

NTISUB/C/127-003

March 1977

File
**Monthly
Energy
Review**



**Federal Energy
Administration**

**National Energy
Information Center**

The *Monthly Energy Review* is prepared in the Office of Energy Information and Analysis under the general supervision of John D. Curtis, Office of Energy Systems Data.

Editor: Judy Gaynor

Publications Coordinator: Elizabeth A. Snyder

Editorial Review: Patricia M. Jacobus

Graphics Review: Office of Communications
and Public Affairs

Overview: Judy Gaynor

Crude Petroleum and Products: Cornelius J. Dwyer,
Ginger Roccapriore

Degree-Days: Michael J. Maloney

Natural Gas Liquids, Natural Gas: James W. McCarrick

Coal: Patricia Newman

Electric Utilities: Thomas Murphy

Nuclear Power: Andrew W. Reynolds

Consumption: Michael J. Maloney

Petroleum Consumption Forecast: Joan
Heinkel

Resource Development: Judy Gaynor

Price: Christopher B. Bordeaux, Les Byers, Brian L.
Connor, William Davis, William Gillespie,
Annie Whatley

International: Elizabeth K. Bauer

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

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

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

For addresses inside the United States, the cost is \$36 per year (12 issues). For addresses outside the United States, the cost is \$50 per year. Domestic priority mailing is available at a cost of \$54 per year.

Correspondence regarding editorial matters should be addressed to:

Editor, Monthly Energy Review
National Energy Information Center
Federal Energy Administration
Washington, D.C. 20461

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

Part 1 – Overview	1
Part 2 – Crude Oil and Refined Products	5
Crude Oil	6
Total Refined Petroleum Products	8
Total Petroleum Imports	8
Motor Gasoline	12
Jet Fuel	14
Distillate Fuel Oil	16
Distillate Oil Heating Degree-Days	18
Residual Fuel Oil	20
Natural Gas Liquids	22
U.S. Petroleum Supply and Demand	24
Part 3 – Natural Gas	25
Part 4 – Coal	29
Bituminous and Lignite	30
Anthracite	32
Part 5 – Electric Utilities	33
Part 6 – Nuclear Power	39
Part 7 – Consumption	43
Energy Consumption	44
Petroleum Consumption and Forecast	50
Part 8 – Resource Development	51
Oil and Gas Exploration	52
Part 9 – Price	55
Motor Gasoline	56
Diesel Fuel	62
Heating Oil	64
Residual Fuel Oil	67
Aviation Fuels	67
Crude Oil	68
Natural Gas	74
Utility Fossil Fuels	77
Part 10 – International	81
Petroleum Consumption	82
Crude Oil Production	84
Definitions	85
Explanatory Notes	89
Units of Measure	92

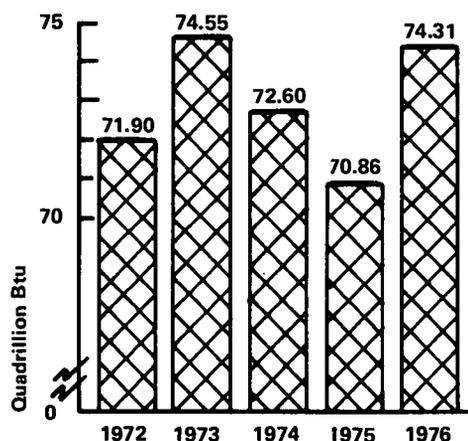
Production of primary energy in the United States totaled 4.76 quadrillion Btu (the equivalent of 26.5 million barrels per day of crude oil) during January 1977, a drop of 6.1 percent from the production level a year earlier. Most of this sharp decline was due to a 23.5-percent decrease in coal production attributable to the cold weather. Crude oil output was 2.5 percent lower than in January 1976. Estimated natural gas production, on the other hand, was 0.9 percent greater, and nuclear electric power production increased 37.8 percent to set an alltime high of 22.2 billion kilowatt hours (which was equal to 11.3 percent of the Nation's total electricity output during the month). Estimated hydroelectric power generation was down about 20.0 percent from the January 1976 level, mainly because of drought in the western States.

U.S. imports of fossil fuels were at a record level in January of 1.67 quadrillion Btu (or 9.3 million barrels per day of crude oil equivalent), 28.9 percent more than January 1976's level. The rise was necessary to meet the increase in energy demand due to both the cold weather (degree-days were 18.9 percent higher than in January 1976) and the rise in industrial output (the index of industrial production was 4.6 percent above last January's). Compared with January 1976, the following increases in fossil fuel imports were recorded: crude oil, +31.8 percent; refined products, +27.7 percent; natural gas, +6.0 percent.

Consumption of energy in the United States during 1976 totaled 74.31 quadrillion Btu (or 35.0 million barrels per day of crude oil equivalent), an increase of 4.9 percent over 1975, and only slightly below the record high of 74.55 quadrillion Btu achieved in 1973 (see Figure 1). This is a marked reversal from the previous 2 years, when consumption declined at an average annual rate of 2.5 percent. The increase was attributable to the general improvement in the economy and the abnormally cold weather during the fourth quarter of the year. Consumption of refined petroleum products, which accounted for 47.2 percent of total domestic energy requirements, registered a 7.0-percent increase over the 1975 level. Coal consumption (constituting 18.6 percent of the total) increased 6.5 percent, and natural gas consumption (27.3 percent of the total) was 1.5 percent higher. Nuclear

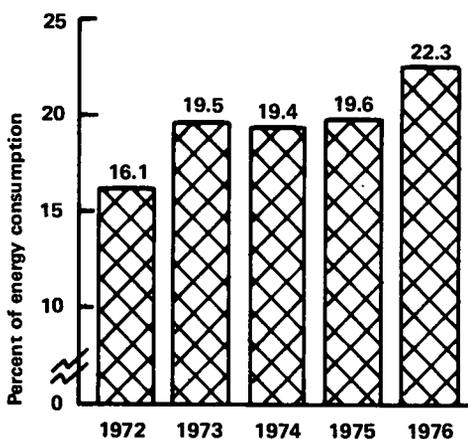
electric power consumption posted the largest increase of the year at 10.8 percent, but hydroelectric power consumption was estimated to have dropped about 5.0 percent. Combined consumption of nuclear and hydroelectric power constituted 6.9 percent of domestic energy requirements.

Figure 1. Domestic Energy Consumption



Since 1972, the United States has become increasingly dependent on fossil fuel imports to fill the gap between domestic energy production and consumption. In 1976, U.S. dependence on imports jumped to 22.3 percent after a relatively stable 3-year period when imports accounted for around 19.5 percent of demand (see Figure 2).

Figure 2. U.S. Dependence on Fossil Fuel Imports



The extreme cold that dominated the Nation's weather pattern for the fourth straight month in January resulted in an unusually large depletion of heating fuel inventories and an unprecedented demand for electricity. Distillate fuel oil stocks at the end of the month totaled 145.5 million barrels, 20 million barrels below the stock level for

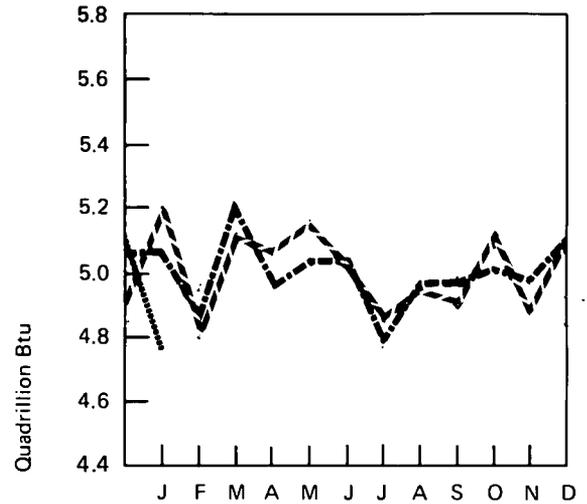
January 1976. Residual fuel stocks were drawn down an average of 151,000 barrels per day in January to 67.6 million barrels, but still were about 1.0 million barrels higher than in January 1976. Crude oil stocks dropped to 275.8 million barrels, down 13 million barrels from the level a year earlier. Net withdrawals of natural gas from underground storage were 15 percent greater than during January 1976, and the amount of available gas in storage at the end of the month was down 22 percent from the amount in storage last January. Monthly electric power generation, which usually peaks in the summer, achieved an alltime high in January of 196.7 billion kilowatt hours, 10.3 percent above the power generation during January 1976.

Retail gasoline prices were stable during the first month of the year. Regular gasoline sold for an average of 59.9 cents per gallon at full service outlets, unchanged from the price during December. Premium gasoline prices rose an average of 0.2 cent to 65.2 cents per gallon, and unleaded increased 0.1 cent to 64.0 cents per gallon.

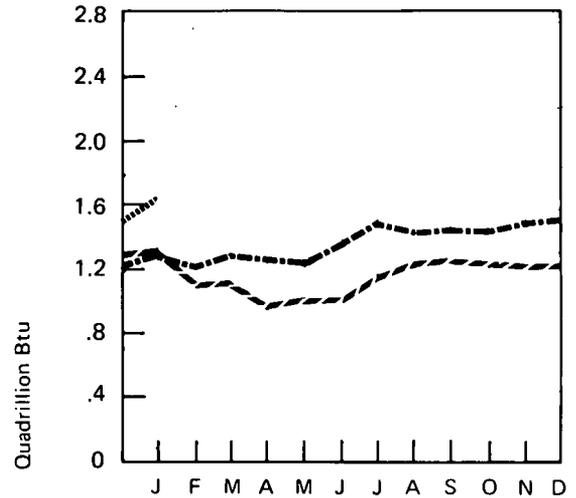
December crude oil prices did not change significantly. The lower tier price remained at \$5.17 per barrel, the upper tier price advanced 2 cents to \$11.64, the stripper oil price dropped 1 cent to \$13.30, and the actual domestic average price was unchanged at \$8.62.

Worldwide crude oil production maintained a record-setting pace in December with 61.3 million barrels per day of production. The members of the Organization of Petroleum Exporting Countries (OPEC) produced 34.0 million barrels per day, also a new record. Only 12.0 percent of OPEC production capacity was shut in during the month, compared with 27.5 percent one year earlier.

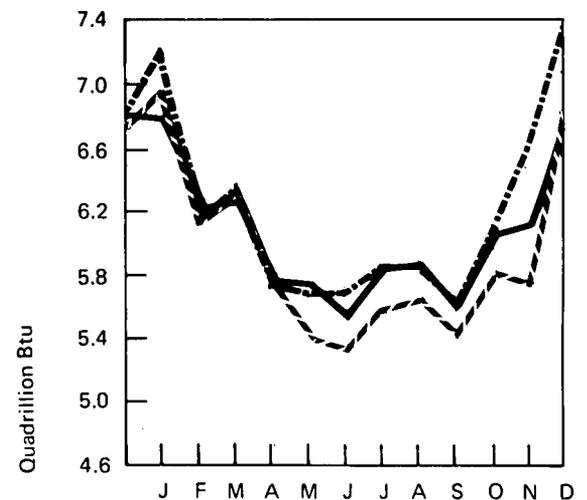
Domestic Production of Energy



Imports of Fossil Fuels



Domestic Consumption of Energy



— 1974
 - - - 1975
 - · - · 1976
 ····· 1977

	Domestic Production of Energy*	Imports of Fossil Fuels**	Domestic Consumption of Energy***
--	-----------------------------------	------------------------------	--------------------------------------

Quadrillion (10¹⁵) Btu

1972	TOTAL	62.937	11.563	71.895
1973	TOTAL	62.373	14.519	74.551
1974	January	5.393	1.072	6.796
	February	4.979	0.945	6.205
	March	5.294	1.053	6.263
	April	5.198	1.142	5.759
	May	5.374	1.266	5.753
	June	4.945	1.197	5.535
	July	5.141	1.266	5.868
	August	5.157	1.237	5.900
	September	5.000	1.138	5.595
	October	5.265	1.210	6.066
	November	4.543	1.284	6.129
	December	4.850	1.305	6.733
	TOTAL	61.138	14.114	72.604
1975	January	5.213	1.330	6.956
	February	4.806	1.093	6.109
	March	5.131	1.128	6.297
	April	5.074	0.970	5.711
	May	5.163	1.023	R5.388
	June	5.013	1.028	5.342
	July	4.862	1.169	5.582
	August	4.955	1.213	5.655
	September	4.909	1.273	5.415
	October	5.133	1.226	5.823
	November	4.933	1.200	5.766
	December	5.109	1.219	6.819
	TOTAL	R60.298	13.870	70.864
1976	January	5.071	1.296	7.216
	February	4.850	1.210	6.163
	March	5.211	1.301	6.390
	April	4.954	1.245	5.738
	May	5.051	1.232	5.667
	June	5.052	1.391	5.698
	July	4.790	1.507	R5.873
	August	4.968	1.416	R5.851
	September	R4.967	R1.465	R5.622
	October	R5.020	R1.448	R6.125
	November	R4.965	R1.504	R6.616
	December	R†5.108	R†1.518	††7.351
	TOTAL	R60.007	R16.535	74.310
1977	January	†4.764	†1.671	NA

*See Explanatory Note 1.

**See Explanatory Note 2.

***See Explanatory Note 3.

†Preliminary data.

††Partially estimated.

R=Revised data.

NA=Not available.

Crude Oil and Refined Petroleum Products

Domestic demand for petroleum products rose to an alltime high of 20.5 million barrels per day in January 1977, largely as a consequence of the cold weather (January had 18.9 percent more degree-days than the same month of 1976 and 30.0 percent more than the "normal" for 1941-70). The large demand led to a record level of crude oil and refined product imports of 8.7 million barrels per day, which was equivalent to 42.4 percent of domestic petroleum demand.

The economic recovery also contributed to the record high level of demand. Although the cold weather caused the January index of industrial production to drop 1.0 percent from the December level (as tentatively estimated by the Federal Reserve Board), it was still 4.6 percent above the index a year earlier.

Demand for residual fuel oil, affected by both increased industrial production and cold weather, reached another high of 3.7 million barrels per day. This was 22.0 percent above January 1976 demand and 14.4 percent above FEA's forecast, which assumed normal weather.

Demand for distillate fuel oil, the product demand most affected by the weather, was 5.2 million barrels per day, another record. This level was 21.8 percent above January 1976 demand and 19.7 percent above the FEA forecast. Stocks of this product were drawn down to 145 millions barrels, 11.9 percent below the stock level at the end of January 1976 and 27.2 percent below the January 1975 level.

Additional imports will be needed before the start of the 1977-78 heating season, not only to build up distillate stocks, but also to fuel plants which will lose their normal summer supplies of natural gas. (The "normal" summer supplies of these plants will have to be diverted to underground storage to rebuild natural gas stocks.)

Domestic crude oil production in January was estimated at 8.0 million barrels per day, down 207,000 barrels per day, or 2.5 percent, from the production level a year earlier. The decline in production in the

"lower 48" States appears to be proceeding at a slower pace in recent years than in 1973 and 1974.

North Slope production is expected to commence about the first of July and, after filling the pipeline, storage, and tankers at sea, is expected to supply about 600,000 barrels per day beginning in August.

Distillate Oil Heating Degree-Days

Nationwide temperatures during February were only slightly below normal in contrast to the extreme cold experienced from October through January. Distillate oil heating degree-days for the month were 2.1 percent greater than normal and 27.8 percent greater than for February 1976. (February 1976 was an exceptionally warm month with degree-days 23 percent below normal.) The following areas of the country reported above normal degree-days in February: New England (1.9 percent); Middle Atlantic States (2.7 percent); Lower Atlantic States (13.7 percent); Midwestern States (0.7 percent); South Central States (2.7 percent). The Mountain and West Coast States continued to experience warmer than usual weather, with degree-days 8.3 percent and 21.6 percent below normal, respectively.

Natural Gas Liquids

Domestic demand for natural gas liquids in November was 2.1 percent below demand in November 1975. For the first 11 months of 1976, demand was 1.6 percent below the level for the same period in 1975.

Production of natural gas liquids in November totaled 58.6 million barrels, 0.4 percent above production a year earlier. Production during the first 11 months of 1976 was 0.2 percent above production during the corresponding 1975 period.

Imports of natural gas liquids were up 24.9 percent in November and up 5.0 percent during the first 11 months of 1976 compared to 1975 levels.

Stocks of natural gas liquids in November totaled 135.5 million barrels, 0.3 percent below stocks a year earlier.

Crude Oil

		Crude Input to Refineries		Domestic Production		Imports		Stocks	
		Thousands of barrels per day							
		BOM	FEA/API	BOM	FEA/API	BOM	FEA/API	BOM	FEA/API
1972	AVERAGE	11,696		9,467		2,215		*232,803	
1973	AVERAGE	12,431		9,208		3,244		*229,504	
1974	January	11,491		8,934		2,382		233,035	
	February	11,102		9,142		2,248		240,723	
	March	11,355		8,965		2,462		244,665	
	April	11,823		8,954		3,267		256,385	
	May	12,333		8,911		3,908		269,455	
	June	12,697		8,780		3,925		268,765	
	July	12,811		8,780		4,091		268,686	
	August	12,644		8,699		3,924		264,840	
	September	12,124		8,443		3,797		266,726	
	October	12,286		8,611		3,810		269,437	
	November	12,332		8,569		3,958		271,144	
	December	12,519		8,527		3,869		265,020	
	AVERAGE	12,133		8,774		3,477			
1975	January	12,297		8,439		4,029		270,462	
	February	12,135		8,575		3,828		276,755	
	March	11,905		8,476		3,656		279,989	
	April	11,803		8,440		3,378		284,990	
	May	11,983		8,371		3,486		276,110	
	June	12,417		8,409		3,905		276,132	
	July	12,915		8,327		4,193		264,157	
	August	13,046		8,237		4,581		256,616	
	September	12,945		8,266		4,689		259,446	
	October	12,365		8,310		4,389		269,584	
	November	12,689		8,271		4,623		270,950	
	December	12,779		8,239		4,476		271,354	
	AVERAGE	12,442		8,362		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	13,351		8,144		5,621		281,715	
	July	13,901		8,104		5,792		282,559	
	August	13,888		R8,074		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	14,164	8,043	8,040	5,955	5,995	298,836	309,717
	December		14,425		7,984		5,988		295,158
	AVERAGE**		13,387		8,117		5,293		
1977	January**		14,130		8,004		6,056		275,835

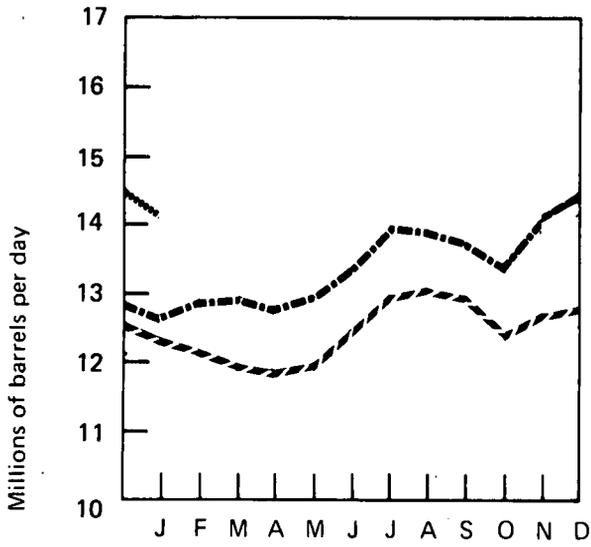
*Total as of December 31.

***1976 average is based on Bureau of Mines data for January through November and FEA data for December. January 1977 data are from American Petroleum Institute (API).

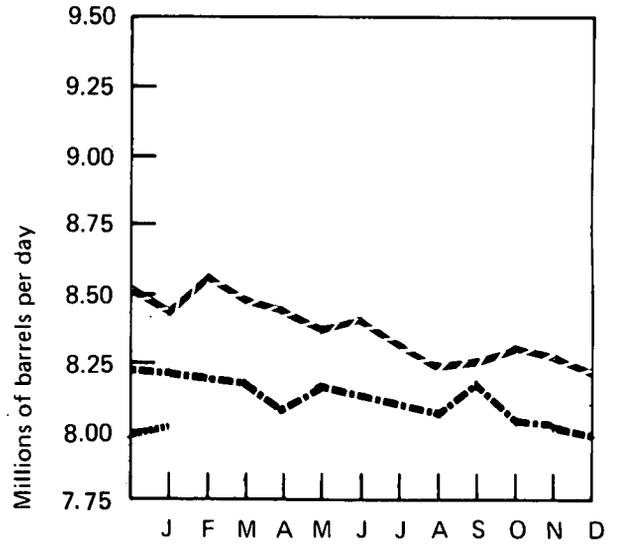
R=Revised.

Sources: Bureau of Mines (BOM), FEA, and API.

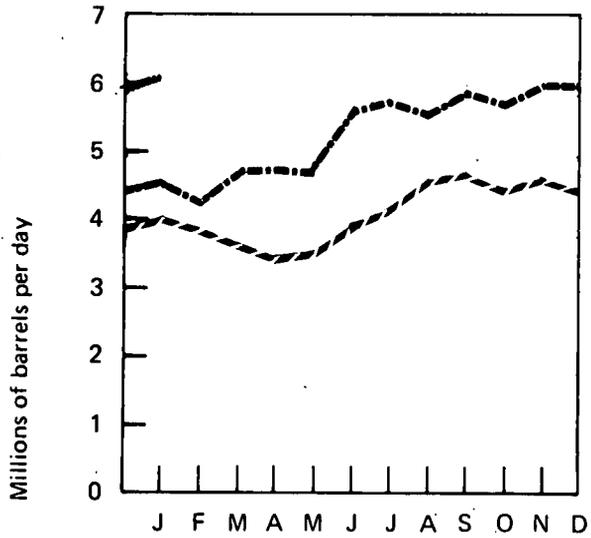
Crude Input to Refineries



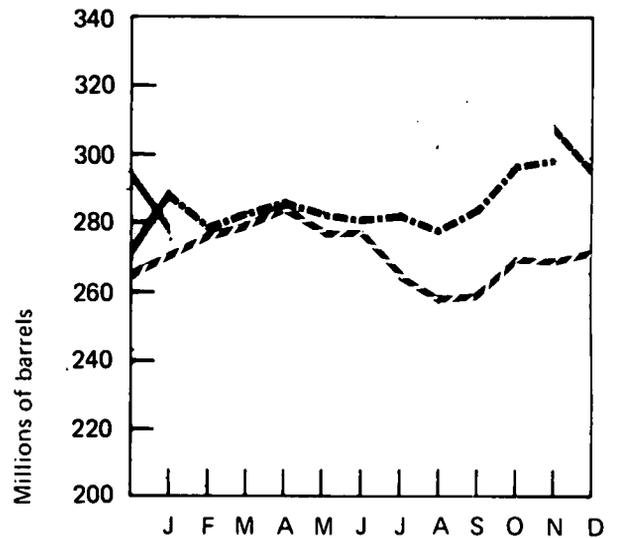
Domestic Production



Imports



Stocks



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

Total Refined Petroleum Products

Total Petroleum Imports

		Domestic Demand		Imports*			
		Thousands of barrels per day		Thousands of barrels per day			
		BOM	FEA/API	BOM	FEA/API	BOM	FEA/API
1972	AVERAGE	16,367		2,525		4,741	
1973	AVERAGE	17,303		3,012		6,256	
1974	January	17,286		2,989		5,371	
	February	17,366		2,968		5,216	
	March	16,104		2,812		5,274	
	April	15,929		2,713		5,980	
	May	15,726		2,586		6,494	
	June	16,117		2,435		6,360	
	July	16,349		2,445		6,536	
	August	16,550		2,438		6,362	
	September	16,024		2,255		6,052	
	October	17,050		2,366		6,176	
	November	17,351		2,840		6,798	
	December	18,013		2,798		6,667	
	AVERAGE	16,653		2,635		6,112	
1975	January	17,983		2,811		6,840	
	February	17,248		2,348		6,176	
	March	16,316		2,074		5,730	
	April	16,041		1,655		5,033	
	May	15,118		1,690		5,176	
	June	15,611		1,502		5,407	
	July	15,762		1,789		5,982	
	August	15,767		1,681		6,262	
	September	15,769		2,116		6,805	
	October	16,344		1,907		6,296	
	November	15,721		1,739		6,362	
	December	17,987		1,751		6,227	
	AVERAGE	16,291		1,920		6,026	
1976	January	18,599		2,070		6,665	
	February	17,429		2,423		6,631	
	March	17,299		1,946		6,684	
	April	16,672		1,805		6,595	
	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		1,809		7,508	
	November	18,847	18,499	2,115	1,765	8,070	7,760
	December		19,911		1,896		7,884
	AVERAGE**		17,393		1,959		7,254
1977	January**		20,521		2,643		8,699

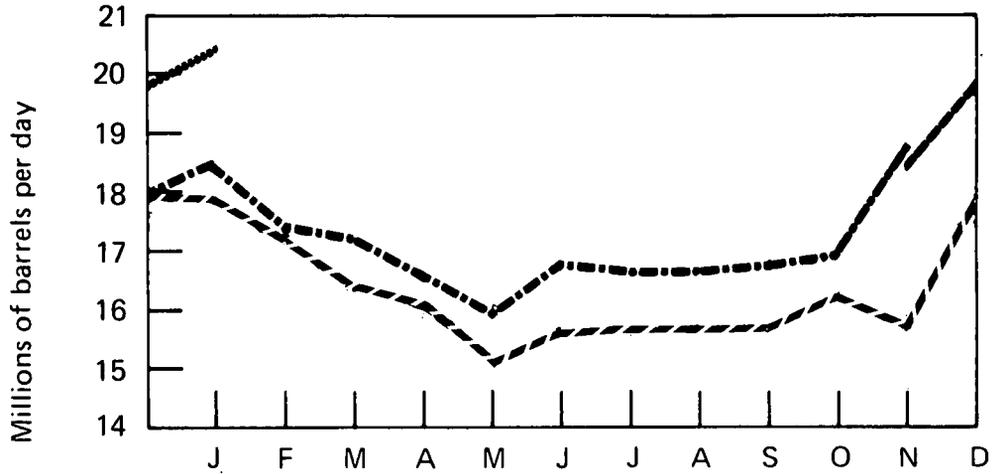
*See Definitions.

**1976 average is based on Bureau of Mines data for January through November and FEA data for December. January 1977 data are from American Petroleum Institute (API).

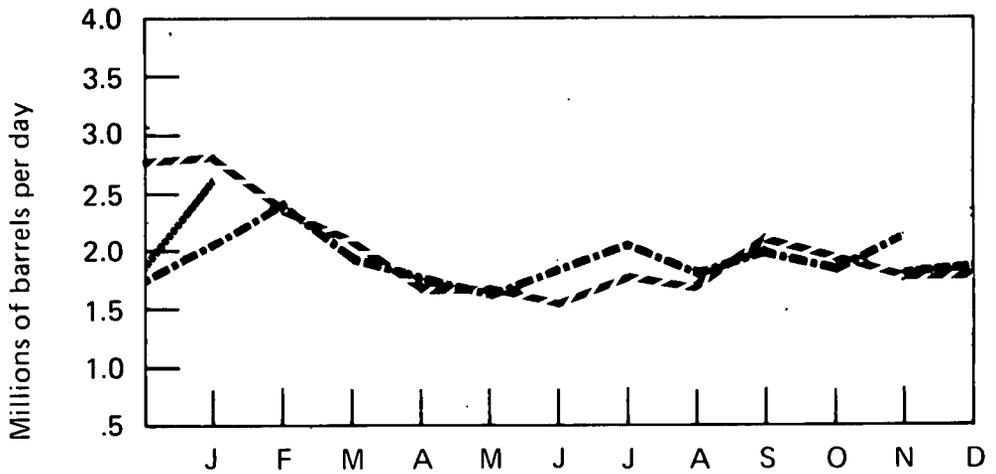
R=Revised.

Sources: Bureau of Mines (BOM), FEA, and API.

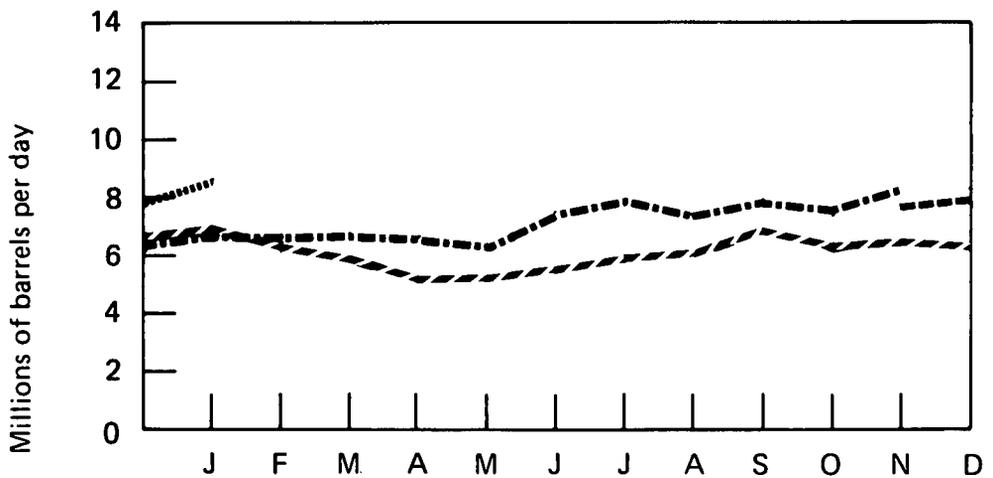
Total Refined Product Domestic Demand



Refined Product Imports



Total Petroleum Imports



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

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

	Algeria	Indonesia	Iran	Libya	Nigeria	Saudi Arabia	United Arab Emirates	Venezuela	Other OPEC**	Total OPEC	Arab Members of OPEC
Thousands of barrels per day											
1973											
Direct	134.2	212.7	222.7	164.3	458.9	487.3	70.6	1,124.7	106.5	2,981.9	914.4
Indirect	17.0	25.0	211.0	144.0	149.0	253.0	13.0	509.0	88.0	1,409.0	463.0
Total	151.2	237.7	433.7	308.3	607.9	740.3	83.6	1,633.7	194.5	4,390.9	1,377.4
1974											
Direct	190.2	300.1	468.8	4.4	697.6	460.6	70.5	979.3	88.3	3,259.8	748.5
Indirect	16.9	40.8	262.2	35.9	214.6	214.6	17.3	478.5	128.7	1,409.5	357.9
Total	207.1	340.9	731.0	40.3	912.2	675.2	87.8	1,457.8	217.0	4,669.3	1,106.4
1975											
Direct											
January	280.1	293.9	394.1	18.7	882.3	847.6	46.9	1,016.1	130.6	3,910.3	1,267.0
February	239.4	318.7	297.1	82.2	846.1	794.5	105.9	763.2	135.5	3,582.6	1,260.3
March	295.8	286.4	180.6	174.7	835.5	637.4	113.2	722.2	168.7	3,414.5	1,281.8
April	225.9	351.1	345.9	124.9	618.7	427.6	70.4	823.9	61.6	3,050.0	853.1
May	345.4	358.7	225.5	211.4	643.5	335.2	124.7	801.3	159.1	3,204.8	1,041.2
June	346.8	480.9	231.5	182.9	619.1	500.5	77.3	711.3	130.7	3,281.0	1,131.1
July	346.6	463.4	217.4	248.0	714.9	587.7	107.2	679.0	115.6	3,479.8	1,301.7
August	268.8	472.4	203.4	407.0	804.1	748.5	259.5	521.8	90.5	3,776.0	1,718.0
September	284.1	410.0	276.7	456.6	817.0	730.7	216.1	624.4	145.1	3,960.7	1,701.7
October	235.6	402.2	310.7	236.3	772.5	961.1	93.3	514.9	109.2	3,634.8	1,575.4
November	295.7	396.9	472.9	275.6	801.7	933.9	69.1	584.7	72.2	3,902.7	1,585.0
December	211.0	390.6	186.2	354.6	784.9	1,074.7	114.2	622.1	130.1	3,868.4	1,777.7
Total Direct	281.5	388.4	280.4	232.0	761.5	715.0	116.7	697.6	116.1	3,589.2	1,381.3
Indirect	6.7	49.3	244.4	97.3	76.3	176.6	37.5	332.5	143.2	1,163.8	408.8
Total	288.2	437.7	524.8	329.3	837.8	891.6	154.2	1,030.1	259.3	4,753.0	1,790.1
1976											
Direct											
January	345.5	478.0	387.5	451.3	781.7	1,111.9	118.8	533.7	86.3	4,294.7	2,045.7
February	357.4	465.3	241.2	328.4	830.9	1,080.9	118.5	838.6	102.8	4,364.0	1,925.3
March	347.2	552.0	292.5	372.2	896.8	1,145.0	159.4	468.1	111.8	4,345.0	2,058.5
April	446.5	467.6	323.3	356.2	997.0	1,027.5	195.5	496.8	81.6	4,392.0	2,036.2
May	410.6	485.5	183.7	362.0	855.1	1,141.5	214.5	487.7	135.9	4,276.5	2,138.8
June	501.2	603.6	323.2	487.8	1,127.6	1,205.0	290.1	668.0	70.5	5,277.0	2,486.5
July	451.0	581.0	374.3	487.1	1,136.7	1,327.7	305.2	808.0	208.8	5,679.8	2,711.4
August	510.0	554.5	294.2	463.5	1,029.4	1,317.6	228.1	704.0	133.6	5,234.9	2,597.4
September	435.3	570.2	274.6	491.0	1,173.0	1,288.1	335.1	932.4	198.7	5,698.4	2,748.2
October	357.2	487.4	284.2	456.2	1,097.5	1,366.2	304.4	772.8	232.7	5,358.5	2,578.8
November	502.0	647.1	316.8	533.9	1,173.8	1,316.1	341.1	810.8	170.7	5,812.3	2,768.4
Total Direct	423.8	535.6	299.8	435.7	1,008.8	1,212.4	237.4	682.3	139.8	4,975.6	2,373.3
Indirect	10.0	32.0	248.0	76.0	94.0	136.0	68.0	273.0	82.0	1,019.0	352.0
Total	433.8	567.6	547.8	511.7	1,102.8	1,348.4	305.4	955.3	221.8	5,994.6	2,725.3
(11 months)											

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

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

Source: Bureau of Mines and FEA.

U.S. Petroleum Imports from Non-OPEC Sources

	Bahamas	Canada	Netherlands Antilles	Puerto Rico	Trinidad and Tobago	Virgin Islands	Other	Total
Thousands of barrels per day								
1973	170.8	1,312.9	573.6	99.3	250.6	329.2	537.8	3,274.2
1974	159.3	1,067.6	509.6	90.4	241.2	391.7	392.6	2,852.4
1975								
January	216.1	949.1	549.4	99.0	232.9	563.5	319.5	2,929.5
February	213.9	854.5	315.2	148.8	255.1	490.3	315.7	2,593.5
March	162.6	746.9	279.5	139.0	185.7	506.4	295.7	2,315.8
April	168.9	704.3	237.7	73.1	171.8	353.3	273.9	1,983.0
May	122.3	574.2	242.9	77.9	237.1	413.4	304.2	1,971.7
June	130.0	872.7	261.6	75.1	204.5	352.6	229.6	2,126.1
July	178.3	889.1	368.3	104.9	281.1	320.8	358.7	2,501.2
August	135.8	887.9	333.1	72.9	289.4	399.1	364.9	2,483.1
September	143.6	918.0	428.6	66.9	283.2	389.7	614.3	2,844.3
October	135.8	946.3	357.8	105.8	222.2	336.3	557.6	2,661.8
November	88.8	893.1	280.0	60.6	265.5	353.0	518.8	2,459.8
December	119.5	907.3	238.0	50.9	262.5	405.9	375.0	2,359.1
Total	152.0	845.2	323.6	89.7	240.9	406.5	377.5	2,435.4
1976								
January	134.1	681.7	291.7	71.0	343.2	468.4	380.2	2,370.3
February	127.6	644.9	262.4	122.2	326.3	462.3	321.7	2,267.4
March	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
Total (11 months)	114.0	601.2	261.0	87.2	267.8	432.5	454.0	2,217.7

Source: Bureau of Mines.

Motor Gasoline

		Domestic Demand		Production*		Imports		Stocks*	
		Thousands of barrels per day							
		BOM	FEA/API	BOM	FEA/API	BOM	FEA/API	BOM	FEA/API
1972	AVERAGE	6,376		6,281		68		**212,770	
1973	AVERAGE	6,674		6,527		134		**209,395	
1974	January	5,804		5,900		163		217,463	
	February	6,100		5,969		184		219,058	
	March	6,162		5,982		225		220,307	
	April	6,457		6,311		260		223,752	
	May	6,745		6,329		250		218,670	
	June	6,919		6,663		211		217,381	
	July	6,959		6,793		212		218,838	
	August	7,061		6,815		253		218,951	
	September	6,388		6,453		202		227,031	
	October	6,712		6,336		171		220,748	
	November	6,547		6,292		174		218,385	
	December	6,558		6,419		141		224,719	
	AVERAGE	6,537		6,358		204			
1975	January	6,206		6,509		262		242,285	
	February	6,096		6,276		171		251,915	
	March	6,326		6,070		150		248,685	
	April	6,718		6,046		133		232,556	
	May	6,871		6,126		142		213,947	
	June	7,076		6,669		177		207,114	
	July	7,041		7,003		209		212,454	
	August	7,008		6,872		232		215,480	
	September	6,729		6,822		269		226,447	
	October	6,778		6,409		207		221,493	
	November	6,389		6,602		139		232,091	
	December	6,808		6,786		119		234,925	
	AVERAGE	R6,675		6,518		184			
1976	January	6,398		6,483		92		240,464	
	February	6,263		6,472		84		248,854	
	March	6,890		6,455		123		239,049	
	April	7,159		6,562		99		223,965	
	May	6,853		6,774		112		225,037	
	June	7,482		7,303		188		225,365	
	July	R7,315		R7,174		190		R226,922	
	August	7,168		7,149		141		230,578	
	September	7,079		6,878		171		229,751	
	October	R6,929		R6,678		138		R226,300	
	November	7,038	7,059	6,938	6,938	146	172	227,742	224,792
	December	7,135			7,177		76		228,454
	AVERAGE***	6,977		6,838		130			
1977	January***		6,675		6,928		116		243,707

*See Definitions.

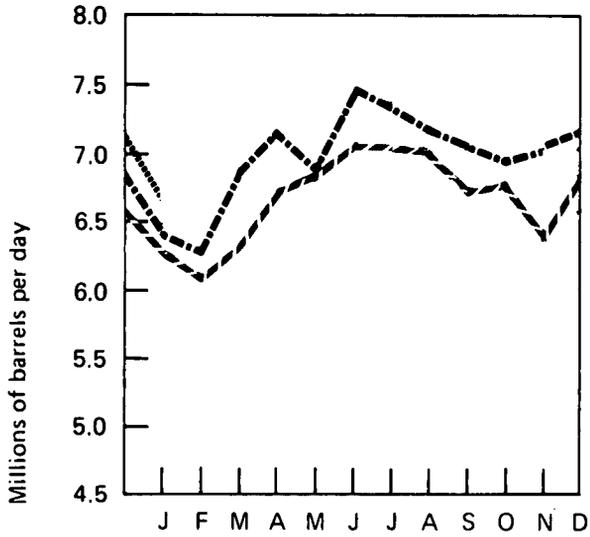
**Total as of December 31.

***1976 average is based on Bureau of Mines data for January through November and FEA data for December. January 1977 data are from American Petroleum Institute (API).

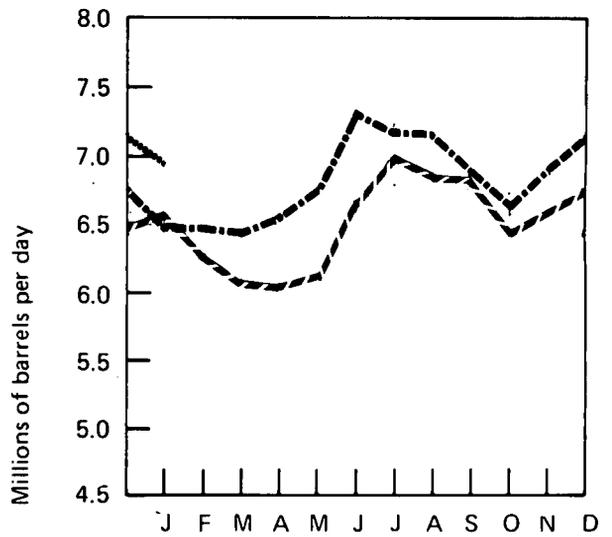
R=Revised.

Sources: Bureau of Mines (BOM), FEA, and API.

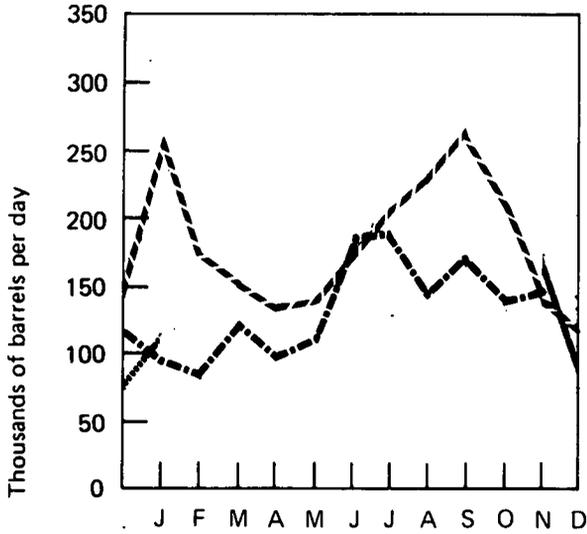
Domestic Demand



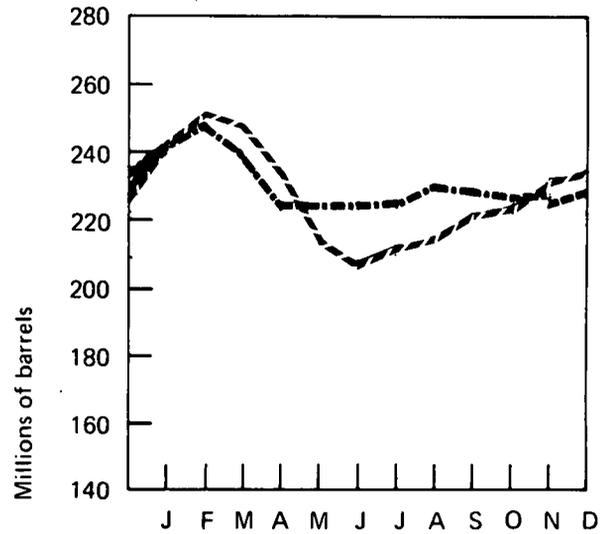
Production



Imports



Stocks



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

Jet Fuel

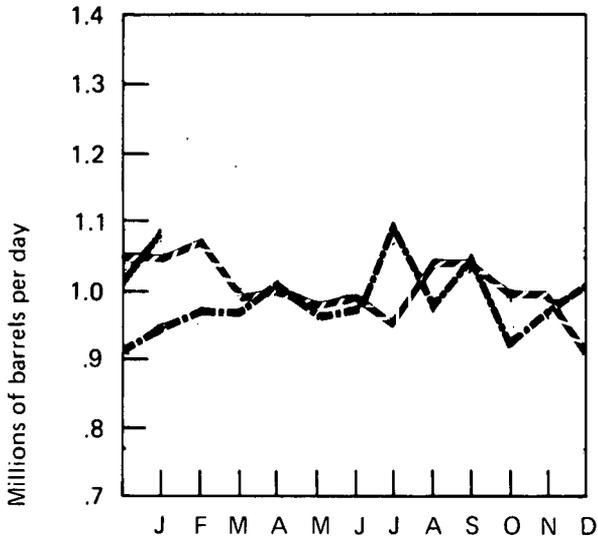
		Domestic Demand		Production		Imports		Stocks	
		Thousands of barrels per day							
		BOM	FEA/API	BOM	FEA/API	BOM	FEA/API	BOM	FEA/API
1972	AVERAGE	1,045		847		194		*25,493	
1973	AVERAGE	1,059		859		212		*28,544	
1974	January	895		800		136		29,732	
	February	860		783		75		29,617	
	March	956		832		139		29,996	
	April	941		868		132		31,725	
	May	1,053		868		205		32,324	
	June	952		810		141		32,200	
	July	1,028		802		214		31,671	
	August	1,031		805		206		30,989	
	September	1,109		867		217		30,186	
	October	1,011		868		161		30,564	
	November	1,032		863		140		29,616	
	December	1,043		861		178		29,776	
	AVERAGE	993		836		163			
1975	January	1,041		831		229		30,321	
	February	1,075		835		200		29,133	
	March	982		896		130		30,456	
	April	1,006		864		138		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		863		106		30,410	
	November	999		864		89		28,977	
	December	911		849		109		30,380	
	AVERAGE	1,001		871		133			
1976	January	948		889		69		30,618	
	February	966		918		72		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	978	920	920	56	49	33,859	33,626
	December		1,010		900		56		31,966
	AVERAGE**		986		918		75		
1977	January**		1,081		916		109		29,399

*Total as of December 31.

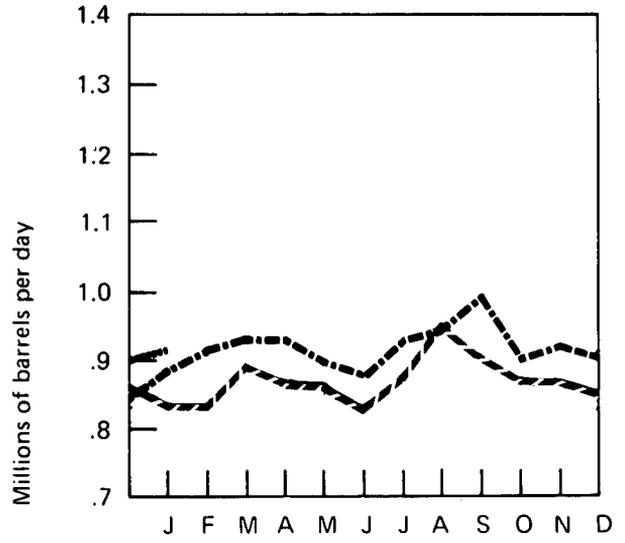
**1976 average is based on Bureau of Mines data for January through November and FEA data for December. January 1977 data are from American Petroleum Institute (API).

Sources: Bureau of Mines (BOM), FEA, and API.

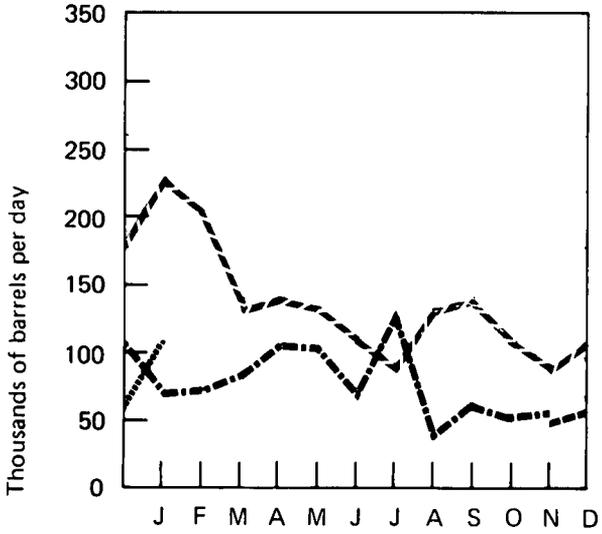
Domestic Demand



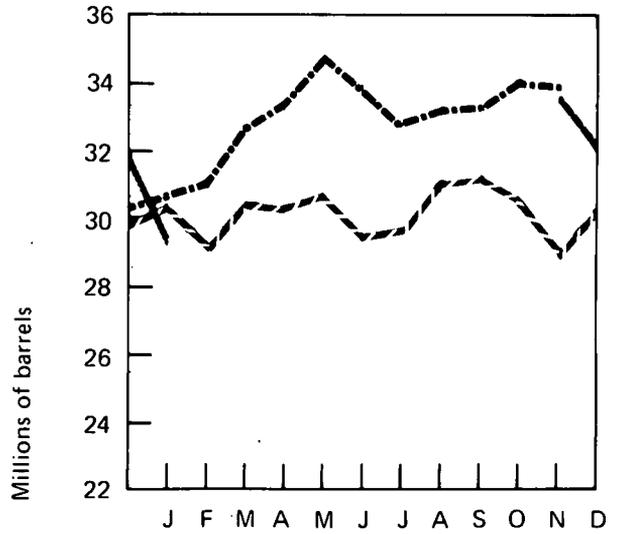
Production



Imports



Stocks



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

Distillate Fuel Oil

		Domestic Demand		Production*		Imports		Stocks*	
		Thousands of barrels per day							
		BOM	FEA/API	BOM	FEA/API	BOM	FEA/API	BOM	FEA/API
1972	AVERAGE	2,913		2,629		181		**154,284	
1973	AVERAGE	3,092		2,820		392		**196,421	
1974	January	3,835		2,880		464		181,179	
	February	3,849		2,399		306		149,125	
	March	3,164		2,226		287		128,822	
	April	2,852		2,522		220		125,553	
	May	2,450		2,704		268		141,806	
	June	2,377		2,783		220		160,645	
	July	2,309		2,792		221		182,458	
	August	2,309		2,705		125		198,673	
	September	2,385		2,552		152		208,269	
	October	2,887		2,700		237		209,908	
	November	3,157		2,801		454		212,875	
	December	3,853		2,924		515		223,717	
	AVERAGE	2,948		2,668		289			
1975	January	3,953		2,852		324		199,715	
	February	3,967		2,679		302		176,696	
	March	3,293		2,531		256		161,111	
	April	3,094		2,486		110		146,214	
	May	2,382		2,431		136		152,027	
	June	2,266		2,574		68		163,306	
	July	2,112		2,589		106		181,472	
	August	2,173		2,592		92		197,323	
	September	2,163		2,812		129		220,732	
	October	2,675		2,744		103		226,113	
	November	2,544		2,767		96		235,749	
	December	3,778		2,783		124		208,787	
	AVERAGE	2,849		2,653		153			
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	R3,028		2,995		141		235,599	
	November	3,714	3,724	3,180	3,199	135	136	223,648	221,178
	December		4,654		3,273		166		183,500
	AVERAGE***		3,130		2,925		142		
1977	January ***		5,237		3,374		471		145,490

*See Definitions.

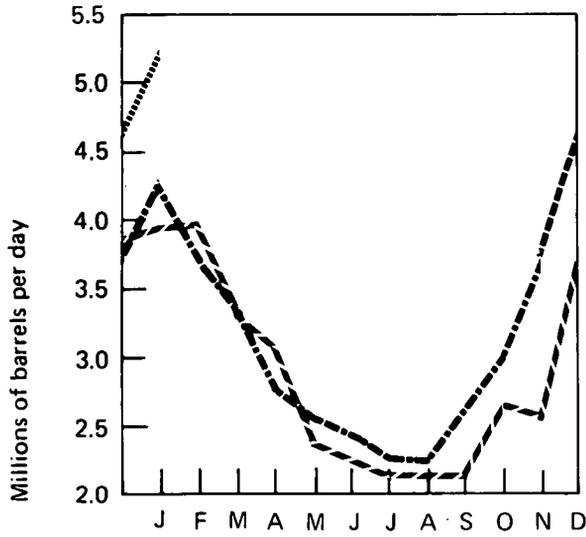
**Total as of December 31.

***1976 average is based on Bureau of Mines data for January through November and FEA data for December. January 1977 data are from American Petroleum Institute (API).

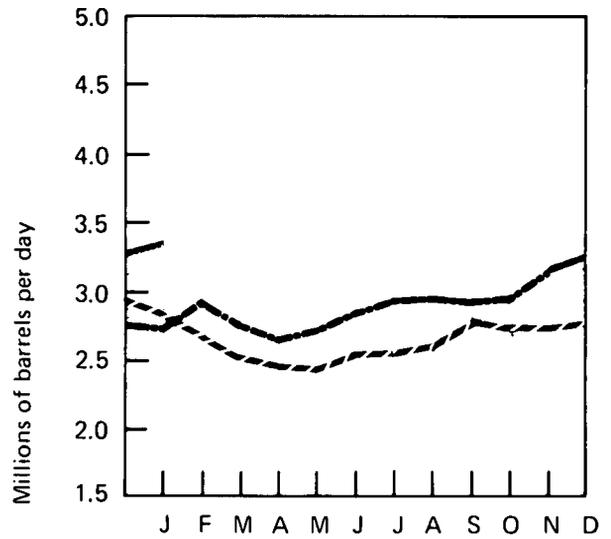
R=Revised.

Sources: Bureau of Mines (BOM), FEA, and API.

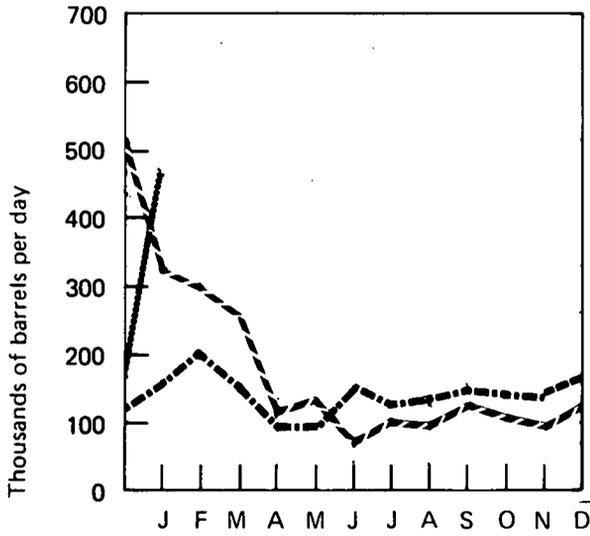
Domestic Demand



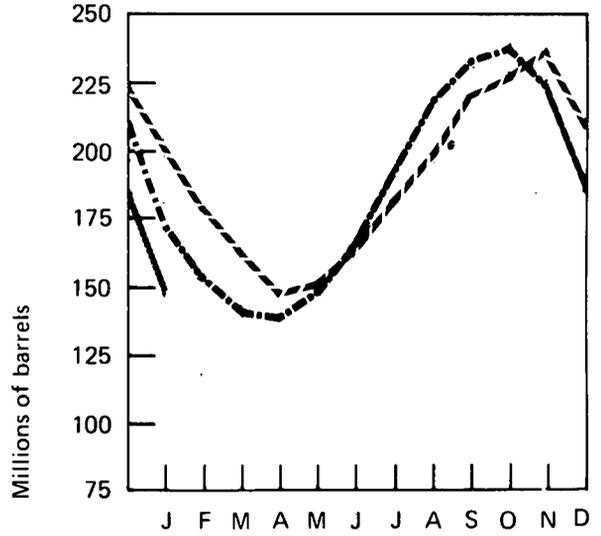
Production



Imports



Stocks



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

Distillate Oil Heating Degree-Days*

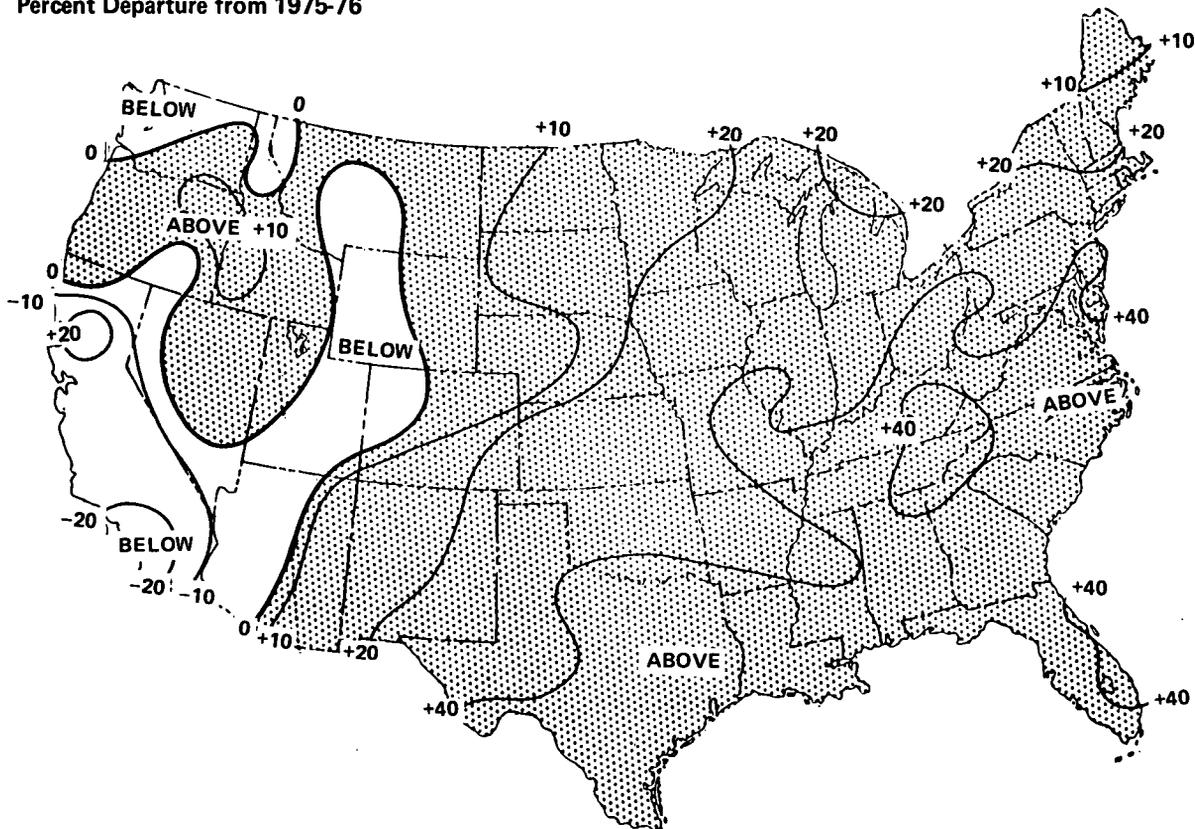
Petroleum Administration for Defense (PAD) Districts	FEBRUARY (January 31 through February 27)				Cumulative Since July 1		
	1977	1976**	Normal (1941-70)**		1975-76**	Normal (1941-70)**	
PAD District I	871.2	670.6 (29.9)	839.4	(3.8)	4,224.4	3,249.3 (30.0)	3,525.2 (19.8)
New England Conn., Maine, Mass., N.H., R.I., Vt.	1,054.7	875.5 (20.5)	1,034.9	(1.9)	4,990.7	4,113.9 (21.3)	4,408.2 (13.2)
Middle Atlantic Del., Md., N.J., N.Y., Pa.	972.9	756.0 (28.7)	947.4	(2.7)	4,758.7	3,625.4 (31.3)	3,960.2 (20.2)
Lower Atlantic Fla., Ga., N.C., S.C., Va., W.Va.	474.4	288.1 (64.7)	417.4	(13.7)	2,331.1	1,602.0 (45.5)	1,732.9 (34.5)
PAD District II	1,081.8	859.6 (25.9)	1,074.1	(0.7)	5,751.0	4,418.8 (30.1)	4,740.7 (21.3)
Ill., Ind., Iowa, Kans., Ky., Mich., Minn., Mo., Nebr., N.Dak., Ohio, Okla., S.Dak., Tenn., Wisc.							
PAD District III	445.1	260.6 (70.8)	433.4	(2.7)	2,581.3	1,764.2 (46.3)	1,884.9 (36.9)
Ala., Ark., La., Miss., N.Mex., Tex.							
PAD District IV	863.1	863.0 (0.0)	941.4	(-8.3)	4,664.2	4,487.9 (3.9)	4,705.4 (-0.9)
Colo., Idaho, Mont., Utah, Wyo.							
PAD District V	429.7	528.2 (-18.7)	547.7	(-21.6)	2,523.5	2,659.9 (-5.1)	2,895.9 (-12.9)
Ariz., Calif., Nev., Oreg., Wash.							
U.S. AVERAGE	878.4	687.2 (27.8)	860.2	(2.1)	4,423.4	3,425.8 (29.1)	3,700.8 (19.5)

*See Explanatory Note 4 for explanation of oil heating degree-days.

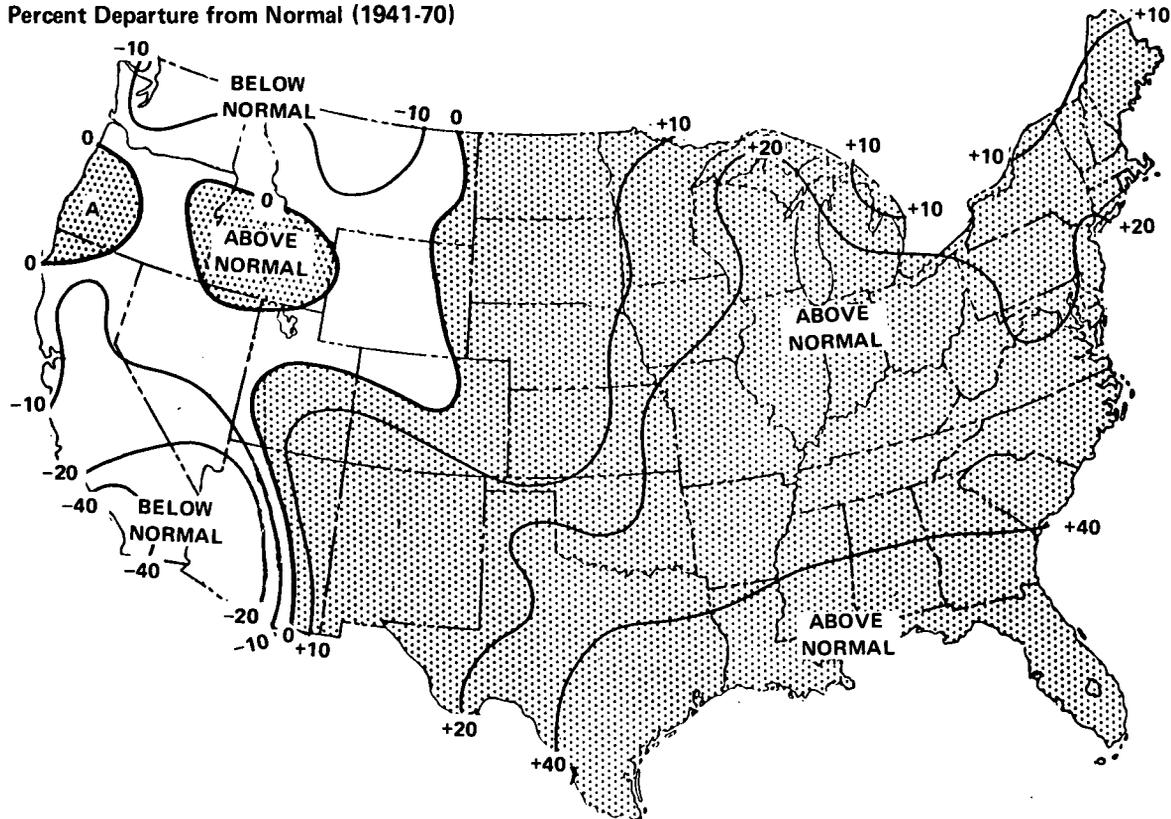
**Percentage change in parentheses.

Heating Degree-Days Accumulated from July 1, 1976 through February 27, 1977

Percent Departure from 1975-76



Percent Departure from Normal (1941-70)



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

Residual Fuel Oil

		Domestic Demand		Production		Imports		Stocks	
		Thousands of barrels per day							
		BOM	FEA/API	BOM	FEA/API	BOM	FEA/API	BOM	FEA/API
1972	AVERAGE	2,529		799		1,742		*55,216	
1973	AVERAGE	2,822		971		1,853		*53,480	
1974	January	3,035		1,072		1,733		46,548	
	February	2,991		1,029		1,904		45,004	
	March	2,556		912		1,713		47,222	
	April	2,437		985		1,593		51,339	
	May	2,260		995		1,362		54,356	
	June	2,405		1,026		1,500		57,891	
	July	2,473		1,056		1,474		59,787	
	August	2,529		1,067		1,520		60,988	
	September	2,475		1,032		1,421		60,251	
	October	2,611		1,099		1,465		58,679	
	November	2,935		1,229		1,753		60,363	
	December	2,983		1,335		1,630		74,939	
	AVERAGE	2,639		1,070		1,587			
1975	January	3,242		1,415		1,647		60,233	
	February	2,849		1,354		1,402		66,495	
	March	2,668		1,299		1,292		64,148	
	April	2,225		1,245		1,047		66,340	
	May	2,049		1,151		1,123		73,498	
	June	2,179		1,152		904		69,660	
	July	2,239		1,155		1,144		71,526	
	August	2,118		1,146		982		71,857	
	September	2,329		1,183		1,312		76,938	
	October	2,238		1,165		1,221		81,858	
	November	2,349		1,214		1,169		83,131	
	December	2,728		1,354		1,099		74,126	
	AVERAGE	R2,432		1,235		1,194			
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	2,479		1,257		1,134		65,147	
	June	2,565		1,241		1,240		64,272	
	July	2,555		1,266		1,460		69,812	
	August	2,678		1,321		1,307		68,490	
	September	R2,517		1,330		1,442		76,436	
	October	2,511		1,351		1,234		79,117	
	November	3,253	3,085	1,581	1,590	1,474	1,301	73,284	73,185
	December		3,206		1,778		1,399		72,271
	AVERAGE**		2,759		1,377		1,365		
1977	January**		3,743		1,890		1,724		67,581

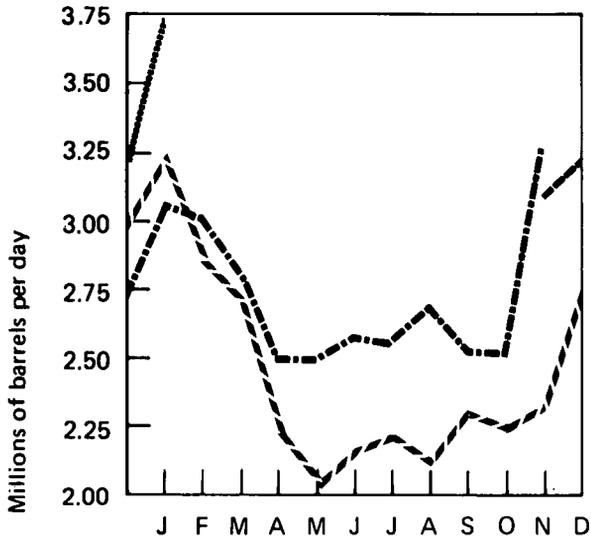
*Total as of December 31.

**1976 average is based on Bureau of Mines data for January through November and FEA data for December. January 1977 data are from American Petroleum Institute (API).

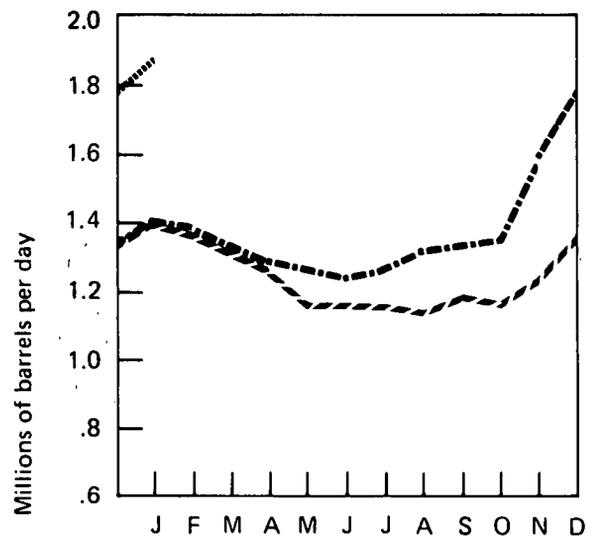
R=Revised.

Sources: Bureau of Mines (BOM), FEA, and API.

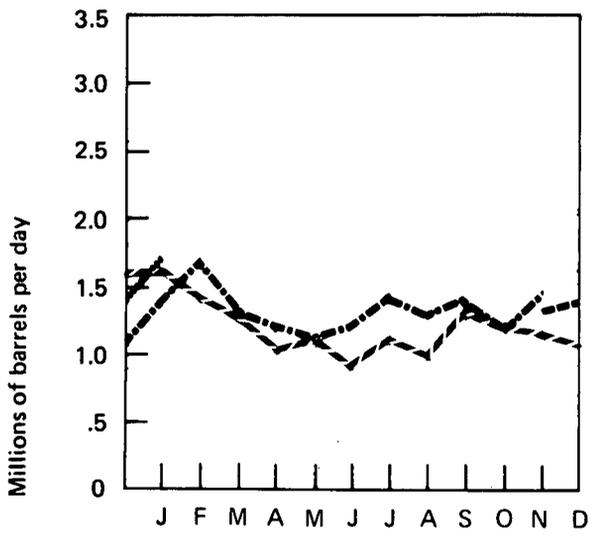
Domestic Demand



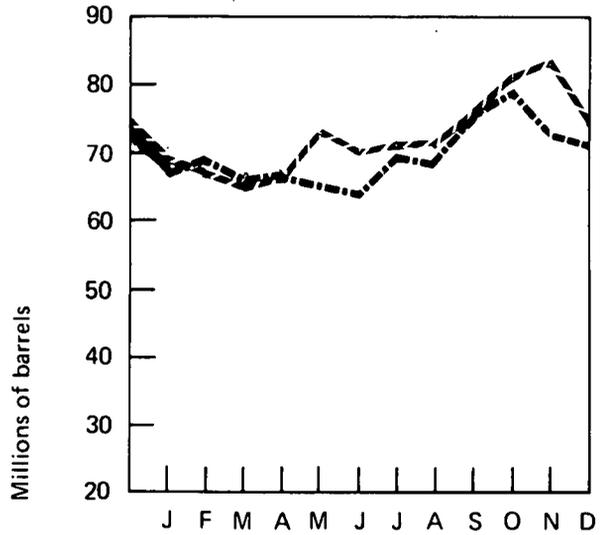
Production



Imports



Stocks



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

Natural Gas Liquids

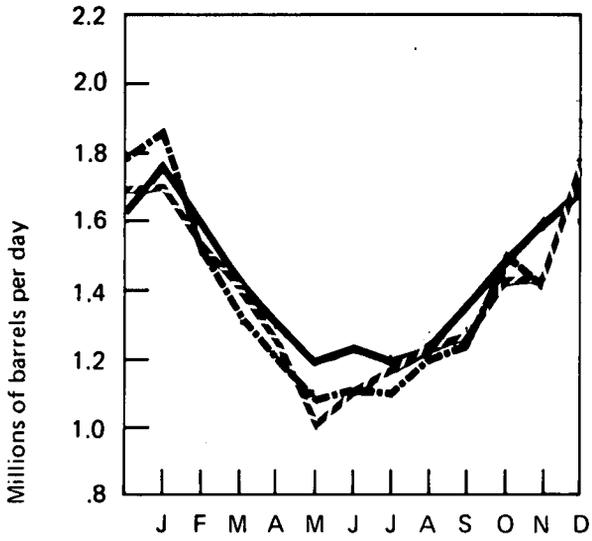
		Domestic Demand*	Production*		Used at Refineries*	Imports	Stocks*
			At processing plants	At refineries			
		Thousands of barrels per day					Thousands of barrels
1972	AVERAGE	1,420	1,744	365	826	174	**84,243
1973	AVERAGE	1,454	1,738	375	815	239	**98,940
1974	January	1,778	1,699	327	794	304	91,210
	February	1,593	1,728	337	777	294	90,145
	March	1,408	1,741	341	720	224	94,817
	April	1,321	1,696	353	690	215	101,352
	May	1,180	1,690	340	678	182	110,881
	June	1,242	1,684	368	718	199	117,915
	July	1,187	1,657	364	723	163	125,427
	August	1,221	1,676	361	742	163	131,675
	September	1,360	1,638	348	738	166	133,215
	October	1,493	1,686	330	788	200	130,557
	November	1,604	1,694	301	795	208	124,447
	December	1,692	1,670	286	796	230	114,295
	AVERAGE	1,422	1,688	338	746	212	
1975	January	1,708	1,630	307	756	257	105,400
	February	1,512	1,646	296	734	181	100,945
	March	1,404	1,658	280	731	178	99,168
	April	1,242	1,635	273	667	176	100,408
	May	1,002	1,607	299	628	97	112,737
	June	998	1,646	323	659	166	125,215
	July	1,191	1,621	336	701	173	131,359
	August	1,227	1,650	357	690	163	137,074
	September	1,278	1,577	326	703	209	140,278
	October	1,429	1,643	310	729	198	138,981
	November	1,444	1,635	309	759	196	135,976
	December	1,787	1,646	310	768	232	124,278
	AVERAGE	1,352	1,633	311	710	186	
1976	January	1,885	1,585	305	728	240	109,450
	February	1,518	1,640	316	793	270	106,647
	March	1,303	1,615	333	674	194	111,483
	April	1,201	1,616	349	716	171	116,788
	May	1,074	1,588	376	695	144	124,369
	June	1,110	1,606	356	718	163	132,359
	July	1,103	1,592	354	710	147	139,521
	August	1,213	1,596	362	695	160	144,352
	September	1,243	1,601	352	713	152	147,541
	October	1,497	1,601	309	709	203	144,108
	November	1,413	1,621	331	726	244	135,524
	AVERAGE (11 months)	1,359	1,605	340	713	190	

*See Explanatory Note 5.

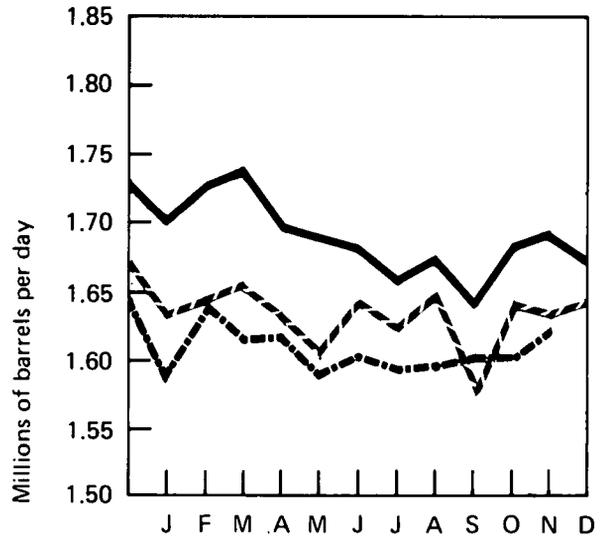
**Total as of December 31.

Source: Bureau of Mines.

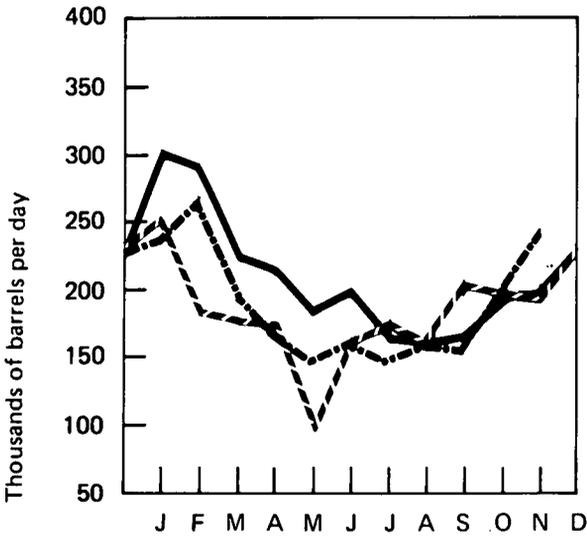
Domestic Demand



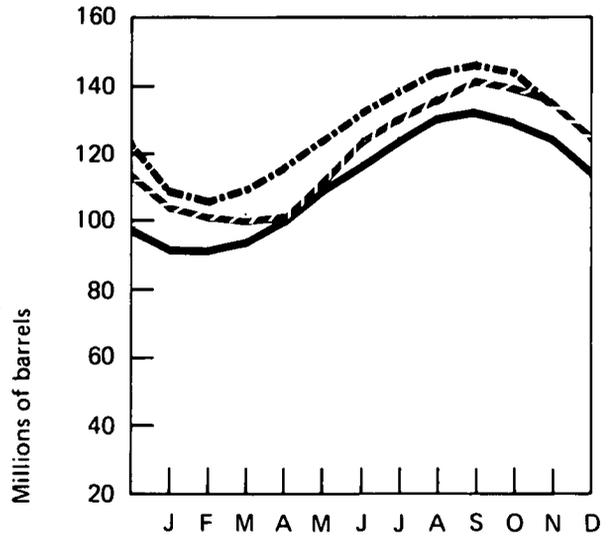
Production at Processing Plants



Imports



Stocks



— 1974
- - 1975
... 1976

U.S. Petroleum Supply and Demand

	1976			
	Actual*			
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
	Thousands of barrels per day			
Supply				
Crude oil and lease condensate production	8,194	8,131	8,120	8,025
Natural gas plant liquids production	1,612	1,604	1,597	1,602
Other hydrocarbon supply	37	38	37	35
Crude oil imports	4,520	5,023	5,740	5,880
Refined products imports**	2,140	1,771	1,987	1,938
Total new supply	<u>16,503</u>	<u>16,567</u>	<u>17,481</u>	<u>17,480</u>
Processing gain	485	495	469	466
Stock change—all oils	-797	+363	+1,065	-819
Total net supply	<u>17,785</u>	<u>16,699</u>	<u>16,885</u>	<u>18,765</u>
Unaccounted for crude oil***	+204	+8	+42	+96
Demand				
Crude oil and refined products exports	192	204	220	246
Crude oil losses	14	14	15	15
Domestic demand for refined products†	<u>17,783</u>	<u>16,489</u>	<u>16,692</u>	<u>18,600</u>
Total demand	<u>17,989</u>	<u>16,707</u>	<u>16,927</u>	<u>18,861</u>

	1977			
	Forecast††			
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
	Thousands of barrels per day			
Supply				
Crude oil and lease condensate production	8,078	8,047	8,347	9,002
Natural gas plant liquids production	1,560	1,541	1,524	1,541
Other hydrocarbon supply	36	36	36	36
Crude oil imports	6,360	6,280	6,307	5,507
Refined products imports**	1,365	1,193	1,244	2,102
Total new supply	<u>17,399</u>	<u>17,097</u>	<u>17,458</u>	<u>18,188</u>
Processing gain	520	516	527	522
Stock change—all oils	-694	+565	+524	-395
Total net supply	<u>18,613</u>	<u>17,048</u>	<u>14,461</u>	<u>19,105</u>
Unaccounted for crude oil***	0	0	0	0
Demand				
Crude oil and refined products exports	230	205	198	195
Crude oil losses	13	13	13	13
Domestic demand for refined products†	<u>18,370</u>	<u>16,830</u>	<u>17,250</u>	<u>18,897</u>
Total demand	<u>18,613</u>	<u>17,048</u>	<u>17,461</u>	<u>19,105</u>

*Partially estimated.

**Includes plant condensate and unfinished oils.

***Balancing item resulting from statistical inconsistencies.

†Includes international bunkers.

††See Explanatory Note 6 for discussion of basic assumptions for forecast.

Note: Figures for 4th Quarter 1976 and all of 1977 have been partially revised.

Sources: 1976: 1st, 2nd, and 3rd Quarters—BOM; 4th Quarter—BOM and FEA.

1977: FEA forecast.

Natural Gas

Natural gas consumption and underground storage withdrawals vividly reflect the impact of the unusually cold weather which struck virtually the entire area of the country east of the Rockies in mid-October 1976 and continued through January 1977.

Compared to the same period of the previous year, natural gas consumption in the first 9 months of 1976 declined 0.9 percent. Then, despite deep curtailments of natural gas deliveries by interstate pipeline companies, consumption increased 8.0 percent in the last 3 months of 1976, and increased 3.6 percent in January 1977.

Marketed production plus imports, compared in the same manner, declined at a slightly greater rate, 1.3 percent, in the first 9 months of 1976 and increased at more moderate rates of 0.1 percent in the last 3 months of 1976, and 1.1 percent in January 1977.

Withdrawals of natural gas from underground storage reservoirs increased dramatically compared with the previous year, as natural gas companies attempted to cope with the increased demand. Because of the early arrival of abnormally cold weather, net injections of gas in October, the last month of the injection season, totaled only 7 billion cubic feet (Bcf), compared to 134 Bcf in October 1975. Net withdrawals from underground storage were 206 Bcf higher in November, 169 Bcf higher in December, and 94 Bcf higher in January than withdrawals during the same months a year earlier. Net withdrawals for the period October 1976 through January 1977 were 67.7 percent greater than withdrawals during the comparable period of 1975-76.

Because of the large storage depletions this winter, there will also be a possibility of industrial curtailments this summer as pipeline companies attempt to rebuild underground storage inventories to levels adequate for the 1977-78 winter peak demands. This diversion of gas to underground storage will result in increased industrial demand for alternate fuels, especially fuel oils.

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	January	2,230	1,928	1,033	86
	February	2,054	1,759	941	79
	March	2,003	1,886	1,027	85
	April	1,691	1,793	987	83
	May	1,608	1,846	981	80
	June	1,439	1,740	928	74
	July	1,514	1,818	947	74
	August	1,510	1,790	932	76
	September	1,537	1,755	870	70
	October	1,706	1,767	936	83
	November	1,827	1,729	921	82
	December	2,104	1,790	959	87
	TOTAL	21,223	21,601	11,462	959
1975	January	2,248	1,778	950	81
	February	1,939	1,640	867	75
	March	1,903	1,740	948	83
	April	1,575	1,677	906	82
	May	1,331	1,689	898	80
	June	1,257	1,634	859	76
	July	1,313	1,677	873	80
	August	1,369	1,677	882	75
	September	1,370	1,603	836	74
	October	1,544	1,646	877	80
	November	1,640	1,618	853	81
	December	2,049	1,730	903	86
	TOTAL	19,538	20,109	10,652	953
1976	January	2,297	1,745	894	83
	February	1,823	1,641	850	79
	March	1,822	1,709	894	85
	April	1,504	1,633	849	85
	May	1,434	1,668	860	83
	June	1,327	1,637	815	77
	July	R1,346	1,671	822	74
	August	1,327	1,631	810	76
	September	R1,293	1,562	793	R74
	October	1,610	R1,632	840	R85
	November	1,870	R**1,629	NA	R***85
	December	2,170	R***1,730	NA	R***87
	TOTAL	R19,823	R19,888	8,427 (10 months)	R973
1977	January	2,380	***1,760	NA	***88

*See Explanatory Note 7.

**Preliminary data.

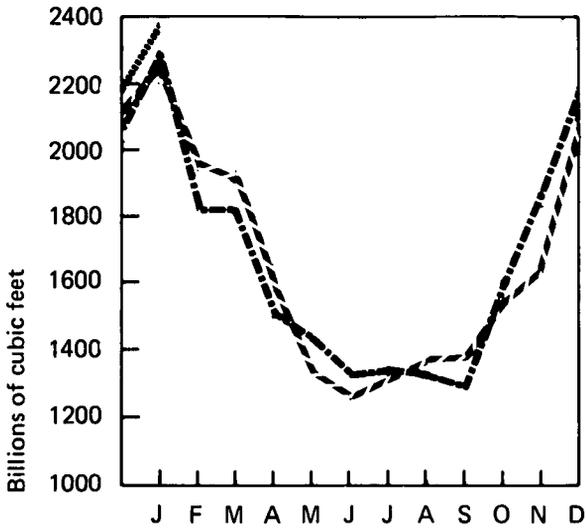
***Projected data.

R=Revised data. NA=Not available.

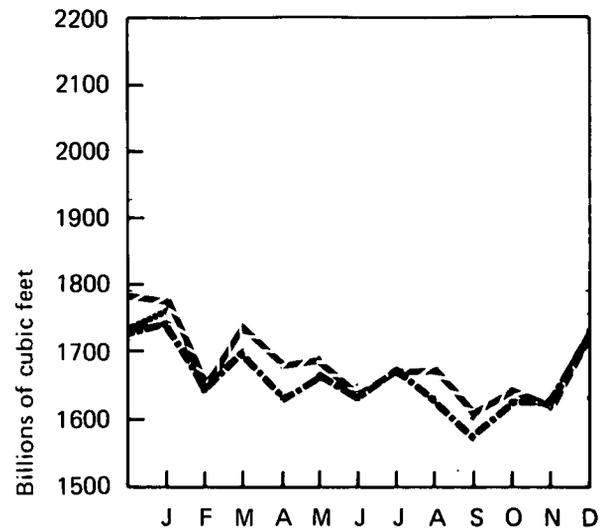
Note: All monthly Domestic Consumption data are estimated.

Sources: Consumption, Marketed Production, and Imports—Bureau of Mines; Domestic Producer Sales—Federal Power Commission.

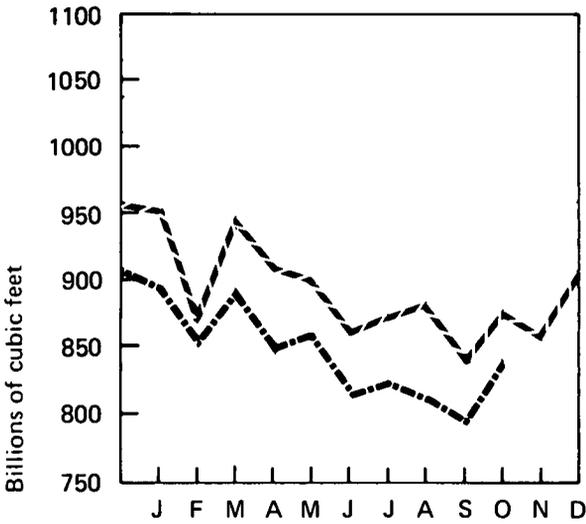
Domestic Consumption



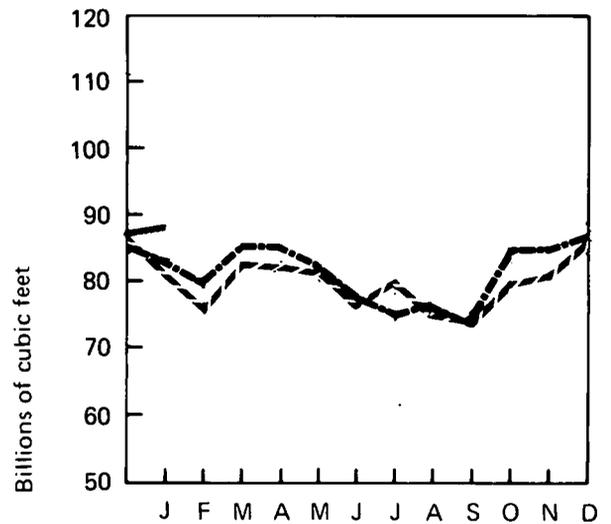
Marketed Production



Domestic Producer Sales to Major Interstate Pipelines



Imports



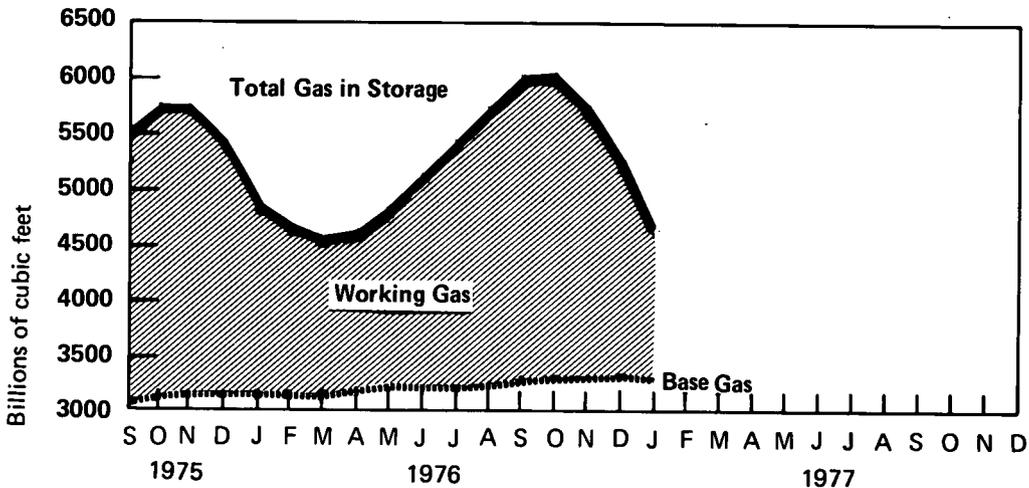
— 1974
 - - 1975
 . . . 1976
 1977

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	232	38	194
	October	5,770	3,128	2,642	185	51	134
	November	5,760	3,172	2,588	99	150	-51
	December	5,423	3,173	2,250	41	394	-353
1976	January	4,868	3,194	1,674	19	630	-611
	February	4,660	3,197	1,463	73	292	-219
	March	4,543	3,195	1,348	85	217	-132
	April	4,650	3,208	1,443	181	68	113
	May	4,878	3,214	1,664	248	23	225
	June	5,163	3,220	1,943	308	19	289
	July	5,476	3,244	2,232	318	19	299
	August	5,759	3,272	2,487	296	15	281
	September	6,021	3,317	2,704	262	20	242
	October	6,030	3,327	2,703	128	121	7
	November	5,779	3,330	2,449	41	298	-257
	December	5,284	3,334	1,950	23	545	-522
1977	January	4,621	3,317	1,304	16	721	-705

Gas in Storage



*See Explanatory Note 8.

**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 and Federal Power Commission.

Coal

Production of bituminous coal and lignite in January 1977 was 39.3 million tons, 23.8 percent below the amount produced in January 1976. The primary reason for this large decline was logistics problems caused by the severe cold weather which immobilized coal preparation plants, caused extensive absenteeism of miners, impeded barge traffic on frozen rivers, and made it necessary to thaw frozen coal before it could be unloaded from railroad cars.

Domestic consumption of bituminous coal and lignite during the first 11 months of 1976 was 537.8 million tons, an increase of 6.4 percent over the amount consumed during the first 11 months of 1975. Consumption by the electric utility sector totaled 405.3 million tons, a gain of 10.6 percent over utility consumption for the same period in 1975. This increase was due primarily to the shift to lower heat value western coal and to the increase in coal-fired electricity generation in the Western and Gulf Coast States. Demand for coal in the second largest domestic coal consuming sector, coking plants, grew slightly from 76.5 million tons during the first 11 months of 1975 to 77.5 million tons during the same period in 1976. This minimal growth reflects lower levels of current steel production.

In 1976 coal exports were 59.4 million tons, a decline of 9.5 percent compared with exports in 1975. While Japan remained the principal foreign market for U.S. coal (receiving 31.7 percent of total U.S. coal exports), 1976 exports of coal to that country were 6.6 million tons lower than in 1975. Other major foreign markets were Canada and Western Europe, accounting for 27.8 percent and 33.5 percent, respectively. The United States maintained its position as the largest exporting nation with shipments destined principally for metallurgical uses.

Stocks of coal held by consumers on November 30, 1976, were 134.1 million tons, with electric utilities accounting for 87.5 percent of the total. This represents a 92-day supply for utilities compared with a November 1975 level of 99 days. Utilities have built-up a relatively high level of coal inventories since the 1974 United Mine Workers' strike.

Bituminous and Lignite

		Domestic Consumption*	Production*	Exports	Stocks
Thousands of short tons					
1972	TOTAL	516,776	595,386	55,997	**117,442
1973	TOTAL	556,022	591,738	52,903	**103,022
1974	January	50,046	53,712	2,813	97,836
	February	44,929	50,053	4,627	95,812
	March	45,858	51,278	3,179	101,568
	April	43,595	54,402	4,944	107,167
	May	44,951	57,662	6,032	112,882
	June	44,315	48,065	6,369	111,935
	July	48,605	49,392	5,307	106,160
	August	48,579	51,808	5,088	105,478
	September	43,844	52,686	4,893	109,173
	October	45,868	60,495	7,342	118,670
	November	44,598	33,702	6,744	109,192
	December	47,521	40,151	2,587	95,528
	TOTAL***	552,709	603,406	59,926	
1975	January	49,841	55,610	4,254	95,512
	February	45,699	51,135	4,470	97,028
	March	47,202	51,910	5,653	97,832
	April	43,537	56,330	6,159	102,663
	May	42,658	57,045	7,011	109,666
	June	44,777	55,730	6,269	114,857
	July	47,454	45,560	4,691	109,133
	August	49,190	51,160	5,859	108,522
	September	44,032	56,060	4,529	111,922
	October	44,929	60,030	4,647	120,344
	November	45,946	54,655	7,593	125,808
	December	51,036	53,213	4,534	127,115
	TOTAL***	556,301	648,438	65,669	
1976	January	52,919	51,495	3,697	119,149
	February	46,800	52,630	3,050	118,970
	March	48,607	60,050	3,979	123,441
	April	45,554	57,850	5,780	128,408
	May	45,675	56,605	5,667	134,621
	June	47,708	58,430	6,569	140,237
	July	50,999	43,250	4,879	129,606
	August	R51,330	53,440	4,223	R123,662
	September	R47,616	59,675	5,613	R129,867
	October	R49,248	57,445	5,871	R133,581
	November	51,320	58,350	5,451	134,117
	December	NA	55,780	4,625	NA
	TOTAL	537,776 (11 months)	665,000 (12 months)	59,406 (12 months)	
1977	January	NA	39,265	NA	NA

*See Explanatory Note 9.

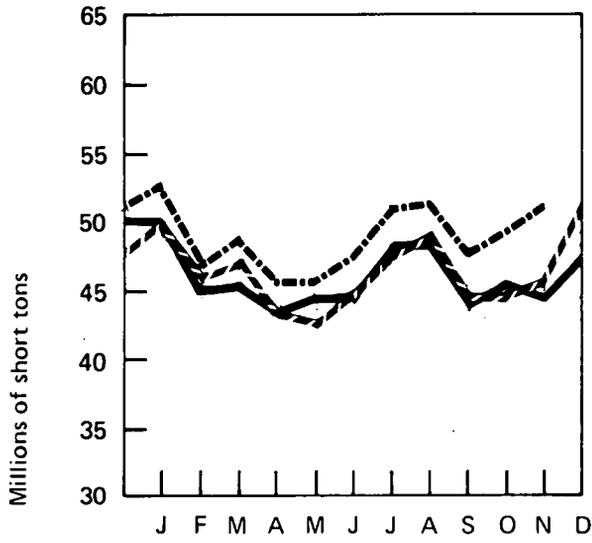
**Total as of December 31.

***Totals may not add due to rounding.

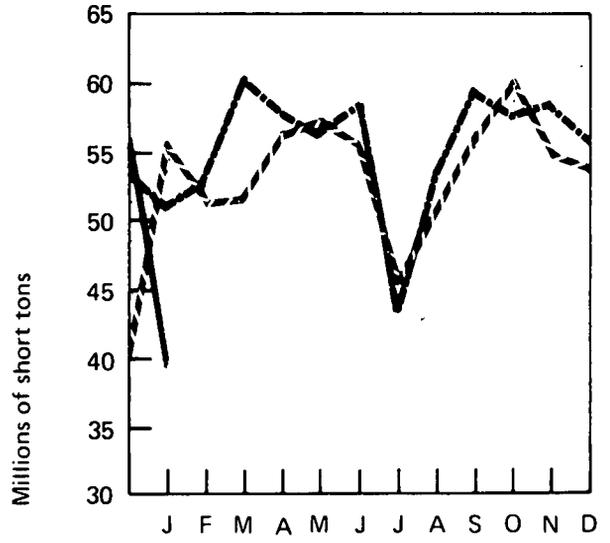
R=Revised data. NA=Not available.

Source: Bureau of Mines.

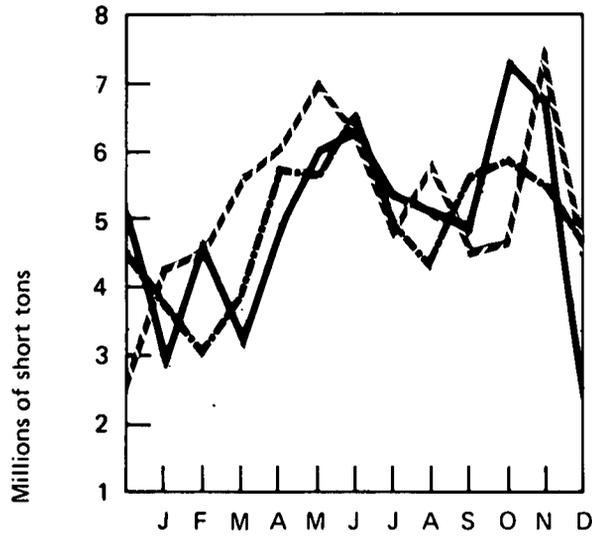
Domestic Consumption



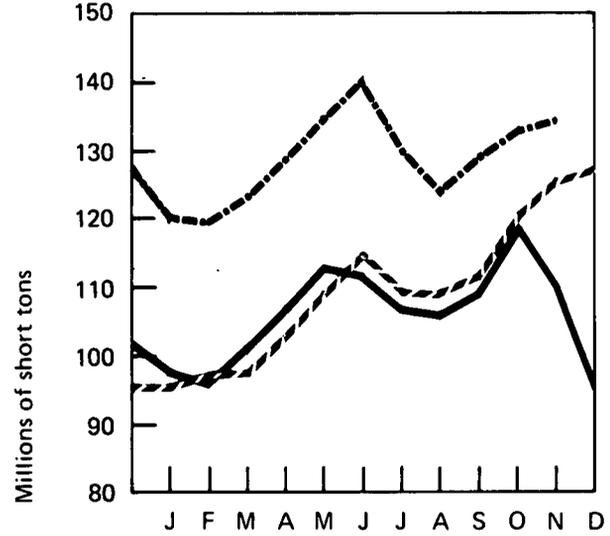
Production



Exports



Stocks

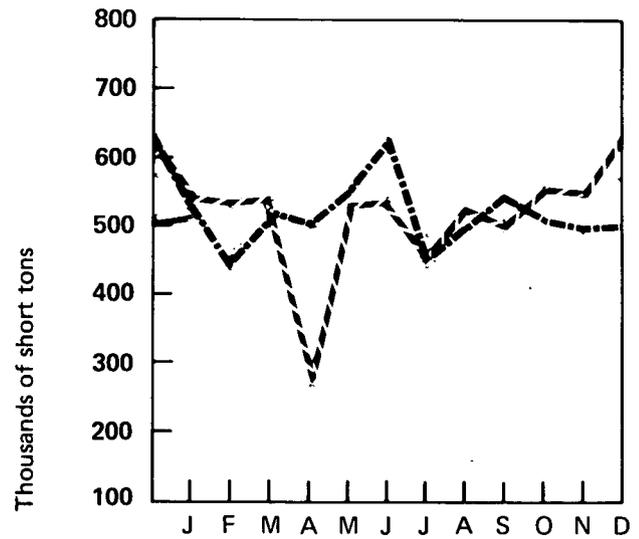


— 1974
- - 1975
... 1976
- . - . 1977

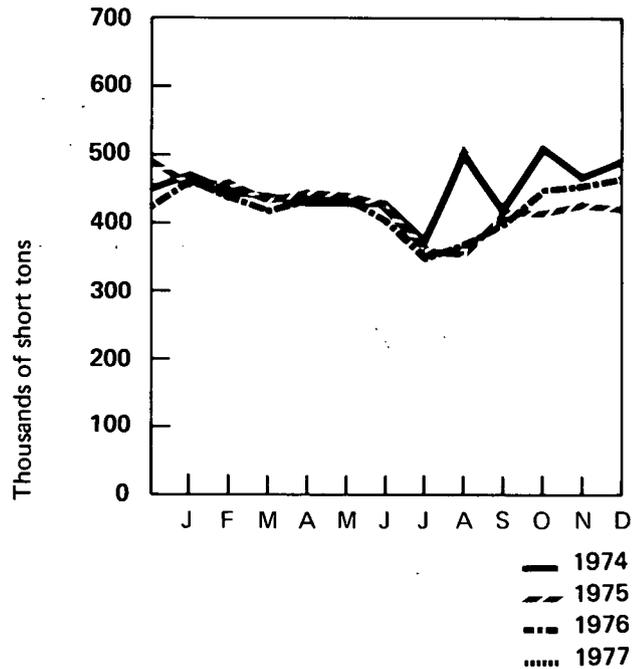
Anthracite

		Production	Apparent Domestic Consumption
		Thousands of short tons	
1972	TOTAL	7,106	5,915
1973	TOTAL	6,830	5,671
1974	January	516	477
	February	458	445
	March	531	441
	April	563	432
	May	589	433
	June	505	437
	July	443	369
	August	620	516
	September	516	417
	October	641	518
	November	610	467
	December	625	496
	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	515	NA

Production



Apparent Domestic Consumption



NA=Not available.
Source: Bureau of Mines.

Electric Utilities

January 1977 production of electricity by utilities was estimated at a record 196.7 billion kilowatt hours, 10.3 percent above the level for January 1976.

During the first 11 months of 1976, electric utilities consumed 10.2 percent more coal and 7.1 percent more oil than during the same period in 1975. Utility natural gas consumption, however, declined 2.7 percent mainly due to curtailments needed to assure the supply of gas to higher priority residential and commercial customers.

Sales of electricity to industrial customers during the first 11 months of 1976 totaled 673.1 billion kilowatt hours, 10.1 percent above the level for the same period in 1975. Sales to commercial customers during the period totaled 390.2 billion kilowatt hours, up 5.1 percent. Sales to residential customers, at 551.1 billion kilowatt hours, were 1.7 percent higher.

The increase in sales to industrial customers occurred despite a 3.6-percent increase in the real* price of electricity to these customers. The primary cause of the increase appears to be the 6.8-percent increase in industrial output over the period, coupled with a 2.7-percent increase in the number of industrial electricity customers.

Commercial sales continued to grow at approximately their historical rate. Factors affecting the growth were a 1.9-percent increase in the number of commercial electricity customers, increased activity in the services sector of the economy, and a 2.2-percent real* increase in commercial electricity prices.

The rise in residential sales was due primarily to the 2.1-percent increase in the number of residential electricity customers which was moderated only slightly by a 1.0-percent increase in real* residential electricity prices.

*Corrected for inflation.

Electric Utilities

		Total Net Production		Percentage Produced from Each Source					
		Millions of kilowatt hours		Coal	Oil	Gas	Nuclear	Hydro-electric	Other*
1972	TOTAL	1,749,629	AVG. 44.2		R15.6	21.4	3.1	15.6	0.1
1973	TOTAL	1,860,302	AVG. 45.7		16.8	18.3	4.5	14.6	0.1
1974	January	157,244		46.9	16.6	13.2	4.8	18.4	0.1
	February	142,463		46.5	15.8	13.3	5.7	18.6	0.1
	March	150,033		45.2	14.7	15.7	5.9	18.4	0.1
	April	142,010		44.3	14.0	16.9	5.0	19.6	0.2
	May	153,503		44.2	14.7	18.5	4.3	18.2	0.1
	June	156,148		43.3	14.7	20.3	4.5	17.0	0.1
	July	R177,980		43.0	15.5	20.9	5.7	14.8	0.1
	August	R173,859		43.1	15.6	20.3	7.1	13.8	0.1
	September	152,211		42.9	16.4	19.3	7.2	14.0	0.2
	October	151,968		44.2	16.8	18.6	7.1	13.2	0.1
	November	149,831		44.9	18.3	15.2	7.3	14.1	0.2
	December	159,727		45.5	19.2	12.4	8.3	14.4	0.2
	TOTAL	R1,866,977	AVG. 44.5		16.0	17.2	6.1	16.1	0.2
1975	January	164,317		45.6	18.6	12.0	8.5	15.2	0.1
	February	R147,072		45.8	16.9	12.3	8.7	16.2	0.1
	March	R155,473		44.5	14.9	12.9	9.6	18.0	0.1
	April	R146,208		44.1	14.5	13.9	9.1	18.2	0.2
	May	R153,222		42.2	13.7	16.8	9.0	18.1	0.2
	June	R162,432		43.3	14.2	17.7	7.9	16.7	0.2
	July	R176,805		43.2	14.2	19.3	8.7	14.4	0.2
	August	R179,704		43.9	15.6	18.9	8.8	12.6	0.2
	September	155,213		44.2	13.8	19.3	9.3	13.2	0.2
	October	R154,936		44.6	14.2	17.0	9.4	14.6	0.2
	November	152,786		46.1	14.1	14.3	9.3	16.0	0.2
	December	169,364		46.5	15.9	12.2	9.9	15.3	0.2
	TOTAL	R1,917,532	AVG. 44.5		15.1	15.6	9.0	15.6	0.2
1976	January	178,353		47.0	18.1	11.1	9.0	14.6	0.2
	February	156,691		46.9	15.8	12.2	9.2	15.6	0.2
	March	164,163		46.6	15.5	13.0	8.5	16.2	0.2
	April	153,152		47.4	15.2	14.3	7.2	15.7	0.2
	May	157,353		46.1	13.8	16.1	7.6	16.2	0.2
	June	R173,376		44.4	14.5	17.1	9.1	14.7	0.2
	July	R186,336		44.7	14.5	17.1	9.5	14.0	0.2
	August	R186,355		45.2	R15.1	16.8	R9.9	12.8	0.2
	September	R164,917		45.7	14.3	17.0	10.5	12.3	0.2
	October	R163,076		46.9	14.7	R14.6	R10.7	R12.9	0.2
	November	R168,387		48.1	17.7	12.6	9.6	11.8	0.2
	December	184,459		NA	NA	NA	NA	NA	NA
	TOTAL	R2,036,618							
1977	January	196,707		NA	NA	NA	11.3	NA	NA

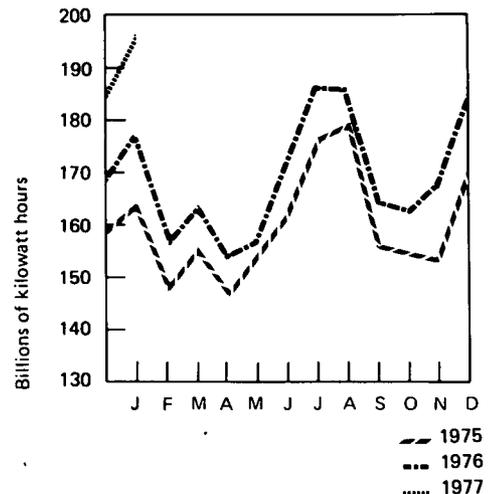
*Includes electricity produced from geothermal power, wood, and waste.

NA=Not available.

R=Revised.

Sources: Federal Power Commission; data for latest 2 months are from Edison Electric Institute and U.S. Nuclear Regulatory Commission.

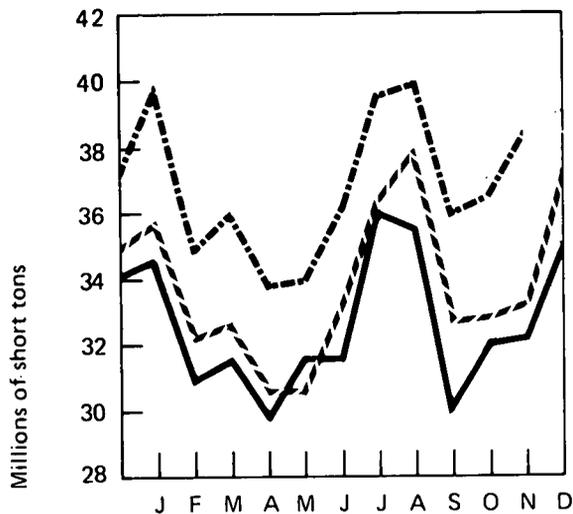
Total Net Production



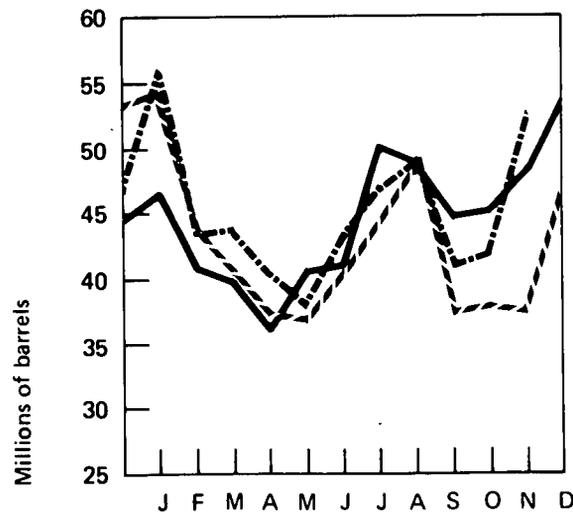
Fuel Consumption

		Coal	Oil	Gas
		Thousands of short tons	Thousands of barrels	Millions of cubic feet
1972	TOTAL	352,392	493,692	3,976,770
1973	TOTAL	389,707	560,146	R3,658,097
1974	January	34,606	46,731	R220,451
	February	30,864	40,660	R203,150
	March	31,645	39,636	R255,448
	April	29,683	35,957	R260,022
	May	31,707	R40,820	R307,446
	June	31,726	R41,239	R347,702
	July	R36,120	50,168	R405,326
	August	35,558	48,993	R382,516
	September	R30,982	44,562	R313,887
	October	32,129	45,267	R299,314
	November	32,218	48,563	R239,588
	December	R35,186	53,648	R207,250
	TOTAL	R392,424	536,244	R3,442,100
1975	January	35,843	R54,181	R205,013
	February	32,097	43,670	R188,840
	March	32,793	40,542	R211,101
	April	30,547	37,132	R214,168
	May	30,574	37,077	R275,014
	June	R33,457	41,034	R307,819
	July	36,567	44,512	R362,005
	August	37,967	49,416	R360,116
	September	32,609	37,123	R315,794
	October	32,853	38,116	R275,184
	November	33,333	37,627	R227,665
	December	37,390	46,937	R213,875
	TOTAL	R406,030	R507,367	R3,156,594
1976	January	39,986	56,193	R206,355
	February	34,965	43,234	R199,196
	March	36,099	44,039	R222,592
	April	33,805	40,238	R227,699
	May	33,944	37,953	R266,466
	June	36,381	43,640	R313,090
	July	39,784	47,213	R336,224
	August	40,317	49,058	R329,211
	September	R35,960	R40,713	R294,604
	October	R36,534	R42,124	R249,442
	November	38,527	52,911	218,921
	Total (11 months)	406,302	493,316	2,863,800

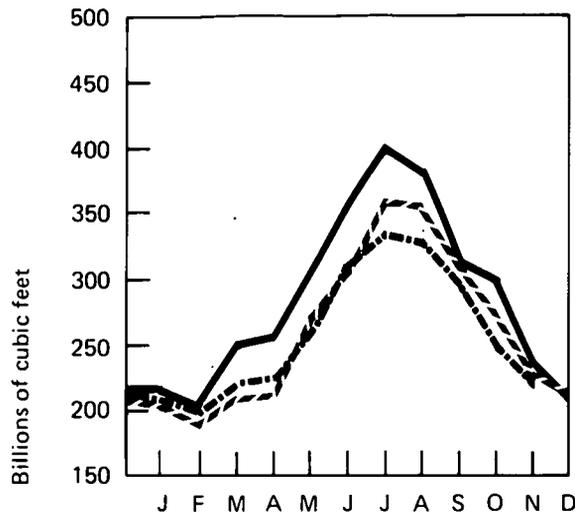
Coal Consumption



Oil Consumption



Gas Consumption



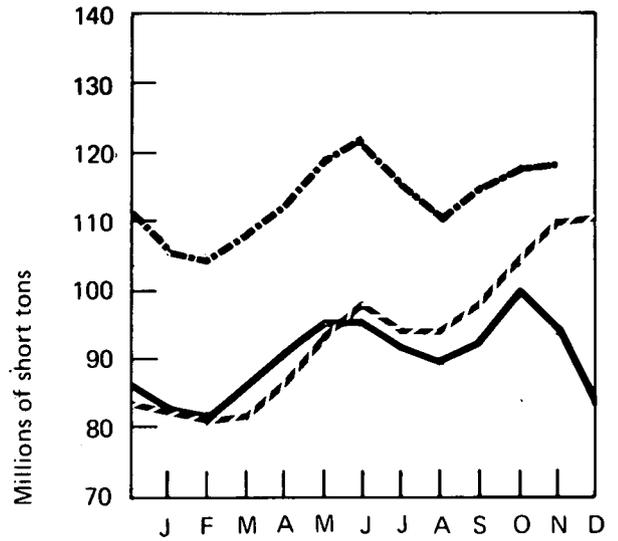
R=Revised.
Source: Federal Power Commission.

— 1974
- - - 1975
- · - · 1976

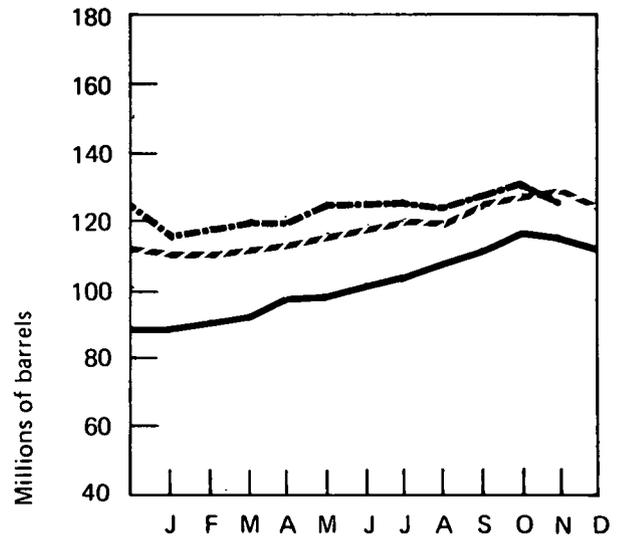
Electric Utilities (Continued)

		Stocks at End of Month	
		Coal	Oil
		Thousands of short tons	Thousands of barrels
1972		*100,009	*57,653
1973		*87,279	*89,216
1974	January	82,549	89,486
	February	81,734	91,670
	March	86,178	93,901
	April	91,036	98,073
	May	95,625	99,613
	June	95,918	102,416
	July	91,547	105,654
	August	89,502	109,697
	September	92,998	112,521
	October	100,536	118,049
	November	94,189	117,404
	December	83,542	112,916
1975	January	82,088	111,295
	February	80,972	111,500
	March	81,885	113,643
	April	86,829	114,298
	May	93,869	117,231
	June	98,031	118,936
	July	94,278	121,239
	August	94,213	120,665
	September	98,096	126,314
	October	105,415	128,882
	November	110,313	130,341
	December	110,750	R125,245
1976	January	105,525	117,891
	February	104,880	118,806
	March	108,452	120,494
	April	112,864	120,345
	May	119,613	126,127
	June	122,960	126,221
	July	115,206	126,602
	August	110,753	125,745
	September	R115,401	R129,175
	October	R118,191	R131,057
	November	118,634	126,278

Coal Stocks



Oil Stocks



— 1974
 - - - 1975
 . . . 1976

*As of December 31.

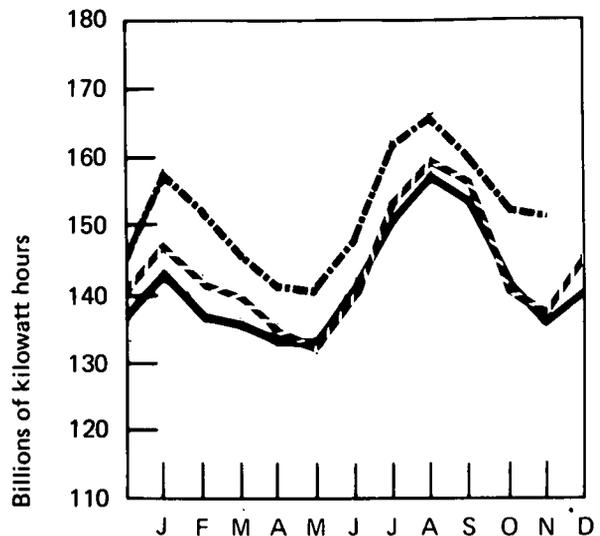
R=Revised.

Source: Federal Power Commission.

Sales

		Residential	Commercial	Industrial	Other*	Total
Millions of kilowatt hours						
1972	TOTAL	538,609	359,265	640,978	56,309	1,595,161
1973	TOTAL	579,231	388,266	686,085	59,326	1,712,909
1974	January	52,878	30,647	55,457	5,004	143,986
	February	47,779	29,563	54,799	4,596	136,737
	March	46,096	29,345	55,814	4,697	135,952
	April	43,193	29,089	56,115	4,610	133,007
	May	41,105	30,061	57,226	4,685	133,077
	June	46,597	32,989	57,702	4,643	141,931
	July	53,541	35,498	57,503	4,969	151,511
	August	56,699	36,702	59,641	5,070	158,112
	September	52,948	35,801	59,893	4,977	153,619
	October	44,164	32,275	60,116	4,800	141,355
	November	42,671	30,986	57,157	4,952	135,784
	December	50,512	31,868	53,433	5,039	140,852
	TOTAL	578,183	384,824	684,874	58,042	1,705,923
1975	January	54,003	32,405	55,505	5,954	147,867
	February	50,219	31,459	54,328	5,544	141,550
	March	47,968	31,194	54,437	5,639	139,238
	April	44,762	30,473	53,910	5,269	134,414
	May	41,077	30,926	54,767	5,404	132,174
	June	45,766	35,210	55,369	5,384	141,729
	July	54,586	38,031	55,645	5,668	153,930
	August	57,291	38,576	57,868	5,709	159,444
	September	56,983	37,550	56,797	5,320	156,650
	October	45,142	33,329	56,486	5,194	140,151
	November	44,019	32,288	56,174	5,235	137,716
	December	51,900	33,183	55,532	5,357	145,972
	TOTAL	593,716	404,624	666,818	65,677	1,730,835
1976	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	R53,460	R38,508	R62,131	R6,128	R160,227
	October	47,296	36,667	62,371	5,873	152,207
	November	48,582	35,760	61,511	5,977	151,830
	TOTAL (11 months)	551,067	390,248	673,062	64,181	1,678,558

Total Sales



*Includes street lighting and trolley cars.

R=Revised.

Source: Federal Power Commission; data for latest 2 months are from Edison Electric Institute.

— 1974
 - - - 1975
 - · - · 1976

Nuclear Power

The 55 domestic reactors in commercial operation, with a maximum dependable capacity of 37,729 megawatts, performed at 72 percent of capacity during January. Nuclear reactors generated a record 22 billion net kilowatt hours of electricity during the month, 11.3 percent of net total electricity production.

In mid-January, the Kansas Gas and Electric Company and the Kansas City Power and Light Company began construction, under a limited work authorization,* of the Wolf Creek generating station, a 1,150-megawatt pressurized water reactor (PWR). Completion of the unit is scheduled for 1983.

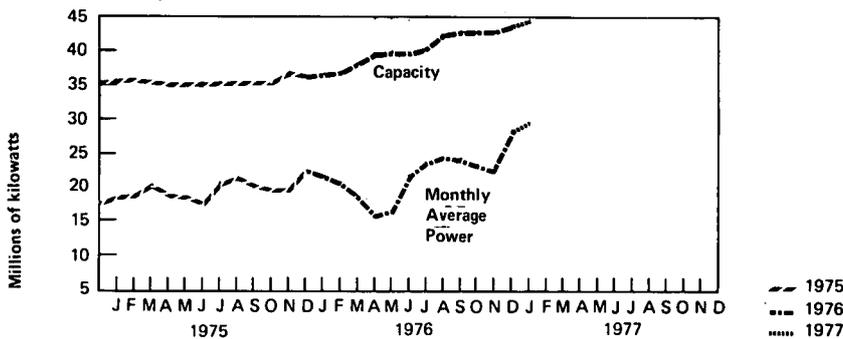
The Central Maine Power Company has canceled its plans to build a 1,150-megawatt PWR on Sears Island because the Nuclear Regulatory Commission seismic criteria for construction of the facility cannot be met economically. As an alternative, the utility is considering a coal-fired plant for the site.

*See Definitions.

U.S. Nuclear Powerplant Operations*

		Maximum Dependable Capacity	Average Power	Percent of Total Domestic Electricity Generation
Thousands of net kilowatts				
1972		7,726	6,174	3.1
1973		13,850	8,760	4.5
1974	January	24,006	10,219	4.8
	February	24,776	12,077	5.7
	March	25,305	11,797	5.9
	April	26,862	9,901	5.0
	May	27,670	8,820	4.3
	June	28,748	9,833	4.5
	July	31,374	13,723	5.7
	August	33,045	16,577	7.1
	September	32,609	15,292	R7.2
	October	34,464	14,602	7.1
	November	34,480	15,283	7.3
	December	35,317	17,860	8.3
	AVERAGE	29,921	13,011	6.1
1975	January	35,691	18,734	8.5
	February	35,899	18,948	8.7
	March	35,686	R20,002	9.6
	April	35,017	R18,510	9.1
	May	35,017	18,500	9.0
	June	35,322	R17,701	7.8
	July	35,596	20,661	8.7
	August	35,589	21,102	8.8
	September	35,540	R19,994	9.3
	October	35,540	R19,659	9.4
	November	36,752	R19,672	9.3
	December	36,424	R22,418	9.8
	AVERAGE	35,671	R19,162	9.0
1976	January	36,750	21,638	9.0
	February	36,879	20,657	9.2
	March	38,072	18,813	8.5
	April	39,763	15,253	7.2
	May	39,902	16,034	7.6
	June	39,781	R21,885	9.1
	July	40,168	R23,802	9.5
	August	42,067	R24,681	9.8
	September	42,896	R24,014	10.5
	October	42,877	R23,327	10.6
	November	43,673	R22,408	R9.6
	December	42,877	**28,378	**11.4
	AVERAGE	40,642	R21,756	9.3
1977	January	**44,316	**29,807	**11.3

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.

Status of Nuclear Powerplants — January 31, 1977

Status	Number of Plants				Design Capacity	
	Boiling Water Reactors	High Temperature Gas Reactors	Pressurized Water Reactors	Other*	Total	Net Electrical Megawatts
Licensed to operate	24	1	38	0	63	46,000
Construction permit granted	20	0	51	0	71	75,000
Construction permit pending	21	0	41	4	66	74,000
Orders placed for plant	3	0	12	0	15	17,000
Publicly announced	—	—	—	19	19	23,000
TOTAL	68	1	142	23	234	235,000

*Includes 1 Liquid Metal Fast Breeder Reactor and 23 announced intentions to order for which a reactor type has not been chosen.

Source: U.S. Nuclear Regulatory Commission.

U.S. Uranium Enrichment — December 1976

	Domestic Customers	Foreign Customers	Total
Separative Work Performed (in metric tons of separative work units)	275.787	514.413	790.200
Cost (in millions of dollars)	17.750	32.818	50.568
Product Quantity (in metric tons of uranium)	51.194	158.740	209.934
Feed Requirement (in metric tons of uranium)	329.010	711.251	1,040.261

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

Nuclear Power Generation by Major Non-Communist Countries — January 1977*

Country	Number of Reactors	Capacity	Generation of Electricity				
			Generation January	Percent of Design Capacity			
				January	1974	1975	1976
		Thousands of gross electrical kilowatts	Millions of gross kilowatt hours				
Canada	7	3,930	1,970	67	74	64	85
Federal Republic of Germany	10	6,410	3,379	71	57	72	68
France	10	3,070	1,586	69	57	68	58
Great Britain	***26	7,290	3,055	62	61	57	64
India	3	620	297	64	55	46	58
Italy	3	630	387	83	61	69	69
Japan	13	7,430	1,935	35	61	36	57
Spain	3	1,120	618	74	75	77	77
Sweden	5	3,310	1,895	77	20	44	55
Switzerland	3	1,060	788	100	76	84	86
United States	60	44,080	22,967	70	57	60	56
TOTAL	143	78,950	38,877	66	58	58	60

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

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

***Information for Calder Ham (240 megawatts) and Windscale (32 megawatts) not available; figures are for 4-week period.

Source: *Nucleonics Week*.

Summary of Monthly Fuel Cycle – December 1976

Fuel Cycle Activity	Product	Processed Material*	Percent Utilization of Industry Capacity	Energy Content of Processed Material**	Energy Consumed in Fuel Cycle Activity***	Cost Contribution to Electric Power†
					Billion Btu	Mills per kilowatt hour
Milling	Yellowcake (U ₃ O ₈) Deliveries	935	82	321,000	530	1.27
Conversion	Uranium Hexafluoride (UF ₆) Deliveries	881	61	305,000	190	0.16
Enrichment	Enriched UF ₆ Deliveries	373 (1,330 MT-SWU)	††	772,000	9,070	1.53
Fabrication	Finished Fuel Assemblies Shipped	186	76	35,000	27	0.47
Powerplant Operation	Electricity Generated	22,208 (million kWhe)	68	236,000	1,020 (million kWhe)	10.93
	Spent Fuel Discharged	17	—	—	—	} †††1.57
Reprocessing	Spent Fuel Received	0	—	—	—	
	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 deposition, exclusive of cost credits for recovered uranium and plutonium.

NA=Not available.

Source: ERDA.

Energy Consumption

Domestic energy consumption in 1976 essentially returned to the level reached before the oil embargo of 1973-1974. Energy consumption for the year was estimated at 74.31 quadrillion Btu, 4.9 percent more than for 1975, 2.4 percent more than for 1974, and only 0.3 percent less than the record high for 1973. There has been a shift in the mix of fuels consumed between 1973 and 1976. Petroleum consumption increased 0.6 percent, but natural gas consumption decreased by 9.8 percent because of reduced availability of the fuel. Coal consumption increased by 3.8 percent, and nuclear power increased by 229 percent (although it represented only 2.7 percent of the 1976 U.S. energy consumption total). A detailed breakdown of 1976 consumption by economic sector will be available next month.

The revised consumption total for November 1976 was 6.62 quadrillion Btu, up 14.7 percent from the November 1975 total and up 7.9 percent from the level for November 1974. The largest part of this increase was heating fuel consumption, a result of very cold weather. (National oil heating degree-days in November were 57 percent above the November 1975 level.) Consumption of distillate and residual fuel oils in November exceeded the previous November's levels by 46.0 percent and 38.5 percent, respectively. November consumption of natural gas was 14.0 percent higher than in 1975, and consumption of electricity was 10.2 percent higher. Total energy consumption in the combined residential/commercial sector during November was 20.4 percent higher than in 1975.

Petroleum Consumption and Forecast

Total domestic demand for petroleum products during January 1977 was 20.5 million barrels per day. This was 8.0 percent above the forecast level, 10.3 percent above the January 1976 level, and 14.1 percent above demand during January 1975.

These very large increases were concentrated in distillate and residual fuel oil, mainly because of increased demand for heating oil due to the record-breaking cold weather. (Distillate oil heating degree-days for January 1977 were 18.9 percent above normal and 30.0 percent above the January 1976

count.) Demand for distillate fuel oil in January was 5.2 million barrels per day, 19.7 percent above the forecast level, 21.8 percent above January 1976 demand, and 32.5 percent above the January 1975 level. Demand for residual fuel oil in January 1977 was 3.7 million barrels per day, 14.4 percent above the forecast level, and 22.0 percent and 15.5 percent, respectively, above January 1976 and January 1975 demand levels.

Demand for gasoline was also higher in January. Gasoline consumption was 6.7 million barrels per day, 3.4 percent above the forecast level, and 4.3 percent and 7.6 percent, respectively, above the levels for January 1976 and January 1975.

Energy Consumption

Domestic Energy Consumption by Primary Energy Type

		Coal*	Natural Gas (dry)	Petroleum	Hydroelectric Power**	Nuclear Electric Power	Total	Cumulative Total
Quadrillion (10 ¹⁵) Btu								
1972	TOTAL	12.424	22.984	32.965	2.946	0.567	71.895	
1973	TOTAL	13.294	22.512	34.852	3.006	0.888	74.553	
1974	January	1.167	2.284	2.951	0.314	0.081	6.796	6.796
	February	1.048	2.103	2.677	0.290	0.087	6.205	13.000
	March	1.069	2.051	2.749	0.300	0.094	6.263	19.263
	April	1.017	1.732	2.631	0.303	0.076	5.759	25.021
	May	1.048	1.647	2.684	0.304	0.070	5.753	30.774
	June	1.033	1.474	2.662	0.290	0.075	5.535	36.309
	July	1.131	1.550	2.791	0.287	0.109	5.867	42.177
	August	1.134	1.546	2.825	0.263	0.131	5.900	48.076
	September	1.022	1.574	2.647	0.236	0.117	5.596	53.672
	October	1.071	1.747	2.910	0.222	0.116	6.066	59.738
	November	1.041	1.871	2.866	0.233	0.117	6.128	65.866
	December	1.109	2.154	3.075	0.253	0.142	6.733	72.599
	TOTAL	12.889	21.732	33.468	3.295	1.215	72.599	
1975	January	1.161	2.302	3.069	0.274	0.149	6.955	6.955
	February	1.066	1.986	2.659	0.262	0.136	6.109	13.064
	March	1.100	1.949	2.785	0.305	0.159	6.297	19.361
	April	1.016	1.613	2.650	0.291	0.142	5.711	25.072
	May	0.995	1.363	2.580	0.302	0.147	5.387	30.459
	June	1.044	1.287	2.579	0.296	0.136	5.342	35.801
	July	1.104	1.345	2.690	0.279	0.164	5.582	41.383
	August	1.144	1.402	2.691	0.249	0.169	5.655	47.038
	September	1.027	1.403	2.605	0.227	0.153	5.415	52.453
	October	1.047	1.581	2.790	0.249	0.156	5.823	58.276
	November	1.071	1.679	2.597	0.268	0.151	5.766	64.042
	December	1.188	2.098	3.070	0.284	0.178	6.818	70.860
	TOTAL	12.964	20.007	32.766	3.285	1.839	70.860	
1976	January	1.233	2.352	3.175	0.285	0.172	7.216	7.216
	February	1.091	1.867	2.783	0.269	0.153	6.162	13.378
	March	1.132	1.866	2.953	0.291	0.149	6.391	19.769
	April	1.062	1.540	2.754	0.265	0.117	5.738	25.507
	May	1.065	1.468	2.727	0.279	0.127	5.667	31.173
	June	1.111	1.359	2.781	0.280	0.168	5.698	36.871
	July	1.185	R1.378	2.836	0.285	0.189	R5.873	R42.744
	August	R1.194	1.359	2.841	0.262	0.196	R5.851	R48.595
	September	R1.110	R1.324	2.779	0.225	0.184	R5.623	R54.218
	October	R1.148	1.649	2.911	0.233	R0.185	R6.124	R60.342
	November	R1.196	1.915	R3.113	R0.220	0.172	R6.615	R66.957
	December***	1.281	2.222	3.399	0.224	0.225	7.351	74.310
	TOTAL	13.805	20.299	35.050	3.119	2.037	74.310	

*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 – November 1976 [Quadrillion (10¹⁵) Btu]

Sector ¹	Primary Energy Source					Primary Energy Consumption	Electricity Distributed ⁷	Net Energy Consumption	Electrical Energy Loss Distributed ⁸	Ultimate Energy Disposition
	Coal ²	Natural Gas (dry) ³	Petroleum ⁴	Hydroelectric ⁵	Nuclear ⁶					
Residential and Commercial	0.025	0.700	0.643	–	–	1.368	0.302	1.671	0.735	2.405
Industrial	0.330	0.931	0.586	0.003	–	1.850	0.210	2.060	0.510	2.570
Transportation	0.001	0.059	1.561	–	(⁹)	1.621	0.006	1.627	0.014	1.640
Electric Utilities	0.840	0.225	0.324	0.217	0.172	1.777	–	–	–	–
TOTAL	1.196	1.915	3.113	0.220	0.172	6.615	0.518	5.357	1.259	6.615

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

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

³ Aggregate data are from the Bureau of Mines. FPC provided data on natural gas consumed by electric utilities. Data from the American Gas Association are used for the Residential and Commercial Sector, adjusted to include a portion of the AGA "Other" category. Natural gas used in transportation, mostly for pipeline use, is estimated to be 3.5 percent of total natural gas consumption less electric utilities. This percentage is derived from 1974 Bureau of Mines data on consumption. The Industrial Sector is then the difference between the total and the sum of the other sectors.

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

Petroleum consumed in transportation was calculated based on Department of Transportation data as follows: Motor gasoline - 100 percent; naphtha jet fuel - 100 percent; kerosene jet fuel - 97 percent; distillate fuel oil - 30.3 percent; residual fuel oil - 11.2 percent; all other products - 4.7 percent. The remainder is distributed to economic sectors using the following percentage shares, derived from 1974 Bureau of Mines data on consumption: Residential and Commercial - 52.3 percent; Industrial - 47.7 percent.

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

⁶ FPC nuclear power production.

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

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

⁹ Negligible.

Energy Consumption (Continued)

Percent Changes in Energy Consumption for November 1976 by Sources and Economic Sectors

	November 1976 Consumption	Percent Change from November 1975	Cumulative Percent Change from 1975 (January through November)*
Quadrillion Btu			
Refined Petroleum Products	3.113	+19.9	+6.3
Motor Gasoline	1.108	+10.2	+4.6
Jet Fuel	0.164	-2.1	-2.5
Distillate	0.649	+46.0	+7.7
Residual	0.614	+38.5	+13.0
Other Petroleum Products	0.578	+12.3	+6.3
Natural Gas (Dry)	1.915	+14.0	+0.9
Coal (Anthracite, bituminous, and lignite)	1.196	+11.6	+6.4
Electricity (Sales)	0.518	+10.2	+5.9
TOTAL ENERGY USE	6.615	+14.7	+4.6
Economic Sector Consumption			
Residential and Commercial	2.405	+20.4	+2.8
Industrial	2.570	+10.8	+6.3
Transportation	1.640	+13.2	+4.6

*Because of leap year, 1976 data include one more day of consumption than 1975 data, except for consumption of petroleum products, which is computed on a daily average basis.

Energy Consumption by the Residential and Commercial Economic Sector¹

	Coal	Natural Gas (dry)	Petroleum ²	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use	
Quadrillion (10 ¹⁵) Btu								
1973	TOTAL	0.295	7.577	7.077	3.445	8.120	26.515	
1974	January	0.040	1.158	0.662	0.297	R0.701	2.856	2.856
	February	0.034	1.027	0.590	0.274	R0.602	R2.527	R5.383
	March	0.027	0.902	0.569	0.268	R0.645	R2.412	R7.795
	April	0.019	0.754	0.530	0.258	0.598	R2.158	R9.953
	May	0.016	0.499	0.497	0.254	0.655	R1.922	R11.874
	June	0.015	0.357	0.503	0.283	R0.688	1.846	R13.720
	July	0.014	0.293	0.507	0.316	R0.848	R1.979	R15.699
	August	0.021	0.265	0.519	0.331	R0.811	R1.946	R17.645
	September	0.025	0.278	0.513	0.315	0.655	1.786	R19.431
	October	0.027	0.395	0.589	0.272	0.637	1.921	R21.352
	November	0.027	0.569	0.583	0.263	R0.639	2.080	R23.433
	December	0.031	0.930	0.628	0.293	0.742	2.624	R26.057
	TOTAL	0.297	7.427	6.688	3.424	R8.221	R26.057	
1975	January	0.035	1.124	0.648	0.310	R0.759	2.876	2.876
	February	0.023	1.105	0.553	0.292	R0.647	2.620	R5.496
	March	0.023	1.018	0.565	0.284	0.693	2.583	R8.079
	April	0.015	0.905	0.506	0.270	0.632	R2.328	R10.407
	May	0.012	0.522	0.457	0.267	R0.682	R1.940	R12.347
	June	0.014	0.338	0.451	0.297	0.756	R1.856	R14.203
	July	0.016	0.294	0.481	0.331	R0.854	R1.976	R16.179
	August	0.015	0.267	0.460	0.342	0.865	1.950	R18.129
	September	0.021	0.281	0.501	0.336	0.694	1.832	R19.961
	October	0.024	0.353	0.555	0.280	R0.678	R1.890	R21.851
	November	0.025	0.523	0.516	0.273	R0.660	1.997	R23.848
	December	0.034	0.910	0.642	0.303	R0.781	2.669	R26.517
	TOTAL	0.257	7.640	6.336	3.584	R8.700	R26.517	
1976	January	0.031	1.229	0.679	0.340	0.711	2.990	2.990
	February	0.020	1.106	0.595	0.314	R0.688	R2.724	5.713
	March	0.018	0.858	0.592	0.286	R0.705	2.458	R8.172
	April	0.015	0.704	0.518	0.270	R0.630	R2.137	R10.309
	May	0.012	0.510	0.524	0.267	R0.648	R1.961	R12.270
	June	0.013	0.369	0.507	0.286	R0.754	1.929	R14.199
	July	0.009	0.297	0.502	0.335	R0.863	R2.006	R16.205
	August	0.011	0.275	0.524	0.345	R0.857	R2.012	R18.217
	September	R0.014	0.271	0.537	R0.329	R0.724	1.876	R20.093
	October	R0.021	0.397	R0.587	0.301	R0.704	R2.010	R22.103
	November	0.025	0.700	0.643	0.302	0.735	2.405	24.508
	TOTAL (11 months)	0.190	6.717	6.208	3.376	8.017	24.508	

(See footnotes on page 49)

Energy Consumption (Continued)

Energy Consumption by the Industrial Economic Sector¹

		Coal	Natural Gas (dry)	Petroleum ³	Hydro-electric	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 ¹⁵) Btu									
1973	TOTAL	4.370	10.493	6.403	0.036	2.341	5.518	29.161	
1974	January	0.378	R0.829	0.603	0.003	0.189	0.447	R2.449	R2.449
	February	0.354	R0.803	0.538	0.003	0.187	R0.410	R2.294	R4.744
	March	0.358	R0.826	0.519	0.003	0.190	R0.458	R2.353	R7.097
	April	0.352	0.662	0.483	0.003	0.191	R0.445	2.136	R9.232
	May	0.342	R0.787	0.453	0.003	0.195	0.503	2.284	R11.516
	June	0.326	R0.722	0.458	0.003	0.197	R0.479	2.186	R13.702
	July	0.325	R0.804	0.462	0.003	0.196	0.526	R2.317	R16.019
	August	0.335	R0.851	0.473	0.003	0.203	R0.498	R2.364	R18.383
	September	0.325	R0.932	0.468	0.003	0.204	0.425	R2.357	R20.740
	October	0.347	R0.996	0.537	0.003	0.205	R0.481	R2.569	R23.309
	November	0.312	R1.000	0.531	0.003	0.195	0.474	2.516	R25.825
	December	0.309	0.945	0.573	0.003	0.182	0.462	2.475	R28.300
	TOTAL	4.062	R10.157	6.100	0.036	2.337	R5.608	R28.300	
1975	January	0.344	R0.896	0.591	0.003	0.189	0.464	2.488	2.488
	February	0.344	0.626	0.505	0.003	0.185	0.410	2.074	4.562
	March	0.365	R0.655	0.515	0.003	0.186	0.453	2.178	R6.739
	April	0.343	R0.439	0.461	0.003	0.184	0.431	1.862	R8.601
	May	0.323	R0.521	0.417	0.003	0.182	R0.466	R1.912	R10.513
	June	0.301	R0.599	0.411	0.003	0.185	0.469	R1.969	R12.482
	July	0.288	R0.645	0.439	0.003	0.190	R0.491	2.056	R14.538
	August	0.293	R0.729	0.420	0.003	0.197	0.499	2.142	R16.679
	September	0.294	R0.760	0.457	0.003	0.194	R0.401	R2.109	R18.789
	October	0.305	R0.901	0.506	0.003	0.193	0.466	R2.374	R21.163
	November	0.318	0.872	0.471	0.003	0.192	0.464	2.320	R23.482
	December	0.337	R0.903	0.585	0.003	0.189	0.488	R2.506	R25.989
	TOTAL	3.858	R8.547	5.779	0.036	2.266	R5.503	R25.989	
1976	January	0.323	1.041	0.620	0.003	0.196	0.410	2.593	2.593
	February	0.305	R0.498	0.543	0.003	0.199	R0.435	R1.982	R4.575
	March	0.323	R0.722	0.540	0.003	0.206	0.509	R2.303	R6.878
	April	0.305	R0.556	0.473	0.003	0.205	0.478	R2.021	R8.900
	May	0.313	0.644	0.478	0.003	0.209	0.506	2.153	R11.052
	June	0.298	R0.632	0.462	0.003	0.213	0.561	R2.169	R13.221
	July	0.297	R0.700	0.458	0.003	0.215	0.552	R2.225	R15.447
	August	R0.292	R0.710	0.478	0.003	0.219	R0.544	R2.246	R17.692
	September	R0.305	R0.715	0.489	0.003	R0.212	R0.466	R2.190	R19.882
	October	R0.321	R0.947	R0.536	0.003	0.213	R0.498	R2.517	R22.399
	November	0.330	0.931	0.586	0.003	0.210	0.510	2.570	24.968
	TOTAL (11 months)	3.412	8.095	5.662	0.033	2.296	5.470	24.968	

(See footnotes on page 49)

Energy Consumption by the Transportation Economic Sector¹

		Coal	Natural Gas ⁴ (dry)	Petroleum	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 ¹⁵) Btu								
1973	TOTAL	0.009	0.733	17.940	0.058	0.137	18.877	
1974	January	0.001	0.072	1.399	0.005	0.013	1.490	1.490
	February	0.001	0.066	1.300	0.005	0.011	1.384	2.874
	March	0.001	0.063	1.417	0.005	0.012	1.498	R4.371
	April	0.001	0.051	1.397	0.005	0.011	1.465	R5.836
	May	0.001	0.047	1.484	0.005	0.012	1.547	7.384
	June	0.001	0.039	1.448	0.005	0.011	1.503	8.887
	July	0.001	0.040	1.514	0.005	0.012	R1.571	10.458
	August	0.001	R0.040	1.533	0.005	0.012	1.590	R12.048
	September	0.001	0.044	1.393	0.005	0.010	1.453	13.501
	October	0.001	0.050	1.507	0.005	0.012	1.576	15.077
	November	0.001	0.057	1.455	0.005	0.013	1.532	16.609
	December	0.001	0.068	1.546	0.006	0.014	1.634	R18.242
	TOTAL	0.009	0.638	17.392	0.060	0.144	R18.242	
1975	January	0.001	0.073	1.498	0.006	0.014	1.592	1.592
	February	0.001	0.063	1.334	0.005	0.012	1.415	3.006
	March	0.001	0.061	1.456	0.005	0.013	1.536	4.542
	April	0.001	0.049	1.455	0.005	0.012	1.522	6.064
	May	0.001	0.038	1.480	0.005	0.012	1.536	7.600
	June	0.001	0.034	1.466	0.005	0.012	1.517	9.116
	July	0.001	0.034	1.498	0.005	R0.013	1.550	10.666
	August	0.001	0.036	1.509	0.005	0.012	1.563	12.229
	September	0.001	0.038	1.420	0.005	0.010	1.473	13.703
	October	0.001	0.045	1.495	0.005	0.013	1.559	15.262
	November	0.001	0.051	1.379	0.006	0.013	1.449	16.711
	December	0.001	0.066	1.556	0.006	0.015	1.643	18.354
	TOTAL	0.008	0.587	17.547	0.062	R0.151	18.354	
1976	January	0.001	0.082	1.532	0.006	0.012	1.633	1.633
	February	0.001	0.058	1.380	0.006	0.012	1.457	3.090
	March	0.001	0.057	1.552	0.005	0.013	1.629	4.719
	April	0.001	0.046	1.517	0.005	0.012	1.580	6.298
	May	0.001	0.042	1.493	0.005	0.012	1.553	7.852
	June	0.001	0.036	1.546	0.005	0.012	R1.599	9.451
	July	0.001	0.036	1.587	0.005	0.013	1.642	11.093
	August	0.001	0.036	1.538	0.005	0.013	1.593	R12.685
	September	0.001	0.036	1.504	0.005	0.011	1.557	14.243
	October	0.001	0.049	R1.530	0.006	0.013	R1.598	R15.840
	November	0.001	0.059	1.561	0.006	0.014	1.640	17.481
	TOTAL (11 months)	0.007	0.537	16.741	0.058	0.138	17.481	

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

² The percentage share used in calculating Residential and Commercial consumption of petroleum was 52.5 percent for 1973 and 52.3 percent for 1974, 1975, and 1976.

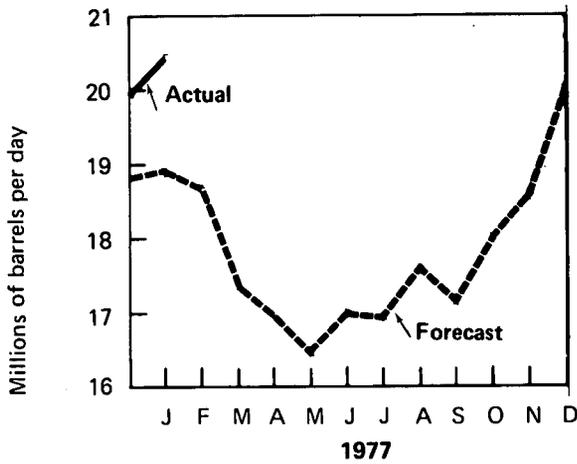
³ The percentage share used in calculating Industrial consumption of petroleum was 47.5 percent for 1973 and 47.7 percent for 1974, 1975, and 1976.

⁴ The percentage share used in calculating Transportation consumption of natural gas was 3.9 percent for 1973 and 3.5 percent for 1974, 1975, and 1976.

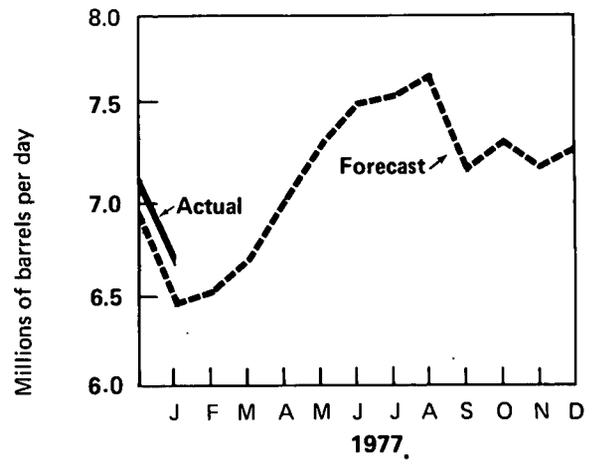
R=Revised data.

Petroleum Consumption and Forecast

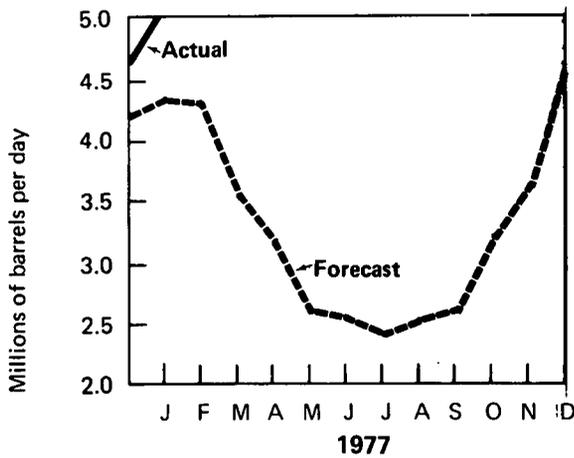
Total Domestic Demand for Petroleum Products



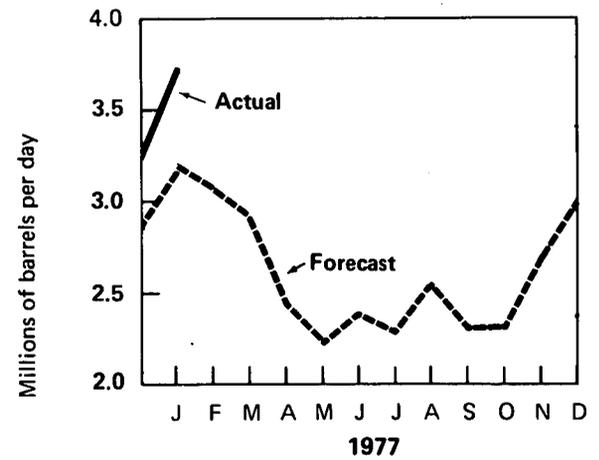
Domestic Demand for Motor Gasoline



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 – Based on FEA data for December 1976 and API data for January 1977.

Forecast – See Explanatory Note 6 for discussion of basic assumptions for forecast.

Part 8

Oil and Gas Exploration

The number of rotary rigs drilling for oil and gas during February was at the highest level since 1958 with 1,856 rigs in use. The rig count for February 1976 was only 1,594.

Well completions totaled 3,219 in January, a drop of 2.2 percent from the January 1976 total, but an increase of 7.5 percent over the number of wells completed during January 1975.

Seismic exploration activity declined in January following a 2-month uptrend. A total of 280 seismic crews (254 land, 26 marine) were operating in the United States and its territorial waters during the month, down 5 land crews and 1 marine crew from the count for December. The January figure, however, was 28 crews higher than the count for the same month in 1976.

Resource Development

Oil and Gas Exploration

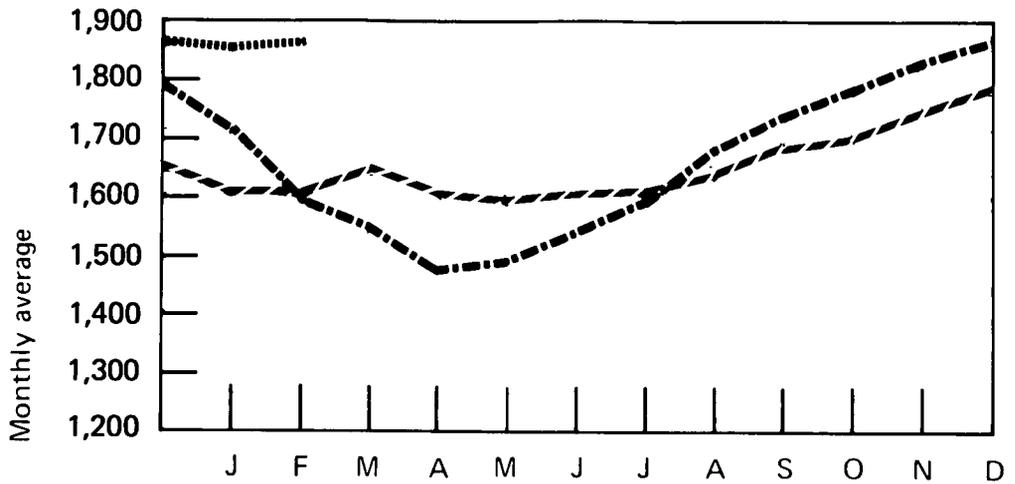
		Rotary Rigs in Operation	Wells Drilled				Total Footage of Wells Drilled
		Monthly average	Oil	Gas	Dry	Total	Thousands of feet
1972	AVERAGE	1,107	TOTAL 11,306	4,928	11,057	27,291	134,602
1973	AVERAGE	1,194	TOTAL 9,902	6,385	10,305	26,592	136,391
1974	January	1,372	763	577	803	2,143	10,392
	February	1,355	901	600	816	2,317	12,160
	March	1,367	936	638	1,003	2,577	12,844
	April	1,381	947	700	945	2,592	13,349
	May	1,412	957	520	870	2,347	11,460
	June	1,432	1,238	586	982	2,806	12,976
	July	1,480	1,008	461	884	2,353	11,802
	August	1,518	1,210	555	968	2,733	12,410
	September	1,527	1,200	600	1,091	2,891	12,676
	October	1,584	1,131	551	1,241	2,923	14,081
	November	1,596	1,008	626	1,053	2,767	11,795
	December	1,643	1,339	791	1,274	3,404	15,707
	AVERAGE	1,475	TOTAL * 12,784	7,240	11,674	31,698	150,551
1975	January	1,615	1,299	655	1,040	2,994	13,189
	February	1,611	1,097	458	933	2,488	12,071
	March	1,651	1,341	658	1,091	3,090	15,472
	April	1,604	1,181	506	1,071	2,758	13,545
	May	1,592	1,100	451	891	2,442	12,054
	June	1,613	1,246	509	1,022	2,777	13,540
	July	1,616	1,229	557	920	2,706	12,545
	August	1,645	1,272	587	1,122	2,981	14,221
	September	1,699	1,504	831	1,165	3,500	15,636
	October	1,716	1,633	682	1,310	3,625	16,689
	November	1,757	1,619	776	1,270	3,665	15,788
	December	1,793	1,817	832	1,424	4,073	17,556
	AVERAGE	1,660	TOTAL * 16,408	7,580	13,247	37,235	174,434
1976	January	1,710	1,465	772	1,055	3,292	14,517
	February	1,594	1,341	652	1,159	3,152	14,888
	March	1,540	1,726	821	1,301	3,848	18,126
	April	1,480	1,237	672	994	2,903	13,765
	May	1,496	1,501	658	1,104	3,263	14,196
	June	1,546	1,500	709	1,123	3,332	14,780
	July	1,597	1,312	730	916	2,958	13,716
	August	1,691	1,265	711	1,140	3,116	14,697
	September	1,744	1,474	909	1,199	3,582	16,777
	October	1,794	1,396	750	1,123	3,269	14,542
	November	1,840	1,291	698	1,222	3,211	14,642
	December	1,860	1,512	926	1,414	3,852	17,093
	AVERAGE	1,656	TOTAL * 17,024	9,057	13,682	39,763	181,856
1977	January	1,850	1,391	732	1,096	3,219	14,517
	February	1,856	NA	NA	NA	NA	NA

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

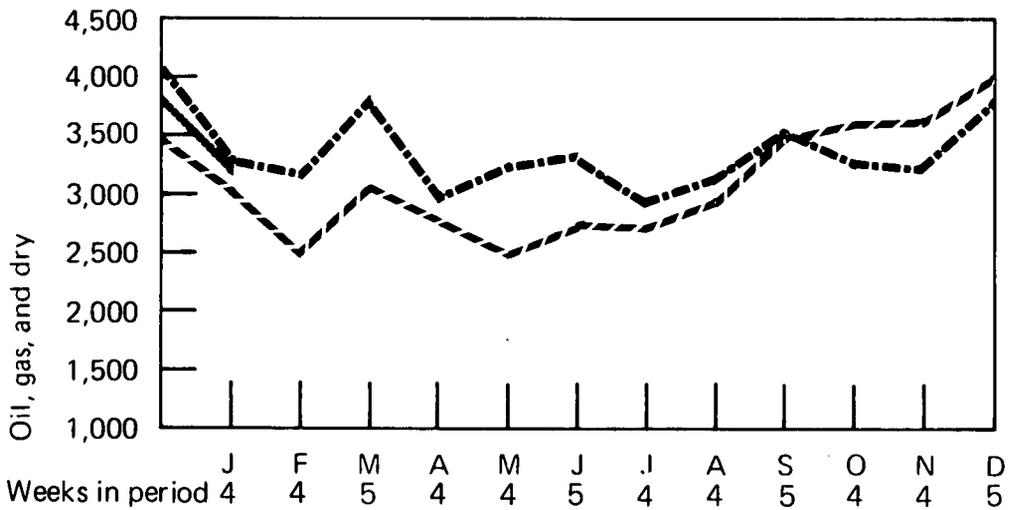
NA=Not available.

Sources: Rotary Rigs—Hughes Tool Company; Wells—American Petroleum Institute.

Rotary Rigs in Operation

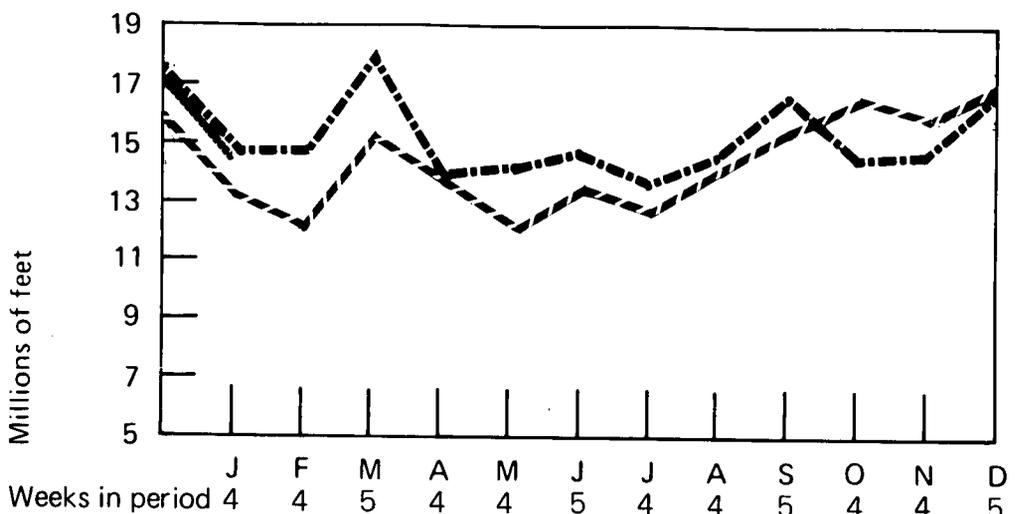


Total Wells Drilled



Weeks in period 4 4 5 4 4 5 4 4 5 4 4 5

Total Footage of Wells Drilled



Weeks in period 4 4 5 4 4 5 4 4 5 4 4 5

/- 1975
 - - 1976
 1977

Oil and Gas Exploration (Continued)

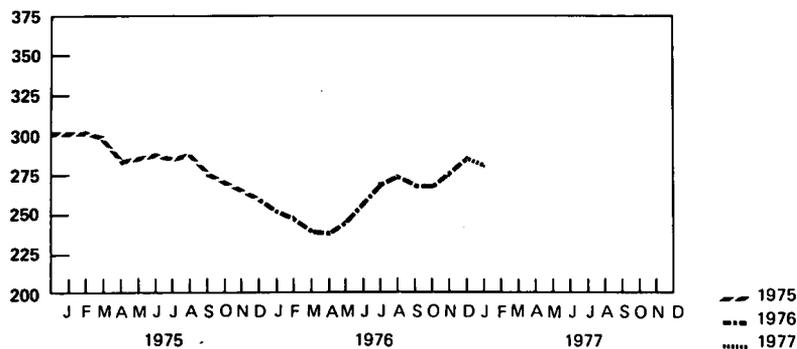
		Crews Engaged in Seismic Exploration			Line Miles of Seismic Exploration		
		Offshore	Onshore	Total	Offshore	Onshore	Total
		Monthly average			Monthly average		
1972	Year	12	239	251	10,306	9,333	19,639
1973	Year	23	227	250	21,579	10,597	32,175
1974	Year	31	274	305	28,482	13,219	41,701
1975	Year	30	254	284	25,773	12,558	38,331
1976	Year	*24	*237	*261	NA	NA	NA
1974	January-April	NA	NA	NA			
	May	35	278	313			
	June	38	279	317			
	July	35	299	334			
	August	34	287	321			
	September	34	287	321			
	October	32	288	320			
	November	30	276	306			
	December	25	275	300			
1975	January	27	274	301			
	February	24	278	302			
	March	23	276	299			
	April	23	266	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			

*Preliminary.

NA=Not available.

Source: Society of Exploration Geophysicists.

Total Seismic Crews



Motor Gasoline

The national average selling price for regular gasoline at full service retail outlets was unchanged in January at 59.9 cents per gallon. The average price that full service retailers paid for regular gasoline and the dealer margin were also unchanged at 52.0 cents and 7.9 cents per gallon, respectively.

The average selling price of regular gasoline at self service outlets in January was 56.2 cents per gallon, a 0.1-cent increase over December's level.

Heating Oil

The national average price of heating oil sold to residential users was 43.0 cents per gallon in December, an increase of 1.1 cents from the price in November. This was the highest price ever paid by residential customers for heating oil.

Residual Fuel

The average No. 6 residual fuel oil price at the retail level was \$11.93 per barrel in November, up 13 cents from October's price.

Crude Oil

The preliminary refiner acquisition cost of domestic crude oil was \$9.29 per barrel in December, 6 cents above the revised November price.

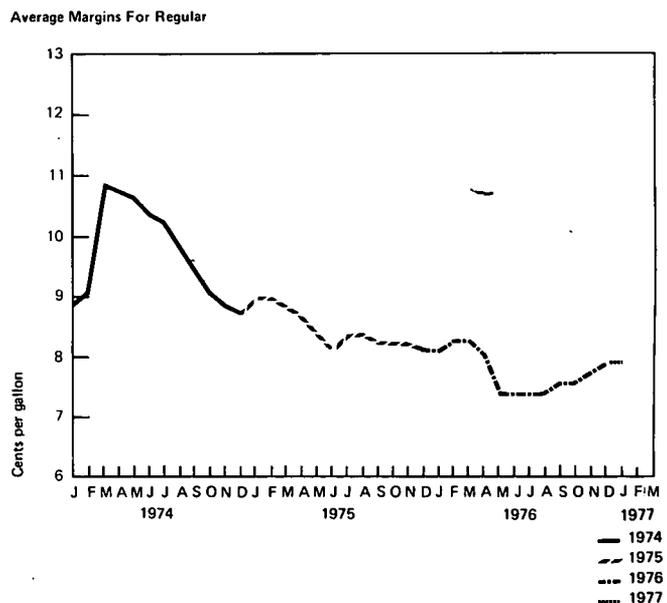
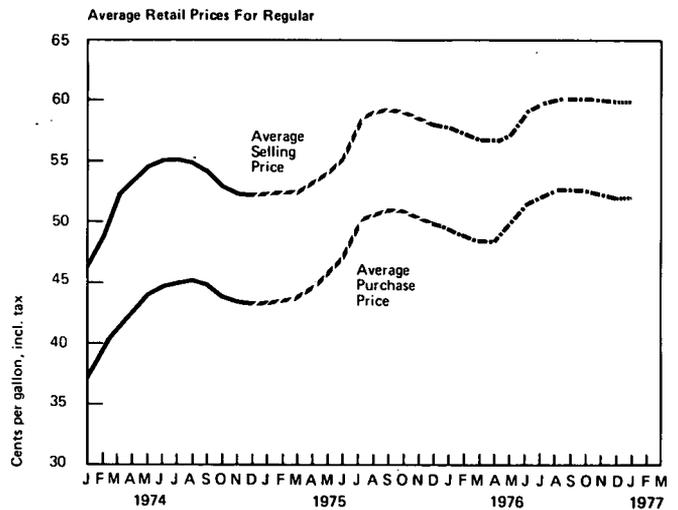
The preliminary refiner acquisition cost of imported crude increased 14 cents in December to \$13.72 per barrel.

The preliminary estimate for the composite cost of crude oil purchased by refiners was \$11.34, an increase of 8 cents over the November level.

Motor Gasoline

Regular Gasoline at Full Service Retail Outlets

		Average Selling Price	Average Purchase Price	Average Dealer Margin 6.6*
		Cents per gallon, including tax*		
1974	January	46.3	37.4	8.9
	February	48.8	39.7	9.1
	March	52.3	41.4	10.9
	April	53.4	42.7	10.7
	May	54.7	44.1	10.6
	June	55.1	44.8	10.3
	July	55.2	45.0	10.2
	August	54.9	45.1	9.8
	September	54.2	44.8	9.4
	October	52.4	43.4	9.0
	November	52.0	43.2	8.8
	December	52.0	43.3	8.7
AVERAGE		52.8	43.1	
1975	January	52.4	43.4	9.0
	February	52.5	43.5	9.0
	March	52.6	43.8	8.8
	April	53.5	44.9	8.6
	May	54.3	46.0	8.3
	June	55.6	47.5	8.1
	July	58.7	50.3	8.4
	August	59.2	50.8	8.4
	September	59.3	51.1	8.2
	October	58.9	50.7	8.2
	November	58.4	50.2	8.2
	December	58.0	49.9	8.1
AVERAGE		56.2	47.8	
1976	January	57.7	49.6	8.1
	February	57.1	48.8	8.3
	March	56.6	48.3	8.3
	April	56.6	48.6	8.0
	May	57.4	50.0	7.4
	June	59.0	51.6	7.4
	July	59.6	52.2	7.4
	August	60.1	52.7	7.4
	September	60.2	52.6	7.6
	October	60.2	52.6	7.6
	November	60.0	52.2	7.8
	December	59.9	52.0	7.9
AVERAGE		58.7	51.0	
1977	January	59.9	52.0	7.9



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

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

Regular Gasoline at Self Service Retail Outlets

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

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			
1974	January	50.1	48.8
	February	52.6	50.8
	March	56.0	53.6
	April	57.2	55.1
	May	58.5	57.1
	June	58.5	57.4
	July	59.0	57.2
	August	58.0	56.8
	September	58.2	55.8
	October	56.6	54.1
	November	56.3	53.9
	December	56.3	53.9
1975	January	57.1	NA
	February	57.3	56.1
	March	57.5	56.2
	April	58.2	57.1
	May	59.0	57.9
	June	60.3	58.8
	July	63.1	61.5
	August	63.6	62.0
	September	63.8	62.1
	October	63.4	62.1
	November	63.2	62.0
	December	62.9	61.4
1976	January	62.7	61.2
	February	62.1	60.6
	March	61.6	60.1
	April	61.6	60.4
	May	62.4	61.1
	June	63.9	62.9
	July	64.6	63.2
	August	65.2	63.9
	September	65.3	64.0
	October	65.2	64.0
	November	65.2	63.9
	December	65.0	63.9
1977	January	65.2	64.0

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

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

Regular Gasoline—Full Service

Cents per gallon, including tax

	Selling Price	Margin
Major	60.9	8.4
Independent	55.6	6.1
National Average	59.9	7.9

Regular Gasoline—Self Service

	Selling Price	Margin
Major	57.1	4.5
Independent	54.1	4.5
National Average	56.2	4.5

Premium Gasoline—Selling Prices

	Full Service	Self Service
Major	65.9	62.8
Independent	60.2	58.7
National Average	65.2	61.7

Unleaded Gasoline—Full Service Selling Prices

	Regular	Premium
Major	64.6	68.4
Independent	58.5	NA
National Average	64.0	68.4

NA=Not available.

Source: Lundberg Survey, Inc.

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

Region	Selling Price	Margin
	Cents per gallon, including tax	
1A New England	58.7	7.0
1B Mid Atlantic	60.7	7.1
1C Lower Atlantic	60.2	8.5
2 Mid Continent	59.9	7.4
3 Gulf Coast	57.3	9.4
4 Rocky Mountain	61.8	9.8
5 West Coast	62.0	8.1
National Average	59.9	7.9

Source: Lundberg Survey, Inc.

Motor Gasoline (Continued)

Retail Gasoline Price Changes for 21 Leading Refiners During January 1977
and Entitlement Position* During December 1976

Company	Effective Date of Change	Amount of Change	Entitlement Position (December)
		Cents per gallon	
Amerada Hess	January 28	3.00 (Premium, unleaded) 2.00 (Regular)	Seller
American Petrofina		None	Buyer
Ashland		None	Seller
Atlantic Richfield	January 25	0.80 (PAD I)	Buyer
B.P.	January 29	1.00 (PAD I)	Seller
Cities Service	January 21	0.80 (PAD I, III, all grades)	Buyer
Champlin	January 4	0.05 (PAD II, IV, all grades)	Buyer
Continental		None	Buyer
Exxon	January 27	1.00 (All PADS, all grades)	Buyer
Getty		None	Seller
Gulf	January 15	1.00 (All grades, PAD IV, V)	Buyer
Kerr-McGee		None	Seller
Mobil	January 19	1.00 (PAD I, II, III)	Buyer
Phillips		None	Buyer
Shell	January 29	0.80 (PAD I, III)	Buyer
Standard Oil of California	January 25	0.80 (PAD I)	Seller
Standard Oil of Indiana	January 6	1.00 (PAD IV, all grades)	Buyer
	January 19	0.80 (PAD I, III, all grades)	
Standard Oil of Ohio		None	Seller
Sun		None	Buyer
Texaco	January 28	1.50 (PAD I, III, V, premium) 0.50 (PAD II, IV, premium) 1.00 (PAD I, III, V, regular, unleaded)	Buyer
Union Oil of California	January 31	1.00 (PAD I) 0.50 (PAD II, III)	Buyer

*See Definitions.
Source: FEA.

Jobber Prices for Regular Gasoline Sold by 21 Leading Refiners

		Northeast	Mid-Atlantic	Southeast	Central	Western	Southwest	Pacific	National Average
Cents per gallon, excluding tax									
1974	January	21.4	21.4	21.1	21.3	22.2	20.1	21.0	21.2
	February	23.7	23.6	22.5	23.9	23.5	22.5	22.6	23.2
	March	25.4	25.2	24.1	25.3	24.5	24.2	25.2	24.8
	April	26.7	26.1	24.8	26.0	25.6	24.7	25.0	25.6
	May	28.5	28.4	26.8	28.2	27.7	26.3	26.3	27.5
	June	29.8	29.4	28.0	29.3	29.3	27.1	27.2	28.6
	July	29.9	29.3	28.0	29.4	28.9	27.8	28.0	28.8
	August	29.7	29.4	28.6	29.6	29.1	28.1	28.6	29.0
	September	29.3	28.9	28.0	28.8	28.7	27.4	27.8	28.4
	October	28.0	27.2	26.6	27.5	27.0	26.2	26.6	27.0
	November	27.8	27.3	26.6	27.5	27.5	26.3	27.3	27.2
	December	27.7	27.6	26.9	27.7	27.9	26.7	27.3	27.4
AVERAGE									26.7
1975	January	27.8	27.8	27.4	28.2	28.5	27.2	27.8	27.8
	February	28.4	28.2	27.8	28.7	28.3	27.6	27.5	28.1
	March	28.9	28.8	28.4	29.1	29.0	27.8	28.0	28.6
	April	29.6	29.9	29.4	30.4	29.8	29.2	29.8	29.7
	May	30.9	31.0	30.5	31.6	31.2	30.4	31.0	30.9
	June	32.4	32.5	32.0	33.1	32.6	31.6	32.6	32.4
	July	34.4	34.6	33.9	34.9	34.5	33.4	33.7	34.2
	August	35.3	35.1	34.6	35.6	35.2	34.1	34.5	34.9
	September	35.2	35.1	34.5	35.4	35.0	34.1	34.5	34.8
	October	34.3	34.6	34.0	34.9	34.3	33.8	34.2	34.3
	November	34.1	34.3	33.9	34.6	34.3	33.6	34.0	34.1
	December	33.7	34.1	33.6	34.3	33.8	33.3	33.7	33.8
AVERAGE									32.0
1976	January	33.3	33.9	33.2	34.0	33.2	33.1	33.5	33.5
	February	33.0	33.4	32.6	33.8	32.6	32.9	33.5	33.1
	March	32.4	33.0	31.8	33.4	32.5	32.6	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	36.1	35.9	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	36.4	36.5	36.7	36.5
	September	35.8	36.1	35.3	36.9	35.9	36.6	36.5	36.2
	October	35.7	35.8	35.2	36.7	35.9	36.4	36.5	36.0
	November	34.9	35.1	34.4	36.3	35.3	36.3	36.5	35.6
	December	34.9	35.1	34.4	36.3	35.3	36.3	36.5	35.6
AVERAGE									35.0
1977	January	35.6	35.8	35.2	36.9	35.9	36.7	37.0	36.2

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					
1974	January	NA	46.0	NA	6.7
	February	NA	45.9	NA	6.6
	March	NA	46.8	NA	7.2
	April	NA	48.3	NA	7.2
	May	NA	48.4	NA	7.2
	June	NA	49.3	NA	7.7
	July	NA	49.7	NA	7.3
	August	NA	49.9	NA	7.3
	September	NA	49.6	NA	7.4
	October	NA	49.3	NA	7.5
	November	NA	49.3	NA	7.2
	December	NA	49.2	NA	7.5
1975	January	NA	50.6	NA	6.8
	February	49.7	50.2	7.0	7.3
	March	50.1	50.2	7.5	7.4
	April	50.5	50.6	7.4	7.5
	May	50.3	51.0	7.0	7.7
	June	51.4	51.4	7.5	7.9
	July	51.2	52.4	7.3	8.2
	August	52.1	52.6	8.1	8.9
	September	52.1	52.7	7.4	8.7
	October	51.8	53.0	6.2	7.7
	November	52.0	53.0	5.3	6.5
	December	51.7	52.4	5.3	6.7
1976	January	52.0	52.5	5.6	7.2
	February	52.1	52.0	6.0	7.3
	March	51.4	52.4	5.6	7.1
	April	51.1	52.8	5.8	7.8
	May	51.4	52.9	6.9	7.8
	June	52.0	53.3	7.0	7.7
	July	52.1	53.1	6.4	7.1
	August	52.3	53.2	6.0	7.0
	September	52.2	53.1	5.7	6.8
	October	52.4	53.1	5.8	6.5
	November	52.9	53.3	6.1	6.4
	December	53.1	53.5	5.7	5.9
1977	January	53.9	54.3	4.9	5.3

*See Explanatory Note 13.

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

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

Cents per gallon, including tax

Truckstops

	Selling Price	Margin
Major	54.8	4.8
Independent	52.7	5.1
National Average	53.9	4.9

Service Stations

	Selling Price	Margin
Major	55.9	5.2
Independent	53.0	5.3
National Average	54.3	5.3

Source: Lundberg Survey, Inc.

No. 1 Diesel Fuel

Wholesale Retail
Cents per gallon, excluding taxes

1975	July	30.1	37.7
	August	30.8	38.2
	September	31.5	36.9
	October	33.1	35.4
	November	33.3	35.0
	December	34.2	35.5
1976	January	33.8	37.1
	February	33.6	35.3
	March	33.9	34.8
	April	34.2	35.4
	May	34.5	37.5
	June	34.7	37.9
	July*	35.0	38.1
	August*	35.4	38.2
	September*	35.3	37.7
	October*	36.3	R38.2
	November*	35.8	38.1

*Preliminary.

R=Revised data.

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.

Heating Oil

Residential Heating Oil Prices

		Average Selling Price*	Average Purchase Price*	Average Dealer Margin*
Cents per gallon, including taxes				
1974	January	31.1	23.4	7.7
	February	32.8	25.4	7.4
	March	33.8	25.9	7.9
	April	34.0	25.9	8.1
	May	35.1	26.8	8.3
	June	35.3	27.5	7.8
	July	35.2	28.1	7.1
	August	35.8	28.1	7.7
	September	36.3	28.7	7.6
	October	35.6	28.9	6.7
	November	37.9	29.1	8.8
	December	36.9	28.5	8.4
		AVERAGE	34.7	26.9
1975	January	37.4	29.1	8.3
	February	37.0	28.7	8.3
	March	36.6	28.4	8.2
	April	36.1	29.3	6.8
	May	36.7	30.0	6.7
	June	37.1	30.3	6.8
	July	37.2	30.6	6.6
	August	38.0	31.2	6.8
	September	38.4	31.0	7.4
	October	39.3	31.8	7.5
	November	39.4	32.1	7.3
	December	40.1	32.4	7.7
		AVERAGE	37.7	31.2
1976	January	40.1	32.4	7.7
	February	40.1	32.4	7.7
	March	NA	NA	NA
	April	NA	NA	NA
	May	NA	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	R41.9	NA	NA
	December	43.0	NA	NA

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

NA=Not available.

R=Revised data.

Source: FEA.

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 taxes										
1974	January	31.9	31.6	30.8	30.3	29.8	31.3	NA	30.4	30.5
	February	33.8	33.5	32.8	30.9	32.0	32.9	NA	37.2	32.8
	March	31.9	33.7	33.9	34.2	30.6	34.5	NA	NA	NA
	April	34.3	34.8	32.5	33.5	33.7	30.1	NA	34.2	32.6
	May	34.8	35.6	36.2	34.2	34.4	32.6	NA	34.8	37.8
	June	35.9	36.2	35.8	34.9	31.1	33.6	NA	35.9	39.1
	July	35.2	35.5	35.6	34.4	30.2	34.9	NA	36.1	36.3
	August	36.3	36.1	37.8	35.1	33.7	35.2	NA	NA	35.9
	September	37.2	36.5	36.1	35.0	33.6	35.8	NA	32.3	35.1
	October	36.7	35.9	36.9	33.3	34.1	33.8	NA	35.6	36.3
	November	39.0	38.7	37.4	36.4	35.3	35.6	NA	37.3	36.4
	December	38.3	38.7	36.8	34.2	34.7	33.5	NA	35.8	33.9
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	41.3	40.6	39.9	38.6	NA	39.0	NA	40.2	42.0
	February	41.1	41.6	39.2	38.5	37.2	38.9	NA	NA	40.8

NA=Not available.
Source: FEA.

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								
1974	January	22.3	23.4	23.3	23.8	23.5	24.0	NA	22.5	23.0
	February	24.9	25.5	25.3	24.8	25.2	26.4	NA	29.7	25.3
	March	24.9	25.0	26.3	25.6	24.0	27.0	NA	NA	NA
	April	25.7	26.0	26.0	27.1	26.3	24.0	NA	26.8	26.0
	May	26.3	27.0	27.5	27.3	27.4	25.8	NA	27.1	26.2
	June	27.5	27.6	27.8	29.0	25.4	27.4	NA	27.3	28.0
	July	28.1	28.2	28.3	27.5	25.2	28.5	NA	28.2	29.1
	August	28.1	28.2	27.9	27.5	29.3	28.8	NA	NA	28.2
	September	29.2	28.9	28.5	27.8	28.2	28.4	NA	29.3	28.8
	October	29.9	29.4	28.8	27.7	28.3	27.4	NA	29.9	29.2
	November	29.8	29.7	28.8	27.8	29.1	27.6	NA	27.9	29.8
	December	29.3	29.4	28.4	27.4	28.8	26.7	NA	29.3	27.0
1975	January	30.3	29.7	28.5	27.2	28.8	27.5	NA	28.5	29.7
	February	29.6	29.3	28.6	27.2	28.8	27.3	NA	29.4	28.5
	March	29.5	29.3	29.1	28.1	26.8	28.1	NA	NA	27.6
	April	29.4	29.5	29.7	28.3	27.8	29.5	NA	29.0	28.5
	May	30.5	30.0	30.0	30.0	28.8	29.4	NA	30.9	28.7
	June	30.4	30.2	30.6	30.5	NA	30.7	NA	31.8	29.0
	July	30.7	30.1	29.9	31.6	28.8	31.4	NA	NA	30.4
	August	31.6	30.8	30.9	31.2	29.8	30.2	NA	31.6	32.8
	September	31.4	30.9	30.7	30.6	29.8	30.6	NA	31.9	31.4
	October	32.0	31.9	31.3	31.5	31.1	31.4	NA	34.4	32.5
	November	32.5	31.7	32.0	32.1	NA	32.0	NA	34.1	32.3
	December	32.9	32.7	31.8	32.0	29.4	31.4	NA	33.9	32.8
1976	January	32.5	32.5	31.9	32.3	NA	32.3	NA	33.6	32.9
	February	32.8	32.9	31.6	31.9	31.3	32.1	NA	NA	31.1

NA=Not available.
Source: FEA.

Residual Fuel Oil

RESIDUAL FUEL OIL (Dollars per barrel)

	NO. 5		NO. 6						BUNKER "C"		TOTAL		
	Wholesale	Retail	0.0 to 0.3 percent sulfur		0.31 to 1.0 percent sulfur		Greater than 1.0 percent sulfur		Total				
			Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	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	11.75	12.06	12.39	10.60	11.68	9.57	10.23	10.53	11.35	8.75	10.35	11.02
February	10.49	11.59	12.42	12.78	10.88	11.86	9.70	10.36	10.73	11.52	8.64	10.27	11.15
March	10.23	11.89	12.34	12.81	11.05	11.85	9.57	10.22	10.74	11.43	8.59	10.33	11.12
April	10.30	11.58	11.49	12.34	10.93	11.77	9.53	10.29	10.38	11.43	8.79	10.12	11.02
May	9.87	11.70	11.04	11.87	10.61	11.40	9.48	9.89	10.11	10.95	8.75	10.65	10.63
June	9.97	11.23	11.21	12.23	10.17	11.35	9.74	10.01	10.12	11.04	8.58	10.09	10.70
July	9.94	11.70	11.71	12.12	10.21	11.36	9.83	10.04	10.24	11.04	9.36	10.34	10.74
August	9.71	11.48	11.67	12.27	10.41	11.45	9.57	10.19	10.20	11.18	8.94	9.98	10.79
September	10.32	11.11	11.64	12.50	10.27	11.55	10.04	10.29	10.33	11.30	9.15	10.07	10.91
October*	10.32	11.70	11.89	12.85	11.08	12.06	10.04	10.74	10.75	11.82	9.64	10.81	11.40
November*	10.85	12.26	12.27	13.15	11.48	12.21	10.41	10.98	11.14	11.95	10.40	10.89	11.61

*Preliminary.

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.

R=Revised data.

Source: FEA mandatory survey of refiners and large resellers.

Aviation Fuels

AVIATION FUELS (Cents per gallon)

	Aviation Gasoline		Naphtha-Type*	Kerosene-Type		Total
	Wholesale	Retail	Retail	Wholesale	Retail	
1975						
July	40.6	40.6	31.4	29.8	29.2	30.3
August	41.3	42.1	31.0	32.1	29.5	30.4
September	41.2	39.9	30.5	31.5	29.6	30.3
October	41.1	41.2	30.5	31.7	30.0	30.6
November	39.7	42.1	30.7	31.6	30.2	30.8
December	40.9	40.9	31.0	31.9	30.5	31.1
1976						
January	41.4	41.2	30.9	30.6	31.3	31.5
February	41.2	42.0	31.2	31.1	31.2	31.5
March	41.1	41.9	31.4	31.2	30.7	31.2
April	41.2	42.5	30.4	31.9	30.5	30.9
May	42.1	43.1	31.0	33.0	30.2	31.0
June	42.6	42.3	31.3	32.1	30.3	31.1
July	43.6	44.2	31.1	32.9	30.8	31.5
August	43.7	44.1	31.7	32.1	31.1	31.8
September	43.6	44.7	32.3	32.6	31.4	32.2
October**	43.6	43.8	32.4	33.5	31.9	32.5
November**	43.4	43.9	32.8	33.4	32.4	32.9

*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.

R=Revised data.

Source: FEA mandatory survey of refiners and large resellers.

Crude Oil

Domestic Crude Petroleum Prices at the Wellhead*

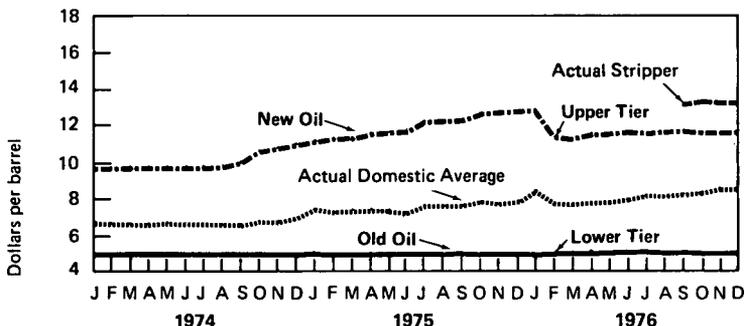
		Old	New	Domestic Average	Lower Tier**	Upper Tier**	Domestic Average			
		Dollars per barrel			Dollars per barrel					
1974	January	5.03	9.82	6.95	1976	February	5.05	11.47	7.87	
	February	5.03	9.87	6.87		March	5.07	11.39	7.79	
	March	5.03	9.88	6.77		April	5.07	11.52	7.86	
	April	5.03	9.88	6.77		May	5.13	11.55	7.89	
	May	5.03	9.88	6.87		June	5.15	11.60	7.99	
	June	5.03	9.95	6.85		July	5.19	11.59	8.04	
	July	5.03	9.95	6.80		August	5.18	11.62	8.03	
	August	5.03	9.98	6.71						
	September	5.03	10.10	6.70						
	October	5.03	10.74	6.97						
	November	5.03	10.90	6.97						
	December	5.03	11.08	7.09						
		AVG.	5.03	10.13		6.87				
1975	January	5.05	11.28	7.61	September	5.17	11.65	13.21	8.39	8.19
	February	5.03	11.39	7.47	October	5.15	11.62	13.35	8.46	8.23
	March	5.03	11.47	7.57	November	5.17	11.62	R13.31	8.62	8.40
	April	5.03	11.64	7.55	December***	5.17	11.64	13.30	8.62	8.40
	May	5.03	11.69	7.52						
	June	5.03	11.73	7.49						
	July	5.03	12.30	7.75						
	August	5.03	12.38	7.73						
	September	5.04	12.46	7.75						
	October	5.03	12.73	7.83						
	November	5.03	12.89	7.80						
	December	5.03	12.95	7.93						
		AVG.	5.03	12.03	7.67					
1976	January	5.02	12.99	8.63						

(Table continued in next column)

*See Explanatory Note 14.

See Definitions. *Preliminary figure based on early reports. †Stripper oil was exempt from price controls beginning September 1, 1976. From February through August 1976, stripper oil was subject to upper tier price ceilings. ††The actual domestic average price represents the average price at which all domestic crude oil is purchased. The imputed domestic average price is the average price used to establish ceiling prices for domestic crude oil in accordance with the provisions of the Energy Conservation and Production Act. It is calculated as the weighted average of lower tier, upper tier, and an imputed stripper crude oil price. The imputed stripper crude oil price is equal to \$11.63 per barrel plus the difference between the composite price of crude oil in August 1976 (excluding stripper oil) and the composite price of crude oil in the month of measurement (excluding stripper oil). R=Revised data. Sources: January 1974 through January 1976—FEA Crude Petroleum Production Monthly Report; February 1976 forward—FEA Domestic Crude Oil Purchasers Report.

Crude Oil Wellhead Price



Percentages of Domestic Production Sold at the Wellhead

		Old Oil	New Oil	Released	Stripper
1975	January*	58	19	10	12
	February*	61	17	9	12
	March	60	18	10	12
	April	61	17	9	12
	May	62	17	8	13
	June	63	16	8	13
	July	62	16	8	14
	August	63	16	7	14
	September*	63	15	7	14
	October	63	16	7	14
	November	64	15	7	14
	December	63	16	7	14
	AVERAGE	62	16	8	13
1976	January	54	21	10	15
		Lower Tier	Upper Tier		
	February	56	30	—	14
	March	57	29	—	14
	April	57	29	—	R14
	May	57	29	—	14
	June	56	29	—	15
	July	56	30	—	14
	August	56	30	—	14
		Lower Tier	Upper Tier	Stripper	
	September**	53	34		13
	October**	53	35		13
	November**	50	37		13
	December**	50	36		14

*Totals do not add to 100 due to rounding.

**Preliminary.

Sources: January 1975 through January 1976—FEA Crude Petroleum Production Monthly Report; February 1976 forward—FEA Domestic Crude Oil Purchasers Report for Lower Tier percentages, FEA estimates for Upper Tier and Stripper percentages.

Crude Oil (Continued)

Entitlement Prices*

		Dollars
1974	November	5.00
	December	5.00
1975	January	6.00
	February	6.75
	March	7.31
	April	7.29
	May	7.39
	June	7.82
	July	8.13
	August	8.31
	September	8.31
	October	8.62
	November	8.94
	December	8.55
1976	January	8.09
	February	7.85
	March	7.89
	April	7.85
	May	7.82
	June	7.91
	July	7.80
	August	8.02
	September	7.80
	October	7.84
	November	7.90
	December	7.97

*See Definitions.

Source: FEA.

Refiner Acquisition Cost of Crude Petroleum*

	Domestic	Imported	Composite
Dollars per barrel			
1974			
January	6.72	9.59	7.46
February	7.08	12.45	8.57
March	7.05	12.73	8.68
April	7.21	12.72	9.13
May	7.26	13.02	9.44
June	7.20	13.06	9.45
July	7.19	12.75	9.30
August	7.20	12.68	9.17
September	7.18	12.53	9.13
October	7.26	12.44	9.22
November	7.46	12.53	9.41
December	7.39	12.82	9.28
AVERAGE	7.18	12.52	9.07
1975			
January	7.78	12.77	9.48
February	8.29	13.05	10.09
March	8.38	13.28	9.91
April	8.23	13.26	9.83
May	8.33	13.27	9.79
June	8.33	14.15	10.33
July	8.37	14.03	10.57
August	8.48	14.25	10.81
September	8.49	14.04	10.79
October	8.68	14.66	10.85
November	8.67	15.04	11.05
December	8.66	14.81	10.98
AVERAGE	8.39	13.93	10.38
1976			
January	9.14	13.27	10.76
February	8.67	13.26	10.54
March	8.48	13.51	10.44
April	8.66	13.39	10.63
May	8.62	13.41	10.66
June	8.60	13.48	10.88
July	8.72	13.51	10.97
August	8.65	13.58	10.78
September	8.95	13.47	11.08
October	9.13	13.49	11.20
November	R9.23	13.58	11.26
December	**9.29	**13.72	**11.34

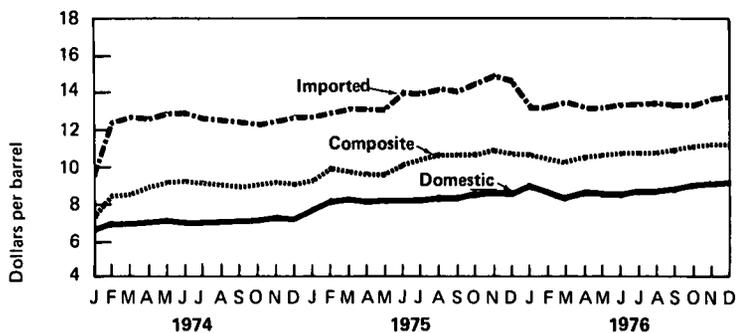
*See Explanatory Note 15.

**Preliminary data.

R=Revised data.

Source: FEA.

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									
1974	January	NA	6.70	NA	8.53	12.13	NA	NA	10.28
	February	NA	10.90	NA	12.11	12.74	NA	NA	11.31
	March	NA	11.14	12.13	13.02	13.26	NA	NA	11.78
	April	13.63	11.02	12.49	12.83	13.67	11.59	NA	11.38
	May	14.67	11.47	12.95	13.84	13.83	11.53	NA	11.28
	June	14.43	12.56	13.21	13.44	13.03	11.32	13.06	10.39
	July	13.65	12.65	13.77	13.02	12.75	11.97	12.34	10.64
	August	13.96	12.49	14.38	12.31	12.70	12.16	12.69	11.20
	September	13.83	12.51	13.42	11.87	12.28	11.45	NA	11.01
	October	13.20	12.53	14.24	12.07	12.12	11.51	12.84	10.95
	November	13.43	12.33	13.45	12.15	12.83	12.15	13.54	11.15
	December	13.08	12.15	14.15	11.63	12.88	11.75	14.59	11.37
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

*See Explanatory Note 16.

Source: FEA.

Unrecouped Costs for Refined Products for 30 Largest Refiners

		Distillate *	Motor Gasoline	Aviation Jet Fuel**	Other Products	Total
Millions of dollars						
1974	January	116	91		43	250
	February	184	87		175	446
	March	198	85		237	520
	April	223	215		346	783
	May	261	255		446	963
	June	326	394		630	1,350
	July	355	325		648	1,327
	August	392	349		665	1,405
	September	409	431		650	1,490
	October	295	424		531	1,250
	November	245	475		595	1,315
	December	209	413		492	1,114
1975	January	254	431		672	1,357
	February	300	418		790	1,508
	March	282	452		966	1,700
	April	302	485		807	1,594
	May	292	370		771	1,433
	June	284	266		785	1,334
	July	233	219		624	1,075
	August	280	344		583	1,208
	September	347	335		661	1,342
	October	338	245		673	1,255
	November	426	275		796	1,497
	December	446	211		826	1,483
1976	January	336	242	131	515	1,224
	February	279	336	145	456	1,216
	March	263	316	163	456	1,198
	April	237	398	180	524	1,339
	May	264	632	161	446	1,503
	June	—	628	135	349	1,112
	July	—	587	129	384	1,100
	August	—	679	125	352	1,156
	September	—	619	134	340	1,093
	October	—	733	151	372	1,256
	November	—	R800	168	R369	R1,337
	December***	—	704	170	355	1,229

*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.

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								
1974	January	24.3	42.7	25.7	48.1	55.0	55.1	
	February	25.4	43.2	26.8	49.8	56.4	56.4	
	March	25.7	43.2	27.0	50.8	56.9	56.9	
	April	25.8	46.4	27.4	49.3	57.6	57.4	
	May	25.7	49.3	27.5	49.9	58.6	57.9	
	June	26.0	47.7	27.5	50.8	59.4	58.5	
	July	26.3	58.7	28.6	52.5	62.0	61.1	
	August	26.1	57.5	28.4	55.2	64.4	63.5	
	September	27.3	58.8	29.5	54.7	65.2	64.3	
	October	27.5	58.9	29.9	56.3	64.4	64.0	
	November	28.5	70.9	31.7	58.7	66.8	66.6	
	December	32.6	74.5	35.8	60.3	67.2	67.4	
1975	January	29.8	104.0	35.2	67.6	71.1	71.4	
	February	29.5	105.8	35.2	70.1	74.1	74.4	
	March	31.6	102.5	37.0	70.4	77.8	77.9	
	April	32.9	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	98.3	40.2	72.2	85.2	84.0	
	July	36.9	101.1	41.8	73.9	84.7	83.6	
	August	35.5	141.0	43.3	73.4	85.6	84.3	
	September	36.5	141.2	44.5	72.8	85.9	84.6	
	October	36.1	140.1	44.3	77.2	86.1	85.6	
	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	
		Oct					105.4	
		Nov.					106.1	
		Aug 12 mos.					99.7	

*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.

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										
1975										
January	75.00	76.89	55.30	—	98.04	102.96	95.99	76.03	139.90	164.04
February	—	—	—	—	128.68	113.06	97.30	64.49	154.72	163.11
March	—	—	—	—	115.78	125.89	107.70	55.05	96.66	97.50
April	—	—	64.65	45.24	149.78	134.81	132.58	87.79	160.09	176.32
May	—	—	—	—	126.80	123.53	129.31	106.56	156.72	158.59
June	—	53.68	65.00	—	130.91	129.57	94.22	120.29	165.00	187.54
July	—	65.51	—	—	117.22	125.63	133.87	114.62	183.22	178.22
August	—	75.00	198.24	—	132.87	114.20	136.77	121.21	151.87	132.50
September	—	86.00	152.89	70.38	121.89	141.23	143.73	106.69	169.87	180.77
October	135.53	—	—	—	75.16	117.60	143.09	144.14	168.10	187.30
November	—	—	157.95	139.02	138.42	71.65	140.61	133.15	149.43	182.17
December	—	—	—	80.00	139.64	131.92	132.50	153.86	187.20	140.90
1976										
January	—	83.97	103.81	84.54	138.75	131.23	149.87	109.39	181.05	193.31
February	—	40.00	—	109.68	125.00	145.30	133.72	146.71	176.63	191.54
March	—	—	150.36	—	145.66	155.39	162.83	168.57	178.70	176.44
April	195.00	—	150.00	—	142.99	154.05	162.12	148.30	202.60	152.95
May	122.00	60.39	180.39	149.84	125.54	106.05	156.35	164.02	154.00	197.22
June	—	—	114.45	150.82	147.11	137.67	169.56	168.14	178.01	192.98
July	—	117.15	137.57	150.83	127.55	141.71	148.20	95.00	151.19	176.23
August	—	97.38	—	—	138.70	164.23	151.81	171.49	157.98	198.81
September	—	—	—	125.68	164.10	156.39	164.85	172.00	184.07	197.66
October	—	—	—	111.72	144.64	149.91	163.48	161.16	196.58	188.80
November	—	—	150.82	144.21	—	131.91	162.57	90.73	186.80	182.82
December	—	97.47	160.73	—	194.51	152.45	167.55	175.98	198.71	202.54

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

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

		Cents per thousand cubic feet
1974	January	116.0
	February	118.0
	March	119.7
	April	121.0
	May	122.8
	June	123.2
	July	124.9
	August	127.2
	September	128.6
	October	130.5
	November	134.5
	December	137.4
1975	January	141.2
	February	144.7
	March	146.1
	April	150.6
	May	153.7
	June	155.7
	July	154.7
	August	155.4
	September	159.4
	October	160.6
	November	166.2
	December	170.2
1976	January	171.4
	February	175.2
	March	177.0
	April	178.4
	May	180.8
	June	183.2
	July	184.5
	August	185.8
	September	191.2
	October	R195.0
	November	R198.3
	December	R208.3
	AVERAGE	185.8
1977	January	213.8

Source: Bureau of Labor Statistics.

Utility Fossil Fuels

U.S. Average Delivered Prices of Coal at Utilities

		Contract	Spot
		Dollars per short ton	
1974	January	9.83	17.02
	February	10.40	20.57
	March	10.63	22.54
	April	11.28	23.70
	May	11.80	24.21
	June	11.87	25.84
	July	12.05	27.99
	August	12.50	28.87
	September	12.89	30.64
	October	13.30	30.67
	November	14.16	31.95
	December	14.20	31.05
1975	January	14.57	28.12
	February	15.71	25.93
	March	15.68	25.02
	April	15.88	24.52
	May	16.45	23.78
	June	16.40	23.36
	July	16.06	22.35
	August	16.65	22.39
	September	16.76	22.46
	October	16.72	22.52
	November	16.79	22.50
	December	16.90	22.40
1976	January	16.53	21.75
	February	17.04	21.23
	March	17.65	21.36
	April	17.76	21.43
	May	18.12	21.17
	June	18.05	20.88
	July	17.93	21.00
	August	18.19	21.35
	September	18.55	21.46

Source: Federal Power Commission.

Utility Fossil Fuels (Continued)

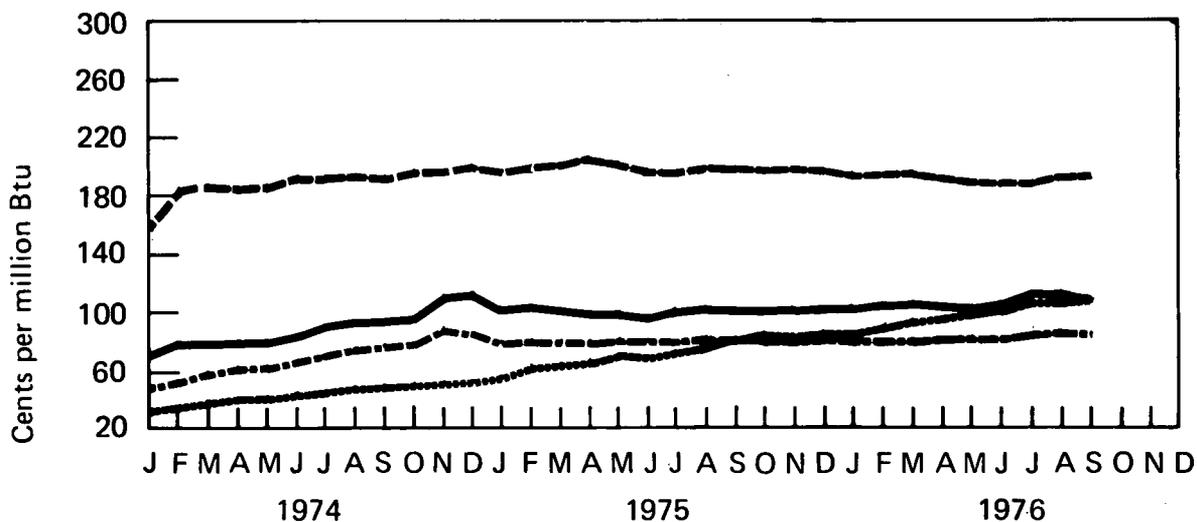
COST OF FOSSIL FUELS DELIVERED TO STEAM ELECTRIC UTILITY PLANTS

All Fossil Fuels*

Region	Cents per million Btu												
	1975						1976						
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
New England	182.9	182.3	181.2	177.6	181.3	184.6	182.3	184.3	174.6	174.2	172.4	173.7	176.6
Middle Atlantic	132.7	133.7	140.8	140.8	143.6	142.2	136.8	136.9	136.6	137.9	144.5	140.2	135.2
East North Central	88.2	87.0	89.5	92.6	89.9	90.0	88.3	91.3	92.1	93.8	100.9	97.6	95.2
West North Central	63.9	62.6	62.5	65.7	72.7	67.4	67.5	67.2	68.9	69.1	70.8	75.1	76.1
South Atlantic	124.4	118.4	117.0	121.3	122.0	122.7	118.3	119.2	120.0	118.9	130.7	126.2	125.6
East South Central	85.2	83.8	84.5	85.5	88.5	88.0	87.4	90.4	90.9	90.0	93.2	94.6	94.4
West South Central	79.1	79.6	77.0	82.8	88.0	88.2	91.7	93.5	94.6	98.6	101.2	102.9	102.4
Mountain	55.0	50.1	52.3	55.6	50.4	48.3	58.4	56.1	50.1	53.0	55.4	57.9	55.3
Pacific	174.5	177.2	206.6	222.7	214.0	206.5	211.3	196.2	180.3	177.2	180.2	195.7	195.9
NATIONAL AVG.	103.7	101.2	102.4	106.9	107.3	107.6	107.8	106.4	105.8	107.0	113.2	112.9	110.7

*See Explanatory Note 17.

National Average



- All fossil fuels
- - - Coal
- Residual fuel oil
- · - · Natural gas

Coal													
Region	1975				1976								
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
New England	120.4	128.7	127.6	120.8	124.2	122.7	119.4	124.8	127.0	122.3	127.9	127.8	125.4
Middle Atlantic	98.6	101.8	106.1	104.0	102.8	103.4	101.7	100.2	101.7	102.5	107.5	103.3	102.6
East North Central	83.4	82.1	83.8	85.7	83.1	83.1	82.7	85.0	86.8	86.6	92.4	90.9	89.8
West North Central	61.3	61.2	60.6	58.2	59.2	60.2	62.3	64.1	65.8	64.7	65.3	70.1	71.0
South Atlantic	102.4	98.6	98.5	100.1	98.3	99.2	99.7	100.8	100.8	100.7	104.4	103.5	103.4
East South Central	80.8	80.7	82.3	81.9	83.9	83.5	82.6	83.4	85.1	84.5	85.5	85.7	87.2
West South Central	24.0	24.0	24.0	24.0	26.4	26.4	26.4	26.4	26.4	27.3	32.4	36.4	42.4
Mountain	32.8	31.7	33.5	36.1	34.1	33.0	42.4	34.6	32.2	35.9	35.3	36.8	36.2
Pacific	58.9	58.4	59.5	58.9	72.7	76.0	74.5	75.5	75.7	75.2	75.8	75.7	75.7
NATIONAL AVG.	82.1	81.5	81.7	82.2	80.2	81.4	83.3	83.7	84.6	84.6	85.7	86.4	86.9

Residual Fuel Oil*

Region	1975				1976								
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
New England	187.9	184.1	184.8	181.0	182.5	185.4	183.5	185.7	170.0	177.8	175.4	182.8	179.5
Middle Atlantic	191.2	192.2	191.5	191.6	191.2	179.9	191.8	197.1	190.3	187.3	184.3	189.3	190.0
East North Central	205.9	189.7	211.4	192.4	197.0	193.4	200.9	198.4	202.8	211.8	214.8	222.8	221.4
West North Central	150.3	153.5	161.6	157.1	173.1	162.2	153.4	153.0	145.6	148.8	151.3	148.4	149.6
South Atlantic	181.5	180.7	179.8	173.0	174.6	177.5	178.6	179.6	171.3	171.9	174.1	176.6	180.4
East South Central	174.4	175.5	180.4	171.4	172.8	173.7	174.3	176.0	170.9	166.9	171.0	171.3	163.8
West South Central	174.4	168.4	189.2	187.9	195.3	190.7	183.0	187.4	182.0	176.4	173.3	178.6	166.4
Mountain	223.7	210.3	193.8	202.3	206.8	203.5	205.0	220.8	206.4	212.4	217.2	224.8	213.0
Pacific	257.9	255.5	261.9	259.7	246.6	240.7	240.3	232.7	229.2	229.1	228.7	228.8	230.2
NATIONAL AVG.	200.5	197.0	200.5	198.1	194.1	195.4	197.7	196.7	188.1	187.4	187.0	191.8	191.9

Natural Gas**

Region	1975				1976								
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
New England	137.7	135.6	133.8	157.7	166.1	166.1	151.6	134.5	144.0	153.7	154.1	153.9	154.4
Middle Atlantic	87.6	90.5	103.1	105.0	107.8	195.8	106.3	150.3	111.5	108.0	114.8	114.5	122.7
East North Central	114.0	120.2	128.3	136.8	126.8	124.4	125.0	127.7	135.3	139.8	138.2	147.8	148.4
West North Central	57.8	55.4	55.8	55.9	56.1	61.6	61.5	68.0	73.4	78.1	78.4	81.4	81.9
South Atlantic	76.4	79.6	78.5	80.8	75.1	82.0	75.5	78.2	84.0	83.1	88.7	82.9	88.3
East South Central	110.3	105.5	120.2	146.6	156.6	157.4	147.5	148.0	128.6	123.0	136.9	132.5	137.7
West South Central	77.9	79.7	77.6	80.3	83.5	87.3	90.8	92.3	94.0	98.1	100.4	101.6	101.8
Mountain	78.6	82.0	86.2	90.4	86.2	85.5	87.4	90.4	87.4	89.5	90.8	101.7	104.3
Pacific	115.2	122.4	136.9	151.1	141.2	151.6	149.5	152.6	147.3	147.6	146.6	155.3	166.5
NATIONAL AVG.	83.8	85.5	83.5	86.1	86.5	92.1	94.9	97.4	100.8	104.4	106.2	106.5	109.8

*See Explanatory Note 17.

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

Source: Federal Power Commission.

Petroleum Consumption

Japanese consumption figures, beginning with the year 1973, have been revised to include crude oil burned directly and consumption of LPG previously excluded from the data. The new figures show that petroleum usage by Japan since 1973 has averaged about 850,000 barrels per day more than was indicated in previously published tables.

The "Total IEA" (International Energy Agency) column also has been completely revised. These consumption figures are higher than those previously published by an average of around 720,000 barrels per day.

The effect of these recalculations has been a slight reduction in the "Other IEA" category which covers 13 smaller consuming nations and excludes the United States. Consumption in these countries since 1973 has averaged about 130,000 barrels per day below that reported previously. The reduction, however, is confined to the years 1974 and 1975; the recalculations for 1973 and 1976 show a slight increase in consumption.

Crude Oil Production

World crude oil production reached another high in December 1976 of 61.3 million barrels per day, an increase of 1.5 percent over the previous month's production level and of 13.7 percent over the December 1975 level. The members of the Organization of Petroleum Exporting Countries (OPEC) also recorded a new high of 34.0 million barrels per day, which was 2.5 percent more than the November figure and 23.5 percent more than that for December 1975. This high production level is in response to increased demand for crude oil prior to the OPEC price increase effective January 1, 1977.

Most of the OPEC production increase was accounted for by Kuwait, which reduced its shut-in capacity from 22.9 percent in November to 5.1 percent in December and produced 620,000 barrels per day more crude oil during the month. Saudi Arabian production dropped from a high of 9.4 million barrels per day in November to 9.2 million barrels per day in December.

The amount of OPEC production shut in during December represented 12.0 percent of capacity compared with 27.5 percent 1 year earlier.

Petroleum Consumption

Petroleum Consumption for Major Free World Industrialized Countries

		Total IEA*	Japan**	West Germany	France***	United Kingdom	Canada	Italy†	Other IEA††
Thousands of barrels per day									
1973	AVG.	R33,600	R5,036	2,693	2,219	1,974	1,597	1,525	R3,467
1974	Jan	R34,200	R5,103	2,556	2,523	2,045	1,823	1,755	R3,614
	Feb	R34,400	R5,664	1,969	2,389	2,127	1,863	1,760	R3,651
	Mar	R32,000	R5,407	2,173	2,249	2,133	1,659	1,579	R2,945
	Apr	R31,300	R4,706	2,539	1,970	1,899	1,560	1,421	R3,246
	May	R30,600	R4,568	2,403	1,915	1,704	1,577	1,349	R3,273
	June	R30,700	R4,520	2,414	2,103	1,545	1,455	1,314	R3,335
	July	R30,900	R4,385	2,548	1,703	1,531	1,534	1,368	R3,185
	Aug	R31,400	R4,576	2,476	1,506	1,513	1,463	1,287	R3,535
	Sept	R31,300	R4,720	2,473	1,996	1,663	1,415	1,527	R3,478
	Oct	R33,300	R4,614	2,613	2,045	2,049	1,680	1,569	R3,725
	Nov	R33,800	R4,925	2,432	2,260	2,108	1,714	1,580	R3,690
	Dec	R34,900	R5,330	2,261	2,492	1,983	1,831	1,753	R3,729
	AVG.	R32,390	R4,872	2,408	2,094	1,857	1,630	1,521	R3,449
1975	Jan	R34,100	R4,729	2,183	2,190	1,981	1,691	1,792	R3,741
	Feb	R34,100	R5,191	2,455	2,243	1,906	1,872	1,767	R3,825
	Mar	R31,600	R4,918	2,234	1,952	1,731	1,558	1,558	R3,285
	Apr	R31,200	R4,202	2,431	2,202	1,826	1,592	1,530	R3,578
	May	R28,600	R4,041	2,253	1,640	1,482	1,474	1,174	R3,058
	June	R29,300	R4,135	2,106	1,642	1,414	1,550	1,289	R3,195
	July	R29,400	R4,265	2,319	1,491	1,322	1,537	1,234	R2,961
	Aug	R29,200	R4,234	2,360	1,300	1,208	1,444	1,105	R3,082
	Sept	R30,400	R4,543	2,309	1,785	1,502	1,474	1,465	R3,338
	Oct	R31,000	R4,409	2,328	1,914	1,704	1,555	1,679	R2,981
	Nov	R31,000	R4,747	2,361	2,074	1,723	1,577	1,448	R3,423
	Dec	R35,100	R5,447	2,502	2,653	1,821	1,880	1,600	R3,863
	AVG.	R31,235	R4,568	2,319	1,921	1,613	1,594	1,468	R3,382
1976	Jan	R35,100	R4,942	2,459	2,432	1,680	1,784	1,748	R3,943
	Feb	R34,400	R5,246	2,490	2,492	1,866	1,754	1,713	R3,991
	Mar	R34,300	R5,165	2,742	2,372	1,879	1,747	1,621	R3,907
	Apr	R31,500	R4,526	2,332	2,117	1,661	1,518	1,409	R3,457
	May	R29,900	R4,218	2,314	1,796	1,418	1,509	1,238	R3,226
	June	R31,300	R4,429	2,388	1,604	1,420	1,560	1,208	R3,459
	July	R31,100	R4,416	2,624	1,624	1,346	1,531	1,247	R3,323
	Aug	R31,100	R4,427	2,514	1,668	1,272	1,577	1,273	R3,395
	Sept	R32,200	R4,493	2,521	1,966	R1,478	1,515	1,562	R3,806
	Oct	NA	R4,501	2,391	1,908	1,546	NA	1,450	NA
	Nov	NA	NA	NA	2,190	NA	NA	1,390	NA
	Dec	NA	NA	NA	NA	NA	NA	NA	NA
	AVG.	R32,314	R4,634	2,478	2,013	1,555	1,610	1,441	R3,610
	(Year to date)								

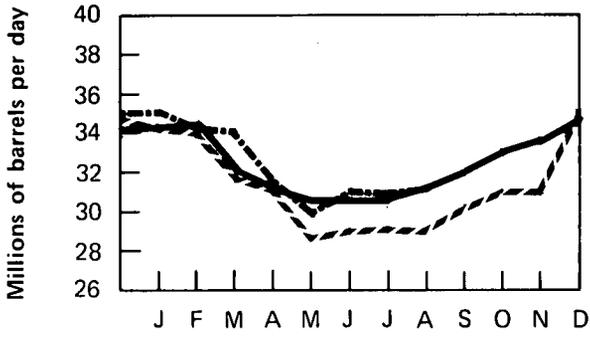
*The 19 signatory nations of the International Energy Agency (IEA) are: Austria, Belgium, Canada, Denmark, Federal Republic of Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. Except for the United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

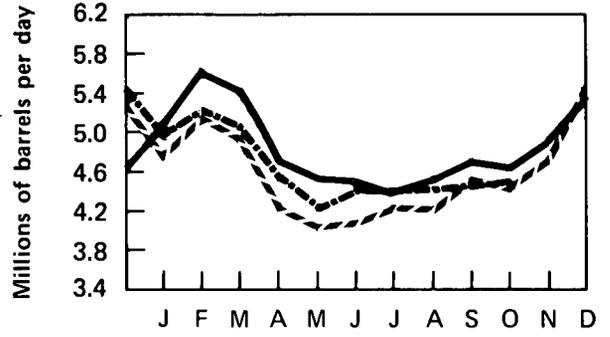
Note: All Total IEA, Other IEA, and recent figures are estimates.

Source: Central Intelligence Agency.

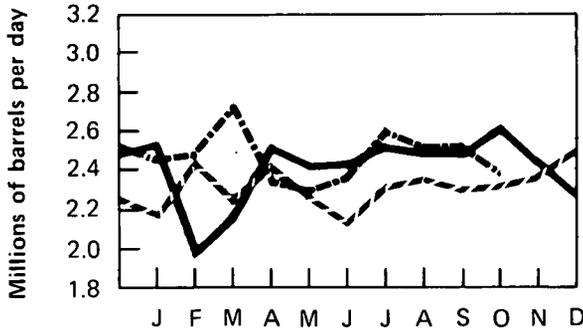
Total IEA



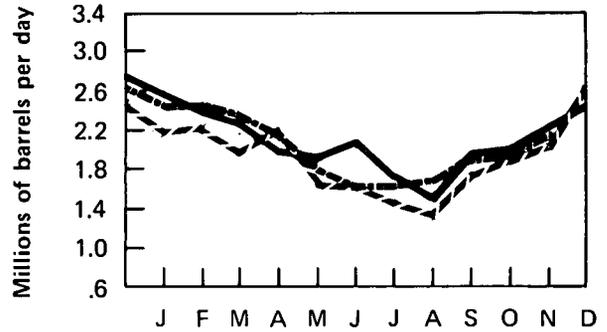
Japan*



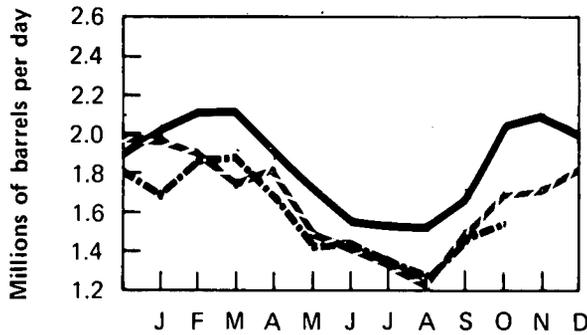
West Germany



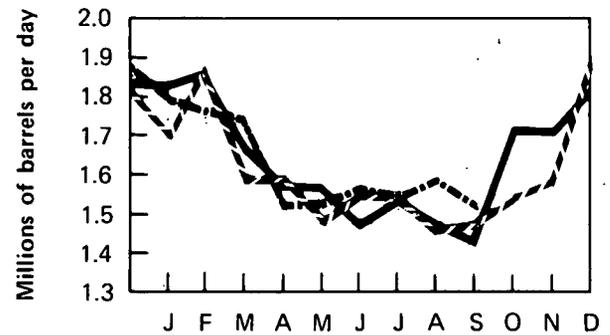
France**



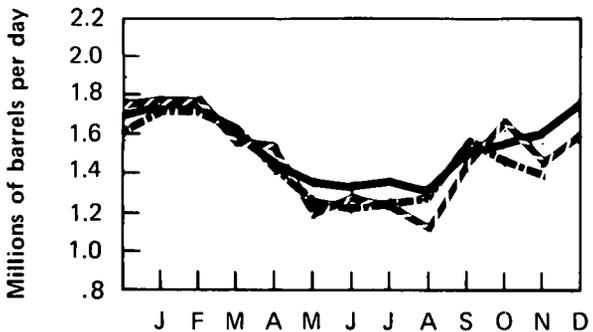
United Kingdom



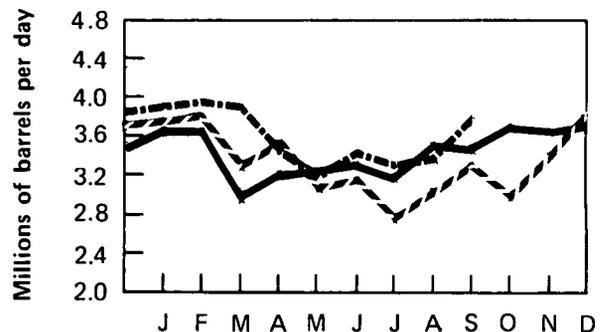
Canada



Italy***



Other IEA†



* Excludes liquefied petroleum gases and condensates.

** Not a member of IEA.

*** Principal products only.

† Excludes the United States.

— 1974
 - - - 1975
 ... 1976

Crude Oil Production

Crude Oil Production for Major Petroleum Exporting Countries – December 1976

Country	Production						Production Capacity	Production Shut in
	1972 Year	1973 Year	1974 Year	1975 Year	1976 Year	1976 December**	December	December
Thousands of barrels per day								Percent
Algeria	1,040	1,070	960	960	990	1,000	1,000	0
Iraq	1,465	R2,020	R1,970	R2,260	2,090	2,700	3,000	10.0
Kuwait*	3,283	3,020	2,545	R2,085	2,151	3,320	3,500	5.1
Libya	2,239	2,175	1,520	R1,480	1,947	2,080	2,500	16.8
Qatar	482	570	520	440	486	500	700	28.6
Saudi Arabia*	6,016	R7,595	8,480	R7,075	8,578	9,170	11,500	22.3
United Arab Emirates	1,202	R1,535	1,680	R1,665	1,941	2,010	2,380	15.5
Subtotal: Arab OPEC	15,727	R17,985	R17,675	R15,965	18,183	20,780	24,580	16.5
Ecuador	78	210	175	160	187	210	225	6.7
Gabon	125	150	200	R225	218	220	250	12.0
Indonesia	1,080	1,340	1,375	R1,305	1,505	1,580	1,700	7.1
Iran	5,023	5,860	6,020	5,350	5,884	6,630	6,700	1.0
Nigeria	1,815	2,055	2,255	R1,785	2,068	2,200	2,300	4.3
Venezuela	3,219	3,365	2,975	R2,345	2,295	2,390	2,600	8.1
Subtotal: Non-Arab OPEC	11,340	12,980	13,000	R11,170	12,157	13,230	13,775	4.0
Total: OPEC	27,067	R30,965	R30,675	R27,135	30,340	34,010	38,355	12.0
Canada	1,540	1,800	1,695	R1,460	1,324	1,551	1,800	13.8
Mexico	440	465	580	720	819	850	1,000	15.0
Total: OPEC, Canada Mexico	29,047	R33,230	R32,950	R29,315	32,483	36,411	41,155	13.0
Total World	50,550	R55,745	R55,865	R52,990	57,004	61,290		

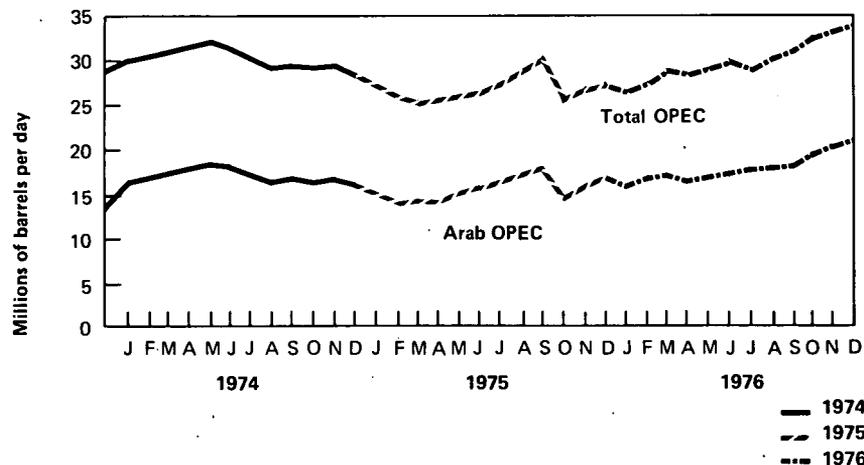
*Includes about one-half of the former Kuwait-Saudi Arabia Neutral Zone. Production in December 1976 amounted to approximately 630,000 barrels per day.

**Estimated.

R=Revised.

Source: Central Intelligence Agency 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) or (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

The volume of crude oil flowing out of the ground. Domestic production is measured at the wellhead and includes lease condensate, which is a natural gas liquid recovered from lease separators or field facilities.

Crude Oil Imports

The monthly volume of crude oil imported which is reported by receiving refineries, including crude oil entering the U.S. through pipelines from Canada.

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 held at refineries and at pipeline terminals.

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 increase 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 cost per barrel to refiners of "old" oil and of imported crude oil, less 21 cents, such cost to be equivalent to the delivered cost to the refinery.

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 crude 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) \$1.35 per barrel.

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 20 or more States.

Motor Gasoline Production

Total production of motor gasoline by refineries, measured at 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.

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 which 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)

Recompletion Well

A well that is reentered and completed in a different reservoir or producing zone than the initial completion zone.

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, natural gas, plant condensate, and unfinished oils. Included are imports of fuels into bonded storage and receipts from U.S. territories.

Refiner Acquisition Cost

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

Released Crude Oil

An amount of crude oil produced from a property in a particular month prior to February 1, 1976, which is

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

Residual Fuel Oil

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

Rotary Rig

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

Separative Work Unit (SWU)

The measure of work required to produce enriched uranium from natural uranium. Enrichment plants separate natural uranium feed material into two groups, an enriched product group with a higher percentage of U-235 than the feed material and a depleted tails group with a lower percentage of U-235 than the feed material. To produce 1 kilogram of enriched uranium containing 2.8 percent U-235, and a depleted tails assay containing 0.3 percent U-235, it requires 6 kilograms of natural uranium feed and 3 kilograms of separative work units (3 SWU).

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) \$1.32 per barrel.

Well

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. 1975 and 1976 electricity imports were estimated on the basis of imports levels during 1974.

4. Distillate oil heating degree-days relate demand for distillate heating fuel to outdoor air temperature. Heating degree-days are defined as deviations of the mean daily temperature at a sampling station below a base temperature equal to 65° F by convention. Numerous studies have shown that when the outside temperature is 65°, most buildings can maintain an indoor air temperature of 70° without the use of heating fuels.

Mean daily temperature information is forwarded to the National Oceanic and Atmospheric Administration, Department of Commerce, from approximately 200 weather stations around the country. These data are used to calculate statewide heating degree-day averages based on population. The population-weighted State figures are aggregated into Petroleum Administration for Defense. Districts and the national average, using a weighting scheme based on each State's consumption of distillate fuel oil per degree-day (1974 data base).

5. 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. 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 NGL stock series shown in this volume includes liquids held as stocks at both natural gas processing plants and at refineries.

6. The petroleum short-term demand forecasting model uses historical consumption data to construct a regression equation for each of eight major petroleum products. 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 personal income and the Federal Reserve Board Index of Manufacturing, (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.

The assumptions underlying the current short-term forecast are:

1. Normal weather.
2. Real GNP growth rate of 4.9 and 6.3 percent for 1977 and 1978, respectively.
3. Implementation of the Energy Policy and Conservation Act and the Energy Conservation and Production Act; specifically, the composite price of domestic crude oil is set at \$7.66 per barrel beginning February 1976. This price ceiling is permitted to rise at 10 percent per year. Furthermore, stripper oil and tertiary oil is not controlled.
4. The price of imported oil is assumed to be \$13.40, \$13.98, and \$14.73 for the years 1976, 1977, and 1978, 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.

7. 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.

8. 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.

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

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

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

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

11. The units used to describe power generation at nuclear plants are all 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 megawatt hours), multiply the average power level (in megawatts) by the number of hours during that period.

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

12. The Residential and Commercial Sector consists of housing units, non-manufacturing business establishments (e.g., wholesale and retail businesses), health and educational institutions, and government office buildings. The Industrial Sector is made up of construction, manufacturing, agriculture, and mining establishments.

The Transportation Sector consists of both private and public passenger and freight transportation, as well as government transportation, including military operations. The Electric Utilities Sector is made up of privately- and publicly-owned establishments which generate electricity primarily for resale.

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

14. Prior to February 1976, the domestic crude petroleum wellhead price represented an estimate of the average of posted prices; after February 1976, the wellhead price represents an average of first sale prices.

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

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

16. The estimated landed cost of imported crude petroleum from selected countries does not represent the total cost of all imported crude. Prior to March 1975, imported crude costs to U.S. company-owned refineries in the Caribbean were not included in the landed cost, and costs of crude petroleum from countries which export only small amounts to the United States were also excluded. Beginning in March 1975, however, coverage was expanded to include U.S. company-owned refineries in the Caribbean. Landed costs do not include supplemental fees.

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

Units of Measure

Weight

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

Conversion Factors for Crude Oil

Average gravity

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

Conversion Factors for Uranium

1 short ton (U ₃ O ₈)	<i>contains</i>	0.769 metric tons of uranium
1 short ton (UF ₆)	<i>contains</i>	0.613 metric tons of uranium
1 metric ton (UF ₆)	<i>contains</i>	0.676 metric tons of uranium

Approximate Heat Content of Various Fuels

Petroleum

Crude Oil	5.800 million Btu/barrel
Refined products	
Imports, average	6.000 million Btu/barrel
Consumption, average	5.5061 million Btu/barrel
Gasoline	5.248 million Btu/barrel
Jet Fuel, average	5.600 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 4.024 million Btu/barrel

Natural gas

Wet	1,097 Btu/cubic foot
Dry	1,024 Btu/cubic foot

Coal

Bituminous and lignite	
Production	23.73 million Btu/short ton
Consumption	23.07 million Btu/short ton
Anthracite	25.40 million Btu/short ton

Electricity Conversion Heat Rates

Fossil fuel steam-electric

Coal	10,176 Btu/kilowatt hour
Gas	10,733 Btu/kilowatt hour
Oil	10,826 Btu/kilowatt hour

Nuclear steam-electric 10,660 Btu/kilowatt hour

Hydroelectric 10,389 Btu/kilowatt hour

Electricity Consumption 3,412 Btu/kilowatt hour

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
Springfield, Va 22161

OFFICIAL BUSINESS

PRINTED MATTER

An Equal Opportunity Employer

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE

COM-211



Federal Energy Administration
Monthly Energy Review

FEA/B-77/081