuel Cycle—January 1978

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	779	74	283,000	427	1.27
Conversion	Uranium Hexafluoride (UF <sub>6</sub> ) Deliveries	591	41	202,000	89	0.16
Enrichment	Enriched UF <sub>6</sub> Deliveries	145 (560 MT-SWU)	( <sup>6</sup> )	297,000	1,321	1.53
Fabrication	Finished Fuel Assemblies Shipped	144	NA	294,000	40	0.47
Powerplant Operation	Electricity Generated	25,189 (million kWh)	71	277,000	1,230 (million kWh)	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 10 and 11.

<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 1977 was 75.91 quadrillion Btu, 2.1 percent more than in 1976.

The 1977 consumption total for the combined residential/commercial sector was 28.07 quadrillion Btu, up 3.2 percent from the previous year. Consumption in the industrial sector was 27.95 quadrillion Btu, about equal to the 1976 level. Energy used for transportation in 1977 totaled 19.90 quadrillion Btu, 3.1 percent more than in 1976.

Energy consumption during January and February 1978 amounted to 14.35 quadrillion Btu, up 1.1 percent from the total for the same period in 1977. The increase was attributable to colder weather during February 1978. (Heating degree-days were 22 percent greater than for February 1977.)

## Petroleum Consumption and Forecast

Total domestic demand for petroleum products in February 1978 was 20.3 million barrels per day, very close to both the forecast level and the February 1977 demand level. Consumption of motor gasoline was 7.0 million barrels per day, 1.8 percent above the consumption level for the same month in 1977 and 3.6 percent above the forecast. Consumption of distillate fuel oil in February was 4.8 million barrels per day, 1.4 percent above the 1977 level and 6.7 percent above the forecast. Consumption of residual fuel oil was 3.7 million barrels per day, about the same as February 1977 but 6.0 percent less than the forecast level.

## Energy Indicators\*

### U.S. Dependence on Petroleum Imports

The fraction of petroleum demand supplied by imports dropped from a seasonally adjusted figure of 46 percent in the third quarter of 1977 to 40 percent in the fourth quarter due to low demand and high inventory levels. Imports from Arab members of OPEC dropped slightly between quarters from 18.6 to 18.1 percent of petroleum demand.

## Energy Consumption Per GNP Dollar

Energy consumption per GNP dollar dropped 3.4 percent between third and fourth quarters 1977 to a seasonally adjusted figure of 55.8 thousand Btu per constant 1972 dollar. This was the lowest recorded value since 1969.

## Consumer Energy Price Indicator

The Consumer Energy Price Indicator (CEPI) registered a 0.5 percent decrease between third and fourth quarters 1977, while the Consumer Price Index (CPI) rose by 0.7 percent. The CEPI increased 9.2 percent in 1977, compared with a 6.5-percent increase in the CPI during the year.

## Heating Degree-Days

The period February 27, 1978, through March 26, 1978, was colder than normal, and much colder than last year: National average, population-weighted, heating degree-days for the period were 9 percent above normal and 35 percent above last year. Degree-days for New England were 10 percent above normal; for the Middle Atlantic States, 13 percent above normal; and for the Lower Atlantic States, 12 percent above normal. The Midwest accumulated 16 percent more degree-days than normal, and the South Central States, 10 percent more. In contrast, the Mountain States accumulated 15 percent fewer than normal degree-days, and the West Coast, 37 percent fewer, reflecting warmer than usual temperatures.

The 1977-78 heating season through March 26 has averaged 9 percent colder than normal, but 3 percent warmer than last year for the country.

\*See Explanatory Notes 13, 14, and 15.

# 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	R22.699	32.965	2.946	R0.576	R71.609	
1973	TOTAL	13.294	22.512	34.852	3.006	0.888	74.551	
1974	TOTAL	12.889	21.732	33.468	3.295	1.215	72.601	
1975	January	1.148	2.295	3.067	0.268	0.149	6.927	6.927
	February	1.054	1.980	2.629	0.256	0.136	6.054	12.982
	March	1.087	1.943	2.780	0.299	0.159	6.267	19.249
	April	1.004	1.608	2.646	0.285	0.142	5.685	24.934
	May	0.984	1.359	2.582	0.296	0.147	5.368	30.301
	June	1.032	1.283	2.574	0.290	0.136	5.315	35.616
	July	1.091	1.341	2.682	0.273	0.164	5.550	41.167
	August	1.131	1.398	2.693	0.243	0.169	5.634	46.800
	September	1.015	1.399	2.600	0.221	0.153	5.388	52.188
	October	1.035	1.576	2.790	0.243	0.156	5.801	57.989
	November	1.059	1.674	2.601	0.262	0.151	5.747	63.736
	December	1.174	2.092	3.098	0.278	0.178	6.821	70.557
	TOTAL	12.813	19.948	32.742	3.215	1.839	70.557	
1976	January	1.219	2.339	R3.177	0.281	0.172	R7.187	R7.187
	February	1.079	1.979	R2.791	0.265	0.153	R6.266	R13.453
	March	1.119	1.757	R2.948	0.286	0.149	6.259	R19.713
	April	1.069	1.540	2.749	0.261	0.117	5.736	R25.448
	May	1.076	1.464	2.722	0.275	0.127	5.664	R31.112
	June	1.115	1.363	R2.774	0.276	0.168	R5.695	R36.807
	July	1.188	1.401	R2.829	0.281	0.189	R5.888	R42.695
	August	1.197	1.345	2.835	0.258	0.196	5.831	R48.526
	September	1.097	1.329	R2.776	0.222	0.184	R5.609	R54.135
	October	1.136	1.655	R2.912	0.229	0.185	R6.116	R60.251
	November	1.194	1.914	3.107	0.216	0.172	R6.603	R66.854
	December	1.292	2.279	R3.503	0.220	0.225	R7.519	R74.373
	TOTAL	13.781	20.365	R35.123	3.068	2.037	R74.373	
1977	January	1.301	2.444	3.489	0.225	0.236	7.695	7.695
	February	1.152	1.831	3.143	0.168	0.209	6.503	14.198
	March	1.158	1.729	3.076	0.216	0.220	6.399	20.597
	April	1.067	1.438	2.897	0.204	0.212	5.817	26.413
	May	1.131	1.383	2.890	0.204	0.218	5.827	32.240
	June	1.189	1.339	2.976	0.189	0.227	5.919	38.159
	July	1.289	1.331	2.990	0.185	0.233	6.028	44.187
	August	1.259	1.371	3.068	0.184	0.242	6.124	50.312
	September	1.165	1.432	R2.924	0.181	0.209	R5.911	R56.223
	October	1.155	R1.521	3.048	0.189	0.202	R6.116	R62.338
	November	1.158	R1.698	3.017	0.222	0.201	R6.296	R68.634
	December	1.235	R2.126	3.416	0.247	0.253	R7.277	R75.912
	TOTAL	14.260	R19.643	R36.934	2.413	2.662	R75.912	
1978	January	1.258	2.430	3.307	0.268	0.275	7.538	7.538
	February	1.055	2.165	3.121	0.243	0.233	6.816	14.354
	TOTAL (2 months)	2.313	4.595	6.428	0.510	0.508	14.354	

\*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	1.593	6.927
	February	2.583	2.064	1.407	6.054
	March	2.554	2.177	1.536	6.267
	April	2.302	1.861	1.522	5.685
	May	1.897	1.934	1.537	5.368
	June	1.811	1.987	1.517	5.315
	July	1.943	2.058	1.550	5.550
	August	1.925	2.144	1.564	5.634
	September	R1.788	R2.127	1.473	5.388
	October	1.860	2.381	1.560	5.801
	November	1.953	2.343	1.451	5.747
	December	2.649	2.523	1.648	6.821
	<b>TOTAL</b>	<b>R26.110</b>	<b>R26.090</b>	<b>18.357</b>	<b>70.557</b>
<b>1976</b>	January	R3.108	R2.427	R1.653	R7.187
	February	R2.687	R2.116	R1.463	R6.266
	March	R2.430	2.204	1.626	6.259
	April	2.083	2.072	1.580	5.736
	May	1.915	2.196	1.553	5.664
	June	1.864	R2.233	1.599	R5.695
	July	1.969	R2.282	1.637	R5.888
	August	R1.976	R2.262	1.592	5.831
	September	R1.838	R2.213	R1.558	R5.609
	October	R1.950	R2.566	R1.600	R6.116
	November	R2.372	R2.590	1.642	6.604
	December	R3.005	2.720	R1.794	R7.519
	<b>TOTAL</b>	<b>R27.198</b>	<b>R27.882</b>	<b>R19.294</b>	<b>R74.374</b>
<b>1977</b>	January	3.425	2.548	1.722	7.695
	February	2.970	1.953	1.580	6.503
	March	2.496	2.252	1.652	6.399
	April	2.096	2.097	1.624	5.817
	May	1.920	2.299	1.607	5.827
	June	1.974	2.297	1.648	5.919
	July	R2.119	2.239	1.669	6.028
	August	2.112	2.325	1.688	6.125
	September	R1.958	R2.340	R1.613	R5.911
	October	2.011	R2.457	1.648	R6.116
	November	R2.152	R2.505	R1.639	R6.296
	December	2.832	2.637	1.808	7.277
	<b>TOTAL</b>	<b>28.065</b>	<b>27.948</b>	<b>19.898</b>	<b>75.911</b>

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

\*\*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—December 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	0.031	0.952	0.685	—	—	1.667	0.326	1.993	0.839	2.832
Industrial	0.310	0.880	0.666	0.003	—	1.859	0.218	2.077	0.561	2.637
Transportation	0	0.068	1.719	—	( <sup>9</sup> )	1.787	0.006	1.793	0.015	1.808
Electric Utilities	0.894	0.226	0.347	0.244	0.253	1.964	—	—	—	—
<b>TOTAL</b>	<b>1.235</b>	<b>2.126</b>	<b>3.416</b>	<b>0.247</b>	<b>0.253</b>	<b>7.277</b>	<b>0.549</b>	<b>5.862</b>	<b>1.415</b>	<b>7.277</b>

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

<sup>2</sup> Data are from the Energy Information Administration. Includes anthracite and bituminous coal and lignite.

<sup>3</sup> Aggregate data and data on utility consumption are from the Energy Information Administration. 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 and data on oil consumed by electric utilities are from the Energy Information Administration.

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> EIA 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> EIA nuclear power production.

<sup>7</sup> Electricity was distributed using EIA 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 December 1977 by Sources and Economic Sectors

	December 1977 Consumption	Percent Change from December 1976*	Cumulative Percent Change from 1976 (January through December)*
	Quadrillion Btu		
<b>Refined Petroleum Products</b>	3.416	-2.5	+5.4
Motor Gasoline	1.200	+3.4	+2.9
Jet Fuel	0.193	+7.9	+5.3
Distillate	0.753	-10.6	+5.4
Residual	0.651	-8.4	+9.0
Other Petroleum Products	0.619	-0.8	+7.9
<b>Natural Gas (Dry)</b>	2.126	-6.7	-3.3
<b>Coal (Anthracite, bituminous, and lignite)</b>	1.235	-4.4	+3.8
<b>Hydroelectric and Nuclear Electric Power</b>	0.549	0	+5.3
<b>TOTAL ENERGY USE</b>	<b>7.277</b>	<b>-3.2</b>	<b>+2.3</b>
<b>Economic Sector Consumption</b>			
Residential and Commercial	2.832	-5.8	+3.5
Industrial	2.637	-3.1	+0.5
Transportation	1.808	+0.8	+3.4

\*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								
1973	TOTAL	0.295	7.577	7.077	3.445	8.120	26.515	
1974	TOTAL	0.297	7.427	6.484	3.424	8.222	25.853	
1975	January	0.035	1.124	0.627	0.310	0.748	2.845	2.845
	February	0.023	1.105	0.526	0.292	0.637	2.583	5.427
	March	0.022	1.018	0.546	0.284	0.684	2.554	7.981
	April	0.015	0.905	0.489	0.270	0.623	2.302	10.283
	May	0.012	0.522	0.444	0.259	0.660	1.897	12.180
	June	0.013	0.338	0.435	0.290	0.735	1.811	13.991
	July	0.016	0.294	0.463	0.327	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	R0.671	R1.788	R19.647
	October	0.023	0.375	0.539	0.273	0.650	1.860	R21.508
	November	0.024	0.526	0.503	0.266	0.634	1.953	R23.460
	December	0.033	0.930	0.635	0.297	0.754	2.649	R26.110
	TOTAL	0.255	7.688	6.135	3.538	R8.494	R26.110	
1976	January	0.031	1.254	R0.648	0.340	0.834	R3.108	R3.108
	February	0.020	1.090	R0.581	0.315	0.681	R2.687	R5.794
	March	0.018	0.856	0.571	0.286	0.698	R2.430	R8.224
	April	0.021	0.671	0.500	0.271	0.621	2.083	R10.307
	May	0.016	0.488	0.506	0.265	0.641	1.915	R12.223
	June	0.015	0.333	R0.488	0.285	0.743	1.864	R14.086
	July	0.011	0.281	R0.486	0.333	0.857	1.969	R16.055
	August	0.015	0.259	0.506	0.347	R0.849	R1.976	R18.031
	September	0.017	0.272	R0.518	R0.331	R0.701	R1.838	R19.869
	October	0.020	0.395	R0.569	R0.286	R0.680	R1.950	R21.820
	November	0.025	0.723	0.622	R0.288	R0.714	R2.372	R24.192
	December	0.037	1.083	R0.730	R0.330	R0.826	R3.005	R27.198
	TOTAL	0.246	7.706	R6.726	R3.676	R8.844	R27.198	
1977	January	0.036	1.376	0.712	0.365	0.936	3.425	3.425
	February	0.025	1.216	0.674	0.346	0.710	2.970	6.395
	March	0.019	0.845	0.608	0.301	0.722	2.496	8.890
	April	0.021	0.623	0.538	0.277	0.637	2.096	10.986
	May	0.017	0.405	0.529	0.271	0.699	1.920	12.906
	June	0.015	0.315	0.544	0.311	0.789	1.974	14.880
	July	0.014	0.283	0.503	0.366	0.954	R2.119	17.000
	August	0.014	0.256	0.551	0.373	0.918	2.112	R19.111
	September	0.015	0.264	R0.551	0.350	0.778	R1.958	R21.070
	October	0.019	0.376	0.617	0.306	0.693	2.011	R23.081
	November	0.025	0.552	0.602	R0.284	R0.690	R2.152	R25.233
	December	0.031	0.952	0.685	0.326	0.839	2.832	28.065
	TOTAL	0.251	7.462	7.113	3.875	9.365	28.065	

(See footnotes on page 50)

# 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	0.342	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	4.554
	March	0.363	0.648	0.531	0.003	0.186	0.447	2.177	6.731
	April	0.341	0.433	0.475	0.003	0.184	0.425	1.861	8.592
	May	0.321	0.516	0.431	0.003	0.187	0.475	1.934	10.526
	June	0.300	0.595	0.423	0.003	0.189	0.478	1.987	12.514
	July	0.286	0.640	0.450	0.003	0.189	0.489	2.058	14.571
	August	0.292	0.724	0.435	0.003	0.197	0.494	2.144	16.716
	September	0.293	0.725	0.470	0.003	R0.200	R0.409	R2.127	R18.842
	October	0.303	0.872	0.524	0.003	0.201	0.478	2.381	R21.223
	November	0.316	0.863	0.489	0.003	0.199	0.473	2.343	R23.566
	December	0.335	0.875	0.617	0.003	0.196	0.498	2.523	R26.090
	<b>TOTAL</b>	<b>3.834</b>	<b>8.425</b>	<b>5.966</b>	<b>0.035</b>	<b>2.302</b>	<b>R5.528</b>	<b>R26.090</b>	
<b>1976</b>	January	0.321	0.796	R0.630	0.003	0.196	0.481	R2.427	R2.427
	February	0.303	0.620	R0.565	0.003	0.198	0.428	R2.116	R4.543
	March	0.321	0.618	R0.556	0.003	0.206	0.501	2.204	R6.747
	April	0.320	0.588	0.487	0.003	0.205	0.470	2.072	R8.820
	May	0.328	0.660	0.492	0.003	0.209	0.505	2.196	R11.015
	June	0.312	0.671	0.475	0.003	0.214	0.558	R2.233	R13.248
	July	0.311	0.735	0.473	0.003	0.213	0.547	R2.282	R15.531
	August	0.305	0.711	0.492	0.003	R0.218	R0.534	R2.262	R17.793
	September	0.303	0.717	R0.504	0.003	0.220	R0.466	R2.213	R20.006
	October	0.319	0.953	R0.554	0.003	R0.218	R0.519	R2.566	R22.572
	November	0.328	0.907	0.605	0.003	0.215	R0.533	R2.590	R25.162
	December	0.358	0.902	R0.710	0.003	0.214	R0.535	2.720	R27.882
	<b>TOTAL</b>	<b>3.829</b>	<b>8.878</b>	<b>R6.540</b>	<b>0.033</b>	<b>R2.525</b>	<b>R6.078</b>	<b>R27.882</b>	
<b>1977</b>	January	0.326	0.777	0.693	0.003	0.210	0.540	2.548	2.548
	February	0.312	0.351	0.655	0.003	0.207	0.425	1.953	4.501
	March	0.332	0.592	0.591	0.003	0.216	0.518	2.252	6.753
	April	0.313	0.542	0.523	0.003	0.217	0.499	2.097	8.850
	May	0.310	0.672	0.514	0.003	0.224	0.577	2.299	R11.149
	June	0.301	0.668	0.529	0.003	0.225	0.571	2.297	13.446
	July	0.292	R0.658	0.489	0.003	0.221	0.576	2.239	R15.685
	August	0.280	0.719	0.536	0.003	0.227	0.559	2.325	R18.010
	September	0.273	0.796	R0.536	0.003	0.227	0.505	R2.340	R20.350
	October	0.305	R0.809	0.600	0.003	0.227	0.514	R2.457	R22.806
	November	0.303	R0.853	0.585	0.003	R0.222	R0.539	R2.505	R25.311
	December	0.310	0.880	0.666	0.003	0.218	0.561	2.637	27.948
	<b>TOTAL</b>	<b>3.658</b>	<b>8.317</b>	<b>6.916</b>	<b>0.033</b>	<b>2.640</b>	<b>6.383</b>	<b>27.948</b>	

(See footnotes on page 50)

# 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	1.593	1.593
	February	—	0.064	1.325	0.005	0.012	1.407	3.000
	March	—	0.062	1.456	0.005	0.013	1.536	4.537
	April	—	0.050	1.455	0.005	0.012	1.522	6.059
	May	—	0.039	1.481	0.005	0.012	1.537	7.595
	June	—	0.035	1.465	0.005	0.012	1.517	9.112
	July	—	0.035	1.497	0.005	0.012	1.550	10.661
	August	—	0.037	1.510	0.005	0.012	1.564	12.225
	September	—	0.039	1.419	0.005	0.010	1.473	13.698
	October	—	0.047	1.495	0.005	0.013	1.560	15.258
	November	—	0.052	1.380	0.006	0.013	1.451	16.709
	December	—	0.067	1.560	0.006	0.015	1.648	18.357
	<b>TOTAL</b>	<b>—</b>	<b>0.602</b>	<b>17.544</b>	<b>0.062</b>	<b>0.149</b>	<b>18.357</b>	
<b>1976</b>	January	—	0.077	R1.556	0.006	0.015	R1.653	R1.653
	February	—	0.064	R1.382	0.006	0.012	R1.463	R3.116
	March	—	0.055	1.552	0.005	0.013	1.626	R4.741
	April	—	0.047	1.516	0.005	0.012	1.580	R6.321
	May	—	0.043	1.493	0.005	0.012	1.553	R7.874
	June	—	0.037	1.545	0.005	0.012	1.599	R9.473
	July	—	0.038	1.581	0.005	0.013	1.637	R11.110
	August	—	0.036	1.538	0.005	0.013	1.592	R12.702
	September	—	0.037	1.504	0.005	0.011	R1.558	R14.259
	October	—	0.050	R1.531	0.006	0.013	R1.600	R15.859
	November	—	0.061	1.561	0.006	0.014	1.642	R17.501
	December	—	0.074	R1.699	0.006	0.015	R1.794	R19.294
	<b>TOTAL</b>	<b>—</b>	<b>0.619</b>	<b>R18.457</b>	<b>0.064</b>	<b>0.154</b>	<b>R19.294</b>	
<b>1977</b>	January	—	0.080	1.620	0.006	0.016	1.722	1.722
	February	—	0.059	1.503	0.006	0.012	1.580	3.302
	March	—	0.054	1.580	0.005	0.012	1.652	4.954
	April	—	0.044	1.564	0.005	0.011	1.624	6.578
	May	—	0.040	1.549	0.005	0.013	1.607	8.185
	June	—	0.037	1.594	0.005	0.012	1.648	9.833
	July	—	0.035	1.616	0.005	0.013	1.669	11.502
	August	—	0.036	1.635	0.005	0.012	1.688	13.190
	September	—	0.040	R1.557	0.005	0.011	R1.613	R14.803
	October	—	0.044	1.586	0.005	0.012	1.648	R16.451
	November	—	0.052	1.567	0.006	R0.014	R1.639	R18.090
	December	—	0.068	1.719	0.006	0.015	1.808	19.898
	<b>TOTAL</b>	<b>—</b>	<b>0.589</b>	<b>19.091</b>	<b>0.064</b>	<b>0.154</b>	<b>19.898</b>	

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

<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.

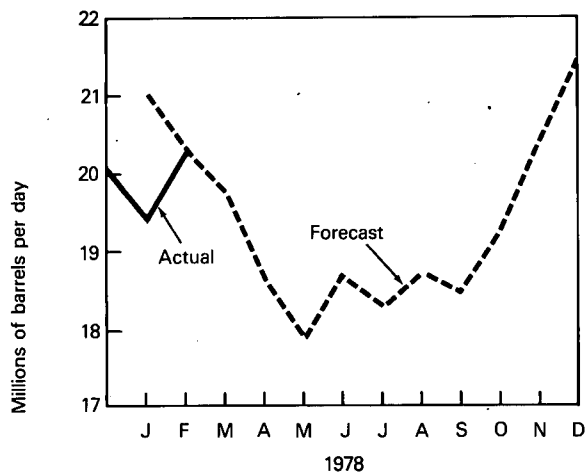
<sup>3</sup> The percentage share used in calculating Industrial consumption of petroleum was 47.5 percent for 1973 and 49.3 percent for 1974, 1975, 1976, and 1977.

<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.

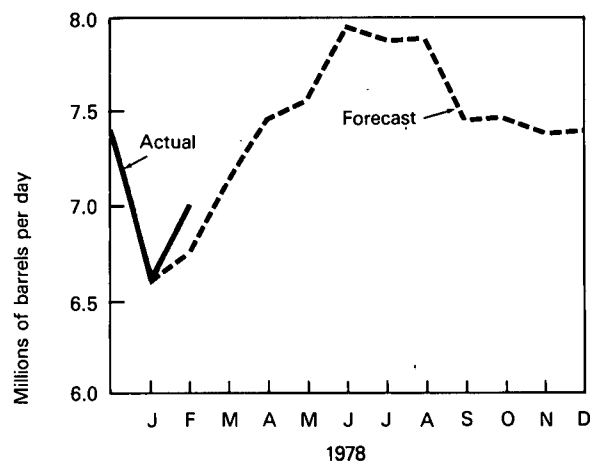
R=Revised data.

# Petroleum Consumption and Forecast

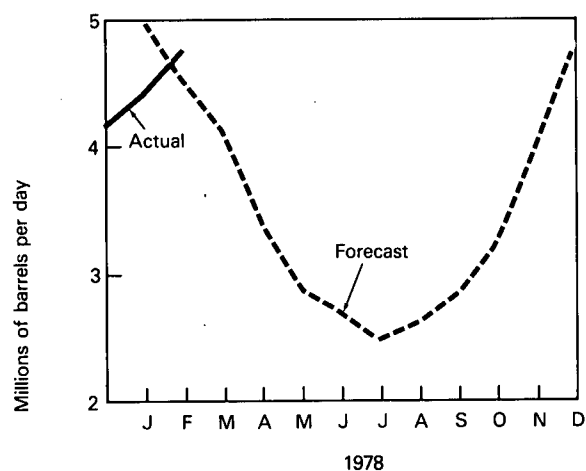
Total Domestic Demand for Petroleum Products



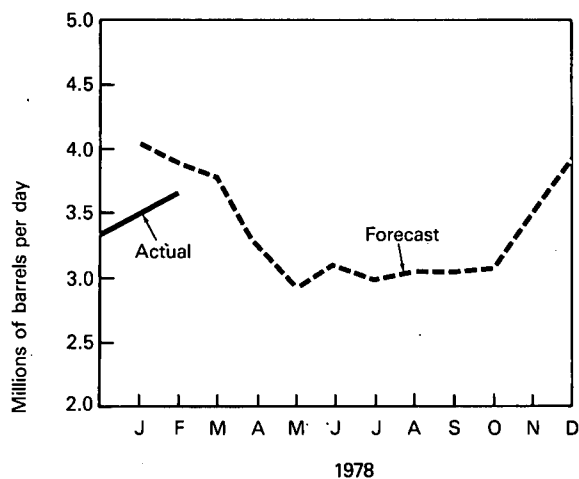
Domestic Demand for Motor Gasoline



Domestic Demand for Distillate Fuel Oil



Domestic Demand for Residual Fuel Oil

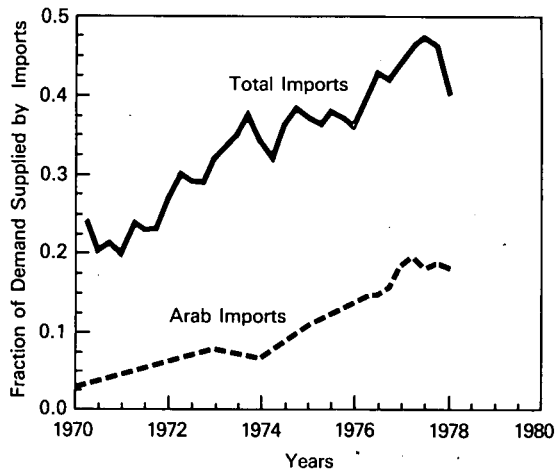


Sources: Actual—Monthly figures are based on EIA data for January 1978 and API data for February 1978.

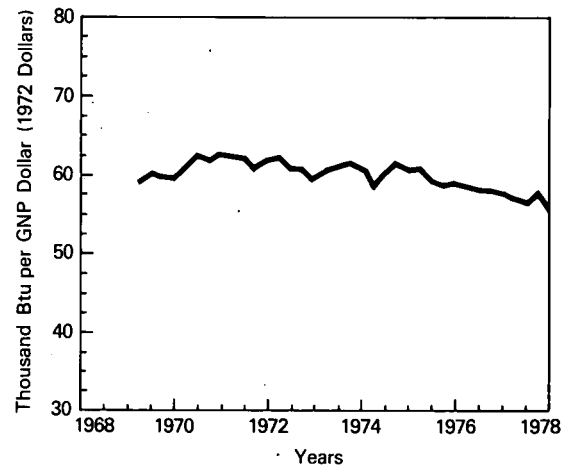
Forecast—The EIA forecast is shown for January through December 1978. See Explanatory Note 5 for discussion of basic assumptions of forecast.

# Energy Indicators\*

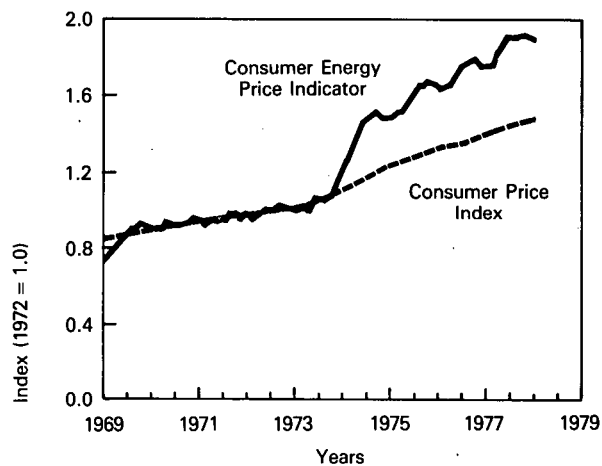
## U.S. Dependence on Petroleum Imports



## Energy Consumption per GNP Dollar



## Consumer Energy Price Indicator



\*See Explanatory Notes 13, 14 and 15.

# Heating Degree-Days\*

Petroleum Administration For Defense (PAD) Districts	February 27, 1978 through March 26, 1978					Cumulative July 1, 1977 through March 26, 1978				
	1978	1977**	Normal (1941-70)**			1977-78	1976-77**	Normal (1941-70)**		
PAD District I	710.8	499.9	(42.2)	633.0	(12.3)	4,347.0	4,559.6	(-4.7)	3,977.9	(9.3)
New England Conn., Maine, Mass., N.H., R.I., Vt.	928.6	696.5	(33.3)	843.6	(10.1)	5,400.9	5,641.6	(-4.3)	5,225.7	(3.4)
Middle Atlantic Del., Md., N.J., N.Y., Pa.	854.7	606.3	(41.0)	756.3	(13.0)	5,094.1	5,317.6	(-4.2)	4,676.5	(8.9)
Lower Atlantic Fla., Ga., N.C., S.C., Va., W. Va.	398.6	253.5	(57.2)	355.2	(12.2)	2,760.2	2,943.9	(-6.2)	2,379.2	(16.0)
PAD District II Ill., Ind., Iowa, Kans., Ky., Mich., Minn., Mo., Nebr., N. Dak., Ohio, Okla., S. Dak., Tenn., Wisc.	934.5	630.9	(48.1)	805.4	(16.0)	5,961.2	6,020.9	(-1.0)	5,217.9	(14.2)
PAD District III Ala., Ark., La., Miss., N. Mex., Tex.	329.2	245.5	(34.1)	300.6	(9.5)	2,599.4	2,743.6	(-5.3)	2,146.3	(21.1)
PAD District IV Colo., Idaho, Mont., Utah, Wyo.	689.8	745.2	(-7.4)	809.6	(-14.8)	5,046.2	5,239.1	(-3.7)	5,359.6	(-5.8)
PAD District V Ariz., Calif., Nev., Oreg., Wash.	219.0	342.7	(-36.1)	347.0	(-36.9)	1,726.5	1,921.1	(-10.1)	2,328.0	(-25.8)
<b>U.S. AVERAGE</b>	<b>668.3</b>	<b>496.6</b>	<b>(34.6)</b>	<b>614.0</b>	<b>(8.9)</b>	<b>4,313.1</b>	<b>4,465.1</b>	<b>(-3.4)</b>	<b>3,967.2</b>	<b>(8.7)</b>

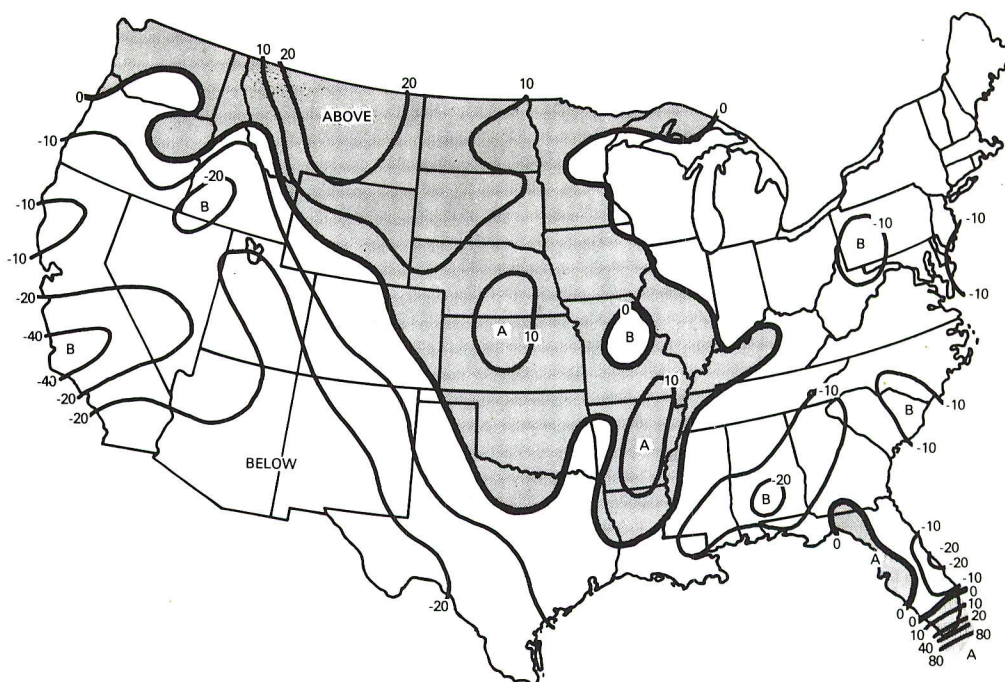
\*See Explanatory Note 16 for explanation of degree-days.

\*\*Percentage change in parentheses.

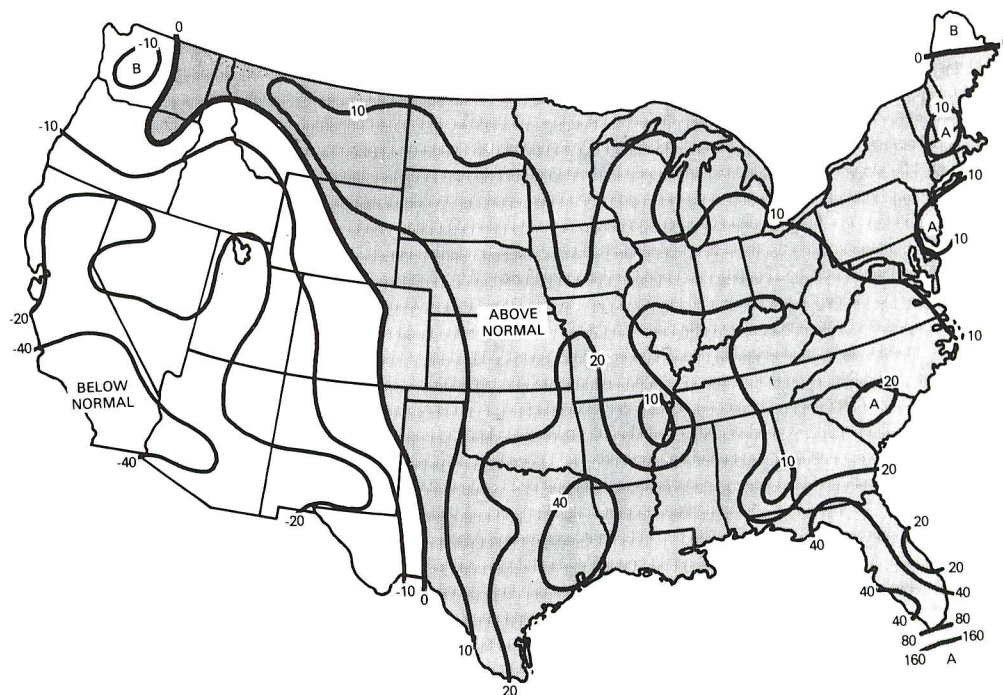
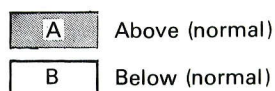
## Heating Degree-Days (Continued)

Heating Degree-Days Accumulated from July 1, 1977, through March 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

# Resource Development

## Oil and Gas Exploration and Development

An average of 2,158 rotary rigs were actively drilling for oil and gas during March 1978, 15.0 percent more than during the previous March, and more than double the March 1973 count of 1,049.

There were 6,776 exploratory and development wells drilled during the first 2 months of 1978, compared with 6,244 during the same period of 1977, an increase of 8.5 percent.

There was no change in the total number of crews engaged in seismic petroleum exploration during February (at 328), as marine crews dropped by 3 (to 23) while land crews increased by 3 (to 305).

An oil and gas lease sale was held on March 28, 1978, in the South Atlantic area of the Outer Continental Shelf (OCS) referred to as the Georgia Embayment. A total of 224 tracts (1.3 million acres) were offered in the sale, 144 on a 16 2/3-percent fixed royalty, cash bonus bid basis, and 80 on a fixed sliding scale royalty basis. By the later method, the value of the oil or gas production determines the value of the royalty to be paid to the Federal Government. It was the first sale in which this royalty determination method was used. Only 12 percent of the fixed royalty tracts received bids, compared with 50 percent of the sliding scale tracts. Bid winners have not yet been disclosed by the Department of the Interior.



# 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**	R18,912	R11,378	R14,692	R44,982
1978	January	2,128		1,184	783	1,233	3,200	15,394
	February	2,135		1,486	851	1,239	3,576	16,933
	March	2,158		NA	NA	NA	NA	NA
	AVERAGE (3 months)	2,139	TOTAL** (2 months)	2,670	1,634	2,472	6,776	32,327

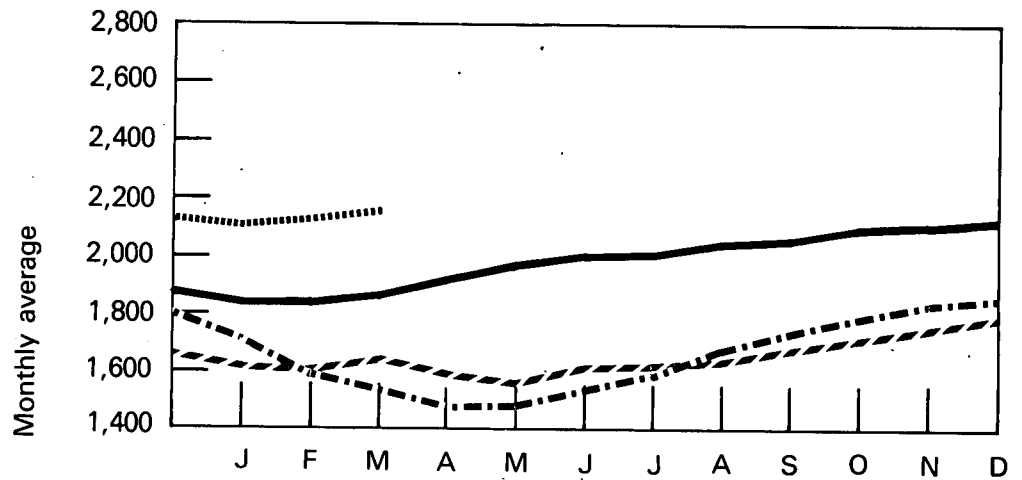
\*Excludes service wells and stratigraphic and core tests.

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

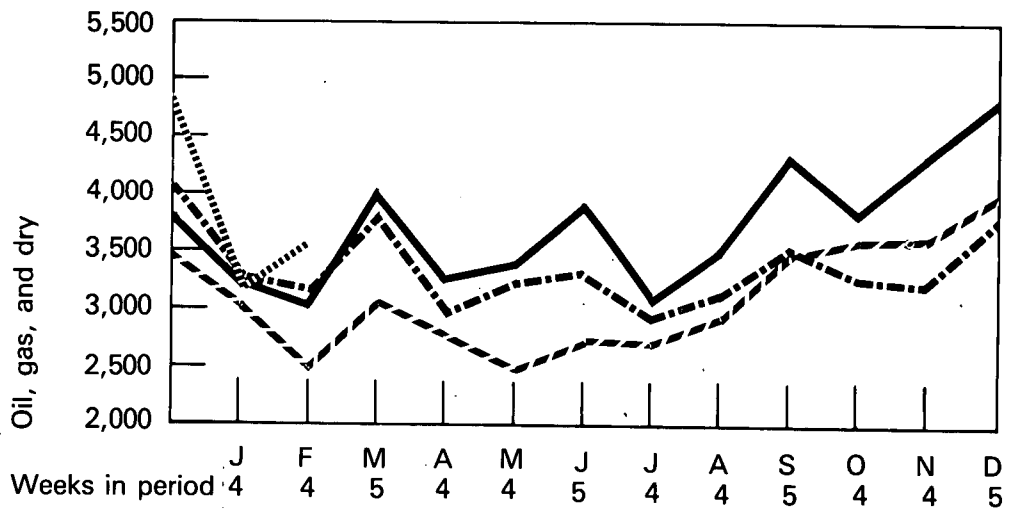
NA=Not available.

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."

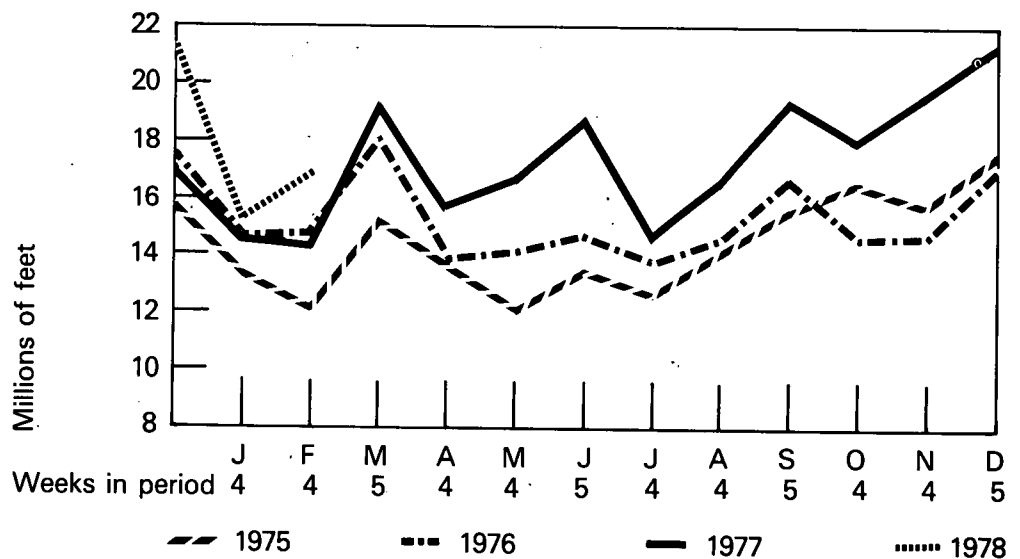
## Rotary Rigs in Operation



## Total Wells Drilled



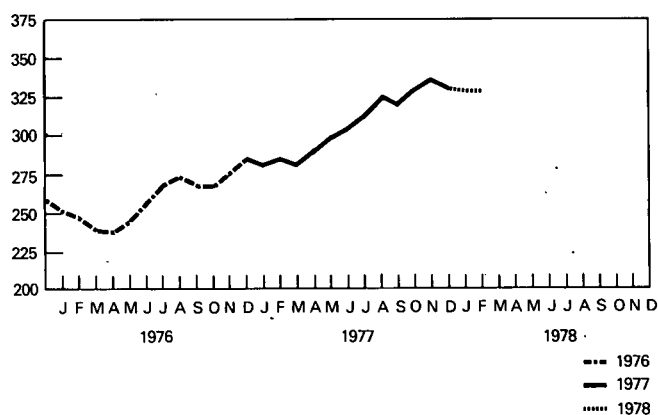
## Total Footage of Wells Drilled



# 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			
1978	January	26	302	328			
	February	23	305	328			
	<b>AVERAGE</b> (2 months)	<b>24</b>	<b>304</b>	<b>328</b>			

Total Seismic Crews



NA=Not available.

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

## Price

### Motor Gasoline

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

### Heating Oil

The average retail selling price of heating oil sold to residential customers increased in January by 0.5 cent from the previous month's level to 48.4 cents per gallon.

### Residual Fuel Oil

The average retail price of residual fuel oil increased 9 cents in January to \$12.79 per barrel. This price is 53 cents less than the price in January 1977.

### Aviation Fuels

The average retail price of kerosene-type aviation fuel increased in January by 0.7 cent from its December level to 38.5 cents per gallon, bringing the total increase since January 1977 to 5.3 cents per gallon.

### Liquefied Petroleum Gases

The average wholesale price of butane increased 0.1 cent in January to 25.9 cents per gallon. This price is 2.9 cents per gallon higher than it was 1 year earlier. The average wholesale price of propane rose 0.3 cent in January to 27.0 cents per gallon, up 4.1 cents from the price a year earlier.

### Crude Oil

The average price paid by first purchasers for lower tier crude oil was \$5.28 per barrel in January, up 3 cents from the price paid in December. The upper tier crude oil price increased by 2 cents in January to \$11.78 per barrel. The average stripper oil price decreased 9 cents to \$13.89 per barrel. The Alaskan North Slope crude oil price decreased 44 cents to \$5.29 per barrel in January, continuing the decline that began in September 1977 when the price was \$6.98 per barrel. The average price paid for all first purchases of domestic crude oil in January was \$8.68 per barrel, down 9 cents from December's revised price of \$8.77 per barrel.

The average cost of imported crude oil purchased by refiners was \$14.52 per barrel in January, 24 cents less than the revised December price.

The composite price of domestic and imported crude oil purchased by refiners was \$12.15 per barrel in January, 12 cents less than the December level.

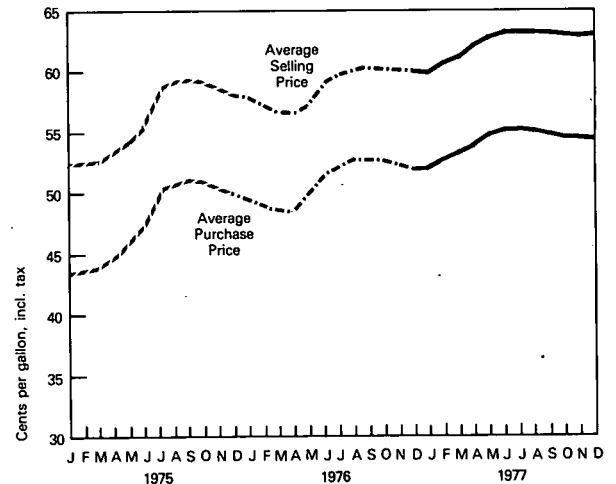
The annual average composite price of domestic and imported crude oil purchased by refiners was \$11.96 per barrel in 1977, an increase of \$1.07 over 1976.

# Motor Gasoline

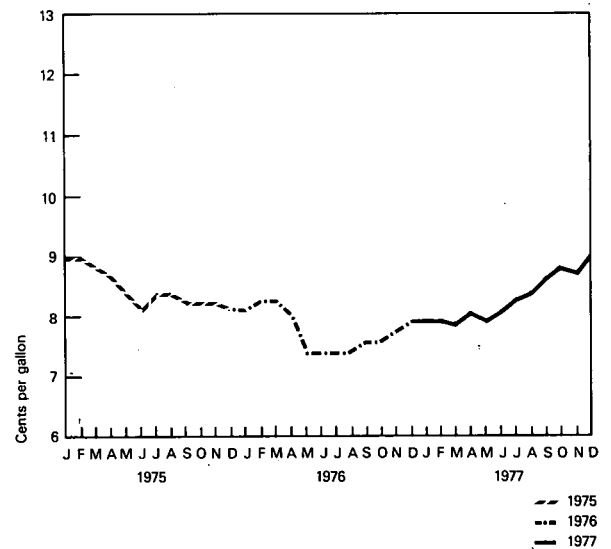
## Regular Gasoline at Full Service Retail Outlets

		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	
<b>1975</b>	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
<b>1976</b>	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
<b>1977</b>	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

Cents per gallon, including tax

	Selling Price	Margin
Major	59.1	4.1
Independent	55.8	4.5
National Average	58.2	4.2

### Unleaded Gasoline (Regular)—Self Service

Cents per gallon, including tax

	Selling Price	Margin
Major	64.8	6.9
Independent	59.8	5.9
National Average	63.6	6.7

### Premium Gasoline—Full Service

Cents per gallon, including tax

	Selling Price	Margin
Major	69.9	10.4
Independent	63.5	9.1
National Average	69.1	10.2

### Unleaded Gasoline (Premium)—Full Service

Cents per gallon, including tax

	Selling Price
Major	71.6
Independent	63.6
National Average	70.6

### Premium Gasoline—Self Service

Cents per gallon, including tax

	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
National Average	63.3	9.0



# 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 17.  
 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**

	<b>Selling Price</b>	<b>Margin</b>
Major	58.4	5.9
Independent	56.8	7.3
National Average	57.4	6.6

## **Service Stations**

	<b>Selling Price</b>	<b>Margin</b>
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**

		<b>Wholesale</b>	<b>Retail</b>
		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*	R39.5	R41.3
<b>1978</b>	January*	39.8	41.3

\*Preliminary.

R=Revised.

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
<b>1978</b>	January	48.4	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	11.27	
	August	10.19	11.04	11.53	13.22	10.85	12.34	9.72	10.53	10.49	11.89	8.76	10.43	11.32	
	September	10.58	11.07	11.75	12.94	10.63	11.65	9.87	10.52	10.48	11.52	8.93	10.29	11.09	
	October	10.15	11.12	11.50	12.98	10.37	12.09	9.75	10.38	10.30	11.69	8.88	10.31	11.13	
	November	10.90	11.27	12.21	12.96	10.33	12.03	9.90	10.34	10.47	11.68	9.01	10.43	11.24	
	December	10.83	11.64	11.89	12.87	10.37	11.83	9.65	10.06	10.24	11.42	9.07	10.15	10.97	
1976	January	11.08	11.63	12.13	12.39	10.62	11.61	9.57	10.23	10.53	11.35	8.75	10.35	11.02	
	February	10.55	11.57	12.42	12.78	10.87	11.84	9.70	10.35	10.73	11.52	8.53	10.27	11.15	
	March	10.41	11.89	12.36	12.81	11.05	11.80	9.56	10.21	10.74	11.43	8.59	10.35	11.12	
	April	10.21	11.58	11.44	12.34	10.86	11.77	9.53	10.28	10.38	11.43	8.66	10.12	11.02	
	May	9.87	11.49	11.71	11.87	10.80	11.40	9.47	9.89	10.11	10.95	8.75	10.65	10.63	
	June	9.91	11.23	11.71	12.24	10.33	11.36	9.73	10.03	10.12	11.04	8.57	10.10	10.70	
	July	10.06	11.70	11.73	12.12	10.22	11.36	9.83	10.04	10.25	11.04	9.23	10.34	10.74	
	August	9.78	11.48	11.85	12.29	10.45	11.46	9.61	10.22	10.20	11.20	8.93	9.98	10.82	
	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	10.90	
	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	11.38	
	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	11.61	
	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	12.16	
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	12.94	
	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	13.21	
	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	13.27	
	April	11.62	13.26	12.88	14.63	13.05	14.10	11.27	12.50	12.04	13.61	10.14	11.75	12.92	
	May	11.54	12.69	13.56	14.48	11.90	13.73	11.05	12.15	11.64	13.42	9.97	11.41	12.67	
	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	12.47	
	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	12.47	
	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	12.56	
	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	12.59	
	October	11.52	13.14	13.38	14.30	11.69	13.15	11.71	12.33	12.10	13.15	10.98	11.87	12.63	
	November	R11.29	R13.16	R12.85	14.24	R11.66	12.93	11.44	12.15	11.76	12.96	10.42	11.66	R12.27	
	December*	R11.60	R13.53	R12.87	R13.95	R11.32	12.60	10.77	R11.97	11.28	12.70	11.27	11.37	R12.16	
1978	January*	11.62	13.50	12.62	14.19	11.51	12.72	10.72	12.02	11.33	12.79	9.73	11.15	12.17	

\*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	R47.8	35.8	37.9	37.5
	December**	47.8	48.1	36.2	37.2	37.8
1978	January**	47.8	49.1	36.9	37.6	38.5

\*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	
<b>1975</b>	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>
<b>1976</b>	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>
<b>1977</b>	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
<b>1978</b>	January**	27.0	25.9

\*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.

Domestic Crude Petroleum Prices at the Wellhead<sup>1</sup>

		Old	New	Domestic Average									
		Dollars per barrel			Lower Tier <sup>2</sup>	Upper Tier <sup>2</sup>	Actual Stripper <sup>3</sup>	Actual Domestic Average <sup>4</sup>	Imputed Domestic Average <sup>4</sup>				
					Dollars per barrel								
1974	AVERAGE	5.03	10.13	6.87	1976	September	5.17	11.65	13.21	8.39	8.19		
1975	January	5.05	11.28	7.61		October	5.15	11.62	13.35	8.46	8.23		
	February	5.03	11.39	7.47		November	5.17	11.62	13.31	8.62	8.40		
	March	5.03	11.47	7.57		December	5.17	11.64	13.30	8.62	8.40		
	April	5.03	11.64	7.55		AVERAGE	5.13	11.71	12.16	8.19			
	May	5.03	11.69	7.52	1977	January	5.17	11.44	13.27	8.50	8.28		
	June	5.03	11.73	7.49		February	5.18	11.39	13.32	8.57	8.33		
	July	5.03	12.30	7.75		March	5.15	11.03	13.31	8.45	8.19		
	August	5.03	12.38	7.73		April	5.15	10.97	13.28	8.40	8.14		
	September	5.04	12.46	7.75		May	5.18	10.98	13.26	8.49	8.23		
	October	5.03	12.73	7.83		June	5.16	10.92	13.28	8.44	8.17		
	November	5.03	12.89	7.80									
	December	5.03	12.95	7.93									
AVERAGE	5.03	12.03	7.67										
1976	January	5.02	12.99	8.63	Lower Tier <sup>2</sup>	Upper Tier <sup>2</sup>	Actual Stripper <sup>3</sup>	Alaskan North Slope <sup>5</sup>	Naval Petroleum Reserves <sup>6</sup>	Actual Domestic Average <sup>4</sup>	Imputed Domestic Average <sup>4</sup>		
					July	5.16	11.00	13.31	6.84	12.21	8.48	8.21	
					August	5.18	10.93	13.95	6.91	12.29	8.62	8.25	
					September	5.20	11.20	14.01	6.98	12.33	8.63	8.26	
					October	5.23	11.42	14.01	6.66	12.38	8.72	8.36	
					November	5.24	11.63	13.98	5.73	12.40	8.72	8.35	
					December	5.25	11.76	13.98	5.73	12.36	8.77	8.40	
					AVERAGE	5.19	11.22	13.59	6.35	12.34	8.57		
1976	February	5.05	11.47	7.87	1978	January <sup>7</sup>	5.28	11.78	13.89	5.29	12.38	8.68	8.35
	March	5.07	11.39	7.79									
	April	5.07	11.52	7.86									
	May	5.13	11.55	7.89									
	June	5.15	11.60	7.99									
	July	5.19	11.59	8.04									
	August	5.18	11.62	8.03									



# 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		
	<b>AVERAGE</b>	<b>54.4</b>	<b>31.5</b>		<b>14.1</b>		
1977	January	50.6	36.7		12.7		
	February	49.5	37.2		13.3		
	March	49.2	37.2		13.6		
	April	49.5	36.9		13.6		
	May	48.4	37.6		14.0		
	June	48.8	37.0		14.2		
		<b>Lower Tier</b>	<b>Upper Tier</b>		<b>Stripper</b>	<b>Alaskan North Slope**</b>	<b>Naval Petroleum Reserve**</b>
	July	46.75	36.59		13.30	2.58	0.75
	August	43.31	36.65		13.32	5.79	0.91
	September	42.78	34.07		13.14	9.06	0.91
	October	42.23	34.58		12.92	9.09	1.15
	November	41.41	34.67		13.00	9.84	1.05
	December	R40.42	34.61		R13.00	10.92	1.03
	<b>AVERAGE</b>	<b>45.92</b>	<b>36.11</b>		<b>13.32</b>	<b>4.14</b>	<b>0.51</b>
1978	January***	41.75	34.29		12.65	10.09	1.19

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

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

\*\*\*Preliminary.

R=Revised.

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	R8.68	.258	R2.24
	August	R8.75	.266	R2.33
	September	8.75	.250	2.19
	October	R8.78	.250	R2.20
	November	R8.61	.239	R2.06
	December	R8.65	R.233	R2.02
1978	January	8.61	.240	2.07

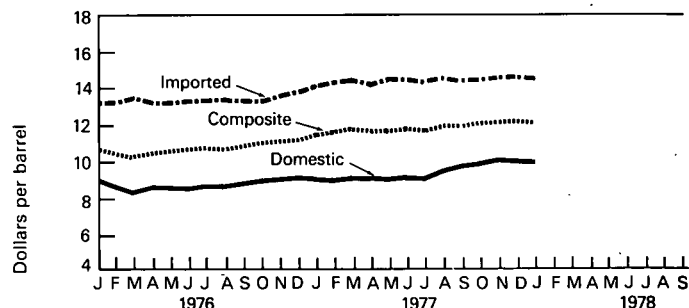
\*See Definitions.  
Source: DOE.

# Crude Oil (Continued)

## Refiner Acquisition Cost of Crude Petroleum\*

		Domestic	Imported	Composite
		Dollars per barrel		
<b>1974</b>	<b>AVERAGE</b>	<b>7.18</b>	<b>12.52</b>	<b>9.07</b>
<b>1975</b>	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
	<b>AVERAGE</b>	<b>8.39</b>	<b>13.93</b>	<b>10.38</b>
<b>1976</b>	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
	<b>AVERAGE</b>	<b>8.84</b>	<b>13.48</b>	<b>10.89</b>
<b>1977</b>	January	9.23	14.11	11.64
	February	9.24	14.50	11.80
	March	9.32	14.54	11.88
	April	9.21	14.36	11.75
	May	9.21	14.62	11.87
	June	9.34	14.63	11.98
	July	9.32	14.44	11.90
	August	9.54	14.68	12.01
	September	9.75	14.50	12.01
	October	9.95	14.56	12.12
	November	10.17	14.61	12.18
	December	R10.15	R14.76	R12.27
	<b>AVERAGE</b>	<b>9.55</b>	<b>14.53</b>	<b>11.96</b>
<b>1978</b>	January**	10.14	14.52	12.15

Crude Oil Refiner Acquisition Cost



\*See Explanatory Note 19.

\*\*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
1978	January	15.01	14.37	14.60	13.91	14.63	14.88	13.93	14.40	13.00

\*See Explanatory Note 20.

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
1978	January	14.29	NA	13.67	12.62	13.77	14.18	12.70	13.23	12.73

NA=Not available.

\*The FOB cost excludes all costs related to insurance and transportation. See Explanatory Note 21.

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	—	857	213	534	1,604
	December	—	R767	R188	R463	R1,418
1978	January***	—	993	194	410	1,597

\*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	R86.7	R86.4
	December	R35.8	161.8	R45.9	R80.7	R87.6	R87.5
1976	January	R38.3	164.0	R48.7	R88.2	R90.1	R90.6
	February	R39.7	165.3	R50.1	R88.2	R93.8	R94.1
	March	R39.4	164.5	R49.9	R86.8	R92.0	R92.2
	April	R40.5	164.3	R51.5	R89.0	R96.5	R96.4
	May	R42.2	R165.0	R52.7	R87.4	R99.2	R98.5
	June	43.7	166.6	R54.0	R89.8	R99.4	R98.8
	July	R43.8	168.4	R53.8	R94.6	R102.7	R102.0
	August	56.4	167.7	R65.7	R98.2	R105.3	R104.6
	September	R68.6	183.7	R77.9	R103.9	R93.1	R94.7
	October	R57.6	190.1	R69.3	R106.7	R105.8	R106.2
	November	52.6	182.4	R63.6	R113.5	R106.7	R107.5
	December	54.0	189.4	R65.7	R132.1	R117.8	R118.6
1977	January	58.8	201.8	71.5	143.1	124.4	125.4
	February	R63.6	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	128.4	130.9	R131.1
	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	R135.4
	October	74.2	211.9	87.4	133.9	135.6	135.6
	November	74.3	214.2	87.1	134.9	141.7	141.5
	December	73.9	216.5	86.8	138.5	132.2	133.1

\*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)

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

		Cents per thousand cubic feet
<b>1975</b>	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
<b>1976</b>	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>
<b>1977</b>	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
<b>1978</b>	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	
1975	January	14.57	28.12
	February	15.71	25.93
	March	15.68	25.02
	April	15.88	24.52
	May	16.45	23.78
	June	16.40	23.36
	July	16.06	22.35
	August	16.65	22.39
	September	16.76	22.46
	October	16.72	22.52
	November	16.79	22.50
	December	16.90	22.40
1976	January	16.53	21.75
	February	17.04	21.23
	March	17.65	21.36
	April	17.76	21.43
	May	18.12	21.17
	June	18.05	20.88
	July	17.93	21.00
	August	18.19	21.35
	September	18.55	21.46
	October	18.49	21.28
	November	18.26	21.56
	December	18.15	21.49
1977	January	17.87	21.93
	February	18.28	22.71
	March	18.75	23.27
	April	18.82	22.41
	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

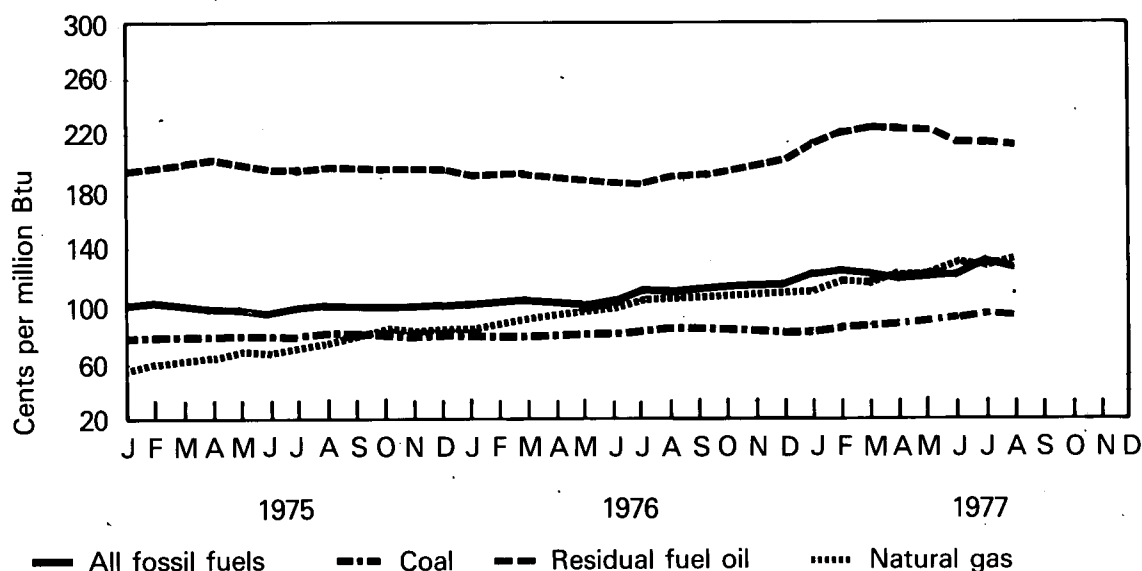
### All Fossil Fuels\*

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 22.

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 22.

\*\*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 in 1977 by 4.6 percent over the amount consumed in 1976; both France and Italy reduced their consumption in 1977, by 4.9 percent and 1.8 percent, respectively.

January-November 1977 consumption in West Germany decreased 2.1 percent from the level for the same period of 1976, while in the United Kingdom and Canada, consumption rose 2.9 percent and 1.6 percent, respectively, during the period. The International Energy Agency showed increased consumption of 4.4 percent compared with the consumption rate for the first 11 months of 1976.

### **Crude Oil Production**

World crude oil production in January fell 5.4 million barrels per day (MMBD) to 56.7 MMBD. Production by the Organization of Petroleum Exporting Countries (OPEC) decreased 5.6 MMBD to 27.3 MMBD, with nearly all OPEC members reporting declines. The largest decreases were in Saudi Arabia, Iran, Kuwait, and Iraq, totaling 4.8 MMBD.

# 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	3,082
	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	R2,436	1,679	1,785	1,775	R3,858
	Feb	34,400	5,246	2,497	R2,486	1,865	1,754	1,743	R3,866
	Mar	34,300	5,165	2,747	R2,381	1,879	1,747	1,641	R3,822
	Apr	31,500	4,526	2,339	R2,100	1,716	1,518	1,423	R3,307
	May	29,900	4,218	2,320	R1,796	1,417	1,509	1,253	R3,206
	June	31,300	4,429	2,393	R1,593	1,416	1,560	1,236	R3,430
	July	31,100	4,416	2,624	R1,629	1,346	1,531	1,355	R3,215
	Aug	31,100	4,461	2,515	1,668	R1,296	1,585	1,372	R3,229
	Sept	32,200	4,517	2,521	R1,974	R1,501	1,514	1,604	R3,718
	Oct	32,300	4,523	2,391	R1,904	R1,568	1,560	1,464	R3,742
	Nov	35,900	5,160	2,700	R2,236	1,750	1,822	1,393	R4,228
	Dec	39,100	5,846	2,571	R2,712	1,869	2,008	1,779	R4,521
	AVG.	33,180	4,786	2,507	R2,075	R1,627	1,658	1,503	R3,678
1977	Jan	37,700	5,434	2,389	2,518	1,830	1,797	1,696	4,073
	Feb	38,600	6,025	2,441	2,386	1,844	1,919	1,822	4,122
	Mar	35,000	5,548	2,519	2,109	1,818	1,664	1,573	3,822
	Apr	32,800	4,715	2,425	2,044	1,670	1,526	1,326	3,568
	May	31,300	4,315	2,359	1,846	1,545	1,523	1,268	3,330
	June	32,900	4,485	2,495	1,715	1,477	1,633	1,340	3,422
	July	31,800	4,717	2,381	1,348	1,321	1,530	1,251	3,047
	Aug	33,000	4,709	2,468	1,390	1,371	R1,691	1,140	R3,331
	Sept	34,700	4,742	2,566	1,781	1,580	R1,575	1,453	R4,899
	Oct	33,700	4,669	2,324	1,882	1,570	R1,637	1,452	R3,837
	Nov	34,400	5,100	2,571	2,181	1,925	R1,683	1,605	R4,054
	Dec.	NA	5,832	NA	2,519	NA	NA	1,817	NA
	AVG.	34,139	5,019	2,448	1,974	1,630	R1,651	1,476	3,768

(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.

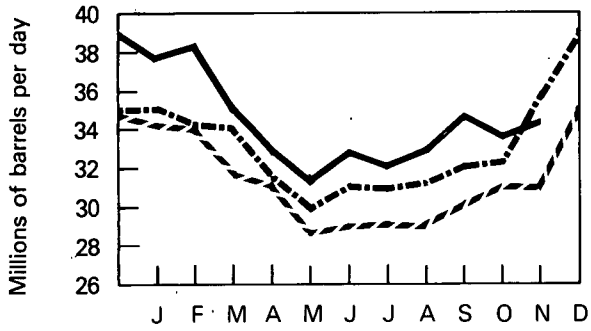
R=Revised data.

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

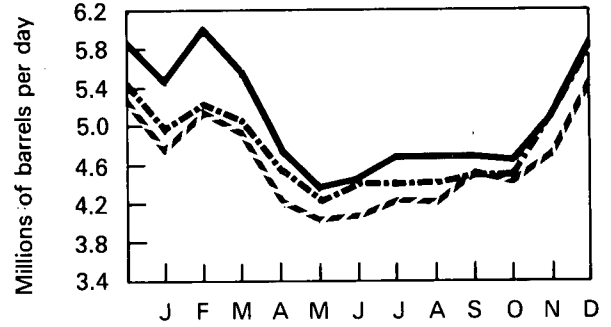
Source: Central Intelligence Agency, National Foreign Assessment Center, *International Energy Biweekly Statistical Review*, 22 March 1978.

# Petroleum Consumption

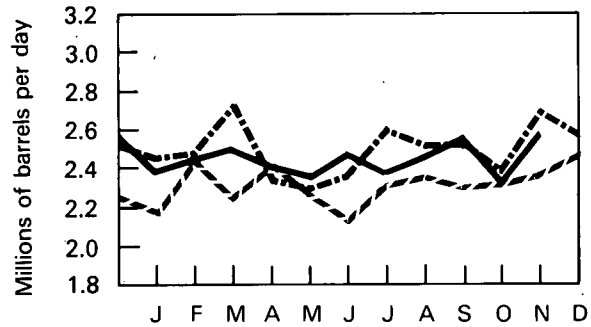
Total IEA



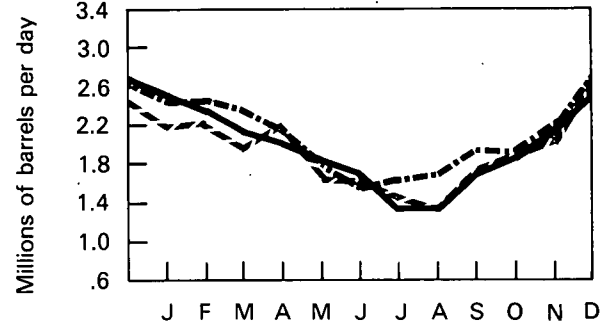
Japan\*



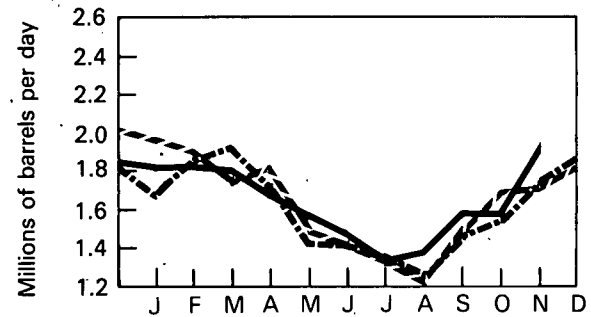
West Germany



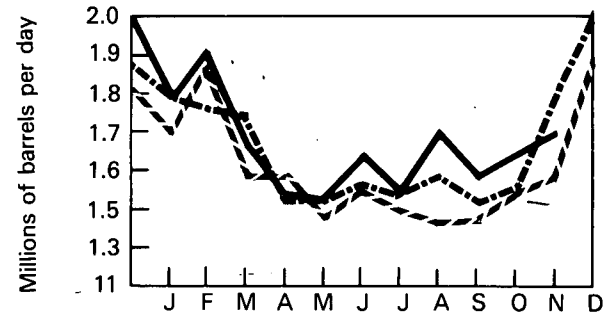
France\*\*



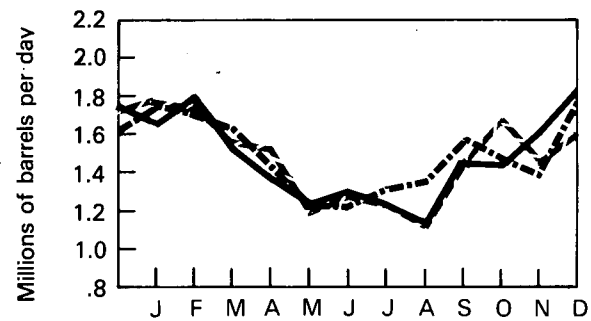
United Kingdom



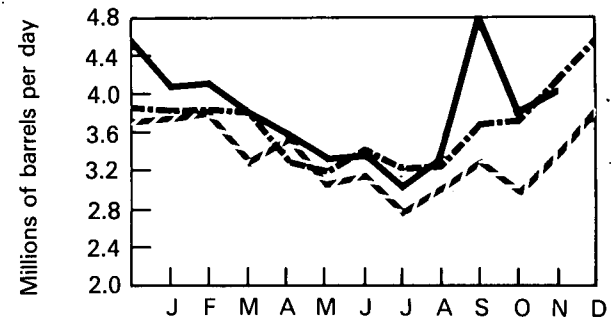
Canada



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—January 1978

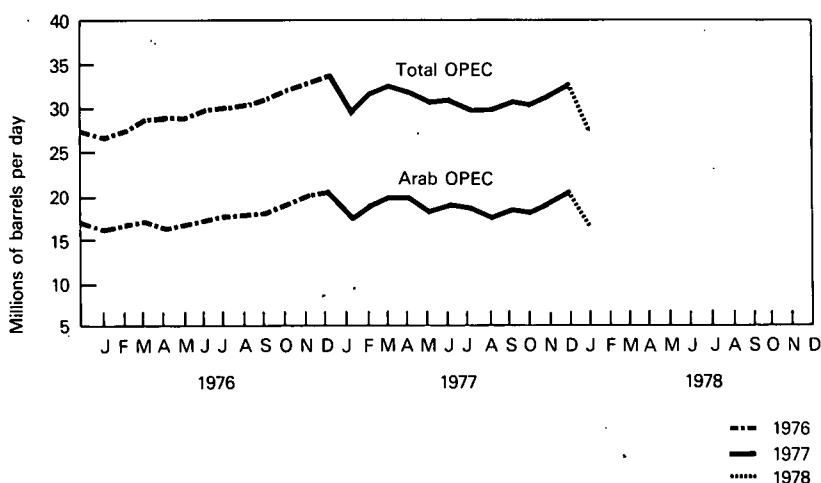
Country	Production							Production Capacity	Prod Shut
	1972 Year	1973 Year	1974 Year	1975 Year	1976 Year	1977 Year	1978 January**	January	January
Thousands of barrels per day									
Algeria	1,040	1,070	960	960	990	1,020	950	1,080	12.0
Iraq	1,465	2,020	1,970	2,260	2,415	2,330	2,000	3,000	33.3
Kuwait*	3,283	3,020	2,545	2,085	2,145	1,970	1,720	3,300	47.9
Libya	2,239	2,175	1,520	1,480	1,935	2,090	1,890	2,300	17.8
Qatar	482	570	520	440	495	430	450	600	25.0
Saudi Arabia*	6,016	7,595	8,480	7,075	8,575	9,200	7,740	10,500	26.3
United Arab Emirates	1,202	1,535	1,680	1,665	1,935	2,010	1,740	2,290	24.0
<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>19,050</b>	<b>16,490</b>	<b>23,070</b>	<b>28.5</b>
Ecuador	78	210	175	160	185	180	180	225	20.0
Gabon	125	150	200	225	225	230	220	250	12.0
Indonesia	1,080	1,340	1,375	1,305	1,505	1,690	1,700	1,700	0
Iran	5,023	5,860	6,020	5,350	5,885	5,660	5,290	6,000	11.8
Nigeria	1,815	2,055	2,255	1,785	2,070	2,100	1,640	2,300	28.7
Venezuela	3,219	3,365	2,975	2,345	2,295	2,240	1,780	2,600	31.5
<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>12,100</b>	<b>10,810</b>	<b>13,075</b>	<b>17.3</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>31,150</b>	<b>27,300</b>	<b>36,145</b>	<b>24.5</b>
Canada	1,540	1,800	1,695	1,460	1,300	1,310	1,237	1,800	31.3
Mexico	440	465	580	720	850	982	1,110	1,120	0.9
<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>33,442</b>	<b>29,647</b>	<b>39,065</b>	<b>24.1</b>
<b>TOTAL WORLD</b>	<b>50,550</b>	<b>55,755</b>	<b>55,875</b>	<b>52,990</b>	<b>57,340</b>	<b>59,500</b>	<b>56,700</b>		

\*Includes about one-half of the former Kuwait-Saudi Arabia Neutral Zone. Production in January 1978 amounted to approximately 320,000 barrels per day.

\*\*Estimated.

Sources: Central Intelligence Agency, National Foreign Assessment Center, *International Energy Biweekly Statistical Review*, 22 March 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. 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, 4.8, and 5.1 percent for 1977, 1978, and 1979, respectively.

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

6. Domestic consumption of natural gas includes the quantities sold to consumers plus the gas used for plant

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

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

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

8. Bituminous coal and lignite consumption 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.

9. 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.

10. Quantities of uranium are measured by various units at different stages in the fuel cycle. At the mill, quantities are usually expressed as pounds or short tons of  $U_3O_8$ . After the conversion stage, the units of measure are either metric tons (MT) of  $UF_6$  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.

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

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

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

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

13. The indicator, U.S. Dependence on Petroleum Imports, shows the fraction of domestic petroleum demand constituted by imports of crude oil and refined petroleum products. To factor out the effects of temporary stock level changes, the fraction is calculated as the difference between demand and domestic production, divided by demand. Imports from Arab nations (which include both direct and indirect quantities) are shown separately.

14. The index, Energy Consumption per GNP Dollar, is a ratio of total U.S. energy consumption in Btu to gross national product in constant 1972 dollars. The index is adjusted seasonally and for normal weather conditions.

15. The Consumer Energy Price Indicator (CEPI) is an index of the quantity-weighted average of direct energy costs to the consumer (1972 base year). It reflects, therefore, changes in both the prices of individual fuels and in the

relative quantities of each fuel consumed. Included in the computation of the CEPI are automotive gasoline and the principal residential fuels (heating oil, natural gas, and electricity).

16. 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.

17. 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.

18. 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.

19. 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.

20. 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.

21. 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.

22. 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 <sub>3</sub> O <sub>8</sub> )	<i>contains</i>	0.769 metric tons of uranium
1 short ton (UF <sub>6</sub> )	<i>contains</i>	0.613 metric tons of uranium
1 metric ton (UF <sub>6</sub> )	<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

### 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

Hydroelectric 10,383 Btu/kilowatt hour

Electricity Consumption 3,412 Btu/kilowatt hour



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