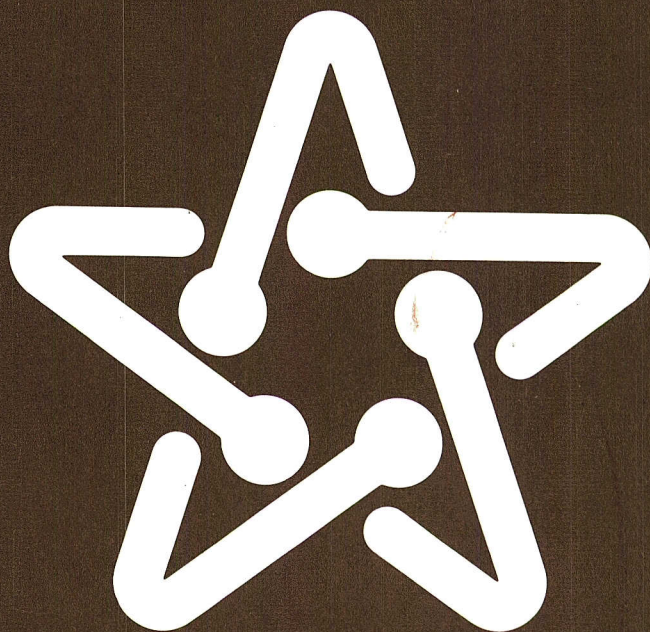


# Monthly Energy Review

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# Feature Article

## PROPANE—A NATIONAL ENERGY RESOURCE

This is the first of the *Monthly Energy Review* feature articles dealing with a specific petroleum derivative. The subject this month is propane. Following a brief history of the evolution of propane as a national energy resource, succeeding sections provide information about:

- the sources, uses, and distribution system of propane, and
- government regulatory programs related to the production, distribution, and use of propane.

Propane,  $C_3H_8$ , is a gas at atmospheric pressure and a liquid under moderate pressures, and is one of a group of gases and liquids which are referred to generally as "natural gas liquids."\* It is obtained by processing wet natural gas and refining crude oil.

The recovery of natural gas liquids from natural gas is believed to have begun about 1903. At that time, uses for dry natural gas were being found which required compression of the wet natural gas to condense and remove the liquid fraction. The liquids were discarded as waste until it was discovered that one of the components, natural gasoline, was suitable for blending with motor gasoline. By the early 1920's there were about 1,000 natural gasoline plants in the United States.<sup>1</sup>

Production of liquefied petroleum gases (LPG)\* began as incidental recovery from natural gasoline processing in the mid to late 1920's. The first reported LPG production was in 1930 and amounted to about 1,000 barrels per day. By 1955, LPG production had increased to about 385,000 barrels per day, an average annual increase of 26 percent over the 25-year period. After 1955, the annual growth leveled off to approximately 5 to 6 percent through 1971.<sup>1</sup> Annual production increased marginally in 1972 by 2.1 percent, and then decreased by 0.1 percent in 1973, and by 5.7 percent in 1974, reflecting the effects of international and national market forces and government regulatory programs. Figure 1 illustrates total propane production for the period 1963 through 1974.

### PROPANE SOURCES AND USES

Propane is a highly desirable fuel because it is easily transportable, very efficient, and has numerous uses. Propane is a member of the Alkane family which begins with methane, followed by ethane, propane, butane, etc., each being more dense and less volatile than the previous. Ethane is too volatile to be economically transported and stored for consumption at remote locations such as farms. Butane, on the other hand, is

not volatile enough to readily vaporize under winter conditions in the north, and therefore, has limited application.<sup>2</sup> A mixture of butane and propane has more versatile applications than butane alone.

Because of its physical and chemical characteristics, propane is the best substitute for natural gas. One gallon of propane will vaporize to about 36 cubic feet of gas at atmospheric pressure. However, propane must be diluted with air when used in systems designed for natural gas because propane has a higher heating value per cubic foot than natural gas. One cubic foot of propane produces about 2,530 Btu, while one cubic foot of dry natural gas produces about 1,021 Btu.\*

Substitution of propane for natural gas was extensive during the 1974/1975 heating season. This substitution amounted to 38 percent of the 352 million gallons of petroleum products that the FEA allocated to offset natural gas curtailments. However, the availability of domestic propane for this purpose in the future is limited, if historic propane markets are to be maintained.

The "system" which provides propane to the consumer is illustrated in Figure 2. Each element of the system—supply, distribution, and consumption—is discussed in succeeding sections.

### Supply

Propane and propane-butane mixes come from both importation and domestic production at gas processing plants and refineries. In 1974, the percentage distribution of propane supply was as follows:

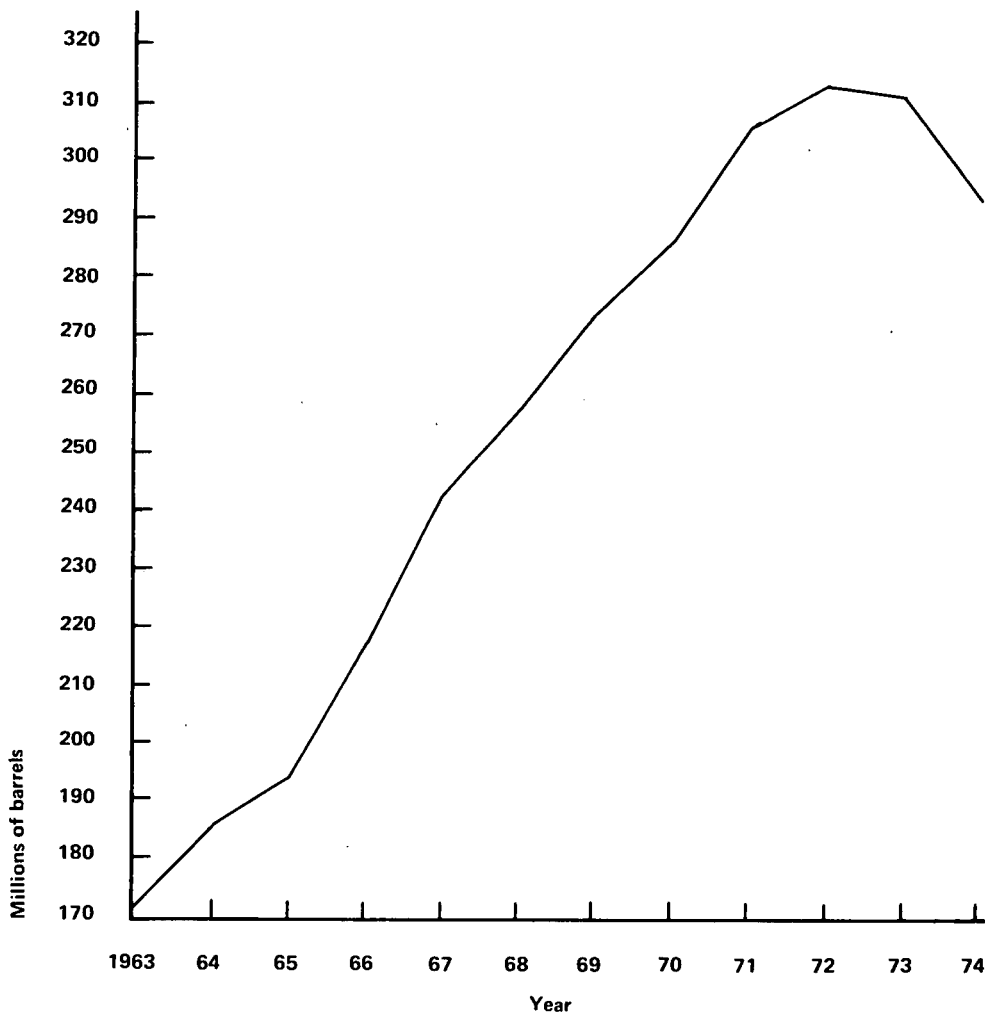
	Barrels	Percent
Gas processing plant production	206,539,000	65.5
Refinery production	87,453,000	27.7
Importation	21,464,000	6.8
Total Supply	315,456,000	100.0

The projections<sup>3,4,5</sup> shown in Table 1 provide some insight of future sources of supply. Although the actual volume of future imports will depend greatly upon the impact of government regulatory programs and the aggregate capacity of U.S. import terminals, continued emphasis on importing propane appears to be strong in order to meet forecasted demand. There are two reasons for this: (1) Domestic availability of the raw materials

\*See definition for "natural gas liquids."

\*See Units of Measure section, page 78, for approximate heat content of other fuels.

Figure 1. Total Annual Propane Production, 1963-1974



Source: Bureau of Mines.

from which propane can be obtained, particularly natural gas, is limited; and (2) the natural gas currently being produced domestically does not contain, on the average, as much natural gas liquids as the gas produced earlier in this decade.<sup>6</sup>

In 1974, there were approximately 763 natural gas processing plants in the United States.<sup>6</sup> The average extraction loss (shrinkage) in gas volumes due to removal of the natural gas liquids was approximately 4.7 percent in 1973. The "dry" gas remaining after stripping off of the natural gas liquids is predominately methane, CH<sub>4</sub>. The general distribution of the processed "dry" natural gas was as follows:<sup>7</sup>

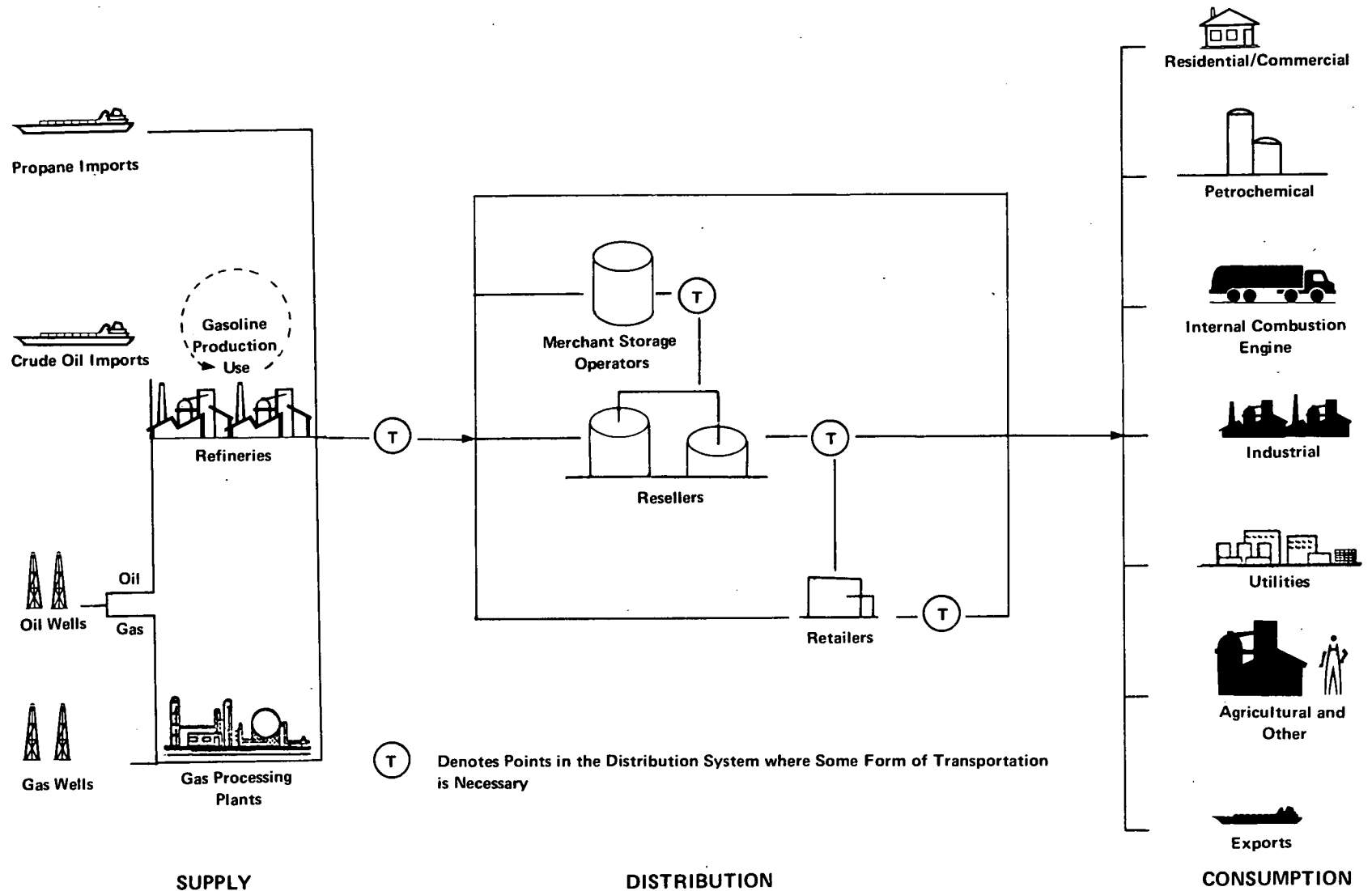
Used at plant	3 percent
Returned to formation	7
Vented or flared	1
Delivered directly to customers	10
Shipped to transmission companies	<u>79</u>
Total Utilization	100 percent

The natural gas liquids are further processed to yield a range of products consisting principally of propane (33.6 percent) and natural gasoline (24.6 percent). Figure 3 illustrates the average mix of products obtained from natural gas liquids.

In 1974, there were 284 refineries in the United States.<sup>8</sup> Refinery inputs averaged 94 percent crude oil and 6 percent natural gas liquids. The natural gas liquids received by refineries were in the form of LPG (27 percent), natural gasoline (54 percent), and plant condensate (19 percent). Refineries use LPG as fuel, or as blending stock in the production of gasoline. LPG used in gasoline production is predominately normal butane and isobutane. The former is blended into gasoline to control vapor pressure, while the latter is used for alkylation in the production of high octane gasoline.

Crude oil is processed by refineries to yield a range of petroleum products consisting principally of gasoline (45.6 percent) and distillate fuel oil (24.2 percent).

Figure 2. Propane Supply, Distribution, and Consumption



**Table 1. Percentage Distribution of Propane Supply Sources, 1972-1985**

Source	1972	1973	1974*	1985
Gas Processing Plant Production	66.5	63.1	65.5	32.0
Refinery Production	28.7	29.3	27.7	27.7
Importation	4.8	7.6	6.8	40.3
Total Supply	100.0	100.0	100.0	100.0

\*The apparent reversal in 1974 of the trends indicated by values for the years 1972, 1973, and 1985 is believed to be due principally to the temporary effects of governmental price regulations.

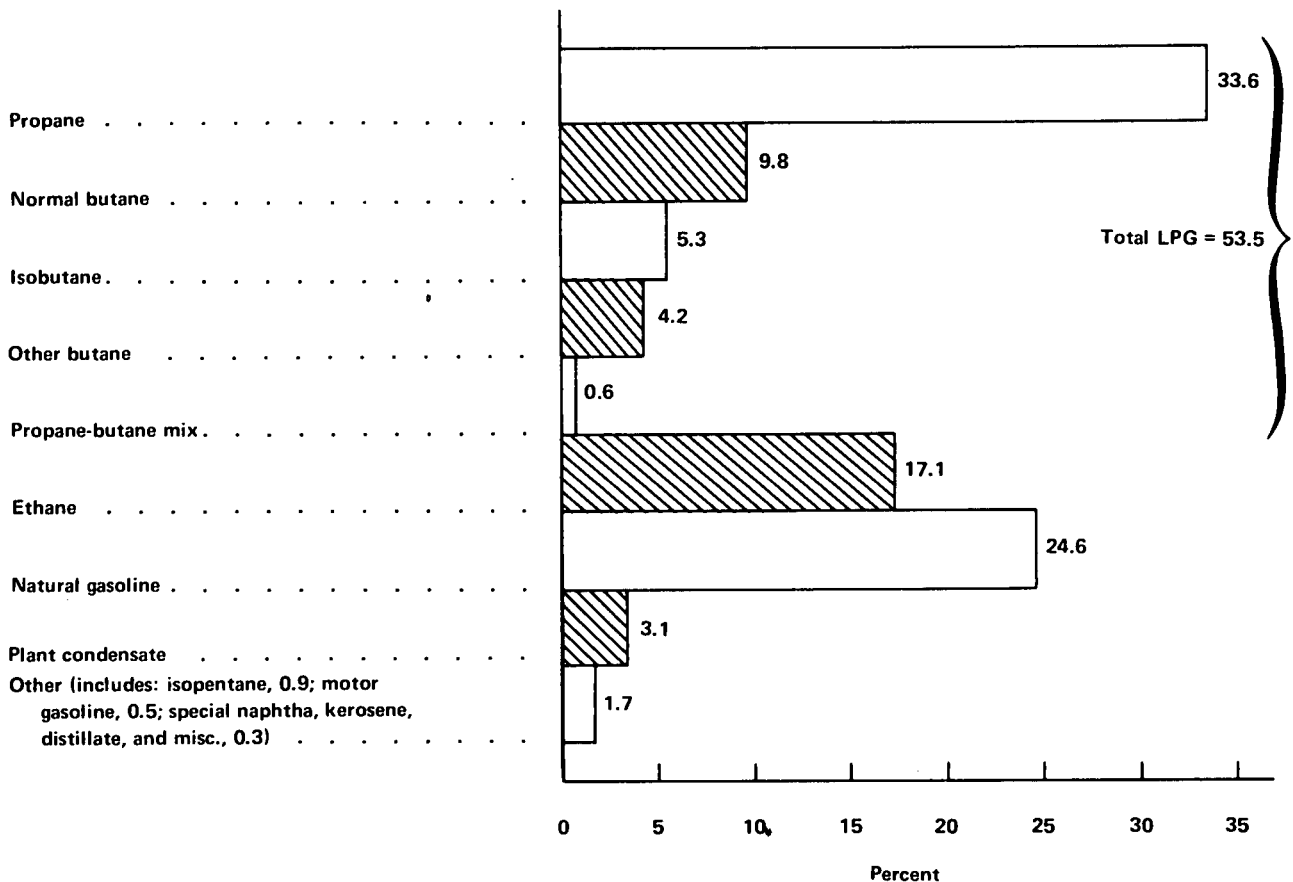
Sources: For 1972-1974, Bureau of Mines.  
For 1985, Purvin and Gertz, Inc.

Propane and propane-butane mixes constitute approximately 2.3 percent of the yield from crude oil. Figure 4 illustrates the average mix of products obtained from crude oil.

The exact product mix varies from company to company and is dependent upon market prices and profit margins, government regulations, and the configuration of the refinery or gas plant. New methods such as cryogenic technology are being employed by gas processing plant operators to increase the quantity of natural gas liquids which can be extracted from the "wet" natural gas.

U.S. companies which own both refineries and natural gas processing plants accounted for over 78 percent of

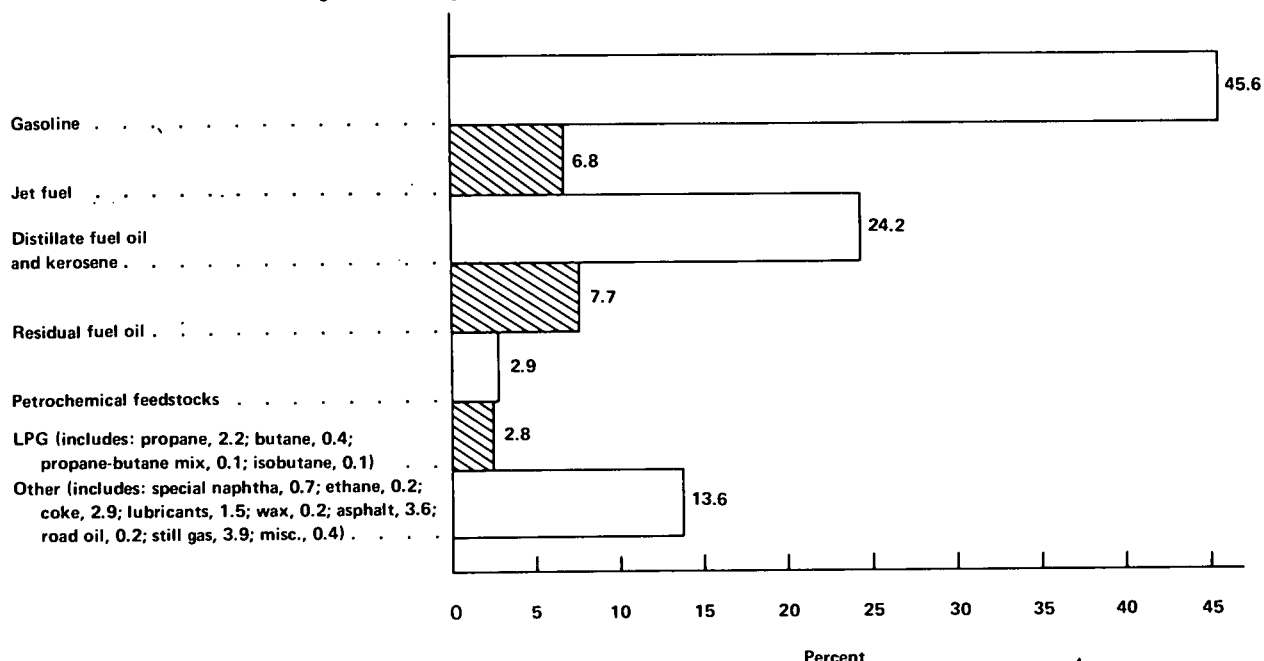
**Figure 3. Average Mix of Products Obtained from Natural Gas Liquids, 1973**



Source: Bureau of Mines.



Figure 4. Average Mix of Products Obtained from Crude Oil, 1973



**NOTE:** Percentages add to 103.6 percent reflecting processing gain in volume, i.e. 1 barrel of crude oil yielded 1.036 barrels of product.

**Source:** Bureau of Mines.

the 1974 domestic production of propane and propane-butane mixes. The 15 large integrated U.S. refiners produced over 70 percent of the 1974 domestic supply of these products.\*

#### Distribution

Propane is transported as a liquid under low pressure, by truck, rail, pipeline, and tanker/barge. Approximate domestic usage of these various modes of transportation is as follows:<sup>9</sup>

Truck	12 percent
Rail	6
Pipeline-truck	79
Pipeline-rail	2
Tanker/barge	1
	<u>100 percent</u>

Truck transport plays a major role in the movement of propane, and either by itself, or in conjunction with pipelines, accounts for over 91 percent of the propane transported annually. In the United States there are approximately 5,400 large common carrier trucks that are capable of transporting propane, and there are more than twice as many such trucks owned by private

carriers. Although the existing number of these trucks appears adequate, at least two factors may affect their future availability:<sup>10</sup>

- Interstate Commerce Commission restrictions may preclude optimization of delivery patterns.
- Diesel fuel supply limitations may restrict operations since most trucks are diesel powered.

Rail transport has historically played a minor role in the movement of propane, principally serving users which do not have access to pipelines and industrial users with access to rail systems. The United States has approximately 22,500 rail cars, varying in capacity from 10,000 to 30,000 gallons,<sup>10</sup> that are capable of transporting propane. The existing numbers of rail cars appear adequate to meet current needs. However, this situation could be adversely influenced by growth in imports in the east and west coast areas where pipelines are not available.

Pipeline transport, in conjunction with either rail or truck transport, is used for over 81 percent of the propane transported annually. Pipeline connections involving 14 operating companies are available in 24 States. Peak delivery capacity of the pipelines is 1.7 million barrels per day, with 25 percent of this capacity concentrated in Texas, and another 20 percent concentrated in the three-State area of Illinois, Iowa, and Missouri. Immediate accessibility of pipelines to marine

\*Based on 1974 Bureau of Mines production data through September.

import terminals is limited, however, to three locations of the Gulf Coast: Houston, Texas; Corpus Christi, Texas; and Plaquemine, Louisiana.

The amount of propane shipped domestically by tanker/barge is small, with virtually all of this propane (90 percent of the volume) transported by pipeline prior to the tanker/barge movement.<sup>9</sup>

Offshore imports are brought into the United States through marine import terminals on the east coast (three facilities), Gulf Coast (five facilities), and west coast (one facility). The capacity of these terminals is estimated at over 75 million barrels annually. Planned construction is expected to provide for an annual capacity of up to 90 million barrels by 1978. The principal sources of offshore imports are Venezuela and the Persian Gulf. Imports from Canada, the largest source, are brought in by tank truck and tank car, and, to a small degree, by pipeline.

Propane is also transported, sold, and stored under pressure in a variety of cylinder sizes ranging from 5 to 420 pounds. During the period 1968-1973, approximately 7.735 million cylinders were sold with the majority in the 20- (54.1 percent), 33- (16.3 percent), and 100-pound (14.5 percent) size range.<sup>9</sup>

#### *Consumption*

Propane is extremely versatile and can be used as a fuel or petrochemical building block. There are seven principal categories of propane use:

- Residential and commercial
- Petrochemical feedstocks
- Internal combustion engine
- Industrial
- Utility gas
- Agriculture
- Gasoline production

Table 2 provides a breakdown of the domestic end-use applications of propane and propane-butane mixes available through domestic production and importation.<sup>11</sup> Propane exports, which are not included in Table 2, amounted to 4.971 million barrels in 1974 out of a total of 9.038 million barrels of LPG exports. LPG exports, over 90 percent of which go to Mexico, represent approximately 1.8 percent of the total U.S. supply of LPG.

In 1973, approximately 52 percent of all propane and propane-butane mixes were consumed by the residential and commercial sectors which include private households, apartments, and nonmanufacturing establishments such as motels, restaurants, retail stores, and laundries, for the purposes of space heating, water heating, and cooking. Residential use is concentrated in nonfarm

**Table 2. Percentage Distribution of Domestic Propane and Propane-Butane Mix End-use Applications**

End-use application	1972	1973
Residential and Commercial	53.1	51.9
Petrochemical Feedstocks	25.1	24.7
Internal Combustion Engine	9.6	9.4
Industrial	6.4	6.4
Utility Gas	2.0	2.3
Agriculture and Other*	2.0	3.6
Gasoline Production	1.8	1.7
Total	100.0	100.0

\*Includes sales for secondary recovery in oil field operations.

Source: Bureau of Mines.

rural areas which are not tied into natural gas distribution systems. Limitations in the supply of natural gas preclude its future substitution for propane in this traditional market and therefore, it is probable that demand by these sectors will continue to grow at an annual rate of 4.5 to 5.0 percent through 1985.<sup>2, 4</sup>

The use of propane and propane-butane mixes for petrochemical feedstocks is the second largest application, consuming almost 25 percent of available domestic supply. In the late 1960's and early 1970's, there was a 50-percent increase in demand for propane as a petrochemical feedstock. This increase was directly related to propane's low cost and ready availability.<sup>2</sup> The non-seasonal consumption patterns of the petrochemical industry tremendously benefitted the LPG industry in general, by providing a steady base for the development of LPG extraction plants and transportation systems.<sup>2</sup> However, petrochemical plants which are designed to use propane feedstocks cannot readily adapt to other raw materials. Newer facilities have been designed to use hydrocarbon feedstocks other than LPG because of increasing propane prices. Demand growth for this application is expected to be a nominal 2 percent per year.<sup>4</sup>

Sales for internal combustion engine fuel constitute about 10 percent of the annual domestic demand for propane and propane-butane mixes. Because of its clean-burning properties and consequent minimal contribution to air pollution, propane is particularly suited for machinery operating in warehouses and other confined areas. For example, one-half of all fork lift trucks are powered by propane.<sup>2</sup> Other applications of propane include fuel for tractors, irrigation engines, highway vehicles, and oil field drilling rigs. The use of propane for internal combustion applications is expected to grow at a rate of 5 percent per year.<sup>4</sup>

Industrial applications of propane and propane-butane mixes remained at a constant 6.4 percent of total domestic demand for such products in 1972 and 1973.

Industrial uses include space heating, fuel for metallurgical furnaces and plumber's torches, flame cutting, automobile paint drying, and glass manufacturing. It is estimated that the use of propane for industrial applications will grow at a rate of 6 to 7 percent per year.<sup>4</sup>

Propane and propane-butane mixes are used by utility companies to supplement natural gas during periods of peak demand as well as to produce synthetic natural gas (SNG).<sup>\*</sup> Although utilities currently account for only a small percentage of total demand (2.3 percent in 1973), the potential demand by this sector for peak-shaving purposes and to offset natural gas curtailments is large. Because of FEA allocation regulations, propane use by gas utilities for peak-shaving has remained virtually unchanged. In the absence of government regulation, however, growth in this sector has been estimated at 18 percent per year.<sup>4</sup> The production of SNG from LPG, naphtha, or crude oil is a relatively new application, and with the current restrictions is not expected to be an area of major growth.

Agricultural uses of propane include crop drying (primarily of corn), tobacco curing, pig brooding, poultry breeding, and the heating of lambing sheds. These uses accounted for approximately 3.6 percent of the total domestic demand for these products in 1973. Growth in demand through 1985 in this sector is estimated at 12 percent per year.<sup>4</sup>

The aggregate use of propane by farms is much greater than that indicated above for the agricultural sector. In 1974, 1,503 million, or over 53 percent, of all U.S. farms were using LPG for home heating, operating farm equipment, and other uses. Utilization of propane for farm use is estimated to be over 20 percent of total domestic demand.<sup>2</sup>

The least amount of propane, 1.7 percent, is used by refineries in the production of gasoline. However, the total amount of LPG, including propane, used in gasoline production is significant, amounting to 13 percent of total LPG domestic demand.

The demand for propane, which is seasonal in nature, is summarized in Table 3 for the various Petroleum Administration for Defense (PAD) Districts. Table 4 identifies the end-use distribution of propane by PAD District.

## GOVERNMENT REGULATORY PROGRAMS\*\*

Price controls in the petroleum industry, in general, began in August 1971, when the President ordered a

<sup>\*</sup>See definitions.

<sup>\*\*</sup>The discussion which follows pertains to government regulatory programs as they existed prior to August 31, 1975.

90-day' price freeze under the *Economic Stabilization Act of 1970* (Public Law 92-210). Following this period, the petroleum industry operated under the same system of controls as other industrial sectors until January 1973, when the petroleum industry was given increased pricing flexibility and some relief from profit margin limitations.

Early in 1973, sharp price increases, particularly in home heating oil, led to a special regulation of the 23 largest oil companies. On June 13, all petroleum prices were frozen for 60 days, and on August 19, comprehensive price regulations for the petroleum industry were issued by the Cost of Living Council (CLC).

The record size of U.S. crop harvests in 1973 produced a large increase in demand for propane. To ensure that agricultural and other high priority needs would be fulfilled, the Energy Policy Office (EPO) issued regulations for the mandatory allocation of propane under authority of the *Economic Stabilization Act* (as amended by Public Law 93-28) in October. Shortly thereafter, the CLC transferred authority for the stabilization of propane prices to the EPO.

In November 1973, Congress passed the *Emergency Petroleum Allocation Act* (Public Law 93-159). The Act authorized the President to issue regulations providing for the equitable pricing and distribution of petroleum products (including propane) within the United States. It was designed to maintain a balance between the *need* to provide a sufficient inducement for the production of an adequate domestic supply, and the *need* to insulate the consumer against spiraling prices of petroleum products. The *Emergency Petroleum Allocation Act* is the authority under which the current mandatory petroleum allocation and price regulations have been established.

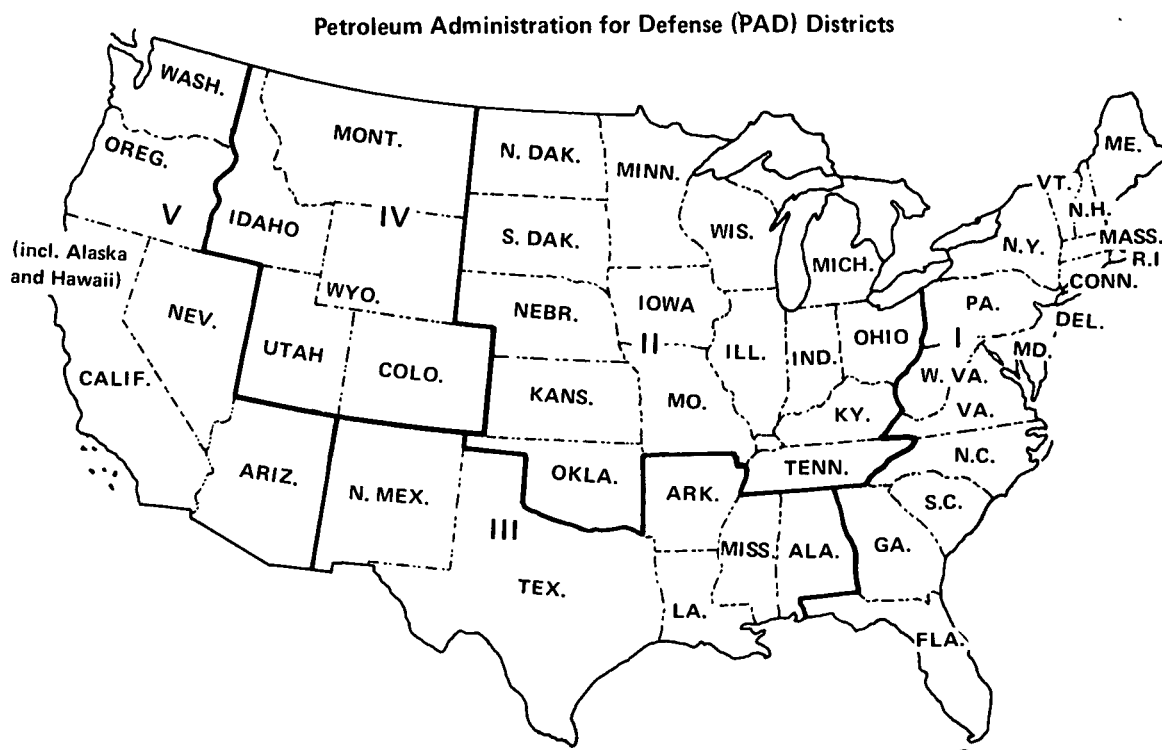
The *Federal Energy Administration Act of 1974* (Public Law 93-275) became effective on June 27, 1974. Although the Act is primarily an administrative law, it contains several specific, substantive mandates regarding FEA price regulations and how they are to be developed. In general, FEA regulations must assure the "maintenance of fair and reasonable consumer prices," "promote stability in energy prices," "prevent unreasonable profits," and "promote free enterprise." A specific mandate involves propane gas prices, and requires that any propane regulation must be based on an allocation of all component costs of producing propane.

### *Propane Pricing*

Under the CLC Phase IV regulations promulgated in August 1973, propane was placed in the general category of those refinery products for which refiners were given

Table 3. Average Percentage Seasonal Demand for Propane by PAD District, 1973

PAD District	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
PAD I	33.9	13.1	17.9	29.8	100.0
PAD II	34.7	17.8	16.6	30.9	100.0
PAD III	31.0	20.8	19.8	28.3	100.0
PAD IV	33.9	18.2	16.7	30.8	100.0
PAD V	37.3	17.2	14.0	31.5	100.0
U.S. Total	33.7	18.6	17.5	30.0	100.0



Source: Bureau of Mines.

Table 4. Percentage Distribution of Demand for Propane and Propane-Butane Mix by End-use Application and PAD District, 1973

PAD District	End-use Application						Total
	Residential and Commercial	Petrochemical Feedstocks	Internal Combustion Engine	Industrial	Utility Gas	Agriculture and Other	
PAD I	9.2	1.9	0.9	1.9	1.1	1.0	16.0
PAD II	26.9	1.8	2.0	2.0	0.8	1.4	34.9
PAD III	10.8	20.4	5.8	1.9	0.1	0.5	39.5
PAD IV	2.4	—	0.3	0.2	<0.1	0.1	3.0
PAD V	2.6	0.6	0.4	0.4	0.3	0.6	4.9
Total for PAD Districts I to V	51.9	24.7	9.4	6.4	2.3	3.6	98.3
Propane and propane-butane mix used at refineries for gasoline production							1.7
Total United States							100.0

Source: Bureau of Mines.

the flexibility to allocate crude oil costs in accordance with individual product demand. This category included all refinery products except gasoline, No. 2 heating oil, and No. 2-D diesel oil.

Because the demand for propane exceeded supply, many refiners chose to apply their crude oil cost increases disproportionately to propane. The resulting increase in propane prices provided sufficient incentive to producers to increase supply and overcome the propane shortage. The increased cost of propane, however, fell heavily on those who did not have alternative energy choices, in particular, those who used propane for heating and cooking.

On January 30, 1974, the Federal Energy Office (FEO, formerly the EPO) issued new regulations which tied propane prices at the refinery level to actual crude oil cost increases. Later in the year, as the harvesting and heating seasons approached, it became apparent that the January 30 regulation would not stabilize prices. The Federal Energy Administration (formerly the FEO), therefore, amended the January 30 rule on August 1, 1974. The amended rule limited the amount of increased costs of crude oil that may be applied to propane to an amount which is proportional to the quantity of propane produced from crude oil by a refiner.

On September 6, 1974, the FEA issued a Proposed Rulemaking for the regulation of propane produced by gas processors. The new regulation sought to establish a balanced pricing program which would moderate demand, encourage production, and minimize the cost burden on rural and low income people who use propane for the necessities of cooking, heating, and crop drying. Additionally, price changes were required to conform to Section 5(b)(1) of the *Federal Energy Administration Act*, and Section 4(b)(2)(B) of the *Emergency Petroleum Allocation Act*.

The FEA issued new regulations resulting from the Proposed Rulemaking in December 1974. These regulations provided that propane produced from natural gas would be regulated according to the following formula: the May 15, 1973 price, plus (1) a minimum adjustment of 8.5 cents per gallon, plus (2) an adjustment up to 0.5 cent per gallon to cover nonproduct costs, plus (3) an adjustment for increased costs of shrinkage, plus (4) an adjustment to provide incentives for the construction of new gas processing plants.

Special pricing provisions were established by the regulations for resellers and retailers. These marketers are allowed to adjust their prices to include their margin on May 15, 1973, plus (1) an adjustment for increased product costs since the previous adjustment, plus (2) a

limited adjustment for unrecouped increased product costs incurred prior to the previous adjustment, plus (3) an adjustment for nonproduct costs of up to 0.5 cent for resellers and 1.0 cent for retailers.

### *Propane Allocation*

In coordination with the pricing regulations established under the *Emergency Petroleum Allocation Act*, the FEA issued the petroleum allocation regulations. The objectives of the allocation regulations were consistent with those of the price regulations, and specifically supplemented the price regulations to preclude drastic shifts in historic market patterns and to ensure product availability to meet national priorities.

The allocation regulations were published in January 1974 and were substantially revised in May 1974 to establish the following allocation priorities:

1. Agriculture and specified Department of Defense uses—100 percent of current requirements.
2. Emergency services, energy production (with certain exclusions such as electric generation), sanitation services, telecommunications, passenger transportation, medical and nursing buildings, aviation ground support vehicles and equipment, and start-up testing and flame stabilization of electric utility plants—100 percent of current requirements subject to a reduction by an allocation fraction.\*
3. Petrochemical feedstocks, SNG feedstocks, industrial uses such as "process fuel," uses where no substitute for propane is available, government use, refiner fuel use, and gas utility peak-shaving use—100 percent of base period volumes subject to an allocation fraction. A restraint placed on the use of propane by the gas utilities requires that: "Propane shall not be used for peak-shaving usage to interruptible industrial customers (other than for process fuel, plant protection fuel, or raw material) or to any nonresidential customer who can use a fuel other than natural gas, propane, or butane."
4. Residential users are limited to volumes ranging from an absolute minimum of 85 percent of base period use to 95 percent of base period use depending on the supplier's allocation fraction.
5. All other users, such as commercial (limited to 210,000 gallons per year), standby industrial, transportation services (other than described above and if

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\*In general, an "allocation fraction" means the amount of propane now available from a supplier relative to that amount available during the base period (April 1, 1972 through March 31, 1973), taking into consideration such factors as individual State requirements to resolve emergencies and hardships, and agricultural needs.



the vehicle was equipped for propane use as of December 27, 1973), and schools are limited to 90 percent of base period use subject to an allocation fraction of the supplier.

In consideration of the seasonality of propane demand, the allocation regulations provide incentives for the purchase of propane during periods of low demand and its movement to the point of end-use during the time that pipeline and distribution facilities are operating at reduced load factors.

Special provisions also exist to mitigate the effects of natural gas curtailments on gas consumers who can use propane and butane as an alternate fuel. However, every effort is made to encourage the use of other fuels before increased allotments are considered.

## SUMMARY

Propane is an extremely versatile national energy resource which reaches all areas of the United States and is utilized in many diverse applications. Domestic demand for propane and propane-butane mixes is expected to continue to exceed available domestic supplies in the foreseeable future, growing at an annual rate of 6 percent in the aggregate.<sup>2, 10</sup> This situation is aggravated by the nonavailability of enough natural gas to meet requirements. As a consequence, pressure for increased propane imports may be expected.

In 1974, the total domestic demand for propane and propane-butane mix (including gasoline production) was over 315 million barrels.<sup>3</sup> Based upon current projections of a 6-percent annual growth rate, by 1985 domes-

tic demand will be over 654 million barrels. In the absence of government regulations, expected unprecedented growth in the gas utility industry would necessarily increase this projection.

The extensive reliance upon imports to satisfy domestic demand can be expected to stress severely, if not overwhelm, projected capacities of domestic distribution facilities. Management of this situation will require the continued cooperation of all sectors of the economy.

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# Part 1

## Overview

Average daily production of energy in the United States during July decreased a substantial 6 percent from the June level. Most of the drop, however, was attributed to a 21-percent decrease in daily coal production due to the 2-week miners' vacation period. Crude oil production continued to decline in July, although the rate of decline seems to be abating somewhat. No change was projected for natural gas production, while preliminary data indicate that the daily production rate of nuclear power increased 24 percent during the month to a record high of 14,879 million kilowatt hours. (An increase had been expected, however, to meet the overall rise in demand for electricity to run air-conditioners.) Domestic production of primary energy for the first 7 months of 1975 was about 3 percent below the levels for the same periods in both 1974 and 1973.

A recently released FEA study<sup>1</sup> estimates that U.S. petroleum refinery capacity will grow by 385,400 barrels per day in 1975 to reach 15.14 million barrels by the end of the year. This is about 116,000 barrels per day less than the actual growth rate during 1974, and 245,800 below FEA's previous forecast made last December for 1975. Most of the capacity growth will result from numerous small expansions of present facilities, rather than construction of new refineries. The downward revision from the December projection reflects spending cutbacks and lowered petroleum demand attributed to the worldwide recession over the past year, as well as uncertainty about future government energy policy.

Imports of fossil fuels rose sharply in July to a level 12 percent above the average daily rate for June. Eleven percent more crude oil and 17 percent more refined petroleum products were imported, mainly to satisfy the seasonal increase in demand for motor gasoline. Crude and refined products accounted for 94 percent of total fossil fuels imported during the month. Natural gas imports, which declined slightly in July, accounted for the remainder. Total fossil fuel imports for the first 7 months of the year, however, were down 1 percent from the level for a year ago and almost 5 percent from the similar period of 1973.

According to Bureau of the Census data, Canada was the major source of crude oil imports in July (16.6 percent). Venezuela and Nigeria were also large contributors, each providing about 13.5 percent of the total; other OPEC countries supplied 47.4 percent.

Predictably, daily consumption of energy in the United States was 2 percent greater in June than in May.

Consumption of coal and residual fuel oil increased 9 percent and 15 percent, respectively, reflecting increased use of these fuels by utilities to generate electricity during the summer peak demand season. Demand for motor gasoline was also seasonally higher (by 1 percent). Natural gas was the only major energy source to show a decline in consumption during the month (down 1 percent). During the first 6 months of 1975, the United States consumed 1.4 percent less energy than in the corresponding months of 1974 and 4.5 percent less than in the same period of 1973.

Following a draw down close to the minimum operating level during June, motor gasoline inventories rose to 213 million barrels in July, a buildup of 4 percent. Stocks of crude oil declined 4 percent during the month, consistent with normal seasonal trends, while distillate and residual fuel oil stocks increased seasonally by 12 percent and 6 percent, respectively. Jet fuel inventories remained virtually unchanged. Based on FEA data, crude oil stocks were 2 percent higher than July 1974, but stocks of all the major petroleum products ranged from 2 to 8 percent below last July's level. End-of-June coal stocks, on the other hand, compared favorably with last year, up 4 percent.

During the period January through May 1975, kilowatt-hour sales of electricity by utilities were up 2 percent over the similar period of 1974. Sales to commercial customers exhibited the largest increase of 8 percent, while sales to residential users increased 7 percent. In contrast, industrial sales were down 5 percent. Production of electricity for the first 7 months of the year remained about 2 percent greater than for the same period a year ago.

The national average selling price of regular motor gasoline increased 3.1 cents in July to 58.7 cents per gallon. This was the largest monthly increase since March 1974, during the Arab oil embargo. Retail gasoline prices are now 3.5 cents (6 percent) higher than a year ago and 19.9 cents (51 percent) higher than July 1973. The wholesale gasoline price did not advance as much (2.8 cents), and, as a consequence, there was a 0.3-cent increase in the dealer margin to 8.4 cents per gallon. This was the first monthly increase in the margin since it began to decline in April 1974.

Gasoline sales through service stations (which account for about two-thirds of all gasoline sold to end-users in the United States) totaled 5,791 million gallons in May, up 5 percent over the amount sold in April. The estimated market share of nonbranded independents declined from 10.2 to 9.9 percent during the month, the first decrease for that category since the FEA began monitoring market share trends in gasoline sales at service stations in October 1974.

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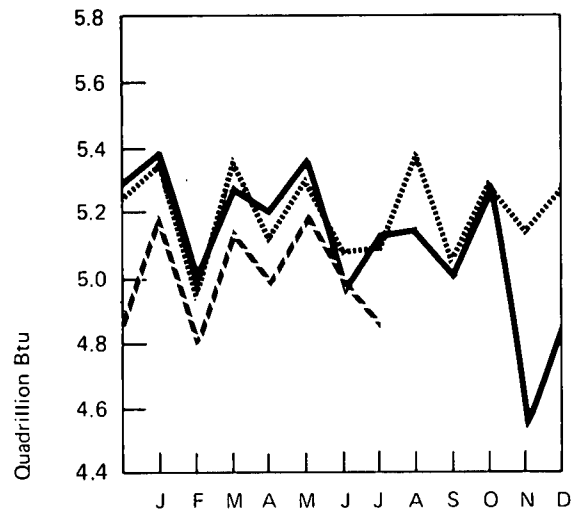
<sup>1</sup> Peer, E.L., and F.V. Marsik, *Trends in Refinery Capacity and Utilization*, Federal Energy Administration, June 1975.

"New" crude oil prices continued their gradual upward trend during June, rising 4 cents to \$11.73 per barrel. The average price that refiners paid for domestic crude climbed 5 cents to \$8.38 per barrel. Imported and composite refiner acquisition costs posted much more substantial increases of 88 cents and 44 cents, respectively, reflecting in part the additional \$1-per-barrel import fee imposed on June 1.

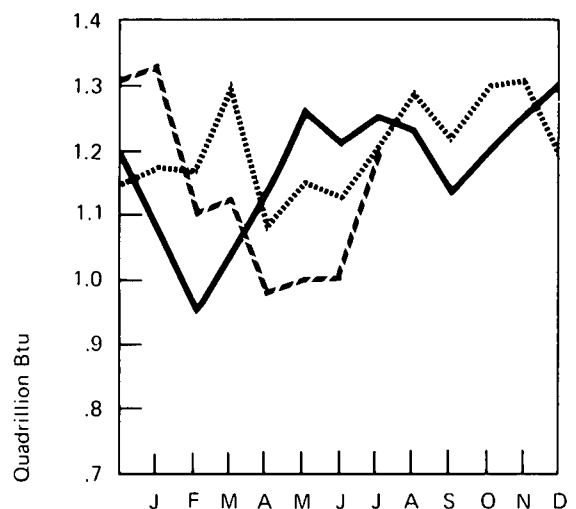
In July, most indicators of resource development activity showed continuing improvement over levels achieved a year ago. An average of 9 percent more rotary rigs was engaged in drilling for oil and gas, and 15 percent more wells were completed. However, there was a decline of 48 (14 percent) crews engaged in seismic exploration compared with July 1974.

Internationally, worldwide crude oil production increased 1.5 million barrels in June to 53.0 million barrels per day. Arab OPEC production rose slightly from 15.3 to 15.8 million barrels per day, reducing the amount shut in by these countries by 2 percentage points to 35.5 percent. Other OPEC countries increased production from 10.6 to 10.8 million barrels daily.

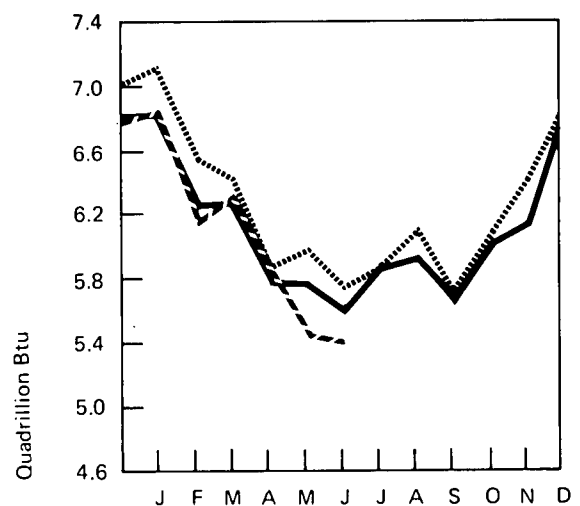
Domestic Production of Energy\*



Imports of Fossil Fuels



Domestic Consumption of Energy\*\*



\*See Explanatory Note 1.

\*\*See Explanatory Note 2.

..... 1973  
 — 1974  
 - - - 1975

## CRUDE OIL

Despite the gradual rise in crude oil wellhead prices, production has continued to fall. The 8,294,000 barrels per day produced in July was the lowest monthly average for the past 9 years. The decline since July 1973 has averaged about 220,000 barrels per day each quarter. However, the rate of decline seems to be abating somewhat. During the 3-month period from May through July 1975, the production decline was 100,000 barrels per day less than in the previous 3-month period.

To offset falling production, crude imports rose to a record high of 4,331,000 barrels per day. This was necessary to meet the increase in refinery input caused by the anticipated seasonal rise in motor gasoline demand. Crude oil input to refineries totaled nearly 12,992,000 barrels per day, another alltime high. Because refinery crude input exceeded supply, crude stocks were drawn down at a rate of 380,000 barrels per day to 256.8 million barrels.

## TOTAL REFINED PETROLEUM PRODUCTS

Demand in July was a low 15,865,000 barrels per day, probably the result of conservation efforts, high prices, and the recession. Historically, the 3-month period of lowest demand is May through July. During 1975, total refined petroleum products demand for this 3-month period averaged 15,619,000 barrels per day, which was 5.3 percent and 2.8 percent below demand for the same periods in 1973 and 1974, respectively. More significantly, however, per capita demand fell 6.3 percent, averaging 3.1 gallons per day.

## NATURAL GAS LIQUIDS

Domestic demand for natural gas liquids declined to 1,003,000 barrels per day in May, 15.1 percent below the 1,181,000 barrel-per-day demand for last May.

Imports in May dropped sharply from a year ago to 97,000 barrels per day. This was 46.7 percent below imports in May 1974.

Domestic production of natural gas liquids continued to decline from levels achieved in 1974. In May, production was 4.9 percent lower than in May 1974. Stocks, however,

were 1 percent above their level at the end of last May.

## NATURAL GAS

Marketed production in July was projected to be 9.8 percent below the July 1974 volume. During the first 7 months of 1975, marketed production was 11,784 billion cubic feet, 7.7 percent below the 12,771 billion cubic feet marketed in the same period in 1974.

Imports of natural gas were estimated to drop slightly in July to 72 billion cubic feet, or 2.7 percent lower than the level for last July. Imports for the first 7 months of 1975 were 2.3 percent below the similar period of 1974.

## COAL

Production of bituminous coal and lignite in July was 45.6 million tons, 7.4 percent less than in July 1974. This decrease was the result of a 1-week shift in the miners' vacation period. Both weeks of the vacation period fell in July this year, whereas last year the vacation weeks were split between June and July. This July's production would have been about 1.0 percent greater had it not been for the vacation loss.

Domestic consumption of coal in June 1975 was 0.5 percent higher than in June 1974, reflecting a 3.8-percent increase in demand by electric utilities and a 7.8-percent decrease by other consumers. (Electric utilities account for approximately 70 percent of total domestic coal consumption.)

Exports of coal in June declined after increasing for 5 consecutive months and were 1.6 percent less than in June 1974.

Since the first of the year, coal production has exceeded domestic consumption plus exports. As a result, coal inventories grew from 95.6 million tons at the end of December to 115.1 million tons at the end of June, an increase of 20.4 percent.



# Crude Oil

		Crude Input to Refineries		Domestic Production		Imports		Stocks*	
		In thousands of barrels per day						In thousands of barrels	
		BOM	FEA	BOM	FEA	BOM	FEA	BOM	FEA
1972	January	11,388		9,114		2,046		236,776	
	February	11,356		9,336		2,081		238,882	
	March	11,345		9,462		2,067		244,860	
	April	11,184		9,513		2,004		253,492	
	May	11,478		9,614		2,160		265,305	
	June	11,841		9,522		2,085		257,601	
	July	11,885		9,496		2,182		251,913	
	August	11,915		9,483		2,112		244,333	
	September	12,112		9,508		2,364		237,085	
	October	11,871		9,482		2,516		239,949	
	November	11,851		9,426		2,299		237,519	
	December	12,113		9,335		2,667		232,803	
1973	January	12,190		9,179		2,732		224,056	
	February	12,187		9,395		2,873		221,893	
	March	12,201		9,272		3,162		230,696	
	April	12,208		9,292		3,049		235,383	
	May	12,281		9,262		3,215		244,777	
	June	12,862		9,214		3,220		235,846	
	July	12,750		9,217		3,501		230,750	
	August	12,635		9,169		3,593		235,660	
	September	12,560		9,065		3,471		228,280	
	October	12,758		9,224		3,739		233,520	
	November	12,374		9,161		3,452		237,001	
	December	12,150		9,063		2,891		229,504	
1974	January	11,491		8,907		2,382		220,261	
	February	11,102		9,156		2,248		228,004	
	March	11,355		8,950		2,462		231,705	
	April	11,823		8,952		3,267		243,687	
	May	12,333	12,777	8,903		3,908	3,748	256,726	252,270
	June	12,697	12,709	8,777		3,925	3,957	255,762	253,008
	July	12,811	12,905	8,754	8,698	4,091	4,167	255,936	252,399
	August	12,644	12,731	8,682	8,717	3,924	3,852	251,905	247,040
	September	12,124	12,253	8,432	8,622	3,797	3,758	253,623	249,476
	October	12,286	12,430	8,616	8,651	3,810	3,936	256,430	255,003
	November	12,332	12,402	8,569	8,458	3,958	3,997	258,123	256,271
	December	12,519	12,671	8,514	8,471	3,869	3,979	252,158	248,808
1975	January	12,297	12,442	8,439	8,644	4,029	3,964	258,163	253,836
	February	12,135	12,144	8,575	8,488	3,828	4,061	264,348	264,833
	March	11,905	11,961	8,476	8,333	3,656	3,853	267,564	271,410
	April	11,803	11,837	8,440	8,567	3,378	3,416	269,294	275,393
	May		11,985		8,464		3,493		274,123
	June		R12,421		R8,344		R3,907		R268,564
	July		**12,992		**8,294		**4,331		**256,780

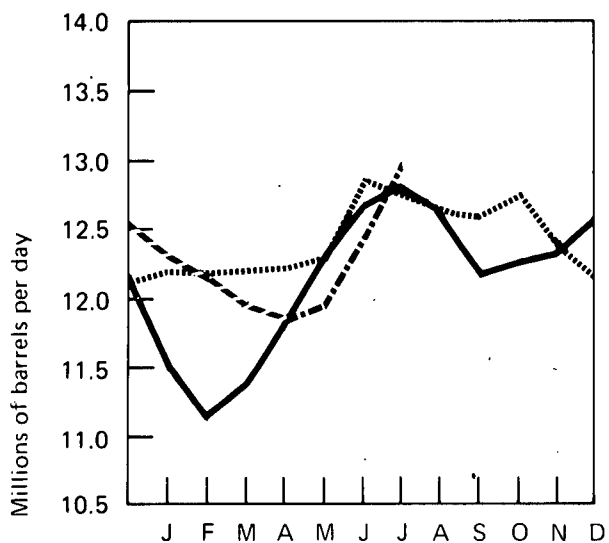
\*See definitions.

\*\* Preliminary data.

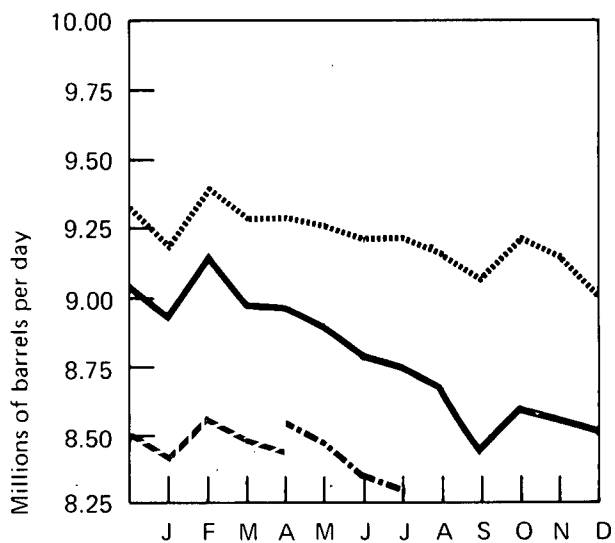
R=Revised data.

Sources: Bureau of Mines (BOM) and Federal Energy Administration (FEA) as indicated.

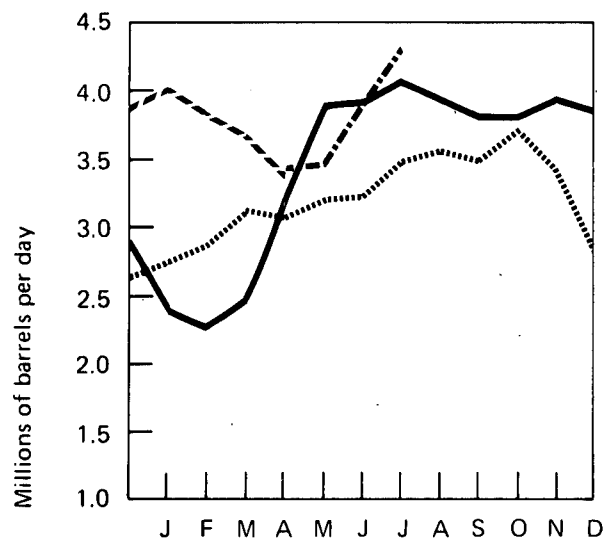
Crude Input to Refineries\*



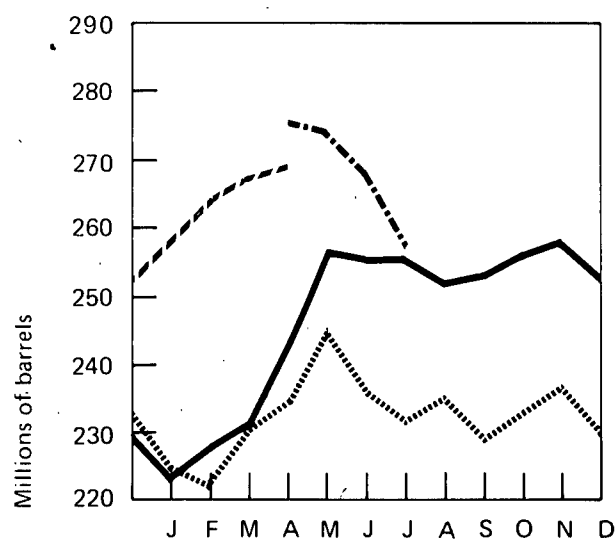
Domestic Production\*



Imports\*



Stocks\*



\*See Explanatory Note 3.

..... 1973  
 — 1974 BOM  
 --- 1975 BOM  
 -.- 1975 FEA

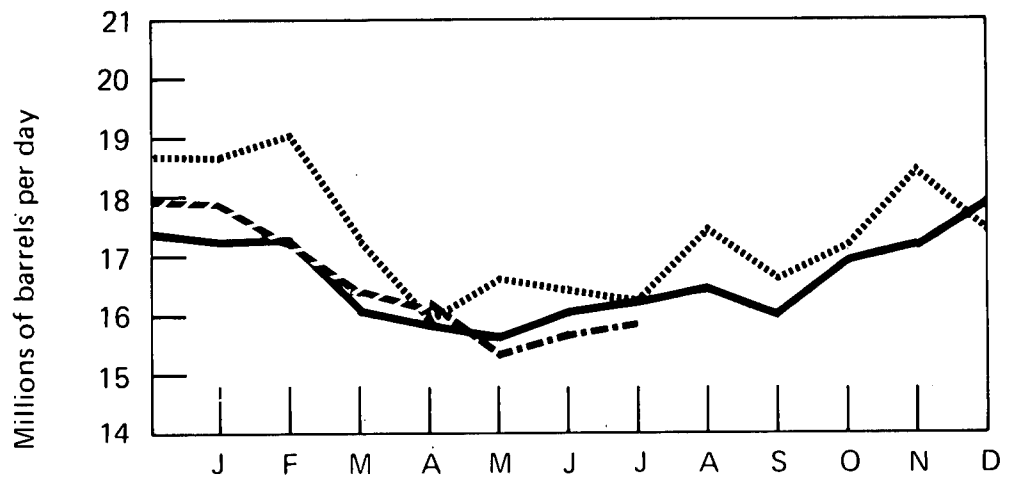
## Total Refined Petroleum Products

		Domestic Demand		Imports*	
		In thousands of barrels per day			
		BOM	FEA	BOM	FEA
1972	January	16,735		2,721	
	February	17,861		2,764	
	March	16,870		2,730	
	April	15,529		2,298	
	May	14,801		2,208	
	June	15,615		2,382	
	July	14,821		2,215	
	August	15,936		2,344	
	September	15,489		2,342	
	October	16,455		2,607	
	November	17,610		2,653	
	December	18,738		3,039	
1973	January	18,713		3,125	
	February	19,094		3,635	
	March	17,216		3,448	
	April	15,921		2,545	
	May	16,626		2,626	
	June	16,481		2,670	
	July	16,372		2,678	
	August	17,499		2,999	
	September	16,656		2,941	
	October	17,202		2,894	
	November	18,492		3,470	
	December	17,538		3,164	
1974	January	17,270		2,973	
	February	17,371		2,973	
	March	16,045		2,753	
	April	15,919		2,703	
	May	15,720	15,740	2,580	2,454
	June	16,176	16,191	2,493	2,218
	July	16,301	15,853	2,397	2,140
	August	16,546	15,803	2,434	2,281
	September	15,994	16,318	2,225	2,180
	October	17,025	17,121	2,340	2,361
	November	17,214	17,129	2,704	2,581
	December	17,997	17,588	2,781	2,638
1975	January	17,983	18,112	2,811	2,484
	February	17,248	17,370	2,348	2,138
	March	16,316	16,567	2,074	1,920
	April	16,041	16,105	1,655	1,810
	May		15,306		1,776
	June		R15,688		R1,602
	July		**15,865		**1,878

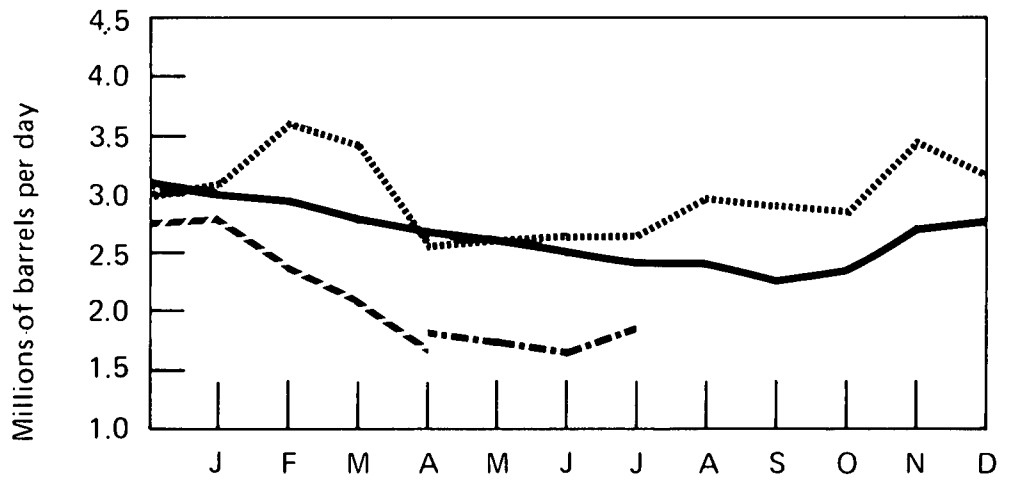
\*See definitions.    \*\*Preliminary data.    R=Revised data:

Sources: Bureau of Mines (BOM) and Federal Energy Administration (FEA) as indicated.

# Domestic Demand\*



# Imports\*



\*See Explanatory Note 3.

..... 1973  
 — 1974 BOM  
 - - - 1975 BOM  
 - . - 1975 FEA

# Motor Gasoline

		Domestic Demand		Production*		Imports		Stocks*	
				In thousands of barrels per day				In thousands of barrels	
		BOM	FEA	BOM	FEA	BOM	FEA	BOM	FEA
1972	January	5,549		6,151		51		239,633	
	February	5,710		5,989		66		249,927	
	March	6,412		5,913		67		236,831	
	April	6,283		5,833		52		225,153	
	May	6,445		6,023		74		214,736	
	June	6,822		6,244		75		200,143	
	July	6,673		6,612		69		200,710	
	August	6,938		6,588		81		192,706	
	September	6,453		6,605		70		199,690	
	October	6,350		6,532		71		207,776	
	November	6,479		6,436		69		208,930	
	December	6,378		6,424		69		212,770	
1973	January	6,118		6,341		59		221,823	
	February	6,437		6,855		95		216,367	
	March	6,513		6,150		71		207,581	
	April	6,541		6,377		63		204,708	
	May	6,907		6,714		101		202,081	
	June	6,964		6,993		174		208,374	
	July	7,023		6,986		133		211,488	
	August	7,257		6,880		164		205,122	
	September	6,581		6,619		127		210,278	
	October	6,677		6,621		194		214,525	
	November	6,823		6,375		216		207,343	
	December	6,237		6,099		202		209,395	
1974	January	5,804		5,900		163		217,463	
	February	6,100		5,969		184		219,058	
	March	6,162		5,982		225		220,307	
	April	6,457		6,311		260		223,752	
	May	6,745	6,406	6,328	6,301	250	228	218,670	229,878
	June	6,919	6,895	6,663	6,642	211	145	217,381	226,652
	July	6,959	6,941	6,792	6,835	212	122	218,838	227,195
	August	7,061	6,849	6,815	6,776	253	192	218,951	231,015
	September	6,388	6,652	6,453	6,485	202	140	227,031	230,181
	October	6,712	6,542	6,336	6,340	171	175	220,748	229,275
	November	6,547	6,659	6,292	6,257	174	264	218,385	225,226
	December	6,558	6,551	6,419	6,451	141	170	224,719	227,363
1975	January	6,206	6,228	6,509	6,574	262	203	242,285	244,425
	February	6,096	6,205	6,276	6,279	171	168	251,915	251,189
	March	6,326	6,408	R6,070	6,068	150	146	R248,685	245,181
	April	6,718	6,574	6,046	5,997	133	127	232,556	231,542
	May		6,855		6,063		135		211,183
	June		R6,951		R6,622		156		R205,713
	July		**6,915		**6,989		**170		**213,242

\*See definitions.

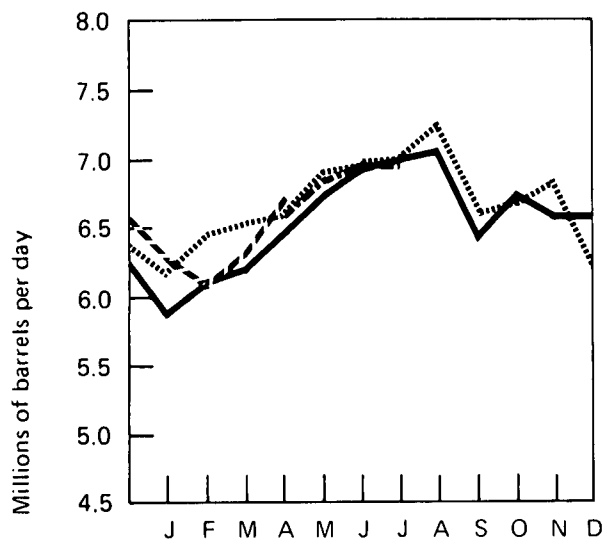
\*\*Preliminary data.

R=Revised data.

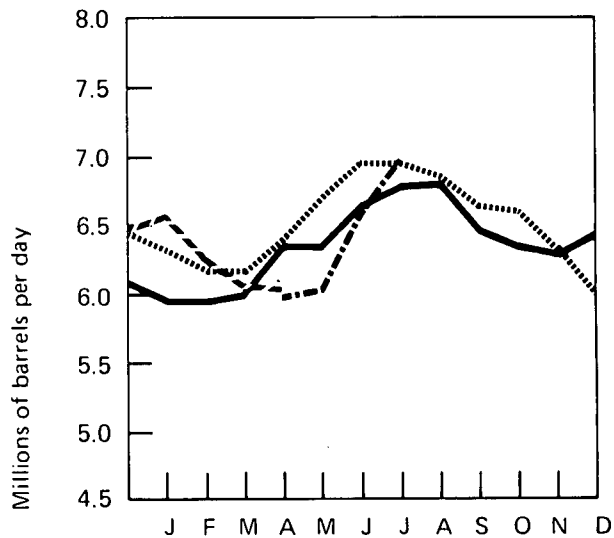
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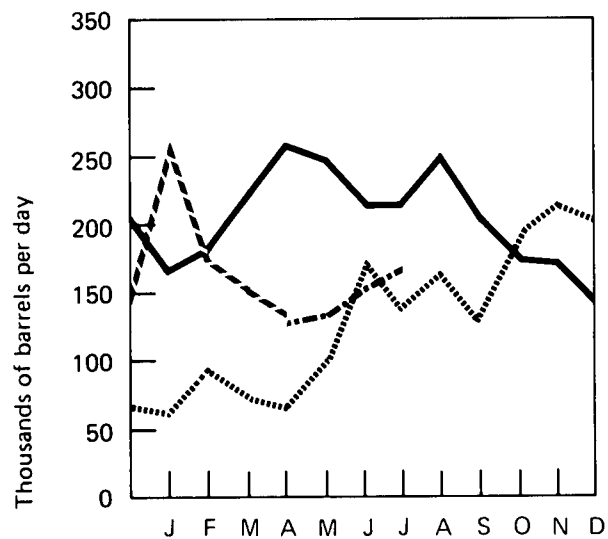
Domestic Demand\*



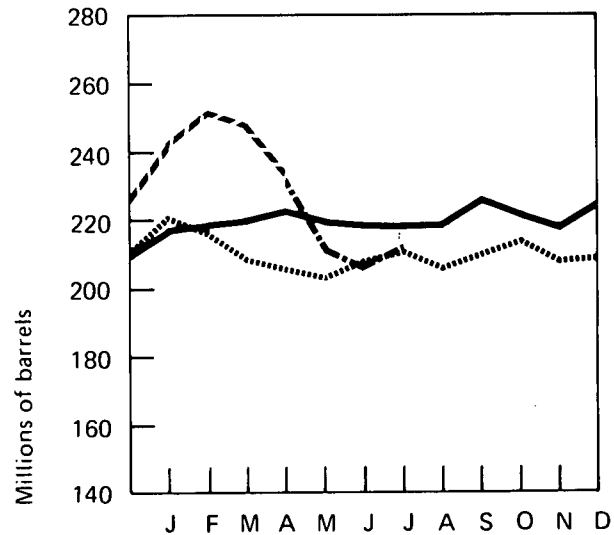
Production\*



Imports\*



Stocks\*



\*See Explanatory Note 3.

..... 1973  
 — 1974 BOM  
 - - - 1975 BOM  
 - · - 1975 FEA

# Jet Fuel

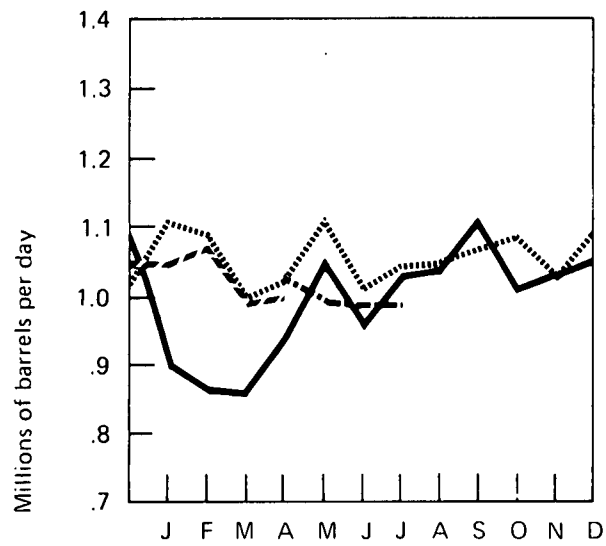
		Domestic Demand		Production		Imports		Stocks	
		In thousands of barrels per day						In thousands of barrels	
		BOM	FEA	BOM	FEA	BOM	FEA	BOM	FEA
1972	January	1,021		784		179		25,857	
	February	1,141		900		220		25,230	
	March	1,008		906		167		27,147	
	April	986		877		124		27,568	
	May	999		887		159		28,885	
	June	1,163		859		292		28,356	
	July	1,000		873		165		29,429	
	August	946		837		181		31,649	
	September	1,035		810		190		30,597	
	October	1,171		822		286		28,633	
	November	1,050		800		184		26,650	
	December	1,030		811		189		25,493	
1973	January	1,110		864		231		24,814	
	February	1,090		898		221		25,437	
	March	994		917		152		27,585	
	April	1,015		887		145		27,881	
	May	1,112		840		211		25,825	
	June	1,007		836		164		25,447	
	July	1,046		825		232		25,661	
	August	1,049		844		180		24,851	
	September	1,070		847		235		25,149	
	October	1,104		875		246		25,577	
	November	1,025		852		275		28,539	
	December	1,087		830		259		28,544	
1974	January	895		800		136		29,732	
	February	860		783		75		29,617	
	March	956		832		139		29,996	
	April	941		868		132		31,725	
	May	1,053	915	868	873	205	97	32,324	33,574
	June	952	1,016	810	886	141	115	32,200	33,128
	July	1,028	1,032	802	813	214	188	31,671	32,231
	August	1,031	1,076	805	849	206	202	30,989	31,594
	September	1,109	1,100	867	883	217	183	30,186	30,587
	October	1,011	1,092	868	905	161	216	30,564	31,488
	November	1,032	1,055	863	861	140	222	29,616	31,303
	December	1,043	1,138	861	908	178	219	29,776	30,957
1975	January	1,041	1,001	831	847	229	164	30,321	31,221
	February	1,075	1,032	835	849	200	167	29,133	30,641
	March	982	1,018	896	892	130	136	30,456	30,906
	April	1,006	1,034	864	863	138	212	30,263	32,083
	May		996		857		124		31,587
	June		R996		R837		R112		R30,122
	July		*984		*880		*106		*30,134

\*Preliminary data.

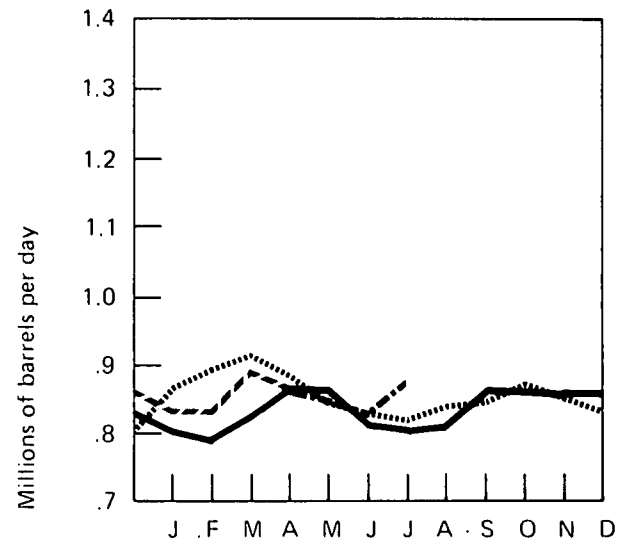
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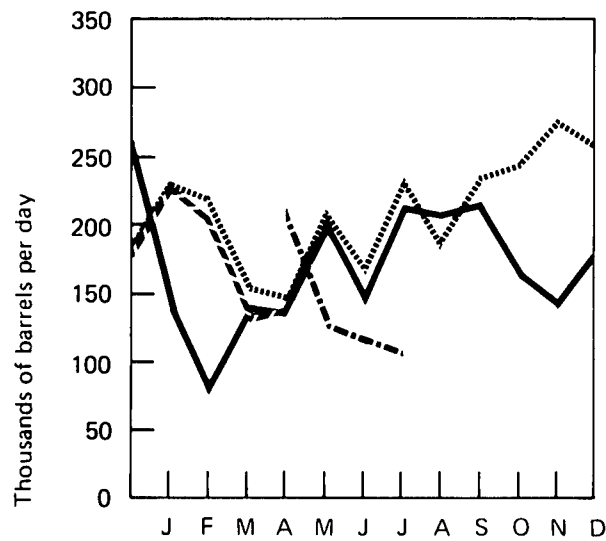
**Domestic Demand\***



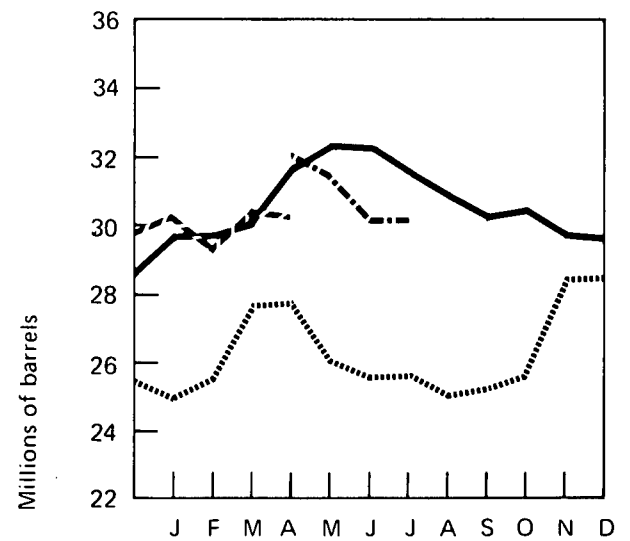
**Production\***



**Imports\***



**Stocks\***



\*See Explanatory Note 3.

..... 1973  
 — 1974 BOM  
 - - - 1975 BOM  
 - . - 1975 FEA

# Distillate Fuel Oil

		Domestic Demand		Production*		Imports		Stocks*	
		In thousands of barrels per day *						In thousands of barrels	
		BOM	FEA	BOM	FEA	BOM	FEA	BOM	FEA
1972	January	3,723		2,538		197		160,027	
	February	4,164		2,653		204		122,154	
	March	3,482		2,564		257		101,728	
	April	2,778		2,476		189		98,288	
	May	2,250		2,585		132		112,892	
	June	2,194		2,623		96		128,739	
	July	1,765		2,529		97		155,557	
	August	2,064		2,582		92		174,674	
	September	2,205		2,624		99		190,250	
	October	2,759		2,722		203		195,530	
	November	3,383		2,719		227		182,581	
	December	4,232		2,938		382		154,284	
1973	January	4,138		3,028		364		130,958	
	February	4,302		2,937		731		113,276	
	March	3,337		2,667		602		111,270	
	April	2,635		2,510		240		114,698	
	May	2,673		2,544		268		119,104	
	June	2,419		2,825		222		137,844	
	July	2,328		2,752		318		160,869	
	August	2,555		2,801		288		177,271	
	September	2,675		2,813		313		190,171	
	October	2,930		2,911		451		202,965	
	November	3,508		2,922		492		200,182	
	December	3,690		3,136		439		196,421	
1974	January	3,820		2,880		449		181,179	
	February	3,835		2,399		293		149,125	
	March	3,145		2,226		267		128,822	
	April	2,848		2,522		216		125,553	
	May	2,453	2,616	2,704	2,741	271	288	141,806	151,345
	June	2,386	2,249	2,783	2,818	228	175	160,645	173,639
	July	2,302	2,251	2,792	2,881	214	168	182,458	198,374
	August	2,295	2,271	2,704	2,779	111	112	198,673	217,632
	September	2,377	2,473	2,551	2,655	144	143	208,269	227,069
	October	2,863	2,816	2,770	2,787	213	264	209,908	234,257
	November	3,145	3,058	2,801	2,883	443	403	212,875	241,125
	December	3,855	3,923	2,924	3,028	517	466	223,717	227,877
1975	January	3,953	4,055	2,852	2,954	324	350	199,715	204,576
	February	3,967	4,004	2,679	2,707	302	295	176,696	176,530
	March	3,293	3,460	R2,531	2,614	256	217	161,111	156,980
	April	3,094	3,103	2,486	2,532	110	131	146,214	143,714
	May		2,435		2,496		144		150,068
	June		R2,272		2,639		R74		R163,252
	July		**2,157		**2,654		**124		**182,507

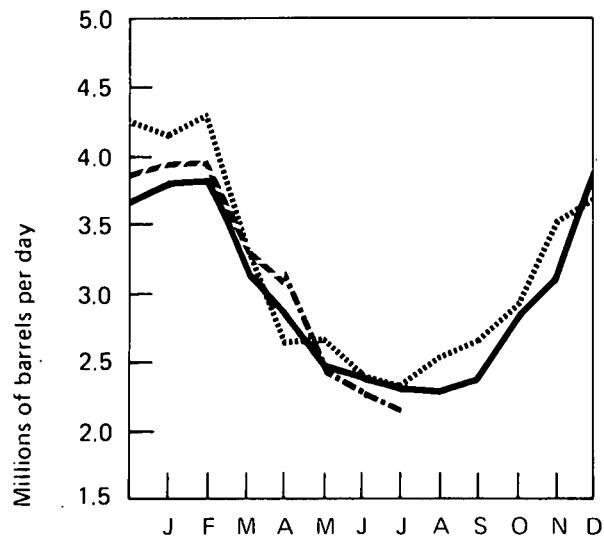
\*See definitions.

\*\*Preliminary data.

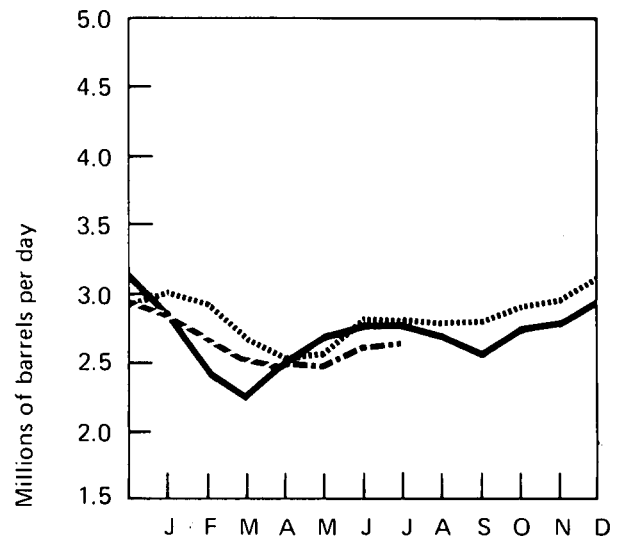
R=Revised data.

Sources: Bureau of Mines (BOM) and Federal Energy Administration (FEA) as indicated.

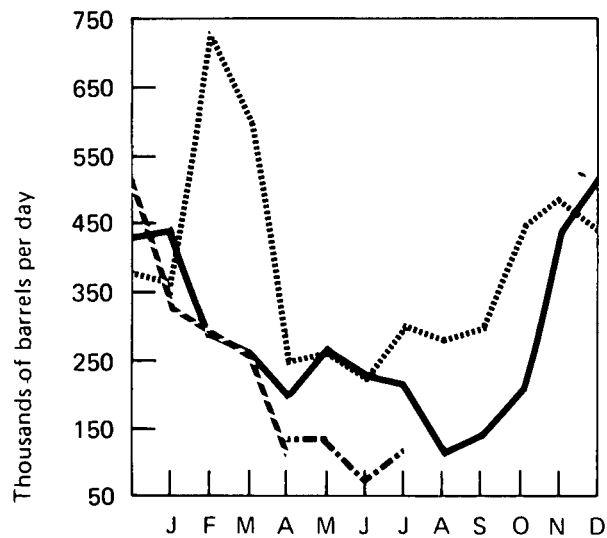
Domestic Demand\*



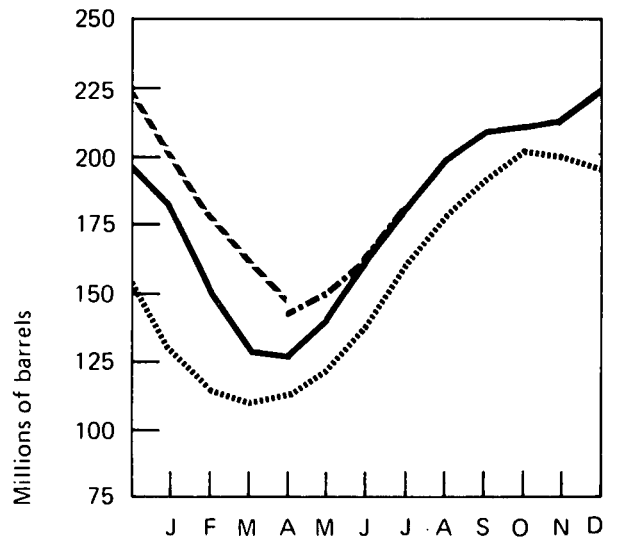
Production\*



Imports\*



Stocks\*



..... 1973  
 — 1974 BOM  
 - - 1975 BOM  
 - · - 1975 FEA

\*See Explanatory Note 3.



# Residual Fuel Oil

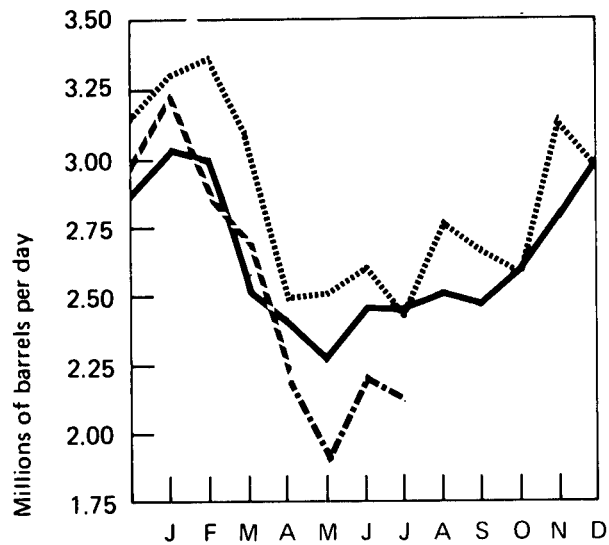
	Domestic Demand		Production		Imports		Stocks	
	In thousands of barrels per day						In thousands of barrels	
	BOM	FEA	BOM	FEA	BOM	FEA	BOM	FEA
1972 January	2,815		924		1,892		59,440	
February	3,171		963		1,923		50,891	
March	2,682		828		1,926		51,566	
April	2,444		739		1,676		49,425	
May	2,111		664		1,573		53,035	
June	2,196		661		1,649		56,109	
July	2,107		673		1,594		60,230	
August	2,257		674		1,653		61,399	
September	2,239		710		1,625		63,692	
October	2,362		745		1,655		63,758	
November	2,843		890		1,769		57,702	
December	3,151		1,124		1,968		55,216	
1973 January	3,306		1,112		2,019		49,154	
February	3,382		1,038		2,147		43,058	
March	3,084		955		2,196		44,711	
April	2,477		877		1,705		47,044	
May	2,521		948		1,668		49,207	
June	2,607		915		1,761		51,811	
July	2,412		882		1,597		53,363	
August	2,755		851		1,913		53,586	
September	2,676		878		1,849		55,091	
October	2,590		984		1,597		54,964	
November	3,158		1,061		1,979		51,985	
December	2,944		1,158		1,826		53,480	
1974 January	3,035		1,072		1,732		46,548	
February	3,010		1,029		1,923		45,004	
March	2,516		912		1,674		47,222	
April	2,432		984		1,587		51,339	
May	2,251	2,111	995	992	1,353	1,250	54,356	64,548
June	2,455	2,177	1,026	1,058	1,549	1,260	57,891	68,646
July	2,432	2,135	1,056	1,091	1,433	1,197	59,787	73,066
August	2,539	2,368	1,067	1,126	1,530	1,342	60,988	76,011
September	2,454	2,419	1,032	1,070	1,400	1,274	60,251	72,723
October	2,610	2,501	1,099	1,112	1,464	1,369	58,679	72,090
November	2,819	2,631	1,229	1,226	1,636	1,453	60,363	73,581
December	2,965	2,881	1,335	1,350	1,612	1,561	74,939	74,521
1975 January	3,242	3,103	1,415	1,399	1,647	1,529	69,233	68,628
February	2,849	2,723	1,354	1,304	1,402	1,308	66,495	65,061
March	2,668	2,589	1,299	1,244	1,292	1,252	64,148	61,891
April	2,225	2,184	1,245	1,204	1,047	1,069	66,340	64,121
May		R2,201		R1,118		1,068		72,088
June		*2,139		*1,159		R953		R67,641
July						*1,110		*71,400

\*Preliminary data.

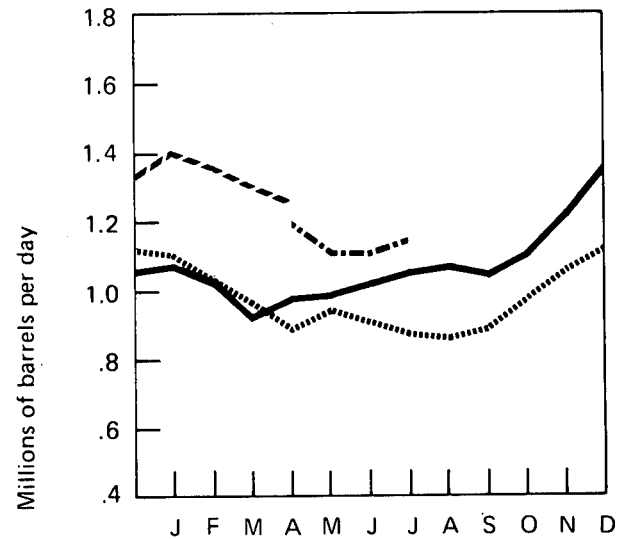
R=Revised data.

Sources: Bureau of Mines (BOM) and Federal Energy Administration (FEA) as indicated.

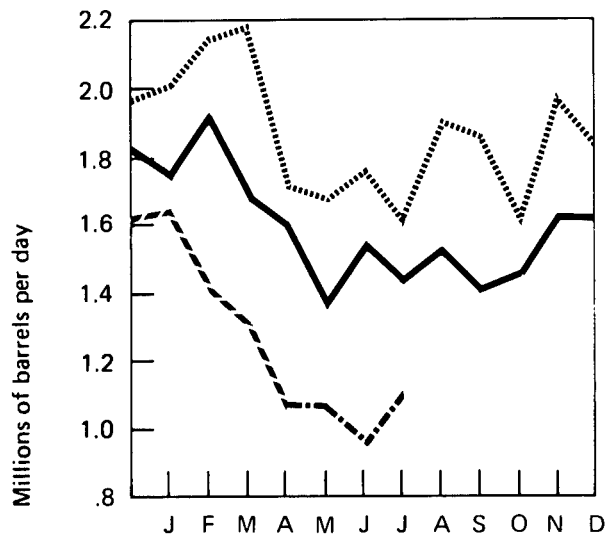
**Domestic Demand\***



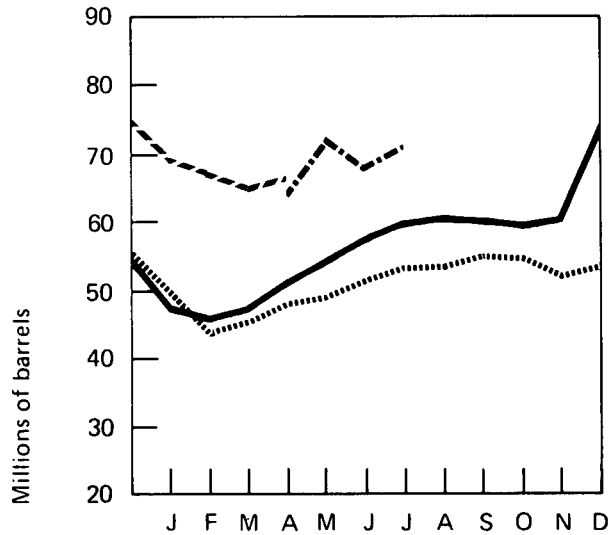
**Production\***



**Imports\***



**Stocks\***



\*See Explanatory Note 3.

..... 1973  
 — 1974 BOM  
 - - - 1975 BOM  
 - · - 1975 FEA

# Natural Gas Liquids

		Domestic Demand*	Production*	Imports	Stocks*
		In thousands of barrels per day			In thousands of barrels
1972	January	1,746	1,705	196	76,704
	February	1,752	1,747	182	68,232
	March	1,417	1,768	186	68,777
	April	1,181	1,769	118	75,101
	May	995	1,737	147	84,984
	June	1,114	1,734	134	92,831
	July	1,121	1,731	141	100,363
	August	1,243	1,739	164	104,397
	September	1,244	1,751	168	108,853
	October	1,525	1,769	202	105,098
	November	1,768	1,757	221	94,673
	December	1,946	1,721	231	79,238
1973	January	1,994	1,680	313	64,343
	February	1,857	1,745	312	55,997
	March	1,407	1,734	260	58,471
	April	1,299	1,750	201	65,297
	May	1,270	1,739	216	73,942
	June	1,149	1,727	163	83,057
	July	1,109	1,737	199	93,362
	August	1,281	1,748	239	98,996
	September	1,297	1,741	206	103,907
	October	1,499	1,756	249	104,215
	November	1,703	1,774	286	98,320
	December	1,607	1,729	231	94,106
1974	January	1,779	1,699	305	85,820
	February	1,593	1,728	294	84,737
	March	1,408	1,741	224	89,362
	April	1,321	1,696	215	95,707
	May	1,181	1,689	182	104,739
	June	1,242	1,684	200	111,356
	July	1,187	1,657	163	118,804
	August	1,221	1,676	163	125,120
	September	1,359	1,638	167	126,454
	October	1,493	1,686	200	123,634
	November	1,596	1,694	199	118,026
	December	1,692	1,670	230	108,377
1975	January	1,708	1,630	257	98,843
	February	1,512	1,646	182	94,683
	March	1,404	1,658	178	93,111
	April	1,242	R1,635	176	97,050
	May	1,003	1,607	97	105,703
	June		**1,593		

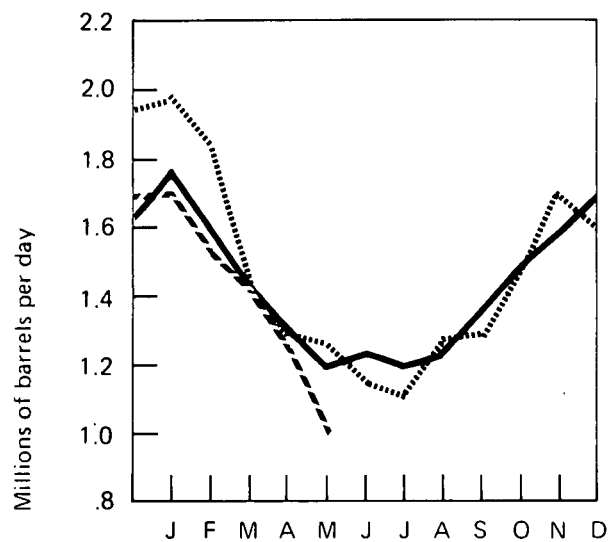
\*See Explanatory Note 4.

\*\*Preliminary data.

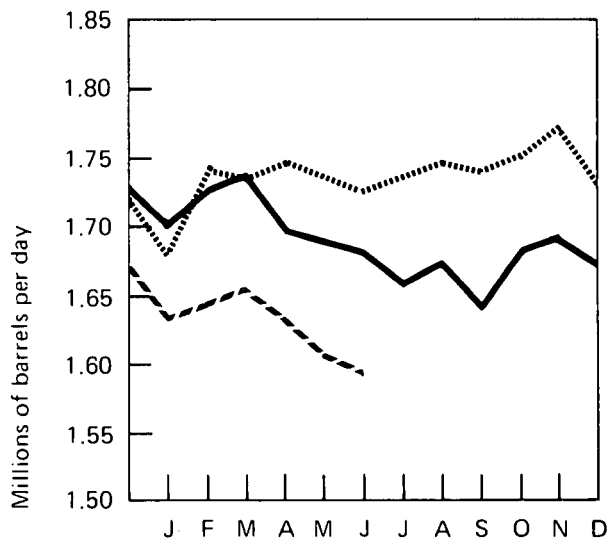
R=Revised data.

Source: Bureau of Mines.

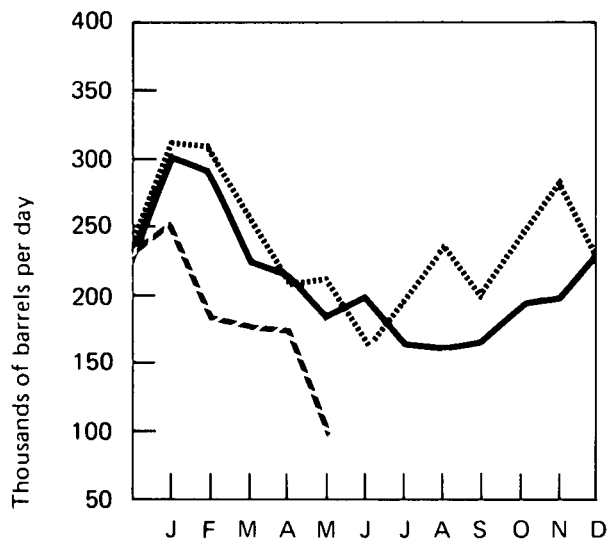
**Domestic Demand**



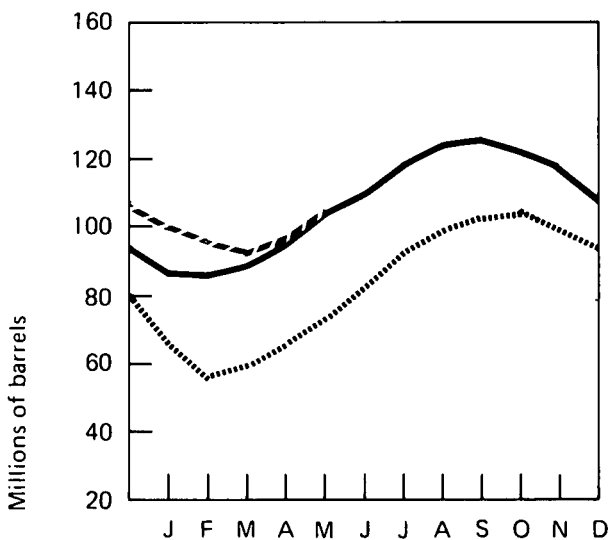
**Production**



**Imports**



**Stocks**



..... 1973  
 ————— 1974  
 - - - - - 1975

# Natural Gas

		Marketed Production	Domestic Producer Sales to Major Interstate Pipelines	Imports
		In billion cubic feet		
1972	January	1,994	1,086	117
	February	1,902	1,035	112
	March	1,937	1,091	88
	April	1,893	1,050	134
	May	1,867	1,045	111
	June	1,797	985	108
	July	1,837	1,013	102
	August	1,859	1,007	97
	September	1,854	970	114
	October	1,889	1,040	103
	November	1,896	1,041	111
	December	1,961	1,065	111
1973	January	1,994	1,069	93
	February	1,821	963	84
	March	1,952	1,052	91
	April	1,864	1,007	88
	May	1,898	1,026	86
	June	1,839	963	79
	July	1,880	999	80
	August	1,896	994	85
	September	1,840	956	82
	October	1,875	1,001	91
	November	1,863	1,000	85
	December	1,926	1,038	89
1974	January	R1,929	1,033	86
	February	R1,759	941	79
	March	R1,886	1,027	85
	April	R1,793	987	83
	May	R1,846	981	80
	June	R1,740	928	74
	July	R1,818	947	74
	August	R1,790	932	76
	September	R1,755	871	70
	October	R1,767	936	83
	November	R1,729	921	82
	December	R1,790	959	87
1975	January	1,771	950	81
	February	1,635	867	75
	March	1,733	948	83
	April	R1,669	906	R83
	May	R*1,687	898	R81
	June	**1,620		R**73
	July	**1,660		**72

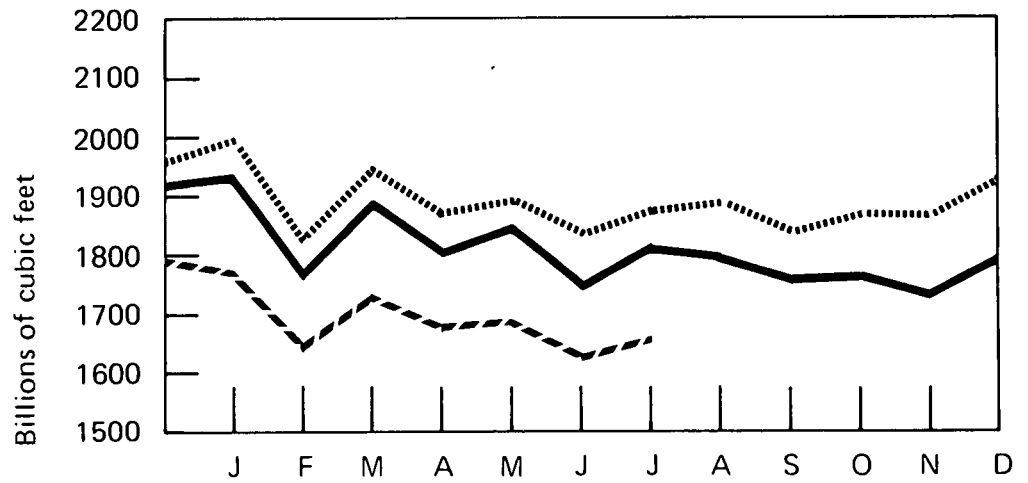
\*Preliminary data.

\*\*Projected data.

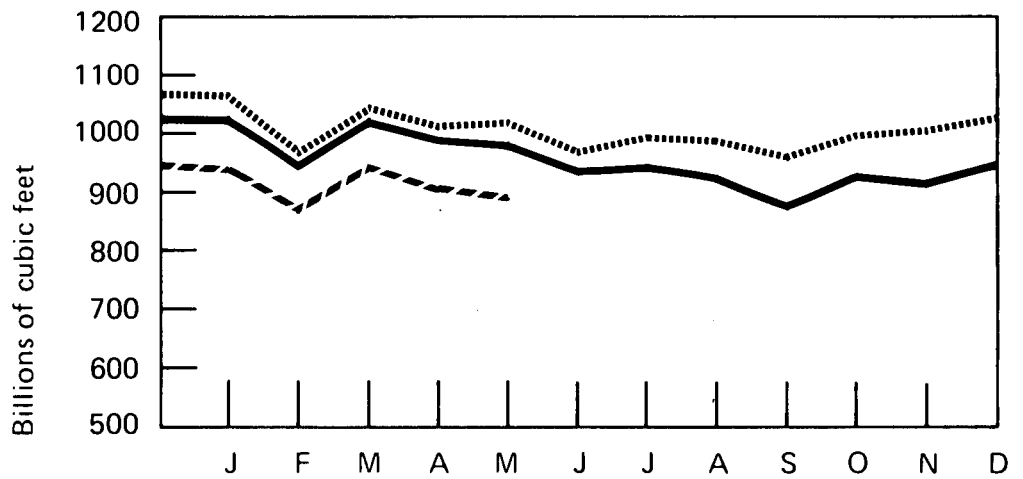
R=Revised data.

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

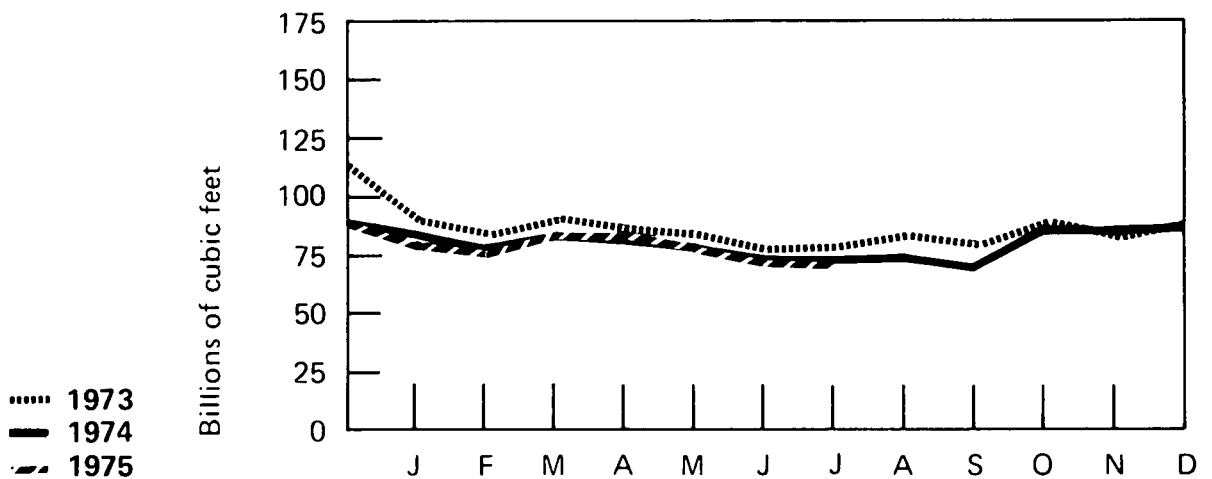
### Marketed Production



### Domestic Producer Sales to Major Interstate Pipelines



### Imports



..... 1973  
 ——— 1974  
 - - - 1975

# Coal

## Bituminous and Lignite

		Domestic Consumption*	Production**	Exports	Stocks
		In thousands of short tons			
1972	January	43,951	49,680	3,660	91,178
	February	43,178	49,112	3,630	92,183
	March	43,773	54,438	4,624	96,795
	April	40,158	49,814	4,915	102,981
	May	40,588	52,879	5,416	110,577
	June	40,505	50,083	4,882	115,723
	July	43,071	40,964	3,627	111,353
	August	44,698	52,169	6,337	114,665
	September	42,002	49,374	4,923	116,196
	October	43,050	51,671	5,210	120,135
	November	44,104	50,297	5,380	121,401
	December	47,698	44,904	3,392	117,442
1973	January	49,838	49,379	2,954	111,120
	February	44,652	45,893	2,669	108,870
	March	44,814	50,547	3,377	111,490
	April	42,689	46,999	5,063	112,585
	May	43,628	51,420	5,140	116,890
	June	45,115	46,613	4,969	109,960
	July	47,715	43,801	4,188	107,390
	August	48,840	55,874	5,133	106,910
	September	45,471	48,338	3,424	106,230
	October	46,427	54,382	5,882	107,490
	November	46,703	49,826	5,214	107,169
	December	50,130	48,666	4,889	103,022
1974	January	50,063	53,530	2,813	97,614
	February	45,252	49,851	4,627	96,420
	March	45,408	51,027	3,179	99,895
	April	43,195	54,181	4,944	106,972
	May	44,612	57,448	6,032	110,018
	June	44,461	47,884	6,369	110,965
	July	48,187	49,206	5,307	106,091
	August	48,647	51,604	5,088	105,810
	September	44,371	52,472	4,893	109,205
	October	45,670	60,293	7,342	116,514
	November	44,589	33,524	6,744	108,710
	December	47,436	39,980	2,587	95,572
1975	January	49,669	54,885	4,254	96,024
	February	45,725	51,135	4,470	97,164
	March	47,396	51,910	5,653	97,904
	April	R43,753	52,945	6,159	102,745
	May	R42,683	58,150	7,011	R109,796
	June	44,696	55,885	6,269	115,057
	July		***45,560		

\*See Explanatory Note 5.

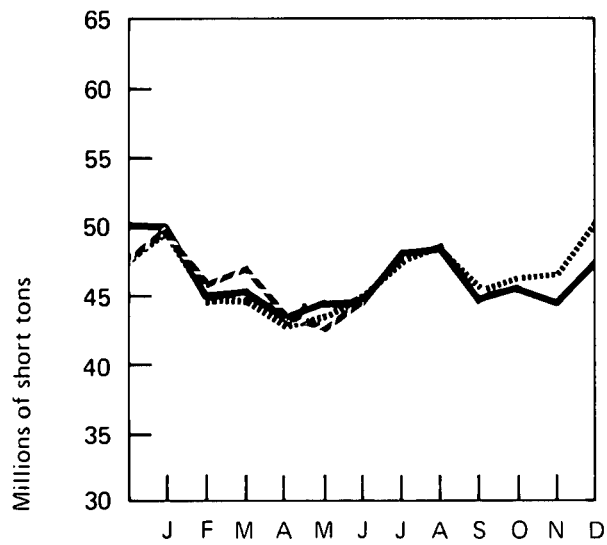
\*\*See Explanatory Note 6.

\*\*\*Preliminary data.

R=Revised data.

Source: Bureau of Mines.

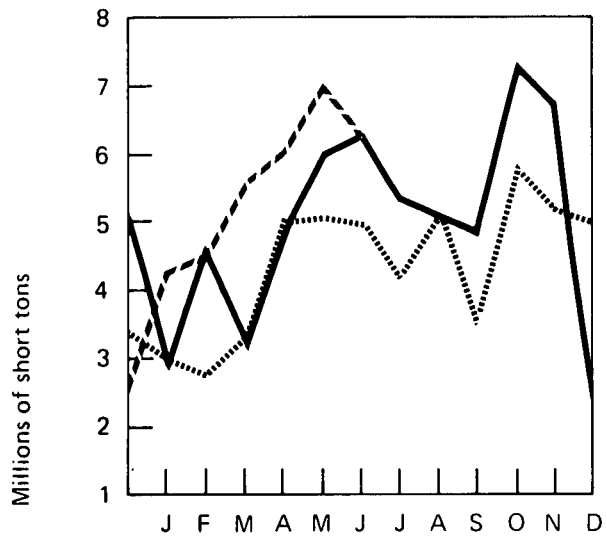
**Domestic Consumption**



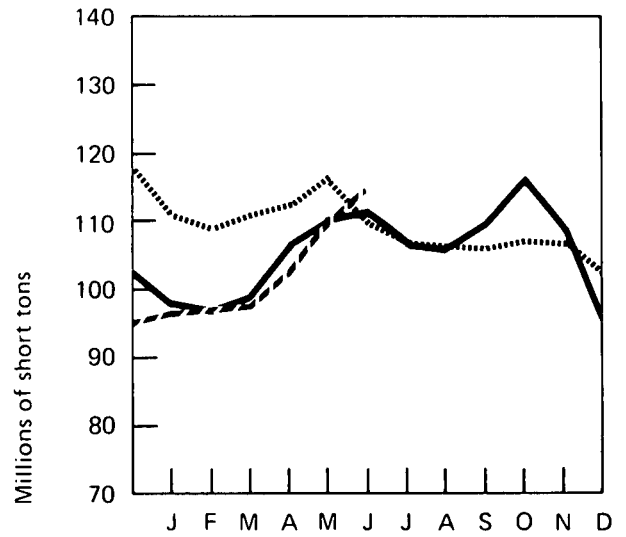
**Production**



**Exports**



**Stocks**



..... 1973  
 — 1974  
 - - 1975



## ELECTRIC UTILITIES

June 1975 production of electricity by utilities was 159,963 million kilowatt hours, 2.5 percent above the 156,027 million kilowatt hours produced in June 1974. Production in the first half of 1975 totaled 921,186 million kilowatt hours, up 2.3 percent from the 900,589 million kilowatt hours produced during the similar period of 1974.

Coal stockpiles at power plants declined from a 95-day supply at the end of May to an 89-day supply at the end of June; oil stockpiles declined from a 98- to an 88-day supply during the same period.

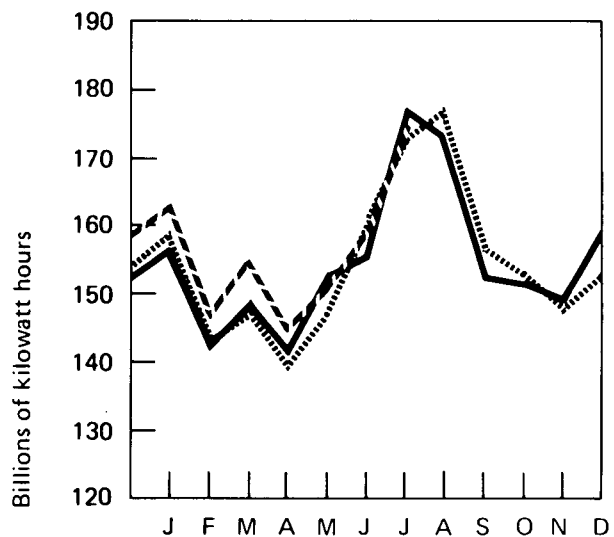
Utility consumption of natural gas in June 1975 was 306,147 million cubic feet, 11.7 percent below consumption in June 1974.

Kilowatt-hour sales to residential and commercial customers in May 1975 were 43,226 and 31,608 million kilowatt hours, respectively, up 4.9 percent and 5.8 percent from the levels in May 1974. Sales to industry, on the other hand, which totaled 53,364 million kilowatt hours, were down 7.0 percent from last May.

# Electric Utilities

		Total Production	Percentage Produced from Each Source					
		In millions of kilowatt hours	Coal	Oil	Gas	Nuclear	Hydro-electric	Other*
1972	January	144,575	R45.5	R18.0	16.6	2.9	16.9	R0.1
	February	137,301	R45.8	17.3	R18.1	2.6	16.1	R0.1
	March	140,056	R44.4	15.2	20.0	R3.1	17.2	R0.1
	April	132,138	43.6	R13.5	22.3	R2.8	17.7	R0.1
	May	137,745	R43.4	12.7	24.0	2.1	R17.7	R0.1
	June	145,523	R42.4	R13.4	25.5	2.6	R16.0	R0.1
	July	157,846	R42.2	14.1	25.7	R3.0	14.9	R0.1
	August	162,822	42.8	R13.8	R25.8	3.5	R14.0	R0.1
	September	147,358	R43.5	14.7	25.5	3.2	R13.0	R0.1
	October	143,742	R44.4	R16.4	R22.2	R3.4	R13.5	R0.1
	November	143,867	45.7	18.3	17.2	R3.8	R14.9	R0.1
	December	154,350	R46.0	19.5	14.4	3.9	R16.1	R0.1
1973	January	159,320	47.2	R19.4	13.1	3.9	R16.3	R0.1
	February	143,109	47.4	R18.2	R14.1	4.1	R16.1	R0.1
	March	147,754	R45.7	16.2	16.2	4.5	R17.3	R0.1
	April	139,273	R46.1	14.4	17.9	4.2	R17.3	R0.1
	May	147,021	R44.3	R14.7	20.2	R3.9	16.8	R0.1
	June	160,962	R43.3	R16.1	21.6	4.2	R14.7	R0.1
	July	R173,461	R43.9	16.5	R22.6	4.0	R12.9	R0.1
	August	R177,022	R44.4	R17.3	R21.9	4.4	11.9	R0.1
	September	R156,294	R45.7	R17.3	R21.1	4.9	R10.9	R0.1
	October	R153,797	45.6	R17.7	R19.9	R4.9	11.8	R0.1
	November	R147,823	R47.2	R17.6	R16.1	R5.5	13.5	R0.1
	December	R153,284	47.9	16.3	R13.3	R5.3	R17.0	R0.2
1974	January	156,906	47.0	16.6	13.3	4.8	18.2	0.1
	February	142,371	46.6	15.7	13.3	5.6	18.6	0.2
	March	149,933	45.3	14.6	15.8	5.8	18.4	0.1
	April	141,913	44.5	13.9	16.9	4.9	19.6	0.2
	May	153,439	44.3	14.7	18.4	4.2	18.2	0.2
	June	156,027	43.3	14.7	20.3	4.4	17.1	0.2
	July	177,797	42.9	15.6	20.9	5.6	14.8	0.2
	August	173,699	43.1	15.6	20.3	7.0	13.8	0.2
	September	152,083	42.9	16.4	19.3	7.1	14.1	0.2
	October	151,786	44.3	16.7	18.6	7.0	13.2	0.2
	November	149,581	44.9	18.4	15.2	7.2	14.1	0.2
	December	159,309	45.6	19.3	12.4	8.1	14.4	0.2
1975	January	163,498	45.8	18.7	12.1	8.1	15.2	0.1
	February	146,338	46.0	17.0	12.3	8.3	16.3	0.1
	March	154,932	44.6	15.0	12.9	9.2	18.1	0.2
	April	145,287	44.2	14.6	14.0	8.7	18.3	0.2
	May	151,168	42.5	13.9	16.9	8.2	18.3	0.2
	June	R159,963	43.4	14.3	18.0	7.2	16.9	0.2

Total Production



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

R=Revised data.

Sources: Federal Power Commission.

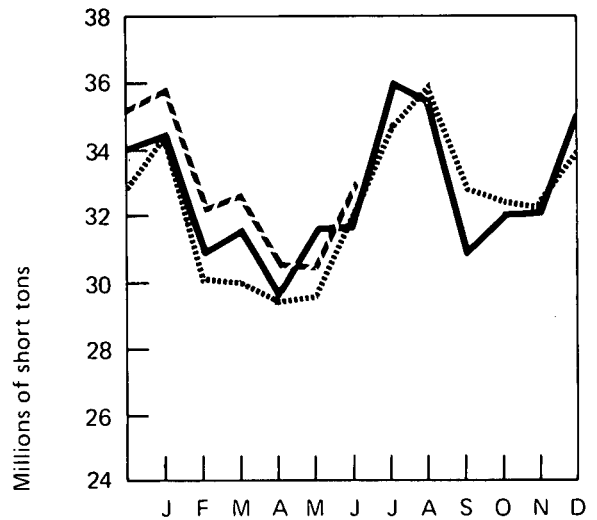
Production data for latest month are from Edison Electric Institute.

### Fuel Consumption

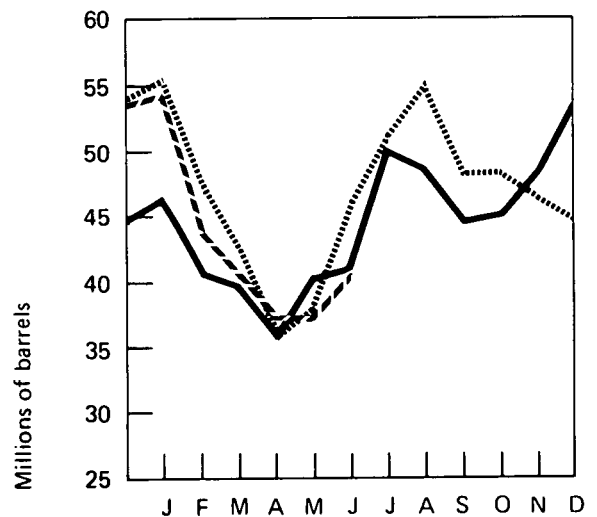
	Coal	Oil	Gas
	In thousands of short tons	In thousands of barrels	In millions of cubic feet
<b>1972</b>			
January	30,231	46,555	251,029
February	28,946	43,325	258,859
March	28,472	38,809	294,804
April	26,093	32,325	312,229
May	26,823	32,106	351,543
June	27,749	35,098	394,585
July	30,214	40,646	433,533
August	31,651	41,073	448,594
September	28,988	38,723	398,799
October	29,133	42,876	337,567
November	29,926	47,914	262,447
December	32,817	54,479	234,683
<b>1973</b>			
January	34,591	55,773	219,270
February	30,921	46,978	212,983
March	30,746	42,701	255,314
April	29,209	35,845	267,151
May	29,683	38,097	316,989
June	R31,951	R46,421	R371,221
July	R34,863	R51,352	R422,396
August	R36,093	R55,356	R419,507
September	R32,814	R48,103	R353,040
October	R32,470	R48,188	R328,630
November	R32,154	R46,420	R252,341
December	R34,141	R44,850	R216,988
<b>1974</b>			
January	34,599	46,745	219,338
February	30,857	40,687	201,587
March	31,638	39,645	254,175
April	29,679	35,959	259,313
May	31,700	40,831	306,945
June	31,719	41,227	346,584
July	36,111	50,119	403,391
August	35,555	48,970	380,585
September	30,989	44,550	313,079
October	32,127	45,268	298,109
November	32,211	48,525	238,908
December	35,176	53,648	207,095
<b>1975</b>			
January	35,853	54,169	204,931
February	32,104	43,670	188,684
March	32,783	40,399	210,283
April	30,452	37,099	213,580
May	30,410	37,015	271,790
June	33,058	40,791	306,147

..... 1973  
 — 1974  
 - - - 1975

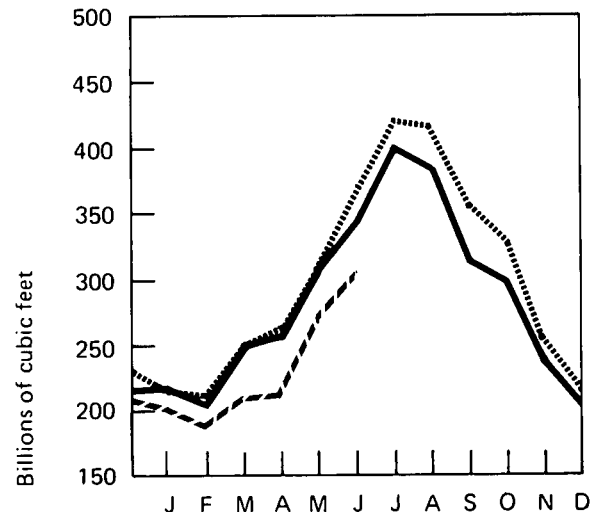
### Coal Consumption



### Oil Consumption



### Gas Consumption



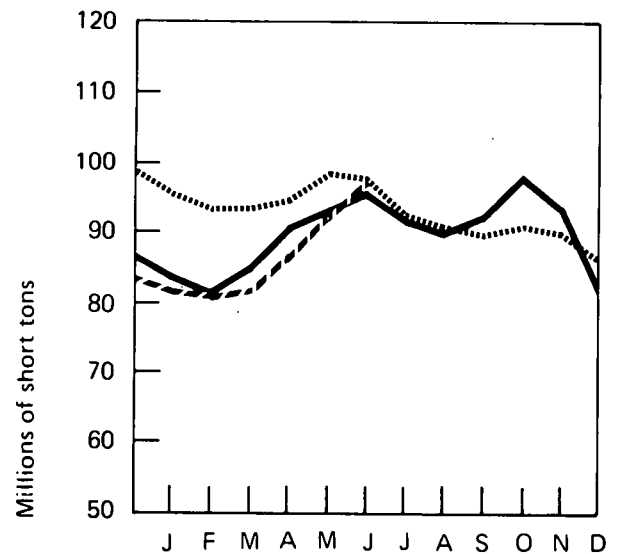
Source: Federal Power Commission.

## Electric Utilities (Continued)

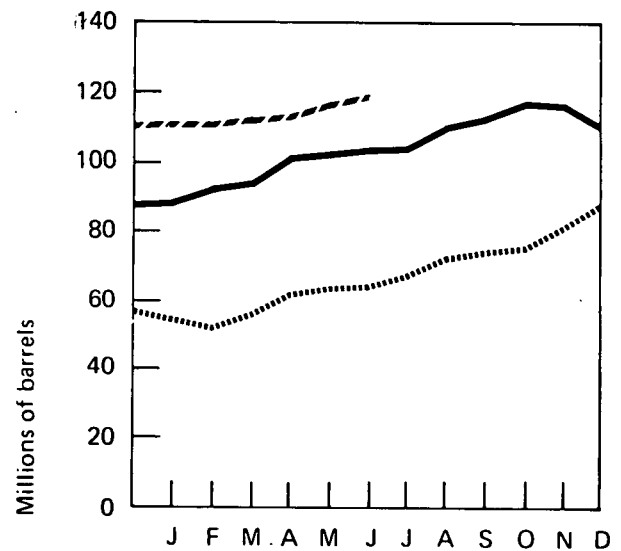
### Stocks at End of Month

		Coal	Oil
		In thousands of short tons	In thousands of barrels
1972	January	76,876	46,055
	February	77,138	47,111
	March	80,296	52,213
	April	84,984	55,730
	May	91,778	57,399
	June	96,553	58,815
	July	93,760	60,786
	August	96,611	66,024
	September	98,396	66,004
	October	102,205	65,531
	November	102,477	62,067
	December	98,671	57,686
1973	January	95,017	53,691
	February	92,993	50,858
	March	93,986	54,885
	April	94,991	62,411
	May	98,722	64,259
	June	97,995	65,003
	July	92,215	67,987
	August	91,356	73,259
	September	90,156	74,863
	October	91,428	76,343
	November	90,369	81,224
	December	86,880	88,228
1974	January	83,366	89,053
	February	80,962	92,645
	March	84,257	94,187
	April	90,901	100,210
	May	93,628	103,606
	June	95,811	104,316
	July	91,616	105,919
	August	89,691	110,997
	September	92,704	113,570
	October	98,373	117,564
	November	93,825	116,558
	December	83,652	111,990
1975	January	81,429	110,304
	February	81,065	111,581
	March	81,872	113,377
	April	86,656	113,930
	May	93,027	116,940
	June	97,834	119,653

### Coal Stocks



### Oil Stocks



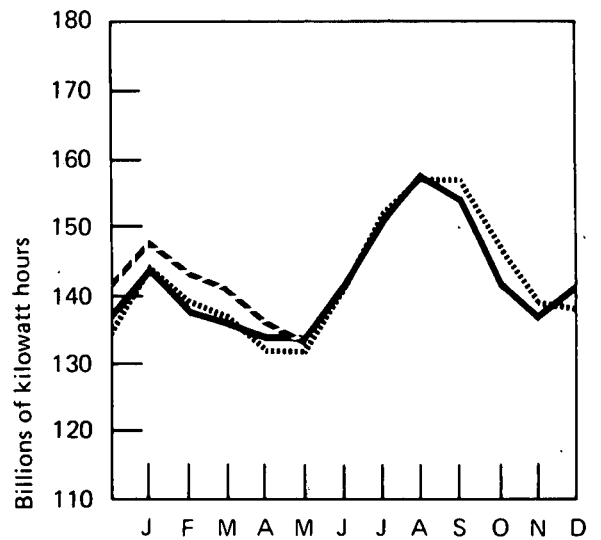
..... 1973  
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 - - - 1975

Source: Federal Power Commission.

# Sales

		Residential	Commercial	Industrial	Other*	Total
		In millions of kilowatt hours				
1972	January	46,353	27,965	50,526	4,579	129,423
	February	45,652	27,921	50,552	4,619	128,744
	March	43,559	27,856	52,086	4,606	128,107
	April	40,460	27,765	51,992	4,422	124,639
	May	38,044	27,983	53,489	4,430	123,946
	June	41,213	30,257	53,673	4,469	129,612
	July	47,813	32,211	52,702	4,666	137,392
	August	51,463	33,535	55,023	4,723	144,744
	September	50,888	33,522	55,548	4,928	144,886
	October	44,352	31,068	56,213	4,823	136,456
	November	41,672	29,426	55,251	4,986	131,335
	December	47,139	29,764	53,923	5,060	135,886
1973	January	52,840	31,182	55,274	5,209	144,505
	February	49,601	30,445	54,591	4,909	139,546
	March	46,315	30,100	55,866	4,822	137,103
	April	41,821	29,038	55,937	4,571	131,367
	May	39,825	30,060	56,838	4,638	131,361
	June	44,967	33,194	57,368	4,764	140,293
	July	54,123	36,147	57,152	5,140	152,562
	August	56,742	36,820	58,865	5,054	157,481
	September	56,210	36,711	59,178	5,211	157,310
	October	47,207	33,289	60,514	5,032	146,042
	November	43,175	31,363	58,464	5,085	138,087
	December	46,442	29,788	56,190	4,896	137,316
1974	January	52,846	30,608	55,754	4,995	144,203
	February	47,832	29,542	54,978	4,708	137,060
	March	46,154	29,309	55,999	4,693	136,155
	April	43,294	28,986	56,497	4,610	133,387
	May	41,215	29,876	57,386	4,685	133,162
	June	46,596	32,800	58,077	4,641	142,114
	July	53,435	35,229	57,899	4,965	151,528
	August	56,558	36,414	59,803	5,069	157,844
	September	53,252	35,830	60,366	4,983	154,431
	October	44,177	32,112	60,053	4,792	141,134
	November	42,773	30,968	57,361	4,969	136,071
	December	50,368	31,757	53,878	4,974	140,977
1975	January	55,547	33,026	54,280	5,245	148,098
	February	52,185	32,441	53,142	4,984	142,752
	March	49,974	32,005	53,182	4,914	140,074
	April	46,883	31,335	52,526	4,737	135,481
	May	43,226	31,608	53,364	4,745	132,943

Total Sales



\*Includes street lighting and trolley cars.  
Source: Federal Power Commission.

.....1973  
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- - - 1975

## NUCLEAR POWER

The 47 nuclear powerplants in commercial operation performed at 63 percent of capacity in July, up from 54 percent in June. The average operating power level for these plants, at 19,999 net electrical megawatts, was a record high, exceeding the previous high of 19,091 megawatts in March 1975 by 4.8 percent. This sharp increase in the average power level was consistent with the normally high demand for electricity during the air-conditioning season.

The Fitzpatrick nuclear powerplant (821 net electrical megawatts), owned by Niagara Mohawk Power Corporation and located near Syracuse, New York, came into commercial operation on July 28. The Millstone 2 plant (830 net electrical megawatts), owned by the Northeast Nuclear Energy Company, was granted a fuel-loading license on August 1.

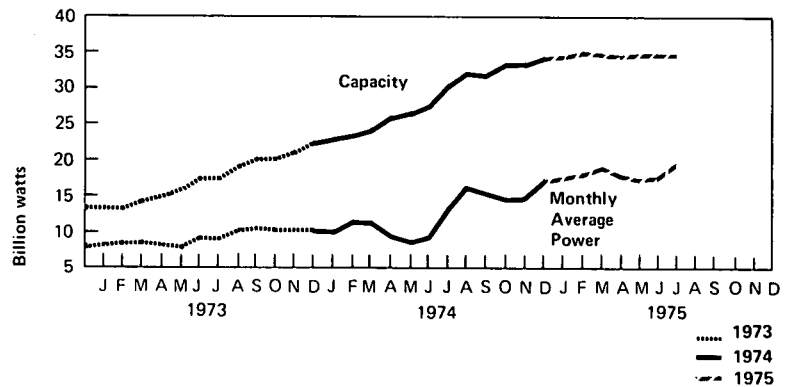
During the month, the Detroit Edison Company announced the cancellation of plans for construction of the Fermi 3 reactor (1,171 megawatts). This brought total cancellations since June 30, 1974, to 17 reactors, representing 19,867 megawatts of electrical capacity.

Enriched uranium deliveries in July were at the lowest monthly volume (227 metric tons) since the *Monthly Energy Review* began reporting this information in February 1975. The volume of enriched product declined to only 12 percent of the amount processed in June.

# U.S. Nuclear Powerplant Operations

	Capacity	Monthly Average Power	Percent of Total Domestic Electricity Generation
In net electrical megawatts			
<b>1972</b> January	8,896	5,720	2.9
February	8,896	5,165	2.6
March	9,400	5,750	3.0
April	10,200	5,124	2.7
May	10,680	3,918	2.1
June	11,350	5,375	2.6
July	12,138	6,227	2.9
August	12,138	7,742	3.5
September	12,138	6,589	3.2
October	13,594	6,539	3.2
November	13,594	7,475	3.7
December	13,594	8,125	3.9
<b>1973</b> January	13,594	8,395	3.9
February	13,594	8,821	4.1
March	14,382	8,991	4.5
April	15,253	8,161	4.2
May	16,126	7,657	R3.9
June	17,827	9,429	4.2
July	17,827	9,355	4.0
August	19,349	10,463	4.4
September	20,400	10,815	4.9
October	20,400	10,036	R4.9
November	21,271	11,308	R5.5
December	22,826	10,543	R5.3
<b>1974</b> January	23,156	10,194	4.8
February	23,926	11,992	5.6
March	24,455	11,715	5.8
April	26,012	9,826	4.9
May	26,820	8,791	4.2
June	27,898	9,740	4.4
July	30,524	13,577	5.6
August	32,195	16,442	7.0
September	31,759	15,159	7.1
October	33,614	14,409	7.1
November	33,630	14,528	7.2
December	34,467	17,375	8.1
<b>1975</b> January	34,841	17,843	8.1
February	35,049	18,063	8.3
March	34,836	19,091	9.2
April	34,167	17,516	8.7
May	34,167	16,903	8.2
June	R34,472	17,207	7.9
July	*34,472	*19,999	*8.5

U.S. Nuclear Powerplants



\*Preliminary data.

R=Revised data.

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

## Status of Nuclear Powerplants — August 1, 1975

Status	Number of Plants					Capacity
	Boiling Water Reactors	High-Temperature Gas Reactors	Pressurized Water Reactors	Other*	Total	In Electrical Megawatts
Licensed to operate	23	1	30	0	54	37,000
Construction permit granted	19	0	43	0	62	62,000
Construction permit pending	22	4	49	1	76	84,000
Orders placed for plant	10	0	20	0	30	35,000
Publicly announced	—	—	—	19	19	24,000
Total	74	5	142	20	241	242,000

\*Includes 1 Liquid Metal Fast Breeder Reactor and 19 announced intentions to order for which a reactor type has not been chosen.

Source: U.S. Nuclear Regulatory Commission.

## U.S. Uranium Enrichment — July 1975

	Domestic Customers	Foreign Customers	Total
Separative Work Performed (in metric tons of separative work units)	134,238	93,047	227,285
Cost (in millions of dollars)	6.551	3.906	10.457
Product Quantity (in metric tons of uranium)	36,579	31,629	68,208
Average Enrichment (in percent U-235)	2.806	2.355	2.597
Feed Requirement (in metric tons of uranium)	178,728	133,410	312,138

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

## Commercial Nuclear Power Generation by Major Non-Communist Countries — June and July 1975

Country	Number of Reactors	Capacity In gross electrical megawatts	Generation of Electricity				
			Generation		Percent of Capacity		
			June	July	June	July	Year 1974
			In billions of gross kilowatt hours				
Canada	5	2,380	0.89	0.93	50	53	74
Federal Republic of Germany	7	3,450	1.21	1.99	47	78	57
France	10	3,070	1.12	1.51	49	66	57
Great Britain	29	6,140	*1.90	**1.88	*43	**41	61
India	3	620	0.34	0.19	74	41	55
Italy	3	630	0.29	0.30	63	64	61
Japan	8	3,890	0.69	1.02	25	35	61
Spain	3	1,120	0.65	0.74	78	89	75
Sweden	5	3,310	0.39	0.70	17	28	20
Switzerland	3	1,050	0.49	0.46	63	59	76
United States	52	37,330	13.27	16.29	49	59	57
Total	128	62,990	21.24	26.01	47	56	58

\*For certain reactors, generation for June was calculated by averaging 5-week operating statistics over a 30-day period.

\*\*For certain reactors, generation for July was calculated by averaging 4-week operating statistics over a 31-day period.

Source: Nucleonics Week Magazine.



# Summary of Monthly Nuclear Fuel Cycle – June 1975

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†
		In MTU except where noted		In billion Btu		In mills per kilowatt hour
Milling	Yellowcake (U <sub>3</sub> O <sub>8</sub> ) Deliveries	611	42	209,000	313	0.54
Conversion	Uranium Hexafluoride (UF <sub>6</sub> ) Deliveries	307	22	104,000	65	0.07
Enrichment	Enriched UF <sub>6</sub> Deliveries	451 (1,918 MT-SWU)	++	786,000	47,258	0.86
Fabrication	Finished Fuel Assemblies Produced	29	12	59,000	46	0.46
Powerplant Operation	New Fuel Receipts	128	—	—	—	—
	Electricity Generated	13,271 (billion kWh)	.54	142,000	1,818	8.37
	Spent Fuel Discharged	0	—	—	—	—
Reprocessing	Spent Fuel Received	8	—	—	—	0.02
	Spent Fuel Reprocessed	0	—	—	—	—

\*Units of measure are discussed in Explanatory Notes 7 and 8.

\*\*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 80 percent capacity factor, given in U.S.A.E.C. Report No.WASH 1174-74. Because of the long lead time required for nuclear fuel processing, the sum of the numbers in this column does not necessarily reflect the fuel cost of current electricity production.

††ERDA's enrichment plants are presently operating at maximum utilization of available electric power, with the excess production being placed in the "preproduction stockpile" in anticipation of high demand for enriched uranium in the 1980's.

Source: FEA.

## ENERGY CONSUMPTION

Domestic energy consumption in June 1975 totaled 5.395 quadrillion Btu, 3.2 percent below the June 1974 level of 5.573. No sectoral breakdown is available for the month as yet.

The revised consumption total for May was 5.440 quadrillion Btu, of which 1.959 quadrillion Btu was consumed by the Residential and Commercial Sector, up 1.5 percent from May 1974. Direct consumption of primary fuels amounted to 51.8 percent of total sector consumption (coal was 0.6 percent, dry natural gas, 27.0 percent, and petroleum products, 24.2 percent). Consumption of electricity accounted for the remaining 48.2 percent.

The Industrial Sector consumed 1.942 quadrillion Btu in May 1975, down 15.2 percent from May 1974. Coal accounted for 17.2 percent of the 1975 figure, 27.2 percent was dry natural gas, 22.3 percent was petroleum products, and 33.2 percent was electricity.

Consumption in the Transportation Sector was 1.539 quadrillion Btu, down 0.5 percent from May 1974. Petroleum products comprised 96.4 percent of the total. Natural gas consumed by pipelines and electricity used by railroads and for street and highway lighting accounted for the balance.

## PETROLEUM CONSUMPTION AND FORECAST

Total demand for petroleum products during July was 15.86 million barrels per day. This was 180,000 barrels per day above the forecast level, but 440,000 barrels per day below the level for the same month last year and 510,000 below 1973.

Domestic demand for motor gasoline during July was 6.91 million barrels per day, which was 200,000 barrels per day, or 2.8 percent, below the forecast level of 7.11 million barrels per day.

Domestic demand for distillate fuel oil during July dropped to 2.16 million barrels per day. This was 40,000 barrels per day, or 1.8 percent, below the forecast level.

Domestic demand for residual fuel oil during July was 2.14 million barrels per day, which was 240,000 barrels per day, or 12.6 percent, above the forecast level of 1.90 million barrels per day, but 290,000 barrels per day below the same period last year.

# Energy Consumption

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

		Coal	Natural Gas (dry)	Petroleum <sup>2</sup>	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
In quadrillion (10 <sup>15</sup> ) Btu								
1973	January	0.038	1.277	0.707	0.299	0.713	3.033	3.033
	February	0.032	1.131	0.653	0.285	0.610	2.711	5.744
	March	0.025	0.940	0.620	0.272	0.629	2.486	8.229
	April	0.016	0.755	0.527	0.253	0.569	2.120	10.349
	May	0.017	0.543	0.562	0.250	0.612	1.983	12.332
	June	0.017	0.350	0.510	0.279	0.710	1.865	14.179
	July	0.017	0.270	0.504	0.321	0.808	1.920	16.117
	August	0.018	0.243	0.560	0.332	0.873	2.027	18.143
	September	0.024	0.269	0.539	0.330	0.732	1.894	20.037
	October	0.028	0.339	0.592	0.287	0.650	1.897	21.934
	November	0.031	0.617	0.662	0.267	0.602	2.179	24.113
	December	0.033	0.897	0.648	0.271	0.664	2.514	26.627
	TOTAL	0.295	7.632	7.083	3.445	8.172	26.627	
1974	January	0.041	1.245	0.664	0.296	0.705	2.951	2.951
	February	0.035	1.049	0.593	0.275	0.611	2.563	5.513
	March	0.028	0.934	0.568	0.269	0.644	2.442	7.955
	April	0.019	0.750	0.532	0.258	0.597	2.156	10.110
	May	0.017	0.504	0.499	0.254	0.657	1.930	12.040
	June	0.016	0.340	0.510	0.282	0.694	1.841	13.881
	July	0.015	0.280	0.506	0.315	0.846	1.962	15.843
	August	0.021	0.246	0.522	0.330	0.818	1.936	17.779
	September	0.026	0.276	0.513	0.316	0.659	1.791	19.570
	October	0.028	0.412	0.591	0.272	0.641	1.944	21.513
	November	0.028	0.603	0.575	0.263	0.643	2.113	23.626
	December	0.032	0.996	0.630	0.292	0.744	2.693	26.319
	TOTAL	0.306	7.634	6.701	3.420	8.258	26.319	
1975	January	0.036	1.210	0.651	0.315	0.771	2.984	2.984
	February	0.023	1.127	0.556	0.300	0.661	2.668	5.651
	March	0.025	1.058	R0.565	0.291	0.710	R2.649	R8.301
	April	0.011	0.902	0.523	0.278	0.649	2.363	R10.664
	May	0.011	0.529	0.475	0.267	0.678	1.959	12.623
	TOTAL	0.107	4.826	2.770	1.451	3.469	12.623	

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

		Coal	Natural Gas (dry)	Petroleum <sup>3</sup>	Hydroelectric	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
		In quadrillion (10 <sup>15</sup> ) Btu							
1973	January	0.393	0.812	0.640	0.003	0.189	0.449	2.486	2.486
	February	0.362	0.746	0.591	0.003	0.186	0.399	2.286	4.772
	March	0.369	0.787	0.561	0.003	0.191	0.441	2.351	7.124
	April	0.363	0.783	0.477	0.003	0.191	0.430	2.247	9.370
	May	0.369	0.843	0.508	0.003	0.194	0.475	2.392	11.762
	June	0.351	0.799	0.461	0.003	0.196	0.499	2.309	14.071
	July	0.345	0.852	0.456	0.003	0.195	0.490	2.342	16.413
	August	0.340	0.836	0.507	0.003	0.201	0.528	2.416	18.829
	September	0.329	0.818	0.488	0.003	0.202	0.448	2.288	21.117
	October	0.363	1.016	0.536	0.003	0.206	0.468	2.592	23.709
	November	0.374	1.010	0.599	0.003	0.199	0.451	2.636	26.345
	December	0.412	1.031	0.586	0.003	0.192	0.469	2.693	29.038
	TOTAL	4.370	10.335	6.409	0.036	2.341	5.547	29.038	
1974	January	0.390	R0.737	0.605	0.003	0.190	0.452	R2.378	R2.378
	February	0.366	R0.776	0.541	0.003	0.188	0.417	R2.290	R4.668
	March	0.369	R0.790	0.518	0.003	0.191	0.458	R2.329	R6.997
	April	0.363	R0.660	0.485	0.003	0.193	0.446	R2.151	R9.148
	May	0.354	R0.778	0.455	0.003	0.196	0.506	R2.292	R11.439
	June	0.337	R0.737	0.465	0.003	0.198	0.487	R2.227	R13.666
	July	0.336	R0.815	0.462	0.003	0.198	0.531	R2.344	R16.010
	August	0.346	R0.867	0.476	0.003	0.204	0.506	R2.402	R18.412
	September	0.348	R0.930	0.468	0.003	0.206	0.430	R2.385	R20.797
	October	0.358	R0.975	0.539	0.003	0.205	0.484	R2.564	R23.360
	November	0.323	R0.962	0.525	0.003	0.196	0.478	R2.486	R25.846
	December	0.319	R0.874	0.575	0.003	0.184	0.469	R2.423	R28.270
	TOTAL	4.208	R9.901	6.111	0.036	2.348	5.665	R28.270	
1975	January	0.356	R0.680	0.594	0.003	0.185	0.454	R2.272	R2.272
	February	0.355	R0.601	0.507	0.003	0.181	0.399	R2.047	R4.320
	March	0.378	R0.611	R0.515	0.003	0.181	0.443	R2.131	R6.451
	April	0.353	R0.514	0.477	0.003	0.179	0.418	R1.944	R8.395
	May	0.333	0.529	0.433	0.003	0.182	0.463	1.942	10.337
	TOTAL	1.775	2.935	2.526	0.015	0.909	2.177	10.337	

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

		Coal	Natural Gas (dry) <sup>4</sup>	Petroleum	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
In quadrillion (10 <sup>15</sup> ) Btu								
1973	January	0.001	0.085	1.511	0.005	0.013	1.615	1.615
	February	0.001	0.076	1.417	0.005	0.011	1.510	3.125
	March	0.001	0.070	1.502	0.005	0.012	1.589	4.714
	April	0.001	0.062	1.412	0.005	0.010	1.490	6.204
	May	0.001	0.056	1.540	0.004	0.011	1.612	7.816
	June	0.001	0.047	1.471	0.004	0.011	1.534	9.350
	July	0.001	0.046	1.528	0.004	0.011	1.589	10.939
	August	0.001	0.044	1.588	0.005	0.012	1.649	12.589
	September	0.001	0.044	1.437	0.005	0.010	1.497	14.085
	October	0.001	0.055	1.520	0.005	0.011	1.592	15.677
	November	0.001	0.066	1.523	0.005	0.012	1.607	17.285
	December	0.001	0.078	1.491	0.005	0.013	1.589	18.873
	TOTAL	0.009	0.729	17.940	0.058	0.137	18.873	
1974	January	0.001	R0.072	1.398	0.005	0.013	R1.489	R1.489
	February	0.001	R0.066	1.300	0.005	0.011	1.384	R2.873
	March	0.001	R0.063	1.416	0.005	0.012	R1.496	R4.369
	April	0.001	R0.051	1.397	0.005	0.011	R1.465	R5.834
	May	0.001	R0.047	1.484	0.005	0.012	R1.548	R7.381
	June	0.001	R0.039	1.449	0.005	0.011	R1.505	R8.886
	July	0.001	R0.040	1.513	0.005	0.012	R1.570	R10.456
	August	0.001	R0.040	1.532	0.005	0.012	1.590	R12.046
	September	0.001	0.044	1.392	0.005	0.010	1.452	R13.498
	October	0.001	R0.050	1.506	0.005	0.012	R1.574	R15.073
	November	0.001	R0.057	1.453	0.005	0.013	R1.529	R16.602
	December	0.001	R0.068	1.546	0.006	0.014	R1.634	R18.236
	TOTAL	0.009	R0.636	17.386	0.060	0.144	R18.236	
1975	January	0.001	R0.069	1.499	0.006	0.014	1.587	1.587
	February	0.001	R0.063	1.334	0.005	0.012	R1.415	R3.002
	March	0.001	R0.061	R1.463	0.005	0.013	R1.543	R4.544
	April	0.001	R0.051	1.439	0.005	0.012	R1.507	R6.052
	May	0.001	0.038	1.483	0.005	0.012	1.539	7.591
	TOTAL	0.003	0.282	7.218	0.026	0.063	7.591	

<sup>1</sup> See Explanatory Note 9 for definitions of the Residential and Commercial, Industrial, and Transportation Sectors. The methodology used for the Sector Calculations is provided in the footnotes of the "Energy Consumption by Economic Sector and Primary Source" table on page 50. Printed totals may differ slightly from the sum of their row/column components due to independent rounding.

<sup>2</sup> The percentage share used in calculating Residential and Commercial consumption of petroleum was 52.5 percent for 1973 and 52.3 percent for 1974 and 1975.

<sup>3</sup> The percentage share used in calculating Industrial consumption of petroleum was 47.5 percent for 1973 and 47.7 percent for 1974 and 1975.

<sup>4</sup> The percentage share used in calculating Transportation consumption of natural gas was 3.9 percent for 1973 and 3.5 percent for 1974 and 1975.

R=Revised data.

## Energy Consumption (Continued)

Energy Consumption by Economic Sector and Primary Source — May 1975 [In quadrillion ( $10^{15}$ ) Btu]

Sector <sup>1</sup>	Primary Energy Source					Primary Energy Consumption
	Coal <sup>2</sup>	Natural Gas (dry) <sup>3</sup>	Petroleum <sup>4</sup>	Hydroelectric <sup>5</sup>	Nuclear <sup>6</sup>	
Residential and Commercial	0.011	0.529	0.475	—	—	1.014
Industrial	0.333	0.529	0.433	0.003	—	1.298
Transportation	0.001	0.038	1.483	—	( <sup>9</sup> )	1.522
Electric Utilities	0.672	0.277	0.227	0.298	0.132	1.606
TOTAL	1.016	1.373	2.618	0.301	0.132	5.440

<sup>1</sup> See Explanatory Note 9 for definitions of the Residential and Commercial, Industrial, Transportation, and Electric Utilities Sectors.

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

<sup>3</sup> Aggregate data are from the Bureau of Mines. FPC provided data on natural gas consumed by electric utilities. Data from the American Gas Association are used for the Residential and Commercial Sector. Natural gas used in transportation, mostly for pipeline use, is estimated to be 3.5% 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.

<sup>4</sup> Aggregate petroleum data are from the Federal Energy Administration. 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%; naphtha jet fuel - 100%; kerosine jet fuel - 97%; distillate fuel oil - 30.3%; residual fuel oil - 11.2%; all other products - 4.7%. 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%; Industrial - 47.7%.

<sup>5</sup> 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 1974.

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

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

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

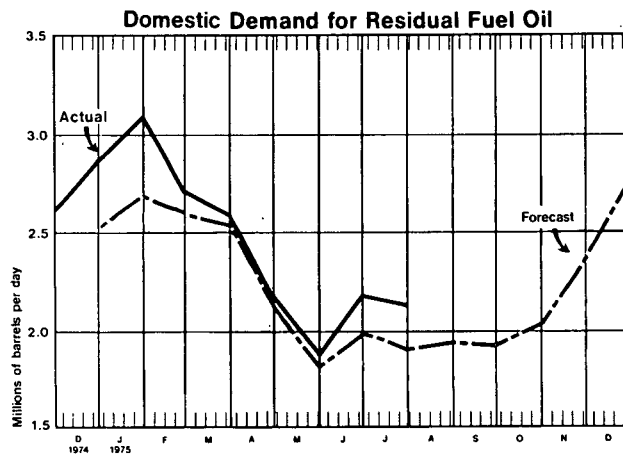
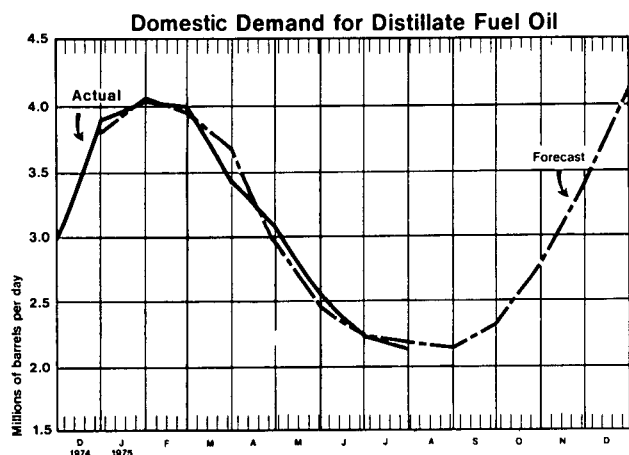
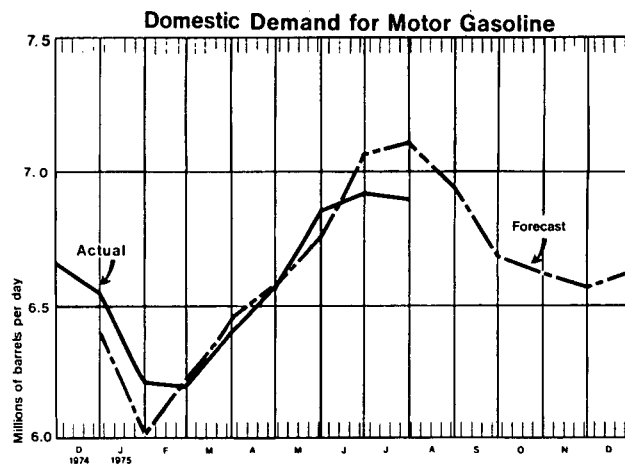
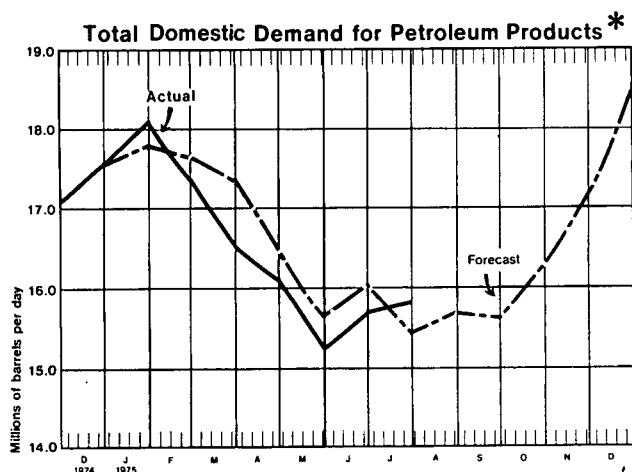
<sup>9</sup> Negligible.

Electricity Distributed <sup>7</sup>	Net Energy Consumption	Electrical Energy Loss Distributed <sup>8</sup>	Ultimate Energy Disposition
0.267	1.281	0.678	1.959
0.182	1.480	0.463	1.942
0.005	1.527	0.012	1.539
—	—	—	—
0.454	4.288	1.152	5.440

**Percent Changes in Energy Consumption for May 1975 by Source**

	May 1975 Consumption	Percent Change from May 1974	Cumulative Percent Change from 1974 (January through May)
	In quadrillion (10 <sup>15</sup> ) Btu		
<b>Refined Petroleum Products</b>	2.618	— 2.6	+ 0.8
Motor Gasoline	1.115	+ 1.6	+ 2.6
Jet Fuel	0.173	— 5.4	+ 8.7
Distillate	0.440	— 0.7	+ 5.1
Residual	0.372	—15.2	— 3.5
Other Petroleum Products	0.518	— 3.3	— 5.4
<b>Natural Gas (Dry)</b>	1.373	—16.4	— 6.5
<b>Coal (Anthracite, bituminous, and lignite)</b>	1.016	— 4.6	+ 0.1
<b>Electricity (Sales)</b>	0.454	— 0.2	+ 2.2
<b>Total Energy Use</b>	5.440	— 5.7	— 1.0
<b>Economic Sector Consumption</b>			
Residential and Commercial	1.959	+ 1.5	+ 4.8
Industrial	1.942	—15.2	— 9.6
Transportation	1.539	— 0.5	+ 2.8

# Petroleum Consumption and Forecast



\*See Explanatory Note 10.

## 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 FEA, are substantial for some products.
- Actuals** — Based on FEA data.
- Forecast** — Forecast petroleum product demand assumes normal weather conditions and projected economic activity. The forecast is periodically revised to take into account actual weather conditions and actual values of other predictor variables as they become available.

# Part 6

# Resource Development

## OIL AND GAS EXPLORATION

An average of 1,616 rotary rigs was engaged in drilling for oil and gas in July, 3 more than in June, and 136 more (9.2 percent) than in July 1974.

Total wells drilled during the month were up 15.0 percent over the number drilled last July. Oil wells posted the largest gain (21.9 percent), and gas wells were up a nearly equal amount (20.8 percent). This was the first time since March 1975 that the number of gas wells brought in exceeded the number for the same month of 1974. Dry holes showed a 4.1-percent increase over July 1974.

The average number of seismic crews prospecting for oil and gas declined by 3 during July to a level comparable with that for May. Of the 286 total crews in operation, 249 were land crews and 37 were marine. Last July there were 334 active crews (299 land and 35 marine).

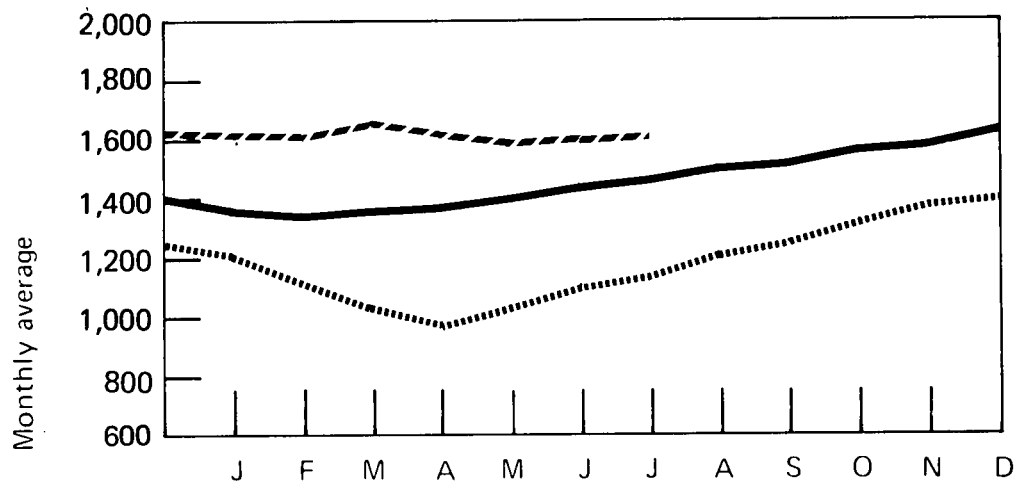


# Oil and Gas Exploration

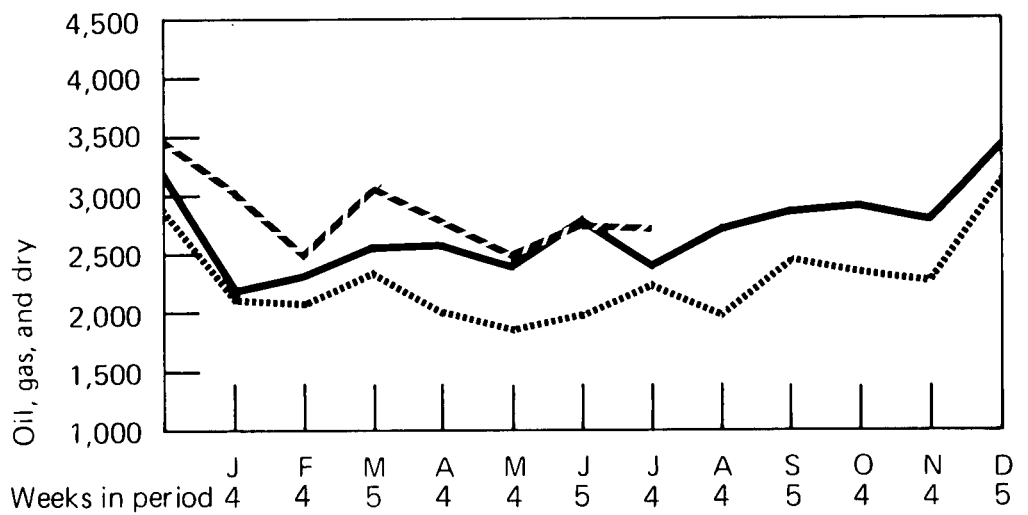
		Rotary Rigs in Operation	Wells Drilled				Total Footage of Wells Drilled
		Monthly average	Oil	Gas	Dry	Total	
1972	January	1,147	807	281	851	1,939	9,441,238
	February	1,071	965	350	955	2,270	12,381,669
	March	1,034	1,210	394	889	2,493	12,406,433
	April	1,002	923	355	788	2,066	9,902,253
	May	1,005	920	332	816	2,068	10,218,488
	June	1,049	1,042	395	903	2,340	11,009,513
	July	1,104	833	335	795	1,963	9,212,931
	August	1,130	946	410	924	2,280	11,334,867
	September	1,152	1,065	468	1,009	2,542	11,634,026
	October	1,165	792	539	919	2,250	10,944,312
	November	1,186	860	535	975	2,370	12,360,912
	December	1,241	985	536	1,290	2,811	14,190,138
1973	January	1,219	758	406	899	2,063	10,972,665
	February	1,126	777	487	765	2,029	10,655,936
	March	1,049	953	504	909	2,366	12,317,756
	April	993	699	489	777	1,965	10,433,987
	May	1,046	749	407	647	1,803	9,622,110
	June	1,118	767	432	795	1,994	10,814,600
	July	1,155	912	504	840	2,256	10,995,939
	August	1,222	724	456	739	1,919	9,632,819
	September	1,266	854	690	940	2,484	12,075,280
	October	1,334	790	554	958	2,302	11,693,672
	November	1,390	822	606	865	2,293	11,823,350
	December	1,405	1,087	827	1,208	3,122	15,529,582
1974	January	1,372	763	577	803	2,143	10,391,797
	February	1,355	901	600	816	2,317	12,160,308
	March	1,367	936	638	1,003	2,577	12,844,135
	April	1,381	947	700	945	2,592	13,349,007
	May	1,412	957	520	870	2,347	11,459,595
	June	1,432	1,238	586	982	2,806	12,976,388
	July	1,480	1,008	461	884	2,353	11,801,777
	August	1,518	1,210	555	968	2,733	12,409,855
	September	1,527	1,200	600	1,091	2,891	12,676,090
	October	1,584	1,131	551	1,241	2,923	14,080,534
	November	1,596	1,088	626	1,053	2,767	11,794,937
	December	1,643	1,339	791	1,274	3,404	15,707,092
1975	January	1,615	1,299	655	1,040	2,994	13,189,222
	February	1,611	1,097	458	933	2,488	12,070,712
	March	1,651	1,341	658	1,091	3,090	15,472,260
	April	1,604	1,181	506	1,071	2,758	13,544,705
	May	1,592	1,100	451	891	2,442	12,054,485
	June	1,613	1,246	509	1,022	2,777	13,539,783
	July	1,616	1,229	557	920	2,706	12,545,391

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

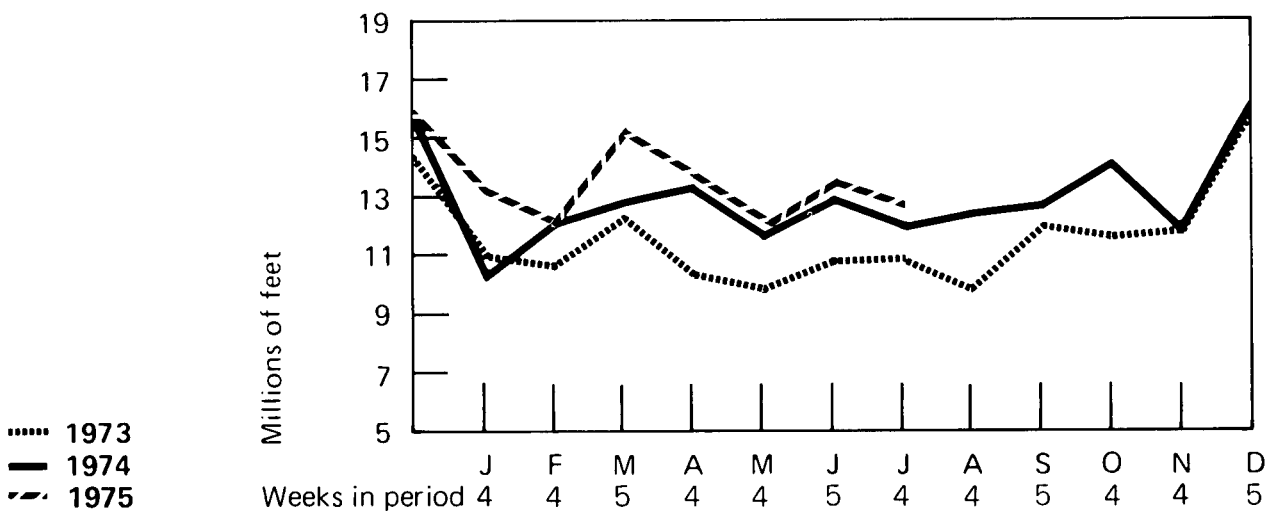
### Rotary Rigs in Operation



### Total Wells Drilled



### Total Footage of Wells Drilled

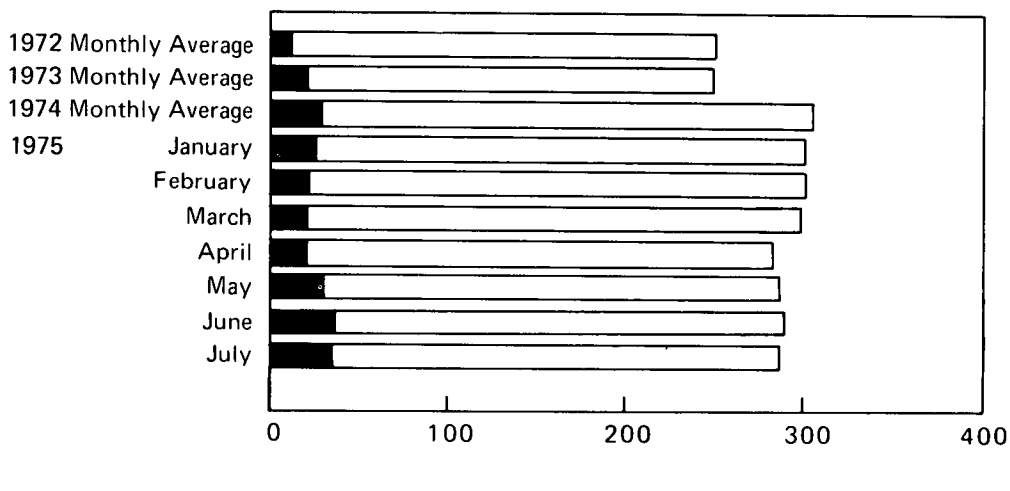


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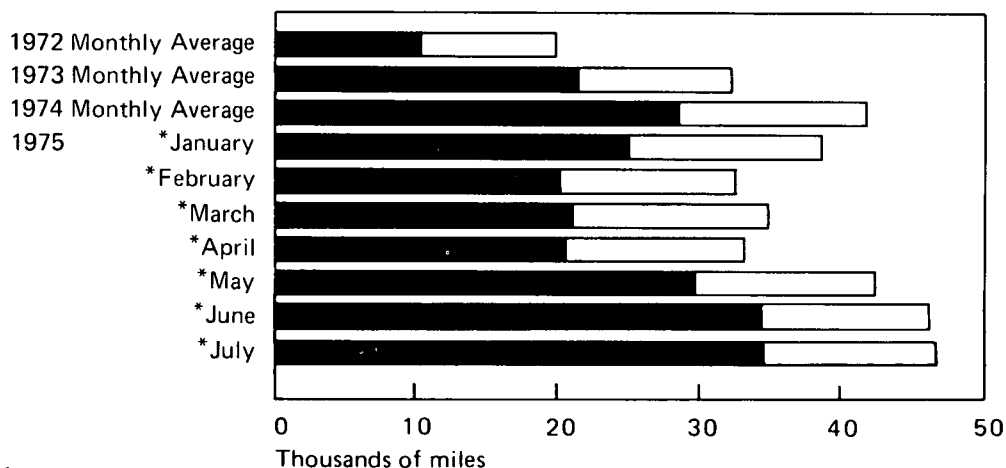
# Oil and Gas Exploration (Continued)

	Crews Engaged in Seismic Exploration			Line Miles of Seismic Exploration		
	Offshore	Onshore	Total	Offshore	Onshore	Total
1972 Monthly Average	12	239	251	10,306	9,333	19,639
1973 Monthly Average	23	227	250	21,579	10,597	32,175
1974 Monthly Average	31	274	305	28,482	13,219	41,701
					Estimates*	
May	35	278	313	32,550	13,677	46,227
June	38	279	317	34,200	13,283	47,483
July	35	299	334	32,550	14,710	47,260
August	34	287	321	31,620	14,120	45,740
September	34	287	321	30,600	13,664	44,264
October	32	288	320	29,760	14,169	43,929
November	30	276	306	27,000	13,140	40,140
December	25	275	300	23,250	13,529	36,779
1975						
January	27	274	301	25,110	13,480	38,590
February	24	278	302	20,160	12,353	32,513
March	23	276	299	21,390	13,578	34,968
April	23	260	283	20,700	12,379	33,079
May	32	254	286	29,760	12,496	42,256
June	38	251	289	34,200	11,950	46,150
July	37	249	286	34,410	12,250	46,660

Crews Engaged in Seismic Exploration



Line Miles of Seismic Exploration



\*See Explanatory Note 11.

Source: Society of Exploration Geophysicists.

## MOTOR GASOLINE

The average nationwide selling price of regular gasoline advanced during July by 3.1 cents per gallon to 58.7 cents. Most of the increase was due to a 2.8-cent-per-gallon increase in the wholesale price, as refiners passed through their increased costs resulting from the second \$1-per-barrel crude oil import fee imposed on June 1. The wholesale price now stands at 50.3 cents per gallon. The remainder of the retail price increase can be attributed to a 0.3-cent increase in the dealer margin. This was the first time that the dealer margin increased since it began declining in April 1974.

Retailers of independent brand gasoline increased their selling prices by a greater amount than did the major brand dealers (3.3 cents versus 2.9 cents). The large increase in the selling price of independent brand dealers was necessitated by a 4.2-cent increase in their wholesale costs. Independent dealer margins declined by 0.9 cent per gallon, while major brand margins advanced 0.5 cent per gallon.

FEA's monthly survey of 21 of the Nation's largest marketers of gasoline indicated that 20 of them increased their prices during July while 1 did not change its prices. The increases ranged from 0.8 cent to 4.0 cents per gallon.

## HEATING OIL

FEA's monthly survey of 21 of the Nation's largest producers of heating oil indicated 9 of them increased prices in July while the remainder held prices constant.

## NATURAL GAS

During July the average retail price of natural gas sold to residential users was 151.1 cents per thousand cubic feet, 1.0 cent below the June level.

## CRUDE OIL

During June, the average domestic "new" oil price was \$11.73 per barrel, 4 cents above the revised April price.

The preliminary June estimate for the refiner acquisition cost of imported crude petroleum was \$14.15 per barrel, 88 cents above the revised May figure of \$13.27 per barrel. This increase reflects the additional \$1 import fee imposed on June 1.

The preliminary estimate for the average cost of domestic crude purchased by refiners during June was \$8.38 per barrel, 5 cents above the revised May figure.

The preliminary estimate for the composite cost of crude petroleum purchased by refiners during June was \$10.23 per barrel, 44 cents above the revised May figure of \$9.79 cents per barrel. This was the highest average price ever paid by refiners for crude petroleum.

## UTILITY FOSSIL FUELS

The national average cost of fossil fuels delivered to utilities during April was 101.5 cents per million Btu, 2.7 cents below the level for March. Most of this decrease can be attributed to a decline in the percentage of fuel oil purchased by utilities and an increase in the percentage of coal purchases. Coal costs less than half of what fuel oil costs on a Btu basis.

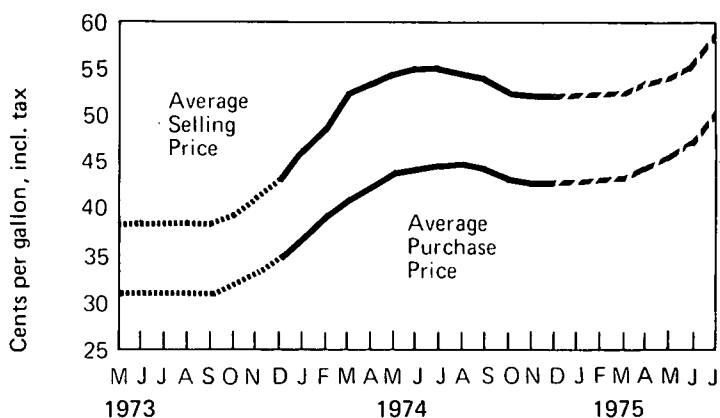
The National average cost of coal declined 0.1 cent during April to 80.5 cents per million Btu. Spot prices continued their downward trend, but contract prices resumed their gradual advance. During the previous month, contract prices had declined for the first time since July 1973.

Nationally, residual fuel costs exhibited a substantial increase of 4.5 cents per million Btu. The two regions most severely affected were the East North Central and Pacific, where residual fuel costs posted increases of 20.0 and 19.7 cents per million Btu, respectively.

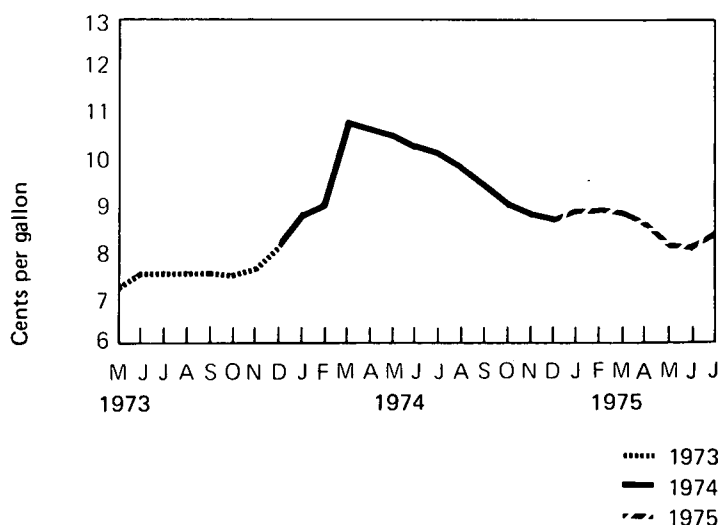
The national average cost of natural gas delivered to utilities rose 2.5 cents per million Btu during April, continuing a gradual upward trend. All regions, with the exception of the South Atlantic, incurred cost increases for natural gas.

# Motor Gasoline

Average Retail Prices For Regular



Average Margins For Regular



## Regular Gasoline at Retail Outlets

	Average Selling Price	Average Purchase Price	Average Dealer Margin
	Cents per gallon, including tax *		
1973 January	37.3	30.5	6.8
February	36.8	30.1	6.7
March	37.9	30.8	7.1
April	38.3	31.0	7.3
May	38.5	31.2	7.3
June	38.8	31.2	7.6
July	38.8	31.2	7.6
August	38.8	31.2	7.6
September	38.7	31.1	7.6
October	39.7	32.2	7.5
November	41.3	33.6	7.7
December	43.3	35.1	8.2
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
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

\*To derive prices excluding taxes, 12.0 cents per gallon may be deducted for 1973 and 12.2 cents per gallon may be deducted for 1974 and 1975.

Sources: Platts Oilgram through September 1973. FEA from October 1973 through December 1974. Lundberg Survey, Inc., from January 1975 forward.

### Average Selling Prices at Major and Independent Retail Outlets — July 25, 1975

	Cents per gallon, including tax
Regular Gasoline	
Major	59.2
Independent	55.6
National Average	58.7
Premium Gasoline	
Major	63.6
Independent	59.6
National Average	63.1
Diesel Fuel*	
Truck Stops	
Major	51.9
Independent	50.4
National Average	51.2
Service Stations	
Major	54.0
Independent	51.1
National Average	52.4

\*See Explanatory Note 12.  
Source: Lundberg Survey, Inc.

### Average Margins for Major and Independent Retail Dealers — July 25, 1975

	Cents per gallon
Regular Gasoline	
Major	8.8
Independent	6.1
National Average	8.4
Diesel Fuel*	
Truck Stops	
Major	5.4
Independent	9.2
National Average	7.3
Service Stations	
Major	7.9
Independent	9.5
National Average	8.2

\*See Explanatory Note 12.  
Source: Lundberg Survey, Inc.

### Average Regional Retail Selling Prices and Dealer Margins for Regular Gasoline — July 25, 1975

FEA Region	Selling Price	Margin
	Cents per gallon, including tax	
1A New England	57.5	7.6
1B Mid Atlantic	59.9	8.0
1C Lower Atlantic	59.1	8.6
2 Mid Continent	58.7	8.0
3 Gulf Coast	56.3	9.5
4 Rocky Mountain	58.9	9.5
5 West Coast	59.3	8.3
National Average	58.7	8.4

Source: Lundberg Survey, Inc.

## Motor Gasoline (Continued)

### Retail Gasoline Price Changes for Major Oil Companies During July 1975 and Entitlement Position\* During June

Company	Effective Date of Change	Amount of Change Cents per gallon	Entitlement Position (June)
Amerada Hess	July 4	2.00	Seller
American Petrofina	July 2	4.00	Seller
Ashland	July 2	3.00	Seller
Atlantic Richfield	July 1	2.00	Seller
B.P.	July 3	3.00	Seller
Cities Service	July 3	1.50	Buyer
Champlin	July 1	2.50	Buyer
Continental	July 3	3.00	Buyer
Exxon	July 26	1.00	Buyer
Getty	July 3	3.00	Seller
Gulf	July 8	1.00	Buyer
Kerr-McGee	July 3	0.80	Buyer
Mobil	July 2	2.50	Buyer
Phillips	July 2	2.30 (west of Rockies)	Seller
	July 2	3.00 (east of Rockies)	
Shell	July 1	3.00	Buyer
Standard Oil of California	July 1	2.00	Seller
Standard Oil of Indiana	July 3	3.00	Buyer
Standard Oil of Ohio	July 3	3.00	Seller
Sun	July 2	2.00	Seller
Texaco	July 2	1.40	Seller
Union Oil of California		None	Buyer

\*See definitions.

Source: FEA.

### Major Brand Regular Gasoline, July 1975

Marketing Region	Retail DTW Price	Change from Previous Month	Branded Jobber Price	Change from Previous Month	Regional Jobber Margin	Change from Previous Month
Cents per gallon, excluding tax						
Northeast	38.81	2.05	34.41	2.04	4.40	0.01
Mid Atlantic	38.42	2.04	34.55	2.04	3.87	0
Southeast	37.68	1.86	33.87	1.87	3.81	-0.01
Central	39.07	1.84	34.91	1.84	4.16	0
Western	38.25	1.93	34.50	1.93	3.75	0
Southwest	37.41	1.79	33.41	1.78	4.00	0.01
Pacific	37.46	1.10	33.72	1.10	3.74	0
National Average	38.16	1.80	34.20	1.80	3.96	0

Source: FEA.

# Heating Oil

## Price Changes for Major Oil Companies During July 1975

Company	Effective Date	Amount of Change
		Cents per gallon
Amerada Hess		None
American Petrofina	July 3	1.00
Ashland		None
Atlantic Richfield		None
B.P.		None
Cities Service		None
Champlin	July 1	1.25
Continental		None
Exxon	July 26	0.60
Getty		None
Gulf	July 2	0.50
Kerr—McGee	July 3	2.00
Mobil	July 2	1.00
Phillips		None
Shell	July 1	1.00
Standard Oil of California		None
Standard Oil of Indiana	July 1	1.00
Standard Oil of Ohio		None
Sun		None
Texaco	July 4	1.00 (Far West)
Union Oil of California		None

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						
<b>1973</b> December	24.5	47.6	26.3	46.4	52.2	52.3
<b>1974</b> 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
<b>1975</b> 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

\* 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 In cents per thousand cubic feet
<b>1974</b> 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
<b>1975</b> January	137.9
February	141.3
March	142.7
April	147.1
May	150.1
June	152.1
July	151.1

Source: Bureau of Labor Statistics.

# Crude Oil

## Percentage of Domestic Production Sold at Controlled and Uncontrolled Prices

		Controlled	Uncontrolled		
		Old Oil	New Oil	Released	Stripper
1974	January	60	17	10	13
	February	62	15	10	13
	March	60	16	11	13
	April	60	16	11	13
	May	62	15	10	13
	June	63	15	9	13
	July	64	15	9	12
	August	66	14	8	12
	September	67	13	8	12
	October	66	14	8	12
	November	67	13	8	12
	December	66	14	8	12
1975	*January	58	19	10	12
	*February	61	17	9	12
	March	60	18	10	12

\*Total does not add to 100 due to rounding.

Source: FEA.

## Domestic Crude Petroleum Prices at the Wellhead

		Old	New
		Dollars per barrel	
1974	January	5.25	9.82
	February	5.25	9.87
	March	5.25	9.88
	April	5.25	9.88
	May	5.25	9.88
	June	5.25	9.95
	July	5.25	9.95
	August	5.25	9.98
	September	5.25	10.10
	October	5.25	10.74
	November	5.25	10.90
	December	5.25	11.08
1975	January	5.25	11.28
	February	5.25	11.39
	March	5.25	11.47
	April	5.25	11.64
	May	5.25	R11.69
	June	5.25	*11.73

\*Preliminary figure based on early reports.

R=Revised.

Source: FEA.

## Crude Oil (Continued)

### 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
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	R8.33	R13.27	R9.79
	June	*8.38	*14.15	*10.23

\*See Explanatory Note 13.

\*\*Preliminary data.

R=Revised data.

Source: FEA.

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

		Algeria	Canada	Indonesia	Iran	Nigeria	Saudi Arabia	U. A. Emirates	Venezuela
					Dollars per barrel				
1973	December	NA	6.32	6.42	6.37	8.54	5.49	NA	6.70
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

NA = Not available.

\*See Explanatory Note 13.

\*\*Does not include \$1.00 import fee imposed on February 1, 1975, nor the additional \$1.00 fee imposed on June 1.

Source: FEA.

# Utility Fossil Fuels

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

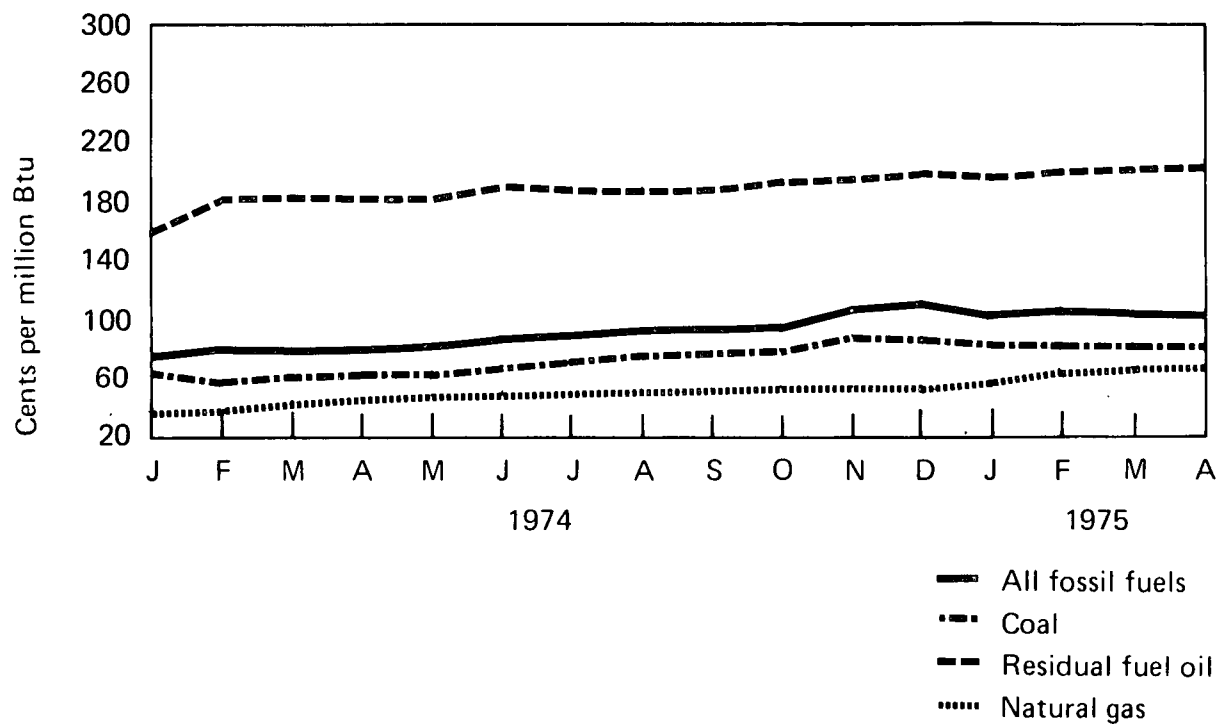
### All Fossil Fuels\*

Cents per million Btu

Region	1974												1975	
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	
New England	186.8	180.0	184.7	186.2	191.4	191.6	192.6	198.7	196.6	193.6	198.8	192.2	196.3	
Middle Atlantic	124.9	124.2	137.6	144.7	147.8	137.5	139.1	170.7	181.6	145.2	147.1	141.3	138.3	
East North Central	63.7	68.9	76.9	79.1	82.7	82.5	84.6	102.0	100.9	86.6	85.6	86.9	86.6	
West North Central	42.4	43.9	47.2	45.3	50.3	51.0	50.0	60.0	63.3	63.5	69.0	65.5	64.5	
South Atlantic	105.9	109.8	119.0	123.7	128.2	132.3	128.4	144.3	144.2	125.1	120.2	120.4	120.4	
East South Central	54.4	58.3	62.5	65.7	68.2	69.7	75.2	86.7	86.4	79.4	83.1	83.0	83.0	
West South Central	44.1	47.3	50.0	59.4	57.1	52.1	53.7	58.0	57.5	59.8	67.4	68.9	70.0	
Mountain	43.1	36.3	40.3	45.0	46.8	45.0	47.8	45.8	46.8	54.6	62.9	54.5	51.7	
Pacific	117.8	122.4	117.9	118.9	118.8	127.3	132.8	157.7	191.3	190.0	194.4	196.3	209.7	
National Average	81.1	81.2	87.7	92.2	95.4	95.9	97.7	111.3	114.7	104.3	106.4	104.2	101.5	

\*See Explanatory Note 14.

### National Average



## Coal

Cents per million Btu

Region	1974						1975						
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
New England	136.8	128.8	95.9	106.8	93.7	93.9	110.3	108.0	93.5	113.0	134.8	126.9	135.4
Middle Atlantic	80.8	79.3	88.6	94.3	97.4	95.2	94.6	117.4	114.4	99.1	104.7	99.7	98.2
East North Central	59.2	65.3	71.7	73.0	77.7	78.1	79.5	95.0	92.2	80.0	78.4	79.3	80.4
West North Central	41.0	41.7	42.0	44.0	48.3	50.5	48.7	57.0	56.0	56.7	57.9	59.4	60.9
South Atlantic	85.3	88.0	90.2	100.4	107.5	114.5	112.6	126.8	125.8	102.3	97.0	97.4	100.8
East South Central	52.7	54.2	57.9	57.7	61.6	64.1	69.7	77.8	80.7	76.3	79.5	80.1	80.1
West South Central	13.6	13.6	17.7	17.7	17.7	17.7	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Mountain	26.7	24.9	25.7	25.0	25.1	25.1	26.7	28.3	26.4	27.9	30.6	32.0	30.3
Pacific	35.3	35.6	35.5	37.8	38.3	39.0	38.5	38.6	38.5	38.4	57.7	57.2	56.8
National Average	64.0	65.8	69.5	72.9	77.3	79.1	80.9	90.3	88.9	80.9	81.7	80.6	80.5

## Residual Fuel Oil\*

Cents per million Btu

Region	1974						1975						
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
New England	199.4	193.1	201.1	199.2	201.8	199.8	202.0	207.5	207.5	202.5	204.1	204.3	202.9
Middle Atlantic	196.0	208.6	207.7	208.6	204.5	200.7	205.4	205.7	211.5	202.7	204.1	204.4	203.2
East North Central	183.6	138.7	198.2	182.7	164.4	161.5	161.3	167.1	164.6	144.9	165.0	163.4	183.1
West North Central	178.2	160.9	179.3	152.7	178.1	182.6	179.5	190.7	190.6	189.6	182.3	171.5	167.8
South Atlantic	172.8	174.9	181.5	178.7	178.9	179.3	183.3	182.2	182.2	180.9	181.6	186.8	188.9
East South Central	153.0	164.9	171.5	169.6	172.6	173.9	171.8	167.9	172.0	174.0	171.6	163.4	159.7
West South Central	159.4	152.1	161.1	187.5	179.3	108.8	186.0	179.7	171.7	177.1	178.2	175.8	191.5
Mountain	174.1	194.4	199.2	176.2	179.0	186.7	185.0	185.1	180.0	192.3	192.4	190.3	206.0
Pacific	180.8	188.7	202.5	204.9	220.3	222.3	223.8	219.5	233.0	223.6	235.0	241.1	261.1
National Average	186.5	188.1	194.9	194.2	194.6	194.3	198.2	198.9	202.1	197.7	202.0	204.8	209.3

## Natural Gas\*\*

Cents per million Btu

Region	1974						1975						
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
New England	116.4	116.3	124.7	138.7	141.2	132.5	NA	NA	NA	NA	NA	97.1	112.4
Middle Atlantic	59.5	59.3	77.3	85.2	74.2	80.5	64.8	70.0	64.3	86.1	84.5	82.4	101.7
East North Central	60.1	72.0	76.1	77.3	80.5	84.3	83.3	80.3	93.9	91.0	92.7	93.0	105.5
West North Central	41.2	41.8	41.7	42.1	43.3	43.8	43.0	44.8	42.3	43.6	43.8	51.5	54.5
South Atlantic	63.2	57.8	59.8	60.9	58.3	55.8	58.5	60.2	64.7	60.3	68.5	72.6	70.2
East South Central	50.7	50.5	52.8	63.3	58.9	71.2	74.3	76.9	87.8	76.2	79.5	82.2	82.7
West South Central	39.1	39.5	43.6	43.8	46.8	46.0	47.8	51.5	52.2	55.6	63.0	64.5	67.0
Mountain	48.3	48.8	49.2	50.8	49.5	52.1	55.7	56.6	70.7	66.9	66.7	63.7	67.4
Pacific	49.8	50.4	50.7	60.0	64.0	64.7	65.9	64.0	68.4	83.2	83.6	80.5	90.1
National Average	43.6	44.0	47.9	49.8	51.8	52.4	53.2	54.0	55.0	58.2	65.2	66.4	68.9

NA = Not available.

\*See Explanatory Note 14.

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

Source: Federal Power Commission.

## PETROLEUM CONSUMPTION

Beginning with this issue, petroleum consumption statistics for the major free world industrialized countries will be shown on a regular basis. Data for the IEA countries (the 18 signatory nations of the International Energy Agreement in Paris last year—Austria, Belgium, Canada, Denmark, Federal Republic of Germany, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States) indicated that these nations reduced their consumption from a high of 36.8 million barrels per day in February 1973 to 30.7 million barrels per day in March 1975, the last month for which complete data are available.

## CRUDE OIL PRODUCTION

In June Arab OPEC production of crude oil rose slightly from 15.3 to 15.8 million barrels per day. The amount shut in by these countries declined by 2 percentage points from May to 35.5 percent. The non-Arab OPEC production increase was smaller, from 10.6 to 10.8 million barrels per day. However, the amount shut-in was also reduced by about 2 percentage points. Worldwide, there was a 1.5 million barrel-per-day increase in crude oil production to 53.0 million barrels per day.

# Petroleum Consumption

## Petroleum Consumption for Major Free World Industrialized Countries

		Total IEA*	Japan	West Germany	France**	United Kingdom	Canada	Italy***	Other IEA†
In thousands of barrels per day									
1973	Jan	35,100	4,121	2,868	2,743	2,315	1,667	1,781	3,681
	Feb	36,800	4,532	2,850	2,687	2,313	1,748	1,866	4,550
	Mar	33,500	4,450	2,707	2,528	2,271	1,584	1,710	3,585
	Apr	31,000	4,008	2,809	2,296	2,038	1,432	1,420	3,370
	May	30,900	3,822	2,546	1,890	1,939	1,486	1,285	3,219
	Jun	30,600	3,950	2,674	1,685	1,697	1,470	1,255	3,083
	July	29,600	3,783	2,196	1,566	1,637	1,490	1,303	2,855
	Aug	31,600	3,790	2,738	1,495	1,615	1,558	1,255	3,231
	Sept	31,000	3,813	2,618	1,932	1,727	1,427	1,462	3,333
	Oct	33,600	4,212	2,696	2,482	2,150	1,680	1,610	4,050
	Nov	35,200	4,562	2,883	2,593	2,258	1,801	1,551	3,653
	Dec	33,700	4,716	2,481	2,768	1,906	1,828	1,698	3,533
1974	Jan	33,200	4,274	2,556	2,523	2,045	1,824	1,755	3,476
	Feb	33,200	4,709	1,969	2,389	2,132	1,863	1,751	3,405
	Mar	31,200	4,508	2,173	2,249	2,133	1,659	1,621	3,061
	Apr	30,200	3,804	2,539	1,972	1,899	1,568	1,382	3,089
	May	29,600	3,718	2,403	1,918	1,705	1,573	1,321	2,160
	Jun	29,600	3,710	2,414	2,099	1,545	1,457	1,244	3,054
	July	29,900	3,574	2,548	1,701	1,532	1,534	1,366	3,045
	Aug	30,100	3,787	2,477	1,517	1,517	1,464	1,236	3,073
	Sept	30,600	3,869	2,473	1,995	1,674	1,415	1,458	3,717
	Oct	32,300	3,854	2,613	2,046	2,052	1,671	1,530	3,375
	Nov	32,700	4,102	2,432	2,252	2,109	1,654	1,732	3,456
	Dec	33,900	4,423	2,261	2,499	2,100	1,812	1,707	3,600
1975	Jan	33,800	3,763	2,183	2,185	1,993	1,691	1,724	4,463
	Feb	33,000	4,253	2,455	2,238	1,913	1,870	1,737	3,524
	Mar	30,700	3,985	2,234	1,947	1,773	1,548	1,482	3,362
	Apr	NA	3,463	2,431	2,202	1,872	1,606	1,403	NA
	May	NA	3,363	2,253	1,636	1,488	1,522	NA	NA

\*The 18 signatory nations of the International Energy Agency (IEA) are: Austria, Belgium, Canada, Denmark, Federal Republic of Germany, 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.

\*\*Not a member of IEA.

\*\*\*Principal products only.

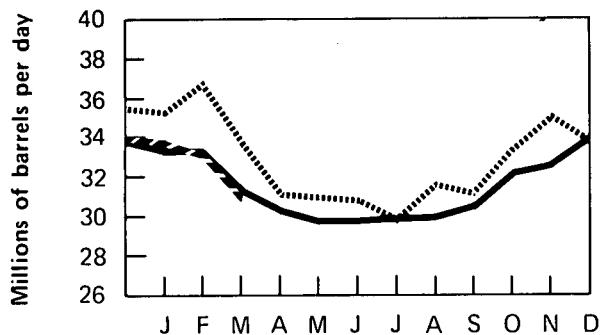
†Excludes the United States.

NA=Not available.

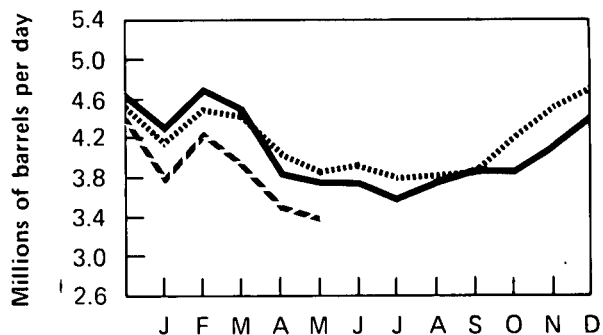
Source: Central Intelligence Agency.



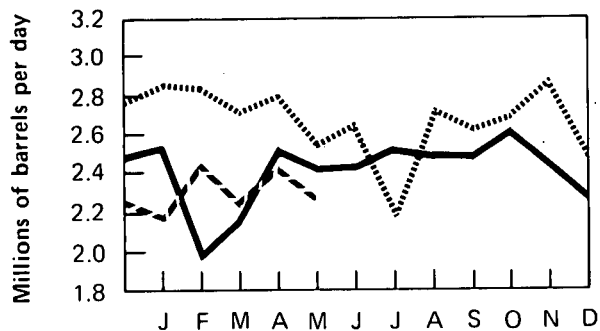
Total IEA



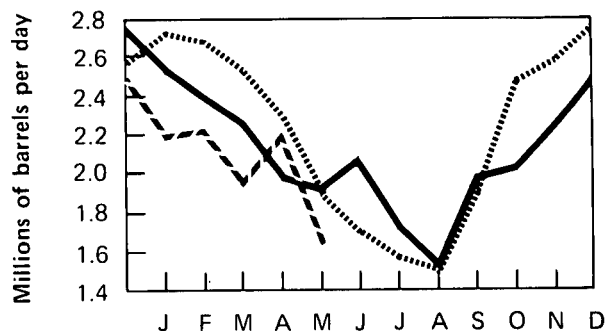
Japan



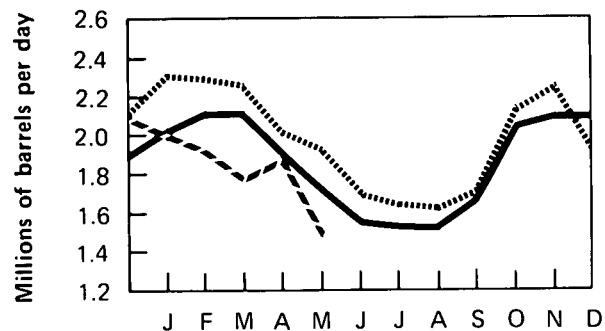
West Germany



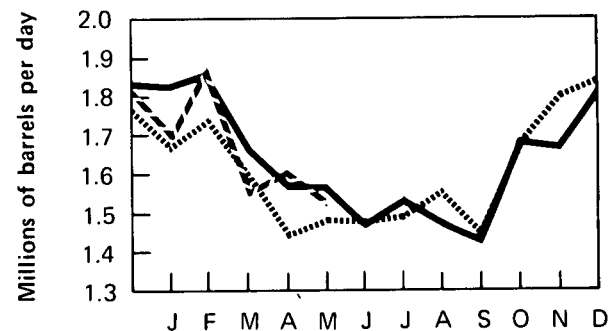
France\*



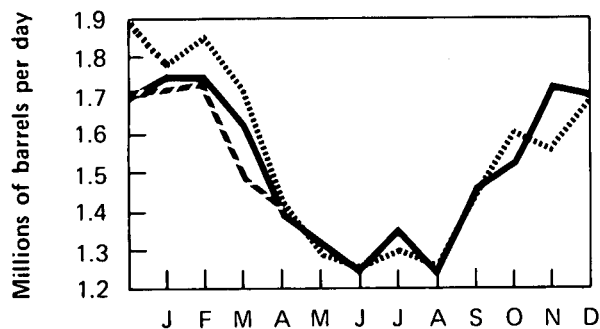
United Kingdom



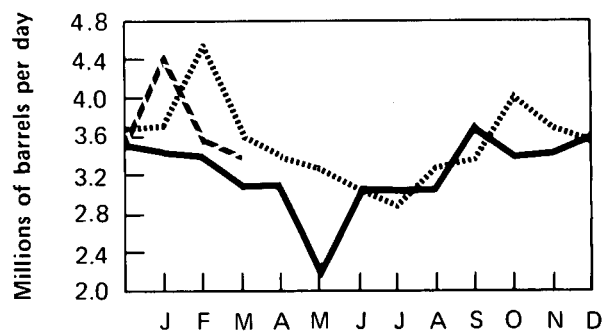
Canada



Italy\*\*



Other IEA\*\*\*



\*Not a member of IEA.

\*\*Principal products only.

\*\*\*Excludes the United States.

..... 1973  
 — 1974  
 - - - 1975

# Crude Oil

## Crude Oil Production for Major Petroleum Exporting Countries – June 1975

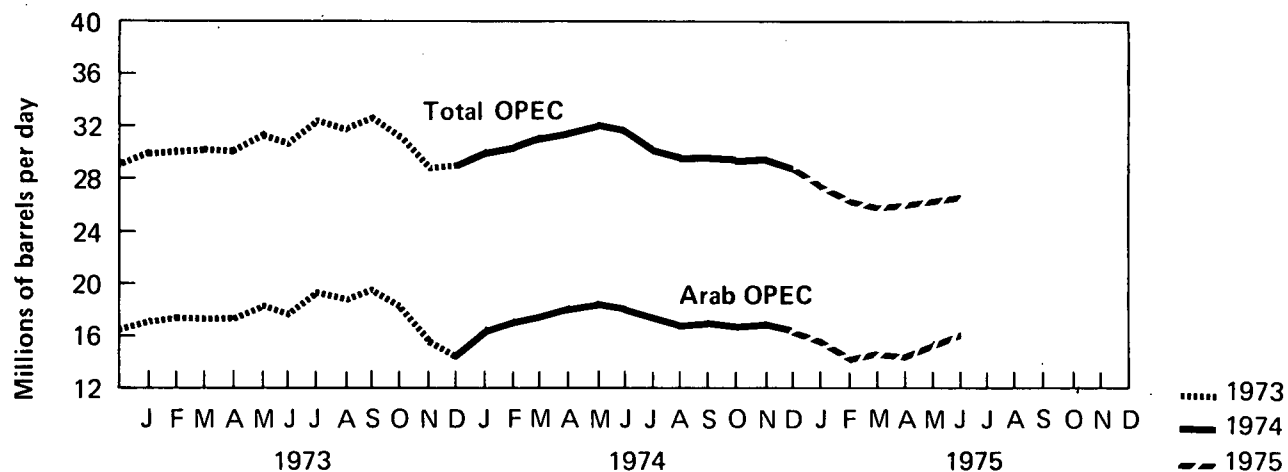
Country	Production	Production Capacity	Production Shut-in
	In thousands of barrels per day		In percent
Abu Dhabi*	1,620	2,000	19.0
Algeria	970	1,100	11.8
Iraq	2,270	2,600	12.7
Kuwait**	2,220	3,500	36.6
Libya	1,520	3,000	49.3
Qatar	330	700	52.9
Saudi Arabia**	6,820	11,500	40.7
Subtotal: Arab OPEC	15,750	24,400	35.5
Ecuador	150	240	37.5
Gabon	210	250	16.0
Indonesia	1,250	1,700	26.5
Iran	5,130	6,500	21.1
Nigeria	1,610	2,500	35.6
Venezuela	2,440	3,100	21.3
Subtotal: Non-Arab OPEC	10,790	14,290	24.5
Total: OPEC	26,540	38,690	31.4
Canada	1,510	1,980	23.7
Mexico	800	800	0
Total: OPEC, Canada, Mexico	28,850	41,470	30.4
Total World	53,010		

\* Abu Dhabi is the only member of the United Arab Emirates (U.A.E.) which belongs to OPEC. The other U.A.E. members, Dubai and Sharjah, produced 280,000 and 40,000 barrels per day, respectively, in June 1975. Their respective production capacities were 300,000 and 100,000.

\*\* Includes Neutral Zone which contributes approximately 250,000 barrels per day to each country.

Source: Central Intelligence Agency.

## OPEC Countries Crude Oil Production



# Definitions

## Base Production Control Level

The total number of barrels of domestic crude petroleum produced from a particular property in the corresponding month of 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 for a particular grade of domestic crude petroleum in a particular field is the May 15, 1973, posted price plus \$1.35 per barrel.

## Controlled Crude Oil

Domestically produced crude petroleum that is 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. Does not include stocks held on leases (storage facilities adjacent to the wells), which historically total approximately 13 million barrels.

## Dealer Tankwagon (DTW) Price

The price at which a retail 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.

## Domestic Non-controlled Crude Oil

That portion of domestic crude oil production including new, released, and stripper oil which may be sold at a price exceeding the ceiling price.

## 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 purchase "old" oil. A refiner must purchase entitlements for the amount of "old" oil he processes in excess of the national "old" oil supply ratio, defined as total "old" oil purchases by refiners as a percent of total crude runs to stills.

## 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 kerosine-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.

**Line Miles of Seismic Exploration**

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

**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 Imports**

This is based on data collected by the Federal Power Commission from major interstate pipeline companies.

**Natural Gas Liquids (NGL)**

Products obtained from natural gasoline plants, cycling plants, and fractionators after processing the natural gas. Included are ethane, liquified 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, kerosine, and distillate fuel oil.

**Natural Gas Marketed Production**

Gross withdrawals from the ground, less gas used for repressuring and quantities vented and flared. Gas volumes are reported at a base pressure of 14.73 pounds per square inch absolute at 60°F. Data are from Bureau of Mines and are collected from reports received from the Interstate Oil Compact Commission provided by State agencies.

**New Oil**

The volume of domestic crude petroleum produced from a property in a specific month which exceeds the base production control level for that property.

**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 Oil**

Same as controlled crude oil.

**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 pipe-

lines. They do not include stocks held in secondary storage facilities, such as those held by jobbers, dealers, independent marketers, and consumers.

#### **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 Oil**

That portion of the base production control level for a property which is equal to the volume of new oil produced in that month and which may be sold above the ceiling price. The amount of released oil may not exceed the base production control level for that property.

#### **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 refiner 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 Lease**

A property of which the average daily production of crude petroleum and petroleum condensates, including natural gas liquids, per well did not exceed 10 barrels per day during the preceding calendar year.

#### **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.

#### **Total Refined Petroleum Products Imports**

Imports of motor gasoline, naphtha-type jet fuel, kerosine-type jet fuel, liquified petroleum gases, kerosine, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, and asphalt. Imports of bonded bunkers, jet fuel, distillate and residual fuel oils for onshore military use, and receipts from Puerto Rico, the Virgin Islands, and Guam are based on data reported to the FEA Office of Oil Imports.

#### **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. 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 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 electricity imports were estimated on the basis of imports levels during 1974.

3. Graphic presentations of petroleum volumetric data show Bureau of Mines (BOM) figures for 1973 through April 1975 and FEA figures for May 1975 forward. FEA monthly data for May 1974 through March 1975 were based on the *Weekly Petroleum Statistics Report* which presented volumetric data on domestic petroleum receipts and imports for all refiners and bulk terminal operators, as well as production and stock levels for each major petroleum product. In April 1975, the FEA weekly report was replaced by the *Monthly Petroleum Statistics Report* which presents essentially the same data on a monthly basis.

Conceptually, the major difference between FEA and BOM data occurs in the "Stocks" series. Stock levels reported by FEA for the major petroleum products are higher than those reported by BOM, because the FEA series includes stocks of independent terminal operators not counted by BOM. Beginning in December 1974, however, BOM data reflect the inclusion of approximately 100 additional bulk terminals in the coverage of primary stocks, bringing the data base for the 2 series into closer agreement.

In the current issue, cumulative 1972, 1973, and 1974 petroleum data presented in the text are based on BOM figures. Discussions of cumulative 1975 data are based on BOM figures for January through April and FEA figures for May forward.

4. Domestic demand figures for natural gas liquids (NGL) as reported by BOM and reproduced in this volume do not include amounts utilized at refineries for

blending purposes in the production of finished products, principally gasoline. Consumption of NGL at refineries for this purpose has remained at a fairly constant level since 1972 of around 700,000 - 850,000 barrels per day. NGL domestic demand statistics do incorporate, however, some liquefied gases produced at refineries (LRG) which are used for fuel and petrochemical feedstocks. The NGL production and stock series reported in this volume include only those liquids obtained from or held as stocks at natural gas processing plants and do not incorporate minor quantities of these liquids produced and/or held as stocks at refineries.

5. Bituminous coal and lignite consumption data 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.

6. 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.

7. 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.

8. 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).

9. 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.

10. While FEA's forecasts of demand for the major products have proved to be reasonably good, the forecasts for "other" products have been consistently low which similarly affects the forecast for total refined products. When planned revisions to the forecasts are incorporated, it is expected that the forecast for total demand will be reduced by several hundred thousand barrels per day.

11. Monthly mileage estimates for 1974 and 1975 are based on the average number of miles traversed per crew day in 1974.

12. 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. Consequently, diesel fuel prices for January 1975 forward are not exactly comparable to prior data. Selling price estimates are based on a survey of 31 cities. Margins are based on a survey of 10 cities.

13. 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. The estimated landed cost of imported crude petroleum from selected countries does not represent the total cost of all imported crude. Imported crude costs to U.S. company-owned refineries in the Caribbean are not included in the landed cost, and costs of crude petroleum from countries which export only small amounts to the U.S. are also excluded.

14. 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
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### Conversion Factors for Crude Oil

#### Average gravity

1 barrel (42 gallons)	<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	5.517 million Btu/barrel
Gasoline	5.248 million Btu/barrel
Jet fuel, average	5.592 million Btu/barrel
Naphtha-type	5.355 million Btu/barrel
Kerosine-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	4.031 million Btu/barrel
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#### Natural gas

Wet	1,093 Btu/cubic foot
Dry	1,021 Btu/cubic foot

#### Coal

Bituminous and lignite	
Production	24.01 million Btu/short ton
Consumption	23.65 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
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Hydroelectric	10,389 Btu/kilowatt hour
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Electricity Consumption	3,412 Btu/kilowatt hour
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