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# Monthly Energy Review



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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 Forecasting at FEA – October 1975  
Curtailments of Natural Gas Service – January 1976  
Home Heating Conservation Alternatives and the Solar Collector Industry – March 1976  
Trends in United States Petroleum Imports – September 1976  
Crude Oil Entitlements Program – January 1977

# Contents

Feature Article – Motor Gasoline Supply and Demand	1
<b>Part 1 – Overview</b>	<b>11</b>
<b>Part 2 – Crude Oil and Refined Petroleum Products</b>	<b>13</b>
Crude Oil	14
Total Refined Petroleum Products	16
Total Petroleum Imports	16
Motor Gasoline	20
Jet Fuel	22
Distillate Fuel Oil	24
Residual Fuel Oil	26
Natural Gas Liquids	28
U.S. Petroleum Supply and Demand	30
<b>Part 3 – Natural Gas</b>	<b>31</b>
<b>Part 4 – Coal</b>	<b>35</b>
Bituminous and Lignite	36
Anthracite	38
<b>Part 5 – Electric Utilities</b>	<b>39</b>
Cooling Degree-Days	47
<b>Part 6 – Nuclear Power</b>	<b>49</b>
<b>Part 7 – Consumption</b>	<b>53</b>
Energy Consumption	54
Petroleum Consumption and Forecast	60
Energy Indicators	61
<b>Part 8 – Resource Development</b>	<b>63</b>
Oil and Gas Exploration and Development	64
<b>Part 9 – Price</b>	<b>67</b>
Motor Gasoline	68
Diesel Fuel	74
Heating Oil	76
Residual Fuel Oil	79
Aviation Fuels	79
Crude Oil	80
Natural Gas	86
Utility Fossil Fuels	89
<b>Part 10 – International</b>	<b>93</b>
Petroleum Consumption	94
Crude Oil Production	96
Definitions	97
Explanatory Notes	101
Units of Measure	104

# **Feature Article**

# MOTOR GASOLINE SUPPLY AND DEMAND

by

Office of Oil and Gas Analysis  
Federal Energy Administration

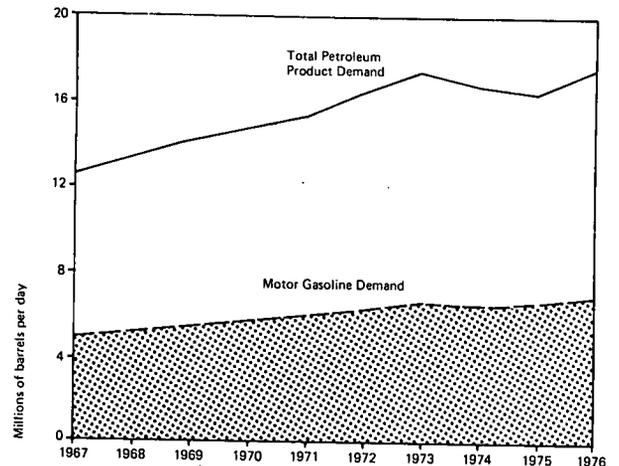
Consumption of gasoline in the United States during the summer of 1977 (June through September) is expected to reach record levels averaging 7.5 million barrels per day, which is about 7 percent higher than the level experienced during the summer of 1973 just before the oil embargo.

This article describes the most significant aspects of the supply and demand for gasoline in an historical perspective of the past 10 years. Production, imports, stocks, prices, and consumption for the 10-year period, 1967 through 1976, are presented with emphasis on the most recent 5 years. In addition, a summary of activity during the first 5 months of 1977 and a brief description of the FEA forecast for the remainder of the summer driving season are provided.

## Demand<sup>1</sup>

During the 10-year period from 1967 through 1976, domestic demand for motor gasoline rose from 5.0 million barrels per day to 7.0 million barrels a day (Figure 1, Table 1).

Figure 1. Domestic Demand for Motor Gasoline and Total Petroleum Products



The largest increases in demand were experienced in 1968 and 1972, when demand rose by more than 6 percent. In 1974, the year in which demand was most directly affected by the oil embargo,<sup>2</sup> motor gasoline

Table 1. Domestic Demand for Motor Gasoline

	Motor Gasoline Demand	Total Petroleum Products Demand	Motor Gasoline Demand as a Percent of Total Petroleum Product Demand	Annual Rate of Growth in Motor Gasoline Demand
	Thousands of barrels per day		Percent	Percent
1976	6,978	17,443	40.0	4.8
1975	6,675	16,322	40.9	2.1
1974	6,537	16,653	39.3	-2.1
1973	6,674	17,308	38.6	4.4
1972	6,376	16,367	39.0	6.3
1971	6,014	15,212	39.5	4.0
1970	5,785	14,697	39.4	4.7
1969	5,526	14,137	39.1	4.8
1968	5,261	13,393	39.3	6.4
1967	4,958	12,560	39.5	3.1

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

<sup>1</sup> Consumption of motor gasoline is not readily measurable. Consequently, it has become common practice to use apparent demand as a proxy for consumption. Apparent demand, or "disappearance from primary supply," is the sum of production,

net imports (imports minus exports), and withdrawals from primary stocks.

<sup>2</sup> The oil embargo extended from October 1973 to March 1974.

demand dropped 2.1 percent. In 1975 demand returned to the 1973 level and then increased 4.8 percent in 1976.

Motor gasoline demand over the 1967-76 period grew at an average annual rate of 4.1 percent. However, if the embargo-affected years of 1973 and 1974 are excluded, the increase amounts to 4.8 percent annually, the same rate experienced in 1976 as compared to 1975.

During the past 10 years motor gasoline demand has consistently claimed a 39 to 41 percent share of total petroleum product demand (Table 1). In 1976, demand for motor gasoline represented 40.0 percent of total petroleum product demand, with distillate fuel oil and residual fuel oil commanding the second and third largest shares of 17.9 percent and 16.0 percent, respectively.

Figure 2 illustrates the average monthly pattern of motor gasoline demand from 1972 through 1976. Motor gasoline demand is generally lowest in January and February and highest from June through August. The winter season (December, January, and February) consistently claims 23 percent of annual demand, spring (March, April, and May) and fall (September, October, and November) each constitute 25 percent, and summer (June, July, and August) accounts for 27 percent.

Figure 2. Domestic Demand for Motor Gasoline

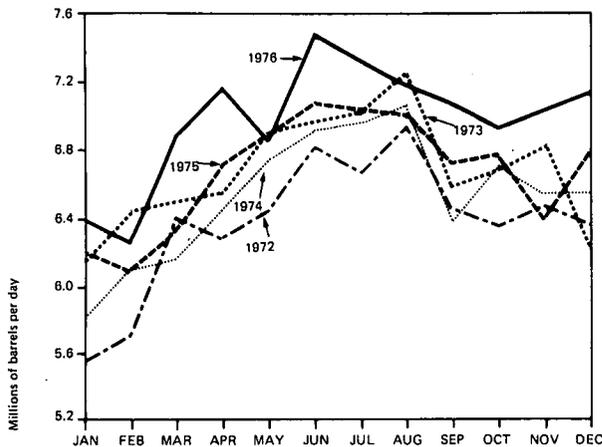


Table 2, U.S. Motor Gasoline Statistics, provides monthly data for 1972 through 1976 for the calculation of motor gasoline demand.

Regional demand for motor gasoline for 1972 through 1976 is shown in Figure 3. The geographic groupings correspond to Petroleum Administration for Defense (PAD) Districts which are illustrated in Figure 4.

Figure 3. Regional Demand for Motor Gasoline

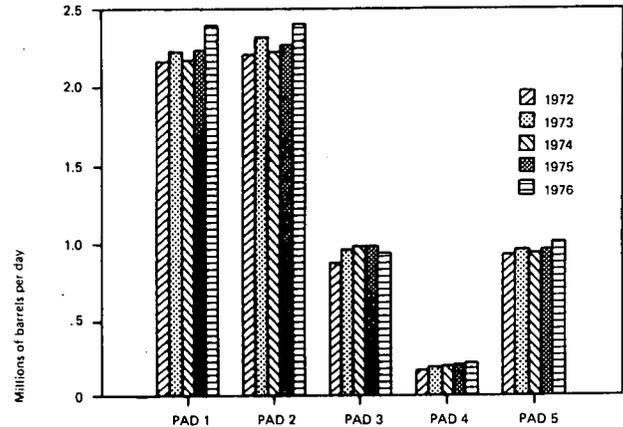
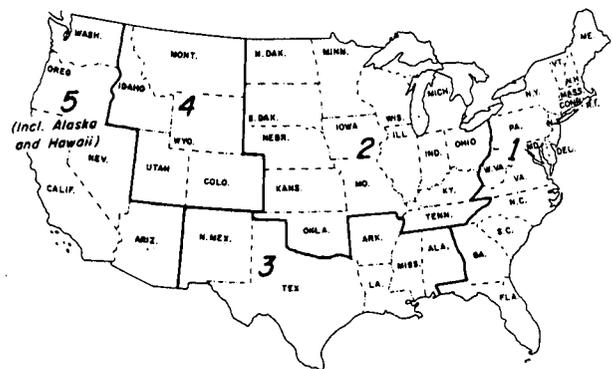


Figure 4. Petroleum Administration for Defense (PAD) Districts



The regional shares of the country's motor gasoline demand showed little change over the 5-year period 1972-76. PAD District 1 and PAD District 2 each demanded about 34 percent of the country's total, PAD District 5, about 15 percent, PAD District 3, between 14 and 15 percent, and PAD District 4, about 3 percent.

Table 2. U.S. Motor Gasoline Statistics\*

1976												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
Production at Refineries	Production at Gas Processing Plants	Total Production (1)+(2)	Stocks at Refineries, Bulk Terminals, and Pipelines	Stocks at Plants	Total Primary Stocks (4)+(5)	Change in Total Stocks from Previous Month	Imports	Exports	Net Imports (8)-(9)	Total Demand** (3)+(7)+(10)	Total Demand (MB/D)	
January	200,958	77	201,035	240,464	46	240,510	+ 5,532	2,850	6	2,844	198,347	6,398
February	187,708	76	187,784	248,854	47	248,901	+ 8,391	2,427	179	2,248	181,641	6,263
March	200,114	80	200,194	239,049	48	239,097	- 9,804	3,806	199	3,607	213,605	6,890
April	196,864	74	196,938	223,965	43	224,008	-15,089	2,980	225	2,755	214,782	7,159
May	210,010	77	210,087	225,037	42	225,079	+ 1,071	3,461	35	3,426	212,442	6,853
June	219,087	83	219,170	225,365	43	225,408	+ 329	5,631	14	5,617	224,458	7,482
July	222,401	82	222,483	226,922	39	226,961	+ 1,553	5,883	41	5,842	226,772	7,315
August	221,614	78	221,692	230,578	36	230,614	+ 3,653	4,384	209	4,175	222,214	7,168
September	206,352	75	206,427	229,751	42	229,793	- 821	5,119	12	5,107	212,355	7,079
October	207,019	80	207,099	226,300	55	226,355	- 3,438	4,264	2	4,262	214,799	6,929
November	208,132	83	208,215	227,742	45	227,787	+ 1,432	4,379	15	4,364	211,147	7,038
December	222,452	81	222,533	231,387	45	231,432	+ 3,645	2,590	206	2,384	221,272	7,138
<b>TOTAL</b>	<b>2,502,711</b>	<b>946</b>	<b>2,503,657</b>				<b>- 3,546</b>	<b>47,774</b>	<b>1,143</b>	<b>46,631</b>	<b>2,553,834</b>	<b>6,978</b>
1975												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
Production at Refineries	Production at Gas Processing Plants	Total Production (1)+(2)	Stocks at Refineries, Bulk Terminals, and Pipelines	Stocks at Plants	Total Primary Stocks (4)+(5)	Change in Total Stocks from Previous Month	Imports	Exports	Net Imports (8)-(9)	Total Demand** (3)+(7)+(10)	Total Demand (MB/D)	
January	201,768	73	201,841	242,285	55	242,340	+17,557***	8,115	17	8,098	192,382	6,206
February	175,727	80	175,807	251,915	59	251,974	+ 9,634	4,784	266	4,518	170,691	6,096
March	188,167	86	188,253	248,685	64	248,749	- 3,225	4,645	26	4,619	196,097	6,326
April	181,377	84	181,461	232,556	63	232,619	-16,130	3,989	38	3,951	201,542	6,718
May	189,918	86	190,004	213,947	50	213,997	-18,622	4,398	14	4,384	213,010	6,871
June	200,082	79	200,161	207,114	41	207,155	- 6,842	5,304	22	5,282	212,285	7,076
July	217,088	83	217,171	212,454	50	212,504	+ 5,349	6,475	39	6,436	218,258	7,041
August	213,024	70	213,094	215,480	32	215,512	+ 3,008	7,184	13	7,171	217,257	7,008
September	204,675	80	204,755	226,447	31	226,478	+10,966	8,077	5	8,072	201,861	6,729
October	198,697	79	198,776	221,493	39	221,532	- 4,946	6,417	32	6,385	210,107	6,778
November	198,070	74	198,144	232,091	48	232,139	+10,607	4,180	27	4,153	191,690	6,390
December	210,367	85	210,452	234,925	53	234,978	+ 2,839	3,681	245	3,436	211,049	6,808
<b>TOTAL</b>	<b>2,378,960</b>	<b>959</b>	<b>2,379,919</b>				<b>+10,195</b>	<b>67,249</b>	<b>744</b>	<b>66,505</b>	<b>2,436,229</b>	<b>6,675</b>
1974												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
Production at Refineries	Production at Gas Processing Plants	Total Production (1)+(2)	Stocks at Refineries, Bulk Terminals, and Pipelines	Stocks at Plants	Total Primary Stocks (4)+(5)	Change in Total Stocks from Previous Month	Imports	Exports	Net Imports (8)-(9)	Total Demand** (3)+(7)+(10)	Total Demand (MB/D)	
January	182,900	178	183,078	217,463	79	217,542	+ 8,064	5,047	126	4,921	179,935	5,804
February	167,140	75	167,215	219,058	47	219,105	+ 1,563	5,163	18	5,145	170,797	6,100
March	185,443	84	185,527	220,307	40	220,347	+ 1,242	6,960	225	6,735	191,020	6,162
April	189,329	88	189,417	223,752	53	223,805	+ 3,458	7,790	41	7,749	193,708	6,457
May	196,186	83	196,269	218,670	41	218,711	- 5,094	7,754	10	7,744	209,107	6,745
June	199,892	82	199,974	217,381	40	217,421	- 1,290	6,324	11	6,313	207,577	6,919
July	210,573	86	210,659	218,838	51	218,889	+ 1,468	6,562	21	6,541	215,732	6,959
August	211,259	83	211,342	218,951	53	219,004	+ 115	7,849	172	7,677	218,904	7,061
September	193,590	63	193,653	227,031	39	227,070	+ 8,066	6,056	15	6,041	191,628	6,388
October	196,427	92	196,519	220,748	49	220,797	- 6,273	5,303	17	5,286	208,078	6,712
November	188,751	81	188,832	218,385	59	218,444	- 2,353	5,224	13	5,211	196,396	6,547
December	198,998	89	199,087	218,346	64	218,410	- 34	4,370	196	4,174	203,295	6,558
<b>TOTAL</b>	<b>2,320,488</b>	<b>1,084</b>	<b>2,321,572</b>				<b>+ 8,932</b>	<b>74,402</b>	<b>865</b>	<b>73,537</b>	<b>2,386,177</b>	<b>6,537</b>

Table 2. U.S. Motor Gasoline Statistics (Continued)

1973

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Production at Re-fineries	Production at Gas Processing Plants	Total Production (1)+(2)	Stocks at Re-fineries, Bulk Terminals, and Pipelines	Stocks at Plants	Total Primary Stocks (4)+(5)	Change in Total Stocks from Previous Month	Imports	Ex-ports	Net Imports (8)-(9)	Total Demand** (3)+(7)+(10)	Total Demand (MB/D)
January	196,571	327	196,898	221,823	131	221,954	+ 9,060	1,841	32	1,809	189,647	6,118
February	171,940	288	172,228	216,367	117	216,484	- 5,470	2,667	142	2,525	180,223	6,437
March	190,648	330	190,978	207,581	151	207,732	- 8,752	2,193	22	2,171	201,901	6,513
April	191,315	301	191,616	204,708	169	204,877	- 2,855	1,902	130	1,772	196,243	6,541
May	208,147	307	208,454	202,081	120	202,201	- 2,676	3,146	151	2,995	214,125	6,907
June	209,792	199	209,991	208,374	92	208,466	+ 6,265	5,214	28	5,186	208,912	6,964
July	216,572	211	216,783	211,488	84	211,572	+ 3,106	4,110	70	4,040	217,717	7,023
August	213,277	212	213,489	205,122	67	205,189	- 6,383	5,091	8	5,083	224,955	7,257
September	198,580	218	198,798	210,278	81	210,359	+ 5,170	3,816	27	3,789	197,417	6,581
October	205,249	218	205,467	214,525	85	214,610	+ 4,251	6,020	251	5,769	206,985	6,677
November	191,259	205	191,464	207,343	75	207,418	- 7,192	6,492	459	6,033	204,689	6,823
December	189,068	213	189,281	209,395	83	209,478	+ 2,060	6,267	146	6,121	193,342	6,237
<b>TOTAL</b>	<b>2,382,418</b>	<b>3,029</b>	<b>2,385,447</b>				<b>- 3,416</b>	<b>48,759</b>	<b>1,466</b>	<b>47,293</b>	<b>2,436,156</b>	<b>6,674</b>

1972

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Production at Re-fineries	Production at Gas Processing Plants	Total Production (1)+(2)	Stocks at Re-fineries, Bulk Terminals, and Pipelines	Stocks at Plants	Total Primary Stocks (4)+(5)	Change in Total Stocks from Previous Month	Imports	Ex-ports	Net Imports (8)-(9)	Total Demand** (3)+(7)+(10)	Total Demand (MB/D)
January	190,678	356	191,034	239,633	279	239,912	+20,560	1,574	45	1,529	172,003	5,548
February	173,682	344	174,026	249,927	309	250,236	+10,324	1,903	14	1,889	165,591	5,710
March	183,297	356	183,653	236,831	346	237,177	-13,059	2,076	20	2,056	198,768	6,412
April	174,997	339	175,336	225,153	399	225,552	-11,625	1,569	28	1,541	188,502	6,283
May	186,714	344	187,058	214,736	353	215,089	-10,463	2,287	13	2,274	199,795	6,445
June	187,331	364	187,695	200,143	210	200,353	-14,736	2,244	10	2,234	204,665	6,822
July	204,967	395	205,362	200,710	265	200,975	+ 622	2,136	27	2,109	206,849	6,673
August	204,215	366	204,581	192,706	261	192,967	- 8,008	2,512	17	2,495	215,084	6,938
September	198,159	329	198,488	199,690	237	199,927	+ 6,960	2,084	30	2,054	193,582	6,453
October	202,491	328	202,819	207,776	139	207,915	+ 7,988	2,195	178	2,017	196,848	6,350
November	193,095	327	193,422	208,930	102	209,032	+ 1,117	2,080	23	2,057	194,362	6,479
December	199,149	334	199,483	212,770	124	212,894	+ 3,862	2,127	19	2,108	197,729	6,378
<b>TOTAL</b>	<b>2,298,775</b>	<b>4,182</b>	<b>2,302,957</b>				<b>- 6,458</b>	<b>24,787</b>	<b>424</b>	<b>24,363</b>	<b>2,333,778</b>	<b>6,376</b>

\*All figures are in thousands of barrels except for column 12 which is in thousands of barrels per day.

\*\*Stock build-ups (increases) are subtracted and stock drawdowns (decreases) are added in calculating demand in column 11.

\*\*\*Stock coverage was expanded at the end of 1974; the December 1974 revised stock figure used to calculate the January 1975 stock change is 224,783.

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

## Consumption Patterns

Motor gasoline consumption by major end-use category for 1975 is provided in Table 3. (1975 is the latest year for which information is available.) Nearly 97 percent of the motor gasoline consumed in the United States in 1975 was used for private and commercial needs. Ninety-four percent of all consumption was for private and commercial highway use. Nonhighway private and commercial use accounted for only 2.7 percent of the year's total consumption, with the agriculture sector claiming over half of that. Motor gasoline consumption for public use, highway and nonhighway, accounted for less than 2.3 percent of the 1975 total.

**Table 3. Motor Gasoline Consumption, 1975**

	Millions of Gallons*	Percent of Total**
<b>Private and commercial use</b>	<b>100,221</b>	<b>96.8</b>
Highway	97,470	94.2
Nonhighway	2,751	2.7
Agricultural use	1,565	1.5
Marine	730	0.7
Industrial and commercial	179	0.2
Other	278	0.3
<b>Public use</b>	<b>2,364</b>	<b>2.3</b>
Federal (highway civilian use only)	195	0.2
State, county, and municipal	2,169	2.1
<b>Losses (evaporation, handling, etc.)</b>	<b>922</b>	<b>0.9</b>
<b>TOTAL CONSUMPTION</b>	<b>103,507</b>	<b>100</b>

\*42 gallons constitute 1 barrel.

\*\*Figures may not add exactly due to rounding.

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 1975*, Tables MF-21 and MF-24.

Figure 5 and Table 4 provide a comparison of the total number of registered personal passenger vehicles, and the total miles traveled and fuel consumed by these vehicles in the United States. The number of registered vehicles climbed steadily throughout the 1967-76 decade, as did the total fuel consumed and total miles traveled until 1974 when they both fell sharply in response to the oil embargo. By 1975, however, the average fuel consumed and miles traveled per vehicle were rising again at pre-embargo rates. In that year the Nation's vehicles consumed almost as much fuel as in 1973 and exceeded 1973's level of miles traveled.

The fuel usage efficiency rates of all U.S. personal passenger vehicles (Table 4, column 6) declined steadily from 1967 through 1972, dropped noticeably in 1973 as pollution control equipment became mandatory on new cars, and began showing improvement in 1974 and 1975. By 1975, the average vehicle was achieving 13.74 miles per gallon of fuel, 2.2 percent less than 1967's rate of 14.05 miles per gallon.

Figure 5. Personal Passenger Vehicle Travel and Fuel Consumption\*

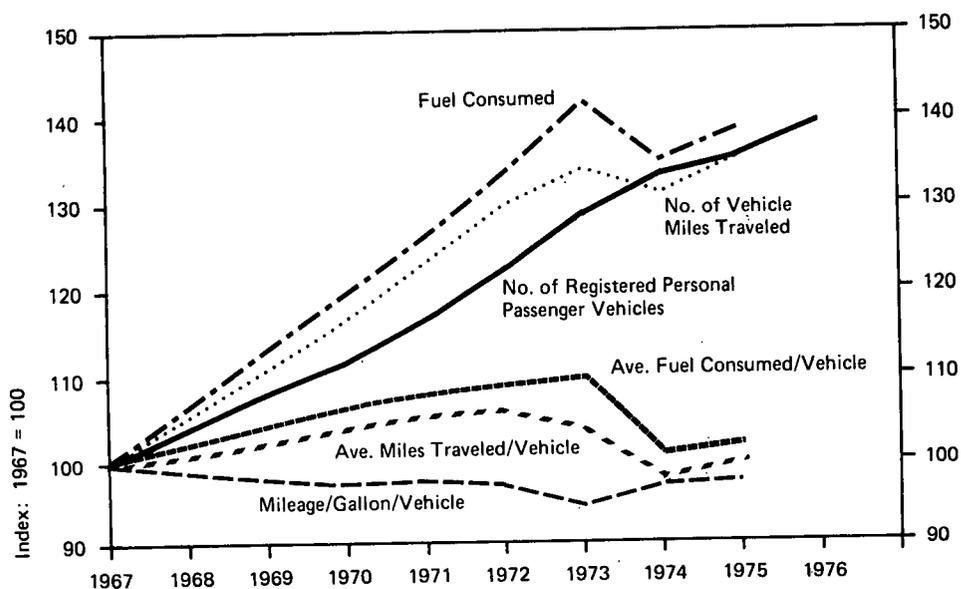


Table 4. Personal Passenger Vehicle Travel and Fuel Consumption\*

	Number of Registered Personal Passenger Vehicles		Number of Vehicle Miles Traveled		Average Miles Traveled per Vehicle	
	Thousands	Index (1967=100)	Millions	Index (1967=100)	Miles per vehicle	Index (1967=100)
1976e	114,785	139.4	NA	NA	NA	NA
1975	111,679	135.6	1,050,472	135.7	9,406	100.1
1974	109,823	133.3	1,013,068	130.9	9,225	98.1
1973	106,119	128.8	1,036,455	133.9	9,767	103.9
1972	100,658	122.2	1,003,498	129.6	9,969	106.1
1971	96,144	116.7	954,155	123.2	9,926	105.6
1970	92,095	111.8	900,992	116.4	9,783	104.1
1969	89,156	108.2	858,858	110.9	9,633	102.5
1968	85,793	104.2	814,030	105.1	9,488	100.9
1967	82,367	100.0	774,203	100.0	9,399	100.0

	Fuel Consumed		Average Fuel Consumption per Vehicle		Average Miles Traveled per Gallon of Fuel Consumed	
	Millions of gallons	Index (1967=100)	Gallons per vehicle	Index (1967=100)	Mileage per gallon per vehicle	Index (1967=100)
1976e	NA	NA	NA	NA	NA	NA
1975	76,457	138.7	685	102.4	13.74	97.8
1974	74,217	134.7	676	101.0	13.65	97.2
1973	78,011	141.6	736	110.0	13.29	94.6
1972	73,463	133.3	730	109.1	13.67	97.3
1971	69,514	126.1	723	108.1	13.73	97.7
1970	65,784	119.4	714	106.7	13.70	97.5
1969	62,448	113.3	700	104.6	13.75	97.9
1968	58,524	106.2	682	101.9	13.91	99.0
1967	55,110	100.0	669	100.0	14.05	100.0

\*The category "Personal Passenger Vehicle" includes passenger cars, taxicabs, and motorcycles.

e = Estimated.

NA = Not available.

Source: U. S. Federal Highway Administration, *Highway Statistics*, "Estimated Motor-Vehicle Travel in the United States and Related Data."

## Retail Price of Motor Gasoline

Figure 6 compares the annual average retail price of regular motor gasoline for 1967-76 in both current and constant dollars. In current dollars, the price of gasoline rose from 33.2 cents a gallon in 1967 to 58.7 cents a gallon in 1976. If these prices are deflated by the inflation rate experienced in the United States during these years (as measured by the Bureau of Labor Statistics' Consumer Price Index), the price of gasoline (in constant 1967 dollars) was 33.2 cents a gallon in 1967, rose to a peak of 35.8 cents a gallon in 1974 at the time of the oil embargo, and dropped to 34.9 in 1975 and 34.4 in 1976. In 1976, then, the real price of motor gasoline (in constant 1967 dollars) was only 1.2 cents a gallon higher than the price 10 years earlier.

## Supply

The supply of gasoline available to satisfy demand is provided by three sources: domestic production (from refineries and natural gas processing plants), imports, and withdrawals from stocks. Domestic production is the dominant contributor to supply (Figure 7). Small amounts of gasoline are imported, and small adjustments to stocks occur to accommodate shifts in the balance between production and demand.

## Production

The relationship between regional demand and production in 1976 is shown in Figure 8. Motor gasoline demand and production were roughly equal during 1976 in PAD Districts 4 and 5, while demand in PAD District 1 was about three times its own production level and PAD District 2 demand slightly surpassed its own production. PAD District 3 produced about three times as much motor gasoline as it used.

## Imports

Net imports (imports minus exports) of motor gasoline averaged 127,000 barrels per day in 1976, 1.8 percent of domestic motor gasoline supply. (Imports averaged 130,000 barrels per day while exports were approximately 3,000 barrels per day.) Figure 9 illustrates the temporary rise in imported motor gasoline in 1973 and 1974. The net imports peak of 201,000 barrels per day for 1974 was followed by 182,000 barrels per day in 1975 and 127,000 barrels per day in 1976. The East

Figure 6. Retail Price of Motor Gasoline In Current and Constant Dollars

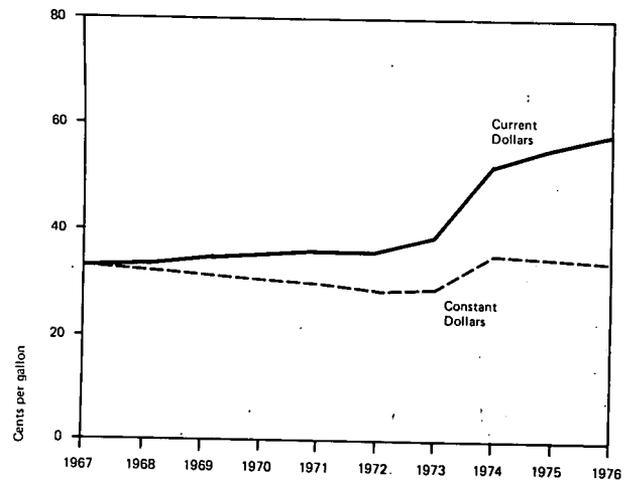


Figure 7. Domestic Production and Demand for Motor Gasoline

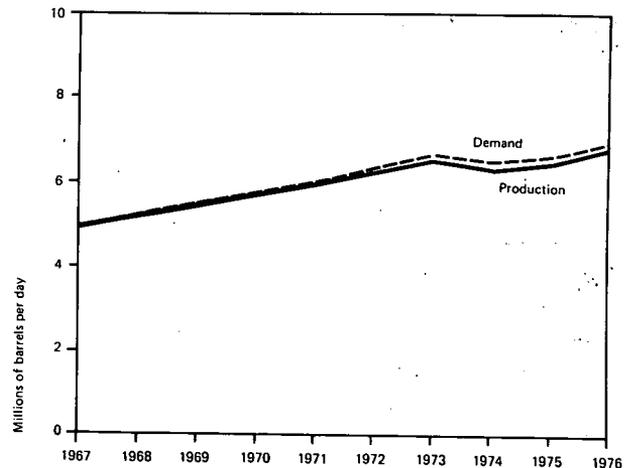


Figure 8. Regional Motor Gasoline Production and Demand, 1976

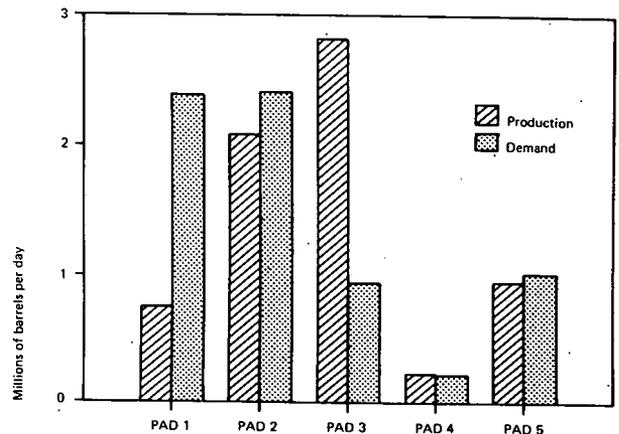
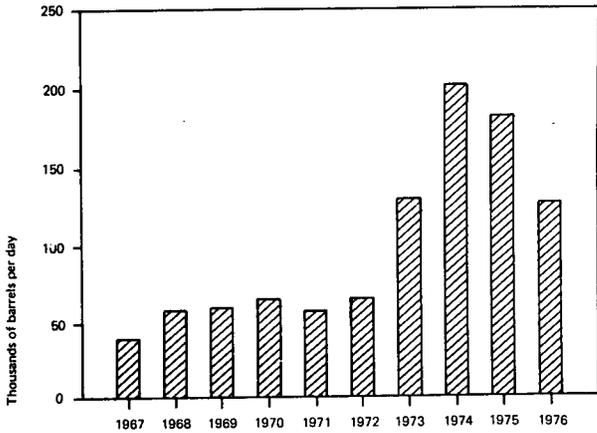


Figure 9. Motor Gasoline Net Imports

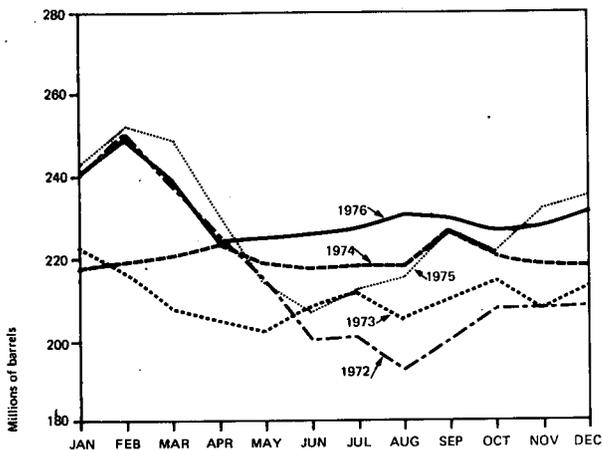


Coast (PAD District 1) was by far the greatest importer, accounting for over 90 percent of the 1976 import total. Most imports in 1976 (55 percent) came from the Virgin Islands, and another 27 percent was imported from Puerto Rico.

**Stocks**

Motor gasoline stocks at refineries, pipeline terminals, and independent bulk terminals have generally been highest in the winter in preparation for the high demand of the summer motoring season (Figure 10). Over the 5-year period, 1972-76, the lowest motor gasoline stock figure recorded was 193 million barrels in August 1972 and the highest was 252 million barrels in February 1975.

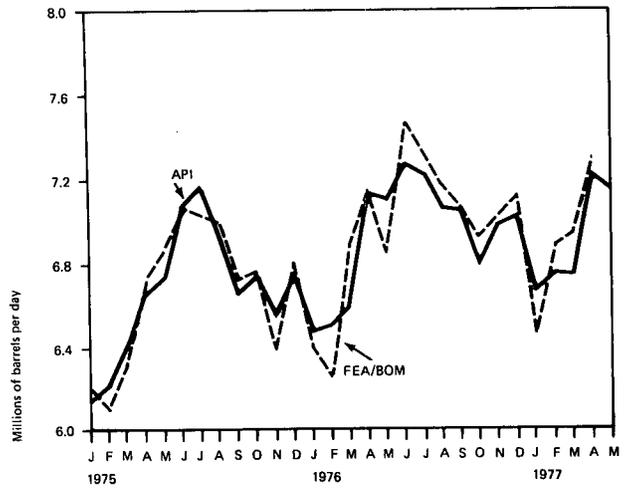
Figure 10. Motor Gasoline Stocks



1977 Gasoline Supply and Demand to Date

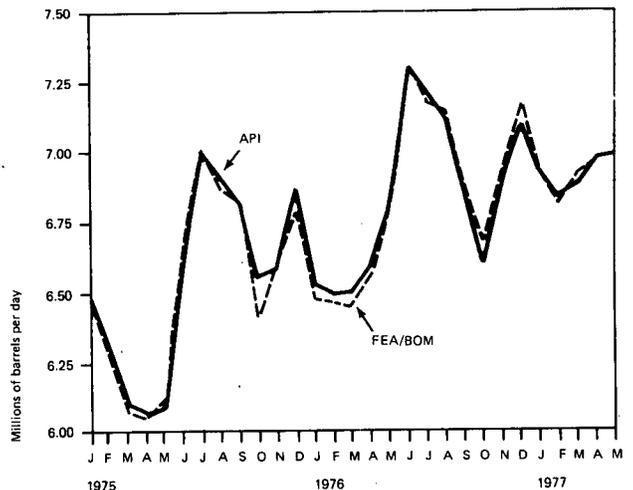
Motor gasoline demand during the first 5 months of 1977 averaged 7.0 million barrels per day, about 3.6 percent higher than during the same period of 1976. The results of two reporting systems used to estimate demand are shown in Figure 11. The FEA/BOM and American Petroleum Institute (API) demand figures portray similar seasonal patterns but often vary by 2 to 5 percent, although neither is consistently higher or lower.

Figure 11. U.S. Motor Gasoline Demand as Reported by FEA/BOM and American Petroleum Institute (API)



Domestic production for the first 5 months of 1977 was 6.9 million barrels per day, 5.8 percent higher than the corresponding 1976 level (Figure 12). FEA/BOM and API domestic production figures are in close accord, rarely deviating by more than 1 percent.

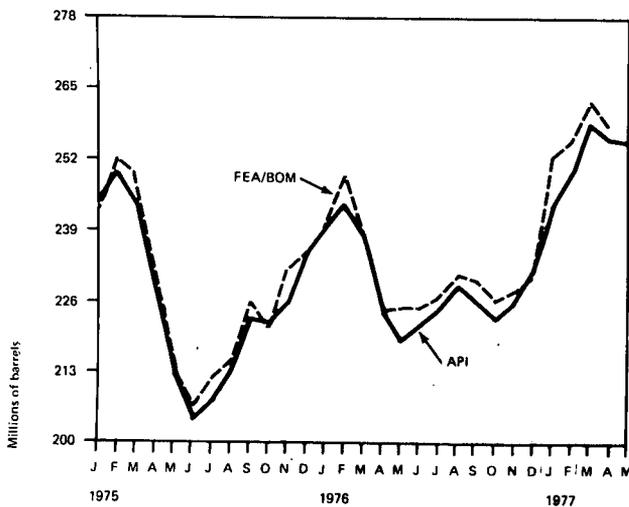
Figure 12. U.S. Motor Gasoline Production as Reported by FEA/BOM and American Petroleum Institute (API)



Imports averaged 208,000 barrels per day for the first 5 months of 1977, compared to 100,000 barrels per day during the same period in 1976.

Total gasoline stocks at refineries, pipeline terminals, and independent bulk terminals at the end of May 1977 were 256 million barrels, down 1 percent from the record level set in March 1977 but 13.8 percent (31 million barrels) higher than the May 1976 level (Figure 13).

Figure 13. U.S. Motor Gasoline Stocks as Reported by FEA/BOM and American Petroleum Institute (API)



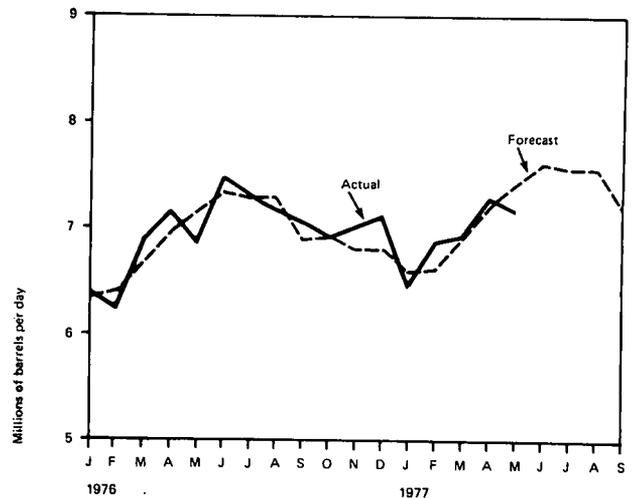
### The FEA Forecast

Gasoline demand is forecasted to reach new record levels during the summer of 1977. In June through August, national demand is forecasted at nearly 7.6 million barrels per day, about 4 percent above demand during the same months of 1976. Forecasted demand for leaded and unleaded gasoline for the 1977 summer driving season is given in Table 5, and a comparison of actual and forecasted demands is shown in Figure 14. Demand for unleaded gasoline is forecasted to climb this summer to about 28 percent of the total demand. All PAD Districts except PAD District 4 conform to this national pattern. In PAD District 4, the proportion of unleaded gasoline demand is forecasted to be lower, about 16 to 17 percent of total demand.

Table 5. FEA Motor Gasoline Demand Forecast, 1977 Summer Driving Season

	June	July	Aug.	Sept.
	Thousands of barrels per day			
Leaded	5,496	5,468	5,468	5,166
Unleaded	2,137	2,127	2,126	2,009
<b>TOTAL U.S.</b>	<b>7,633</b>	<b>7,595</b>	<b>7,594</b>	<b>7,175</b>

Figure 14. Motor Gasoline Demand Forecast



No gasoline shortage is forecasted to occur during the summer of 1977 as domestic production capacities have kept pace with anticipated demand growth, stocks at the beginning of the summer are at record high levels, and imports are in line with previous summer levels.

A supply and demand balance is expected to be achieved without straining domestic production capacities, and without deviating from historical levels of importing activity. Refinery utilization rates are expected to range between 88 and 90 percent of capacity. Total petroleum imports are expected to be well below the peak levels experienced last winter.

In May there was further indication of a possible reversal of the 4-year-long down-trend in U.S. energy production. Domestic energy output for the month totaled 5.13 quadrillion Btu (the equivalent of 28.5 million barrels per day of crude oil), an increase of 1.9 percent over last May's level. Average daily output for the first 5 months of the year was only 0.1 percent lower than for the corresponding 1976 period. This is significant considering that production in January and February had been severely curtailed because of the cold weather. A 53.6-percent growth in average daily nuclear electric power generation contributed most to the improvement in the year-to-date production level. Natural gas and coal production were also higher for the period by 1.0 percent and 0.4 percent, respectively. Crude oil output, however, declined 2.8 percent from the January-May level a year ago, and hydroelectric power generation dropped about 25 percent.

In spite of the improved energy production rate, U.S. fossil fuel importing activity continued at a record pace in May, averaging 53 trillion Btu per day (or 9.2 million barrels per day of crude oil equivalent), up 34.1 percent from the May 1976 level. In the January-May period, imports were 33.2 percent greater than in the same period a year earlier, with crude oil imports registering the largest growth of 41.8 percent. Refined petroleum product imports rose 19.5 percent, and natural gas imports were 7.9 percent higher during the period.

Domestic energy consumption fell seasonally in April to an average of 195 trillion Btu per day (or 33.6 million barrels per day of crude oil equivalent), down 4.9 percent from the consumption rate for the previous month, but up 2.2 percent compared with the April 1976 rate. Average daily U.S. energy use has dropped over 20 percent since January's record-breaking peak of 248 trillion Btu per day.

Motor gasoline stocks at the end of May constituted a 36-day supply, compared with a 33-day supply in May 1976, and appear to be adequate for the summer motoring season. Distillate fuel oil stocks have also grown in the past 12 months, from a 58-day to a 60-day supply, the days' supply of residual and jet fuel inventories, on the other hand, has declined slightly from 27 days and 36 days,

respectively, to 25 days and 35 days. Crude oil inventories in May, while maintaining a level of over 300 million barrels, represented 21 days of supply compared with 22 days last May.

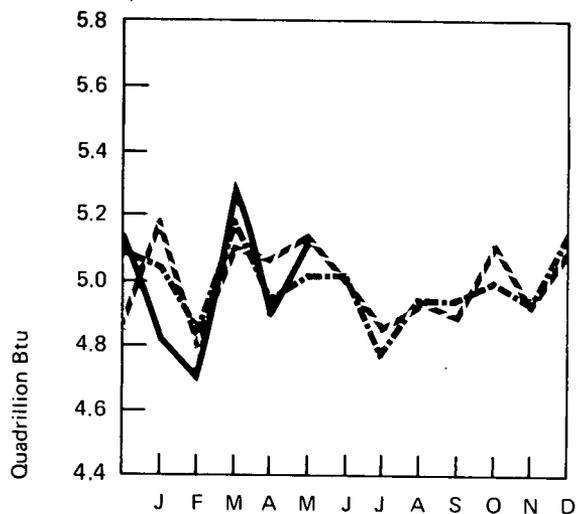
Following moderate increases in the 3-percent range in March and April, utility electricity production in May soared more than 9 percent above the production level for May 1976. Electricity output for the 5-month period, January-May, was 6 percent above the output for the same 5 months last year.

Retail gasoline prices advanced for the fourth consecutive month in May. Increases ranged from 0.5 cent per gallon for self service regular gasoline to 0.8 cent per gallon for full service premium gasoline. The full service regular gasoline retail price in May was 62.9 cents per gallon, 5.5 cents more than it was last May, an increase of nearly 10 percent.

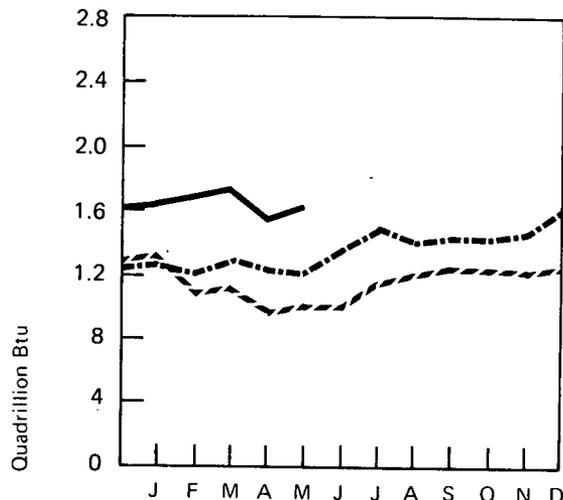
World crude oil production in April averaged 60.6 million barrels per day, about 6 million barrels per day higher than in April 1976. OPEC production averaged 32.0 million barrels per day compared with 28.8 million the year before.

		Domestic Production of Energy*	Imports of Fossil Fuels**	Domestic Consumption of Energy**
		Quadrillion (10 <sup>15</sup> ) Btu		
1972	TOTAL	62.937	11.563	71.895
1973	TOTAL	62.373	14.519	74.551
1974	TOTAL	61.138	14.114	72.601
1975	January	5.199	1.334	6.927
	February	4.793	1.093	6.054
	March	5.118	1.128	6.267
	April	5.060	0.971	5.685
	May	5.148	1.030	5.368
	June	4.999	1.027	5.315
	July	4.849	1.164	5.550
	August	4.942	1.220	5.634
	September	4.896	1.272	5.388
	October	5.118	1.232	5.801
	November	4.918	1.210	5.747
	December	5.095	1.255	6.821
	TOTAL	60.134	13.935	70.557
1976	January	5.056	1.296	R7.169
	February	4.834	1.210	R6.240
	March	5.194	1.301	6.246
	April	4.937	1.245	R5.724
	May	5.034	1.232	R5.650
	June	5.035	1.391	5.688
	July	4.777	1.507	5.879
	August	4.952	1.416	R5.818
	September	4.949	1.465	R5.596
	October	5.005	1.448	R6.095
	November	R4.916	1.498	6.578
	December	R5.141	1.610	R7.490
	TOTAL	59.830	16.619	R74.174
1977	January	R4.819	R1.648	7.703
	February	R4.690	R1.712	R6.514
	March	R†5.304	R†1.762	R6.358
	April	R†4.923	R†1.538	††5.852
	May	†5.132	††1.652	NA
	TOTAL	24.868 (5 months)	8.312 (5 months)	26.427 (4 months)

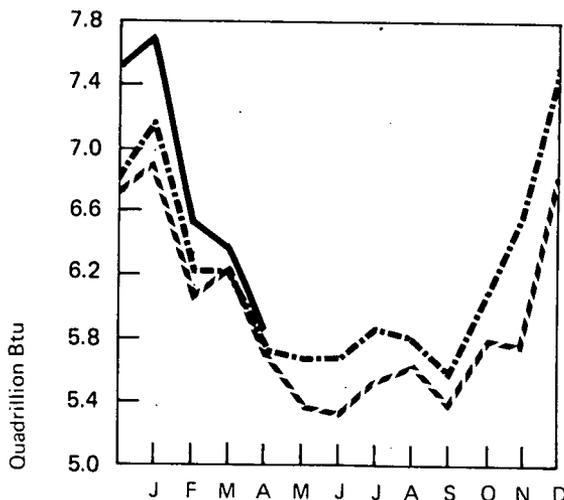
Domestic Production of Energy



Imports of Fossil Fuels



Domestic Consumption of Energy



--- 1975  
-.- 1976  
— 1977

\*See Explanatory Note 1.  
\*\*See Explanatory Note 2.  
\*\*\*See Explanatory Note 3.  
†Preliminary data.  
††Partially estimated.  
R=Revised data.  
NA=Not available.  
Source: FEA.

# Part 2

# Crude Oil and Refined Petroleum Products

## Crude Oil and Refined Petroleum Products

Total petroleum imports averaged 8.6 million barrels per day in May 1977, up 4 percent over April's level and up 36 percent compared with the May 1976 level. Crude oil imports accounted for 78 percent of the May import total.

Total domestic demand for petroleum products fell slightly to 17.2 million barrels a day in May from April's daily average of 17.4 million barrels. The May figure was 7 percent higher than May 1976 demand.

Demand for motor gasoline in May dropped about 130,000 barrels per day from April's level to 7.2 million barrels per day. Demand is expected to increase seasonally in June and remain high through September. Stocks of motor gasoline at the end of May stood at 256 million barrels, 14 percent above the May 1976 level.

Residual fuel oil demand in May was 2.8 million barrels per day, about 1 percent below demand last month, but 14 percent above the May 1976 level. Distillate demand in May was 2.7 million barrels per day, 7 percent above May 1976 demand.

Domestic production of crude oil in May averaged 8.0 million barrels a day, up 2 percent over April's rate, but down 2 percent from the May 1976 level.

# 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	260,462
	February	12,135	8,591	3,828	276,755
	March	11,905	8,493	3,656	279,989
	April	11,803	8,457	3,378	281,908
	May	11,983	8,379	3,486	280,961
	June	12,417	8,421	3,905	276,132
	July	12,915	8,336	4,192	264,157
	August	13,046	8,249	4,581	256,616
	September	12,945	8,280	4,689	259,446
	October	12,365	8,324	4,389	269,584
	November	12,689	8,278	4,623	270,950
	December	12,779	8,254	4,476	271,354
		AVERAGE	12,442	8,375	4,105
1976	January	12,560	8,211	4,595	289,296
	February	12,834	8,196	4,208	277,414
	March	12,877	8,175	4,738	283,112
	April	12,727	8,080	4,790	286,628
	May	12,920	8,168	4,669	283,982
	June	13,799	8,144	5,621	281,715
	July	13,901	8,104	5,792	282,599
	August	13,888	8,074	5,556	277,272
	September	13,716	8,185	5,875	284,357
	October	13,319	8,049	5,699	297,683
	November	14,101	8,043	5,946	298,836
	December	14,333	8,006	5,925	285,471
		AVERAGE	13,416	8,119	5,287
1977	January	14,140	7,790	6,028	294,037
	February	R14,744	R8,067	6,647	R291,387
	March	14,443	R7,978	R6,624	291,466
	April	R14,246	R7,860	R6,627	R310,137
	May	14,577	8,016	6,737	306,755
		AVERAGE (5 months)	14,425	7,940	6,530

6,619

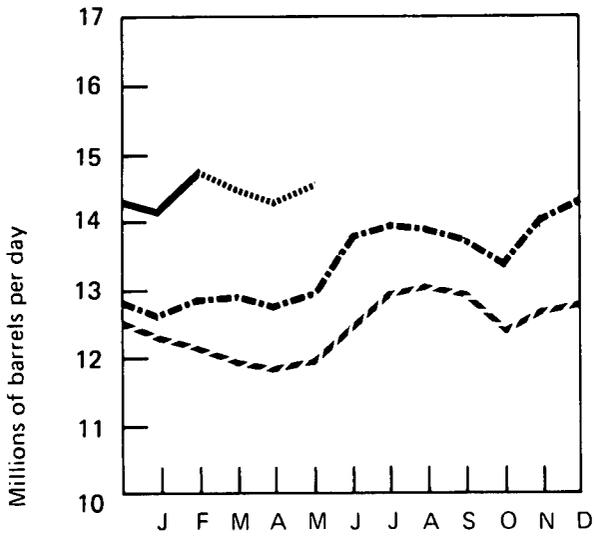
\*See Definitions.

\*\*Total as of December 31.

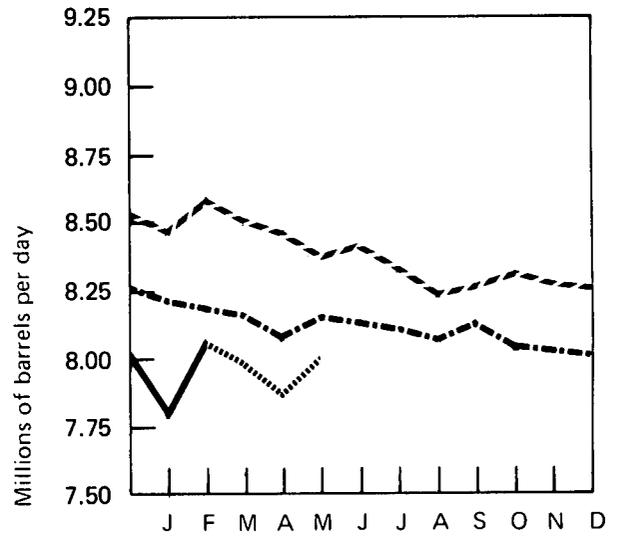
R=Revised data.

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

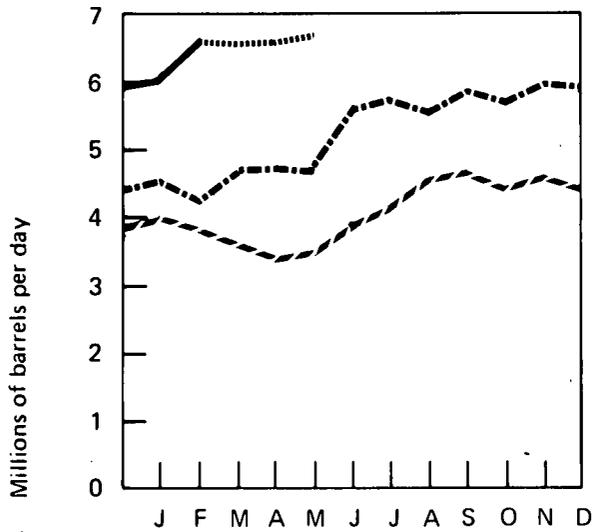
Crude Input to Refineries



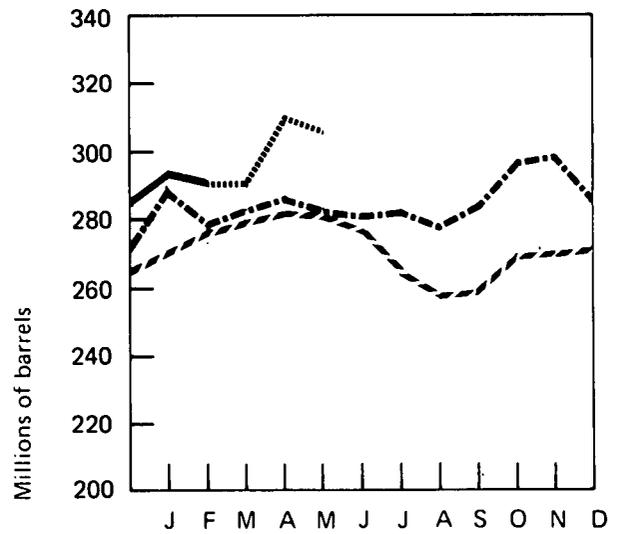
Domestic Production



Imports



Stocks



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

## Total Refined Petroleum Products

## Total Petroleum Imports

(Crude Oil and Refined Products)

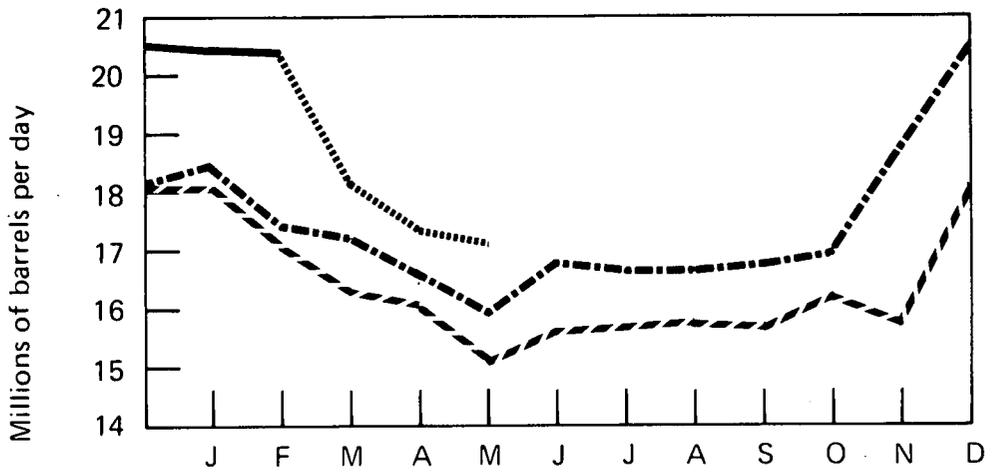
		Domestic Demand	Imports*	
		Thousands of barrels per day		Thousands of barrels per day
<b>1972</b>	<b>AVERAGE</b>	<b>16,367</b>	<b>2,525</b>	<b>4,741</b>
<b>1973</b>	<b>AVERAGE</b>	<b>17,308</b>	<b>3,012</b>	<b>6,256</b>
<b>1974</b>	<b>AVERAGE</b>	<b>16,653</b>	<b>2,635</b>	<b>6,112</b>
<b>1975</b>	January	18,004	2,832	6,861
	February	17,084	2,348	6,176
	March	16,315	2,074	5,730
	April	16,048	1,662	5,040
	May	15,155	1,728	5,214
	June	15,610	1,502	5,407
	July	15,740	1,767	5,959
	August	15,806	1,717	6,298
	September	15,768	2,115	6,804
	October	16,377	1,940	6,329
	November	15,777	1,796	6,419
	December	18,185	1,949	6,425
	<b>AVERAGE</b>	<b>16,322</b>	<b>1,951</b>	<b>6,056</b>
<b>1976</b>	January	18,599	2,070	6,665
	February	17,429	2,423	6,631
	March	17,299	1,946	6,684
	April	16,672	1,806	6,596
	May	15,977	1,654	6,323
	June	16,836	1,858	7,479
	July	16,613	2,098	7,890
	August	16,642	1,826	7,382
	September	16,825	2,038	7,913
	October	17,052	1,808	7,507
	November	18,847	2,114	8,060
	December	20,506	2,468	8,393
	<b>AVERAGE</b>	<b>17,443</b>	<b>2,007</b>	<b>7,294</b>
<b>1977</b>	January	20,452	2,566	8,594
	February	R20,402	R3,249	R9,896
	March	R18,092	R2,505	R9,129
	April	R17,396	R1,646	R8,273
	May	17,154	1,901	8,638
	<b>AVERAGE</b> (5 months)	<b>18,674</b>	<b>2,361</b>	<b>8,891</b>

\*See Definitions.

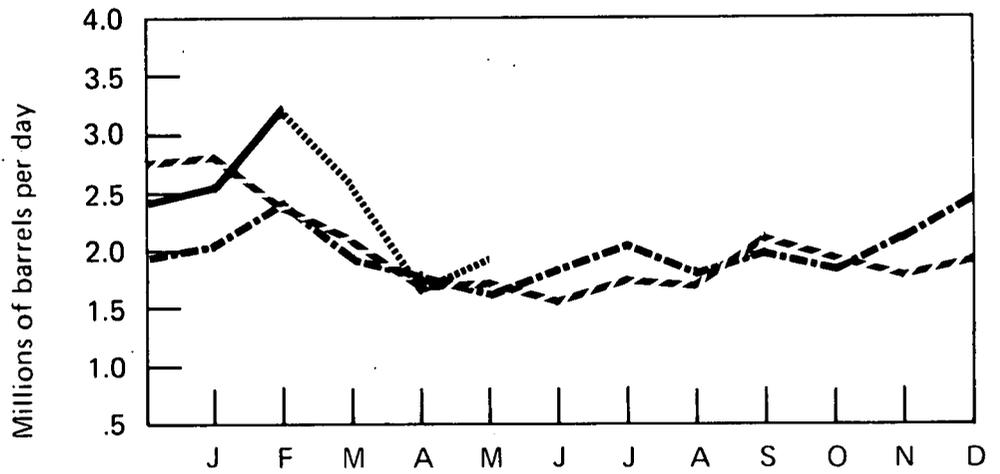
R=Revised data.

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

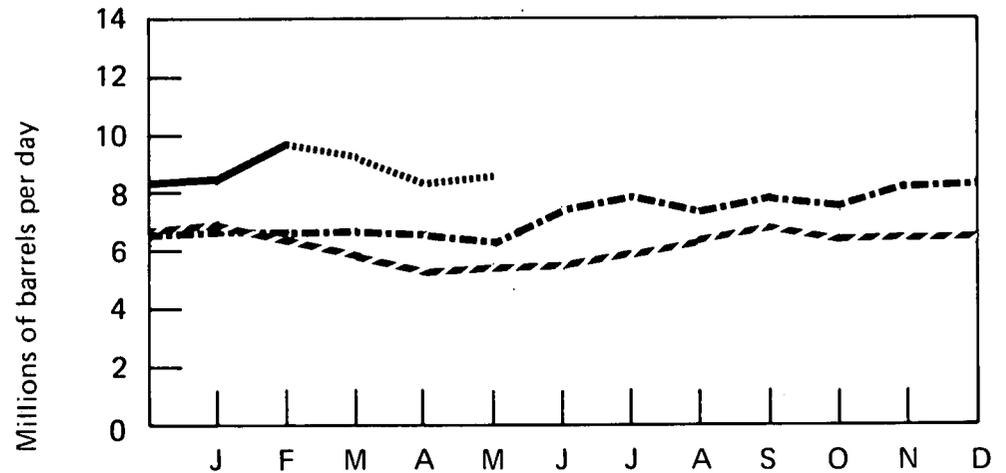
### Total Refined Product Domestic Demand



### Refined Product Imports



### Total Petroleum Imports



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

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

	Algeria	Indonesia	Iran	Libya	Nigeria	Saudi Arabia	United Arab Emirates	Venezuela	Other OPEC**	Total OPEC	Arab Members of OPEC
Thousands of barrels per day											
<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>340.9</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											
January	280.1	293.9	394.1	18.7	882.3	847.6	46.9	1,016.1	130.6	3,910.3	1,267.0
February	239.4	318.7	297.1	82.2	846.1	794.5	105.9	763.2	135.5	3,582.6	1,260.3
March	295.8	286.4	180.6	174.7	835.5	637.4	113.2	722.2	168.7	3,414.5	1,281.8
April	225.9	351.1	345.9	124.9	618.7	427.6	70.4	823.9	61.6	3,050.0	853.1
May	345.4	358.7	225.5	211.4	643.5	335.2	124.7	801.3	159.1	3,204.8	1,041.2
June	346.8	480.9	231.5	182.9	619.1	500.5	77.3	711.3	130.7	3,281.0	1,131.1
July	346.6	463.4	217.4	248.0	714.9	587.7	107.2	679.0	115.6	3,479.8	1,301.7
August	268.8	472.4	203.4	407.0	804.1	748.5	259.5	521.8	90.5	3,776.0	1,718.0
September	284.1	410.0	276.7	456.6	817.0	730.7	216.1	624.4	145.1	3,960.7	1,701.7
October	235.6	402.2	310.7	236.3	772.5	961.1	93.3	514.9	109.2	3,634.8	1,575.4
November	295.7	396.9	472.9	275.6	801.7	933.9	69.1	584.7	72.2	3,902.7	1,585.0
December	211.0	390.6	186.2	354.6	784.9	1,074.7	114.2	622.1	130.1	3,868.4	1,777.7
Total Direct	281.5	388.4	280.4	232.0	761.5	715.0	116.7	697.6	116.1	3,589.2	1,381.3
Indirect	6.7	49.3	244.4	97.3	76.3	176.6	37.5	332.5	143.2	1,163.8	408.8
<b>Total</b>	<b>288.2</b>	<b>437.7</b>	<b>524.8</b>	<b>329.3</b>	<b>837.8</b>	<b>891.6</b>	<b>154.2</b>	<b>1,030.1</b>	<b>259.3</b>	<b>4,753.0</b>	<b>1,790.1</b>
<b>1976</b>											
Direct											
January	345.5	478.0	387.5	451.3	781.7	1,111.9	118.8	533.7	86.3	4,294.7	2,045.7
February	357.4	465.3	241.2	328.4	830.9	1,080.9	118.5	838.6	102.8	4,364.0	1,925.3
March	347.2	552.0	292.5	372.2	896.8	1,145.0	159.4	468.1	111.8	4,345.0	2,058.5
April	446.5	467.6	323.3	356.2	997.0	1,027.5	195.5	496.8	81.6	4,392.0	2,036.2
May	410.6	485.5	183.7	362.0	855.1	1,141.5	214.5	487.7	135.9	4,276.5	2,138.8
June	501.2	603.6	323.2	487.8	1,127.6	1,205.0	290.1	668.0	70.5	5,277.0	2,486.5
July	451.0	581.0	374.3	487.1	1,136.7	1,327.7	305.2	808.0	208.8	5,679.8	2,711.4
August	510.0	554.5	294.2	463.5	1,029.4	1,317.6	228.1	704.0	133.6	5,234.9	2,597.4
September	435.3	570.2	274.6	491.0	1,173.0	1,288.1	335.1	932.4	198.7	5,698.4	2,748.2
October	357.2	487.4	284.2	456.2	1,097.5	1,366.2	304.4	772.8	232.7	5,358.5	2,578.8
November	502.0	647.1	316.8	533.9	1,173.8	1,316.1	341.1	810.8	170.7	5,812.3	2,768.4
December	379.9	556.4	289.5	637.2	1,193.6	1,404.0	448.0	868.4	194.8	5,971.8	2,956.6
Total Direct	428.3	537.4	298.5	453.3	1,025.2	1,229.8	255.2	699.2	134.0	5,060.9	2,421.0
Indirect	10.0	32.0	248.0	76.0	94.0	136.0	68.0	273.0	82.0	1,019.0	352.0
<b>TOTAL</b>	<b>438.3</b>	<b>569.4</b>	<b>546.5</b>	<b>529.3</b>	<b>1,119.2</b>	<b>1,365.8</b>	<b>323.2</b>	<b>972.2</b>	<b>216.0</b>	<b>6,079.9</b>	<b>2,773.0</b>
<b>1977</b>											
Direct											
January	493.0	571.6	316.4	543.8	1,278.2	1,346.1	297.4	785.6	344.4	5,976.5	2,932.1
February	659.7	545.9	412.7	638.0	1,265.1	1,442.7	316.7	918.4	241.0	6,440.2	3,135.6
Total Direct	572.1	559.4	362.1	588.5	1,272.0	1,391.9	306.6	848.6	295.4	6,196.6	3,028.7
Indirect	22.7	99.2	347.7	165.9	152.2	229.3	108.1	279.8	147.4	1,552.3	640.5
<b>TOTAL</b>	<b>594.8</b>	<b>658.6</b>	<b>709.8</b>	<b>754.4</b>	<b>1,424.2</b>	<b>1,621.2</b>	<b>414.7</b>	<b>1,128.4</b>	<b>442.8</b>	<b>7,748.9</b>	<b>3,669.2</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;" "PAD Districts Supply/Demand, Monthly;" and FEA estimates.

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

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

Sources: Bureau of Mines Mineral Industry Surveys, "Petroleum Statement, Monthly" and "PAD District Supply/Demand, Monthly."

# Motor Gasoline

		Domestic Demand	Production*	Imports	Stocks*
		Thousands of barrels per day			Thousands of barrels
<b>1972</b>	<b>AVERAGE</b>	<b>6,376</b>	<b>6,281</b>	<b>68</b>	<b>**212,770</b>
<b>1973</b>	<b>AVERAGE</b>	<b>6,674</b>	<b>6,527</b>	<b>134</b>	<b>**209,395</b>
<b>1974</b>	<b>AVERAGE</b>	<b>6,537</b>	<b>6,358</b>	<b>204</b>	<b>**218,346</b>
<b>1975</b>	January	6,206	6,509	262	***242,285
	February	6,096	6,276	171	251,915
	March	6,326	6,070	150	248,685
	April	6,718	6,046	133	232,556
	May	6,871	6,126	142	213,947
	June	7,076	6,669	177	207,114
	July	7,041	7,003	209	212,454
	August	7,008	6,872	232	215,480
	September	6,729	6,823	269	226,447
	October	6,778	6,410	207	221,493
	November	6,390	6,602	139	232,091
	December	6,808	6,786	119	234,925
	<b>AVERAGE</b>	<b>6,675</b>	<b>6,518</b>	<b>184</b>	
<b>1976</b>	January	6,398	6,483	92	240,464
	February	6,263	6,472	84	248,854
	March	6,890	6,455	123	239,049
	April	7,159	6,562	99	223,965
	May	6,853	6,774	112	225,037
	June	7,482	7,303	188	225,365
	July	7,315	7,174	190	226,922
	August	7,168	7,149	141	230,578
	September	7,079	6,878	171	229,751
	October	6,929	6,678	138	226,300
	November	7,038	6,938	146	227,742
	December	7,138	7,176	84	231,387
	<b>AVERAGE</b>	<b>6,978</b>	<b>6,837</b>	<b>131</b>	
<b>1977</b>	January	6,466	6,934	222	252,608
	February	R6,897	R6,817	R184	R255,519
	March	R6,953	6,920	246	262,536
	April	R7,300	R6,967	R194	R258,307
	May	7,168	6,994	192	256,033
	<b>AVERAGE</b> (5 months)	<b>6,956</b>	<b>6,928</b>	<b>208</b>	

\*See Definitions.

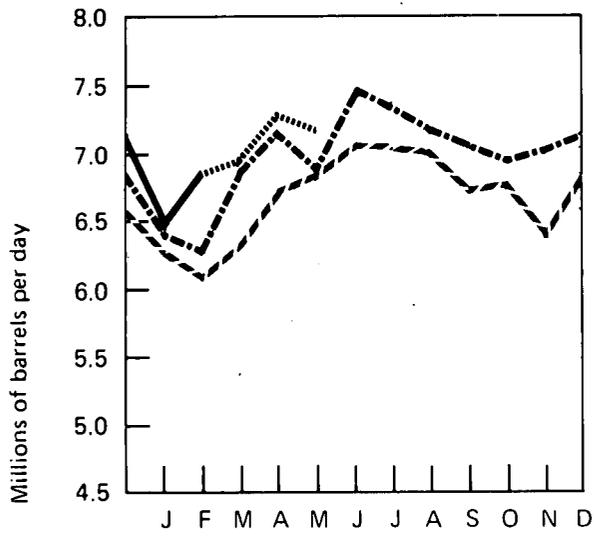
\*\*Total as of December 31.

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

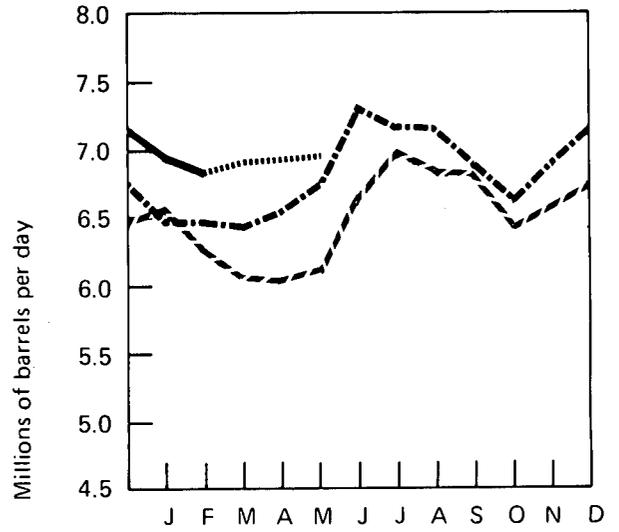
R=Revised data.

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

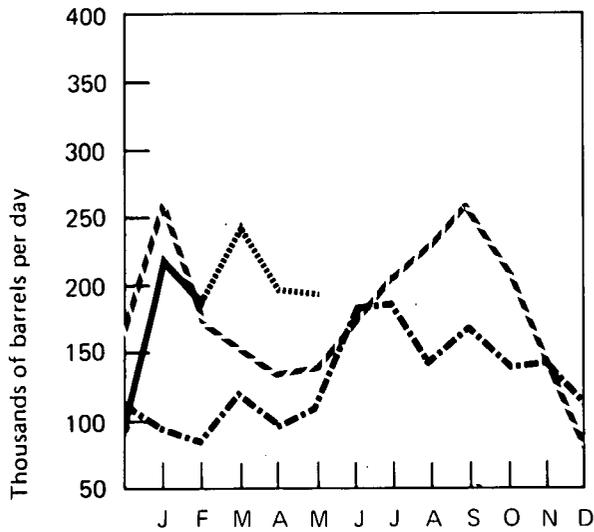
**Domestic Demand**



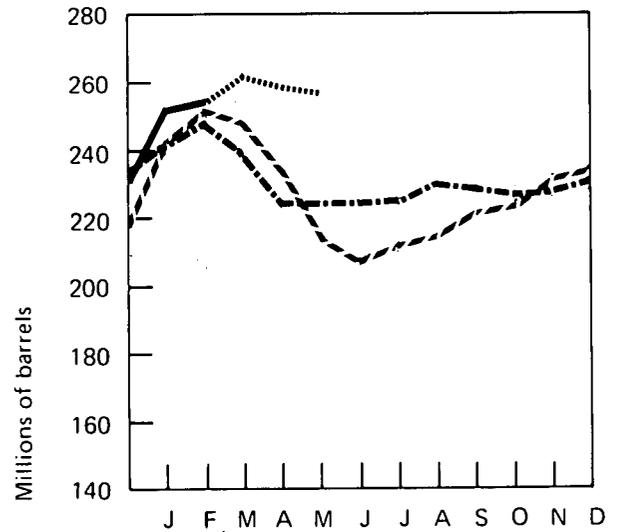
**Production**



**Imports**



**Stocks**



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

# Jet Fuel

		Domestic Demand	Production	Imports	Stocks
		Thousands of barrels per day			Thousands of barrels
<b>1972</b>	<b>AVERAGE</b>	<b>1,045</b>	<b>847</b>	<b>194</b>	<b>*25,493</b>
<b>1973</b>	<b>AVERAGE</b>	<b>1,059</b>	<b>859</b>	<b>212</b>	<b>*28,544</b>
<b>1974</b>	<b>AVERAGE</b>	<b>993</b>	<b>836</b>	<b>163</b>	<b>*29,435</b>
<b>1975</b>	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
	<b>AVERAGE</b>	<b>1,001</b>	<b>871</b>	<b>133</b>	
<b>1976</b>	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
	<b>AVERAGE</b>	<b>987</b>	<b>918</b>	<b>76</b>	
<b>1977</b>	January	1,051	917	74	30,170
	February	R1,036	974	R74	R30,455
	March	R1,047	954	R104	30,733
	April	R1,027	R990	R90	R32,271
	May	963	978	30	34,116
	<b>AVERAGE</b> (5 months)	<b>1,025</b>	<b>962</b>	<b>74</b>	

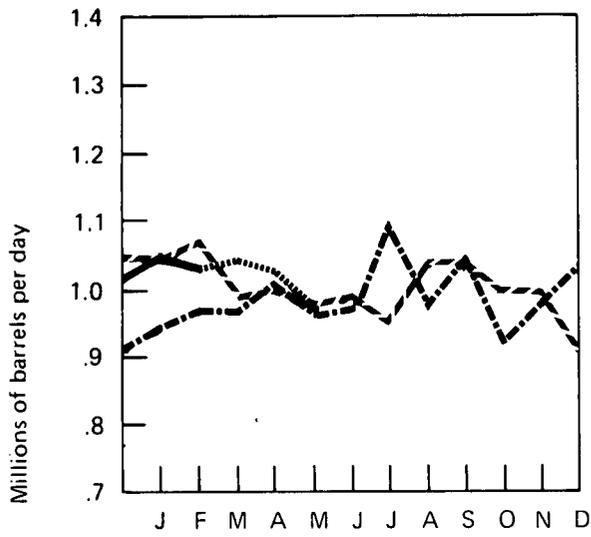
\*Total as of December 31.

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

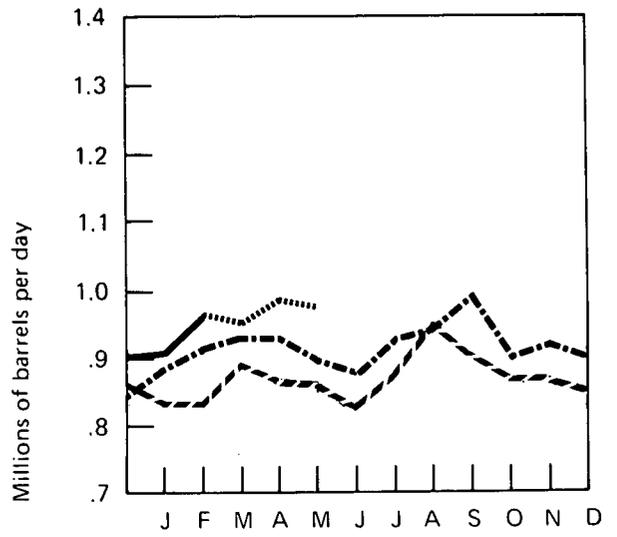
R=Revised data.

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

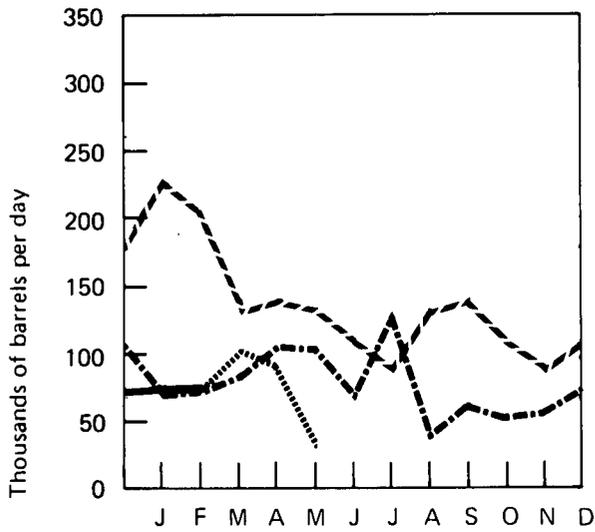
**Domestic Demand**



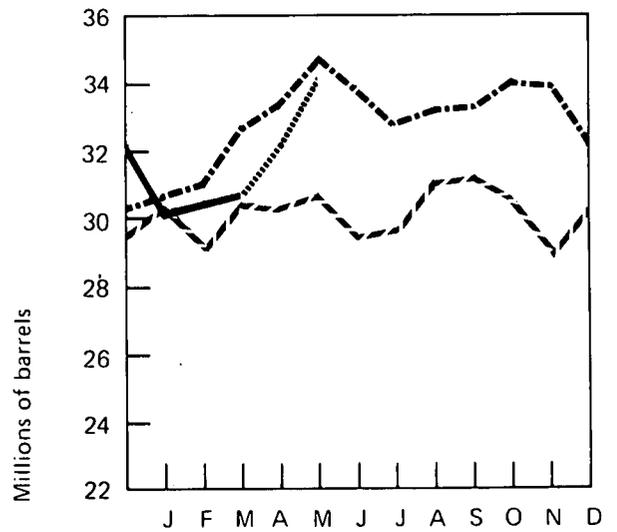
**Production**



**Imports**



**Stocks**



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

# Distillate Fuel Oil

		Domestic Demand	Production*	Imports	Stocks*
		Thousands of barrels per day			Thousands of barrels
1972	AVERAGE	2,913	2,630	182	**154,284
1973	AVERAGE	3,092	2,820	392	**196,421
1974	AVERAGE	2,948	2,668	289	**200,029
1975	January	3,963	2,852	334	***199,715
	February	3,803	2,679	302	176,696
	March	3,292	2,532	255	161,111
	April	3,094	2,487	110	146,214
	May	2,382	2,431	136	152,027
	June	2,267	2,574	69	163,306
	July	2,109	2,590	104	181,472
	August	2,173	2,592	92	197,323
	September	2,163	2,812	130	220,732
	October	2,677	2,745	104	226,113
	November	2,544	2,767	96	235,749
	December	3,792	2,783	138	208,787
	AVERAGE	2,851	2,653	155	
1976	January	4,298	2,734	164	165,428
	February	3,687	2,961	207	150,439
	March	3,336	2,793	151	138,306
	April	2,788	2,655	96	137,249
	May	2,519	2,738	97	147,057
	June	2,436	2,885	151	165,064
	July	2,255	2,959	126	190,861
	August	2,237	2,982	131	217,930
	September	2,618	2,947	147	232,230
	October	3,029	2,995	141	235,599
	November	3,714	3,181	135	223,648
	December	4,650	3,255	179	185,948
	AVERAGE	3,130	2,924	144	
1977	January	5,076	3,375	315	142,989
	February	R4,709	R3,691	R669	R133,261
	March	R3,456	3,212	R523	142,111
	April	R2,971	R3,021	R150	R148,094
	May	2,690	3,078	126	161,880
	AVERAGE (5 months)	3,767	3,269	352	

\*See Definitions.

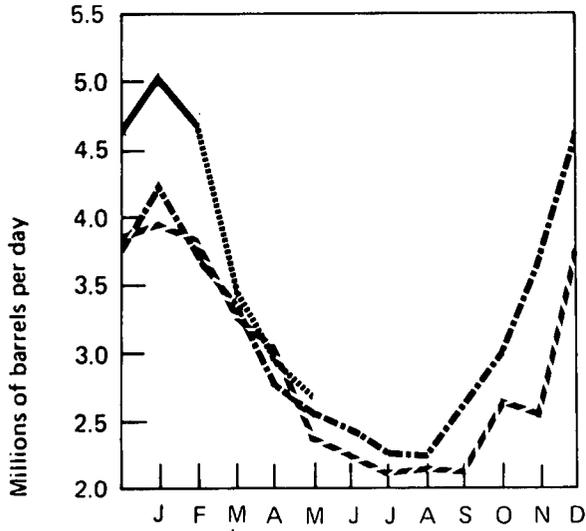
\*\*Total as of December 31.

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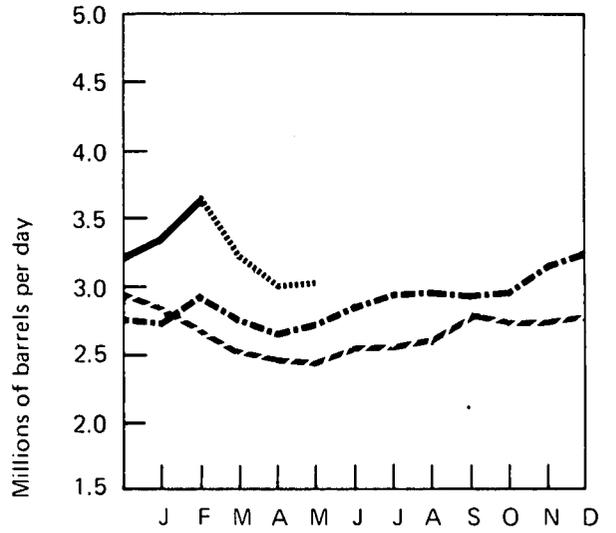
R=Revised data.

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

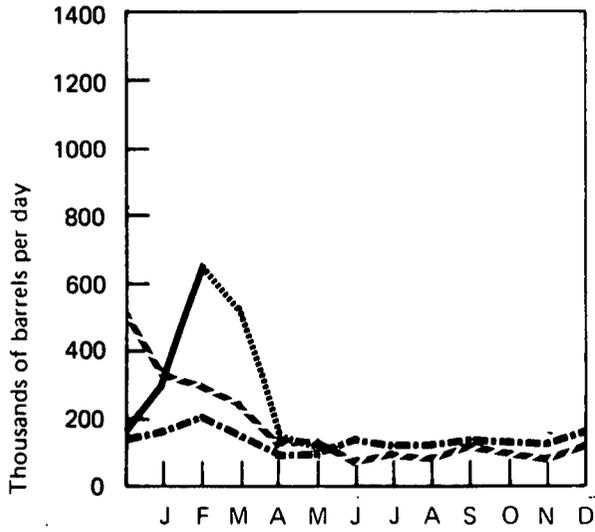
Domestic Demand



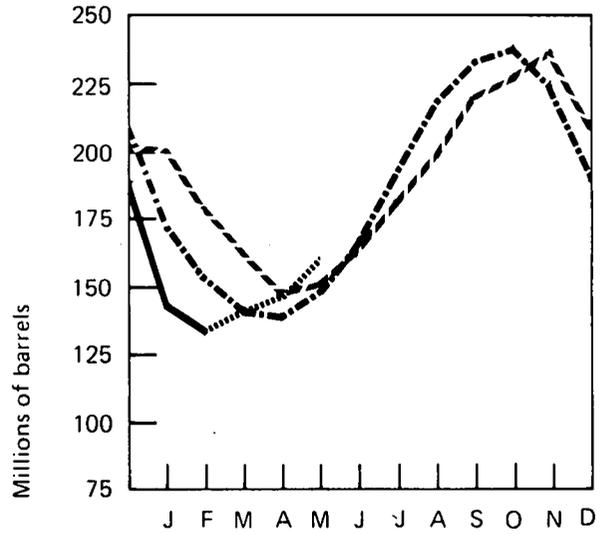
Production



Imports



Stocks



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

## Residual Fuel Oil

		Domestic Demand	Production	Imports	Stocks
		Thousands of barrels per day			Thousands of barrels
1972	AVERAGE	2,529	799	1,742	*55,216
1973	AVERAGE	2,822	971	1,853	*53,480
1974	AVERAGE	2,639	1,070	1,587	*59,694
1975	January	3,253	1,415	1,657	**69,233
	February	2,849	1,354	1,402	66,495
	March	2,669	1,299	1,293	64,148
	April	2,232	1,245	1,054	66,340
	May	2,087	1,151	1,160	73,498
	June	2,177	1,152	902	69,660
	July	2,220	1,155	1,125	71,526
	August	2,157	1,146	1,021	71,857
	September	2,328	1,183	1,311	76,938
	October	2,268	1,165	1,251	81,858
	November	2,405	1,214	1,225	83,131
	December	2,912	1,354	1,283	74,126
	<b>AVERAGE</b>	<b>2,462</b>	<b>1,235</b>	<b>1,223</b>	
1976	January	3,069	1,415	1,406	66,592
	February	3,007	1,394	1,703	68,859
	March	2,779	1,311	1,342	65,132
	April	2,496	1,283	1,258	66,458
	May	2,439	1,257	1,134	65,147
	June	2,520	1,241	1,240	64,272
	July	2,555	1,266	1,462	69,812
	August	2,678	1,321	1,307	68,490
	September	2,517	1,330	1,442	76,436
	October	2,511	1,351	1,234	79,117
	November	3,253	1,581	1,474	73,284
	December	3,608	1,772	1,791	72,344
	<b>AVERAGE</b>	<b>2,786</b>	<b>1,377</b>	<b>1,402</b>	
1977	January	3,676	1,889	1,531	64,749
	February	R3,668	1,945	R1,955	R71,414
	March	R3,155	1,720	R1,438	71,224
	April	R2,808	R1,703	R1,078	R70,165
	May	2,786	1,611	1,240	69,452
	<b>AVERAGE</b> (5 months)	<b>3,212</b>	<b>1,771</b>	<b>1,441</b>	

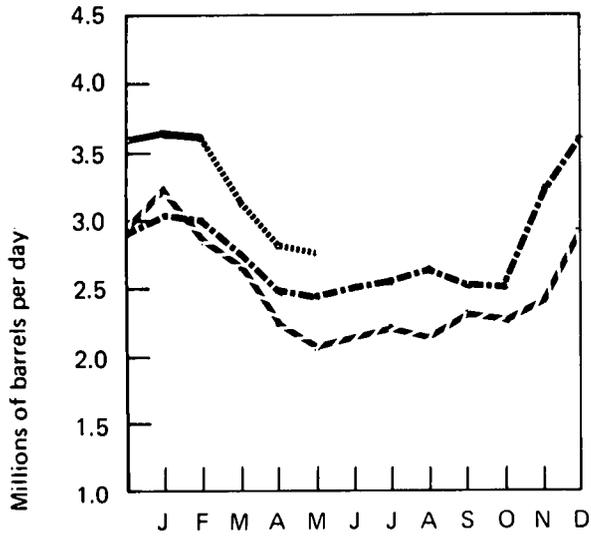
\*Total as of December 31.

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

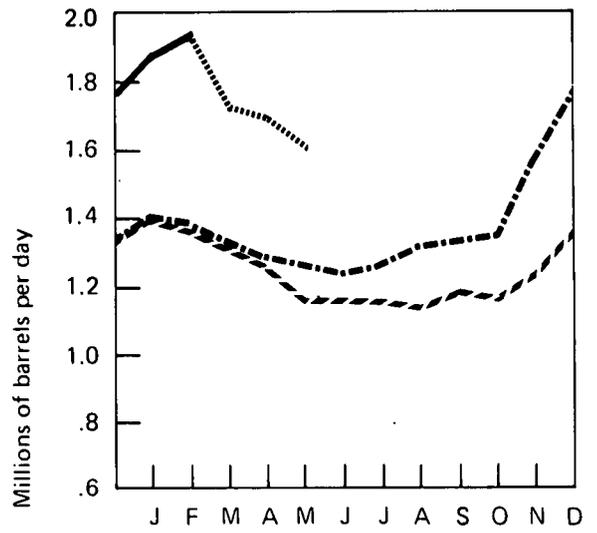
R=Revised data.

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

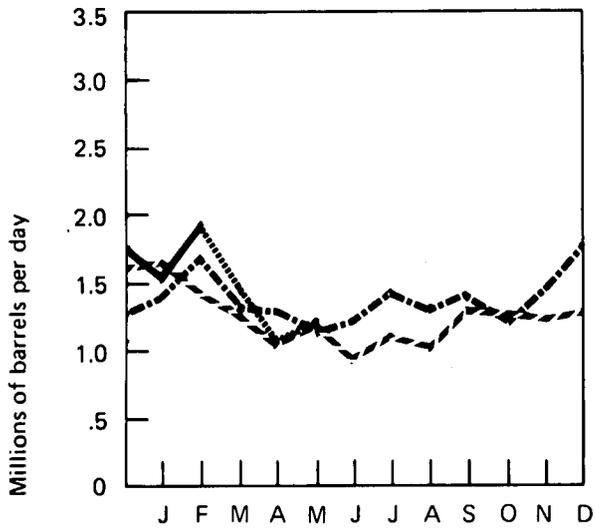
Domestic Demand



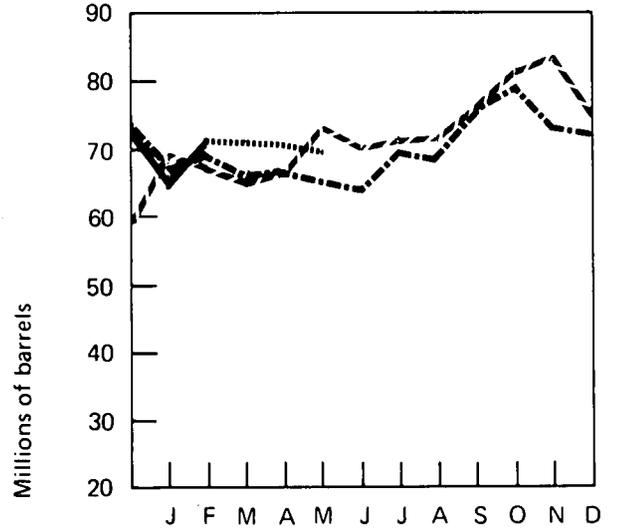
Production



Imports



Stocks



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

# Natural Gas Liquids

		Domestic Demand*	Production*		Used at Refineries*	Imports	Stocks*
			At processing plants	At refineries			
Thousands of barrels per day							
Thousands of barrels							
1972	AVERAGE	1,420	1,744	365	826	174	**92,024
1973	AVERAGE	1,454	1,738	375	815	239	**106,659
1974	AVERAGE	1,422	1,688	338	746	212	**120,175
1975	January	1,708	1,630	307	756	257	110,697
	February	1,512	1,646	296	734	181	106,205
	March	1,404	1,658	280	731	178	104,365
	April	1,242	1,635	273	667	176	105,521
	May	1,002	1,607	299	628	97	119,052
	June	998	1,646	323	659	166	132,553
	July	1,191	1,621	336	701	173	139,095
	August	1,227	1,650	357	690	163	145,920
	September	1,278	1,577	326	703	209	148,948
	October	1,429	1,643	310	729	198	147,793
	November	1,444	1,635	309	759	196	145,052
	December	1,787	1,646	310	768	232	132,653
	AVERAGE	1,352	1,633	311	710	185	
1976	January	1,885	1,585	305	728	240	116,707
	February	1,518	1,640	316	793	270	113,373
	March	1,303	1,615	333	674	194	117,486
	April	1,201	1,616	349	716	171	123,100
	May	1,074	1,588	376	695	144	131,421
	June	1,110	1,606	356	718	163	139,291
	July	1,103	1,592	354	710	147	147,034
	August	1,213	1,596	362	695	160	152,704
	September	1,243	1,601	352	713	152	156,436
	October	1,497	1,601	309	709	203	152,666
	November	1,413	1,621	331	726	244	143,422
	December	1,921	1,589	341	853	269	124,518
	AVERAGE	1,407	1,604	340	725	196	
1977	January	2,018	1,549	323	730	331	106,524
	February	1,887	1,589	336	693	238	94,128
	AVERAGE (2 months)	1,956	1,568	329	713	287	

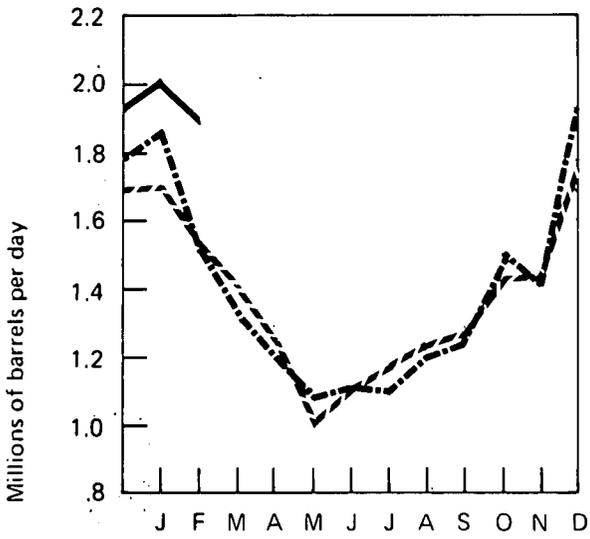
\*See Explanatory Note 4.

\*\*Total as of December 31.

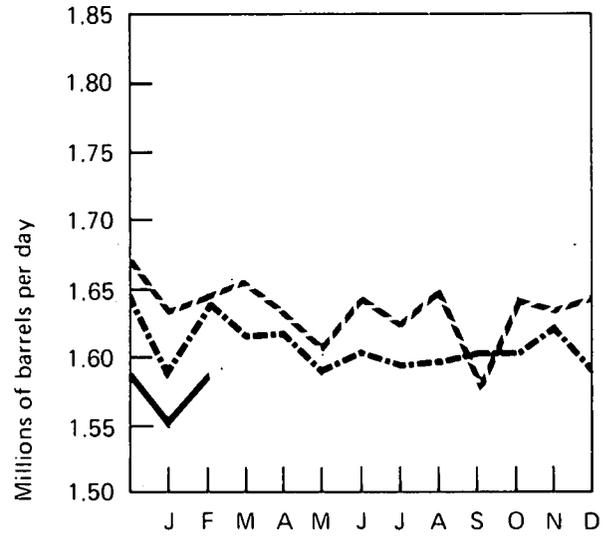
Note: The stocks series has been revised to include stocks of liquefied refinery gas (LRG).

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

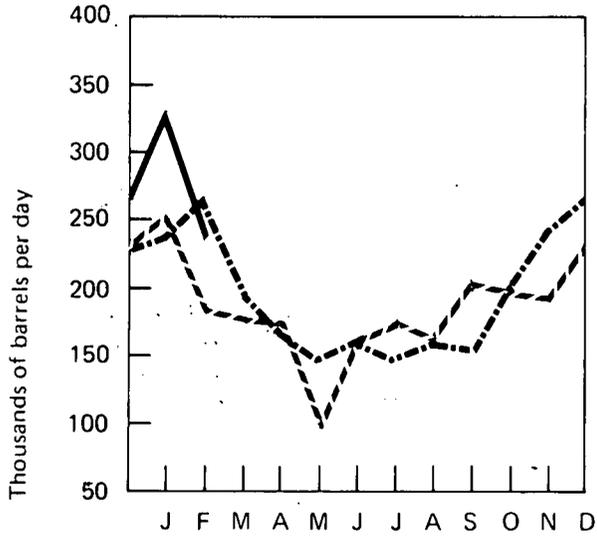
**Domestic Demand**



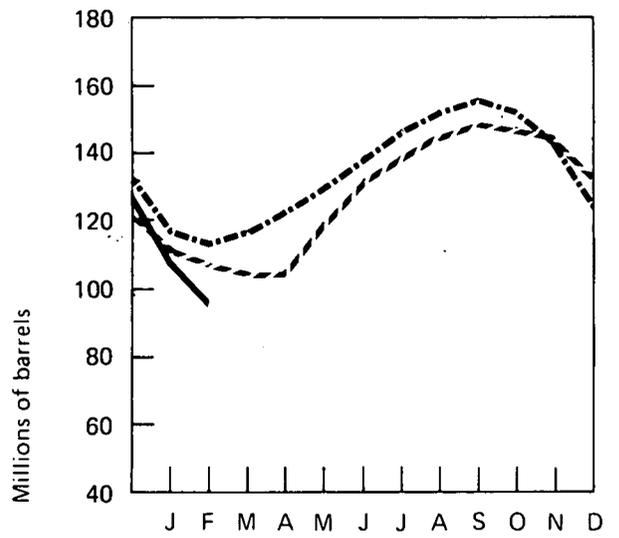
**Production at Processing Plants**



**Imports**



**Stocks**



- - - 1975  
 - · - · 1976  
 ——— 1977

# U.S. Petroleum Supply and Demand

	1976 Actual				
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Year
	Thousands of barrels per day				
<b>Supply</b>					
Crude oil and lease condensate production	8,194	8,131	8,120	8,033	8,119
Natural gas plant liquids production	1,612	1,604	1,597	1,604	1,604
Other hydrocarbon supply	37	38	37	40	38
Crude oil imports	4,520	5,023	5,740	5,856	5,287
Refined products imports*	2,140	1,771	1,987	2,130	2,008
Total new supply	<u>16,503</u>	<u>16,567</u>	<u>17,481</u>	<u>17,663</u>	<u>17,056</u>
Processing gain	485	495	469	460	478
Stock change—all oils	-797	+363	+1,065	-866	-58
Total net supply	<u>17,785</u>	<u>16,699</u>	<u>16,885</u>	<u>18,989</u>	<u>17,592</u>
Unaccounted for crude oil**	+204	+8	+42	+101	+89
<b>Demand</b>					
Crude oil and refined products exports	192	204	220	274	223
Crude oil losses	14	14	15	15	14
Domestic demand for refined products***	17,783	16,489	16,692	18,801	17,444
Total demand	<u>17,989</u>	<u>16,707</u>	<u>16,927</u>	<u>19,090</u>	<u>17,681</u>

	1977				
	Actual†	Forecast††			
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Year†††
	Thousands of barrels per day				
<b>Supply</b>					
Crude oil and lease condensate production	7,941	8,107	8,600	8,988	8,412
Natural gas plant liquids production	1,561	1,541	1,524	1,541	1,542
Other hydrocarbon supply	41	36	36	36	37
Crude oil imports	6,426	6,106	6,007	5,635	6,041
Refined products imports*	2,758	1,673	1,659	2,504	2,146
Total new supply	<u>18,727</u>	<u>17,463</u>	<u>17,826</u>	<u>18,704</u>	<u>18,178</u>
Processing gain	522	512	523	518	519
Stock change—all oils	-339	+565	+594	-165	165
Total net supply	<u>19,588</u>	<u>17,410</u>	<u>17,755</u>	<u>19,387</u>	<u>18,532</u>
Unaccounted for crude oil**	+271	0	0	0	+67
<b>Demand</b>					
Crude oil and refined products exports	220	206	198	195	205
Crude oil losses	15	13	13	13	13
Domestic demand for refined products***	19,624	17,191	17,544	19,179	18,381
Total demand	<u>19,859</u>	<u>17,410</u>	<u>17,755</u>	<u>19,387</u>	<u>18,599</u>

\*Includes plant condensate and unfinished oils.

\*\*Balancing item resulting from statistical inconsistencies.

\*\*\*Includes international bunkers.

†Partially estimated.

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

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

Note: Actual and Forecast for 1977 have been revised.

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

## Natural Gas

Marketed production of natural gas in May was estimated to be 1.1 percent below production in May 1976. Average daily production for the first 5 months of 1977, however, was estimated to be 1.0 percent\* greater than production for the same period in 1976.

Imports of natural gas in May were estimated at 85 billion cubic feet, 2.4 percent above imports in May 1976. February 1977 imports were also 85 billion cubic feet, a record for that month, and imports in March were estimated to be an alltime record high of 103 billion cubic feet. The elevated February and March import levels reflect emergency imports which were necessary to build-up underground storage reservoirs after the heavy drawdown during early winter. Average daily imports during the first 5 months of 1977 were estimated to be 7.9 percent\* above the average for the same period in 1976.

Domestic consumption of natural gas in May was estimated to be 1.8 percent below May 1976 consumption, and for the first 5 months of 1977, was estimated to be 1.4 percent\* below the daily average for the corresponding 1976 period.

Net injections of natural gas into underground storage reservoirs in May were 40.4 percent greater than net injections in May 1976, bringing the volume of working gas\*\* in storage at the end of May to a level 5.6 percent above the level a year earlier.

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\*Computed on daily average basis to account for the extra day in 1976.

\*\*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	R2,284	1,745	894	83
	February	R1,928	1,641	850	79
	March	1,711	1,709	894	85
	April	R1,498	1,633	849	85
	May	R1,426	1,668	860	83
	June	1,328	1,637	815	77
	July	1,365	1,671	822	74
	August	R1,307	1,631	810	76
	September	R1,292	1,562	793	74
	October	R1,610	1,632	840	85
	November	1,864	1,629	841	81
	December	R2,226	1,745	872	84
	TOTAL	R19,839	19,903	10,140	966
1977	January	2,397	1,742	848	R85
	February	R1,793	R1,671	NA	R85
	March	R1,650	R**1,735	NA	R***103
	April	R1,430	***1,630	NA	R***87
	May	1,400	***1,650	NA	***85
	TOTAL (5 months)	8,670	8,428	NA	445

\*See Explanatory Note 6.

\*\*Preliminary data.

\*\*\*Projected data.

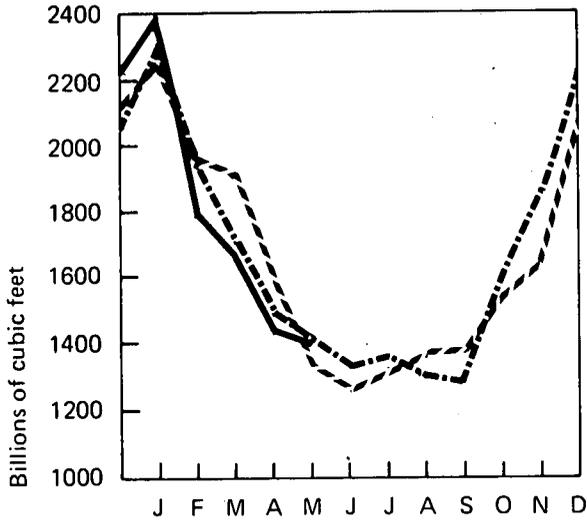
R=Revised data.

NA=Not available.

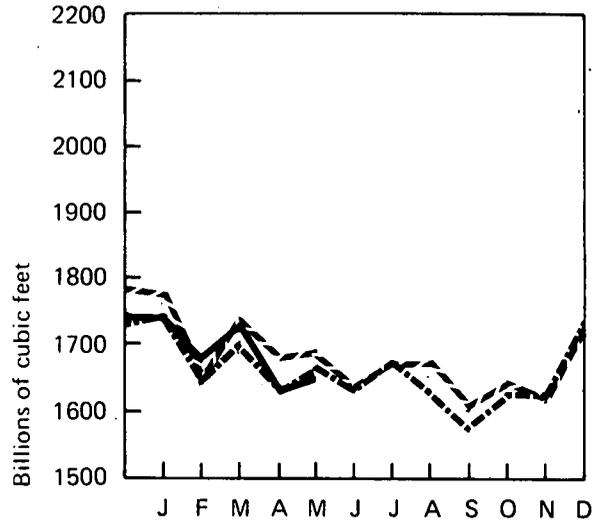
Note: All monthly Domestic Consumption data are estimated.

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

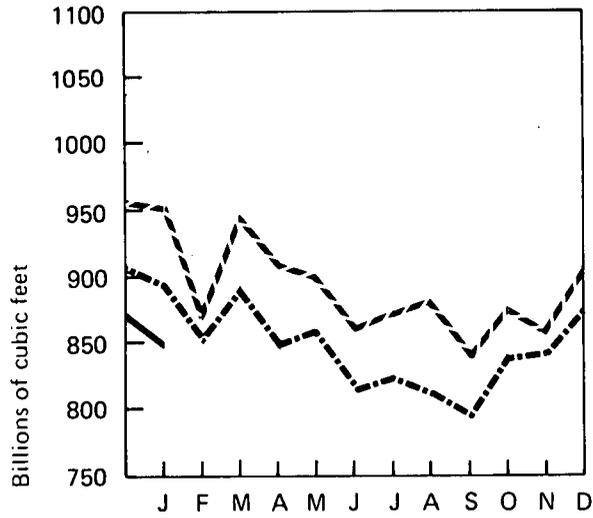
Domestic Consumption



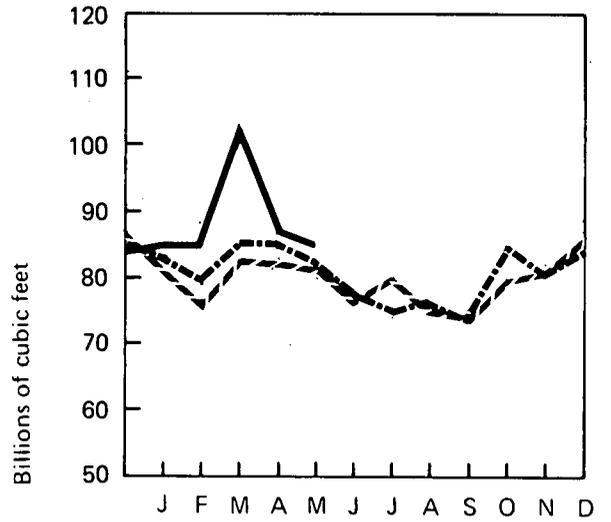
Marketed Production



Domestic Producer Sales to Major Interstate Pipelines



Imports



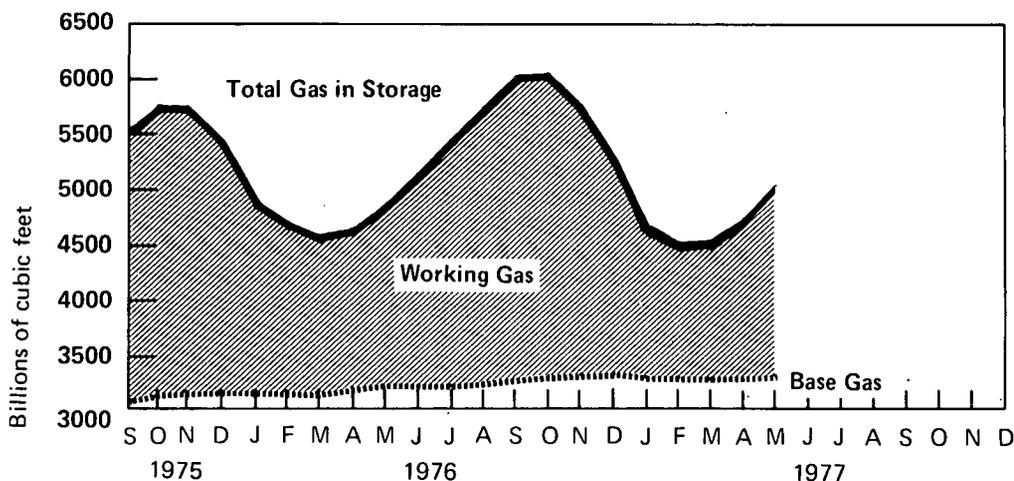
- - - 1975  
 - · - 1976  
 - - - 1977

# Natural Gas (Continued)

## Natural Gas in Underground Storage\*

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

Gas in Storage



\*See Explanatory Note 7.

\*\*Data reported as of November 1, 1974.

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

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

## Coal

Production of bituminous coal and lignite for May 1977 totaled 61.6 million tons, an increase of 8.7 percent over the May 1976 level. Higher than normal production levels in March and May 1977 appear to have rectified the production loss that occurred in January, February, and April due to cold weather, flooding in Appalachia, and wildcat strikes. Average daily production for the first 5 months of 1977 was up 0.4 percent\* compared with the January-May period last year.

Domestic consumption of bituminous coal and lignite for the first quarter of 1977 was 158.1 million tons, 6.6 percent greater than in the first quarter of 1976. Consumption by the electric utility sector (maintaining its 75 percent share of total consumption) increased 6.4 percent, mainly due to increased demand for coal-fired electricity generation during the extreme cold weather in January and February. Demand by the second largest coal consuming sector, metallurgical coke plants, decreased from 20.6 million tons in the first quarter of 1976 to 19.5 million tons for the same period this year.

Stocks of bituminous coal and lignite on March 31, 1977, were 122.6 million tons, with electric utilities accounting for 88 percent of the total. Utilities built-up their stocks in March to a 90 days' supply after a stock drawdown to 75 days' supply in January and February. The 6.3-million-ton stock increase in March is partly due to a 12-percent decline in the daily rate of coal consumption at utility plants compared with consumption in January and February.

In April 1977 the United States exported 5.6 million tons of coal, with Canada and Japan receiving 33.7 percent and 30.7 percent of the total, respectively. Shipments for the January through April period were 14.3 million tons, 13.7 percent below the amount exported a year earlier and 30.6 percent below the amount for the January-April period of 1975.

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\*Computed on daily average basis to account for the extra day in 1976.

# Bituminous and Lignite

		Domestic Consumption*	Production*	Exports	Stocks
Thousands of short tons					
<b>1972</b>	<b>TOTAL</b>	<b>516,776</b>	<b>595,386</b>	<b>55,997</b>	<b>**117,442</b>
<b>1973</b>	<b>TOTAL</b>	<b>556,022</b>	<b>591,738</b>	<b>52,903</b>	<b>**103,022</b>
<b>1974</b>	<b>TOTAL</b>	<b>552,709</b>	<b>603,406</b>	<b>59,926</b>	<b>**95,528</b>
<b>1975</b>	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
	<b>TOTAL***</b>	<b>556,301</b>	<b>648,438</b>	<b>65,669</b>	
<b>1976</b>	January	52,919	R51,501	3,697	119,149
	February	46,800	R52,636	3,050	118,970
	March	48,607	R60,056	3,979	123,441
	April	46,450	R57,856	5,780	128,343
	May	46,506	R56,611	5,667	134,621
	June	48,472	R58,436	6,569	140,237
	July	51,696	43,250	4,879	129,606
	August	52,069	53,440	4,223	123,662
	September	47,750	59,675	5,613	129,867
	October	49,248	R57,498	5,871	133,581
	November	51,320	R56,995	5,451	135,402
	December	55,642	R57,046	4,625	133,673
	<b>TOTAL***</b>	<b>597,479</b>	<b>665,000</b>	<b>59,406</b>	
<b>1977</b>	January	57,052	R44,555	2,143	118,080
	February	50,776	R49,750	3,079	114,387
	March	50,238	65,020	3,390	122,584
	April	NA	57,160	5,637	NA
	May	NA	61,560	NA	NA
	<b>TOTAL***</b>	<b>158,066</b> (3 months)	<b>278,045</b> (5 months)	<b>14,251</b> (4 months)	

\*See Explanatory Note 8.

\*\*Total as of December 31.

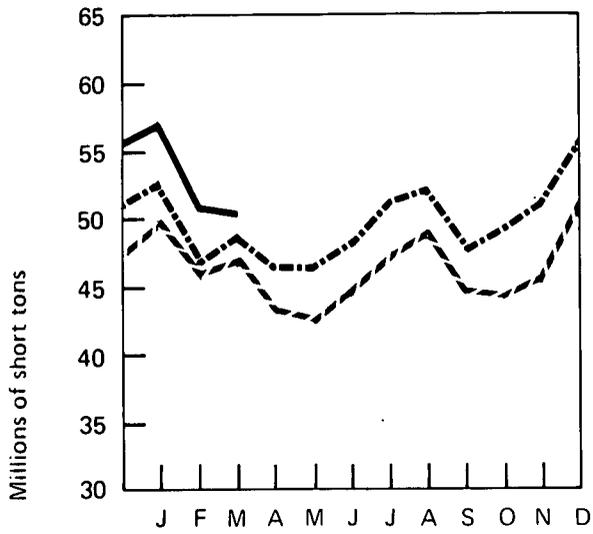
\*\*\*Totals may not add due to rounding.

R=Revised data.

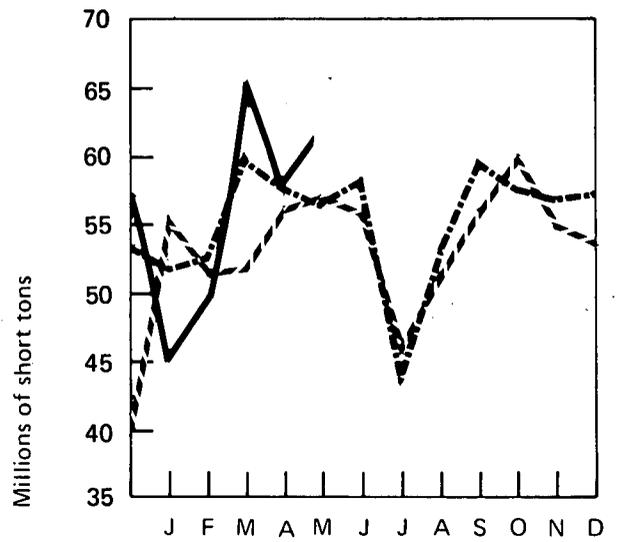
NA=Not available.

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

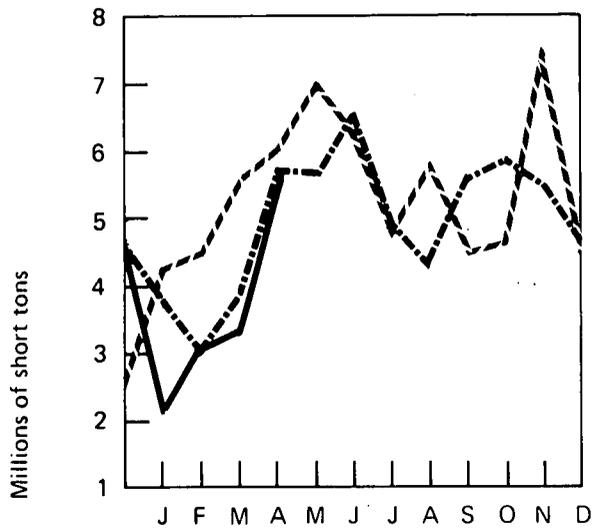
Domestic Consumption



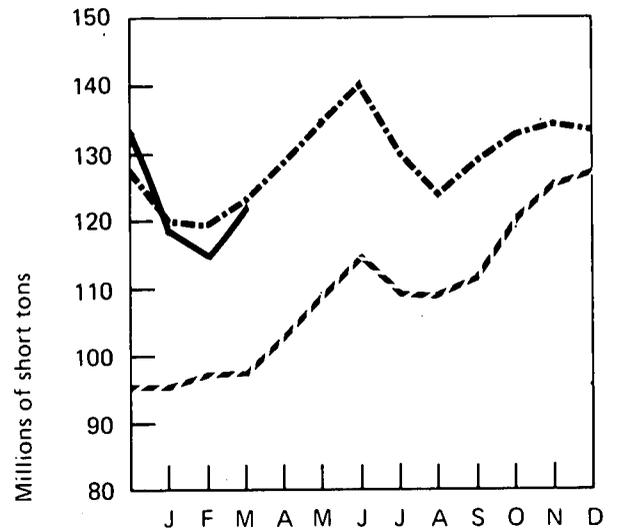
Production



Exports



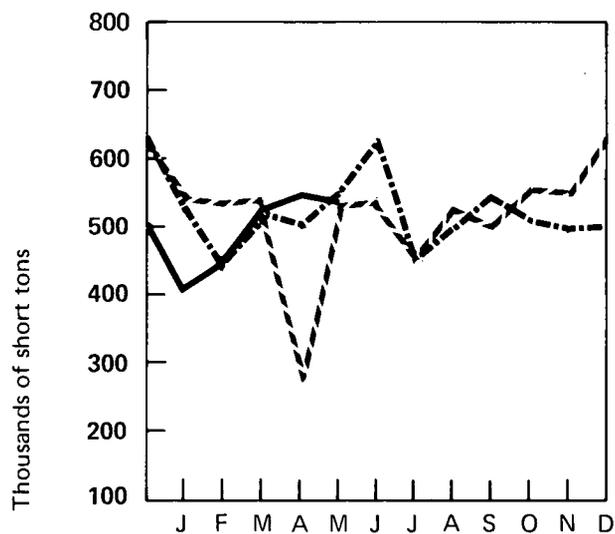
Stocks



--- 1975  
... 1976  
— 1977

# Anthracite

## Production



**Apparent Domestic Consumption**

Thousands of short tons

1972 TOTAL 7,106 5,915

1973 TOTAL 6,830 5,671

1974 TOTAL 6,617 5,448

1975 January 540 459

February 535 465

March 544 435

April 270 450

May 535 445

June 544 430

July 455 360

August 535 356

September 500 425

October 560 420

November 555 435

December 630 428

TOTAL 6,203 5,108

1976 January 530 460

February 440 430

March 530 420

April 500 435

May 555 440

June 630 400

July 450 350

August 500 375

September 550 400

October 510 455

November 500 460

December 505 475

TOTAL 6,200 5,100

1977 January 400 440

February 450 450

March 530 470

April 550 450

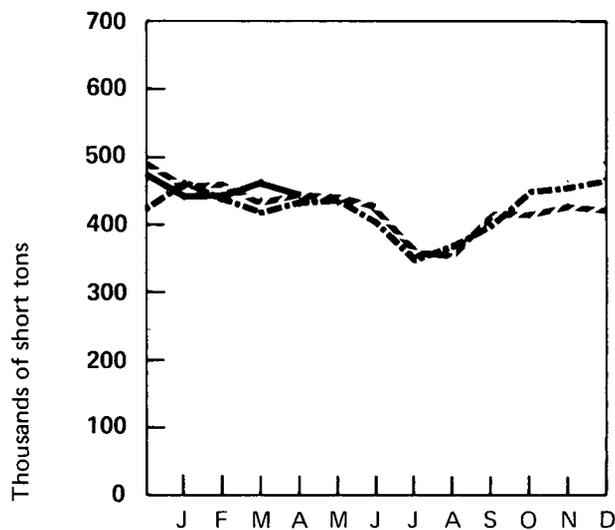
May 540 NA

TOTAL 2,470 1,810

(5 months)

(4 months)

## Apparent Domestic Consumption



--- 1975  
 -.- 1976  
 — 1977

NA=Not available.

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

## Electric Utilities

May 1977 production of electricity by utilities is estimated at 171.7 billion kilowatt hours, 9.1 percent above the level for May 1976. Total production during the first 5 months of 1977 is estimated at 857.7 billion kilowatt hours, 5.9 percent above the level for the same period in 1976.

Electric utility oil consumption during the first quarter of 1977 was 22.5 percent higher than during the same period in 1976, corresponding to a 22.7-percent increase in electrical generation from oil. Electric utility coal consumption during the first quarter was up 6.4 percent, and natural gas consumption was 1.4 percent higher.

Edison Electric Institute data indicate that sales of electricity to industrial customers during March 1977 totaled 62.0 billion kilowatt hours, 5.0 percent above the level for March 1976. Sales to commercial customers during the month totaled 36.2 billion kilowatt hours, up 6.3 percent. Sales to residential customers rose 8.3 percent to 52.7 billion kilowatt hours.

Sales to industrial customers increased despite a 4.5-percent increase in the real price of electricity to these customers. The primary causes of the increase appear to be a 5.4-percent increase in industrial output over the period and a 3.0-percent increase in the number of industrial electricity customers.

Sales of electricity to commercial customers increased substantially despite a 3.7-percent real increase in commercial electricity prices. Factors affecting the growth were increased activity in the commercial sector of the economy and a 2.0-percent increase in the number of commercial electricity customers.

The sharp rise in residential electricity sales appears to be due primarily to a 2.3-percent increase in the number of residential electricity customers, and a moderate 2.5-percent increase in real residential electricity prices.

## Cooling Degree-Days

During the period January 1 through July 3, 1977, the Nation accumulated 14 percent more cooling degree-days than normal and 16 percent more than in the same period of

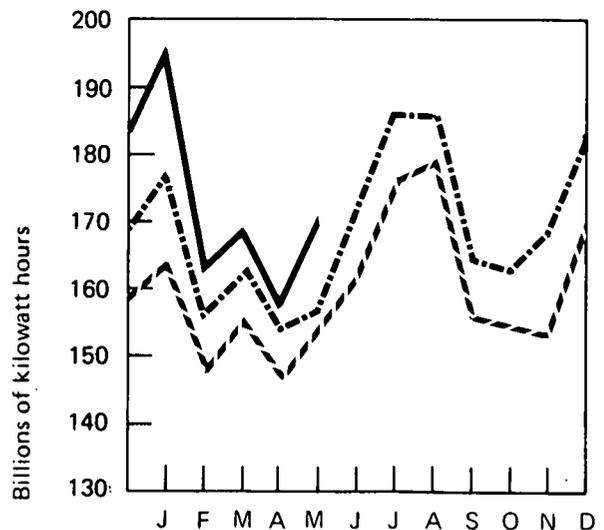
1976, indicating warmer than normal weather. (Data exclusively for May and June were not received in time for publication.)

Cumulative cooling degree-days for New England were 57 percent above normal; the Middle Atlantic and Lower Atlantic States were both 5 percent above normal. The North Central States were 37 percent above normal, and the Mountain States were 72 percent above normal. The South Central States were 6 percent above normal and the West Coast States were 2 percent above normal.

# Electric Utilities

		Total Net Production  Millions of kilowatt hours	Percentage Produced from Each Source					
			Coal	Oil	Gas	Nuclear	Hydro- electric	Other*
<b>1972</b>	<b>TOTAL</b>	<b>1,749,629</b>	<b>AVG. 44.2</b>	<b>15.6</b>	<b>21.4</b>	<b>3.1</b>	<b>15.6</b>	<b>0.1</b>
<b>1973</b>	<b>TOTAL</b>	<b>1,860,440</b>	<b>AVG. 45.7</b>	<b>16.8</b>	<b>18.3</b>	<b>4.5</b>	<b>14.6</b>	<b>0.1</b>
<b>1974</b>	<b>TOTAL</b>	<b>1,867,103</b>	<b>AVG. 44.5</b>	<b>16.0</b>	<b>17.2</b>	<b>6.1</b>	<b>16.1</b>	<b>0.1</b>
<b>1975</b>	January	164,325	45.6	18.6	12.0	8.5	15.2	0.1
	February	147,080	45.8	16.9	12.3	8.7	16.2	0.1
	March	155,481	44.5	14.9	12.9	9.6	18.0	0.1
	April	146,217	44.1	14.5	13.9	9.1	18.2	0.2
	May	153,231	42.2	13.7	16.8	9.0	18.1	0.2
	June	162,442	43.3	14.2	17.8	7.8	16.7	0.2
	July	176,815	43.2	14.2	19.3	8.7	14.4	0.2
	August	179,714	43.9	15.6	18.9	8.8	12.6	0.2
	September	155,223	44.2	13.8	19.3	9.3	13.2	0.2
	October	154,944	44.6	14.2	17.0	9.4	14.6	0.2
	November	152,794	46.1	14.1	14.3	9.3	16.0	0.2
	December	169,372	46.5	15.9	12.2	9.9	15.3	0.2
	<b>TOTAL</b>	<b>1,917,638</b>	<b>AVG. 44.5</b>	<b>15.1</b>	<b>15.6</b>	<b>9.0</b>	<b>15.6</b>	<b>0.2</b>
<b>1976</b>	January	178,313	46.9	18.1	11.2	9.0	14.6	0.2
	February	156,671	46.9	15.8	12.2	9.2	15.7	0.2
	March	164,160	46.6	15.5	13.0	8.5	16.2	0.2
	April	153,154	47.4	15.2	14.3	7.2	15.7	0.2
	May	157,355	46.1	13.8	16.1	7.6	16.2	0.2
	June	173,370	44.4	14.5	17.1	9.1	14.7	0.2
	July	186,409	44.7	14.5	17.1	9.5	14.0	0.2
	August	186,380	45.2	15.2	16.8	9.8	12.8	0.2
	September	165,009	45.7	14.3	17.0	10.5	12.3	0.2
	October	163,709	47.0	14.8	14.6	10.6	12.8	0.2
	November	169,053	48.3	17.8	12.5	9.5	11.7	0.2
	December	R183,842	47.4	18.6	11.3	11.5	11.0	0.2
	<b>TOTAL</b>	<b>R2,037,425</b>	<b>46.4</b>	<b>15.7</b>	<b>14.4</b>	<b>9.4</b>	<b>13.9</b>	<b>0.2</b>
<b>1977</b>	January	R196,352	45.7	22.1	R10.2	R11.2	R10.6	0.2
	February	R162,707	R48.4	R18.1	R12.0	R12.0	R9.3	0.2
	March	R169,098	45.8	16.8	13.3	12.2	11.7	0.2
	April	157,919	NA	NA	NA	12.5	NA	NA
	May	171,652	NA	NA	NA	11.8	NA	NA
	<b>TOTAL</b> (5 months)	<b>857,728</b>						

Total Net Production



\*Includes electricity produced from geothermal power, wood, and waste.  
 NA=Not available.  
 R=Revised.

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

— 1975  
 - - - 1976  
 - · - 1977

# Electric Utilities (Continued)

## Fuel Consumption

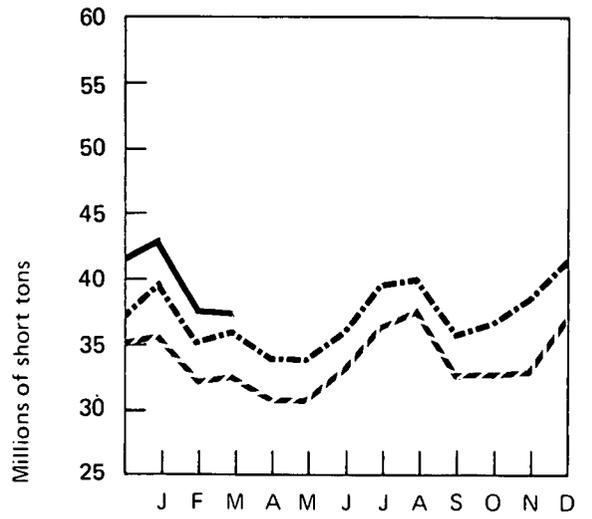
		Coal	Oil			Gas
		Thousands of short tons	Steam *	Gas Turbine/ Internal Combustion **	Total	Millions of cubic feet
			Thousands of barrels			
<b>1972</b>	<b>TOTAL</b>	<b>352,392</b>	<b>440,229</b>	<b>53,463</b>	<b>493,692</b>	<b>3,976,770</b>
<b>1973</b>	<b>TOTAL</b>	<b>389,707</b>	<b>513,127</b>	<b>47,020</b>	<b>560,147</b>	<b>3,659,388</b>
<b>1974</b>	<b>TOTAL</b>	<b>392,423</b>	<b>482,524</b>	<b>53,721</b>	<b>536,245</b>	<b>3,443,293</b>
<b>1975</b>	January	35,843	48,678	5,370	54,048	205,096
	February	32,097	39,794	3,750	43,544	188,922
	March	32,793	37,408	3,007	40,415	211,184
	April	30,547	34,702	2,335	37,037	214,250
	May	30,574	33,720	3,266	36,986	275,097
	June	33,456	36,825	4,118	40,943	307,901
	July	36,567	40,520	3,893	44,413	362,088
	August	37,967	44,565	4,755	49,320	360,199
	September	32,609	35,124	1,917	37,041	315,877
	October	32,853	36,137	1,893	38,030	275,066
	November	33,333	35,743	1,794	37,537	227,000
	December	37,390	43,724	3,090	46,814	213,000
	<b>TOTAL</b>	<b>406,029</b>	<b>466,940</b>	<b>39,188</b>	<b>506,128</b>	<b>3,157,100</b>
<b>1976</b>	January	39,986	51,114	4,968	56,082	206,000
	February	34,965	40,452	2,671	43,123	199,000
	March	36,099	41,154	2,795	43,949	222,600
	April	33,805	37,663	2,482	40,145	227,600
	May	33,944	35,651	2,215	37,866	R266,471
	June	36,381	40,065	3,568	43,633	R313,144
	July	39,841	43,143	4,078	47,221	337,372
	August	40,329	45,626	3,436	49,062	329,493
	September	35,894	38,245	2,518	40,763	294,818
	October	36,775	39,095	3,097	42,192	249,738
	November	38,837	47,340	4,960	52,300	216,914
	December	R41,575	53,940	5,543	59,483	214,406
	<b>TOTAL</b>	<b>R448,431</b>	<b>513,488</b>	<b>42,331</b>	<b>555,819</b>	<b>R3,078,319</b>
<b>1977</b>	January	R43,254	66,166	9,619	75,785	R205,498
	February	R37,634	47,646	3,208	50,854	R200,335
	March	37,263	46,068	2,591	48,659	231,483
	<b>TOTAL</b> (3 months)	<b>118,151</b>	<b>159,880</b>	<b>15,418</b>	<b>175,298</b>	<b>637,316</b>

\*Primarily residual fuel oil.

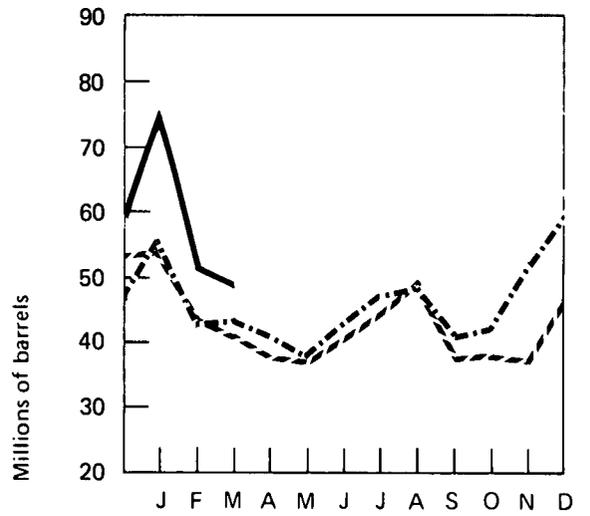
\*\*Primarily middle distillates.

Source: Federal Power Commission Form 4.

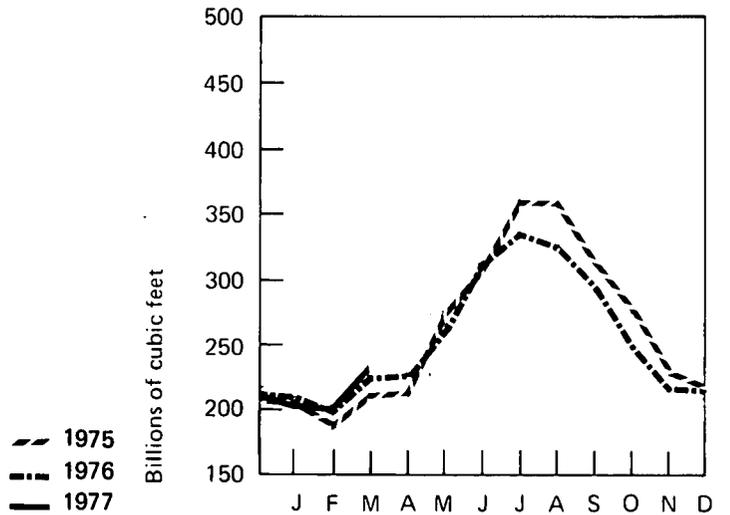
Coal Consumption



Oil Consumption



Gas Consumption



--- 1975  
- - - 1976  
— 1977

# Electric Utilities (Continued)

## Stocks at End of Month

		Coal	Oil		
		Thousands of short tons	Steam*	Gas Turbine/ Internal Combustion**	Total
				Thousands of barrels	
<b>1972</b>		***100,009	***52,575	***5,079	***57,654
<b>1973</b>		***87,279	***79,121	***10,095	***89,216
<b>1974</b>		***83,542	***97,201	***15,715	***112,916
<b>1975</b>	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
<b>1976</b>	January	105,518	102,023	15,921	117,944
	February	104,874	102,147	16,705	118,852
	March	108,450	104,072	16,465	120,537
	April	112,862	103,747	16,640	120,387
	May	119,611	109,132	16,960	126,092
	June	123,048	109,649	16,618	126,267
	July	115,204	110,818	15,859	126,677
	August	110,752	109,812	15,993	125,805
	September	115,399	112,955	17,041	129,996
	October	118,566	114,426	16,934	131,360
	November	119,298	111,127	15,497	126,624
	December	R117,463	106,730	14,950	121,680
<b>1977</b>	January	R104,836	89,899	12,957	102,856
	February	R101,869	95,621	14,383	110,004
	March	108,263	96,600	15,756	112,356

\*Primarily residual fuel oil.

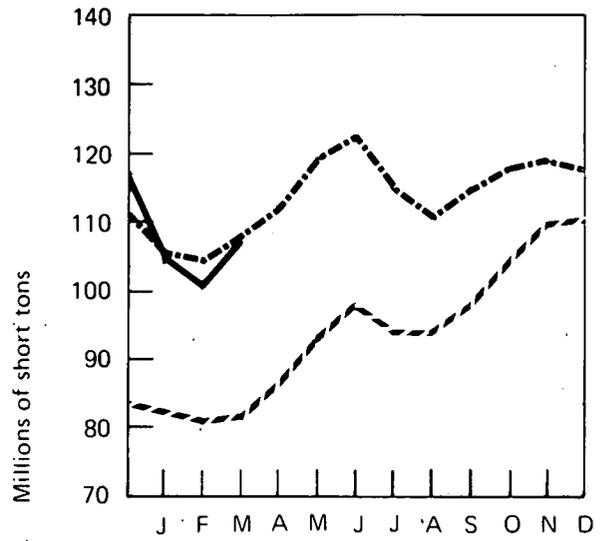
\*\*Primarily middle distillates.

\*\*\*As of December 31.

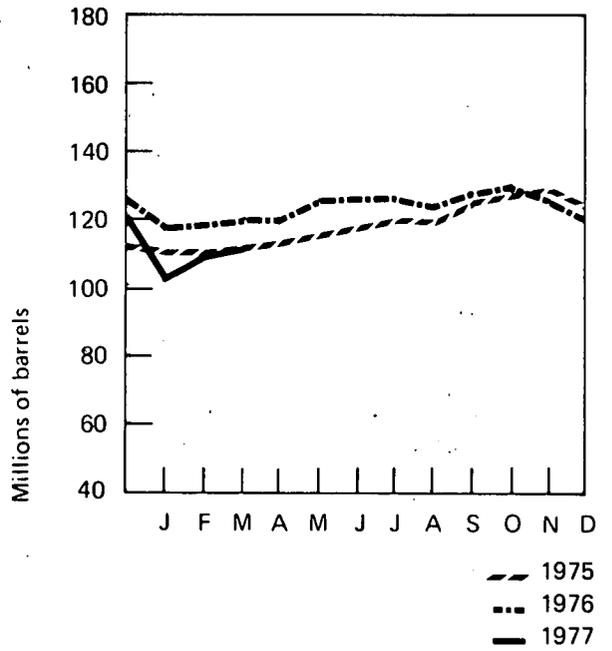
R=Revised.

Source: Federal Power Commission Form 4.

### Coal Stocks



### Oil Stocks



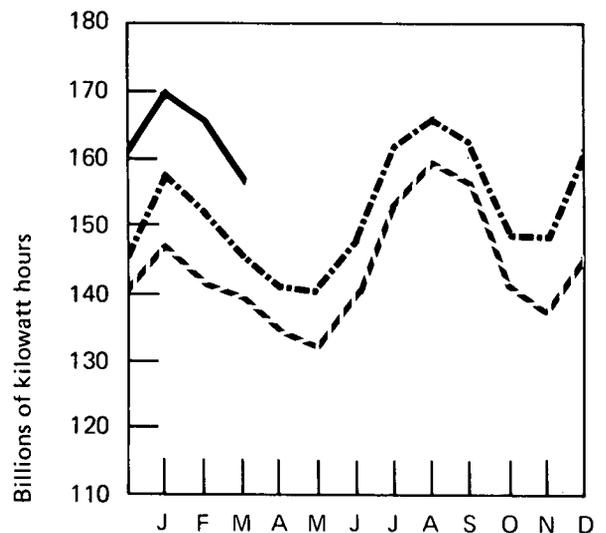
--- 1975  
-.- 1976  
— 1977

# 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>578,183</b>	<b>384,824</b>	<b>684,874</b>	<b>58,042</b>	<b>1,705,923</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	54,586	38,031	55,645	5,668	153,930
	August	57,291	38,576	57,868	5,709	159,444
	September	54,362	37,325	58,405	5,978	156,070
	October	43,024	32,817	58,815	5,745	140,401
	November	44,019	32,288	56,174	5,235	137,716
	December	51,900	33,183	55,532	5,357	145,972
	<b>TOTAL</b>	<b>588,977</b>	<b>403,887</b>	<b>670,755</b>	<b>66,886</b>	<b>1,730,505</b>
<b>1976</b>	January	60,091	34,833	57,448	6,380	158,752
	February	54,264	33,583	58,228	5,874	151,949
	March	47,060	32,273	60,516	5,990	145,839
	April	43,551	31,598	60,106	5,407	140,662
	May	41,036	32,347	61,271	5,478	140,132
	June	44,157	35,707	62,419	5,344	147,627
	July	54,314	39,455	62,877	5,895	162,541
	August	57,256	39,517	64,184	5,835	166,792
	September	53,460	38,503	64,333	6,134	162,430
	October	44,762	34,388	64,208	5,420	148,778
	November	R46,674	R33,372	R63,106	R5,606	R148,758
	December	R56,750	R35,579	R62,842	R5,626	R160,797
	<b>TOTAL</b>	<b>R603,375</b>	<b>R421,155</b>	<b>R741,538</b>	<b>R68,989</b>	<b>R1,835,057</b>
<b>1977</b>	January	64,516	39,133	60,314	6,314	170,277
	February	61,705	37,945	59,493	6,083	165,226
	March	52,686	36,222	62,043	5,936	156,887
	<b>TOTAL</b> (3 months)	<b>178,907</b>	<b>113,300</b>	<b>181,850</b>	<b>18,333</b>	<b>492,390</b>

Total Sales



\*Includes street lighting and trolley cars.

R=Revised.

Sources: 1972 through 1976—Federal Power Commission Form 5;  
1977—Edison Electric Institute.

— 1975

- - - 1976

- · - · 1977

## Cooling Degree-Days\*

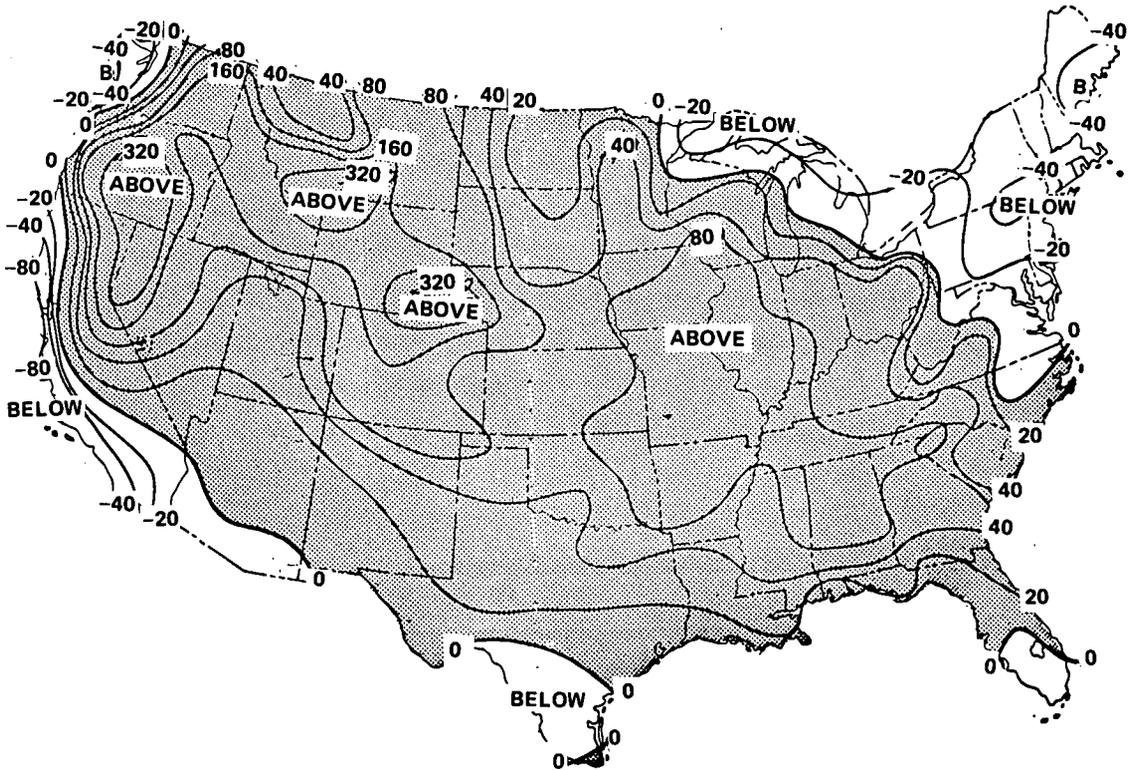
Petroleum Administration for Defense (PAD) Districts	1977	Cumulative (January 1-July 3)	
		1976**	Normal (1941-70)**
PAD District I	448.5	474.3 (-5.4)	418.0 (7.3)
New England	205.7	304.7 (-32.5)	131.4 (56.6)
Conn., Maine, Mass., N.H., R.I., Vt.			
Middle Atlantic	263.6	353.8 (-25.5)	251.9 (4.7)
Del., Md., N.J., N.Y., Pa.			
Lower Atlantic	833.3	730.2 (14.1)	793.7 (5.0)
Fla., Ga., N.C., S.C., Va., W.Va.			
PAD District II	417.9	265.6 (57.4)	304.9 (37.1)
Ill., Ind., Iowa, Kans., Ky., Mich., Minn., Mo., Nebr., N. Dak., Ohio, Okla., S. Dak., Tenn., Wisc.			
PAD District III	975.1	733.9 (32.9)	921.0 (5.9)
Ala., Ark., La., Miss., N. Mex., Tex.			
PAD District IV	242.4	132.7 (82.6)	140.6 (72.4)
Colo., Idaho, Mont., Utah, Wyo.			
PAD District V	226.0	272.1 (-16.9)	221.1 (2.2)
Ariz., Calif., Nev., Oreg., Wash.			
<b>U.S. AVERAGE</b>	<b>464.6</b>	<b>400.3 (16.1)</b>	<b>406.3 (14.3)</b>

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

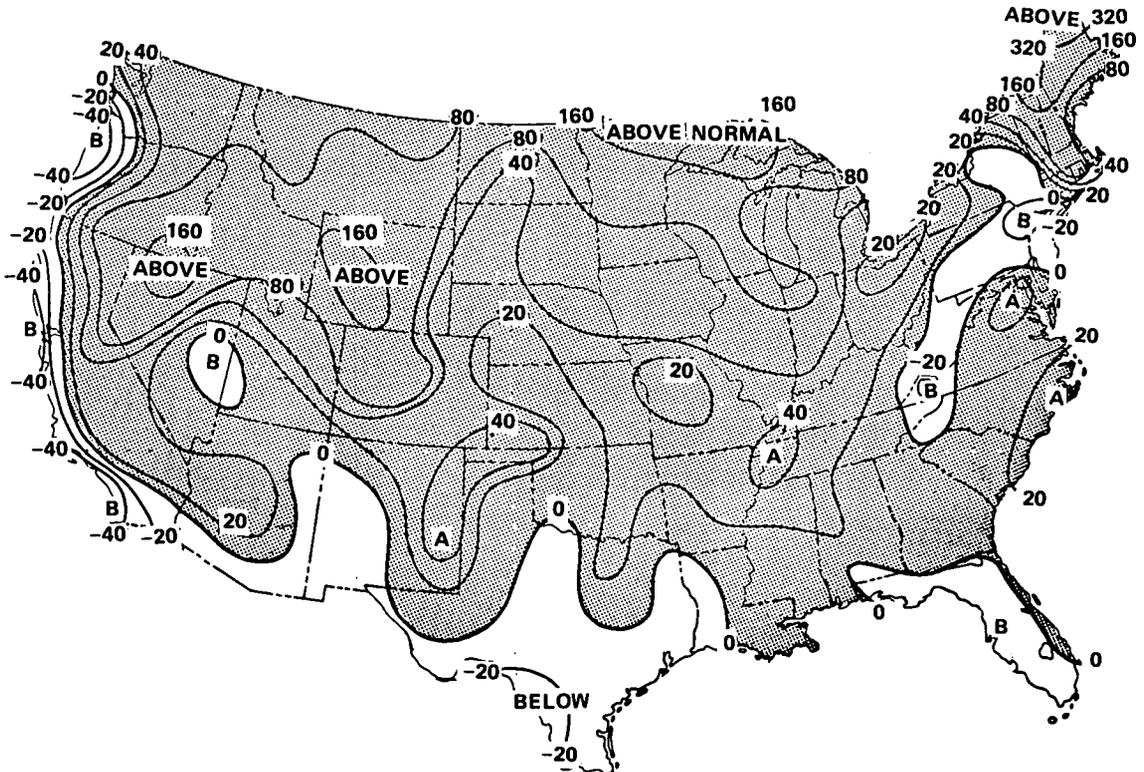
\*\*Percentage change in parentheses.

Cooling Degree-Days Accumulated from January 1, 1977 through July 3, 1977

Percent Departure from 1976



Percent Departure from Normal (1941-70)



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

## Nuclear Power

The 60 domestic reactors in commercial operation, with a maximum dependable capacity of 42,018 megawatts, performed at 63 percent of capacity during May and produced 11.5 percent of the Nation's total electricity. Ten reactors were out of service for major portions of the month for refueling. Reactors are generally refueled in the spring so that they are available to meet the high demands for power in July and August. During those months, the national nuclear operating capacity usually exceeds 70 percent.

Licensing activity during May was unprecedented in scope as the Nuclear Regulatory Commission awarded permits to four utilities for the construction of eight nuclear reactors. Florida Power and Light Company received a construction permit (CP) to build a second 845-megawatt pressurized water reactor (PWR) at the company's St. Lucie site. FEA anticipates that the unit will be operating by 1985. The Kansas Gas and Electric Company was granted a CP for the Wolf Creek plant, a 1,150-megawatt PWR which has been in the construction phase since January under a Limited Work Authorization (LWA, see Definitions). FEA forecasts that this unit will also be operational by 1985. The Cleveland Electric Illuminating Company was awarded a CP for Perry 1 and 2, both 1,205-megawatt boiling water reactors (BWR) which have been partially constructed under an LWA granted in October 1974. FEA anticipates that these units will reach commercial operation by 1985 and 1986, respectively. The Tennessee Valley Authority received approval to construct a plant at Hartsville, Tennessee, where four 1,205-megawatt BWR's will eventually comprise the largest nuclear generating station in the world. FEA forecasts these units to reach sequential commercial operation beginning in 1985 and ending in 1988.

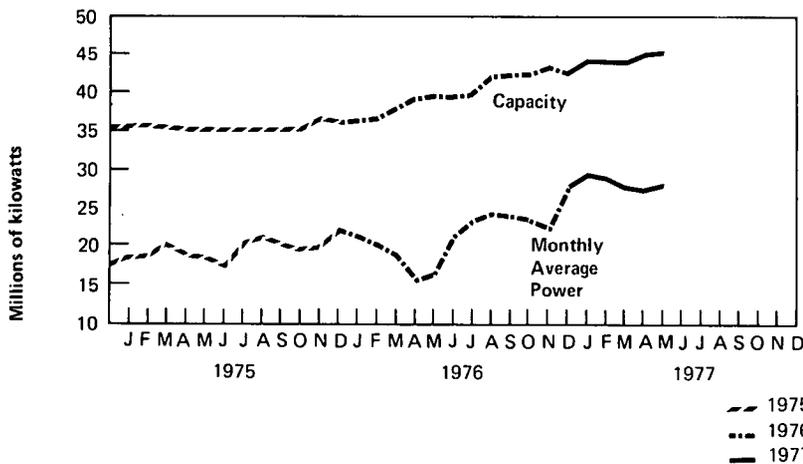
In its annual "Survey of Uranium Marketing Activity" released in May, the Energy Research and Development Administration (ERDA) reported that the U.S. average price for uranium delivered in 1976 was \$16.10 per pound, or about \$5.40 per pound more than the average price in 1975. Renegotiation of existing contracts, higher spot market prices, and settlement of market-price type contracts accounted for this 50-percent

increase. During 1976, 12 new uranium producers entered into sales contracts, so that currently 34 domestic producers have contracts to deliver uranium through 1985. Approximately 44,000 tons of  $U_3O_8$  were contracted for delivery from producers with existing mining and milling facilities, as compared to 16,000 tons during 1975. In addition, about 39,000 tons were promised for future delivery from primary sources currently without mines and mills, but which are scheduled for development under joint financial agreements between the producers and utilities. ERDA forecasts that domestic utilities must procure an additional 60,000 tons of  $U_3O_8$  for delivery through 1985, and approximately 175,000 tons for delivery during the 1986-90 period.

**U.S. Nuclear Powerplant Operations\***

		Maximum Dependable Capacity	Average Power	Percent of Total Domestic Electricity Generation
Thousands of net kilowatts				
<b>1972</b>	<b>AVERAGE</b>	<b>7,726</b>	<b>6,174</b>	<b>3.1</b>
<b>1973</b>	<b>AVERAGE</b>	<b>13,850</b>	<b>8,760</b>	<b>4.5</b>
<b>1974</b>	<b>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	R29,558	R11.2
	February	44,282	R29,054	R12.0
	March	44,289	R27,727	R12.2
	April	R45,131	**27,371	**12.5
	May	**45,222	**28,178	**11.8
	<b>AVERAGE</b>	<b>44,652</b>	<b>28,371</b>	<b>12.0</b>
	(5 months)			

**U.S. Nuclear Powerplants**



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

\*\*Preliminary data.

R=Revised data.

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

## Status of Nuclear Powerplants – May 31, 1977

Status	Number of Plants				Total	Design Capacity
	Boiling Water Reactors	High Temperature Gas Reactors	Pressurized Water Reactors	Other*		Net Electrical Megawatts
Licensed to operate	25	1	38	0	64	46,000
Construction permit granted	27	0	51	0	78	83,000
Construction permit pending	13	0	43	4	60	67,000
Orders placed for plant	3	0	6	0	9	11,000
Publicly announced	—	—	—	19	19	23,000
<b>TOTAL</b>	<b>68</b>	<b>1</b>	<b>138</b>	<b>23</b>	<b>230</b>	<b>230,000</b>

\*Includes 1 Liquid Metal Fast Breeder Reactor and 22 announced intentions to order for which a reactor type has not been chosen.

Source: U.S. Nuclear Regulatory Commission.

## U.S. Uranium Enrichment – May 1977

	Domestic Customers	Foreign Customers	Total
Separative work performed (in metric tons of separative work units)	569.120	112.910	682.030
Cost (in millions of dollars)	38.615	6.922	45.537
Product quantity (in metric tons of uranium)	136.255	30.352	166.607
Feed requirement (in metric tons of uranium)	729.793	150.143	879.936

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

## Nuclear Power Generation by Major Non-Communist Countries – May 1977

Country	Number of Reactors*	Capacity	Generation of Electricity				
			Generation	Percent of Design Capacity			
				May	May	Year**	
		Thousands of gross electrical kilowatts	Millions of gross kilowatt hours	1974	1975	1976	
Canada	7	3,980	1,902	64	74	64	85
Federal Republic of Germany	10	6,410	3,749	79	57	72	68
France	11	3,970	1,367	46	57	68	58
Great Britain	***31	8,100	2,723	50	61	57	64
India	3	620	305	66	55	46	58
Italy	3	630	300	64	61	69	69
Japan	13	7,430	1,997	36	61	36	57
Spain	3	1,120	410	49	75	77	77
Sweden	6	3,880	1,248	43	20	44	55
Switzerland	3	1,060	747	94	76	84	86
United States	63	46,040	21,307	62	57	60	56
<b>TOTAL</b>	<b>153</b>	<b>83,240</b>	<b>36,055</b>	<b>59</b>	<b>58</b>	<b>58</b>	<b>60</b>

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

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

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

Source: *Nucleonics Week*.

**Summary of Monthly Fuel Cycle – April 1977**

Fuel Cycle Activity	Product	Processed Material*	Percent Utilization of Industry Capacity	Energy Content of Processed Material**	Energy Consumed in Fuel Cycle***	Cost Contribution to Electric Power†
					Billion Btu	
Milling	Yellowcake (U <sub>3</sub> O <sub>8</sub> ) Deliveries	923	88	317,000	525	1.27
Conversion	Uranium Hexafluoride (UF <sub>6</sub> ) Deliveries	1,165	81	405,000	251	0.16
Enrichment	Enriched UF <sub>6</sub> Deliveries	119 (465 MT-SWU)	††	360,000	4,210	1.53
Fabrication	Finished Fuel Assemblies Shipped	36	16	7,000	5	0.47
Powerplant Operation	Electricity Generated	20,396 (million kWhe)	62	192,000	935 (million kWhe)	10.93
	Spent Fuel Discharged	141	—	—	—	} †††1.57
Reprocessing	Spent Fuel Received	1	—	—	—	
	Spent Fuel Reprocessed	0	—	—	—	

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

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

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

†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.

††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.

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

NA=Not available.

Source: ERDA.

## Energy Consumption

Domestic energy consumption in April 1977 was 5.85 quadrillion Btu, 2.2 percent more than during April 1976, and 2.9 percent more than in April 1975. The sectoral breakout for April is not yet available.

In March 1977, the combined residential/commercial sector consumed 2.53 quadrillion Btu, which was 4.1 percent more than in March 1976 but 1.1 percent less than in March 1975.

Industrial energy consumption for March 1977 totaled 2.17 quadrillion Btu, 1.1 percent less than in March 1976 and 0.3 percent less than in March 1975. Industrial natural gas consumption for March 1977 was 0.55 quadrillion Btu, down 9.9 percent from March 1976 consumption and down 15.7 percent compared with the March 1975 level. A large part of this drop can be attributed to increased curtailments of natural gas to low priority industrial users so that the gas could be diverted to higher priority residential and commercial users and to underground storage reservoirs that were drawn down during the extremely cold weather from October 1976 through January 1977.

Transportation consumption for March 1977 was 1.66 quadrillion Btu, 2.2 percent more than in March 1976 and 8.1 percent more than in March 1975.

## Energy Indicators

### U.S. Dependence on Petroleum Imports

The fraction of petroleum demand supplied by imports continued to increase in the first quarter of 1977 to a seasonally adjusted figure of 45 percent. Dependence on imports from Arab countries increased to 20 percent of total petroleum demand.

### Energy Consumption Per GNP Dollar

Energy consumption per GNP dollar remained essentially constant between fourth quarter 1976 and first quarter 1977. The seasonally adjusted value was 57.8, the lowest value for energy consumption per GNP dollar in the last 8 years.

## Consumer Energy Price Indicator

The Consumer Energy Price Indicator (CEPI) rose 4 percent from December 1976 to March 1977, compared with about a 2-percent rise in the Consumer Price Index. The change in the CEPI reflects a 6-percent increase in the average price of residential heating fuels during the first quarter of 1977 and an approximate 3-percent increase in the price of gasoline.

# 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						
<b>1972</b>	<b>TOTAL</b>	<b>12.424</b>	<b>22.984</b>	<b>32.965</b>	<b>2.946</b>	<b>0.567</b>	<b>71.895</b>	
<b>1973</b>	<b>TOTAL</b>	<b>13.294</b>	<b>22.512</b>	<b>34.852</b>	<b>3.006</b>	<b>0.888</b>	<b>74.553</b>	
<b>1974</b>	<b>TOTAL</b>	<b>12.889</b>	<b>21.732</b>	<b>33.468</b>	<b>3.295</b>	<b>1.215</b>	<b>72.600</b>	
<b>1975</b>	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
	<b>TOTAL.</b>	<b>12.813</b>	<b>19.948</b>	<b>32.742</b>	<b>3.215</b>	<b>1.839</b>	<b>70.557</b>	
<b>1976</b>	January	1.218	R2.332	3.169	0.279	0.172	R7.169	R7.169
	February	1.078	R1.968	2.778	0.263	0.153	R6.240	R13.410
	March	1.119	1.747	2.947	0.284	0.149	6.246	R19.656
	April	1.070	R1.529	2.749	0.259	0.117	R5.724	R25.380
	May	1.072	R1.456	2.722	0.273	0.127	R5.650	R31.030
	June	1.115	1.356	2.776	0.273	0.168	5.689	R36.718
	July	1.188	1.394	2.830	0.279	0.189	5.879	R42.597
	August	1.197	R1.334	2.835	0.256	0.196	R5.818	R48.415
	September	1.099	R1.319	2.774	0.220	0.184	R5.596	R54.011
	October	1.134	R1.644	2.905	0.227	0.185	R6.095	R60.106
	November	1.182	1.903	3.107	0.214	0.172	6.578	R66.684
	December	1.281	R2.273	3.494	0.218	0.225	R7.490	R74.174
	<b>TOTAL</b>	<b>13.752</b>	<b>R20.256</b>	<b>35.087</b>	<b>3.043</b>	<b>2.037</b>	<b>R74.174</b>	
<b>1977</b>	January	1.312	2.447	3.484	0.223	0.236	7.703	7.703
	February	R1.169	R1.831	R3.140	0.165	0.209	R6.514	R14.217
	March	R1.157	R1.685	R3.082	R0.214	R0.220	R6.358	R20.575
	April***	1.106	1.460	2.868	0.208	0.210	5.852	26.427
	<b>TOTAL</b> (4 months)	<b>4.744</b>	<b>7.423</b>	<b>12.575</b>	<b>0.811</b>	<b>0.875</b>	<b>26.427</b>	

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

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

\*\*\*Partially estimated.

Source: FEA.

**Energy Consumption by Economic Sector and Primary Source – March 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	0.019	0.849	0.605	—	—	1.473	0.318	1.792	0.736	2.527
Industrial	0.331	0.546	0.588	0.003	—	1.468	0.212	1.680	0.489	2.169
Transportation	0.001	0.052	1.592	—	( <sup>9</sup> )	1.644	0.005	1.649	0.012	1.661
Electric Utilities	0.806	0.238	0.298	0.211	0.220	1.772	—	—	—	—
<b>TOTAL</b>	<b>1.157</b>	<b>1.685</b>	<b>3.082</b>	<b>0.214</b>	<b>0.220</b>	<b>6.358</b>	<b>0.535</b>	<b>5.121</b>	<b>1.237</b>	<b>6.358</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 Bureau of Mines. Includes anthracite and bituminous coal and lignite.

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

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

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

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

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

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

<sup>8</sup> In generating electricity with nuclear or fossil fuels, approximately 65 percent of the energy is lost in the form of heat. Transmission and distribution losses consume about an additional 3 percent of the energy inputs of the utility industry. In order to fully account for all energy consumed both directly and indirectly (i.e., ultimate energy disposition), the electricity losses are allocated to the final end-use sectors in proportion to their direct kilowatt-hour usage.

<sup>9</sup> Negligible.

## Energy Consumption (Continued)

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

	March 1977 Consumption	Percent Change from March 1976*	Cumulative Percent Change from 1976 (January through March)*
	Quadrillion Btu		
<b>Refined Petroleum Products</b>	<b>3.082</b>	<b>+4.6</b>	<b>+10.3</b>
Motor Gasoline	1.131	+0.9	+3.8
Jet Fuel	0.182	+8.5	+8.9
Distillate	0.624	+3.6	+16.6
Residual	0.615	+13.5	+18.4
Other Petroleum Products	0.530	+4.6	+9.4
<b>Natural Gas (Dry)</b>	<b>1.685</b>	<b>-3.6</b>	<b>-0.3</b>
<b>Coal (Anthracite, bituminous, and lignite)</b>	<b>1.157</b>	<b>+3.4</b>	<b>+7.7</b>
<b>Hydroelectric and Nuclear Electric Power</b>	<b>0.535</b>	<b>+7.6</b>	<b>+9.1</b>
<b>TOTAL ENERGY USE</b>	<b>6.358</b>	<b>+1.8</b>	<b>+5.8</b>
<b>Economic Sector Consumption</b>			
Residential and Commercial	2.527	+4.1	+10.0
Industrial	2.169	-1.1	+0.4
Transportation	1.661	+2.2	+6.4

\* Computed on a daily average basis.

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

		Coal	Natural Gas (dry)	Petroleum <sup>2</sup>	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 <sup>15</sup> ) Btu								
<b>1973</b>	<b>TOTAL</b>	<b>0.295</b>	<b>7.577</b>	<b>7.077</b>	<b>3.445</b>	<b>8.120</b>	<b>26.515</b>	
<b>1974</b>	<b>TOTAL</b>	<b>0.297</b>	<b>7.427</b>	<b>6.688</b>	<b>3.424</b>	<b>8.222</b>	<b>26.058</b>	
<b>1975</b>	January	0.035	1.124	0.627	0.310	0.748	2.845	2.845
	February	0.023	1.105	0.526	0.292	0.637	2.583	5.427
	March	0.022	1.018	0.546	0.284	0.684	2.554	7.981
	April	0.015	0.905	0.489	0.270	0.623	2.302	10.283
	May	0.012	0.522	0.444	0.259	0.660	1.897	12.180
	June	0.013	0.338	0.435	0.290	0.735	1.811	13.991
	July	0.016	0.294	0.463	0.331	0.844	1.947	15.938
	August	0.015	0.267	0.447	0.342	0.855	1.925	17.863
	September	0.021	0.281	0.484	0.328	0.673	1.786	19.649
	October	0.023	0.353	0.539	0.273	0.650	1.838	21.487
	November	0.024	0.523	0.503	0.273	0.651	1.974	23.461
	December	0.033	0.910	0.635	0.303	0.770	2.651	26.112
	<b>TOTAL</b>	<b>0.255</b>	<b>7.640</b>	<b>6.135</b>	<b>3.554</b>	<b>8.528</b>	<b>26.112</b>	
<b>1976</b>	January	0.031	1.229	0.656	0.340	0.832	3.088	3.088
	February	0.020	1.106	0.575	0.314	0.678	2.693	5.781
	March	0.018	0.858	0.571	0.286	0.695	2.428	8.208
	April	0.021	0.704	0.500	0.270	0.619	2.114	10.323
	May	0.016	0.510	0.506	0.264	0.636	1.932	12.255
	June	0.015	0.369	0.489	0.286	0.745	1.904	14.158
	July	0.011	0.297	0.487	0.335	0.852	1.983	16.141
	August	0.015	0.275	0.506	0.345	0.845	1.986	18.127
	September	0.017	0.271	0.517	0.329	0.700	1.835	19.962
	October	0.020	0.397	0.567	0.283	0.675	1.942	21.905
	November	0.025	0.700	0.622	0.302	0.722	2.371	24.276
	December	0.037	1.078	0.726	0.335	0.824	3.000	27.276
	<b>TOTAL</b>	<b>0.246</b>	<b>7.796</b>	<b>6.722</b>	<b>3.690</b>	<b>8.823</b>	<b>27.276</b>	
<b>1977</b>	January	0.036	1.353	0.712	0.369	0.945	3.414	3.414
	February	R0.025	1.220	R0.672	0.355	R0.717	R2.988	R6.402
	March	0.019	0.849	0.605	0.318	0.736	2.527	8.929
	<b>TOTAL</b> (3 months)	<b>0.080</b>	<b>3.421</b>	<b>1.989</b>	<b>1.043</b>	<b>2.397</b>	<b>8.929</b>	

(See footnotes on page 59)

# Energy Consumption (Continued)

## 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>10.156</b>	<b>6.100</b>	<b>0.036</b>	<b>2.337</b>	<b>5.609</b>	<b>28.299</b>	
<b>1975</b>	January	0.341	0.887	0.610	0.003	0.189	0.458	2.489	2.489
	February	0.342	0.619	0.511	0.003	0.185	0.404	2.064	4.553
	March	0.362	0.648	0.531	0.003	0.186	0.447	2.176	6.729
	April	0.340	0.433	0.475	0.003	0.184	0.425	1.861	8.590
	May	0.321	0.516	0.431	0.003	0.187	0.475	1.934	10.523
	June	0.299	0.595	0.423	0.003	0.189	0.478	1.987	12.510
	July	0.286	0.640	0.450	0.003	0.190	0.485	2.053	14.563
	August	0.291	0.724	0.435	0.003	0.197	0.494	2.144	16.707
	September	0.292	0.755	0.470	0.003	0.199	0.408	2.128	18.835
	October	0.303	0.895	0.524	0.003	0.201	0.478	2.403	21.238
	November	0.316	0.865	0.489	0.003	0.192	0.457	2.322	23.560
	December	0.334	0.895	0.617	0.003	0.189	0.482	2.521	26.080
	<b>TOTAL</b>	<b>3.826</b>	<b>8.473</b>	<b>5.966</b>	<b>0.035</b>	<b>2.289</b>	<b>5.492</b>	<b>26.080</b>	
<b>1976</b>	January	0.320	0.815	0.638	0.003	0.196	0.480	2.453	2.453
	February	0.302	0.594	0.559	0.003	0.199	0.429	2.086	4.538
	March	0.321	0.606	0.555	0.003	0.206	0.502	2.193	6.731
	April	0.320	0.545	0.487	0.003	0.205	0.471	2.029	8.761
	May	0.327	0.630	0.492	0.003	0.209	0.504	2.165	10.925
	June	0.312	0.628	0.475	0.003	0.213	0.554	2.185	13.111
	July	0.310	0.713	0.473	0.003	0.215	0.546	2.259	15.370
	August	0.304	0.685	0.492	0.003	0.219	0.537	2.240	17.610
	September	0.303	0.709	0.503	0.003	0.220	0.466	2.203	19.813
	October	0.318	0.940	0.551	0.003	0.219	0.522	2.554	22.367
	November	0.327	0.920	0.605	0.003	0.210	0.501	2.565	24.932
	December	0.357	0.901	0.706	0.003	0.211	0.520	2.698	27.630
	<b>TOTAL</b>	<b>3.821</b>	<b>8.686</b>	<b>6.537</b>	<b>0.033</b>	<b>2.522</b>	<b>6.031</b>	<b>27.630</b>	
<b>1977</b>	January	0.338	0.803	0.692	0.003	0.206	0.527	2.569	2.569
	February	0.330	0.347	0.653	0.003	0.203	0.410	1.946	4.515
	March	0.331	0.546	0.588	0.003	0.212	0.489	2.169	6.684
	<b>TOTAL</b>	<b>1.000</b>	<b>1.697</b>	<b>1.934</b>	<b>0.008</b>	<b>0.620</b>	<b>1.426</b>	<b>6.684</b>	

(See footnotes on page 59)

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

		Coal	Natural Gas <sup>4</sup> (dry)	Petroleum	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>0.638</b>	<b>17.392</b>	<b>0.060</b>	<b>0.144</b>	<b>18.242</b>	
<b>1975</b>	January	0.001	0.075	1.499	0.006	0.013	1.594	1.594
	February	0.001	0.064	1.325	0.005	0.012	1.408	3.002
	March	0.001	0.062	1.456	0.005	0.013	1.537	4.538
	April	0.001	0.050	1.455	0.005	0.012	1.523	6.061
	May	0.001	0.039	1.481	0.005	0.012	1.537	7.598
	June	0.001	0.035	1.465	0.005	0.012	1.517	9.115
	July	0.001	0.035	1.497	0.005	0.012	1.550	10.665
	August	0.001	0.037	1.510	0.005	0.012	1.564	12.230
	September	0.001	0.039	1.419	0.005	0.010	1.474	13.704
	October	0.001	0.047	1.495	0.005	0.013	1.561	15.264
	November	0.001	0.052	1.380	0.006	0.013	1.452	16.716
	December	0.001	0.067	1.560	0.006	0.015	1.649	18.365
	<b>TOTAL</b>	<b>0.008</b>	<b>0.602</b>	<b>17.544</b>	<b>0.062</b>	<b>0.149</b>	<b>18.365</b>	
<b>1976</b>	January	0.001	0.076	1.532	0.006	0.015	1.629	1.629
	February	0.001	R0.064	1.380	0.006	0.012	1.461	3.090
	March	0.001	0.055	1.552	0.005	0.013	1.626	4.716
	April	0.001	0.047	1.516	0.005	0.012	1.580	6.296
	May	0.001	0.043	1.493	0.005	0.012	1.553	7.849
	June	0.001	0.037	1.545	0.005	0.012	1.599	9.449
	July	0.001	0.038	1.581	0.005	0.012	1.637	11.086
	August	0.001	0.036	1.538	0.005	0.013	1.592	12.678
	September	0.001	0.037	1.504	0.005	0.011	1.558	14.236
	October	0.001	0.050	1.530	0.006	0.013	1.599	15.835
	November	0.001	0.061	1.561	0.006	0.014	1.641	17.476
	December	0.001	0.074	1.697	0.006	0.014	1.792	19.268
	<b>TOTAL</b>	<b>0.008</b>	<b>R0.616</b>	<b>18.428</b>	<b>0.064</b>	<b>0.153</b>	<b>19.268</b>	
<b>1977</b>	January	0.001	0.081	1.617	0.006	0.016	1.720	1.720
	February	0.001	R0.059	R1.503	0.006	0.012	R1.580	R3.300
	March	0.001	0.052	1.592	0.005	0.012	1.661	4.961
	<b>TOTAL</b>	<b>0.002</b>	<b>0.191</b>	<b>4.712</b>	<b>0.017</b>	<b>0.039</b>	<b>4.961</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.

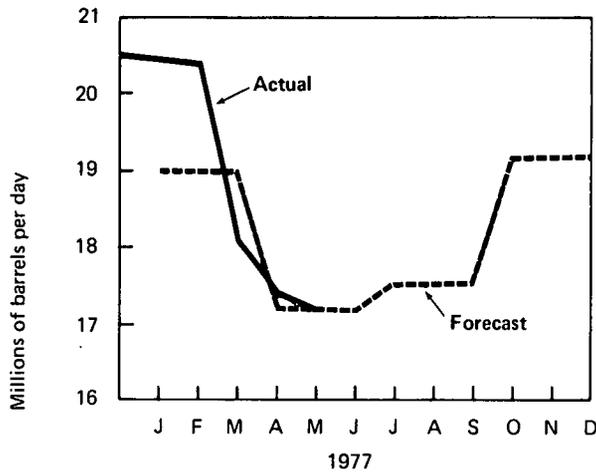
<sup>3</sup> The percentage share used in calculating Industrial consumption of petroleum was 47.5 percent for 1973 and 49.3 percent for 1974, 1975, 1976, and 1977.

<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.

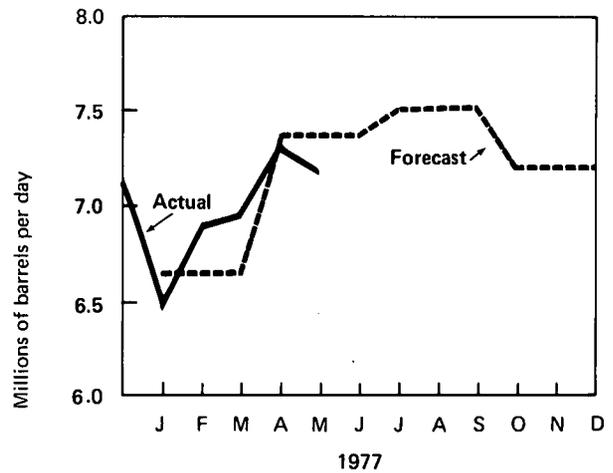
R=Revised data.

# Petroleum Consumption and Forecast

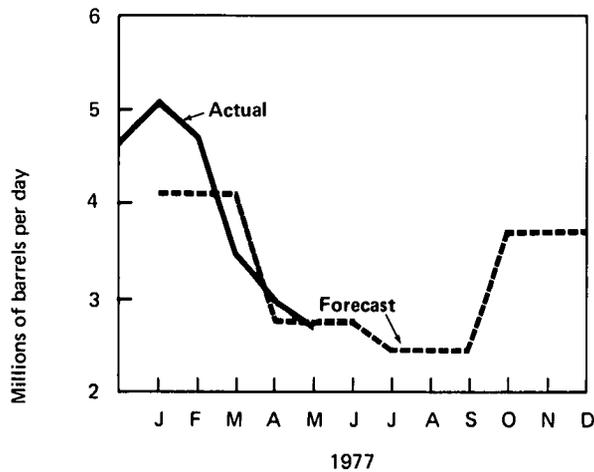
Total Domestic Demand for Petroleum Products



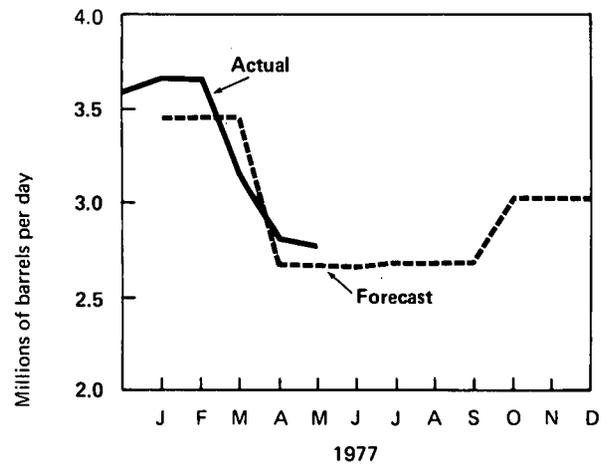
Domestic Demand for Motor Gasoline



Domestic Demand for Distillate Fuel Oil



Domestic Demand for Residual Fuel Oil



**Notes:**

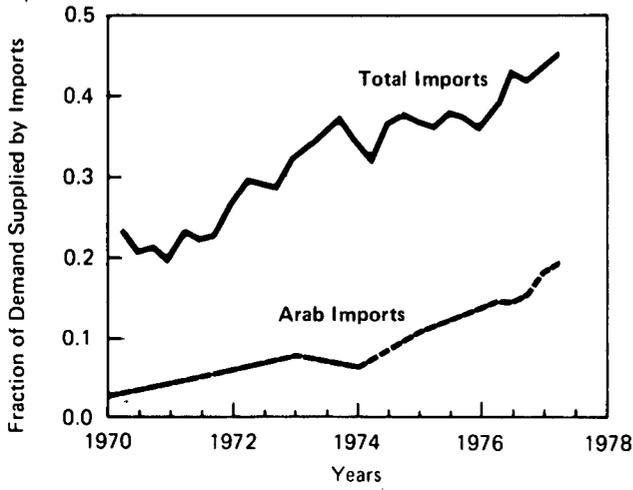
**Domestic Demand** — Demand for products, in terms of real consumption, is not available; production plus imports plus withdrawals from primary stocks is used as a proxy for consumption. Secondary stocks, not measured by BOM and API, are substantial for some products.

**Actuals** — Monthly figures are based on Bureau of Mines data for December 1976 and January and February 1977, FEA data for March and April 1977, and API data for May 1977.

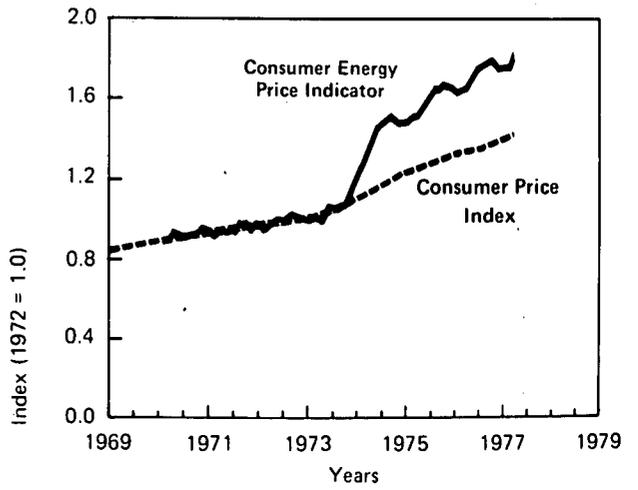
**Forecast** — The FEA forecast has been revised and is shown for quarterly intervals. See Explanatory Note 5 for discussion of basic assumptions for forecast.

# Energy Indicators\*

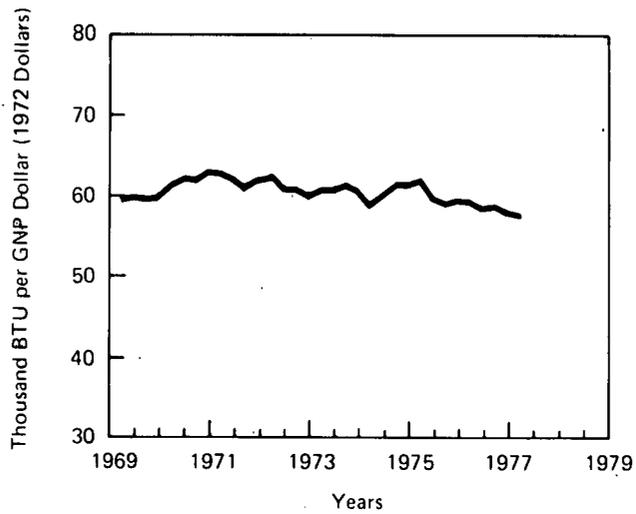
## U.S. Dependence on Petroleum Imports



## Consumer Energy Price Indicator



## BTU Consumption per GNP Dollar



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

# Part 8

## Oil and Gas Exploration and Development

The number of rotary drilling rigs in operation in June topped the 2,000 mark for the first time since December 1959. An average of 2,008 rigs were in use during the month, up 30 percent from the rig count for June 1976 and up 24 percent from June 1975's count.

During the first 5 months of 1977, there were 4 percent more exploratory and development wells drilled than during the corresponding months of 1976. The increase was concentrated in gas well drilling, which was 14 percent higher for the period. Oil well completions were 1 percent greater; dry holes were virtually equal.

There was a 9-crew increase in the seismic exploration crew count during May, bringing the number of active crews to 301, the highest level since February 1975.

# Resource Development

# Oil and Gas Exploration and Development

		Rotary Rigs in Operation	Exploratory and Development Wells Drilled*				Total Footage of Wells Drilled	
		Monthly average	Oil	Gas	Dry	Total	Thousands of feet	
<b>1972</b>	<b>AVERAGE</b>	<b>1,107</b>	<b>TOTAL</b>	<b>11,306</b>	<b>4,928</b>	<b>11,057</b>	<b>27,291</b>	<b>134,602</b>
<b>1973</b>	<b>AVERAGE</b>	<b>1,194</b>	<b>TOTAL</b>	<b>9,902</b>	<b>6,385</b>	<b>10,305</b>	<b>26,592</b>	<b>136,391</b>
<b>1974</b>	<b>AVERAGE</b>	<b>1,475</b>	<b>TOTAL</b>	<b>12,784</b>	<b>7,240</b>	<b>11,674</b>	<b>31,698</b>	<b>150,551</b>
<b>1975</b>	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	
	<b>AVERAGE</b>	<b>1,660</b>	<b>TOTAL**</b>	<b>16,408</b>	<b>7,580</b>	<b>13,247</b>	<b>37,235</b>	<b>174,434</b>
<b>1976</b>	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	
	<b>AVERAGE</b>	<b>1,656</b>	<b>TOTAL**</b>	<b>17,059</b>	<b>9,085</b>	<b>13,621</b>	<b>39,765</b>	<b>181,780</b>
<b>1977</b>	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	NA	NA	NA	NA	NA	
	<b>AVERAGE</b> (6 months)	<b>1,915</b>	<b>TOTAL**</b> (5 months)	<b>7,316</b>	<b>4,090</b>	<b>5,601</b>	<b>17,007</b>	<b>80,585</b>

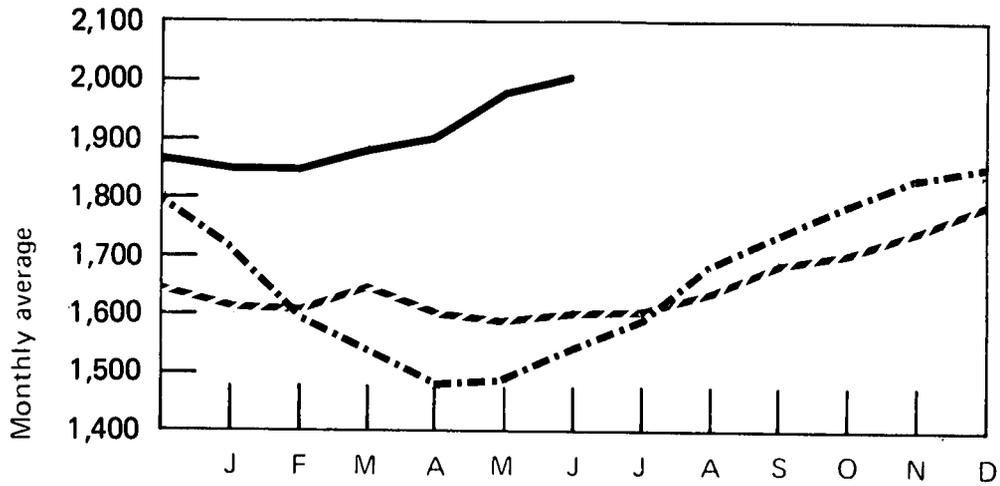
\*Excludes service wells and stratigraphic and core tests.

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

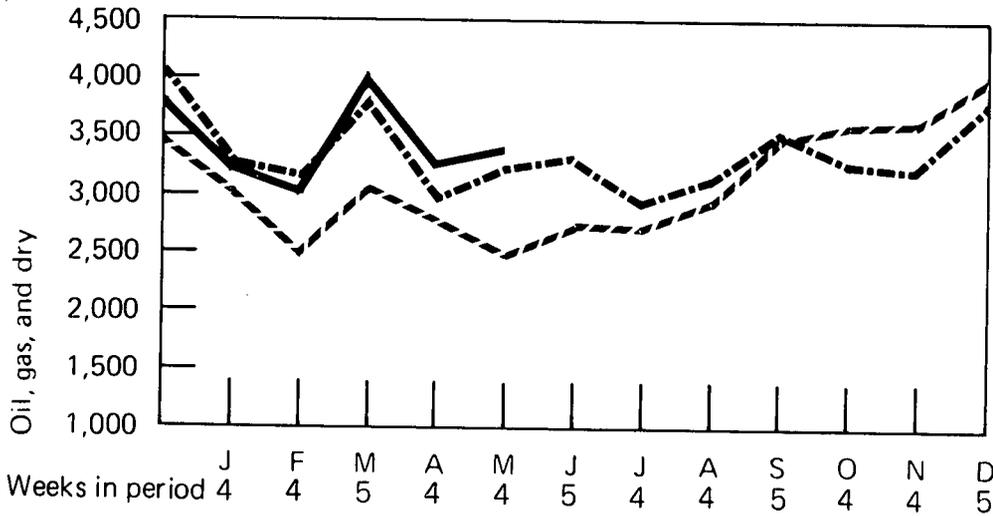
NA=Not available.

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

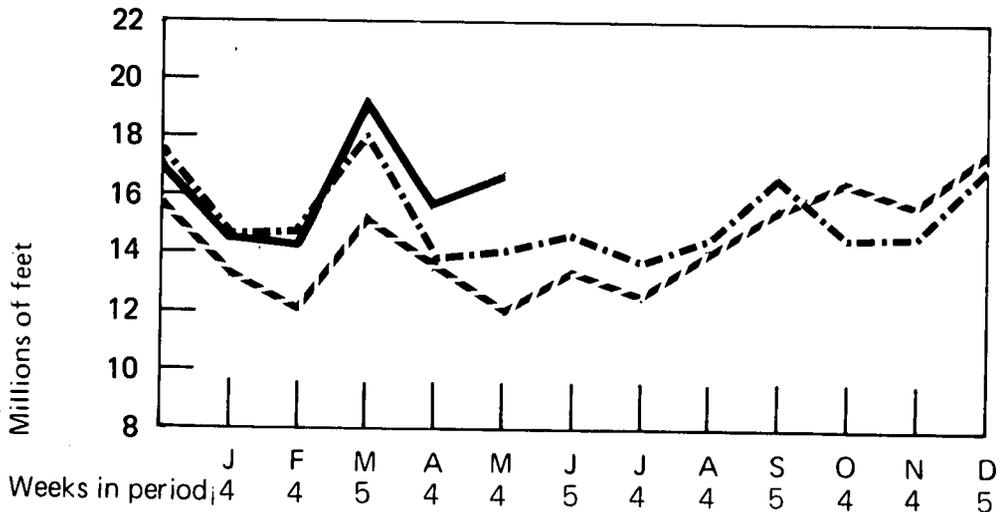
Rotary Rigs in Operation



Total Wells Drilled



Total Footage of Wells Drilled



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

# Oil and Gas Exploration and Development (Continued)

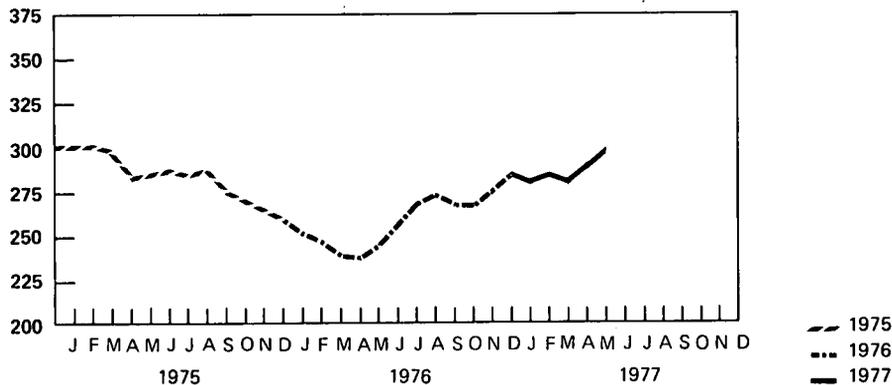
		Crews Engaged in Seismic Exploration			Line Miles of Seismic Exploration		
		Offshore	Onshore	Total	Offshore	Onshore	Total
		Monthly average			Monthly average		
1972	Year	12	239	251	10,306	9,333	19,639
1973	Year	23	227	250	21,579	10,597	32,175
1974	Year	31	274	305	28,482	13,219	41,701
1975	Year	30	254	284	25,773	12,558	38,331
1976	Year	*24	*237	*261	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			
	<b>AVERAGE</b> (5 months)	26	262	288			

\*Preliminary.

NA=Not available.

Source: Society of Exploration Geophysicists, "Monthly Seismic Crew Count."

Total Seismic Crews



## Motor Gasoline

The national average selling price for regular gasoline at full service retail outlets advanced 0.7 cent in May to 62.9 cents per gallon. The average price that retailers paid for regular gasoline increased by a slightly larger amount (0.9 cent) to 55.0 cents per gallon, lowering the dealer margin by 0.2 cent to 7.9 cents per gallon. The average self-service retail price for regular gasoline was 58.9 cents per gallon in May, 0.5 cent more than in April.

The average retail price for unleaded gasoline at full service retail outlets increased 0.6 cent in May to 66.7 cents per gallon. Premium gasoline retailed for an average of 68.4 cents per gallon compared with 67.6 cents 1 month before.

## Diesel Fuel

The average price for diesel fuel sold at truckstops advanced in May by 0.3 cent to 56.9 cents per gallon, while the price at service stations increased by a slightly larger amount (0.4 cent) to 57.1 cents per gallon.

## Heating Oil

The average selling price for heating oil sold to residential customers was 45.9 cents per gallon in April, an increase of only 0.1 cent from the March price.

## Residual Fuel

The average retail No. 6 residual fuel price was \$13.61 per barrel in April, down 23 cents from the revised March price.

## Crude Oil

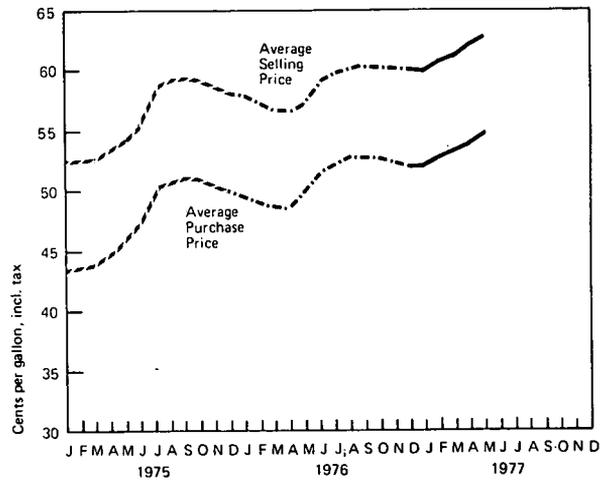
The average price paid by first purchasers for upper tier crude oil in April was \$10.97 per barrel. This was 6 cents below the price in March and 67 cents below the price in December 1976, the last month before the mandatory rollbacks in the upper-tier ceiling prices that were effective on January 1, 1977, (20 cents) and March 1, 1977, (45 cents). The domestic average first purchase price of all domestic crude oil was \$8.41 per barrel in April, 4 cents below the previous month's price.

# Motor Gasoline

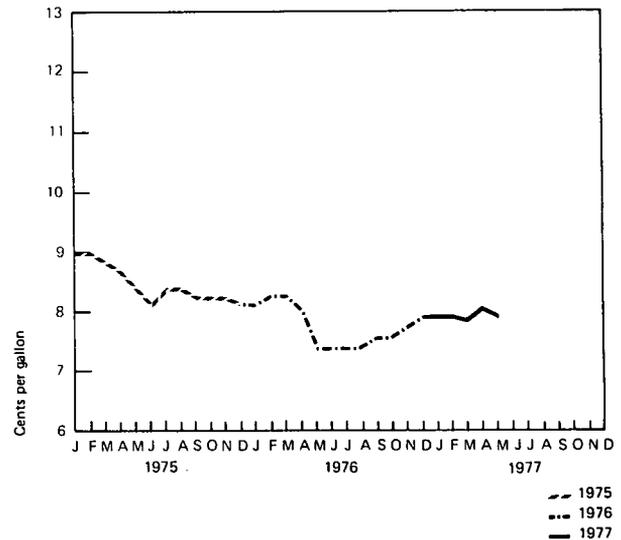
## Regular Gasoline at Full Service Retail Outlets

		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

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**

		<b>Average Selling Price</b>	<b>Average Dealer Margin</b>
		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	R58.4	R4.4
	May	58.9	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

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

**Average Selling Prices and Margins for Major and Independent Retail Dealers – May 1977**

**Regular Gasoline—Full Service**

	Cents per gallon, including tax	
	Selling Price	Margin
Major	63.8	8.2
Independent	58.3	6.3
<b>National Average</b>	<b>62.9</b>	<b>7.9</b>

**Regular Gasoline—Self Service**

	Selling Price	Margin
Major	59.6	4.0
Independent	56.9	4.7
<b>National Average</b>	<b>58.9</b>	<b>4.2</b>

**Premium Gasoline—Selling Prices**

	Full Service	Self Service
Major	69.1	65.9
Independent	63.1	61.9
<b>National Average</b>	<b>68.4</b>	<b>64.8</b>

**Unleaded Gasoline—Full Service Selling Prices**

	Regular	Premium
Major	67.4	71.2
Independent	61.3	57.9
<b>National Average</b>	<b>66.7</b>	<b>71.2</b>

Source: Lundberg Survey, Inc.

**Average Regional Selling Prices and Dealer Margins for Regular Gasoline at Full Service Outlets – May 1977**

Region	Selling Price	Margin
	Cents per gallon, including tax	
1A New England	61.2	5.7
1B Mid-Atlantic	64.0	7.0
1C Lower Atlantic	63.0	8.0
2 Mid-Continent	62.7	7.6
3 Gulf Coast	61.3	9.6
4 Rocky Mountain	63.1	9.3
5 West Coast	64.2	8.5
<b>National Average</b>	<b>62.9</b>	<b>7.9</b>

Source: Lundberg Survey, Inc.

# Motor Gasoline (Continued)

Retail Gasoline Price Changes for 21 Leading Refiners During May 1977  
and Entitlement Position\* During April

Company	Effective Date of Change	Amount of Change Cents per gallon	Entitlement Position (April)
Amerada Hess	May 24	1.00 regular, premium - retail 0.85 regular, premium - all others 2.00 unleaded - retail 1.85 unleaded - all others	Seller
American Petrofina	May 6	0.80 all grades, all PADs	Buyer
Ashland	May 18	0.75 all grades, all PADs	Seller
Atlantic Richfield		None	Buyer
B.P.	May 11	0.50 PAD I, all grades	Seller
Champlin	May 17	-0.30 PAD III, regular	Buyer
	May 20	0.50 regular, unleaded 1.25 PADs II, IV, premium	
Chevron	May 12	0.50 PAD V, regular	Seller
Cities Service	May 24	0.80 all grades, all PADs	Buyer
Continental	May 7	1.00 all grades, all PADs	Buyer
Exxon	May 5	1.00 PADs I, II, III, IV, all grades	Buyer
	May 21	0.70 PAD V, all grades	
Getty Refining and Marketing Company	May 20	1.00 all grades, PAD I	Buyer
Gulf	May 3	1.00 PAD V unleaded - 91.0 and 92.2 octane	Buyer
Kerr McGee	May 2	0.50 PADs II, III, regular, premium, unleaded	Seller
Mobil	May 11	1.00 PAD IV, all grades 0.70 PAD V, all grades	Buyer
	May 19	0.80 PADs I, II, III, all grades	
Phillips	May 14	1.00 all PADS, all grades	Seller
Shell	May 6	1.00 PADs I, II	Buyer
	May 10	0.70 PADs IV, V	
	May 25	1.00 PAD II	
Standard Oil of Indiana	May 1	- 1.00 PADs II, IV, leaded premium	Buyer
	May 20	1.00 all PADS, all grades	
Standard Oil of Ohio	May 11	0.50 PAD I, all grades	Seller
Sun	May 4	0.80 PAD IV	Buyer
Texaco	May 20	0.50 all PADS, unleaded	Buyer
Union Oil of California	May 11	0.60 PADs I, II, III, unleaded regular, premium	Buyer

\*See Definitions.  
Source: FEA.

**Jobber Prices for Regular Gasoline Sold by 21 Leading Refiners**

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

Source: FEA.

# Diesel Fuel

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

		Selling Price		Margin	
		Truckstops	Service Stations	Truckstops	Service Stations
Cents per gallon, including tax					
<b>1975</b>	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
<b>1976</b>	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
<b>1977</b>	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

\*See Explanatory Note 16.

NA=Not available.

Source: Lundberg Survey, Inc.

**Average Selling Prices and Margins for Major and Independent No. 2 Diesel Fuel Retail Dealers – May 1977**

Cents per gallon, including tax

**Truckstops**

	Selling Price	Margin
Major	57.7	5.9
Independent	55.6	7.2
<b>National Average</b>	<b>56.9</b>	<b>6.5</b>

**Service Stations**

	Selling Price	Margin
Major	58.6	5.9
Independent	56.0	7.0
<b>National Average</b>	<b>57.1</b>	<b>6.8</b>

Source: Lundberg Survey, Inc.

**No. 1 Diesel Fuel**

Wholesale      Retail  
Cents per gallon, excluding tax

<b>1975</b>	July	30.1	37.7
	August	30.8	38.2
	September	31.5	36.9
	October	33.1	35.4
	November	33.3	35.0
	December	34.2	35.5
<b>1976</b>	January	33.8	37.1
	February	33.6	35.3
	March	33.9	34.8
	April	34.2	35.4
	May	34.5	37.5
	June	34.7	37.9
	July	35.0	38.1
	August	35.9	38.2
	September	35.3	37.7
	October	36.3	36.4
	November	35.7	36.9
	December	35.5	36.7
<b>1977</b>	January	37.1	36.6
	February	38.4	39.2
	March	38.0	39.6
	April*	38.6	40.1

\*Preliminary.

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

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

# Heating Oil

## Residential Heating Oil Prices

		Average Selling Price*	Average Purchase Price*	Average Dealer Margin*
Cents per gallon, including taxes				
<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

\*Average selling prices, purchase prices, and dealer margins represent sales for residential heating oil only.  
NA=Not available.

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

Residential Heating Oil Prices by Region

		New England	Mid-Atlantic	Southeast	East North Central	East South Central	West North Central	West South Central	Mountain	West Coast
Cents per gallon, including tax										
1975	January	40.2	38.9	36.5	33.2	34.7	34.0	NA	37.5	38.0
	February	39.2	38.4	36.8	33.4	34.7	33.3	NA	36.6	37.7
	March	38.0	37.8	36.4	34.2	33.2	34.3	NA	NA	36.8
	April	37.4	36.8	36.8	33.2	33.7	34.5	NA	38.9	36.8
	May	37.6	36.9	36.4	35.1	34.7	35.4	NA	37.0	37.8
	June	37.7	37.7	36.4	35.8	NA	35.9	NA	37.6	37.6
	July	37.9	36.9	36.9	36.4	34.7	36.8	NA	NA	38.8
	August	38.8	38.2	37.9	36.3	35.7	36.3	NA	41.3	39.3
	September	39.4	38.7	37.6	36.5	35.7	36.8	NA	38.9	40.1
	October	40.3	39.9	38.3	37.4	36.6	37.9	NA	39.0	41.0
	November	41.0	39.6	38.7	37.9	NA	38.1	NA	40.2	41.3
	December	41.0	41.1	39.0	38.5	34.1	38.0	NA	44.8	40.9
1976	January	41.5	40.0	39.6	38.3	37.8	38.2	35.0	41.2	41.6
	February	41.4	40.3	39.4	38.0	37.7	38.3	34.4	41.0	42.1
	March	41.5	39.8	39.2	37.0	36.7	37.6	34.5	40.4	41.9
	April	41.2	40.0	38.9	37.1	35.9	37.3	34.6	40.3	40.8
	May	41.1	39.7	38.2	37.1	35.6	37.3	34.0	40.4	42.1
	June	40.9	41.1	39.1	37.7	37.2	37.3	34.3	40.3	42.8
	July	40.7	39.8	39.1	37.9	36.9	37.3	34.4	40.1	45.0
	August	41.5	40.3	39.5	38.2	37.2	37.7	34.3	39.7	44.7
	September	41.9	40.8	37.5	38.3	38.0	38.8	34.8	41.1	46.0
	October	42.3	41.4	40.4	39.0	38.5	38.7	35.1	42.1	46.0
	November	43.3	42.4	42.1	40.1	39.8	39.5	36.3	42.8	46.5
	December	44.4	43.6	42.9	41.5	41.0	41.9	36.3	42.7	43.8
1977	January	45.8	44.9	44.2	43.2	43.1	43.0	36.9	43.4	44.6
	February	46.6	45.8	45.7	43.9	43.4	44.0	38.8	44.2	45.2
	March	47.1	46.3	45.5	44.4	43.8	44.6	40.2	44.7	45.9

NA=Not available.

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

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

## Average Distributor Purchase Prices for Heating Oil by Region

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

Heating Oil (Continued)

# Residual Fuel Oil

## RESIDUAL FUEL OIL (Dollars per barrel)

		NO. 5		NO. 6						BUNKER "C"		TOTAL		
				0.0 to 0.3 percent sulfur		0.31 to 1.0 percent sulfur		Greater than 1.0 percent sulfur		Total				
		Whole-sale	Retail	Whole-sale	Retail	Whole-sale	Retail	Whole-sale	Retail	Whole-sale	Retail	Whole-sale	Retail	
1975	July	10.19	11.28	11.57	12.86	10.90	12.05	10.25	10.59	10.66	11.70	7.88	10.54	11.27
	August	10.19	11.04	11.53	13.22	10.85	12.34	9.72	10.53	10.49	11.89	8.76	10.43	11.32
	September	10.58	11.07	11.75	12.94	10.63	11.65	9.87	10.52	10.48	11.52	8.93	10.29	11.09
	October	10.15	11.12	11.50	12.98	10.37	12.09	9.75	10.38	10.30	11.69	8.88	10.31	11.13
	November	10.90	11.27	12.21	12.96	10.33	12.03	9.90	10.34	10.47	11.68	9.01	10.43	11.24
	December	10.83	11.64	11.89	12.87	10.37	11.83	9.65	10.06	10.24	11.42	9.07	10.15	10.97
1976	January	11.08	11.63	12.13	12.39	10.62	11.61	9.58	10.23	10.53	11.35	8.75	10.35	11.02
	February	10.55	11.57	12.42	12.78	10.87	11.84	9.70	10.35	10.73	11.52	8.53	10.27	11.15
	March	10.41	11.89	12.36	12.81	11.05	11.80	9.56	10.21	10.74	11.43	8.59	10.35	11.12
	April	10.21	11.58	11.44	12.34	10.86	11.77	9.53	10.28	10.38	11.43	8.66	10.12	11.02
	May	9.87	11.49	11.71	11.87	10.80	11.40	9.47	9.89	10.11	10.95	8.75	10.65	10.63
	June	9.91	11.23	11.71	12.24	10.33	11.36	9.73	10.03	10.12	11.04	8.57	10.10	10.70
	July	10.06	11.70	11.71	12.12	10.22	11.36	9.83	10.04	10.25	11.04	9.23	10.34	10.74
	August	9.78	11.48	11.67	12.79	10.45	11.46	9.61	10.22	10.20	11.20	8.93	9.98	10.82
	September	10.36	11.37	11.75	12.50	10.33	11.55	10.04	10.28	10.35	11.30	9.22	10.05	10.91
	October	10.25	11.64	11.86	12.94	11.04	12.12	10.00	10.73	10.75	11.82	9.57	10.81	11.43
	November	10.84	12.04	12.33	13.15	11.62	12.21	10.40	10.98	11.16	11.95	10.31	10.83	11.61
	December	11.49	12.64	13.16	13.32	11.74	12.76	11.04	11.48	11.87	12.44	9.95	11.24	11.94
1977	January	R12.00	13.39	14.06	14.34	12.74	13.68	11.51	12.32	R12.45	13.32	10.34	11.89	12.94
	February	R12.28	13.66	R14.00	14.60	R12.91	R14.08	R12.04	12.74	R12.69	R13.71	R10.24	12.00	R13.22
	March	R12.21	R13.75	R14.00	R14.57	R13.48	R14.51	R11.62	R12.69	R12.68	R13.84	R9.97	11.74	R13.27
	April*	11.56	13.26	15.15	14.63	13.04	14.10	11.25	12.50	12.25	13.61	10.02	11.75	13.02

\*Preliminary.

R=Revised data.

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

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

# Aviation Fuels

## AVIATION FUELS (Cents per gallon)

		Aviation Gasoline		Naphtha-Type*	Kerosene-Type	
		Wholesale	Retail	Retail	Wholesale	Retail
1975	July	40.6	40.6	31.4	29.8	29.2
	August	41.3	42.1	30.8	32.1	29.5
	September	41.2	39.9	30.3	31.5	29.6
	October	41.1	41.2	30.2	31.7	30.0
	November	39.7	42.1	30.6	31.6	30.2
	December	40.9	40.9	30.7	31.9	30.5
1976	January	41.4	41.2	31.0	30.6	31.3
	February	41.2	42.0	31.1	31.1	31.2
	March	41.1	41.9	30.9	31.2	30.7
	April	41.2	42.5	30.5	31.9	30.5
	May	42.1	43.1	30.6	33.0	30.2
	June	42.6	42.3	31.5	32.1	30.3
	July	43.6	44.2	31.3	32.9	30.8
	August	43.7	44.1	31.7	32.1	31.1
	September	43.6	44.7	32.1	32.5	31.4
	October	43.6	43.8	32.4	33.5	31.9
	November	43.4	43.9	32.7	33.4	32.4
	December	43.5	43.7	32.7	34.7	32.2
1977	January	43.4	44.1	33.4	34.6	33.2
	February	44.7	45.0	34.0	37.1	34.1
	March	45.0	45.7	34.4	35.9	34.6
	April**	46.0	47.2	34.3	35.9	34.9

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

\*\*Preliminary.

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

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



Percentages of Domestic Production Sold at the Wellhead

		Old Oil	New Oil	Released	Stripper
1975	January*	58	19	10	12
	February*	61	17	9	12
	March	60	18	10	12
	April	61	17	9	12
	May	62	17	8	13
	June	63	16	8	13
	July	62	16	8	14
	August	63	16	7	14
	September*	63	15	7	14
	October	63	16	7	14
	November	64	15	7	14
	December	63	16	7	14
	<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	
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
		<u>49.7</u>	<u>37</u>		

100%  
 80.1  
 5.4  
 5.4  
 +  
 2.7  
 2.35

51.45  
 35.35 87  
 .867

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

\*\*Preliminary.

Sources: January 1975 through January 1976—Form FEA-90 "Crude Petroleum Production Monthly Report;" February 1976 through August 1976—FEA Form P124-M-O "Domestic Crude Oil Purchasers Report" for Lower Tier percentages and FEA estimates for Upper Tier percentages; September 1976 forward—FEA Form P124-M-O "Domestic Crude Oil Purchasers Report" for Lower Tier, Upper Tier, and Stripper percentages.

## Crude Oil (Continued)

		Entitlement Price* (Dollars)	National Old Oil Supply Ratio*	Crude Oil Entitlement Benefit* (Dollars)
1974	November	5.00	.411	2.06
	December	5.00	.400	2.00
1975	January	6.00	.352	2.11
	February	6.75	.373	2.52
	March	7.31	.359	2.62
	April	7.29	.390	2.84
	May	7.39	.383	2.83
	June	7.82	.360	2.82
	July	8.13	.354	2.88
	August	8.31	.352	2.93
	September	8.31	.355	2.95
	October	8.62	.356	3.07
	November	8.94	.343	3.07
	December	8.55	.363	3.10
1976	January	8.09	.309	2.50
<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
February		8.53	.267	2.28
March		8.71	.273	2.38
April		8.69	.285	2.48

\*See Definitions.  
Source: FEA.

**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	R9.32	R14.54	R11.88
	April**	9.34	14.35	11.82

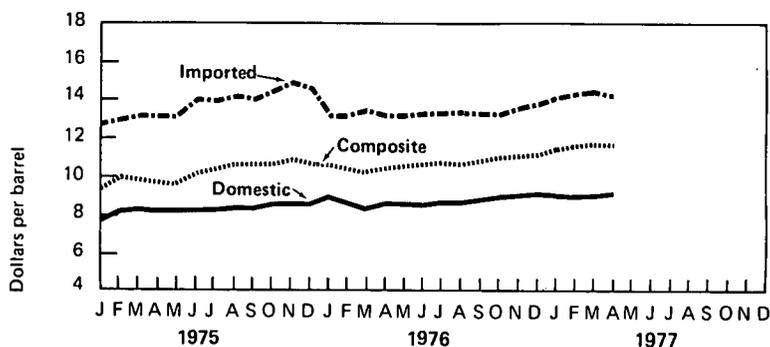
\*See Explanatory Note 18.

\*\*Preliminary data.

R=Revised data.

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

**Crude Oil Refiner Acquisition Cost**



# Crude Oil (Continued)

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

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

\*See Explanatory Note 19.

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

**Unrecouped Costs for Refined Products for 30 Largest Refiners**

		Distillate*	Motor Gasoline	Aviation Jet Fuel**	Other Products	Total
Millions of dollars						
<b>1975</b>	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
<b>1976</b>	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
<b>1977</b>	January	—	901	166	325	1,392
	February	—	1,038	187	303	1,528
	March	—	R956	R180	R287	R1,423
	April***	—	1,017	202	305	1,524

\*Includes No. 2 heating oil and No. 2 diesel fuel only. After May 1976, reporting of the distillate bank is no longer required due to decontrol of middle distillates.

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

\*\*\*Preliminary.

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

# Natural Gas

## Natural Gas Prices Reported by Major Interstate Pipeline Companies

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

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

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

Source: Federal Power Commission Form 2.

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

	California		Kansas		Louisiana		Oklahoma		Texas	
	New Contracts	Renegotiated or Amended								
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

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

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

		Cents per thousand cubic feet
<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

Source: Bureau of Labor Statistics.

# Utility Fossil Fuels

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

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

Source: Federal Power Commission Form 423.

# Utility Fossil Fuels (Continued)

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

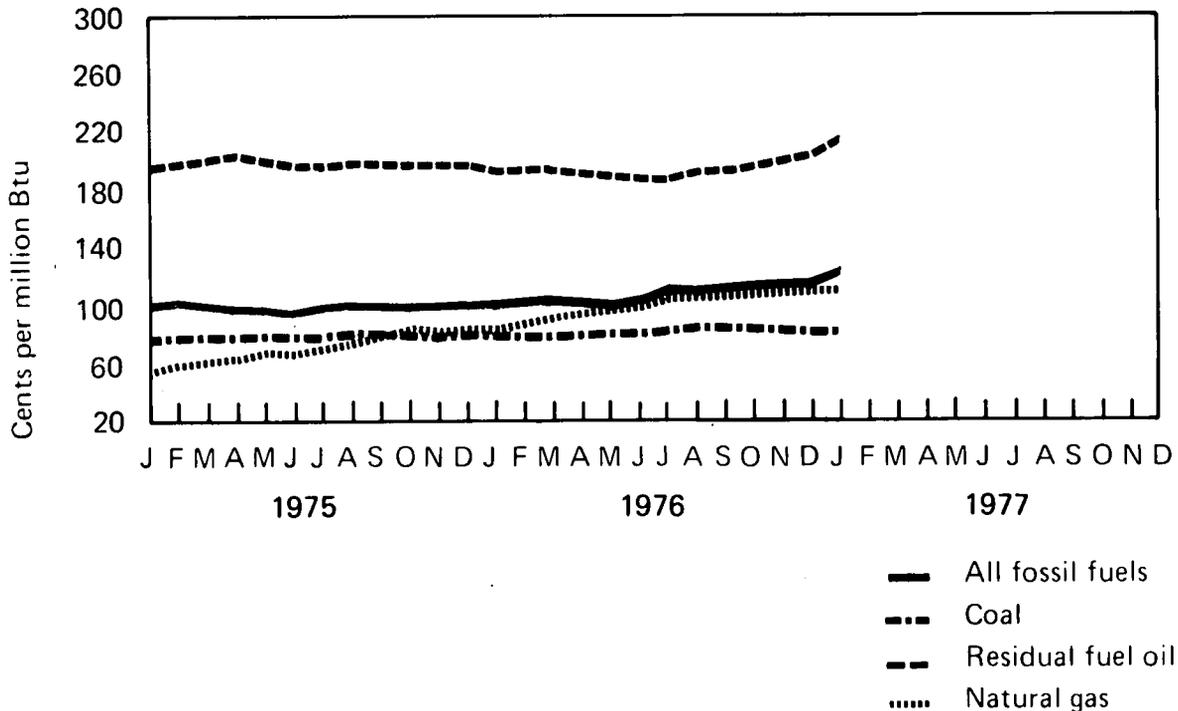
All Fossil Fuels\*

Region	1976												1977
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN
	Cents per million Btu												
New England	181.3	184.6	182.3	184.3	174.6	174.2	172.4	173.7	176.6	184.0	186.9	197.0	207.7
Middle Atlantic	143.6	142.2	136.8	136.9	136.6	137.9	144.5	140.2	135.2	136.8	139.8	146.5	161.8
East North Central	89.9	90.0	88.3	91.3	92.1	93.8	100.9	97.6	95.2	95.8	96.8	94.4	104.1
West North Central	72.7	67.4	67.5	67.2	68.9	69.1	70.8	75.1	76.1	73.5	76.1	78.5	85.4
South Atlantic	122.0	122.7	118.3	119.2	120.0	118.9	130.7	126.2	125.6	127.2	129.1	134.7	146.5
East South Central	88.5	88.0	87.4	90.4	90.9	90.0	93.2	94.6	94.4	93.8	92.3	96.7	99.8
West South Central	88.0	88.2	91.7	93.5	94.6	98.6	101.2	102.9	102.4	101.6	106.2	106.9	113.6
Mountain	50.4	48.3	58.4	56.1	50.1	53.0	55.4	57.9	55.3	55.4	54.2	53.9	53.0
Pacific	214.0	206.5	211.3	196.2	180.3	177.2	180.2	195.7	195.9	199.1	214.5	218.9	219.2
<b>NATIONAL AVG.</b>	<b>107.3</b>	<b>107.6</b>	<b>107.8</b>	<b>106.4</b>	<b>105.8</b>	<b>107.0</b>	<b>113.2</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>

\*See Explanatory Note 20.

Source: Federal Power Commission Form 423.

### National Average



**Coal**

Region	1976												1977
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN
	Cents per million Btu												
New England	124.2	122.7	119.4	124.8	127.0	122.3	127.9	127.8	125.4	125.6	125.6	124.4	127.6
Middle Atlantic	102.8	103.4	101.7	100.2	101.7	102.5	107.5	103.3	102.6	102.6	100.2	101.2	105.9
East North Central	83.1	83.1	82.7	85.0	86.8	86.6	92.4	90.9	89.8	89.2	90.2	90.7	90.7
West North Central	59.2	60.2	62.3	64.1	65.8	64.7	65.3	70.1	71.0	69.3	69.6	67.6	66.5
South Atlantic	98.3	99.2	99.7	100.8	100.8	100.7	104.4	103.5	103.4	105.4	103.8	104.1	105.4
East South Central	83.9	83.5	82.6	83.4	85.1	84.5	85.5	85.7	87.2	88.3	87.4	90.6	91.2
West South Central	26.4	26.4	26.4	26.4	26.4	27.3	32.4	36.4	42.4	43.7	51.5	56.6	58.8
Mountain	34.1	33.0	42.4	34.6	32.2	35.9	35.3	36.8	36.2	38.2	39.1	38.1	37.6
Pacific	72.7	76.0	74.5	75.5	75.7	75.2	75.8	75.7	75.7	76.0	75.6	74.5	77.6
<b>NATIONAL AVG.</b>	<b>80.2</b>	<b>81.4</b>	<b>83.3</b>	<b>83.7</b>	<b>84.6</b>	<b>84.6</b>	<b>85.7</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>

**Residual Fuel Oil\***

Region	1976												1977
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN
	Cents per million Btu												
New England	182.5	185.4	183.5	185.7	170.0	177.8	175.4	182.8	179.5	188.1	192.0	198.9	213.6
Middle Atlantic	191.3	179.9	191.8	197.1	190.3	187.3	184.3	189.3	190.0	199.5	200.5	208.3	220.5
East North Central	197.0	193.4	200.9	198.4	202.8	211.8	214.8	222.8	221.4	225.8	223.9	227.9	247.5
West North Central	173.1	162.2	153.4	153.0	145.6	148.8	151.3	148.4	149.6	156.8	167.9	191.5	201.0
South Atlantic	174.6	177.5	178.6	179.6	171.3	171.9	174.1	176.6	180.4	184.1	189.2	197.0	212.4
East South Central	172.8	173.7	174.3	176.0	170.9	166.9	171.0	171.3	163.8	166.6	167.8	166.4	166.2
West South Central	195.3	190.7	183.0	187.4	182.0	176.4	173.3	178.6	166.4	176.6	180.3	179.9	192.0
Mountain	206.8	203.5	205.0	220.8	206.4	212.4	217.2	224.8	213.0	221.9	209.3	181.2	201.0
Pacific	246.6	240.7	240.3	232.7	229.2	229.1	228.7	228.8	230.2	231.2	234.1	233.4	231.3
<b>NATIONAL AVG.</b>	<b>194.1</b>	<b>195.4</b>	<b>197.7</b>	<b>196.7</b>	<b>188.1</b>	<b>187.4</b>	<b>187.0</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>

**Natural Gas\*\***

Region	1976												1977
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN
	Cents per million Btu												
New England	166.1	166.1	151.6	134.5	144.0	153.7	154.1	153.9	154.4	155.4	185.2	186.1	200.1
Middle Atlantic	107.8	195.8	106.3	150.3	111.5	108.0	114.8	114.5	122.7	125.2	111.9	127.8	211.3
East North Central	126.8	124.4	125.0	127.7	135.3	139.8	138.2	147.8	148.4	153.0	168.8	188.9	186.5
West North Central	56.1	61.6	61.5	68.0	73.4	78.1	78.4	81.4	81.9	80.8	84.1	84.0	86.1
South Atlantic	75.1	82.0	75.5	78.2	84.0	83.1	88.7	82.9	88.3	89.3	89.1	90.4	80.4
East South Central	156.6	157.4	147.5	148.0	128.6	123.0	136.9	132.5	137.7	158.5	162.2	160.8	165.1
West South Central	83.5	87.3	90.8	92.3	94.0	98.1	100.4	101.6	101.8	101.0	106.6	106.8	108.1
Mountain	86.2	85.5	87.4	90.4	87.4	89.5	90.8	101.7	104.3	112.2	118.2	136.0	133.3
Pacific	141.2	151.6	149.5	152.6	147.3	147.6	146.6	155.3	166.5	169.0	177.5	188.7	196.8
<b>NATIONAL AVG.</b>	<b>86.5</b>	<b>92.1</b>	<b>94.9</b>	<b>97.4</b>	<b>100.8</b>	<b>104.4</b>	<b>106.2</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>

\*See Explanatory Note 20.

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

Source: Federal Power Commission Form 423.

## **Petroleum Consumption**

Petroleum consumption for the 19 member countries of the International Energy Agency (IEA) averaged 36.7 million barrels per day during the first quarter of 1977, an increase of 6.1 percent over the amount consumed during the corresponding quarter of 1976. Japan showed the largest increase of 11.5 percent. Canada showed a small increase of 1.4 percent, and consumption in the United Kingdom rose 1.1 percent. The United States, whose consumption equals that of all the other IEA nations combined, showed a 10-percent increase in the first quarter. The rest of the countries listed registered decreases: Italy, down 4.6 percent; West Germany, down 5.2 percent; and France (not a member of IEA), down 4.2 percent.

## **Crude Oil Production**

March crude oil production figures for Kuwait were revised to 2.22 million barrels a day, raising the OPEC total for the month to 33.15 million barrels a day and the world total to 61.2 million barrels a day, both new highs.

In April, world production decreased by about 1 percent to 60.6 million barrels a day. Production in Kuwait dropped to 1.88 million barrels a day, more than offsetting Saudi Arabia's 310,000-barrel-per-day increase to 10.17 million barrels a day. The largest decrease was registered by Iran which cut production from 6.28 million to 5.41 million barrels a day, or 13.8 percent.

# 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									
<b>1973</b>	<b>AVG.</b>	<b>33,600</b>	<b>5,000</b>	<b>2,693</b>	<b>2,219</b>	<b>1,974</b>	<b>1,597</b>	<b>1,525</b>	<b>3,467</b>
<b>1974</b>	<b>AVG.</b>	<b>32,390</b>	<b>4,872</b>	<b>2,408</b>	<b>2,094</b>	<b>1,857</b>	<b>1,630</b>	<b>1,521</b>	<b>3,449</b>
<b>1975</b>	Jan	34,100	4,729	2,183	2,190	1,981	1,691	1,792	3,741
	Feb	34,100	5,191	2,455	2,243	1,907	1,872	1,767	3,825
	Mar	31,600	4,918	2,234	1,952	1,731	1,558	1,558	3,285
	Apr	31,200	4,202	2,431	2,202	1,826	1,592	1,530	3,578
	May	28,600	4,041	2,253	1,640	1,482	1,474	1,174	3,058
	June	29,300	4,135	2,106	1,642	1,416	1,550	1,289	3,195
	July	29,400	4,265	2,319	1,491	1,322	1,537	1,234	2,961
	Aug	29,200	4,234	2,360	1,300	1,208	1,444	1,105	3,082
	Sept	30,400	4,543	2,309	1,785	1,501	1,474	1,465	3,338
	Oct	31,000	4,409	2,328	1,917	1,707	1,555	1,679	2,981
	Nov	31,000	4,747	2,361	2,077	1,723	1,577	1,448	3,423
	Dec	35,100	5,447	2,502	2,658	1,821	1,880	1,600	3,863
	<b>AVG.</b>	<b>31,235</b>	<b>4,568</b>	<b>2,319</b>	<b>1,925</b>	<b>1,633</b>	<b>1,594</b>	<b>1,468</b>	<b>3,382</b>
<b>1976</b>	Jan	35,100	4,941	R2,464	2,432	1,679	1,784	R1,775	3,943
	Feb	34,400	5,246	R2,497	2,492	1,865	1,754	R1,743	3,991
	Mar	34,300	5,165	2,742	2,372	1,879	1,747	R1,641	3,907
	Apr	31,500	4,526	2,332	2,117	1,716	1,518	R1,423	3,457
	May	29,900	4,218	R2,325	1,796	R1,417	1,509	R1,253	3,226
	June	31,300	4,429	R2,373	1,604	R1,416	1,560	R1,236	3,459
	July	31,100	4,416	2,624	1,624	1,346	1,531	R1,343	3,323
	Aug	31,100	4,461	R2,522	1,668	R1,276	1,577	R1,360	3,395
	Sept	32,200	4,517	2,521	1,966	R1,477	1,515	R1,592	3,806
	Oct	32,300	4,523	2,391	1,908	1,544	1,560	R1,464	3,780
	Nov	35,900	5,160	2,700	2,206	1,750	1,822	R1,393	4,233
	Dec	39,100	5,846	2,571	2,672	1,869	R2,008	R1,779	4,593
	<b>AVG.</b>	<b>33,180</b>	<b>4,786</b>	<b>R2,505</b>	<b>2,073</b>	<b>R1,603</b>	<b>R1,657</b>	<b>R1,500</b>	<b>3,758</b>
<b>1977</b>	Jan	37,372	R5,428	2,388	R2,492	R1,830	R1,797	R1,633	4,018
	Feb	38,239	R6,023	2,441	R2,372	R1,844	R1,919	R1,785	3,825
	Mar	34,663	5,695	2,474	R2,127	1,802	R1,655	1,516	3,664
	Apr	NA	NA	2,408	2,042	NA	NA	1,359	NA
	<b>AVG.</b>	<b>36,709</b>	<b>5,705</b>	<b>2,428</b>	<b>2,257</b>	<b>1,825</b>	<b>R1,786</b>	<b>1,570</b>	<b>3,836</b>

(Year to date)

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

\*\*Excludes liquefied petroleum gases and condensates.

\*\*\*Not a member of IEA.

†Principal products only.

††Excludes the United States.

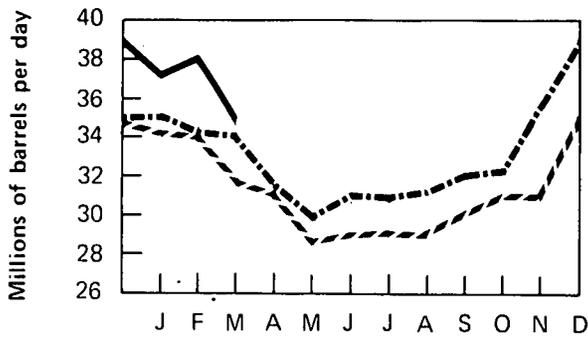
NA=Not available.

R=Revised data.

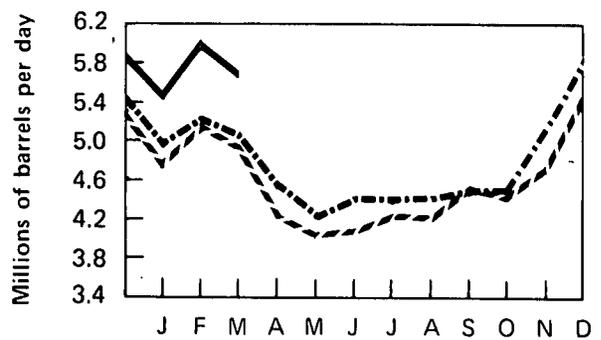
Note: All Total IEA, Other IEA, and recent figures are estimates.

Source: Central Intelligence Agency, *International Oil Developments, Statistical Survey*, 15 June 1977.

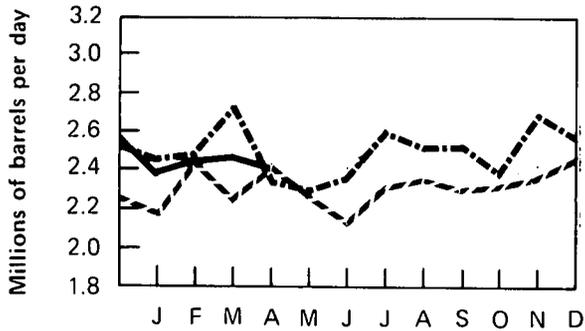
Total IEA



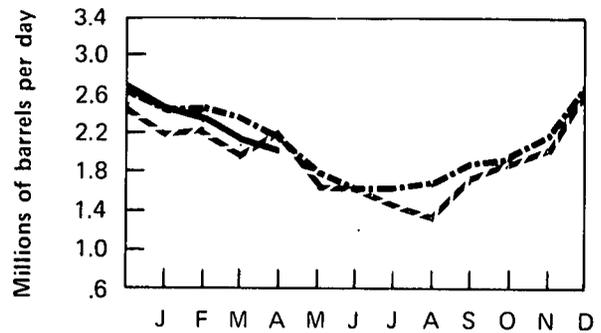
Japan\*



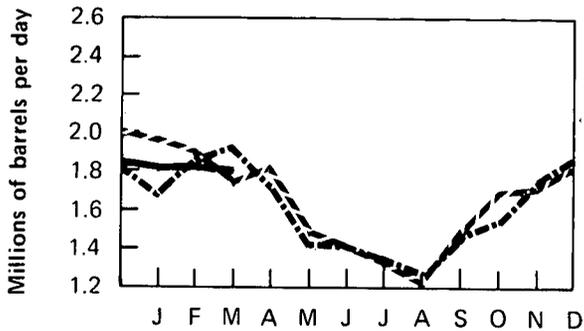
West Germany



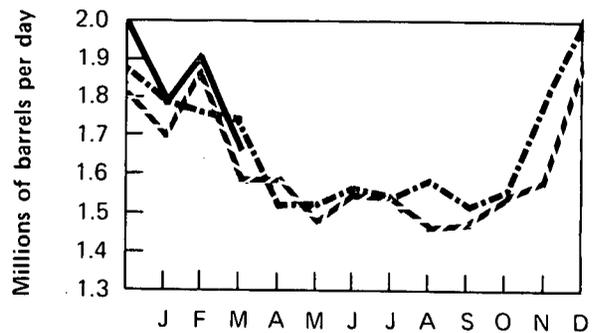
France\*\*



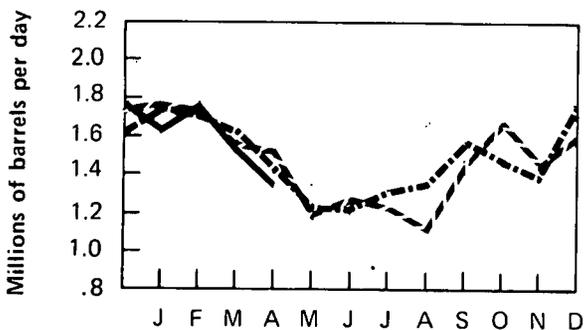
United Kingdom



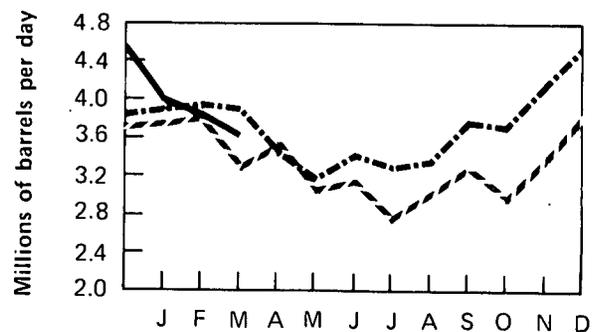
Canada



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 – April 1977

Country	Production						Production Capacity	Production Shut in
	1972 Year	1973 Year	1974 Year	1975 Year	1976 Year	1977 April**	April	April
Thousands of barrels per day								Percent
Algeria	1,040	1,070	960	960	990	1,000	1,000	0
Iraq	1,465	2,020	1,970	2,260	2,280	2,300	3,000	23.3
Kuwait*	3,283	3,020	2,545	2,085	2,150	1,880	3,500	46.2
Libya	2,239	2,175	1,520	1,480	1,930	2,180	2,500	12.8
Qatar	482	570	520	440	490	430	700	38.5
Saudi Arabia*	6,016	7,595	8,480	7,075	8,580	10,170	11,500	11.5
United Arab Emirates	1,202	1,535	1,680	1,665	1,940	2,060	2,390	13.8
<b>Subtotal: Arab OPEC</b>	<b>15,727</b>	<b>17,985</b>	<b>17,675</b>	<b>15,965</b>	<b>18,360</b>	<b>20,020</b>	<b>24,590</b>	<b>18.5</b>
Ecuador	78	210	175	160	190	180	225	20.0
Gabon	125	150	200	225	220	220	250	12.0
Indonesia	1,080	1,340	1,375	1,305	1,500	1,720	1,800	4.4
Iran	5,023	5,860	6,020	5,350	5,880	5,410	6,700	19.2
Nigeria	1,815	2,055	2,255	1,785	2,070	2,260	2,300	1.7
Venezuela	3,219	3,365	2,975	2,345	2,290	2,190	2,600	15.7
<b>Subtotal: Non-Arab OPEC</b>	<b>11,340</b>	<b>12,980</b>	<b>13,000</b>	<b>11,170</b>	<b>12,150</b>	<b>11,980</b>	<b>13,875</b>	<b>13.6</b>
<b>TOTAL OPEC</b>	<b>27,067</b>	<b>30,965</b>	<b>30,675</b>	<b>27,135</b>	<b>30,510</b>	<b>32,000</b>	<b>38,465</b>	<b>16.7</b>
Canada	1,540	1,800	1,695	1,460	1,300	1,194	1,800	33.6
Mexico	440	465	580	720	850	950	1,000	5.0
<b>TOTAL OPEC, Canada, Mexico</b>	<b>29,047</b>	<b>33,230</b>	<b>32,950</b>	<b>29,315</b>	<b>32,660</b>	<b>34,144</b>	<b>41,265</b>	<b>17.2</b>
<b>Total World</b>	<b>50,550</b>	<b>55,745</b>	<b>55,865</b>	<b>52,990</b>	<b>57,170</b>	<b>60,600</b>		

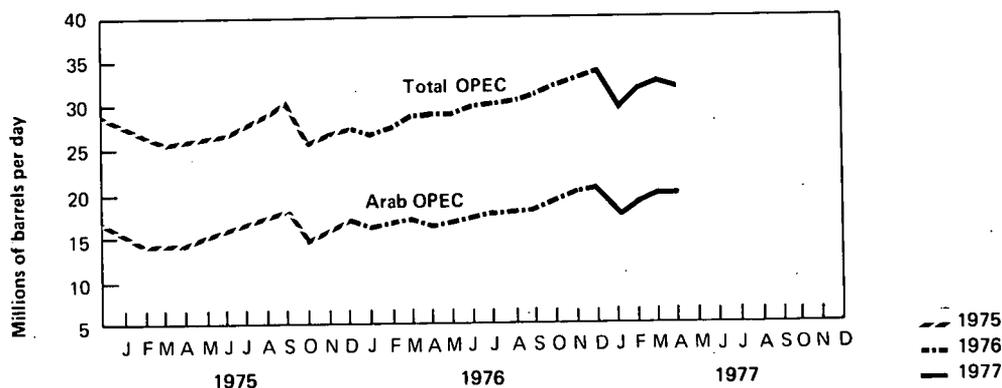
\*Includes about one-half of the former Kuwait-Saudi Arabia Neutral Zone. Production in April 1977 amounted to approximately 350,000 barrels per day.

\*\*Estimated.

R=Revised.

Source: Central Intelligence Agency, *International Oil Developments, Statistical Survey*, 15 June 1977, and National Energy Board of Canada.

OPEC Countries Crude Oil Production



## Definitions

### Base Production Control Level

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

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

### Branded Independent Marketer

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

### Ceiling Price

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

### Controlled Crude Oil

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

### Crude Oil Domestic Production

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

### Crude Oil Entitlement Value

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

### Crude Oil Imports

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

### Crude Oil Input to Refineries

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

### Crude Oil Stocks

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

### Cumulative Deficiency

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

### Dealer Tankwagon (DTW) Price

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

### Distillate Fuel Oil

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

### Domestic Demand for Refined Petroleum Products

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

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

#### **Electricity Production**

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

#### **Entitlement Position**

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

#### **Entitlement Price**

The price of an entitlement, fixed by FEA, is the exact differential as reported for the month between the weighted average delivered cost per barrel to refiners of both imported crude oil and stripper crude oil, and the weighted average delivered cost per barrel to refiners of "old oil," less 21 cents.

#### **Firm Natural Gas Service**

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

#### **Interruptible Natural Gas Service**

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

#### **Jet Fuel**

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

#### **Jobber**

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

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

#### **Jobber Margin**

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

#### **Jobber Price**

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

#### **Landed Cost**

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

#### **Limited Work Authorization**

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

#### **Line Miles of Seismic Exploration**

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

#### **Lower Tier Crude Oil**

Old crude oil.

#### **Lower Tier Ceiling Price Determination**

The lower tier ceiling price for a particular grade of domestic crude oil in a particular field is the sum of (1) the highest posted price at 6 a.m., local time, May 15, 1973, for transactions in that grade of crude oil in that field; or if there was no posted price in that field for that grade of domestic crude oil, the related price for that grade of domestic crude oil which is most similar in kind and

quality in the nearest field for which prices were posted; and (2) the amount mandated in the Monthly Price Adjustment Schedules published by FEA in the *Federal Energy Guidelines* (Part 212.77-13847 Appendix).

#### **Major Brand**

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

#### **Motor Gasoline Production**

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

#### **Motor Gasoline Stocks**

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

#### **National Domestic Crude Oil Supply Ratio**

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

#### **National Old Oil Supply Ratio**

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

#### **Natural Gas Liquids (NGL)**

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

#### **New Crude Oil**

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

#### **Nonbranded Independent Marketer**

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

#### **Old Crude Oil**

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

#### **Power Ascension Nuclear Powerplant**

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

#### **Primary Stocks of Refined Petroleum Products**

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

#### **Property**

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

not implemented until August 26, 1976, it was made effective retroactively to February 1, 1976. (F.R. 36171, August 26, 1976)

### **Refined Petroleum Products Imports**

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

### **Refiner Acquisition Cost**

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

### **Released Crude Oil**

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

### **Residual Fuel Oil**

The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations. Included are products known as ASTM grades Nos. 5 and 6 oil, heavy diesel oil, Navy Special Oil, Bunker C oil, and acid sludge and pitch used as refinery fuels. Residual fuel oil is used for the production of electric power, for heating, and for various industrial purposes.

### **Rotary Rig**

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

### **Separative Work Unit (SWU)**

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

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

### **Stripper Well Property**

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

### **Synthetic Natural Gas (SNG)**

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

### **Uncontrolled Crude Oil**

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

### **Unrecouped Costs**

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

### **Upper Tier Crude Oil**

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

### **Upper Tier Ceiling Price Determination**

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

### **Well**

A hole drilled for the purpose of finding or producing crude oil or natural gas or providing services related to the production of crude oil or natural gas. Wells are classified as oil wells, gas wells, dry holes, stratigraphic tests, or service wells. This is a standard definition of the American Petroleum Institute.

# Explanatory Notes

1. Domestic production of energy includes production of crude oil and lease condensate, natural gas (wet), and coal (anthracite, bituminous, and lignite), as well as electricity output from hydroelectric and nuclear powerplants and industrial hydroelectric power production. The volumetric data were converted to approximate heat contents (Btu-values) of the various energy sources using conversion factors listed in the Units of Measure.
2. U.S. imports of fossil fuels include imports of crude oil, refined petroleum products, and natural gas (dry).
3. Domestic consumption of energy includes domestic demand for refined petroleum products, consumption of coal (anthracite, bituminous, and lignite) and natural gas (dry), electricity output from hydroelectric and nuclear powerplants, industrial hydroelectric power production, and net imports of electric power. Approximate heat contents (Btu-values) were derived using conversion factors listed in the Units of Measure. Electricity imports were converted using the Btu-content of hydroelectric power. 1976 and 1977 electricity imports were estimated on the basis of the import level for 1975.
4. Domestic demand figures for natural gas liquids (NGL) as reported by BOM and reproduced in this publication do not include amounts utilized by refineries for blending purposes in the production of finished products, principally gasoline. Use of NGL at refineries is reported in a separate column. The production series cited in this publication shows both NGL produced at processing plants and liquefied gases produced at refineries. (LRG). NGL produced at refineries is extracted from crude oil and hence, to avoid double counting, should not be included in calculations of total U.S. production of petroleum liquids. The stock series shown in this volume includes natural gas liquids held as stocks at both natural gas processing plants and at refineries and LRG held at refineries.
5. The petroleum short-term demand forecasting model uses historical consumption data to construct regression equations for each of eight major petroleum products on a regional level. Each equation attempts to capture the relationship between final demand for that product and the factors influencing that demand. The explanatory factors used in predicting product demand include (1) macroeconomic variables such as real adjusted gross income, (2) real product prices, (3) variables representing the effects of weather and other seasonal variations in demand, and (4) other factors relevant to a particular product.

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

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

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

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

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

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

8. Bituminous coal and lignite consumption as reported by the Bureau of Mines are derived for information provided by the Federal Power Commission, Department of Commerce, and reports from selected manufacturing industries and retailers. Domestic consumption data in this series, therefore, approximate actual consumption. This is in contrast to domestic demand reported for petroleum products, which is a calculated value representing total disappearance from primary supplies.

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

9. Cooling degree-days can be used as a measurement of energy consumption by air-conditioning systems. Cooling degree-days are defined as deviations of the mean daily temperature at a sampling station above a base temperature equal to 65° F by convention. Mean daily temperature information is forwarded to the National Oceanic and Atmospheric Administration from approximately 200 weather stations around the country. These data are used to calculate statewide cooling degree-day averages based on the population of the area surrounding each weather station. The population-weighted State figures are aggregated into Petroleum Administration for Defense Districts and the national average, also using a population weighting scheme.

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

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

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

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

The energy extracted from uranium fuel is expressed as thermal megawatt days per metric ton of uranium

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

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

13. 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. 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.

17. 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.

18. 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.

19. 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.

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

# Units of Measure

## Weight

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

## Conversion Factors for Crude Oil

### Average gravity

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

## Conversion Factors for Uranium

1 short ton (U <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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