

Monthly Energy Review

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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: David A. Carleton,
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: Timothy
F. Sutherland

Resource Development: Judy Gaynor

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

International: Elizabeth Bauer

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Correspondence regarding editorial matters should be addressed to:

Editor, Monthly Energy Review
National Energy Information Center
Federal Energy Administration
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Feature Articles appearing in previous issues:

Energy Consumption — March 1975

Nuclear Power — April 1975

The Price of Crude Oil — June 1975

U.S. Coal Resources and Reserves — July 1975

Propane, A National Energy Resource — September 1975

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

Curtailments of Natural Gas Service — January 1976

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

Trends in United States Petroleum Imports — September 1976

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Part 1

Overview

Domestic energy production during the first 10 months of 1976 totaled 50.1 quadrillion Btu (or 164 trillion Btu per day) only 0.4 percent below the average daily production rate for the comparable period of 1975. Declines in crude oil and natural gas production of 3.0 percent and 1.3 percent, respectively, were almost entirely offset by a 2.8-percent gain in average daily coal production and a 9.1-percent rise in nuclear electric power output. No change was reported for hydroelectric power production during the period.

Imports of fossil fuels averaged 43.8 trillion Btu per day during the first 10 months of the year compared with 37.7 trillion during the same months last year. Crude oil imports increased 27.2 percent and accounted for two-thirds of the total fuels imported over the 10-month period. Refined product imports, which comprised one-fourth of the import total, declined by 2.1 percent. Imports of natural gas were estimated to have grown about 2 percent.

The major sources of crude oil imports in October were Saudi Arabia and Nigeria, providing 23 percent and 20 percent of the total, respectively. Imports from all members of the Organization of Petroleum Exporting Countries (OPEC) amounted to 85 percent of total crude oil imports.

Energy consumption in the United States totaled 54.3 quadrillion Btu (or 198 trillion Btu per day) during the first 3 quarters of 1976, up 3.2 percent from the average consumption level for the first 3 quarters of 1975. Average daily consumption of refined petroleum products and of coal were both 5.0 percent higher. Natural gas consumption, on the other hand, trailed last year's by nearly 1.0 percent.

Inventories of crude oil rose to a record level of 292.5 million barrels at the end of October and were equal to 22 days of refinery input. Primary stocks of fuel oils appeared adequate for the winter heating season and were equivalent to the following days of supply: distillate, 80 days; residual, 26 days.

Temperatures across the Nation in October were considerably colder than usual, resulting in an accumulation of 48 percent more distillate oil heating degree-days than the normal for the month and 84 percent

more than last October. (Distillate oil heating degree-day information will be published regularly during the heating season, October through April.)

Electric utilities produced 7.7 percent more power during October than during the same month a year ago, reflecting in part the increase in heating requirements due to colder weather. Production during the first 10 months of the year is running 5.7 percent ahead of last year's.

Retail gasoline prices were unchanged in October. A gallon of regular gasoline cost an average of 60.2 cents at full service outlets, only 1.3 cents more than during October 1975. Upper tier and lower tier crude prices remain frozen at their June levels. However, minor changes in the production ratios of old and new oil and the decontrol of stripper well oil caused the domestic average price of crude to rise 36 cents in September to \$8.39 per barrel.

Total world crude oil production posted a new high in September of 58.1 million barrels per day, as buyers continued to line up supplies before the expected OPEC price increase in January. The previous production record was 57.8 million barrels per day in September 1973, just prior to the Arab oil embargo.

		Domestic Production of Energy*	Imports of Fossil Fuels**	Domestic Consumption of Energy***
		Quadrillion (10 ¹⁵) Btu		
1974	January	5.393	1.072	6.796
	February	4.979	0.945	6.205
	March	5.294	1.053	6.264
	April	5.199	1.142	5.759
	May	5.374	1.266	5.754
	June	4.945	1.197	5.535
	July	5.141	1.266	5.867
	August	5.157	1.237	5.900
	September	5.000	1.138	5.597
	October	5.264	1.210	6.066
	November	4.542	1.284	6.128
	December	4.849	1.305	6.732
	TOTAL	61.135	14.114	72.602
1975	January	5.195	1.330	6.955
	February	4.805	1.093	6.108
	March	5.130	1.128	6.297
	April	4.998	0.970	5.704
	May	5.123	1.023	5.384
	June	5.016	1.028	5.344
	July	4.862	1.169	5.581
	August	4.954	1.213	5.655
	September	4.897	1.273	5.413
	October	R5.132	1.226	R5.824
	November	R4.879	1.200	5.767
	December	R5.104	1.219	6.819
	TOTAL	R60.094	13.870	70.853
1976	January	5.069	1.296	R7.215
	February	4.850	R1.210	R6.162
	March	5.212	R1.301	R6.391
	April	4.955	R1.245	R5.738
	May	5.050	1.232	R5.667
	June	5.052	R1.391	R5.703
	July	R4.790	1.515	R5.859
	August	R4.974	R1.416	R††5.880
	September	R†5.046	R†1.336	††5.701
	October	†5.088	†1.419	NA
	TOTAL	50.087 (10 months)	13.363 (10 months)	54.316 (9 months)

*See Explanatory Note 1.

**See Explanatory Note 2.

***See Explanatory Note 3.

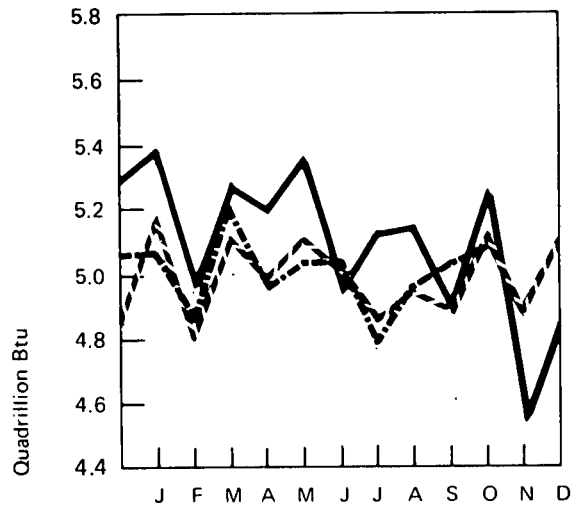
†Preliminary data.

††Partially estimated.

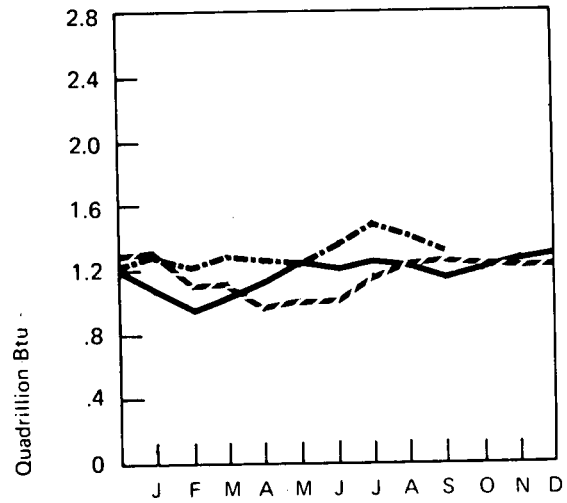
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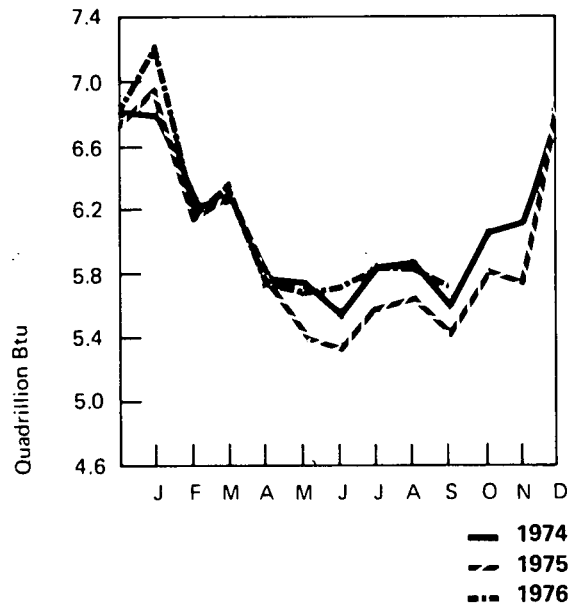
Domestic Production of Energy



Imports of Fossil Fuels



Domestic Consumption of Energy



Crude Oil and Refined Petroleum Products

Crude oil production in October was 8.08 million barrels per day, slightly less than the average production rate for the first 10 months of the year (8.13 million barrels per day). The current 10-month average is 3.0 percent less than the output rate for the corresponding 1975 period.

Crude oil input to refineries fell seasonally to 13.10 million barrels per day in October from 13.53 million in September, as some refining capacity was shut down for maintenance prior to converting facilities to maximize fuel oil output. The 10-month average was 13.17 million barrels per day, a 6.4-percent increase over the average for the first 10 months of 1975.

Crude oil imports for the January through October period averaged 5.11 million barrels per day, 27.2 percent more than during the similar period in 1975. According to Bureau of the Census data, Saudi Arabia and Nigeria were the major sources of imported crude oil in October, accounting for 23 and 20 percent of the total, respectively. OPEC countries were the source of 85 percent of the crude oil import total.

Crude oil inventories at the end of October reached an alltime high of 292.5 million barrels. This was equivalent to 22.3 days of crude input to refineries during the month, a record since the Arab embargo.

Domestic demand averaged 16.96 million barrels per day during the first 10 months of 1976, exceeding demand for the same period in 1975 by 4.4 percent.

Imports of refined products during the January through October period averaged 1.91 million barrels per day, 2.1 percent less than that during the first 10 months of 1975.

Distillate Oil Heating Degree-Days

October was much colder than usual throughout most of the country. Oil heating degree-days for the month were 48 percent above normal, and 84 percent above the level for the same month last year. Distillate

oil heating requirements in New England were 32 percent above normal; in the Middle Atlantic States, 46 percent above normal; and in the Midwest, 57 percent above normal. The West Coast States, however, had warmer than usual weather, with distillate oil heating requirements 16 percent below normal.

Since July 1, 1976, oil heating degree-days for the continental States have been 38 percent greater than normal and 42 percent greater than last year, indicating much colder than usual weather.

Natural Gas Liquids

Domestic demand for natural gas liquids in August was 1.2 percent below August 1975 demand. Demand during the first 8 months of 1976, however, was 1.9 percent greater than it was during the same period of 1975.

Production of natural gas liquids in August was down 2.4 percent from the August 1975 level. Production during the first 8 months was approximately equal to production for the same months of 1975.

Imports of natural gas liquids were down 1.6 percent in August, but up 6.9 percent during the first 8 months of 1976 compared to the levels for the corresponding periods last year.

Stocks of natural gas liquids at the end of August reached a record high of 144 million barrels and were 5.3 percent above August 1975 stocks.

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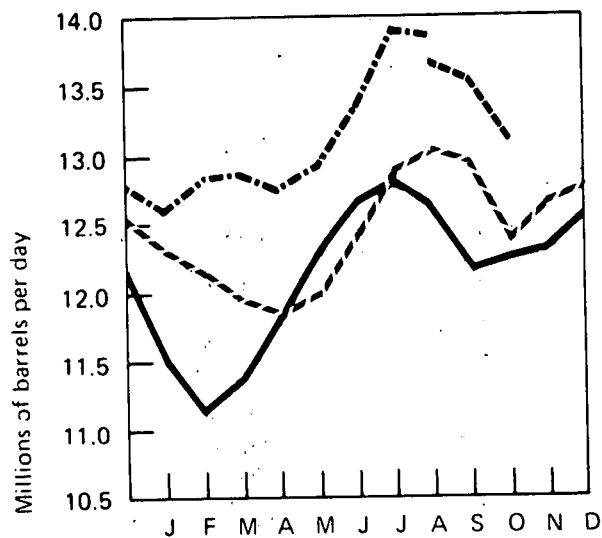
Crude Oil and Refined Petroleum Products

		Crude Input to Refineries		Domestic Production		Imports		Stocks	
		Thousands of barrels per day							
		BOM	API	BOM	API	BOM	API	BOM	API
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	13,693	8,075	8,165	5,556	5,525	277,272	278,801
	September		13,529		8,095		5,488		282,893
	October		13,099		8,083		5,580		292,537
	AVERAGE*			13,170		8,133		5,108	
	(10 months)								

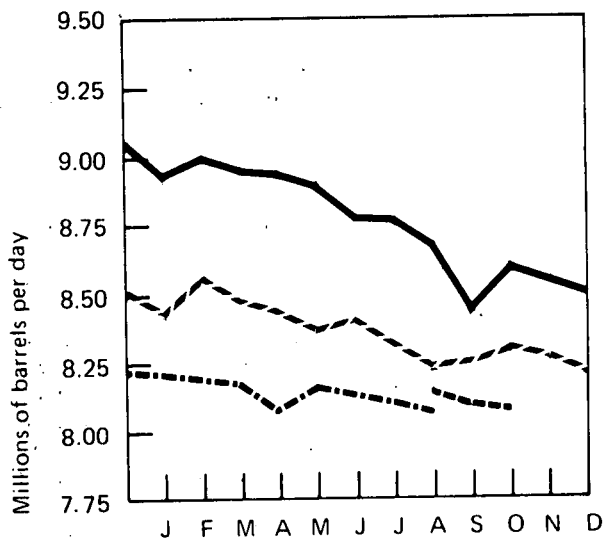
*Ten-month average is based on Bureau of Mines data for January through August and American Petroleum Institute data for September and October.

Sources: Bureau of Mines (BOM) and American Petroleum Institute (API) as indicated.

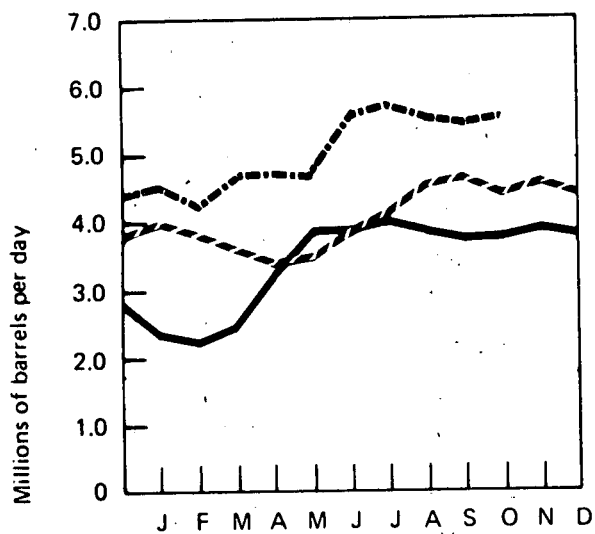
Crude Input to Refineries



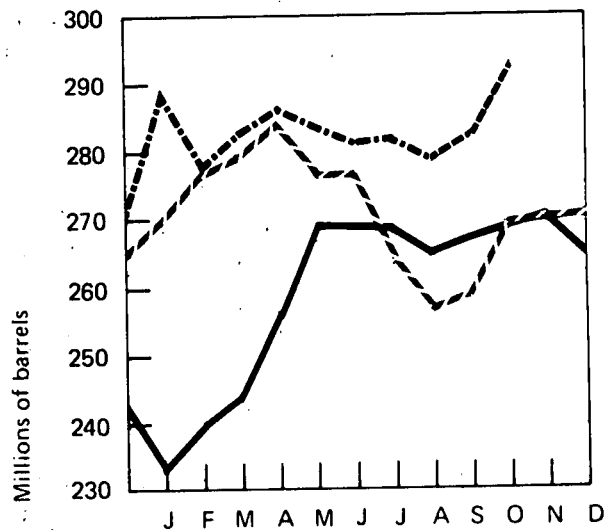
Domestic Production



Imports



Stocks



— 1974 BOM
 - - 1975 BOM
 . . 1976 BOM
 - . 1976 API

Total Refined Petroleum Products

Total Petroleum Imports

		Domestic Demand		Imports*			
		Thousands of barrels per day				Thousands of barrels per day	
		BOM	API	BOM	API	BOM	API
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		6,025	
1976	January	18,599		2,070		6,665	
	February	R17,429		R2,423		R6,631	
	March	R17,299		R1,946		R6,684	
	April	R16,672		R1,805		R6,595	
	May	15,977		1,654		6,323	
	June	16,836		1,858		7,479	
	July	16,613		2,098		7,890	
	August	16,642	**16,441	1,826	**1,572	7,382	**7,097
	September		R16,743		R1,692		R7,180
	October		16,802		1,786		7,366
	AVERAGE***		16,960		1,914		7,021
	(10 months)						

*See definitions.

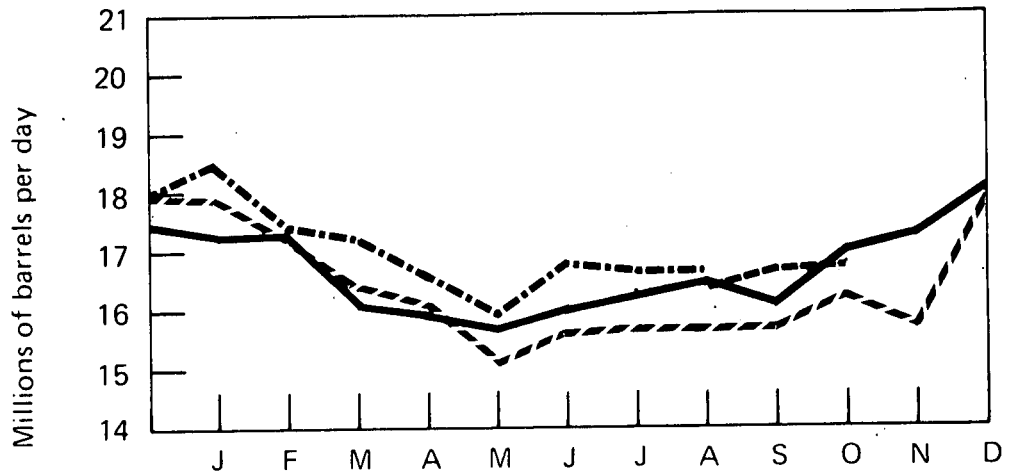
**FEA estimate.

***Ten-month average is based on Bureau of Mines data for January through August and American Petroleum Institute data for September and October.

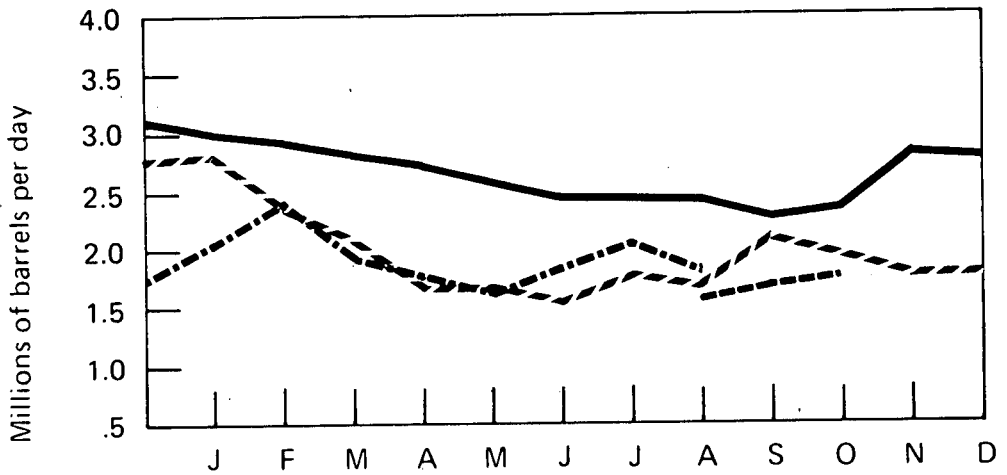
R=Revised data.

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

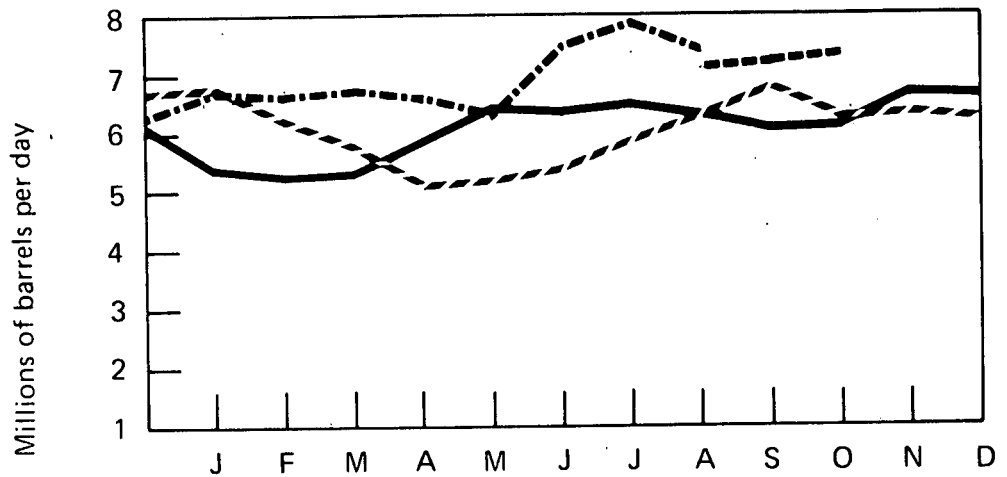
Total Refined Product Domestic Demand



Refined Product Imports



Total Petroleum Imports



— 1974 BOM
 - - 1975 BOM
 ... 1976 BOM
 - . - 1976 API

Motor Gasoline

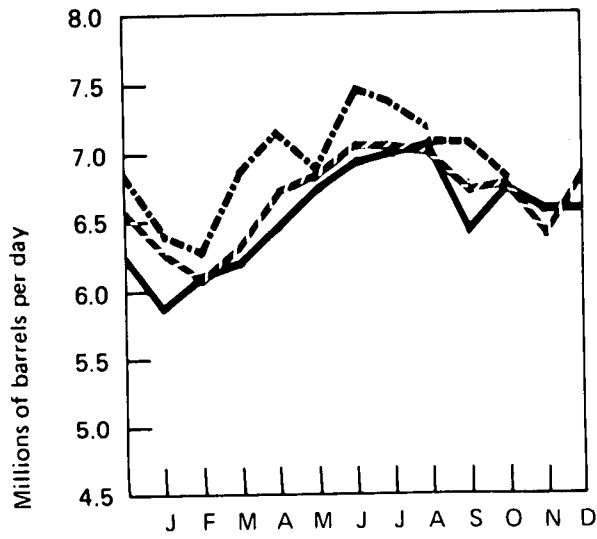
		Domestic Demand		Production*		Imports		Stocks*	
		Thousands of barrels per day						Thousands of barrels	
		BOM	API	BOM	API	BOM	API	BOM	API
1974	January	5,804		5,900		163		217,463	
	February	6,100		5,969		184		219,058	
	March	6,162		5,982		225		220,307	
	April	6,457		6,311		260		223,752	
	May	6,745		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	6,674		6,518		184			
1976	January	6,398		6,483		92		240,464	
	February	6,263		6,472		84		248,854	
	March	6,890		6,455		123		239,049	
	April	7,159		6,562		99		223,965	
	May	6,853		6,774		112		225,037	
	June	7,482		7,303		188		225,365	
	July	7,354		7,218		190		229,405	
	August	7,168	7,071	7,149	7,115	141	104	230,578	229,187
	September		7,064		6,856		104		225,970
	October		6,798		6,596		109		222,928
	AVERAGE**		6,944		6,788		124		
	(10 months)								

*See definitions.

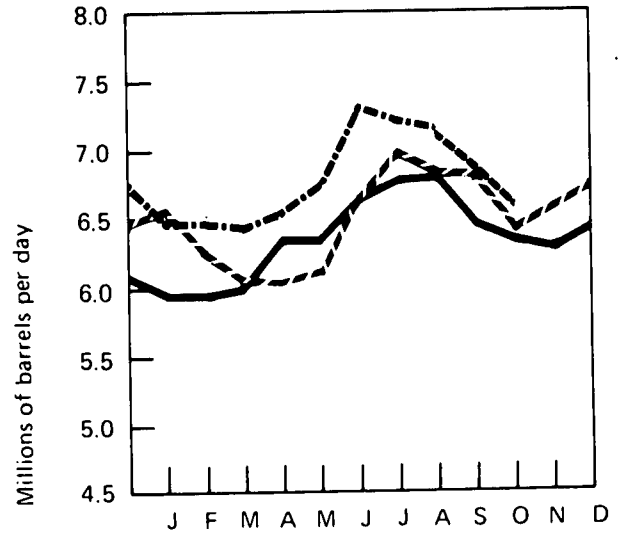
**Ten-month average is based on Bureau of Mines data for January through August and American Petroleum Institute data for September and October.

Sources: Bureau of Mines (BOM) and American Petroleum Institute (API) as indicated.

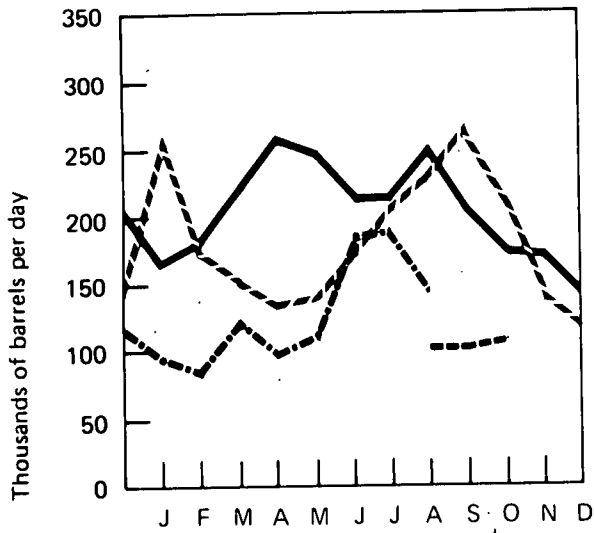
Domestic Demand



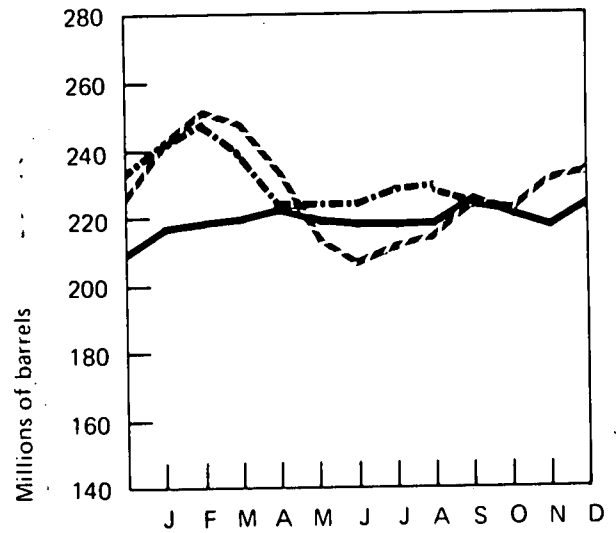
Production



Imports



Stocks



— 1974 BOM
 - - 1975 BOM
 . . 1976 BOM
 - . 1976 API

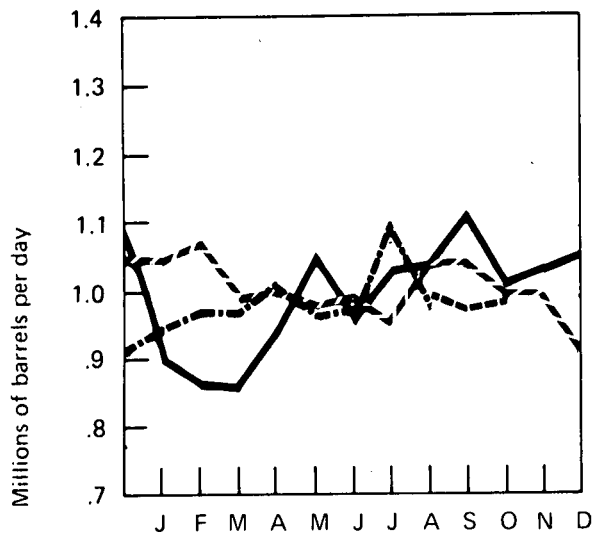
Jet Fuel

		Domestic Demand		Production		Imports		Stocks		
		Thousands of barrels per day						Thousands of barrels		
		BOM	API	BOM	API	BOM	API	BOM	API	
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	990	942	948	38	59	33,121	31,500	
	September		970		932		48		31,751	
	October		982		898		94		31,877	
	AVERAGE*		984		914		82			
	(10 months)									

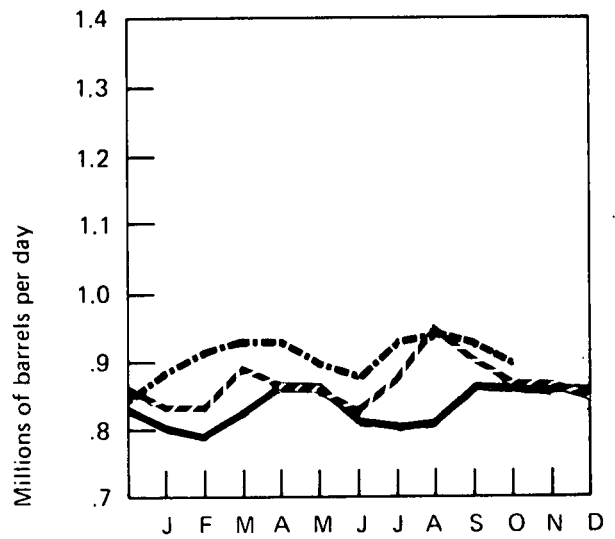
*Ten-month average is based on Bureau of Mines data for January through August and American Petroleum Institute data for September and October.

Sources: Bureau of Mines (BOM) and American Petroleum Institute (API) as indicated.

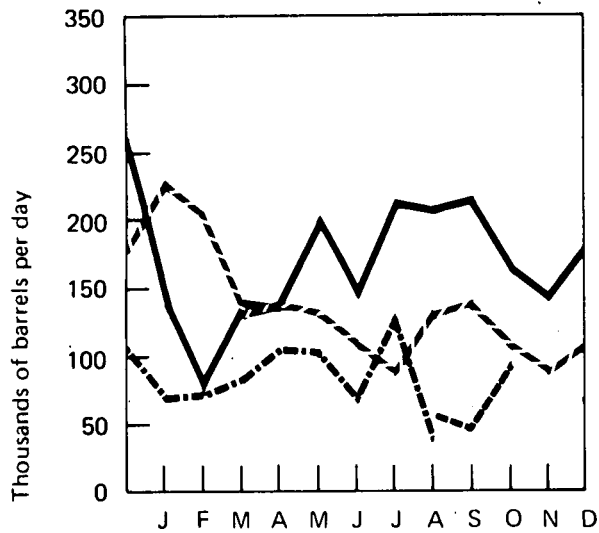
Domestic Demand



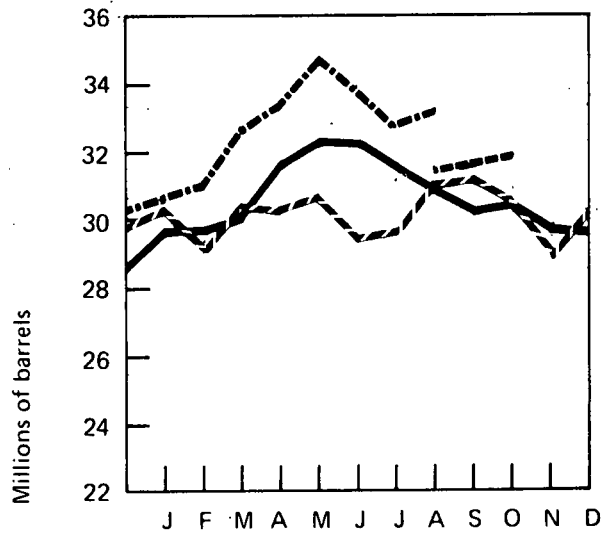
Production



Imports



Stocks



— 1974 BOM
 - - 1975 BOM
 . . . 1976 BOM
 - . - 1976 API

Distillate Fuel Oil

		Domestic Demand		Production*		Imports		Stocks*	
		Thousands of barrels per day							
		BOM	API	BOM	API	BOM	API	BOM	API
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	R3,336		2,793		R151		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	2,354	2,982	2,900	131	58	217,930	207,757
	September		2,604		2,881		75		218,343
	October		2,785		2,865		87		223,590
	AVERAGE**			2,892		2,845		128	
	(10 months)								

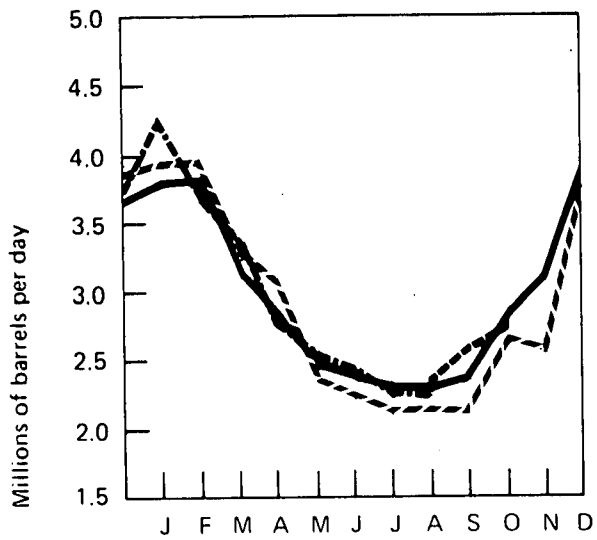
*See definitions.

**Ten-month average is based on Bureau of Mines data for January through August and American Petroleum Institute data for September and October.

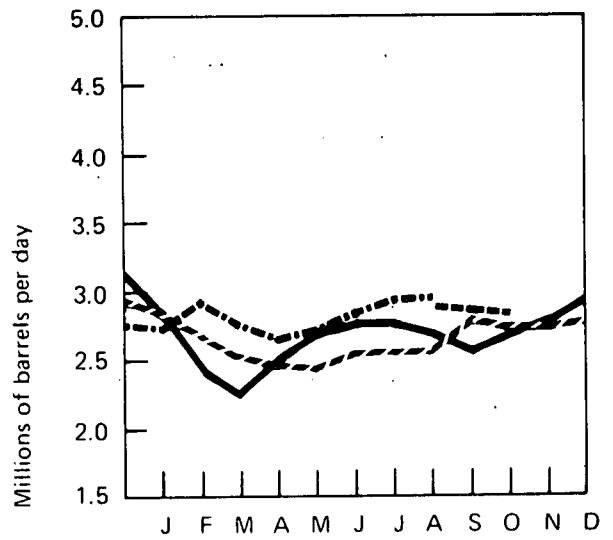
R=Revised data.

Sources: Bureau of Mines (BOM) and American Petroleum Institute (API) as indicated.

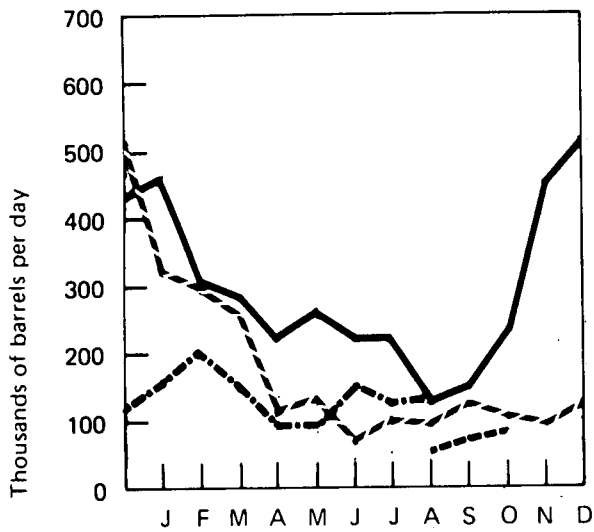
Domestic Demand



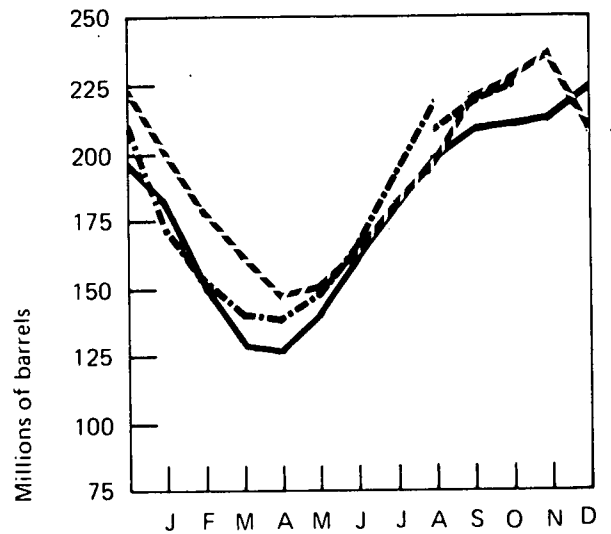
Production



Imports



Stocks



— 1974 BOM
 - - 1975 BOM
 . . 1976 BOM
 - - 1976 API

Distillate Oil Heating Degree-Days *

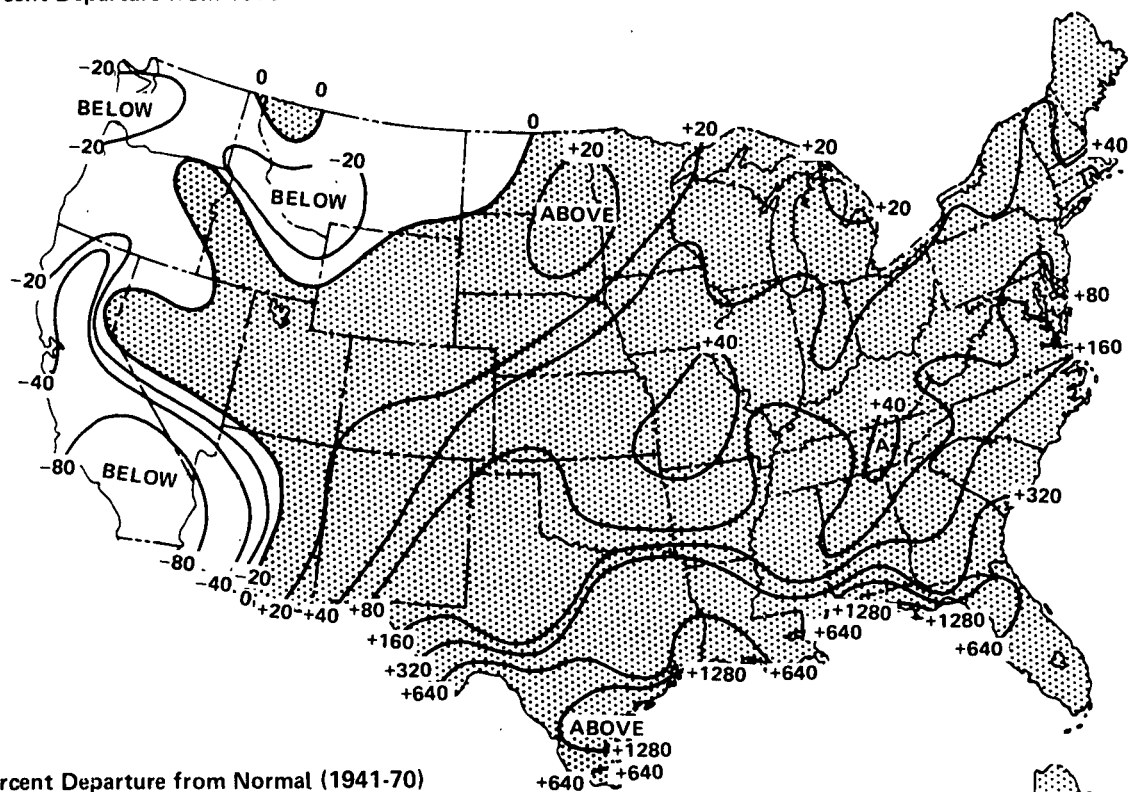
Petroleum Administration for Defense (PAD) Districts	OCTOBER (October 3 - October 31)				1976	Cumulative Since July 1			
	1976	1975**	Normal (1941-70)**			1975**	Normal (1941-70)**		
PAD District I	357.3	190.8 (87.3)	245.3	(45.6)	465.6	306.7 (51.8)	330.4	(40.9)	
New England Conn., Maine, Mass., N.H., R.I., Vt.	445.7	282.1 (58.0)	336.7	(32.4)	615.5	445.2 (38.3)	488.1	(26.1)	
Middle Atlantic Del., Md., N.J., N.Y., Pa.	404.3	212.7 (90.1)	276.2	(46.3)	528.4	349.3 (51.3)	364.9	(44.8)	
Lower Atlantic Fla., Ga., N.C., S.C., Va., W.Va.	170.5	55.1 (209.6)	90.2	(88.9)	185.1	80.8 (129.0)	103.4	(79.0)	
PAD District II Ill., Ind., Iowa, Kan., Ky., Mich., Minn., Mo., Nebr., N. Dak., Ohio, Okla., S. Dak., Tenn., Wisc.	547.4	287.0 (90.8)	349.3	(56.7)	709.9	534.2 (32.9)	501.2	(41.6)	
PAD District III Ala., Ark., La., Miss., N. Mex., Tex.	209.3	47.7 (338.9)	83.4	(151.1)	214.2	81.1 (164.1)	87.9	(143.7)	
PAD District IV Colo., Idaho, Mont., Utah, Wyo.	490.6	449.8 (9.1)	437.2	(12.2)	650.2	639.5 (1.7)	653.9	(-0.6)	
PAD District V Ariz., Calif., Nev., Oreg., Wash.	223.4	285.3 (-21.7)	265.8 (-15.9)		357.3	432.7 (-17.4)	488.3	(-26.8)	
U.S. TOTAL	389.3	211.2 (84.3)	262.9 (48.1)		505.5	354.7 (42.5)	365.3 (38.4)		

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

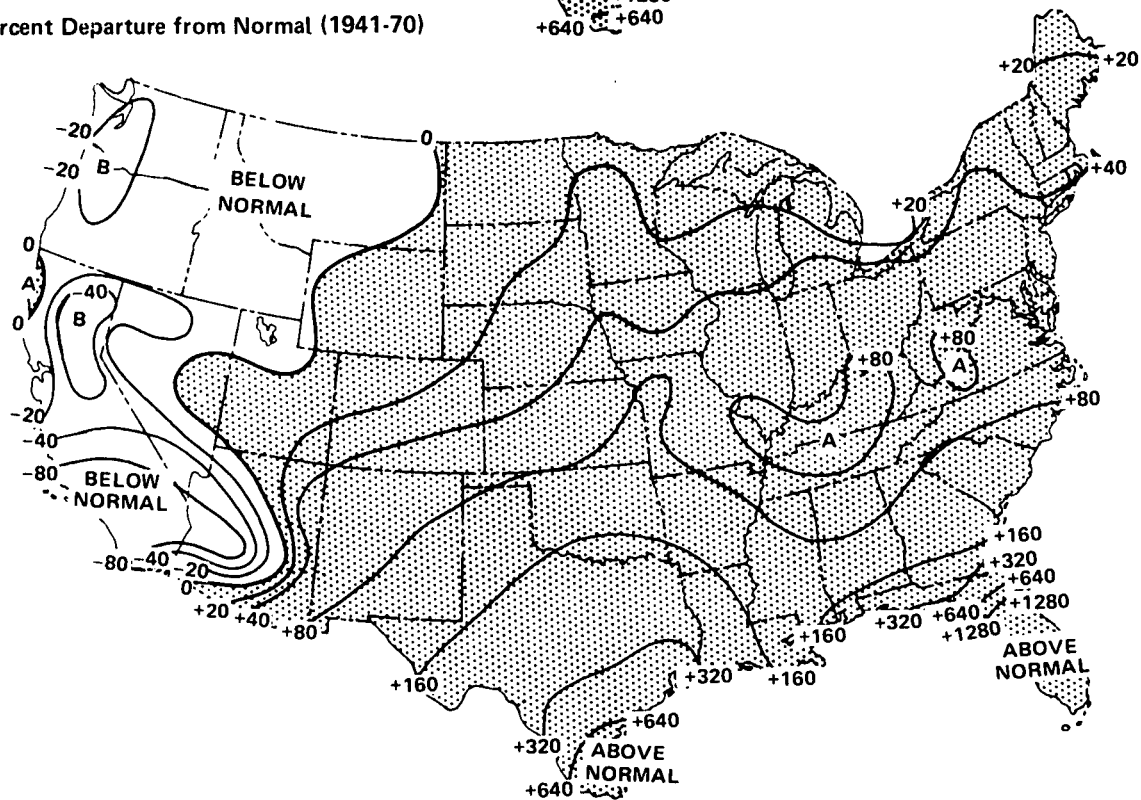
**Percentage change in parentheses.

Heating Degree-Days Accumulated from July 1, 1976 through October 31, 1976

Percent Departure from 1975



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						Thousands of barrels	
		BOM	API	BOM	API	BOM	API	BOM	API
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	2,433		1,235		1,194			
1976	January	R3,069		1,415		1,406		66,592	
	February	R3,007		1,394		R1,703		68,859	
	March	R2,779		1,311		R1,342		65,132	
	April	R2,496		1,283		R1,258		66,458	
	May	R2,479		1,257		1,134		65,147	
	June	R2,565		1,241		1,240		64,272	
	July	2,555		1,266		1,460		69,812	
	August	2,678	*2,432	1,321	1,226	1,307	*1,169	68,490	67,111
	September		R2,459		1,219		R1,311		69,355
	October		2,644		1,260		1,347		68,150
	AVERAGE**		2,673		1,297		1,349		
	(10 months)								

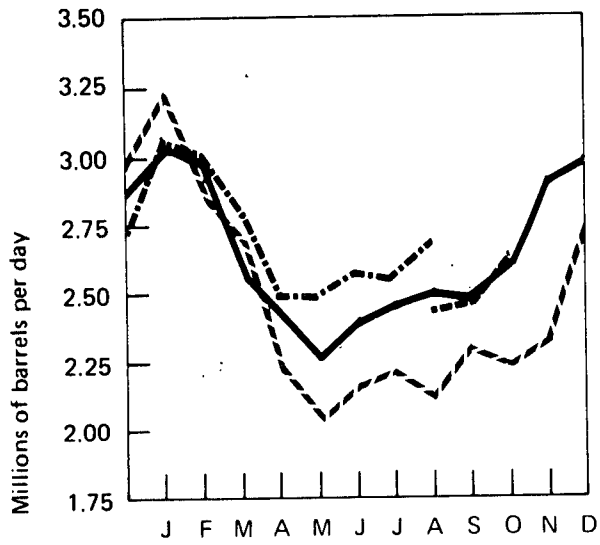
*FEA estimate.

**Ten-month average is based on Bureau of Mines data for January through August and American Petroleum Institute data for September and October.

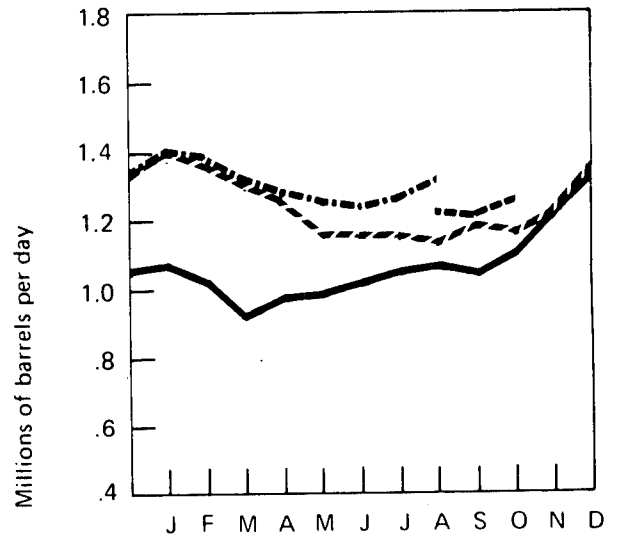
R=Revised data.

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

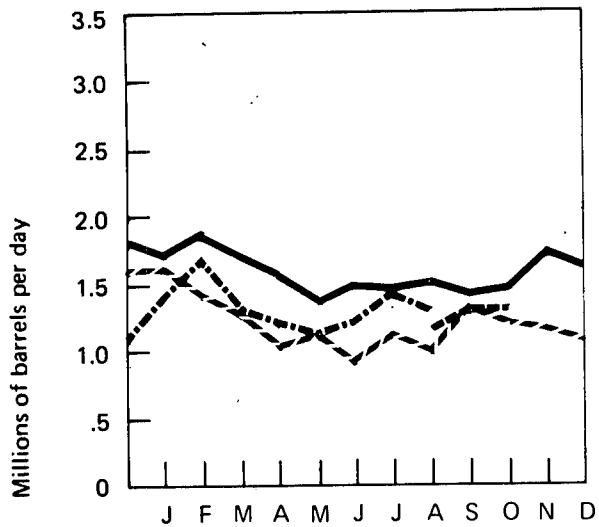
Domestic Demand



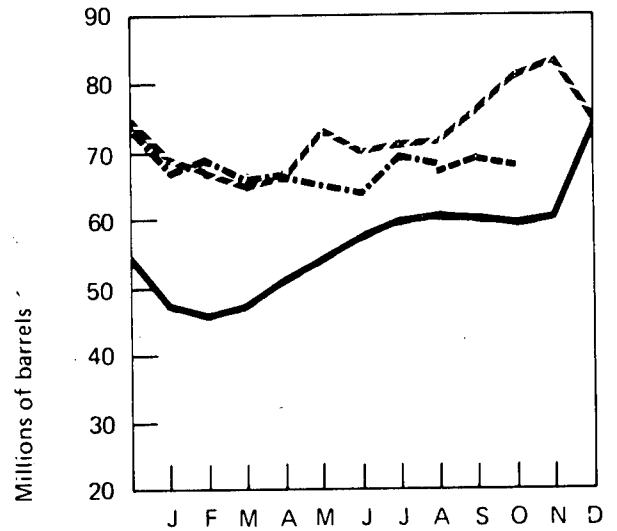
Production



Imports



Stocks



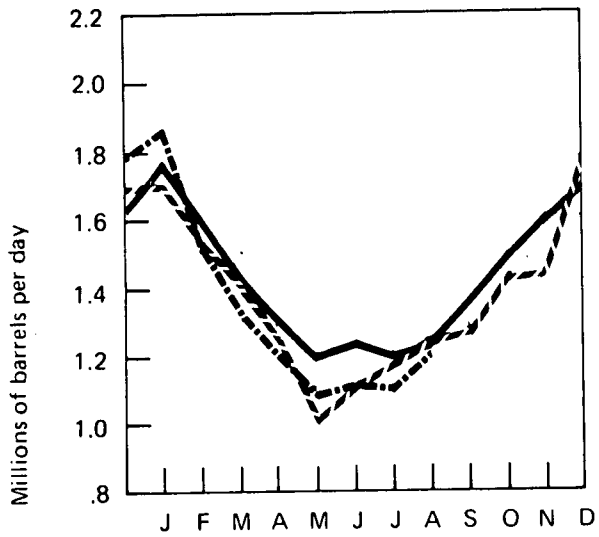
— 1974 BOM
 - - 1975 BOM
 - . - 1976 BOM
 - - - 1976 API

Natural Gas Liquids

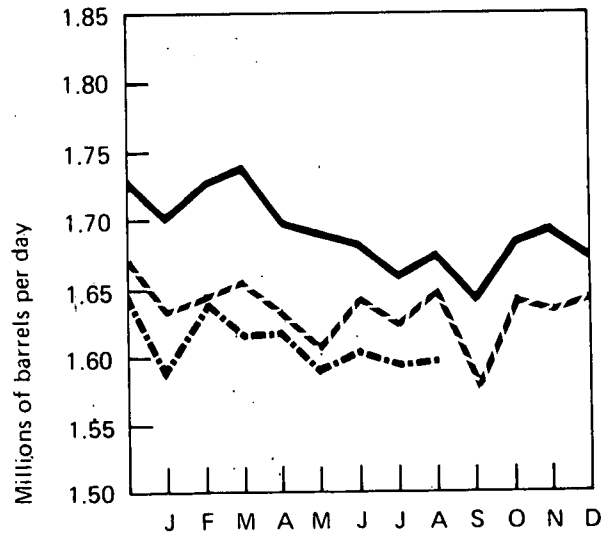
		Domestic Demand*	Production*		Used at Refineries*	Imports	Stocks*
			At processing plants	At refineries			
			Thousands of barrels per day				Thousands of barrels
1974	January	1,778	1,699	327	794	304	91,210
	February	1,593	1,728	337	777	294	90,145
	March	1,408	1,741	341	720	224	94,817
	April	1,321	1,696	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
	AVERAGE (8 months)	1,308	1,604	344	713	186	

*See Explanatory Note 5.
Source: Bureau of Mines.

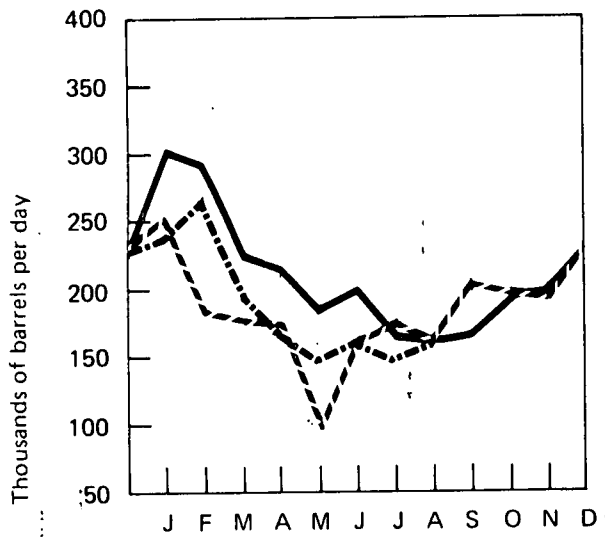
Domestic Demand



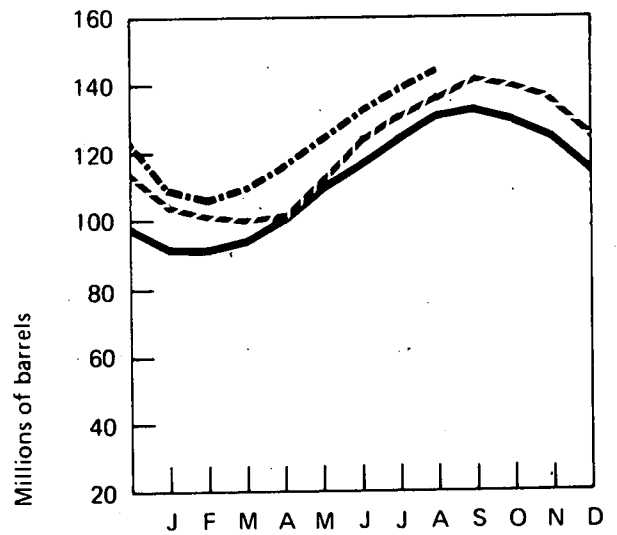
Production at Processing Plants



Imports



Stocks



— 1974
 - - 1975
 - · - 1976

U.S. Petroleum Supply and Demand—1976

	Actual*			Forecast**
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Thousands of barrels per day				
Supply				
Crude oil and lease condensate production	8,194	8,131	8,122	7,947
Natural gas plant liquids production	1,612	1,604	1,578	1,592
Other hydrocarbon supply	37	38	37	36
Crude oil imports	4,520	5,023	5,547	5,612
Refined products imports***	2,140	1,771	1,874	2,130
Total new supply	<u>16,503</u>	<u>16,567</u>	<u>17,158</u>	<u>17,317</u>
Processing gain	485	495	500	488
Stock change—all oils	-797	+363	+842	-395
Total net supply	<u>17,785</u>	<u>16,699</u>	<u>16,816</u>	<u>18,200</u>
Unaccounted for crude oil†	+204	+8	+63	0
Demand				
Crude oil and refined products exports	192	204	200	195
Crude oil losses	14	14	14	13
Domestic demand for refined products††	<u>17,783</u>	<u>16,489</u>	<u>16,665</u>	<u>17,992</u>
Total demand	<u>17,989</u>	<u>16,707</u>	<u>16,879</u>	<u>18,200</u>

*Partially estimated.

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

***Includes plant condensate and unfinished oils.

†Balancing item resulting from statistical inconsistencies.

††Includes international bunkers.

Note: Data for all four Quarters have been partially revised.

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

Natural Gas

Marketed production of natural gas in October was estimated at 1,650 billion cubic feet, up 0.2 percent from production during the same month in 1975. Estimated production for the first 10 months of the year, however, was 1.3 percent below production during the corresponding period of 1975.

Natural gas imports in October were estimated at 82 billion cubic feet, 2.5 percent above the October 1975 level. Estimated imports during the first 10 months of 1976 were 2.2 percent above the import level for the same period of 1975.

Estimated domestic consumption of natural gas was down 0.9 percent in October and down 0.6 percent during the first 10 months of the year compared with consumption for the corresponding periods of 1975.

Net injections of natural gas into underground storage reservoirs totaled 242 billion cubic feet in September 1976 compared with 194 billion cubic feet for the same month of 1975. The amount of working gas in underground storage reservoirs at the end of September 1976 was 9.3 percent above the volume in storage at the end of September 1975.

The Federal Power Commission has established new nationwide base ceiling rates of \$1.42 per thousand cubic feet (Mcf) and 93 cents per Mcf for two classes of "new" natural gas sold by producers in interstate commerce. The \$1.42-ceiling applies to gas from wells commenced after January 1, 1975. This ceiling escalated to \$1.43 on October 1, 1976, and will escalate 1 cent per quarter thereafter. The 93-cent ceiling applies to gas from wells commenced during 1973 and 1974. This ceiling will rise to 94 cents on January 1, 1977, and will escalate 1 cent per Mcf each year thereafter. The base ceiling rates are to be adjusted for Btu content of the gas, State and Federal severance and production taxes, and gathering allowances.

A 52-cent per Mcf base rate, with 1 cent annual escalations and subject to the same adjustments listed above, was established for

gas from wells recompleted* after January 1, 1973, in wells commenced prior to 1973. Small producers selling less than 10 billion cubic feet annually in the interstate market are permitted to charge 130 percent of the adjusted 93-cent and 52-cent ceiling prices.

*See definitions.

Natural Gas

		Domestic Consumption*	Marketed Production*	Domestic Producer Sales to Major Interstate Pipelines	Imports
		Billion cubic feet			
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	1,330	1,637	815	R77
	July	1,330	R1,671	822	***81
	August	1,350	R**1,631	NA	***76
	September	1,370	***1,610	NA	***75
	October	1,530	***1,650	NA	***82
	TOTAL (10 months)	15,790	16,595	5,984 (7 months)	806

*See Explanatory Note 7.

**Preliminary data.

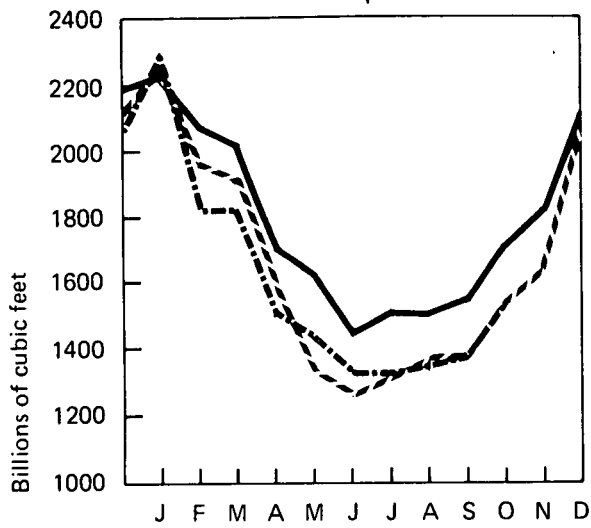
***Projected data.

R=Revised data. NA=Not available.

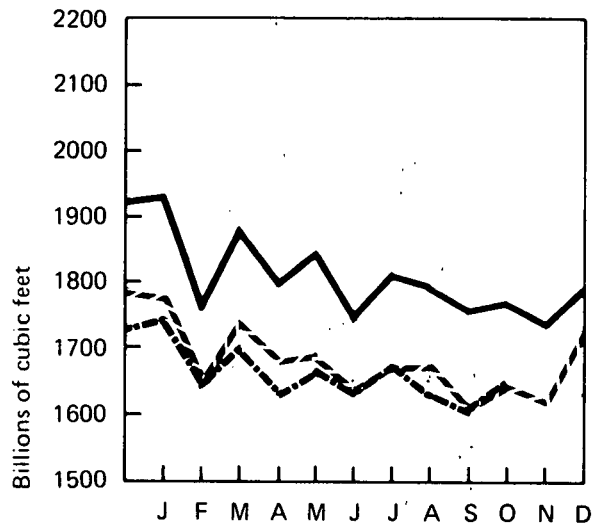
Note: All monthly Domestic Consumption data are estimated.

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

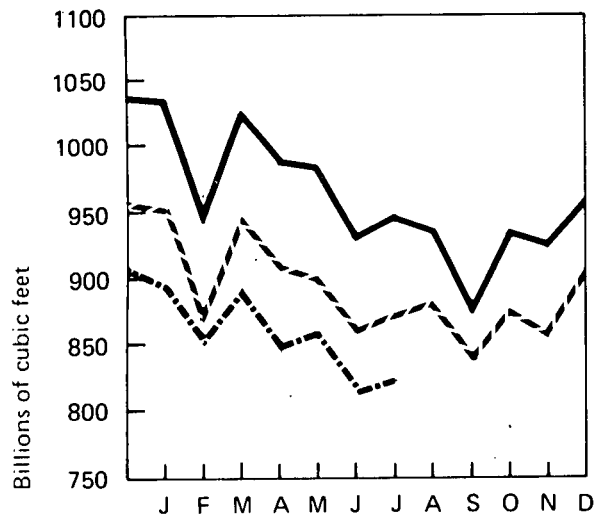
Domestic Consumption



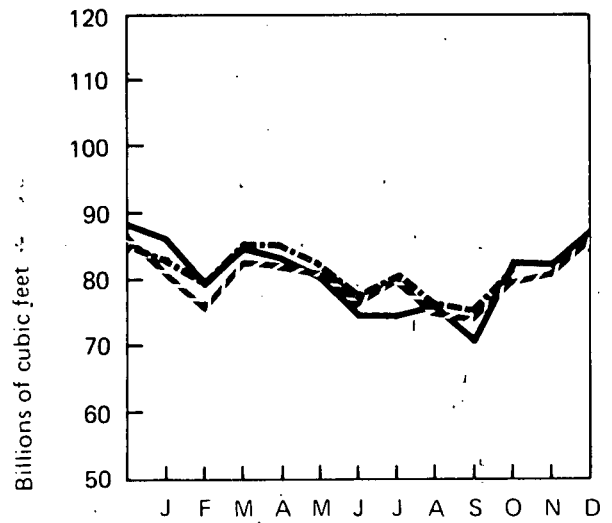
Marketed Production



Domestic Producer Sales to Major Interstate Pipelines



Imports



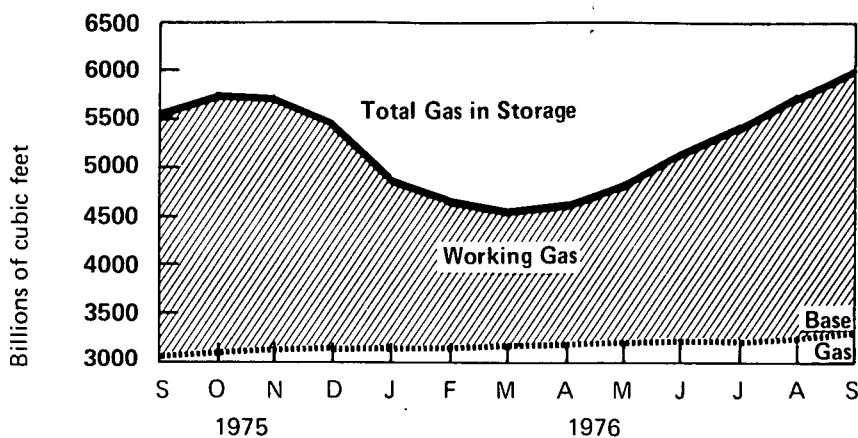
— 1974
 - - 1975
 - · - 1976

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

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.

R=Revised data.

Sources: Federal Energy Administration and Federal Power Commission.

Coal

Production of bituminous coal and lignite for the period January through October 1976 amounted to 550.9 million tons, a gain of only 16.4 million tons, or 3.1 percent, from the production level for the same period in 1975. This increase is modest primarily because of the continuing slow rate of economic recovery, the month-long wildcat coal miners' strike, and the softness in the coal export market.

Coal exports were 43.5 million tons during the first 9 months of 1976, down 11.1 percent from the amount exported during the corresponding period in 1975. Exports to Japan, the largest U.S. coal importer, were 28.4 percent lower during the period. The primary reasons for this large decline are (1) a lessening in the relative importance of the United States as a supplier of coal to Japan, and (2) reduced industrial activity in that country.

Domestic consumption of bituminous coal and lignite during the first 8 months of 1976 was 389.8 million tons, an increase of 5.3 percent from the amount consumed during the first 8 months of 1975.

End-of-June coal stocks, at 140.2 million tons, were the largest monthly inventories held so far this year. Stockpiles at electric utilities accounted for 87.1 percent of the June total.

Bituminous and Lignite

		Domestic Consumption*	Production*	Exports	Stocks
			Thousands of short tons		
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	54,885	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	53,135	6,159	102,663
	May	42,658	55,370	7,011	109,666
	June	44,698	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	55,560	4,529	111,922
	October	44,929	R60,030	4,647	120,344
	November	45,946	R52,410	7,593	125,808
	December	51,036	R53,115	4,534	127,115
	TOTAL**	556,222	640,000	65,669	
1976	January	R52,919	51,495	3,697	R119,149
	February	R46,800	52,630	3,050	R118,970
	March	R48,607	60,050	3,979	R123,441
	April	R45,554	57,850	5,780	R128,408
	May	R45,675	56,605	5,667	R134,621
	June	R47,708	58,430	6,569	R140,237
	July	R***51,092	43,250	4,879	R***130,744
	August	***51,398	53,440	4,223	***124,734
	September	NA	59,675	5,613	NA
	October	NA	†57,445	NA	NA
	TOTAL	389,753 (8 months)	550,870 (10 months)	43,458 (9 months)	

*See Explanatory Note 9.

**Totals may not add due to rounding.

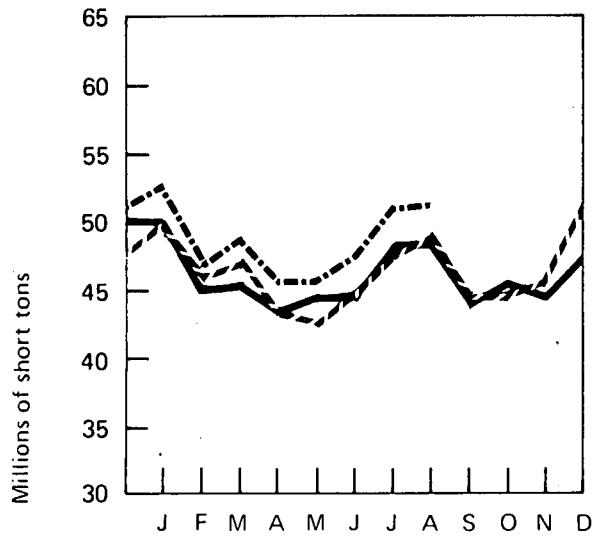
***FEA estimate based on data provided by Bureau of Mines and Federal Power Commission.

†Preliminary data.

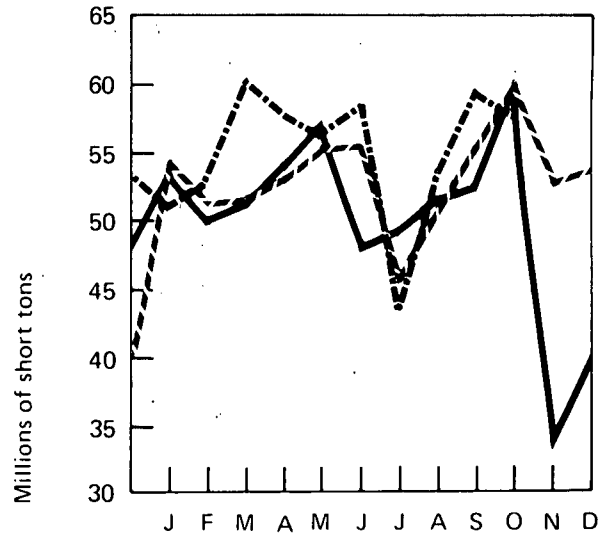
R=Revised data. NA=Not available.

Source: Bureau of Mines.

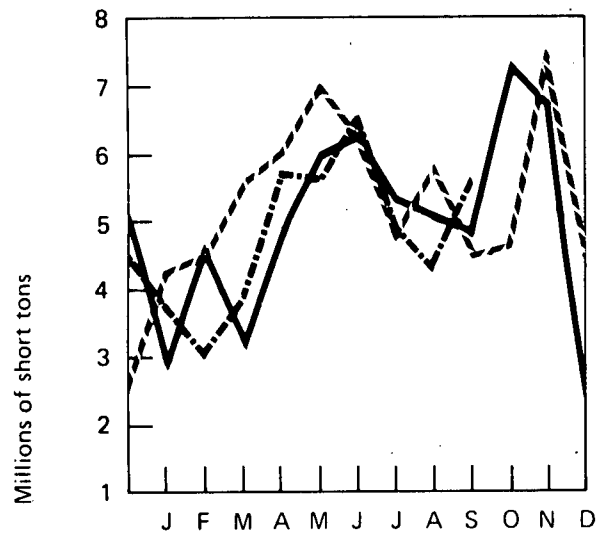
Domestic Consumption



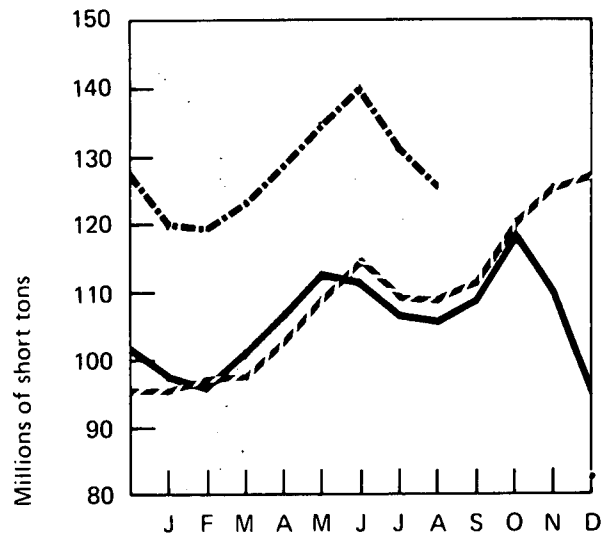
Production



Exports



Stocks

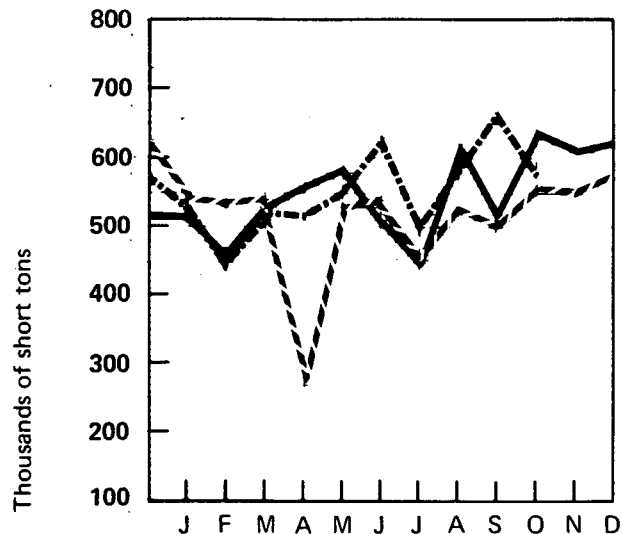


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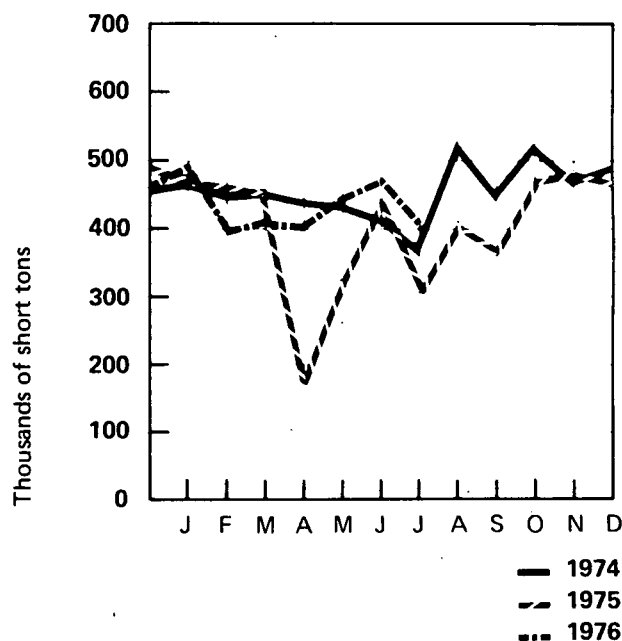
Anthracite

Production

		Production	Apparent Domestic Consumption
		Thousands of short tons	
1974	January	516	466
	February	458	441
	March	531	457
	April	563	437
	May	589	435
	June	505	412
	July	443	360
	August	620	526
	September	516	441
	October	641	522
	November	610	463
	December	625	488
	TOTAL	6,617	5,488
1975	January	540	475
	February	535	466
	March	544	457
	April	270	164
	May	535	326
	June	544	450
	July	455	305
	August	535	414
	September	500	365
	October	R560	R478
	November	550	479
	December	575	461
	TOTAL	R6,143	R4,840
1976	January	530	493
	February	440	390
	March	525	416
	April	520	403
	May	555	452
	June	630	478
	July	490	400
	August	590	NA
	September	665	NA
	October	575	NA
	TOTAL	5,520	3,032
		(10 months)	(7 months)



Apparent Domestic Consumption



NA=Not available.

Sources: Production data are from Bureau of Mines; consumption data are FEA estimates based on figures provided by Bureau of Mines.

Electric Utilities

Production of electricity by utilities for October is estimated at 166.8 billion kilowatt hours, 7.7 percent above the level for October 1975. Production during the first 10 months of 1976 is estimated at 1.686 trillion kilowatt hours, a 5.7-percent increase over the amount produced during the same 10-month period in 1975.

Electric utilities consumed 9.3 percent more coal and 3.8 percent more oil during the first 8 months of 1976 than during the corresponding period in 1975. Utility natural gas consumption, however, was 1.0 percent lower.

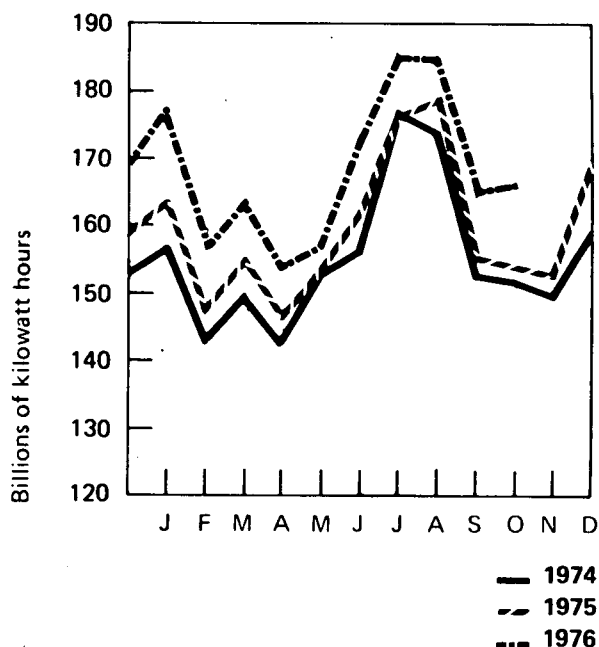
Sales of electricity to industrial customers during the period January-August 1976 totaled 483.8 billion kilowatt hours, up 10.4 percent from the level for the corresponding months of 1975. Sales to commercial customers during the same period were up 5.0 percent, while sales to residential customers dropped 0.2 percent.

The primary cause of the increase in industrial sales appears to be the 8.6-percent growth in industrial output during the period. Another contributing factor was the relatively constant real price of electricity to industrial users. Commercial sales grew at their historical rate. Factors affecting the growth positively were the 1.5-percent increase in the number of commercial customers as well as the increase in activity in the services sector of the economy (4.4 percent based upon employment data). Factors affecting the growth negatively were a 3.3-percent increase in the real price of electricity to commercial customers, and more moderate weather during the period reflected by a decline in the number of degree-days. The slight decrease in residential sales is due in part to a 2.0-percent real increase in residential electricity rates and the decline in degree-days noted above.

Electric Utilities

		Total Net Production	Percentage Produced from Each Source					
		Millions of kilowatt hours	Coal	Oil	Gas	Nuclear	Hydro- electric	Other*
1974	January	157,235	46.9	16.6	13.2	4.8	18.4	0.1
	February	142,469	46.5	15.8	13.3	5.7	18.6	0.1
	March	150,036	45.2	14.7	15.7	5.9	18.4	0.1
	April	142,019	44.3	14.0	16.9	5.0	19.6	0.2
	May	153,501	44.2	14.7	18.5	4.3	18.2	0.1
	June	156,140	43.3	14.7	20.3	4.6	17.0	0.1
	July	177,925	43.0	15.5	20.9	5.7	14.8	0.1
	August	173,819	43.1	15.6	20.3	7.1	13.8	0.1
	September	152,170	42.9	16.4	19.3	7.2	14.0	0.2
	October	151,885	44.2	16.8	18.6	7.1	13.2	0.1
	November	149,749	44.9	18.4	15.2	7.3	14.1	0.1
	December	159,616	45.5	19.2	12.4	8.3	14.4	0.2
	TOTAL	1,866,564	AVG. 44.5	16.0	17.1	6.1	16.1	0.2
1975	January	164,228	45.6	18.6	12.0	8.5	15.2	0.1
	February	147,002	45.8	16.9	12.3	8.6	16.3	0.1
	March	155,430	44.5	14.9	12.9	9.5	18.0	0.2
	April	146,194	44.1	14.5	13.9	9.1	18.2	0.2
	May	153,183	42.3	13.7	16.8	8.9	18.1	0.2
	June	162,707	43.3	14.1	17.7	8.0	16.7	0.2
	July	176,791	43.2	14.2	19.3	8.7	14.4	0.2
	August	179,459	44.0	15.5	19.0	8.7	12.6	0.2
	September	155,150	44.2	13.8	19.4	9.2	13.2	0.2
	October	154,817	44.6	14.2	17.0	9.4	14.6	0.2
	November	152,751	46.1	14.2	14.3	9.2	16.0	0.2
	December	169,313	46.5	15.9	12.2	9.8	15.4	0.2
	TOTAL	1,917,025	AVG. 44.5	15.0	15.6	9.0	15.7	0.2
1976	January	178,140	47.0	18.1	11.1	8.9	14.7	0.2
	February	156,703	46.9	15.8	12.2	9.2	15.7	0.2
	March	164,159	46.6	15.5	13.0	8.5	16.2	0.2
	April	153,174	47.4	15.2	14.2	7.2	15.8	0.2
	May	157,216	46.1	13.8	16.1	7.5	16.3	0.2
	June	173,154	44.4	14.5	17.1	9.0	14.8	0.2
	July	185,928	44.7	14.5	17.1	9.5	14.0	0.2
	August	185,812	45.0	15.0	16.9	10.1	12.8	0.2
	September	164,999	NA	NA	NA	10.5	NA	NA
	October	166,780	NA	NA	NA	10.9	NA	NA
	TOTAL (10 months)	1,686,065						

Total Net Production



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

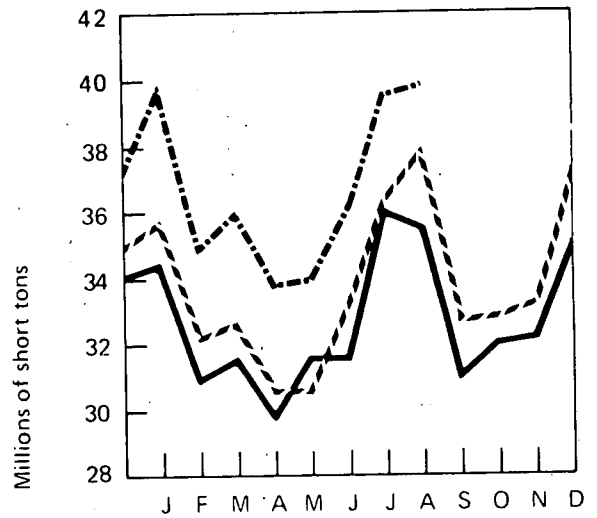
NA=Not available.

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

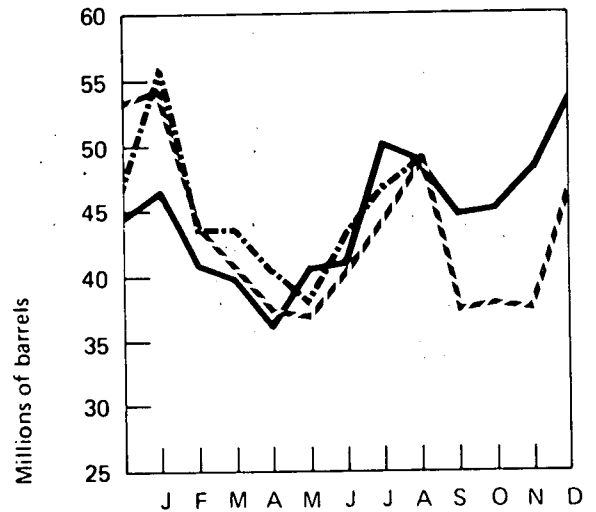
Fuel Consumption

		Coal	Oil	Gas
		Thousands of short tons	Thousands of barrels	Millions of cubic feet
1974	January	34,599	46,727	219,318
	February	30,857	40,657	201,611
	March	31,638	39,633	253,833
	April	29,680	35,953	359,308
	May	31,701	40,816	306,985
	June	31,720	41,233	346,617
	July	36,113	50,160	403,455
	August	35,552	48,981	380,651
	September	30,976	44,549	313,015
	October	32,124	45,260	298,327
	November	32,210	48,558	238,888
	December	35,177	53,644	207,070
	TOTAL	392,347	536,171	3,429,079
1975	January	35,835	54,174	204,591
	February	32,089	43,663	188,446
	March	32,785	40,536	210,202
	April	30,543	37,125	213,740
	May	30,571	37,067	273,920
	June	33,450	41,020	306,798
	July	36,560	44,440	360,534
	August	37,959	49,306	359,273
	September	32,605	37,112	315,122
	October	32,845	38,109	274,224
	November	33,326	37,619	227,101
	December	37,384	46,928	212,923
	TOTAL	405,952	507,099	3,146,874
1976	January	39,978	56,186	204,944
	February	34,958	43,230	198,117
	March	36,079	43,946	221,152
	April	33,799	40,262	226,433
	May	33,943	37,930	264,941
	June	36,374	43,532	310,186
	July	39,672	47,070	335,021
	August	39,948	48,509	336,612
	TOTAL (8 months)	294,751	360,665	2,097,406

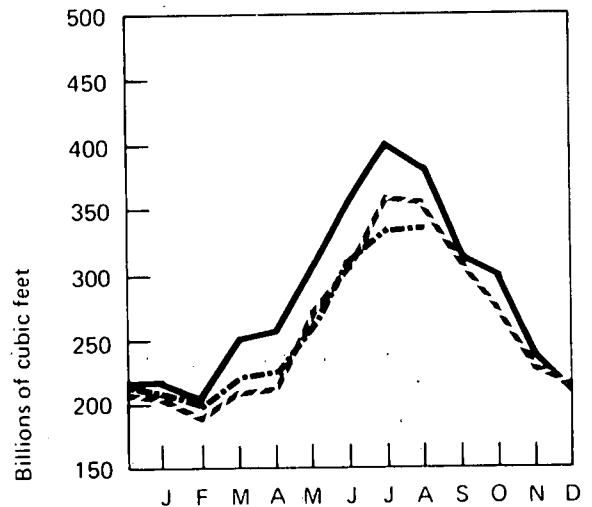
Coal Consumption



Oil Consumption



Gas Consumption



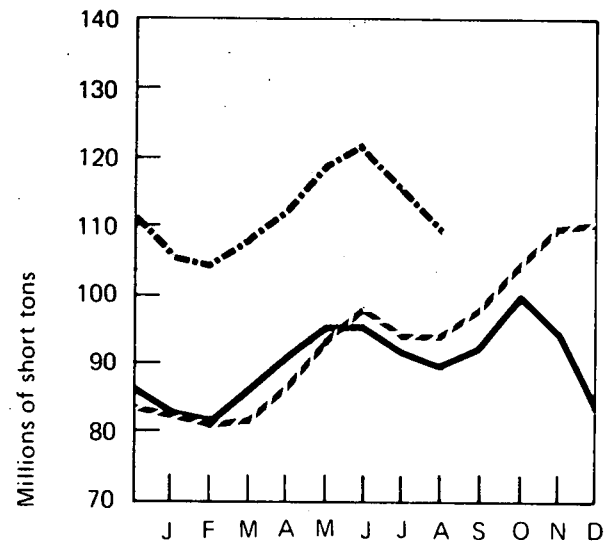
Source: Federal Power Commission.

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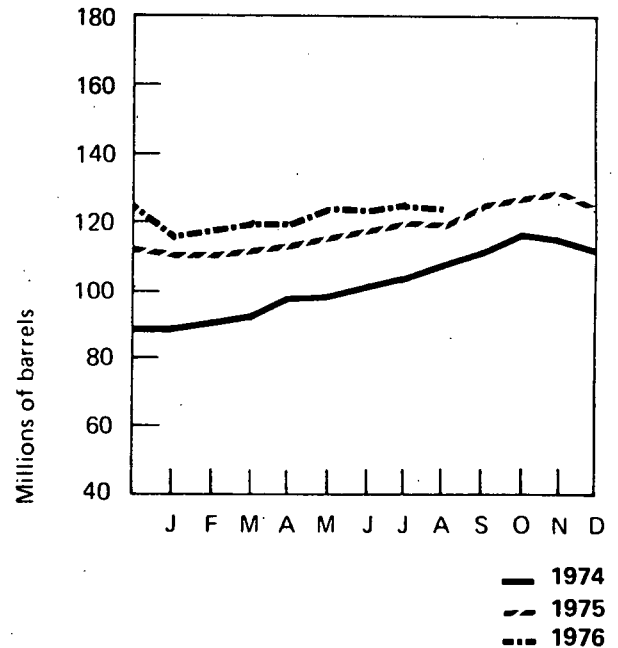
Electric Utilities (Continued)

		Stocks at End of Month	
		Coal	Oil
		Thousands of short tons	Thousands of barrels
1974	January	82,540	89,468
	February	81,720	91,652
	March	86,166	93,879
	April	91,018	98,051
	May	95,601	99,591
	June	95,895	102,395
	July	91,522	105,633
	August	89,474	109,674
	September	92,973	112,502
	October	100,506	118,027
	November	94,165	117,382
	December	83,527	112,894
1975	January	82,073	111,273
	February	80,957	111,478
	March	81,872	113,621
	April	86,811	114,276
	May	93,845	117,205
	June	98,007	118,915
	July	94,261	121,148
	August	94,199	120,595
	September	98,078	126,213
	October	105,397	128,756
	November	110,295	130,203
	December	110,734	125,022
1976	January	105,508	117,732
	February	104,862	118,646
	March	108,431	120,069
	April	112,841	120,158
	May	119,518	125,668
	June	122,875	125,482
	July	115,160	126,189
	August	109,133	125,520

Coal Stocks



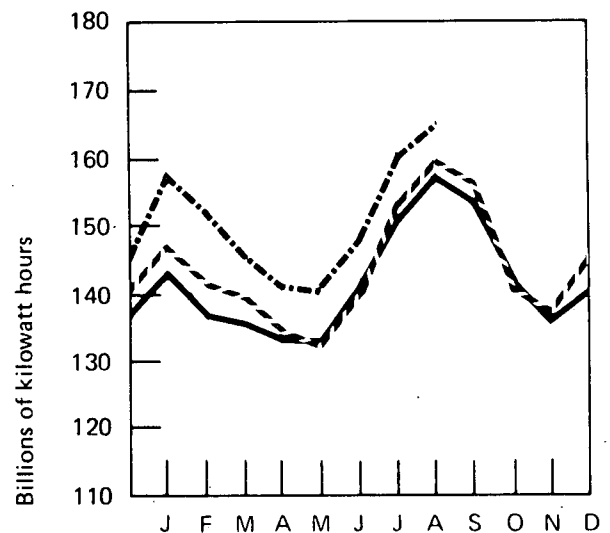
Oil Stocks



Source: Federal Power Commission.

		Sales				
		Residential	Commercial	Industrial	Other*	Total
Millions of kilowatt hours						
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	56,829	37,891	53,973	5,052	153,745
	August	59,979	38,768	56,067	5,223	160,037
	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	598,647	404,676	663,345	64,575	1,731,243
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	53,312	40,415	61,417	5,871	161,015
	August	56,311	40,898	62,444	5,999	165,652
	TOTAL (8 months)	399,782	281,654	483,849	46,343	1,211,628

Total Sales



*Includes street lighting and trolley cars.

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

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Nuclear Power

The 54 domestic reactors in commercial operation, with a total maximum dependable capacity of 36,010 megawatts, performed at 66 percent of capacity during October. Since June, commercial reactors have been producing power at an average of 65 percent of rated capacity, the highest continuous performance in U.S. history.

Total domestic nuclear generating capacity amounts to 42,887 megawatts. In addition to commercial reactors, this includes seven reactors (5,805 megawatts) in power ascension* and Hanford-N (800 megawatts), the government-owned reactor in Washington State.

The Houston Lighting and Power Company disclosed that one unit of its planned Allens Creek plant will be cancelled due to financial problems and uncertainty in future demand for electricity. No construction permit has been issued for the remaining unit, which is a 1,213-megawatt boiling water reactor, and no definite completion date has yet been projected.

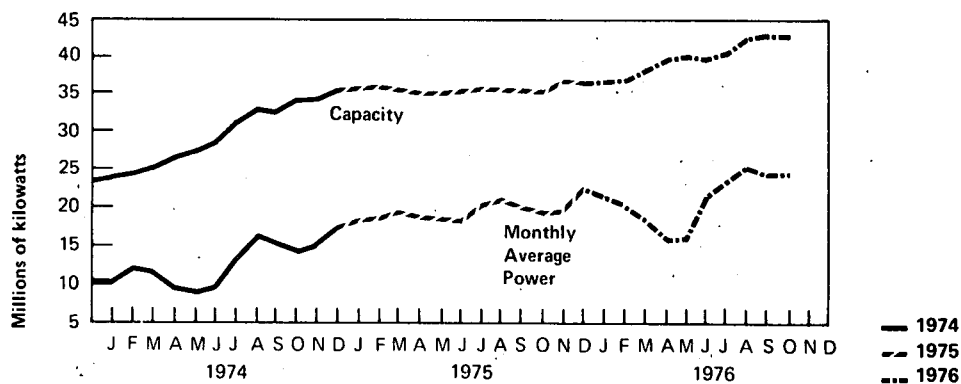
During the last 2 years, 24 nuclear reactors totaling 27,668 megawatts capacity have been cancelled, and 145 reactors totaling 156,655 megawatts capacity have been delayed 6 months to 8 years. Of the 89 reactors currently under construction, 29 are greater than 25 percent completed, while the other 60 are less than 25 percent completed or have just begun construction.

*See definitions.

U.S. Nuclear Powerplant Operations*

		Maximum Dependable Capacity	Average Power	Percent of Total Domestic Electricity Generation
		Thousands of net kilowatts		
1974	January	24,006	10,222	4.8
	February	24,776	12,106	5.7
	March	25,305	11,819	5.9
	April	26,862	9,914	5.0
	May	27,670	8,832	4.3
	June	28,748	9,844	4.6
	July	31,374	13,672	5.7
	August	33,045	16,547	7.1
	September	32,609	15,258	7.2
	October	34,464	14,504	7.1
	November	34,480	15,193	7.3
	December	35,317	17,733	8.3
	AVERAGE	29,921	12,982	6.1
1975	January	35,691	18,641	8.5
	February	35,899	18,869	8.6
	March	35,686	19,926	9.5
	April	35,017	18,444	9.1
	May	35,017	18,442	8.9
	June	35,322	18,065	8.0
	July	35,596	20,661	8.7
	August	35,589	21,047	8.7
	September	35,540	19,890	9.2
	October	35,540	19,464	9.4
	November	36,752	19,586	9.2
	December	36,424	22,321	9.8
	AVERAGE	35,671	19,626	9.0
1976	January	36,750	21,315	8.9
	February	36,879	20,605	9.2
	March	38,072	18,816	8.5
	April	39,763	15,238	7.2
	May	39,902	15,899	7.5
	June	39,781	21,799	9.0
	July	40,168	23,662	9.5
	August	42,067	R25,136	R10.1
	September	42,896	**24,138	**10.5
	October	**42,887	**24,465	**10.9
	AVERAGE (10 months)	40,116	21,117	9.2

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 — October 31, 1976

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	37	0	62	45,000
Construction permit granted	20	0	52	0	72	76,000
Construction permit pending	21	0	41	5	67	74,000
Orders placed for plant	3	0	13	0	16	18,000
Publicly announced	—	—	—	19	19	23,000
TOTAL	68	1	143	24	236	236,000

*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 — October 1976

	Domestic Customers	Foreign Customers	Total
Separative Work Performed (in metric tons of separative work units)	338.505	683.634	1,022.139
Cost (in millions of dollars)	22.278	42.730	65.008
Product Quantity (in metric tons of uranium)	107.296	168.170	275.466
Feed Requirement (in metric tons of uranium)	578.159	866.975	1,445.134

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

Nuclear Power Generation by Major Non-Communist Countries — October 1976*

Country	Number of Reactors	Capacity	Generation of Electricity			
			Generation October	Percent of Design Capacity		
				October	Year	
					1974	1975
		Thousands of gross electrical kilowatts	Millions of gross kilowatt hours			
Canada	6	3,130	1,498	64	74	64
Federal Republic of Germany	10	6,410	2,607	55	57	72
France	10	3,070	961	42	57	68
Great Britain	30	6,900	NA	NA	61	57
India	3	620	251	54	55	46
Italy	3	630	384	82	61	69
Japan	12	6,600	2,761	56	61	36
Spain	3	1,120	684	82	75	77
Sweden	5	3,310	1,403	57	20	44
Switzerland	3	1,050	788	100	76	84
United States	59	43,200	18,270	57	57	60
TOTAL	144	76,040	**29,607	**58	58	58

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

**Totals do not include Great Britain.

NA=Not available.

Source: *Nucleonics Week*.

Summary of Monthly Nuclear Fuel Cycle – September 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
		MTU except where noted			Billion Btu	Mills per kilowatt hour
Milling	Yellowcake (U ₃ O ₈) Deliveries	433	38	149,000	244	1.27
Conversion	Uranium Hexafluoride (UF ₆) Deliveries	634	44	220,000	136	0.16
Enrichment	Enriched UF ₆ Deliveries	354 (1,085 MT-SWU)	††	735,000	8,600	1.53
Fabrication	Finished Fuel Assemblies Shipped	86	36	16,100	12	0.47
Powerplant Operation	Electricity Generated	18,277 (million kWhe)	62	194,000	842 (million kWhe)	10.93
	Spent Fuel Discharged	NA	—	—	—	} †††1.57
Reprocessing	Spent Fuel Received	6	—	—	—	
	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 plans 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 September 1976 totaled 5.701 quadrillion Btu, 5.3 percent above the September 1975 level and 1.8 percent above September 1974. No sectoral breakdown is available for the month as yet.

The revised consumption total for August was 5.880 quadrillion Btu. Of the total, 2.029 quadrillion Btu was consumed by the combined residential and commercial sector, up 2.8 percent from August 1975 and up 4.3 percent from August 1974. Direct consumption of primary fuels amounted to 40 percent of the combined sector's total consumption (coal was 0.5 percent, dry natural gas was 13.6 percent, and petroleum products were 25.9 percent). Consumption of electricity accounted for the remaining 60 percent.

The industrial sector consumed 2.258 quadrillion Btu in August, 6.6 percent more than in August 1975, but 4.5 percent less than in August 1974. Coal accounted for 13.4 percent of the total, 32.2 percent was dry natural gas, 21.3 percent was petroleum products, and 33.1 percent was electricity.

Consumption in the transportation sector was 1.593 quadrillion Btu in August, up 1.9 percent from August 1975 and up 0.2 percent from August 1974. Petroleum products comprised 96.5 percent of the total. Natural gas used for pipeline transportation, and electricity used by railroads and for street and highway lighting accounted for the balance.

Petroleum Consumption and Forecast

Total domestic demand for petroleum products during October 1976 was 16.80 million barrels per day. This was 1.8 percent below the forecast level but 2.8 percent above the level for last October. Domestic demand for motor gasoline in October was 6.80 million barrels per day, which was 2.3 percent below the forecast level but about equal to demand for October 1975. Domestic demand for distillate fuel oil was 2.79 million barrels per day in October. This was 5.8 percent less than the forecast level but 4.1 percent greater than last October's distillate demand. Domestic demand for residual fuel oil was 2.64 million barrels per day during October, 16.3 percent higher

than the forecast level and 18.1 percent higher than demand during October 1975.

The large increases in demand for distillate and residual fuel oils compared with October 1975 demands are due in part to greater need for heating oil because of much colder weather. (See the heating degree-days section.)

Energy Consumption by Economic Sector and Primary Source — August 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	0.011	0.275	0.526	—	—	0.813	0.347	1.160	0.869	2.029
Industrial	0.303	0.726	0.480	0.003	—	1.511	0.213	1.724	0.534	2.258
Transportation	0.001	0.036	1.538	—	(⁹)	1.575	0.005	1.580	0.013	1.593
Electric Utilities	0.881	0.345	0.297	0.259	0.200	1.982	—	—	—	—
TOTAL	1.196	1.382	2.841	0.262	0.200	5.880	0.565	4.464	1.416	5.880

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.

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

	August 1976 Consumption	Percent Change from August 1975	Cumulative Percent Change from 1975 (January through August)*
	Quadrillion Btu		
Refined Petroleum Products	2.846	+5.5	+4.4
Motor Gasoline	1.166	+2.3	+3.7
Jet Fuel	0.168	-7.8	-2.6
Distillate	0.404	+2.9	+1.1
Residual	0.522	+26.4	+10.1
Other Petroleum Products	0.586	+5.1	+6.6
Natural Gas (Dry)	1.382	-1.4	-0.8
Coal (Anthracite, bituminous, and lignite)	1.196	+4.4	+4.9
Electricity (Sales)	0.565	+3.5	+4.8
TOTAL ENERGY USE	5.880	+4.0	+2.9
Economic Sector Consumption			
Residential and Commercial	2.029	+2.9	+0.7
Industrial	2.258	+6.6	+5.1
Transportation	1.593	+1.9	+3.3

*Calculated on daily average basis.

Energy Consumption (Continued)

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 ¹²) Btu						
1974	January	0.040	1.158	0.662	0.297	0.700	2.856	2.856
	February	0.034	1.027	0.590	0.274	0.601	2.526	5.381
	March	0.027	0.902	0.569	0.268	0.644	2.411	7.792
	April	0.019	0.754	0.530	0.258	0.598	2.158	9.950
	May	0.016	0.499	0.497	0.254	0.655	1.921	11.871
	June	0.015	0.357	0.503	0.283	0.687	1.845	13.717
	July	0.014	0.293	0.507	0.316	0.847	1.977	15.694
	August	0.021	0.265	0.519	0.331	0.809	1.945	17.639
	September	0.025	0.278	0.513	0.315	0.655	1.786	19.424
	October	0.027	0.395	0.589	0.272	0.636	1.920	21.345
	November	0.027	0.569	0.583	0.263	0.638	2.079	23.424
	December	0.031	0.930	0.628	0.293	0.742	2.624	26.048
	TOTAL	0.297	7.427	6.688	3.424	8.212	26.048	
1975	January	0.036	1.124	0.648	0.310	0.758	2.875	2.875
	February	0.023	1.105	0.553	0.292	0.646	2.619	5.495
	March	0.023	1.018	0.565	0.284	0.693	2.583	8.078
	April	0.011	0.905	0.506	0.270	0.632	2.323	10.401
	May	0.011	0.522	0.457	0.267	0.680	1.936	12.337
	June	0.014	0.338	0.451	0.297	0.758	1.858	14.194
	July	0.016	R0.294	0.481	0.336	0.868	1.994	16.189
	August	0.016	R0.267	0.460	0.350	0.879	R1.973	R18.161
	September	0.020	0.281	0.501	0.336	0.693	1.831	R19.992
	October	R0.024	0.353	0.555	0.280	0.677	R1.889	R21.881
	November	0.025	0.523	0.517	0.273	0.659	1.997	R23.878
	December	0.034	0.910	0.642	0.303	0.780	2.669	R26.547
	TOTAL	0.253	R7.640	6.337	3.596	8.721	R26.547	
1976	January	0.032	1.229	0.679	0.340	0.841	R3.121	R3.121
	February	0.019	1.106	0.595	0.314	0.687	R2.722	R5.843
	March	0.018	0.858	R0.592	0.286	R0.704	R2.457	R8.301
	April	0.014	0.704	R0.518	0.270	0.629	R2.136	R10.437
	May	0.012	0.510	0.524	0.267	0.636	1.960	R12.397
	June	0.014	0.369	0.507	0.286	R0.752	R1.929	R14.325
	July	R0.011	0.297	0.502	0.335	R0.869	2.015	R16.340
	August	0.011	0.275	0.526	0.347	0.870	2.029	18.369
	TOTAL	0.133	5.349	4.444	2.445	5.998	18.369	

(See footnotes on page 46) 9

Energy Consumption by the Industrial Economic Sector¹

		Coal	Natural Gas (dry)	Petroleum ³	Hydroelectric	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 ¹⁵) Btu									
1974	January	0.378	0.830	0.603	0.003	0.189	0.447	2.450	2.450
	February	0.354	0.804	0.538	0.003	0.187	0.409	2.295	4.745
	March	0.358	0.827	0.519	0.003	0.190	0.457	2.354	7.099
	April	0.352	0.662	0.483	0.003	0.191	0.444	2.137	9.236
	May	0.342	0.788	0.453	0.003	0.195	0.503	2.284	11.520
	June	0.326	0.724	0.458	0.003	0.197	0.478	2.186	13.706
	July	0.325	0.806	0.462	0.003	0.196	0.526	2.318	16.024
	August	0.335	0.853	0.473	0.003	0.203	0.497	2.365	18.389
	September	0.325	0.933	0.468	0.003	0.204	0.425	2.358	20.747
	October	0.347	0.997	0.537	0.003	0.205	0.480	2.569	23.316
	November	0.312	1.001	0.531	0.003	0.195	0.473	2.516	25.832
	December	0.309	0.945	0.573	0.003	0.182	0.462	2.474	28.307
	TOTAL	4.062	10.170	6.100	-0.036	2.337	5.602	28.307	
1975	January	0.344	0.897	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	0.656	0.515	0.003	0.186	0.453	2.178	6.740
	April	0.340	0.440	0.461	0.003	0.184	0.431	1.859	8.599
	May	0.322	0.524	0.417	0.003	0.182	0.464	1.912	10.512
	June	0.300	0.600	0.411	0.003	0.185	0.470	1.969	12.481
	July	0.287	0.647	0.439	0.003	0.184	0.476	2.036	14.517
	August	0.294	R0.730	0.420	0.003	0.191	0.481	R2.119	R16.636
	September	0.294	0.761	0.457	0.003	0.194	0.400	2.109	R18.745
	October	R0.306	0.902	0.506	0.003	0.193	0.465	R2.375	R21.120
	November	0.319	0.872	0.471	0.003	0.192	0.463	2.320	R23.440
	December	0.338	0.904	0.585	0.003	0.189	0.488	2.507	R25.947
	TOTAL	R3.853	R8.558	5.780	0.036	2.254	5.465	R25.947	
1976	January	R0.323	0.838	0.620	0.003	0.196	0.485	R2.446	R2.466
	February	R0.304	0.499	R0.543	0.003	0.199	R0.435	R1.983	R4.448
	March	R0.323	0.723	R0.540	0.003	0.206	0.508	R2.304	R6.752
	April	R0.305	0.558	R0.473	0.003	0.205	0.478	R2.022	R8.774
	May	R0.313	0.645	0.478	0.003	0.209	0.505	R2.153	R10.927
	June	R0.299	0.638	R0.462	0.003	0.213	R0.560	R2.175	R13.102
	July	R0.303	0.685	0.458	0.003	0.210	R0.544	R2.202	R15.304
	August	0.303	0.726	0.480	0.003	0.213	0.534	2.258	17.562
	TOTAL	2.473	5.312	4.053	0.024	1.651	4.049	17.562	

Energy Consumption (Continued)

Energy Consumption by the Transportation Economic Sector¹

		Coal	Natural Gas (dry) ⁴	Petroleum	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
Quadrillion (10 ¹⁵) Btu								
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	4.372
	April	0.001	0.051	1.397	0.005	0.011	1.465	5.837
	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	1.572	10.458
	August	0.001	0.041	1.533	0.005	0.012	1.590	12.049
	September	0.001	0.044	1.393	0.005	0.010	1.453	13.501
	October	0.001	0.051	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	18.243
	TOTAL	0.009	0.638	17.392	0.060	0.144	18.243	
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	0.013	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	0.150	18.354	
1976	January	0.001	0.075	1.532	0.006	0.015	1.628	1.628
	February	0.001	0.058	1.380	0.006	0.012	R1.457	R3.085
	March	0.001	0.057	R1.552	0.005	0.013	R1.629	R4.714
	April	0.001	0.046	R1.517	0.005	0.012	R1.580	R6.293
	May	0.001	0.042	1.493	0.005	0.012	1.553	R7.847
	June	0.001	0.037	R1.546	0.005	0.012	R1.600	R9.446
	July	0.001	0.036	1.587	0.005	R0.013	1.641	R11.008
	August	0.001	0.036	1.538	0.005	0.013	1.593	12.681
	TOTAL	0.005	0.387	12.145	0.042	0.102	12.681	

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.

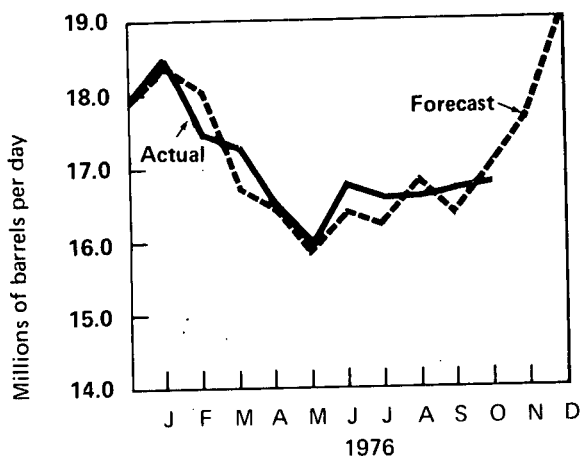
³ The percentage share used in calculating Industrial consumption of petroleum was 47.5 percent for 1973 and 47.7 percent for 1974, 1975, and 1976.

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.

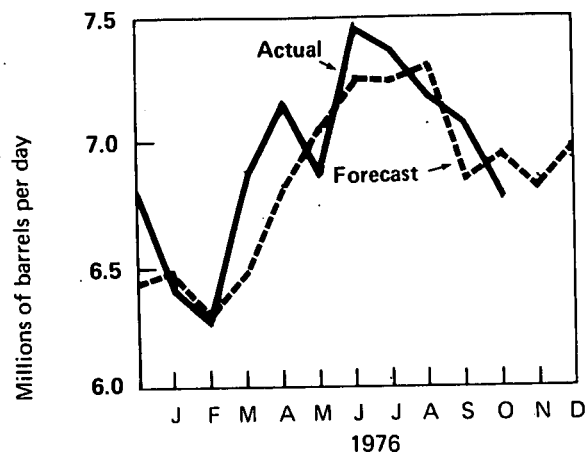
R=Revised data.

Petroleum Consumption and Forecast

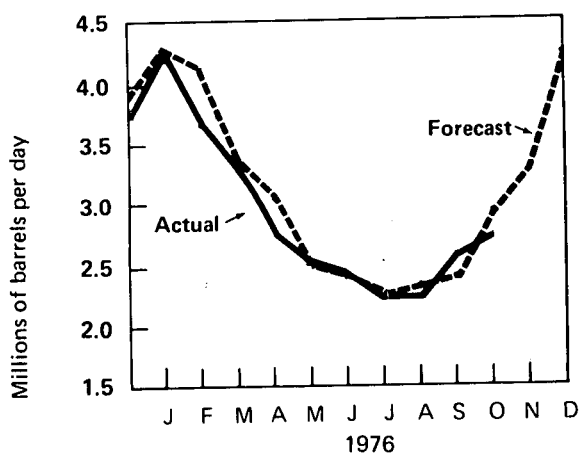
Total Domestic Demand for Petroleum Products



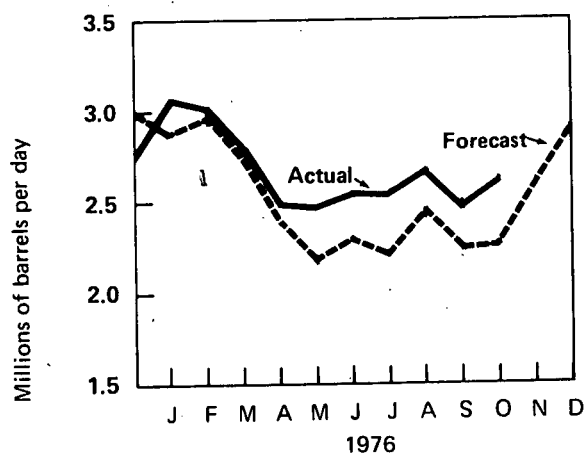
Domestic Demand for Motor Gasoline



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 BOM data for January through August and API data for September and October.

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

Resource Development.

Oil and gas rotary drilling rig activity maintained a 15-year high during November with 1,840 rigs in operation. Only 3,269 wells were completed during October, however, compared with 3,625 during October 1975. This was the first year-to-year decline in well completions in nearly a year and a half. Nonetheless, cumulative completions since the first of the year are running about 11 percent ahead of last year.

There was a minor seasonal decline in seismic exploration activity during October. A total of 267 crews (246 land, 21 marine) were operating in the United States and its territorial waters during the month. This total reflects an increase of six land crews but a decrease of seven marine crews from the crew count for September. Last October, 270 crews were reported active.

Oil and Gas Exploration

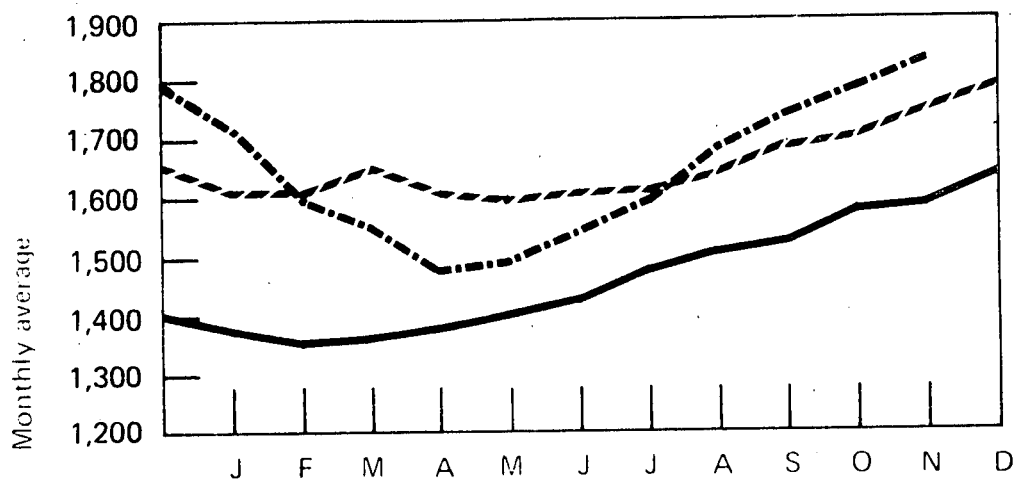
		Rotary Rigs in Operation	Wells Drilled				Total Footage of Wells Drilled
		Monthly average	Oil	Gas	Dry	Total	Thousands of feet
1974	January	1,372	763	577	803	2,143	10,392
	February	1,355	901	600	816	2,317	12,160
	March	1,367	936	638	1,003	2,577	12,844
	April	1,381	947	700	945	2,592	13,349
	May	1,412	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	NA	NA	NA	NA	NA
	AVERAGE (11 months)	1,640	TOTAL* 14,197 (10 months)	7,418	11,051	32,666	150,024

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

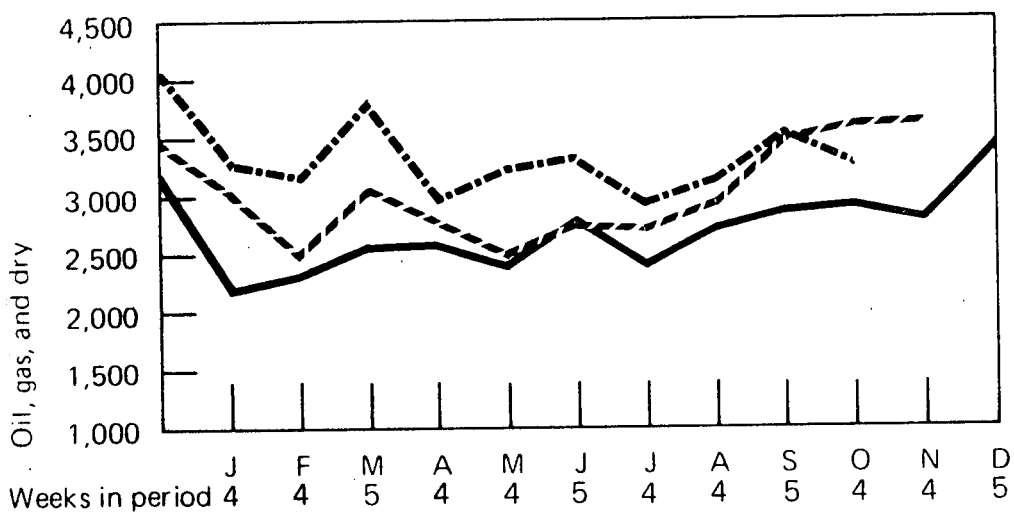
NA=Not available.

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

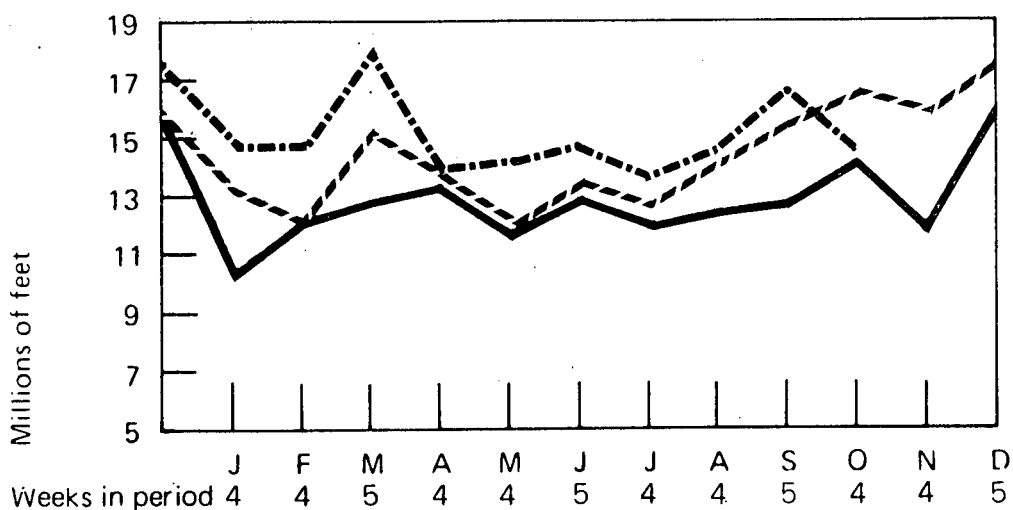
Rotary Rigs in Operation



Total Wells Drilled



Total Footage of Wells Drilled



— 1974
 - - 1975
 - · - 1976

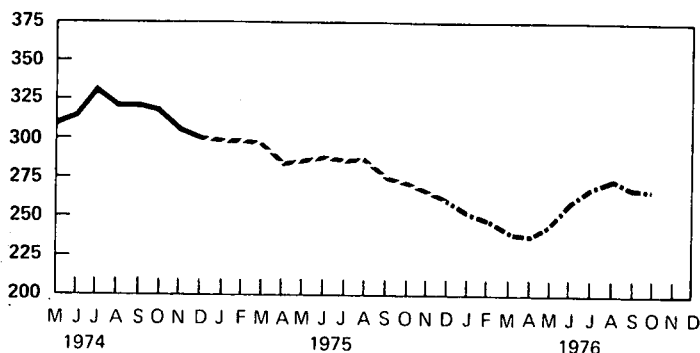
Oil and Gas Exploration (Continued)

Crews Engaged in Seismic Exploration

Line Miles of Seismic Exploration

		Crews Engaged in Seismic Exploration			Line Miles of Seismic Exploration		
		Offshore	Onshore	Total	Offshore	Onshore	Total
		Monthly average			Monthly average		
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
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	260	283			
	May	32	254	286			
	June	38	251	289			
	July	37	249	286			
	August	40	249	289			
	September	40	234	274			
	October	29	241	270			
	November	27	238	265			
	December	26	233	259			
1976	January	20	232	252			
	February	17	232	249			
	March	18	222	240			
	April	17	221	238			
	May	21	226	247			
	June	29	229	258			
	July	30	240	270			
	August	33	242	275			
	September	28	240	268			
	October	21	246	267			
	AVERAGE (10 months)	23	233	256			

Total Seismic Crews



NA=Not available.

Source: Society of Exploration Geophysicists.

— 1974
-- 1975
... 1976

Motor Gasoline

The national average selling price for regular gasoline at full service retail outlets was unchanged in October at 60.2 cents per gallon. This was the first time since April that this price has not increased. The average price that retailers paid for regular gasoline was also unchanged (52.6 cents per gallon) as was the dealer margin (7.6 cents per gallon).

Heating Oil

Partial heating oil price data are now available for the period June through September 1976. The national average selling price for heating oil sold to residential users was 40.2 cents per gallon in September, an increase of 0.4 cent from the price in August. Selling prices have risen an average of 0.9 cent since June, the last month that middle distillates were subject to price controls. In September 1975, the average selling price was 38.4 cents per gallon.

Crude Oil

The preliminary average "upper tier" crude oil price during September was \$11.65 per barrel, 3 cents above the August price.

The September preliminary "lower tier" crude oil price was \$5.17 per barrel, down 1 cent from the August figure.

The preliminary average domestic crude oil price during September was \$8.39 per barrel, 36 cents above the price in August. This increase was primarily due to a substantial gain in the stripper oil price, which was exempt from price controls beginning September 1, and to the shift in crude oil production from "lower tier" to "upper tier," which resulted from a change in the definition of a property.

The preliminary refiner acquisition cost of domestic crude oil during September was \$8.93 per barrel, 28 cents above the revised August figure.

The preliminary refiner acquisition cost of imported crude oil decreased 8 cents in September to \$13.50 per barrel.

The preliminary estimate of the composite cost of crude oil purchased by refiners during September was \$11.08 per barrel, an increase of 30 cents over the August figure. This increase can be attributed to two factors: (1) an increase in the volume of foreign crude purchases; and (2) the increase in the cost of domestic crude oil mentioned above.

Banked Costs

Banked costs for aviation jet fuel and "other products" declined slightly in August, but gasoline banked costs increased by nearly \$90 million. The net result was a \$56 million increase in total unrecouped costs.

Utility Fossil Fuels

The national average cost of all fossil fuels delivered to utilities increased 1.2 cents in June to 107.0 cents per million Btu.

The national average cost of coal delivered to utilities declined 0.7 cent in June to 187.4 cents per million Btu.

The average cost of natural gas delivered to utilities during June rose 3.6 cents to 104.4 cents per million Btu.

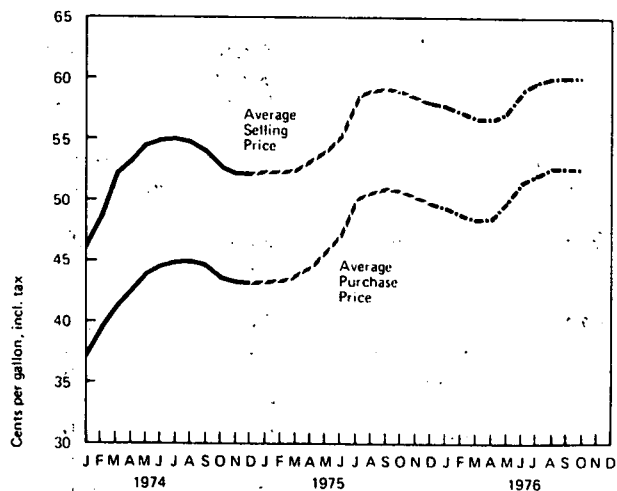
Note: Two additional price series have been incorporated in the price section this month, residual fuel oil and aviation fuels. These tables will be featured regularly.

Motor Gasoline

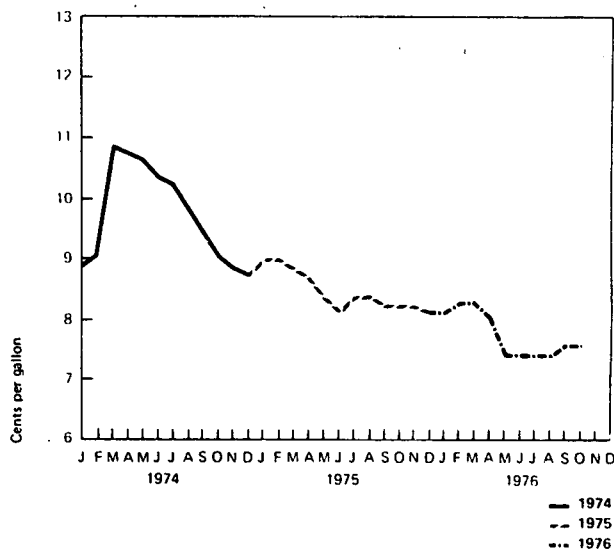
Regular Gasoline at Full Service Retail Outlets

		Average Selling Price	Average Purchase Price	Average Dealer Margin
		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

Average Retail Prices For Regular



Average Margins For Regular



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

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

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 — October 1976

(Cents per gallon, including tax)

Regular Gasoline—Full Service

	Selling Price	Margin
Major	61.0	7.9
Independent	55.6	5.8
National Average	60.2	7.6

Regular Gasoline—Self Service

	Selling Price	Margin
Major	57.3	4.3
Independent	54.3	4.4
National Average	56.5	4.4

Premium Gasoline—Selling Prices

	Full Service	Self Service
Major	66.0	63.1
Independent	60.0	58.8
National Average	65.2	61.9

Unleaded Gasoline—Full Service Selling Prices

	Regular	Premium
Major	64.5	68.6
Independent	58.7	65.9
National Average	64.0	68.6

Source: Lundberg Survey, Inc.

Average Regional Selling Prices and Dealer Margins for Regular Gasoline at Full Service Retail Outlets — October 1976

Region	Selling Price	Margin
	Cents per gallon, including tax	
1A New England	59.1	7.4
1B Mid Atlantic	61.1	6.9
1C Lower Atlantic	60.4	8.1
2 Mid Continent	60.0	6.8
3 Gulf Coast	57.7	9.0
4 Rocky Mountain	61.8	9.5
5 West Coast	62.0	8.1
National Average	60.2	7.6

Source: Lundberg Survey, Inc.

Motor Gasoline (Continued)

Retail Gasoline Price Changes for 21 Leading Refiners During October 1976
and Entitlement Position* During September 1976

Company	Effective Date of Change	Amount of Change Cents per gallon	Entitlement Position (September)
Amerada Hess	October 7	- 1.00	Seller
American Petrofina		None	Buyer
Ashland	October 4	- 1.00 (Atlanta, Baltimore) - 0.50 All other areas	Seller
Atlantic Richfield		None	Seller
B.P.	October 1	- 2.00 (PAD I, Consumers only)	Seller
	October 20	- 0.25 (PAD I)	
Cities Service	October 5	- 0.50 (PAD II)	Buyer
Champlin	October 1	3.00 (PAD I)	Buyer
Continental		None	Buyer
Exxon		None	Buyer
Getty		None	Seller
Gulf		None	Buyer
Kerr-McGee	October 11	- 0.50 (PAD II); - 0.25 (PAD III)	Seller
Mobil		None	Buyer
Phillips		None	Seller
Shell	October 19	- 1.00 (For direct stations in Ohio, except Cleveland, and Indiana, except Gary and Michigan City) - 0.50 (Jobbers only)	Buyer
Standard Oil of California		None	Seller
Standard Oil of Indiana		None	Buyer
Standard Oil of Ohio	October 20	- 0.25 (PAD I)	Seller
Sun		None	Buyer
Texaco		None	Buyer
Union Oil of California		None	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

Source: FEA.

Diesel Fuel

Average Selling Prices and Margins for Diesel Fuel*

(Cents per gallon, including tax)

		Selling Price		Margin	
		Truck Stops	Service Stations	Truck Stops	Service Stations
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

*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 Retail Dealers — October 1976

(Cents per gallon, including tax)

Truck Stops

	Selling Price	Margin
Major	53.5	5.5
Independent	51.3	6.9
National Average	52.4	5.8

Service Stations

	Selling Price	Margin
Major	55.2	6.0
Independent	51.6	7.2
National Average	53.1	6.5

Source: Lundberg Survey, Inc.

Heating Oil

Residential Heating Oil Prices

		Average Selling Price*	Average Purchase Price*	Average Dealer Margin*
		Cents per gallon		
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

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

NA=Not available.

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								
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"	
				0.0 to 0.3 percent sulfur		0.31 to 1.0 percent sulfur		Greater than 1.0 percent sulfur		Total			
		Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail
1975	July	10.19	11.28	11.57	12.86	10.90	12.05	10.25	10.59	10.66	11.70	7.88	10.54
	August	10.19	11.04	11.53	13.22	10.85	12.34	9.72	10.53	10.49	11.89	8.76	10.43
	September	10.58	11.07	11.75	12.94	10.63	11.65	9.87	10.52	10.48	11.52	8.93	10.29
	October	10.15	11.12	11.50	12.98	10.37	12.09	9.75	10.38	10.30	11.69	8.88	10.31
	November	10.90	11.27	12.21	12.96	10.33	12.03	9.90	10.34	10.47	11.68	9.01	10.43
	December	10.83	11.64	11.89	12.87	10.37	11.83	9.65	10.06	10.24	11.42	9.07	10.15
1976	January	11.08	11.75	12.06	12.39	10.60	11.68	9.57	10.23	10.53	11.35	8.75	10.35
	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
	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
	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
	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
	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
	July*	9.69	11.61	11.73	12.12	10.23	11.38	9.84	10.04	10.26	11.04	9.22	10.34

*Preliminary data.

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

Source: FEA.

Aviation Fuels

Aviation Fuels (Cents per gallon)

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

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

**Preliminary data.

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

Source: FEA.

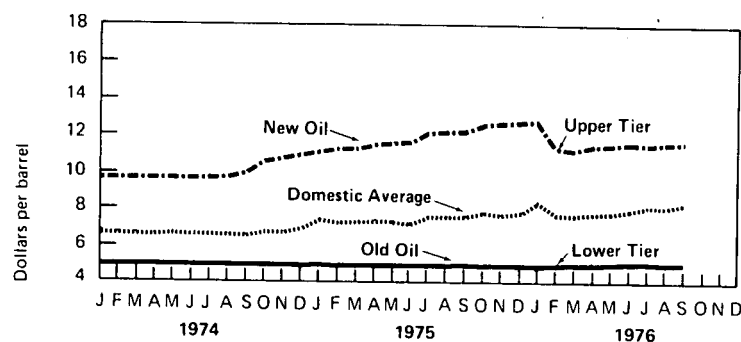
Crude Oil

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	5.06	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	1976	February	5.06	11.47	7.87
	February	5.03	11.39	7.47		March	5.07	11.39	7.79
	March	5.03	11.47	7.57		April	5.07	11.52	7.86
	April	5.03	11.64	7.55		May	5.13	11.55	7.89
	May	5.03	11.69	7.52		June	5.15	11.60	7.99
	June	5.03	11.73	7.49		July	5.19	11.59	8.04
	July	5.03	12.30	7.75		August	5.18	11.62	8.03
	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)

Crude Oil Wellhead Price



*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.

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. R=Revised data.

Sources: January 1974 through January 1976—FEA Crude Petroleum Production Monthly Report; February 1976 forward—FEA Domestic Crude Oil Purchasers Report.

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	—	15
	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	

*Totals do not add to 100 due to rounding.

**Preliminary.

***The preliminary stripper oil percentage reported by purchasers may understate actual stripper oil production due to the extension of the certification requirement for stripper oil production through November 30, 1976. The figure will not be finalized until reports are received after November 30, 1976, and purchasers have had sufficient time to receive all certifications from stripper oil producers.

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

*See definitions.

Source: FEA.

Refiner Acquisition Cost of Crude Petroleum*

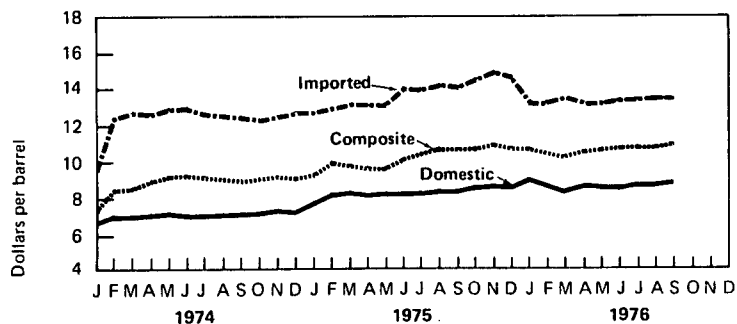
		Domestic	Imported	Composite
		Dollars per barrel		
1974	January	6.72	9.59	7.46
	February	7.08	12.45	8.57
	March	7.05	12.73	8.68
	April	7.21	12.72	9.13
	May	7.26	13.02	9.44
	June	7.20	13.06	9.45
	July	7.19	12.75	9.30
	August	7.20	12.68	9.17
	September	7.18	12.53	9.13
	October	7.26	12.44	9.22
	November	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	R8.72	R13.51	R10.97
	August	R8.65	R13.58	R10.78
	September	**8.93	**13.50	**11.08

*See Explanatory Note 14.

**Preliminary 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

*See Explanatory Note 15.

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	—	R587	R129	R384	R1,100
	August	—	679	125	352	1,156

*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.

R=Revised data.

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

*Represents direct sales by pipelines 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.

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

		Price
		Cents per thousand cubic feet
1974	January	113.3
	February	115.2
	March	116.9
	April	118.2
	May	119.9
	June	120.3
	July	122.0
	August	124.2
	September	125.6
	October	127.4
	November	131.4
	December	134.2
1975	January	137.9
	February	141.3
	March	142.7
	April	147.1
	May	150.1
	June	152.1
	July	151.1
	August	151.8
	September	155.7
	October	156.3
	November	162.3
	December	166.2
1976	January	167.4
	February	171.1
	March	172.9
	April	174.2
	May	176.6
	June	178.9
	July	180.2
	August	181.5
	September	186.7
	October	189.4

Source: Bureau of Labor Statistics.

Utility Fossil Fuels

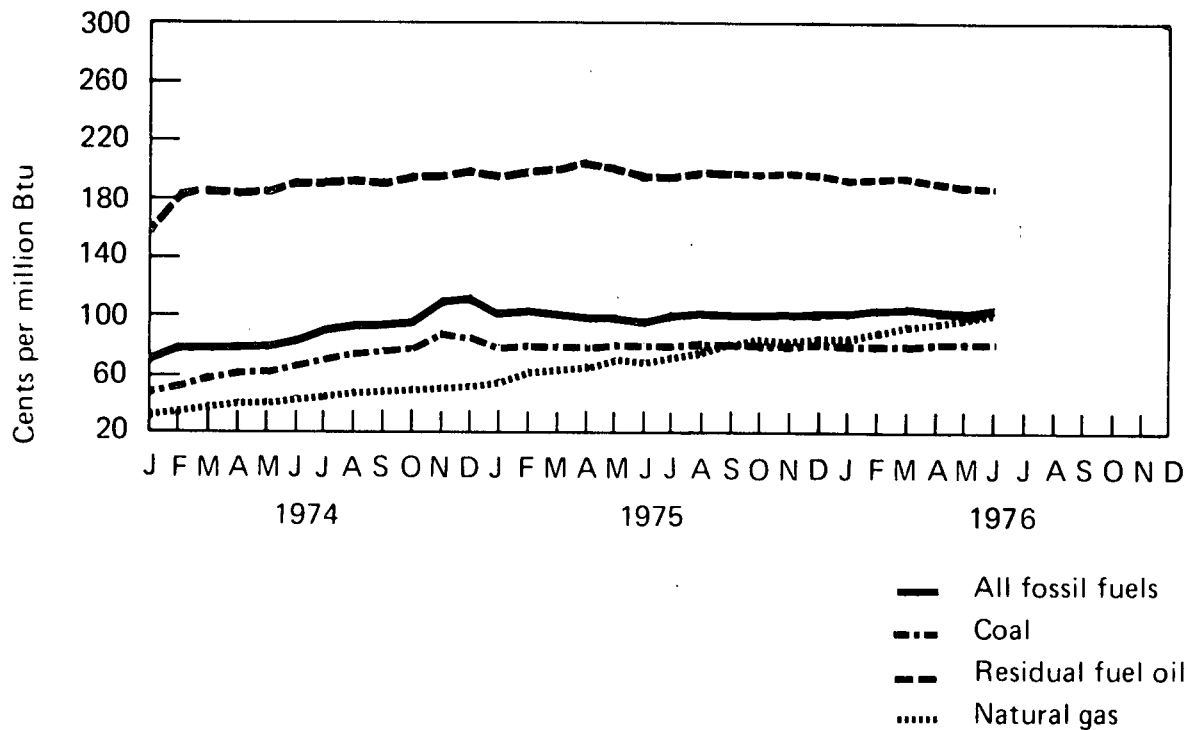
COST OF FOSSIL FUELS DELIVERED TO STEAM ELECTRIC UTILITY PLANTS

All Fossil Fuels*

Cents per million Btu		1975							1976					
Region	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
New England	192.7	189.5	188.0	182.9	182.3	181.2	177.6	181.3	184.6	182.3	184.3	174.6	174.2	
Middle Atlantic	140.4	154.5	144.5	132.7	133.7	140.8	140.8	143.6	142.2	136.8	136.9	136.6	137.9	
East North Central	87.5	89.2	90.1	88.2	87.0	89.5	92.6	89.9	90.0	88.3	91.3	92.1	93.8	
West North Central	62.8	63.0	62.7	63.9	62.6	62.5	65.7	72.7	67.4	67.5	67.2	68.9	69.1	
South Atlantic	122.5	126.8	125.2	124.4	118.4	117.0	121.3	122.0	122.7	118.3	119.2	120.0	118.9	
East South Central	85.3	86.2	84.5	85.2	83.8	84.5	85.5	88.5	88.0	87.4	90.4	90.9	90.0	
West South Central	71.2	76.0	77.5	79.1	79.6	77.0	82.8	88.0	88.2	91.7	93.5	94.6	98.6	
Mountain	50.9	51.8	50.4	55.0	50.1	52.3	55.6	50.4	48.3	58.4	56.1	50.1	53.0	
Pacific	154.5	147.1	171.3	174.5	177.2	206.6	222.7	214.0	206.5	211.3	196.2	180.3	177.2	
NATIONAL AVG.	99.3	102.5	103.8	103.7	101.2	102.4	106.9	107.3	107.6	107.8	106.4	105.8	107.0	

*See Explanatory Note 16.

National Average



Coal

Cents per million Btu Region	1975							1976					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
New England	116.5	119.2	127.3	120.4	128.7	127.6	120.8	124.2	122.7	119.4	124.8	127.0	122.3
Middle Atlantic	101.6	105.5	103.8	98.6	101.8	106.1	104.0	102.8	103.4	101.7	100.2	101.7	102.5
East North Central	82.4	82.3	84.3	83.4	82.1	83.8	85.7	83.1	83.1	82.7	85.0	86.8	86.6
West North Central	58.9	60.8	60.7	61.3	61.2	60.6	58.2	59.2	60.2	62.3	64.1	65.8	64.7
South Atlantic	98.4	101.6	101.4	102.4	98.6	98.5	100.1	98.3	99.2	99.7	100.8	100.8	100.7
East South Central	80.5	79.5	79.1	80.8	80.7	82.3	81.9	83.9	83.5	82.6	83.4	85.1	84.5
West South Central	21.0	24.0	24.0	24.0	24.0	24.0	24.0	26.4	26.4	26.4	26.4	26.4	27.3
Mountain	31.0	33.1	32.2	32.8	31.7	33.5	36.1	34.1	33.0	42.4	34.6	32.2	35.9
Pacific	58.4	58.2	58.8	58.9	58.4	59.5	58.9	72.7	76.0	74.5	75.5	75.7	75.2
NATIONAL AVG.	81.4	80.8	82.1	82.1	81.5	81.7	82.2	80.2	81.4	83.3	83.7	84.6	84.6

Residual Fuel Oil*

Cents per million Btu Region	1975							1976					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
New England	201.7	196.3	192.6	187.9	184.1	184.8	181.0	182.5	185.4	183.5	185.7	170.0	177.8
Middle Atlantic	201.5	200.4	199.3	191.2	192.2	191.5	191.6	191.3	179.9	191.8	197.1	190.3	187.3
East North Central	168.3	185.2	191.7	205.9	189.7	211.4	192.4	197.0	193.4	200.9	198.4	202.8	211.8
West North Central	165.5	161.1	157.5	150.3	153.5	161.6	157.1	173.1	162.2	153.4	153.0	145.6	148.8
South Atlantic	189.3	185.4	183.8	181.5	180.7	179.8	173.0	174.6	177.5	178.6	179.6	171.3	171.9
East South Central	165.5	167.8	175.0	174.4	175.5	180.4	171.4	172.8	173.7	174.3	176.0	170.9	166.9
West South Central	182.0	186.2	185.2	174.4	168.4	189.2	187.9	195.3	190.7	183.0	187.4	182.0	176.4
Mountain	199.0	209.1	221.3	223.7	210.3	195.8	202.3	206.8	203.5	205.0	220.8	206.4	212.4
Pacific	245.6	253.8	258.1	257.9	255.5	261.9	259.7	246.6	240.7	240.3	232.7	229.2	229.1
NATIONAL AVG.	200.0	198.9	200.8	200.5	197.0	200.5	198.1	194.1	195.4	197.7	196.7	188.1	187.4

Natural Gas**

Cents per million Btu Region	1975							1976					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
New England	121.7	122.1	154.1	137.7	135.6	133.8	157.7	166.1	166.1	151.6	134.5	144.0	153.7
Middle Atlantic	92.7	91.2	87.6	87.6	90.5	103.1	105.0	107.8	195.8	106.3	150.3	111.5	108.0
East North Central	111.6	103.4	104.6	114.0	120.2	128.3	136.8	126.8	124.4	125.0	127.7	135.3	139.8
West North Central	58.1	59.2	56.9	57.8	55.4	55.8	55.9	56.1	61.6	61.5	68.0	73.4	78.1
South Atlantic	72.2	68.9	69.7	76.4	79.6	78.5	80.8	75.1	82.0	75.5	78.2	84.0	83.1
East South Central	77.0	91.0	95.9	110.3	105.5	120.2	146.6	156.6	157.4	147.5	148.0	128.6	123.0
West South Central	69.2	72.7	75.7	77.9	79.7	77.6	80.3	83.5	87.3	90.8	92.3	94.0	98.1
Mountain	69.6	71.8	71.1	78.6	82.0	86.2	90.4	86.2	85.5	87.4	90.4	87.4	89.5
Pacific	84.1	89.7	111.1	115.2	122.4	136.9	151.1	141.2	151.6	149.5	152.6	147.3	147.6
NATIONAL AVG.	71.3	74.8	79.1	83.8	85.5	83.5	86.1	86.5	92.1	94.9	97.4	100.8	104.4

*See Explanatory Note 16.

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

Source: Federal Power Commission.

Utility Fossil Fuels (Continued)

U.S. Average Delivered Prices of Coal at Utilities

		Contract	Spot
		In 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

Source: Federal Power Commission.

Petroleum Consumption

Petroleum consumption trends during 1976 moved generally upward in the countries belonging to the International Energy Agency (IEA). France* consumed 10.1 percent more oil in the first 9 months of 1976 than in the same period a year ago. Consumption in West Germany rose 8.1 percent in the first 8 months of this year. Year-to-year increases were much more moderate in Canada (2.3 percent in 8 months) and Italy (0.8 percent in 9 months).

Crude Oil Production

Total world crude oil production rose by almost a million barrels a day in September to a new high of 58.1 million barrels a day. Arab members of the Organization of Petroleum Exporting Countries (OPEC) accounted for only about 200,000 barrels of the increase because a 400,000-barrel-per-day drop in Saudi Arabian production offset almost all the increases elsewhere, notably in Iraq and Kuwait. Iran's output rose over 600,000 barrels a day to almost full capacity and accounted for nearly all of the production increase in the non-Arab OPEC group. Only 7.1 percent of non-Arab OPEC crude oil capacity was not produced in September, compared with 24.8 percent of Arab OPEC capacity.

*Not a member of IEA.

Petroleum Consumption

Petroleum Consumption for Major Free World Industrialized Countries

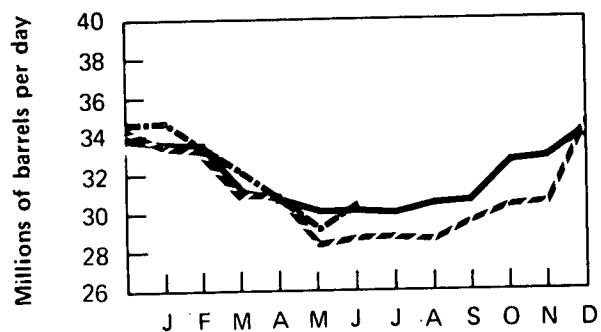
		Total IEA*	Japan**	West Germany	France***	United Kingdom	Canada	Italy†	Other IEA††
Thousands of barrels per day									
1974	Jan	33,700	4,273	2,556	2,523	2,045	1,823	1,755	3,962
	Feb	33,700	4,709	1,969	2,389	2,127	1,863	1,760	3,906
	Mar	31,200	4,508	2,173	2,249	2,133	1,659	1,579	3,044
	Apr	30,600	3,805	2,539	1,970	1,899	1,560	1,421	3,448
	May	30,000	3,718	2,403	1,915	1,704	1,577	1,349	3,523
	June	30,100	3,710	2,414	2,103	1,545	1,455	1,314	3,545
	July	30,000	3,574	2,548	1,703	1,531	1,534	1,368	3,096
	Aug	30,600	3,787	2,476	1,506	1,513	1,463	1,287	3,524
	Sept	30,700	3,868	2,473	1,996	1,663	1,415	1,527	3,730
	Oct	32,800	3,843	2,613	2,045	2,049	1,680	1,569	3,996
	Nov	33,000	4,076	2,432	2,260	2,108	1,714	1,580	3,739
	Dec	34,300	4,401	2,261	2,492	1,983	1,831	1,753	4,058
	AVG.	31,775	4,019	2,408	2,094	1,857	1,630	1,521	3,687
1975	Jan	33,600	3,850	2,183	2,190	1,981	1,691	1,792	4,120
	Feb	33,600	4,242	2,455	2,243	1,906	1,872	1,767	4,274
	Mar	31,000	3,978	2,234	1,952	1,731	1,558	1,558	3,625
	Apr	30,800	3,448	2,431	2,202	1,826	1,592	1,530	3,932
	May	28,200	3,296	2,253	1,640	1,482	1,474	1,174	3,403
	June	28,800	3,325	2,106	1,642	1,414	1,550	1,289	3,505
	July	28,900	3,437	2,319	1,491	1,322	1,537	1,234	3,289
	Aug	28,700	3,397	2,360	1,300	1,208	1,444	1,105	3,419
	Sept	29,800	3,569	2,309	1,785	1,502	1,474	1,465	3,712
	Oct	30,500	3,584	2,328	1,914	1,704	1,555	1,679	3,306
	Nov	30,600	3,940	2,361	2,074	1,723	1,577	1,448	3,830
	Dec	34,600	4,519	2,502	2,653	1,821	1,855	1,600	4,316
	AVG.	30,745	3,712	2,319	1,921	1,613	1,593	1,468	3,749
1976	Jan	34,700	4,143	2,459	2,432	1,680	1,748	1,748	4,378
	Feb	33,400	4,382	2,490	2,492	1,866	1,730	1,713	3,879
	Mar	32,300	4,286	2,742	2,372	1,879	1,788	1,621	2,745
	Apr	30,900	3,806	2,332	2,117	1,661	1,512	1,409	3,583
	May	29,200	3,440	2,314	1,796	1,418	1,532	1,238	3,261
	June	30,500	3,635	2,388	1,604	1,420	1,550	1,208	3,463
	July	NA	3,607	R2,624	1,624	1,338	1,551	R1,247	NA
	Aug	NA	NA	2,451	R1,667	NA	1,577	1,247	NA
	Sept	NA	NA	NA	1,968	NA	NA	1,562	NA
	AVG.	31,829	3,897	2,476	2,006	1,607	1,623	1,442	3,548
	(Year to date)								

Note: All recent figures are estimates.

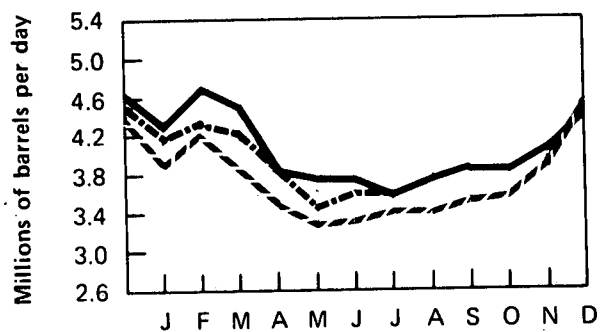
*The 19 signatory nations of the International Energy Agency (IEA) are: Austria, Belgium, Canada, Denmark, Federal Republic of Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. Except for the United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

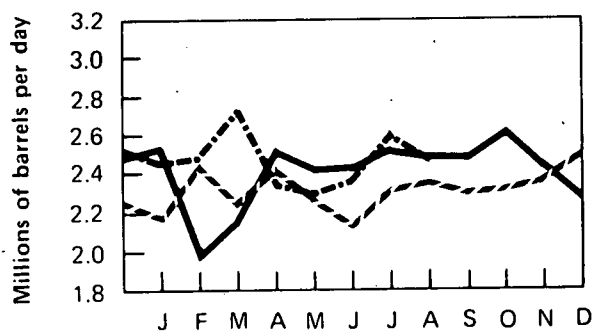
Total IEA



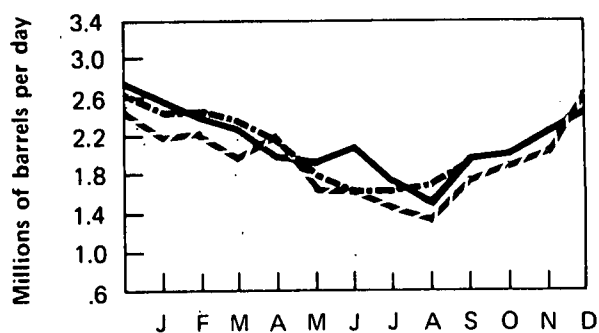
Japan*



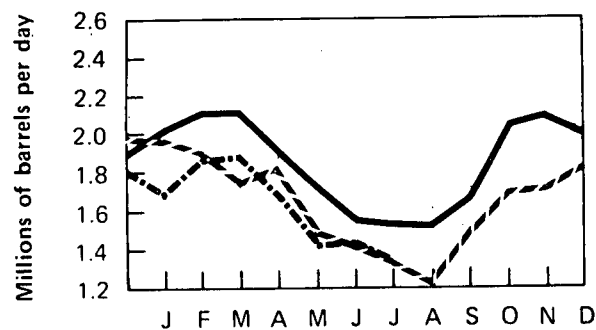
West Germany



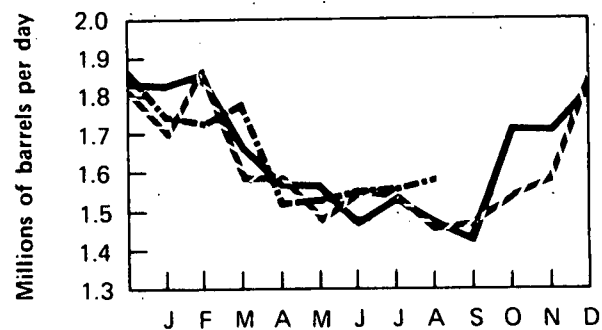
France**



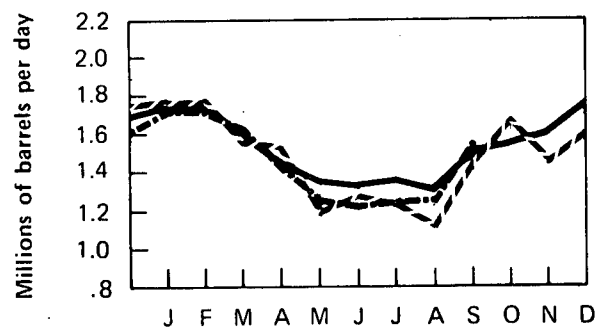
United Kingdom



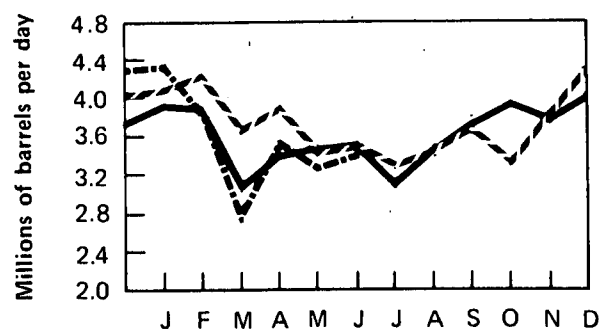
Canada



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 – September 1976

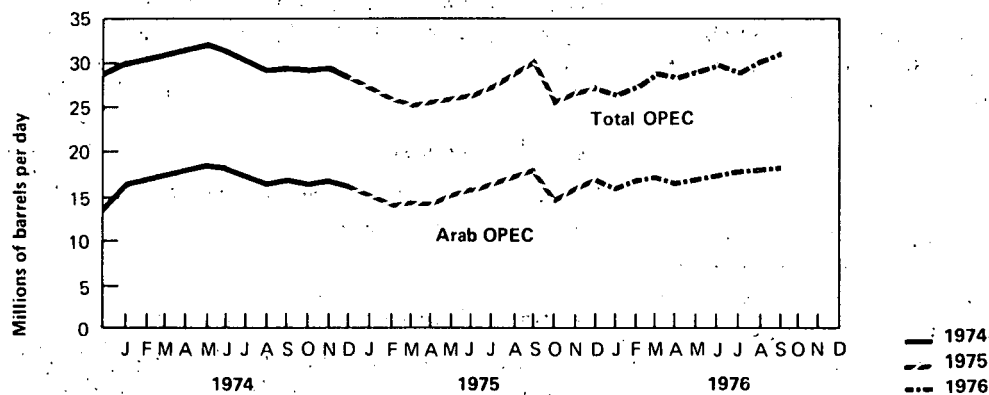
Country	Production				Production Capacity	Production Shut in
	1973	1974	1975	1976 September**	September	September
	Thousands of barrels per day					Percent
Algeria	1,070	960	930	1,000	1,000	0
Iraq	2,015	1,975	2,250	2,200	3,000	26.7
Kuwait*	3,020	2,545	2,100	2,390	3,500	31.7
Libya	2,175	1,520	1,520	2,110	2,500	15.6
Qatar	570	520	440	480	700	31.4
Saudi Arabia*	7,600	8,480	7,080	8,320	11,500	27.6
United Arab Emirates	1,530	1,680	1,700	1,990	2,380	16.4
Subtotal: Arab OPEC	17,980	17,680	16,020	18,490	24,580	24.8
Ecuador	210	175	160	217	225	3.6
Gabon	150	200	220	220	250	12.0
Indonesia	1,340	1,375	1,310	1,500	1,700	11.8
Iran	5,860	6,020	5,350	6,460	6,500	0.6
Nigeria	2,055	2,255	1,790	2,050	2,500	18.0
Venezuela	3,365	2,975	2,350	2,440	2,700	9.6
Subtotal: Non-Arab OPEC	12,980	13,000	11,180	12,887	13,875	7.1
Total: OPEC	30,960	30,680	27,200	31,377	38,455	18.4
Canada	1,800	1,695	1,470	1,244	1,800	30.9
Mexico	465	580	720	900	1,000	10.0
Total: OPEC, Canada Mexico	33,225	32,955	29,390	33,521	41,255	18.7
Total World	55,740	55,885	53,160	58,100		

*Includes about one-half of the former Kuwait-Saudi Arabia Neutral Zone. Production in September 1976 amounted to approximately 510,000 barrels per day.

**Estimate.

Sources: 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 disposable personal income and gross national product (GNP), (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 6.5 percent for 1976.
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. Elimination of the \$2-per barrel crude oil import fee beginning in January 1976.
5. 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 short-term projections are periodically revised to incorporate observed weather conditions and actual values of macroeconomic and other explanatory variables as they become available. This "revised forecast" is termed the "backcast." On page 47 in this issue of the *Monthly Energy Review*, the backcast is solved for December 1975.

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. 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.

15. 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.

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

Units of Measure

Weight

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

Conversion Factors for Crude Oil

Average gravity

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

Conversion Factors for Uranium

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

Approximate Heat Content of Various Fuels

Petroleum

Crude Oil	5.800 million Btu/barrel
Refined products	
Imports, average	6.000 million Btu/barrel
Consumption, average	5.5061 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

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