OCT 09 1991

Winter Fuels Report

Week Ending:
September 27, 1991

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Winter Fuels Report

**Week Ending:
September 27, 1991**

Energy Information Administration
Office of Oil and Gas
U.S. Department of Energy
Washington, DC 20585

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Electric Power Monthly, updated on the 1st of the month

Monthly Energy Review, updated the last week of the month

Short Term Energy Outlook, updated 60 days after the end of the quarter.

Contacts

The *Winter Fuels Report* is prepared by the Office of Oil and Gas, Energy Information Administration. General information about this document may be obtained from Jimmie L. Petersen (202) 586-6401, Director of the Office of Oil and Gas. Specific questions can be directed to:

Propane/Distillate Oil Supply	Susan Harris	(202) 586-8384
	Stacey Myers	(202) 586-5130
Propane/Distillate Prices	Lamar Gowland	(202) 586-6608
	Annie Whatley	(202) 586-6612
Natural Gas.....	Ken Brown	(202) 586-6077

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Preface

The *Winter Fuels Report* is intended to provide concise, timely information to the industry, the press, policymakers, consumers, analysts, and State and local governments on the following topics:

distillate fuel oil net production, imports and stocks for all Petroleum Administration for Defense Districts (PADD) and product supplied on a U.S. level;

propane net production, imports and stocks for PADD's I, II, and III;

natural gas supply and disposition and underground storage for the United States and consumption for all PADD's;

residential and wholesale pricing data for propane and heating oil for those States participating in the joint Energy Information Administration (EIA)/State Heating Oil and Propane Program;

crude oil and petroleum price comparisons for the United States and selected cities; and

U.S. total heating degree-days by city.

The distillate fuel oil and propane supply data are collected and published weekly. The data are based on company submissions for the week ending 7:00 a.m. for the preceding Friday. Weekly data for distillate fuel oil are published in the *Weekly Petroleum Status Report*. Monthly data for distillate fuel oil and propane are published in the *Petroleum Supply Monthly*.

The residential pricing information is collected by the EIA and the State Energy Offices on a semimonthly basis for the EIA/State Heating Oil and Propane Program. The wholesale price comparison data are collected daily and will be published weekly. Residential heating fuel prices are derived from price quotes for home delivery of No. 2 fuel oil and propane. As such, they reflect prices in effect on the dates shown. Wholesale heating oil and propane prices are estimates using a sample of terminal quotes to represent average State prices on the dates given. The Computer Petroleum Corporation, Inc., defines these prices to be "prices f.o.b. terminal, excluding taxes, discounts, and hauling allowances." Wholesale prices for 1989 and 1990 are taken from terminal postings as published in the publication, *U.S. Oil Week*. The crude oil and petroleum product prices are from various industries sources as referenced on each table.

The natural gas data are collected and published monthly in the *Natural Gas Monthly*.

This report will be published weekly by the EIA starting the first week in October 1991 and will continue until the first week in April 1992. The data will also be available electronically after 5:00 p.m. on Thursday during the heating season through the EIA Electronic Publication System (EPUB). See page ii for details.

Contents

	Page
Feature Articles	
Distillate Fuel Oil Outlook: Winter 1991-1992	xi
Propane Outlook: Winter 1991-1992	xv
Highlights	xvii
Tables	
Distillate Fuel Oil	
1. Monthly and Weekly Net Production, Imports, and Stocks of Distillate Fuel Oil by Petroleum Administration for Defense District (PADD) and Product Supplied for the United States	3
Propane	
2. Monthly and Weekly Net Production, Imports, and Stocks of Propane by Petroleum Administration for Defense Districts (PADD) I, II, and III	13
Natural Gas	
3. Supply and Disposition of Dry Natural Gas	23
4. Underground Natural Gas Storage (All Operators)	24
5. Natural Gas Consumption by Petroleum Administration for Defense District (PADD)	26
6. Selected National Average Natural Gas Prices	31
Prices	
7. Residential Heating Oil Prices by Region and State	35
8. Residential Propane Prices by Region and State	38
9. Wholesale Heating Oil Prices by Region and State	41
10. Wholesale Propane Prices by Region and State	44
11. U.S. Crude Oil and Petroleum Product Prices	47
12. Petroleum Product Prices for Selected Cities	48
Weather Summary	
Highlights	51
13. U.S. Total Heating Degree-Days by City	54
Illustrations	
F1. U.S. Distillate Fuel Oil Production	6
F2. U.S. Distillate Fuel Oil Imports	6
F3. U.S. Distillate Fuel Oil Stocks	7
F4. PADD I (East Coast) Distillate Fuel Oil Stocks	7
F5. PADD II (Midwest) Distillate Fuel Oil Stocks	8
F6. PADD III (Gulf Coast) Distillate Fuel Oil Stocks	8
F7. PADD IV (Rocky Mountain) Distillate Fuel Oil Stocks	9
F8. PADD V (West Coast) Distillate Fuel Oil Stocks	9
F9. U.S. Propane Production	17
F10. U.S. Propane Imports	17
F11. U.S. Propane Stocks	18
F12. PADD I (East Coast) Propane Stocks	18
F13. PADD II (Midwest) Propane Stocks	19
F14. PADD III (Gulf Coast) Propane Stocks	19
F15. Underground Natural Gas Storage in the United States	25
F16. Natural Gas Deliveries to Consumers	30
F17. Average Price of Natural Gas Delivered to Consumers in the United States	31
F18. Average Price of Natural Gas in the United States	31
F19. Residential Heating Oil Prices, New England	36
F20. Residential Heating Oil Prices, Central Atlantic	36
F21. Residential Heating Oil Prices, Lower Atlantic	37
F22. Residential Heating Oil Prices, Midwest	37
F23. Residential Propane Prices, New England	39
F24. Residential Propane Prices, Central Atlantic	39
F25. Residential Propane Prices, Lower Atlantic	40
F26. Residential Propane Prices, Midwest	40
F27. Wholesale Heating Oil Prices, New England	42
F28. Wholesale Heating Oil Prices, Central Atlantic	42
F29. Wholesale Heating Oil Prices, Lower Atlantic	43
F30. Wholesale Heating Oil Prices, Midwest	43
F31. Wholesale Propane Prices, Central Atlantic	45
F32. Wholesale Propane Prices, Lower Atlantic	45
F33. Wholesale Propane Prices, Midwest	46

	Page
F34. 6-10 Day Temperature Outlook	54
F35. 6-10 Day Precipitation Outlook	54
F36. 30 Day Temperature Outlook	55
F37. 90 Day Temperature Outlook.....	55
 Appendices	
A. District Descriptions and Maps	57
B. Explanatory Notes	61
 Glossary	
Definitions of Petroleum Products and Other Terms	67

Feature Articles

A refinery worker makes his way around a towering storage tank to check the tank level.

DISTILLATE FUEL OIL OUTLOOK: WINTER 1991-1992

Supplies of home heating oil and diesel fuel this winter should be plentiful and lower priced than last winter, according to the August 1991 *Short-Term Energy Outlook*.¹ One encouraging sign is that primary inventories of distillate fuel oil are above the average range for the previous 3 years, as they had been for almost 5 months.²

Prices

If the Energy Information Administration forecast is correct, heating oil users can expect to pay less this winter than last. Retail prices are projected to average \$1.04 per gallon from October 1991 through March 1992, compared with \$1.17 per gallon during the previous heating season (Table FE1).

Note: "Winter" is the heating season from October 1 through March 31. Data

Table FE1. U.S. Demand, Supply and Price of Distillate Fuel Oil, Winter 1990-1992
(Thousand Barrels per Day, Except Where Noted)

	1990-91	1991-92	Percent Change
Demand	3032	3375	11.3
Supply			
Production	2890	3017	4.4
Net Imports	(65)	240	NA
Stock Changes	207	118	(43.0)
Total	3032	3375	11.3
Heating Oil Price (dollars per gallon)			
Retail	\$1.17	\$1.04	(11.1)
Wholesale	\$0.79	\$0.64	(19.0)

are time-weighted averages of monthly data. "Product supplied" data are used to represent demand. Data in italics are forecasts.

Sources: Calculated from Energy Information Administration, *Petroleum Supply Monthly* (August 1991); *Short-Term Energy Outlook* (August 1991); and Office of Energy Markets and End Use.

From the winter of 1985-1986 through the winter of 1989-1990, retail heating oil prices averaged \$0.98 (in 1990 dollars).³ The last time prices averaged less than \$1 per gallon (in 1990 dollars) was the winter of 1988-1989.

Wholesale heating oil prices are projected to be \$0.64 per gallon during the coming winter or \$0.15 per gallon lower than October 1990 through March 1991. On September 27, 1991, spot heating oil prices in New York Harbor closed at \$0.63 per gallon.⁴

Retail diesel fuel prices are projected to be \$1.21 per gallon or \$0.09 lower during the coming winter than they were last winter. The last time winter diesel prices averaged less than \$1 per gallon (in 1990 dollars) was the winter of 1988-1989.

Lower heating oil and diesel prices largely reflect lower crude oil prices than last winter. Uncertainty related to the war in the Persian Gulf boosted prices for imported crude oil to an average of \$24.56 per barrel from October 1990 through March 1991. This winter, crude oil prices are assumed to be \$20 per barrel. From the winter of 1985-1986 through the winter of 1989-1990, winter imported crude oil prices averaged \$19.57 per barrel (in 1990 dollars).⁵

In addition to lower crude oil prices, the projection for distillate fuel oil prices this winter (both heating oil and diesel) assumes (1) normal weather, (2) average annual growth in real gross national product of 1.7 percent, and (3) a 2.5-percent increase in the industrial production index. Last winter was 11 percent warmer than normal, real GNP was the same as the winter of 1989-1990, and industrial production declined at an annual rate of 1.3 percent.

Because heating oil prices have risen sharply during or shortly before the past two heating seasons, many more dealers are offering their customers fixed prices this year for the first time. A recent survey found that 83 percent of heating oil marketers in the Northeast and 56 percent in the Mid-Atlantic States are offering guaranteed prices this winter. This compares to no dealers in the Midwest and West. Most of the fixed-price offers are based on hedging on the New York Mercantile Exchange.⁶

¹ The full forecast appears in: Energy Information Administration, *Short-Term Energy Outlook*, DOE/EIA-0202(91/3Q) (Washington, DC, August 1991). All projections and recent historical data not otherwise cited are from this source.

² Energy Information Administration, *Weekly Petroleum Status Report* (DOE/EIA-0208 (91-40) (Washington, DC, September 20, 1991), p. 11.

³ Retail heating oil and diesel prices deflated with the Consumer Price Index. Bureau of Labor Statistics, *Consumer Price--Detailed Report*.

⁴ Reuter's News Service.

⁵ Deflated with the producer price index for all commodities, not seasonally adjusted. Bureau of Labor Statistics, *Producer Price Indexes*.

⁶ "Guaranteed price to be offered by 56% of heating oil marketers," *Fueloil & Oil Heat* (July 1991), p. 10. Open interest, an indication of hedging activity, for the heating oil contract on the New York Mercantile Exchange increased 55 percent from September 15, 1989, to September 13, 1991.

Distillate Fuel Oil Demand

Distillate fuel oil demand, as represented by product supplied, is projected to be 3.4 million barrels per day during the 1991-1992 heating season. If demand reaches this level, it would be the highest since the winter of 1979-1980.⁷ This represents an 11-percent increase over last winter, when demand was 3.0 million barrels per day.

As noted above, however, last winter was 11 percent warmer than normal. If the weather had been normal, demand would have averaged 3.2 million barrels per day for the winter of 1990-1991 (Figure FE1). On a weather-adjusted basis, demand is expected to increase 6 percent this winter. For the first 8 months of 1991, preliminary data show that distillate fuel oil demand was 5.4 percent less than the first 8 months of 1990.⁸

Economic growth, crude oil prices, and weather are among the factors that affect the demand for distillate fuel oil. Alternative assumptions about these factors during the winter of 1991-1992 were used to gauge their impact. In the range of GNP growth

of -0.3 percent to 3.8 percent, a 1-percent increase in real GNP raises demand for distillate fuel oil by 39,000 barrels per day. In the range of crude oil prices from \$16 to \$22 per barrel during the winter of 1991-1992, a \$1-increase in crude oil prices cuts distillate fuel oil demand by 12,000 barrels per day.

Like last winter, an abnormal number of heating degree-days could be recorded this winter. In fact, in the last 50 years, about one-third of the winters were 5 percent colder or warmer than normal.⁹ In the range of heating degree-days from 3,466 to 4,861 for the winter of 1991-1992, a 1-percent increase in heating degree-days increases demand for distillate fuel oil by about 10,400 barrels per day.

The most recent 90-day forecast from the National Oceanic and Atmospheric Administration shows a higher than average probability of warmer-than-normal weather on the East Coast and in the Midwest, where the most distillate fuel oil is consumed for heating. The forecast for October through December shows at least a 55 percent chance of warmer than normal weather in New England, New York, Pennsylvania, and New Jersey.¹⁰

⁷ Energy Information Administration, *Annual Petroleum Statement* 1979, p. 5; 1980, p. 9.

⁸ Calculated from Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109 (91/09) (Washington, DC, September 1991), p. 19.

⁹ Energy Information Administration, *Short-Term Energy Outlook*, DOE/EIA-0202 (89/4Q) (Washington, DC, October 1989), p. 39.

¹⁰ National Oceanic and Atmospheric Administration, *Monthly & Seasonal Weather Outlook*, (September 27, 1991), 45:19. This weather forecast has not been factored into the distillate fuel oil demand forecast.

Figure FE1. U.S. Distillate Demand, Actual and Weather-Adjusted, 1990-1991
(Thousand Barrels Per Day)

Note: "Weather-adjusted" distillate demand is an estimate of fuel oil consumption, if weather had followed historically normal patterns. The estimate was made with the Short-Term Integrated Forecasting System using 1951-1980 weather data from the National Oceanic and Atmospheric Administration.

Sources: Energy Information Administration, Actual: *Petroleum Supply Monthly* (August 1991); Weather Adjusted: Office of Energy Markets and End Use.

Distillate Fuel Oil Supply

Domestic refinery production meets the largest share of demand for distillate fuel oil. This winter, U.S. refineries are expected to produce 3.0 million barrels per day of distillate fuel oil, or 89 percent of demand. Last winter, refineries produced 2.9 million barrels per day, or 95 percent of demand. In other words, distillate fuel oil production is expected to increase 4.4 percent this heating season; production declined 2.5 percent from the winter of 1989-1990 to the following winter. For the first 8 months of 1991, preliminary data show that the production of distillate fuel was about the same as the first 8 months of 1990.¹¹

Most of the projected increase in distillate fuel oil production reflects a general increase in petroleum product production. This winter, refinery utilization is expected to increase by almost 3 percent compared with last winter. For the winter of 1991-1992, refinery utilization is expected to be 85.8 percent. Crude oil input to refineries is expected to rise from 12.85 million barrels per day to 13.09 million barrels per day.

Gross imports of crude oil were equivalent to 40 percent of the crude oil input to U.S. refineries during the winter of 1990-1991. During this winter, gross imports of crude oil are projected to comprise 45 percent of U.S. crude oil inputs.

Net imports of distillate fuel oil to the United States are normally the second most important source of supply. They are expected to meet 240,000 barrels per day or 7 percent of demand during the winter of 1991-1992. During the 1990-1991 heating season, the largest sources of imports to the United States were Venezuela, the U.S. Virgin Islands, and Canada.¹²

Last winter, however, exports of distillate fuel oil exceeded imports for the first time since the winter of 1982-1983, as U.S. production replaced supplies from Saudi Arabia and Kuwait in the world market. Distillate exports were 65,000 barrels per day higher than imports last winter. For the first 7 months of 1991, exports have continued to exceed imports. However, since the beginning of August, spot prices of distillate fuel oil in New York Harbor have exceeded Rotterdam prices, which tends to pull imports toward the United States. In addition, Japan has increased distillate production by 100,000 barrels per day and Kuwait is expected to resume exports of distillate fuel oil in December, both of which will make more distillate available in the world market.¹³

It is possible that cold weather in Europe, disruption of foreign distillate supplies, or some other condition might reduce distillate fuel oil imports this winter. Cold weather in Europe would make distillate fuel oil more valuable in Europe than the United States, and tend to draw imports away from the United States. Disruption of foreign distillate supplies would mean that less is available for importation into the United States. Both conditions would increase prices and put pressure on domestic inventories.

Although inventories are normally the smallest source of supply, they are sometimes crucial, because they provide a cushion for unexpected change in production, imports, or demand. Inventory drawdowns are expected to provide 118,000 barrels per day or 3 percent of total supply this winter, compared with the equivalent of 7 percent last winter. By the end of 1991, stocks are projected to be 132.1 million barrels, about the same as last year, but far greater than the 105.7 million barrels recorded at the end of 1989, when record December cold drew down stocks early. Stocks are projected to finish the heating season on March 31, 1992, at 103.8 million barrels, above the 98.3-million-barrel level of the previous winter, and far above the 85.0-million-barrel minimum operating inventory.¹⁴

On September 20, 1991, stocks were 139.6 million barrels, almost 6 million barrels higher than in 1990, but almost 19 million barrels higher than in 1989. Stocks on the East Coast--where distillate demand is higher than any other area--were slightly higher than in 1990.¹⁵ Stocks were significantly higher in 1990 than in 1989, because the industry was uncertain about the effects of the Iraqi invasion of Kuwait and was seeking to avoid the low stock levels reached in December 1989.

Fuel Switching

Fewer residential consumers are expected to switch from heating oil to natural gas this winter, even though a major new natural gas pipeline will begin serving the Northeast. An annual survey by the Metropolitan Energy Council found in April and May 1991 that 1.8 percent of heating oil users definitely planned to switch from oil to gas heat, compared with 4.0 percent the year before. The percentage planning to switch in the 1991 survey was similar to that in the 1986 through 1988 surveys.¹⁶

¹¹ Calculated from Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109 (91/09) (Washington, DC, September 1991), p. 19.

¹² Calculated from Energy Information Administration, *Petroleum Supply Annual 1990* Volume 2, DOE/EIA-0340 (90)/2 (Washington, DC, May 1991) and *Petroleum Supply Monthly*, DOE/EIA-0109, March through May 1991.

¹³ Energy Information Administration, *Petroleum Supply Annual 1990*, DOE/EIA-0340 (90)/1, p. 19, and previous editions; *Petroleum Supply Monthly*, DOE/EIA-0109 (91/08) (August 1991), p. 19; *Weekly Petroleum Status Report*, DOE/EIA-0208 (91-32) (July 26, 1991), p. 20; *Oil and Energy Trends*, August 16, 1991; Nassir Shirkhani, "Kuwait's Top, War-Hit Ahmadi Refinery to Reopen," *Reuter's News Service*, August 26, 1991.

¹⁴ The Minimum Operating Inventory, set by the National Petroleum Council, is that level at which local supply disruptions can be expected.

¹⁵ Calculated from Energy Information Administration, *Weekly Petroleum Status Report*, DOE/EIA-0208 (91-40) (September 20, 1991), p. 10.

¹⁶ "Dateline," *Fuel Oil News* (August 1991), pp. 7-8.

Nevertheless, significant new supplies of natural gas will begin moving into the Northeastern United States during the 1991-1992 heating season. Some of these will be delivered from Canada through new pipelines, while others will be delivered through new routes formed by the interconnection of existing domestic lines.

The Iroquois Natural Gas Transmission System, now under construction, is the largest project. It is designed to ultimately bring 576 million cubic feet of gas per day from the TransCanada Pipeline down through New York and Connecticut across Long Island Sound. The planned opening day is November 1, 1991, at an initial rate of 50 million cubic feet per day. Even if gas is not flowing by that date, company officials are confident it will flow by December 1. A final section into Massachusetts is expected to raise delivery to 287 million cubic feet per day by April 1992. Opponents of the pipeline hope that a U.S. Court of Appeals will decide in November to delay the project by rescinding previous approval by the Federal Energy Regulatory Commission.¹⁷

A second import project, to deliver 472.6 million cubic feet per day on completion in November 1993, is the Northeast expansion of the Tennessee Gas Pipeline. Initial deliveries of 32.4 million cubic feet per day are planned for December 1991, followed by an additional 30.5 million in January 1992, 51.3

million in February, and the balance over the next 21 months. A third new import, 70 million cubic feet per day of Canadian gas is fueling a power plant in Northern Vermont.¹⁸

Domestic natural gas will also be brought into the Northeast as a result of three expansion and interconnection projects by interstate pipelines. The Transco System will provide additional supplies beginning in November 1991 of 30 million cubic feet per day to New York State, 13.7 million to Pennsylvania, and 55 million elsewhere on the East Coast. A second project, for cogeneration, will move 70 million cubic feet per day from Canada beginning this winter to Massachusetts and New Jersey. The third and largest, the ANR Phase II project, involves Transco, CNG, and Texas Gas Transmission, and will ultimately bring 280 million cubic feet per day to the Northeast from the Gulf Coast. Initially, 50 million cubic feet per day is to be delivered by November 1, 1991.¹⁹

The total volume of available new deliveries to New England, New York, and New Jersey in these and other smaller developments due in December 1991 is estimated at 17.1 billion cubic feet. This is equivalent to 20 percent of the total gas delivered to residential consumers in those States in December 1990.²⁰

¹⁷ "Iroquois Gas Sees 'Good Chance' of Nov. 1 Start," Reuter's News Service, July 30, 1991; "Fighting the Battle of the Iroquois," *Yankee Oilman* (August 1991), pp. 28-29.

¹⁸ Tenneco Gas Company representative, September 16, 1991, personal communication.

¹⁹ Transcontinental Gas Pipeline Company representative, September 4 and September 23, 1991, personal communication.

²⁰ Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130 (91-05) (Washington, DC, May 1991), p. 49. Estimated total represents the sum of authorized and scheduled volumes.

Propane Outlook: Winter 1991-1992

Nationwide primary stocks¹ of propane on September 27, 1991, at 51.8 million barrels, were at the lowest end-of-September level since 1970 (Table H2). The recent slowdown in propane's stockbuild this summer is cause for concern because of the short period remaining in which to build stocks before normal winter demand is expected to begin. Severe weather early in the heating season, before normal peak inventory levels are reached, could lead to temporary spot shortages, supply dislocations, and/or higher prices for propane.

On a regional basis, East Coast and Midwest inventories of propane as of September 27, were both near the average range of the last 3 years. However, stocks on the East Coast were 24 percent lower than September 1989 levels which proved insufficient to meet record cold weather demand in December 1989. Gulf Coast stocks of propane were significantly below the average range for the last 3 years. Because the East Coast and Midwest regions depend on the Gulf Coast for supplemental propane supplies, unseasonably low inventories in the Gulf Coast area could adversely affect propane supplies as a heating fuel in the East Coast and Midwest regions this winter.

Low inventory levels this close to the start of the heating season generally stimulate higher prices for propane, particularly in relation to other petrochemical feedstocks. There is evidence that this is occurring as wholesale propane prices have risen 16 cents per gallon between June 26, 1991 and September 30, 1991.² Consequently, a portion of propane supply may be diverted away from the petrochemical market and into the heating market. In addition, propane prices continue to rise from their midsummer lows, relative to foreign markets, so increased imports can also be expected.

The Energy Information Administration (EIA) began weekly monitoring of propane production, imports and inventories beginning with the week ending September 27, 1991. Regional propane information will be published by the EIA in the *Winter Fuels Report* each Friday starting with the issue of October 4, 1991.

Propane Supply and Stocks

Propane ranks as the fourth most important source of residential energy in the Nation.³ Of the 90.5 million households in the

U.S., 7.7 million households depend on propane for one use or another. Moreover, 4.1 million households, or more than one-half of the households that use propane, rely on propane for their primary heating fuel. Propane is most commonly used to provide energy to areas not served by natural gas distribution systems. The largest residential market for propane is in rural areas, where 2.3 million households use propane as their main heating fuel.⁴ Other major applications for propane include farm use (crop drying, poultry breeding, tractor fuel, and greenhouse heating); industrial use (fork lift truck fuel, petrochemical feedstock use, heat, and power); natural gas utilities (peak-shaving operations)⁵; and transportation (motor fuel for fleet vehicles). However, despite propane's versatility as an energy source, residential and commercial applications, primarily for space heating requirements, remain of utmost concern to consumers of this winter heating fuel.

Almost 90 percent of the U.S. supply of propane is derived from domestic production. Of the total, nearly half is produced at approximately 675 natural gas processing plants, and about 41 percent is produced at 135 petroleum refineries nationwide.⁶ The remaining 10 percent comes from foreign sources.⁷

Domestic production of propane over the last several years has been relatively constant. Although natural gas plants' share of production has trended downward in recent years, the reverse has been true for refinery production. This was due primarily to higher refinery utilization during the late 1980s and early 1990s. However, by July 1991, the downward trend of propane production at natural gas plants halted, as markedly lower natural gas prices provided natural gas plant operators an economic incentive to maximize liquids extraction. For the first 7 months of 1991, natural gas plant production of propane was nearly 4 percent higher than the same period last year.

Between January and July 1991, net imports of propane averaged 52 thousand barrels per day. This was about half the average level of net imports during the same 7 month period during 1990.

Historically, U.S. propane inventories are built up during the spring and summer months when demand is low. U.S. stocks of propane over the last 3 years have generally peaked in August or September, with peak inventory levels ranging between 54 and 64 million barrels. The seasonal buildup of

¹ Primary stocks include stocks held at refineries, bulk terminals, gas processing plants, and pipelines. Primary stocks exclude secondary stocks held by petrochemical plants and tertiary stocks held by consumers.

² *Platt's Oilgram Price Report*, Volume 69, No. 124, June 27, 1991, p. 8, and Volume 69, No. 190, October 1, 1991, p. 8.

³ Energy Information Administration, *Household Energy Consumption and Expenditures 1987*, DOE/EIA-0321/1(87), Table 1, p. 4.

⁴ Energy Information Administration, *Household Energy Consumption and Expenditures 1987*, DOE/EIA-0321/1(87), Table 20, p. 74.

⁵ Natural gas utilities use a propane-air mixture to maintain pressure in distribution lines during peak demand periods.

⁶ Energy Information Administration, Form EIA-810, "Monthly Refinery Report," 1990; and Form EIA-816, "Monthly Natural Gas Liquids Report," 1990.

⁷ Energy Information Administration, *Petroleum Supply Annual 1990*, DOE/EIA-0340(90), Table 3, p. 33.

propane inventories through July 1991 was about average compared with recent years. From March to July, inventories grew by 20.9 million barrels, compared with a 17.0 million barrel stockbuild during the same period last year and a 24.2-million-barrel stockbuild during the same period in 1989. By July 1991, propane's lower price relative to alternative feedstocks spurred higher demand for propane as a feedstock by the petrochemical industry. The effects of this strong petrochemical industry demand, coupled with the lower than normal propane imports, caused propane's seasonal stockbuild to moderate beginning in July resulting in an estimated level of 51.8 million barrels on September 27, 1991. This level is 7.2 and 5.4 million barrels below September 1989 and September 1990 ending stocks respectively.

Regional Propane Supply

The East Coast, Midwest, and Gulf Coast are the primary propane consuming areas of the U.S. and contain nearly 98 percent of the Nation's stocks of propane. While East Coast and Midwest inventories are currently near the three-year average range, Gulf Coast inventories are significantly below the average range for this time of year.

Gulf Coast Supply

Refinery and gas plant operators on the Gulf Coast produce far in excess of the region's level of demand for propane. Consequently, propane producers on the Gulf Coast provide much of the Nation's supplemental supply of propane. Roughly one-fourth of the propane produced on the Gulf Coast is transported to other areas of the United States.

Primary stocks of propane on the Gulf Coast reached an estimated 23.7 million barrels on September 27, 1991, compared with 31.0 million barrels in storage at the same time last year and 33.0 million barrels in storage at the end of September 1989. The low Gulf Coast propane stock levels may have a significant impact on the East Coast and Midwest propane supplies if levels remain low into the heating season.

East Coast Supply

The East Coast receives more than half of its supply of propane from other areas of the Nation, most notably from the Gulf

Coast area which is the origination point for most liquefied petroleum gas (LPG) pipelines. The remainder comes from production within the region, which accounts for about one-third of propane supply, and imports.

East Coast propane inventories as of September 27, 1991, were about at the same level as 1990 but were 24 percent below the comparable level for 1989. Stock levels in New England and the Lower Atlantic sub-regions were above last year's levels but those in the Central Atlantic sub-region were about one-third below the September 1989 level. The September 1989 level proved insufficient to meet record cold weather demand in December 1989. In addition, New England is also susceptible to short-term supply disruptions if severe weather conditions delay scheduled waterborne movements of propane into the region.

Midwest Supply

About three-fourths of the Midwest's supply of propane is derived from domestic production, with imports from Canada and inter-regional movements accounting for about equal shares of the remaining source of supply. In addition, the Midwest accounts for about one-third of the Nation's households that are dependent upon propane as their primary heating fuel.⁸

Primary stocks of propane held in PAD District II were an estimated 23.1 million barrels as of September 27, 1991, slightly above the average range over the last 3 years. This level was 2.3 million barrels higher than at the end of September 1990, and 3.5 million barrels higher than the same month in 1989. The increase in domestic production more than offset declines in both imports and inter-regional movements of propane into this region during the first 7 months of 1991, compared with the same period last year.

Propane supplies should be adequate in the region although some remote farm communities are still prone to propane supply disruptions because of distribution problems during severe weather.

⁸ Energy Information Administration, *Household Energy Consumption and Expenditures 1987*, DOE/EIA-0321(87), Table 20, p. 74.

Highlights

Liquefied petroleum gases are stored in pressurized tanks while other products are stored in conventional tanks.

Highlights

DISTILLATE

Distillate fuel stocks begin the 1991-92 heating season at their highest level in more than 3 years (Table H1). Primary inventories in PADD I, the East Coast, are almost 11 percent above their 3-year average for this time of year, while stocks in PADD II, the Midwest, are about 7 percent above their 3-year average. Stocks are expected to build during the next 2 weeks, before being drawn upon to meet increasing seasonal heating demands.

Table H1. Distillate Fuel Oil
(Thousand Barrels per Day, Except Where Noted)

	Week Ending		
	09/27/90	09/20/91	09/27/91
Production	2,968	3,144	3,168
Imports	226	515	122
Product Supplied	2,864	2,987	3,053
Ending Stocks (thousand barrels)			
East Coast (PADD I)	62.0	61.6	62.9
Midwest (PADD II)	30.1	33.6	32.5
Gulf Coast (PADD III)	29.3	30.5	30.8
U.S. Total	135.2	139.6	140.6

Source: Energy Information Administration (EIA), Weekly and Monthly Petroleum Supply Reporting Systems.

PROPANE

As of the week ending September 27, 1991, U.S. propane stocks are estimated to be 51.8 million barrels (see Table H2). The East Coast, Midwest, and Gulf Coast regions, which normally hold about 97-98 percent of total U.S. propane stocks, are approximately 50.5 million barrels.

In comparison with estimates for the end of the month stock levels for August 1991, inventories rose for PAD Districts I and II yet slightly fell in PAD District III. The East Coast (PADD I) rose 133 thousand barrels. The Midwest (PADD II) increased 657 thousand barrels. The Gulf Coast (PADD III), which is both the largest propane producing and consuming section of the country, dropped 387 thousand barrels.

Table H2. Propane Stocks by Petroleum Administration for Defense Districts (PADD) I, II, and III
(Thousand Barrels)

PAD Districts	July 1991	August 1991	Week Ending					
			09/27/91	10/04/91	10/11/91	10/18/91	10/25/91	11/01s/91
East Coast (Padd I)	3,933	^E 3,624	^E 3,757					
Midwest (PADD II)	21,671	^E 22,406	^E 23,063					
Gulf Coast (PADD III)	23,389	^E 24,077	^E 23,690					
Total (PADD I-III)	48,993	^E 50,107	^E 50,510					
U.S. Total	50,434	^E 51,392	^E 51,805					

E=Estimated data.

Source: Energy Information Administration (EIA), Monthly Petroleum Supply Reporting System and Form EIA-807, "Propane Telephone Survey."

NATURAL GAS

Supply and Disposition

The Energy Information Administration (EIA) estimates that total gas supply available for disposition in July 1991 was 1,479 billion cubic feet, 8 percent less than in July 1990 (Table 3). The July 1991 total includes 9 billion cubic feet of supplemental fuel supplies, 132 billion cubic feet of imported gas, and 46 billion cubic feet withdrawn from storage. Imports were 10 percent greater than in July 1990, indicating the continued strong level of Canadian import activity, which has increased every year since 1986.

On the disposition side, the consumption of 1,207 billion cubic feet was less than 1 percent greater than in June 1991 and 6 percent less than in July 1990 (Table 3). Total disposition included 266 billion cubic feet of gas injected into underground storage reservoirs and exports of 6 billion cubic feet.

Consumption

Data for the four major end-use sectors (Table 5) indicate that the total amount of gas delivered to all consumers decreased 11 percent to 1,057 billion cubic feet in June 1991, from 1,192 billion cubic feet in May 1991 (Table 5). Consumption in the industrial sector decreased from 560 billion cubic feet in May 1991 to 532 billion cubic feet in June 1991, a decline of 5 percent.

The electric utility sector maintained its strong consumption level, using 260 billion cubic feet, 4 percent higher than May 1991, but 12 percent less than in June 1990.

The residential sector consumed 147 billion cubic feet in June 1991, and the commercial sector consumed 119 billion cubic feet. These totals are 8 percent and 4 percent less, respectively, than in June 1990.

Natural Gas Prices

In June 1991, major interstate pipeline companies paid an average of \$1.98 per thousand cubic feet for gas purchased from domestic producers, a 3 percent decrease from May's \$2.04 total, and a 9 percent decrease from the \$2.18 paid in June 1990. In June 1991, these pipeline companies paid \$2.05 per thousand cubic feet for imported gas. Distributors paid an average \$2.86 per thousand cubic feet for gas at the city gate in June 1990. This is 3 percent more than these consumers paid in May 1991 but 5 percent less than they paid in June 1990. Residential consumers paid \$6.94 per thousand cubic feet in June 1991, 11 percent more than the \$6.28 per thousand cubic feet paid in May 1991, and 6 percent more than they paid in June 1990.

PRICES

Pricing highlights are not scheduled for publication until October 17, 1991.

Distillate Fuel Oil

Overall view of a typical bulk terminal facility.

Table 1. Monthly and Weekly Net Production^a, Imports, and Stocks of Distillate Fuel Oil by Petroleum Administration for Defense District (PADD) and Product Supplied for the United States
(Thousand Barrels per Day, Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total U.S.												
Production												
1989	2,974	2,797	2,713	2,789	2,750	2,809	2,848	2,907	2,952	2,906	3,063	3,266
1990	3,130	2,753	2,657	2,803	2,874	2,996	3,008	3,131	2,968	2,928	2,915	2,917
1991	2,851	2,867	2,862	2,822	2,924	2,940	2,992					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	2,990	2,952	2,900	3,012	3,122	3,090	3,112	3,144	3,168			
Imports												
1989	346	331	439	301	290	233	334	254	249	261	307	324
1990	505	357	281	308	209	257	236	293	226	190	238	239
1991	190	138	206	258	185	209	153					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	245	83	106	165	120	201	224	515	122			
Stocks (Million Barrels)												
1989	120.6	107.6	96.7	98.5	99.6	99.6	115.0	116.3	123.2	121.7	119.8	105.7
1990	117.7	111.7	98.9	99.1	102.5	109.9	125.0	129.8	136.0	136.3	132.4	132.2
1991	112.1	101.3	98.3	102.2	107.0	113.5	124.3					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	125.0	126.4	126.0	127.7	129.7	132.6	135.6	139.6	140.6			
Product Supplied												
1989	3,303	3,427	3,428	2,975	2,954	3,002	2,596	2,966	2,889	3,127	3,311	3,914
1990	3,185	3,260	3,277	3,043	2,900	2,923	2,726	3,218	2,864	2,960	3,094	2,816
1991	3,356	3,000	2,966	2,869	2,735	2,783	2,649					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	2,787	2,755	2,959	2,841	2,876	2,774	2,826	2,987	3,053			
East Coast (PADD I)												
Production												
1989	401	344	321	284	309	338	368	385	370	387	389	448
1990	417	370	313	313	317	343	385	367	396	348	322	332
1991	344	374	344	299	339	367	367					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	380	402	351	356	379	340	362	380	395			
Stocks (Million Barrels)												
1989	46.6	37.2	33.3	33.2	33.1	35.7	44.6	48.4	50.2	51.7	49.7	35.1
1990	44.2	39.5	30.8	29.9	33.2	40.6	51.6	56.9	62.8	65.2	60.6	55.6
1991	39.8	31.7	29.7	31.6	35.4	43.3	50.6					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	51.2	52.1	53.0	53.5	55.3	57.2	58.8	61.6	62.9			

See footnotes at end of table.

Table 1. Monthly and Weekly Net Production^a, Imports, and Stocks of Distillate Fuel Oil by Petroleum Administration for Defense District (PADD) and Product Supplied for the United States (Continued)
(Thousand Barrels per Day, Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
New England (PADD IX)												
Stocks (Million Barrels)												
1989	8.6	5.8	5.4	4.7	4.6	4.5	8.2	8.8	9.2	9.4	7.7	4.4
1990	5.4	4.6	4.0	3.8	3.8	5.5	8.7	9.9	10.7	10.6	9.7	8.3
1991	5.4	3.6	3.5	4.3	5.1	6.5	8.7					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	9.5	9.1	8.4	8.7	9.3	9.2	9.9	10.7	11.1			
Central Atlantic (PADD IV)												
Stocks (Million Barrels)												
1989	23.9	20.3	17.4	18.2	18.0	21.0	24.3	28.6	28.4	30.0	28.4	19.4
1990	26.1	22.2	16.2	15.3	17.2	22.4	30.1	34.7	39.2	41.0	37.3	32.2
1991	21.9	18.0	14.9	17.0	20.0	25.2	30.3					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	30.3	31.8	34.2	33.6	35.6	36.7	37.6	38.8	39.7			
Lower Atlantic (PADD IZ)												
Stocks (Million Barrels)												
1989	14.0	11.2	10.6	10.4	10.5	10.1	12.0	11.0	12.6	12.3	13.6	11.4
1990	12.7	12.7	10.6	10.8	12.2	12.7	12.8	12.3	12.9	13.7	13.6	15.1
1991	12.5	10.1	11.3	10.3	10.3	11.6	11.6					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	11.3	11.2	10.4	11.3	10.4	11.3	11.3	12.1	12.1			
Midwest (PADD II)												
Production												
1989	713	687	661	658	625	677	662	670	698	650	710	797
1990	735	659	638	701	725	751	757	729	704	686	697	723
1991	669	678	676	684	720	734	769					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	749	724	725	695	718	776	690	752	741			
Stocks (Million Barrels)												
1989	32.7	31.3	27.2	27.4	27.2	27.0	28.8	29.0	31.1	28.7	28.9	30.7
1990	33.2	32.6	30.1	29.4	30.0	30.0	31.6	30.4	30.0	28.7	30.0	32.7
1991	30.1	29.8	30.0	30.6	31.7	31.3	33.2					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	32.7	32.3	32.2	32.4	32.7	33.5	33.5	33.6	32.5			

See footnotes at end of table.

Table 1. Monthly and Weekly Net Production^a, Imports, and Stocks of Distillate Fuel Oil by Petroleum Administration for Defense District (PADD) and Product Supplied for the United States (Continued)
(Thousand Barrels per Day, Except Where Noted)

District/Year:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Gulf Coast (PADD III)												
Production												
1989	1,324	1,257	1,240	1,291	1,268	1,227	1,227	1,278	1,309	1,305	1,401	1,444
1990	1,442	1,170	1,157	1,248	1,254	1,376	1,314	1,416	1,291	1,332	1,318	1,317
1991	1,286	1,293	1,328	1,295	1,292	1,264	1,293					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	1,311	1,301	1,260	1,343	1,433	1,376	1,430	1,421	1,446			
Stocks (Million Barrels)												
1989	27.7	26.2	22.8	23.9	25.3	23.9	27.7	26.1	28.5	27.6	27.0	25.0
1990	25.6	24.4	23.4	25.5	24.0	24.9	28.4	29.0	29.3	29.5	27.0	28.2
1991	27.2	25.4	25.1	26.6	25.5	24.7	27.3					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	27.7	28.4	27.6	28.1	28.1	28.5	29.1	30.5	30.8			
Rocky Mountain (PADD IV)												
Production												
1989	111	105	113	122	123	116	127	130	139	127	130	126
1990	112	124	116	122	132	129	136	137	134	129	130	122
1991	118	113	131	122	135	136	147					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	153	140	136	149	145	134	127	111	123			
Stocks (Million Barrels)												
1989	2.8	2.7	2.3	2.4	2.8	2.4	2.6	2.6	2.7	2.5	2.8	3.3
1990	3.2	3.2	2.7	2.7	2.9	3.1	3.1	2.5	2.5	2.5	2.8	3.3
1991	3.2	3.3	3.5	3.1	3.4	3.3	3.2					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	3.4	3.4	3.1	3.1	3.0	3.0	3.1	2.8	2.6			
West Coast (PADD V)												
Production												
1989	426	406	378	434	424	451	465	444	436	436	433	452
1990	425	431	432	418	447	397	416	483	443	433	448	423
1991	434	409	383	423	438	439	416					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	397	384	428	470	447	464	503	481	463			
Stocks (Million Barrels)												
1989	10.8	10.3	11.1	11.7	11.2	10.6	11.3	10.2	10.7	11.1	11.3	11.6
1990	11.4	11.9	11.9	11.7	12.4	11.3	10.2	11.0	11.4	10.4	12.0	12.5
1991	11.8	11.0	10.0	10.2	11.1	10.9	10.0					
Week Ending												
1991	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	09/27			
	10.1	10.0	10.2	10.7	10.5	10.5	11.0	11.2	11.8			

^a Net production equals gross production minus input. Negative production will occur when the amount of product produced during the month is less than the amount of that same product reprocessed (input) or reclassified to become another product during the same month.

Notes: • Totals may not equal sum of components due to independent rounding. • Sum of PADD's IX, IY, and IZ may not equal PADD I because of independent estimation.

Source: Energy Information Administration, Weekly and Monthly Petroleum Supply Reporting Systems.

Figure 1. U.S. Distillate Fuel Oil Production

Source: • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Production: Estimates based on weekly data collected on Form EIA-800.

Figure 2. U.S. Distillate Fuel Oil Imports

Source: • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Imports: Estimates based on weekly data collected on Form EIA-804.

Figure 3. U.S. Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1987-June 1990. The seasonal pattern is based on 7 years of monthly data.

² The National Petroleum Council (NPC) defines the Minimum Operating Inventory as the inventory level below which operating problems and shortages would begin to appear in a defined distribution system. In its 1988 study, the NPC estimated this inventory level for distillate fuel oil to be 85 million barrels.

Source: • Data for Ranges and Seasonal Patterns: 1983-1989, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1990, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Figure 4. PADD I (East Coast) Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1987-June 1990. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for distillate fuel oil stocks in the last 36 month period was 29.7 million barrels, occurring in March 1991.

Source: • Data for Ranges and Seasonal Patterns: 1983-1989, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1990, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Figure 5. PADD II (Midwest) Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1987-June 1990. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for distillate fuel oil stocks in the last 36 month period was 27.0 million barrels, occurring in June 1989.

Source: • Data for Ranges and Seasonal Patterns: 1983-1989, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1990, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Figure 6. PADD III (Gulf Coast) Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1987-June 1990. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for distillate fuel oil stocks in the last 36 month period was 22.8 million barrels, occurring in March 1989.

Source: • Data for Ranges and Seasonal Patterns: 1983-1989, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1990, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Figure 7. PADD IV (Rocky Mountain) Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1987-June 1990. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for distillate fuel oil stocks in the last 36 month period was 2.3 million barrels, occurring in March 1989.

Source: • Data for Ranges and Seasonal Patterns: 1983-1989, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1990, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Figure 8. PADD V (West Coast) Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1987-June 1990. The seasonal pattern is based on 7 years of monthly data.

² The National Petroleum Council (NPC) defines the Minimum Operating Inventory as the inventory level below which operating problems and shortages would begin to appear in a defined distribution system. In its 1988 study, the NPC estimates this inventory level for distillate fuel oil to be 8 million barrels.

Source: • Data for Ranges and Seasonal Patterns: 1983-1989, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1990, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Period Ending 09/27/91 Energy Information Administration/Winter Fuels Report

Propane

Spherical tanks are used to store liquefied petroleum gases under pressure.

Table 2. Monthly and Weekly Net Production^a, Imports, and Stocks of Propane^b by Petroleum Administration for Defense Districts (PADD) I, II, and III
(Thousand Barrels per Day, Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total U.S. Production												
1989	909	862	887	895	887	858	871	847	845	826	847	814
1990	879	916	880	869	853	836	860	880	888	881	897	900
1991	905	916	900	889	910	894	888	NA				
Imports												
1989	154	140	101	93	80	105	106	106	107	109	108	122
1990	186	152	118	116	147	100	91	113	77	91	72	113
1991	97	88	54	99	89	78	89	NA				
Stocks (Million Barrels)												
1989	45.1	36.4	32.3	36.7	43.9	49.6	56.5	60.4	59.0	53.9	48.2	31.5
1990	33.5	33.2	33.1	32.1	36.2	45.0	50.1	54.2	57.2	54.7	53.8	48.9
1991	34.8	29.9	29.5	35.0	41.6	48.0	50.4	E51.4				
East Coast (PADD I)												
Production												
1989	60	60	55	54	46	49	52	53	56	53	53	51
1990	58	55	44	46	39	35	41	48	53	43	41	51
1991	55	54	56	47	54	52	50	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E47								
Imports												
1989	41	37	22	19	16	19	21	4	17	9	23	12
1990	65	51	40	28	43	25	20	4	19	29	20	20
1991	24	17	18	16	6	14	3	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E37								
Stocks (Million Barrels)												
1989	3.9	2.9	2.3	2.6	3.0	4.0	4.9	4.8	4.9	4.9	4.8	1.8
1990	2.5	2.7	2.7	3.0	3.2	3.3	3.4	3.4	3.7	4.3	5.0	5.0
1991	4.1	3.5	3.8	4.2	4.1	4.2	3.9	E3.6				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E3.8								

See footnotes at end of table.

Table 2. Monthly and Weekly Net Production^a, Imports, and Stocks of Propane^b by Petroleum Administration for Defense Districts (PADD) I, II, and III (Continued)
(Thousand Barrels per Day Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
New England (PADD 1X)												
Production												
1989	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E0								
Imports												
1989	27	27	17	15	8	17	14	1	10	5	18	6
1990	43	23	35	21	32	21	1	1	12	8	10	11
1991	16	11	13	13	1	13	1	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E2								
Stocks (Million Barrels)												
1989	0.4	0.2	0.3	0.4	0.2	0.6	0.7	0.4	0.3	0.1	0.3	*
1990	0.2	0.1	0.3	0.1	0.2	0.5	0.3	0.1	0.4	0.4	0.6	0.5
1991	0.5	0.3	0.3	0.6	0.2	0.4	0.3	E0.3				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E0.5								
Central Atlantic (PADD 1Y)												
Production												
1989	46	46	42	41	36	40	41	40	43	39	40	39
1990	46	42	32	34	28	29	34	38	41	31	30	38
1991	42	42	43	36	43	45	42	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E41								
Imports												
1989	9	6	5	4	3	3	3	3	3	4	5	6
1990	11	23	5	7	5	4	19	3	3	18	4	6
1991	5	6	5	3	2	1	2	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E3								
Stocks (Million Barrels)												
1989	2.2	1.7	1.1	1.3	1.6	2.2	2.6	3.0	3.2	3.1	2.6	0.9
1990	1.2	1.7	1.2	1.2	1.4	1.6	1.6	1.9	2.3	2.4	2.3	2.3
1991	1.7	1.4	1.2	1.3	1.6	1.9	1.8	E1.9				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E2.1								

See footnotes at end of table.

Table 2. Monthly and Weekly Net Production^a, Imports, and Stocks of Propane^b by Petroleum Administration for Defense Districts (PADD) I, II, and III (Continued)
(Thousand Barrels per Day Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lower Atlantic (PADD 12)												
Production												
1989	14	14	13	14	9	9	12	12	13	14	13	12
1990	12	13	12	12	11	7	7	10	12	12	11	12
1991	12	11	13	12	12	7	8	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E6								
Imports												
1989	4	4	0	0	5	0	4	0	4	0	0	0
1990	11	4	0	0	6	0	0	0	4	3	6	3
1991	3	0	0	0	4	*	0	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E32								
Stocks (Million Barrels)												
1989	1.2	1.1	1.0	1.0	1.2	1.3	1.5	1.4	1.5	1.7	1.9	0.9
1990	1.1	0.9	1.1	1.7	1.5	1.3	1.5	1.3	1.1	1.5	2.0	2.2
1991	1.9	1.8	2.3	2.3	2.3	1.9	1.8	E1.4				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E1.2								
Midwest (PADD II)												
Production												
1989	214	205	200	204	200	203	202	194	191	179	193	197
1990	214	218	208	201	200	194	206	212	210	207	209	218
1991	215	228	217	212	212	204	209	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E222								
Imports												
1989	103	84	70	60	49	68	43	55	62	73	75	86
1990	94	79	47	55	63	39	36	45	32	53	38	66
1991	59	58	33	39	43	40	33	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E58								
Stocks (Million Barrels)												
1989	15.4	10.6	9.1	11.5	14.1	16.6	19.5	20.5	19.6	16.8	14.8	9.5
1990	11.5	10.7	10.9	11.6	13.9	16.6	18.6	19.2	20.8	18.6	19.2	17.9
1991	13.0	11.1	11.8	13.8	17.1	20.1	21.7	E22.4				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E23.1								

See footnotes at end of table.

Table 2. Monthly and Weekly Net Production^a, Imports, and Stocks of Propane^b by Petroleum Administration for Defense Districts (PADD) I, II, and III (Continued)
(Thousand Barrels per Day Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Gulf Coast (PADD III)												
Production												
1989	532	503	538	545	545	518	523	509	507	500	505	468
1990	503	539	526	528	523	519	526	525	531	534	550	535
1991	534	538	527	532	540	537	532	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E540								
Imports												
1989	0	8	0	8	11	13	38	43	20	21	5	13
1990	19	17	18	29	38	32	32	60	22	6	8	20
1991	7	7	0	41	36	22	51	NA				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E2								
Stocks (Million Barrels)												
1989	25.1	22.3	20.2	21.7	25.7	27.9	30.8	33.6	33.0	30.8	27.3	19.1
1990	18.6	19.1	19.0	16.9	18.4	24.1	27.0	30.1	31.0	30.1	28.0	24.8
1991	16.9	14.6	13.3	16.3	19.5	22.5	23.4	E24.1				
Week Ending												
1991	09/06	09/13	09/20	09/27								
	NA	NA	NA	E23.7								

^a Net production equals gross production minus input. Negative production will occur when the amount of product produced during the month is less than the amount of that same product reprocessed (input) or reclassified to become another product during the same month.

^b Includes propylene.

E=Estimated data.

* Less than 50,000 barrels. ** Less than 500 barrels per day.

NA=Not available.

Note: • This table presents weekly data, derived from a cut-off sample of refineries and fractionators that produce propane and from companies that import or store propane, which have been extrapolated to the universe of companies reporting in PADD's I, II, and III. • Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration (EIA), Monthly Petroleum Supply Reporting System and data collected on Form EIA-807, "Propane Telephone Survey."

Figure 9. U.S. Propane Production

Source: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*.

Figure 10. U.S. Propane Imports

Source: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*.

Figure 11. U.S. Propane Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1987-June 1990. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for propane stocks in the last 36 month period was 29.5 million barrels, occurring in March 1991.

Source: • Data for Ranges and Seasonal Patterns: 1983-1989, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1990, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on data from Table H1.

Figure 12. PADD I (East Coast) Propane Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1987-June 1990. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for propane stocks in the last 36 month period was 1.8 million barrels, occurring in December 1989.

Source: • Data for Ranges and Seasonal Patterns: 1983-1989, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1990, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on data collected on Form EIA-807, "Propane Telephone Survey."

Period Ending 09/27/91 Energy Information Administration/Winter Fuels Report

Figure 13. PADD II (Midwest) Propane Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1987-June 1990. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for propane stocks in the last 36 month period was 9.1 million barrels, occurring in March 1989.

Source: • Data for Ranges and Seasonal Patterns: 1983-1989, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1990, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on data collected on Form EIA-807, "Propane Telephone Survey."

Figure 14. PADD III (Gulf Coast) Propane Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1987-June 1990. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for propane stocks in the last 36 month period was 13.3 million barrels, occurring in March 1991.

Source: • Data for Ranges and Seasonal Patterns: 1983-1989, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1990, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on data collected on Form EIA-807, "Propane Telephone Survey."

Natural Gas

Pipelines carry natural gas across geographic regions.

Table 3. Supply and Disposition of Dry Natural Gas
(Billion Cubic Feet)

Year and Month	Supply					Total Supply/Disposition ^c	Disposition		
	Total Dry Gas Production	Withdrawals from Storage ^a	Supplemental Gaseous Fuels	Imports	Balancing Item ^b		Additions to Storage ^a	Exports	Consumption ^d
1985 Total	16,382	2,397	126	950	-356	19,499	2,163	55	17,281
1986 Total	15,991	1,837	113	750	-427	18,265	1,984	61	16,221
1987 Total	16,536	1,905	101	993	-359	19,175	1,911	54	17,211
1988 Total	17,026	2,270	101	1,294	-376	20,315	2,211	74	18,030
1989									
January	1,532	426	11	119	-4	2,084	53	7	2,024
February	1,415	614	10	110	-101	2,048	32	7	2,009
March	1,500	369	10	113	72	2,064	106	11	1,947
April	1,428	138	8	110	93	1,777	184	11	1,582
May	1,447	44	8	108	77	1,684	326	8	1,350
June	1,388	20	7	104	72	1,591	381	9	1,201
July	1,415	29	8	101	55	1,608	377	9	1,222
August	1,404	29	8	108	39	1,588	362	9	1,217
September	1,337	39	7	117	16	1,516	325	9	1,182
October	1,403	96	9	123	-57	1,574	225	10	1,339
November	1,461	227	9	123	-139	1,681	105	8	1,568
December	1,514	821	12	145	-275	2,217	52	8	2,157
Total	17,245	2,850	107	1,382	-149	21,435	2,529	107	18,799
1990									
January	1,605	339	11	140	136	2,231	91	14	2,126
February	1,428	324	9	118	33	1,912	70	8	1,834
March	1,515	256	10	116	34	1,931	124	11	1,796
April	1,429	140	9	123	93	1,794	183	6	1,605
May	1,454	45	8	123	69	1,699	289	6	1,404
June	1,406	42	7	117	56	1,628	327	6	1,295
July	1,425	27	9	120	33	1,614	325	5	1,284
August	1,436	37	8	118	39	1,638	321	5	1,312
September	1,374	36	8	120	33	1,571	284	7	1,280
October	1,475	61	8	142	-68	1,618	214	6	1,398
November	1,496	144	9	140	-92	1,697	136	6	1,555
December	1,566	467	11	156	-173	2,027	72	7	1,948
Total	17,609	1,918	105	1,532	195	21,359	2,436	86	18,837
1991									
January	1,572	632	10	156	-23	2,347	57	8	2,282
February	1,425	360	9	131	44	1,969	58	7	1,904
March	1,507	262	10	119	34	1,932	98	9	1,825
April	1,440	83	9	145	95	1,772	212	8	1,552
May	1,452	31	9	128	32	1,652	306	6	1,340
June	1,424	20	8	125	-62	1,515	307	8	1,200
July	1,439	46	9	132	-147	1,479	266	6	1,207
1991 YTD	10,259	1,434	64	936	-27	12,666	1,304	52	11,310
1990 YTD	10,262	1,173	63	857	454	12,809	1,409	56	11,344
1989 YTD	10,125	1,640	62	765	264	12,856	1,459	62	11,335

^a Monthly and annual data for 1985 through 1989 include underground storage and liquefied natural gas storage. Data for January 1990 forward include underground storage only.

^b Represents quantities lost and imbalances in data due to differences among data sources.

^c "Total" data for 1985 through 1989 do not equal equivalent data in Table 1 of the 1989, *Natural Gas Annual* due to the exclusion of intransit receipts and deliveries in the *Natural Gas Monthly*.

^d Consists of pipeline fuel use, lease and plant fuel use, and deliveries to consuming sectors.

E=Estimated data.

NA=Not available.

Notes: • Data for 1985 through 1989 are final. All other data are preliminary unless otherwise indicated. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Full explanations of all survey processing, estimation procedures, and computations are provided in the publications listed under "Sources."

Sources: Energy Information Administration (EIA), *Natural Gas Annual* and *Natural Gas Monthly*.

Table 4. Underground Natural Gas Storage (All Operators)
(Billion Cubic Feet)

Year and Month	Natural Gas in Underground Storage at End of Period			Change in Working Gas from Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total ^b	Volume	Percent	Injections	Withdrawals	Net ^c
1985 Total^a	3,842	2,607	6,448	-270	-9.4	2,128	2,359	-231
1986 Total^a	3,819	2,749	6,567	142	5.5	1,952	1,812	140
1987 Total^a	3,792	2,756	6,548	7	.3	1,887	1,881	6
1988 Total^a	3,800	2,850	6,650	94	3.4	2,174	2,244	-69
1989								
January	3,798	2,509	6,307	281	12.6	53	418	-365
February	3,801	1,994	5,796	168	9.2	32	802	-570
March	3,801	1,776	5,576	94	5.6	106	362	-256
April	3,801	1,823	5,624	54	3.0	181	138	43
May	3,802	2,062	5,863	34	1.7	321	44	277
June	3,802	2,374	6,176	82	3.6	375	20	355
July	3,802	2,644	6,446	77	3.0	371	29	341
August	3,802	2,938	6,740	103	3.6	356	29	328
September	3,802	3,187	6,990	67	2.2	320	39	281
October	3,792	3,268	7,061	25	.8	221	96	124
November	3,809	3,199	7,008	28	.9	105	223	-118
December	3,812	2,513	6,325	-337	-11.8	52	805	-752
Total	--	--	--	--	--	2,493	2,804	-311
1990								
January	3,818	2,265	6,083	-243	-9.7	91	339	-248
February	3,814	2,013	5,827	19	.9	70	324	-253
March	3,818	1,878	5,695	101	5.7	124	256	-131
April	3,839	1,932	5,771	109	6.0	183	140	43
May	3,823	2,159	5,982	97	4.7	289	45	245
June	3,844	2,454	6,297	79	3.3	327	42	285
July	3,850	2,747	6,597	103	3.9	325	27	298
August	3,851	2,995	6,846	57	1.9	321	37	283
September	3,852	3,267	7,119	80	2.5	284	36	248
October	3,852	3,426	7,277	158	4.8	214	61	153
November	3,868	3,417	7,285	218	6.8	136	144	-8
December	3,868	3,009	6,876	496	19.7	72	467	-395
Total	--	--	--	--	--	2,436	1,918	520
1991								
January	3,831	2,282	6,094	-3	-.1	57	632	-576
February	3,889	2,080	5,969	87	3.3	60	360	-300
March	3,865	1,912	5,777	34	1.8	98	262	-164
April	3,878	2,039	5,917	107	5.5	212	83	129
May	3,914	2,279	6,192	120	5.6	306	31	276
June	3,942	2,548	6,490	94	3.8	308	20	288
July	3,923	2,750	6,673	3	.1	266	46	220

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1985 - 8,087; 1986 - 8,145; 1987 and 1988 - 8,124; and 1989 - 8,124. Current total capacity is 8,125.

^c Positive numbers indicate the volume of injections in excess of withdrawals. Negative numbers indicate the volume of withdrawals in excess of injections.

E=Estimated data.

Notes: • Data for 1985 through 1989 are final. All other data are preliminary unless otherwise indicated. • Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia. • Full explanations of all survey processing, estimation procedures, and computations are provided in the publications listed under "Sources."

Sources: Energy Information Administration (EIA), Form EIA-191/FERC-8, "Underground Gas Storage Report," Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," *Natural Gas Annual*, and *Natural Gas Monthly*.

Figure 15. Underground Natural Gas Storage In the United States

Source: Energy Information Administration (EIA), Form EIA-191/FERC-8, "Underground Natural Gas Storage Report," and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," *Natural Gas Annual*, and *Natural Gas Monthly*.

Table 5. Natural Gas Consumption by Petroleum Administration for Defense District (PADD)
(Billion Cubic Feet)

Year and Month	New England				Central Atlantic			
	Residential	Commercial	Industrial	Electric Utilities	Residential	Commercial	Industrial	Electric Utilities
1989								
January	28	14	5	0	146	68	46	4
February	26	13	5	0	137	65	45	6
March	27	13	6	2	133	65	49	23
April	18	10	6	6	89	46	45	31
May	12	7	6	6	56	31	41	31
June	6	5	5	7	31	21	38	34
July	5	4	4	7	25	19	36	35
August	4	4	5	6	23	19	37	33
September	5	4	5	8	24	20	38	27
October	8	6	6	10	42	27	40	25
November	13	7	6	2	73	41	43	13
December	27	13	5	0	151	71	46	5
Total	180	100	65	54	931	493	508	269
1990								
January	32	15	6	0	152	71	46	6
February	25	13	6	1	124	61	46	9
March	24	12	7	1	114	58	47	21
April	18	10	8	6	86	46	44	22
May	11	6	7	9	48	28	39	21
June	7	5	6	5	31	23	38	27
July	5	4	6	9	24	21	35	34
August	4	4	8	11	22	21	39	43
September	5	1	7	9	25	22	40	37
October	6	5	8	9	36	27	43	37
November	13	8	8	5	71	41	46	26
December	20	11	8	2	108	60	47	18
Total	171	97	82	66	841	479	508	302
1991								
January	27	15	8	2	146	76	52	15
February	26	14	8	0	131	69	45	12
March	23	13	8	2	117	62	46	17
April	17	10	9	4	81	46	45	23
May	10	7	9	4	44	28	40	32
June	6	5	10	5	25	22	37	35
1991 YTD	109	63	52	17	544	303	265	135
1990 YTD	117	60	39	22	555	287	260	106
1989 YTD	118	62	34	21	592	296	265	131

See footnotes at end of table.

Table 5. Natural Gas Consumption by Petroleum Administration for Defense District (PADD) (Continued)
(Billion Cubic Feet)

Year and Month	Lower Atlantic				PAD District I			
	Residential	Commercial	Industrial	Electric Utilities	Residential	Commercial	Industrial	Electric Utilities
1989								
January	43	27	42	12	218	109	93	18
February	42	26	39	11	204	104	89	17
March	35	24	44	15	195	102	99	40
April	23	18	44	17	131	74	95	54
May	13	13	43	19	81	50	90	56
June	8	10	41	21	45	36	85	62
July	7	10	39	21	37	33	79	63
August	6	9	41	20	34	32	83	60
September	7	10	39	20	37	34	82	54
October	12	12	44	17	63	45	91	52
November	24	17	43	14	111	65	92	28
December	53	29	34	10	231	113	85	15
Total	275	205	493	196	1,386	799	1,064	518
1990								
January	50	30	45	12	234	116	96	18
February	33	22	42	13	182	96	93	22
March	29	21	45	16	166	91	99	37
April	20	17	42	16	125	74	95	44
May	11	12	44	18	71	47	89	48
June	8	10	41	17	47	38	85	49
July	7	10	42	22	36	34	83	64
August	7	10	46	22	33	35	93	76
September	7	10	46	21	37	36	93	67
October	11	12	50	20	53	44	100	67
November	22	17	46	16	106	66	99	46
December	37	23	43	14	165	94	98	35
Total	242	193	532	206	1,254	769	1,123	574
1991								
January	46	28	47	15	219	119	107	32
February	40	26	41	14	198	109	94	28
March	33	23	46	16	173	98	100	36
April	18	16	45	17	116	72	99	44
May	10	12	46	20	64	47	95	57
June	8	11	44	21	38	37	90	61
1991 YTD	155	116	268	104	808	482	586	256
1990 YTD	152	112	259	91	824	460	558	219
1989 YTD	164	118	253	95	874	475	552	246

See footnotes at end of table.

Table 5. Natural Gas Consumption by Petroleum Administration for Defense District (PADD) (Continued)
(Billion Cubic Feet)

Year and Month	PAD District II				PAD District III			
	Residential	Commercial	Industrial	Electric Utilities	Residential	Commercial	Industrial	Electric Utilities
1989								
January	318	157	171	17	66	40	254	76
February	329	162	171	17	72	41	246	94
March	286	144	172	17	60	37	250	105
April	180	90	150	20	33	26	249	109
May	105	54	135	23	19	19	244	133
June	54	34	123	21	15	17	249	124
July	45	32	120	27	14	19	254	151
August	42	33	120	26	13	17	258	157
September	54	34	121	19	14	15	249	123
October	105	56	139	17	18	17	255	113
November	193	99	155	16	32	23	279	88
December	374	176	178	19	75	41	295	101
Total	2,083	1,072	1,756	239	431	311	3,083	1,372
1990								
January	325	170	178	16	86	43	268	75
February	274	136	163	14	54	32	246	63
March	230	121	169	17	45	30	268	91
April	171	90	157	16	32	25	290	96
May	101	54	143	20	21	20	298	136
June	57	36	130	27	16	20	276	170
July	44	38	127	29	14	20	272	160
August	43	36	131	31	14	17	289	167
September	49	37	136	29	14	15	272	145
October	102	59	154	21	17	16	294	118
November	166	91	164	14	32	22	266	90
December	278	139	179	16	57	34	284	92
Total	1,840	1,007	1,833	252	401	292	3,324	1,403
1991								
January	387	188	198	16	84	45	263	85
February	295	151	172	13	65	36	232	68
March	247	124	169	16	48	30	234	94
April	148	76	149	20	29	24	251	112
May	87	47	139	27	18	18	244	132
June	49	33	129	29	15	16	233	140
1991 YTD	1,212	620	954	121	260	170	1,458	631
1990 YTD	1,158	607	941	111	254	169	1,646	631
1989 YTD	1,272	643	922	115	265	179	1,492	640

See footnotes at end of table.

Table 5. Natural Gas Consumption by Petroleum Administration for Defense District (PADD) (Continued)
(Billion Cubic Feet)

Year and Month	PAD District IV				PAD District V			
	Residential	Commercial	Industrial	Electric Utilities	Residential	Commercial	Industrial	Electric Utilities
1989								
January	41	25	20	2	109	45	60	37
February	41	25	19	1	97	47	44	42
March	36	21	19	1	69	37	61	48
April	22	14	17	1	48	30	52	50
May	14	8	15	1	37	27	59	37
June	9	6	15	0	32	29	58	54
July	7	4	13	1	26	22	59	78
August	6	4	16	1	26	23	62	66
September	7	5	15	1	28	25	65	70
October	10	7	17	1	33	27	67	72
November	19	12	17	1	50	33	60	56
December	33	20	18	1	79	40	65	36
Total	244	152	201	12	633	385	713	646
1990								
January	41	25	R 19	1	99	47	69	35
February	35	21	R 18	0	94	52	60	32
March	31	19	R 18	1	77	42	54	38
April	23	14	R 16	1	47	34	70	41
May	16	10	R 16	1	38	27	61	39
June	10	6	R 15	1	31	25	66	50
July	6	4	R 14	1	26	27	67	71
August	6	4	R 14	1	25	24	59	67
September	6	4	R 15	1	26	29	69	58
October	10	7	R 18	1	30	25	70	49
November	19	12	R 19	1	51	33	71	34
December	31	19	R 19	1	95	46	74	31
Total	235	146	R 201	10	639	412	788	547
1991								
January	49	29	R 21	1	108	51	75	36
February	39	23	18	1	72	39	66	38
March	31	18	18	1	76	40	70	46
April	23	13	18	1	60	41	73	38
May	17	10	17	1	44	31	64	32
June	9	6	16	1	35	28	64	29
1991 YTD	167	100	107	6	394	231	412	219
1990 YTD	157	95	102	4	366	227	379	236
1989 YTD	162	99	104	7	391	215	335	268

Notes: • Data for 1984 through 1989 final. All other data are preliminary unless otherwise indicated. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Full explanations of all survey processing, estimation procedures, and computations are provided in the publications listed under "Sources."

Sources: Energy Information Administration (EIA), Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form EIA-759, "Monthly Power Plant Report," *Natural Gas Annual* and *Natural Gas Monthly*.

Figure 16. Natural Gas Deliveries to Consumers

Sources: Energy Information Administration (EIA), Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form EIA-759, "Monthly Power Plant Report," *Natural Gas Annual* and *Natural Gas Monthly*.

Table 6. Selected National Average Natural Gas Prices
(Dollars per Thousand Cubic Feet)

Year and Month	Wellhead Price ^a	Major Interstate Pipeline Companies		City Gate	Delivered to Consumers			
		Imports ^b	Purchased from Producers ^b		Residential	Commercial ^c	Industrial ^c	Electric Utilities ^d
1985 Annual Average	2.51	3.19	2.85	3.75	6.12	5.50	3.95	3.55
1986 Annual Average	1.94	2.53	2.39	3.22	5.83	5.08	3.23	2.43
1987 Annual Average	1.67	2.17	2.10	2.87	5.54	4.77	2.94	2.32
1988 Annual Average	1.69	2.00	2.13	2.92	5.47	4.63	2.95	2.33
1989								
January	1.99	1.77	2.35	3.17	5.41	4.81	3.39	2.83
February	1.81	2.20	2.16	3.10	5.38	4.80	3.33	2.44
March	1.69	1.99	2.14	2.89	5.45	4.79	3.12	2.32
April	1.56	2.01	2.19	2.83	5.54	4.77	2.91	2.31
May	1.61	2.00	2.11	2.94	5.93	4.64	2.80	2.39
June	1.65	2.04	2.05	2.98	6.58	4.57	2.69	2.40
July	1.65	1.88	2.00	3.08	6.92	4.65	2.70	2.40
August	1.61	2.27	2.11	3.04	7.07	4.61	2.71	2.38
September	1.55	2.02	2.08	2.99	6.80	4.67	2.67	2.33
October	1.58	2.17	2.13	2.84	6.06	4.61	2.75	2.39
November	1.66	2.13	2.23	2.98	5.56	4.71	2.98	2.56
December	1.92	2.08	2.39	3.10	5.30	4.81	3.32	2.85
Annual Average	1.69	2.04	2.18	3.01	5.64	4.74	2.97	2.42
1990								
January	2.22	2.04	2.42	3.24	5.41	4.98	R 3.50	R 3.00
February	1.85	2.25	2.17	3.10	5.62	5.05	R 3.37	2.76
March	1.56	1.99	1.94	2.94	5.58	4.93	R 3.04	2.37
April	1.50	2.00	2.17	2.83	5.62	4.82	R 2.81	R 2.28
May	1.47	2.08	1.98	2.81	5.98	4.63	R 2.64	R 2.18
June	1.49	1.91	2.18	3.00	R 6.54	R 4.57	2.54	2.16
July	1.50	1.88	2.00	3.03	7.01	4.46	R 2.46	2.22
August	1.51	1.93	1.86	2.91	7.04	4.56	2.48	2.23
September	1.57	1.89	1.93	2.92	6.86	R 4.56	2.56	2.21
October	1.79	1.90	2.18	2.81	6.11	4.67	R 2.64	2.45
November	1.99	2.21	2.45	3.14	5.66	R 4.81	R 2.99	2.79
December	2.07	2.27	2.58	3.19	5.59	4.92	R 3.21	2.89
Annual Average	1.72	2.03	2.19	3.03	5.77	4.83	R 2.89	2.38
1991								
January	1.95	2.24	2.23	3.08	5.53	4.98	R 3.25	2.71
February	1.57	2.12	1.98	2.94	5.55	4.97	R 3.00	2.35
March	1.46	1.94	2.06	R 2.79	5.60	4.93	R 2.79	2.21
April	1.47	2.05	1.91	2.75	5.88	4.90	R 2.54	2.10
May	1.42	2.00	2.04	2.77	6.28	4.71	R 2.39	2.01
June	NA	2.05	1.98	2.86	6.94	4.79	2.33	NA
1991 YTD	NA	2.07	2.03	2.90	5.73	4.92	2.75	2.24
1990 YTD	NA	2.04	2.14	3.02	5.64	4.90	3.03	2.46
1989 YTD	NA	2.00	2.17	3.00	5.54	4.76	3.06	2.40

^a A discussion of wellhead price is provided in the publications listed under "Sources."

^b A discussion of major interstate pipeline company data is provided in the publications listed under "Sources."

^c An explanation of break in series for consumer prices in 1987 is provided in the publications listed under "Sources."

^d Includes all stream electric utility generating plants with a combined capacity of 50 megawatts or greater.

R = Revised Data.

NA = Not Available.

Notes: Data for 1985 through 1989 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. Average prices for gas delivered to industrial consumers for 1985 through 1987 include imputed averages for volumes of gas delivered for the account of others. From 1988 on, average prices reflect on-system sales prices only. The change in series in 1987 affects the commercial, industrial, and all consumer averages.

Sources: • Average wellhead price: EIA *Natural Gas Annual 1989*, 1985 through 1989; and EIA estimates, January 1990 through current month. • Imports and Interstate Pipeline Company Purchases: Form FERC-11. • Average City Gate, Residential, Commercial and Industrial average prices for 1985 through current month from Form EIA-857. • Earlier prices from EIA *Natural Gas Annual 1989*. Electric Utilities averages from Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." • *Natural Gas Monthly*.

Prices

Distillate fuel oil and propane are two sources of residential heating in the United States.

Table 7. Residential Heating Oil Prices by Region and State
(Cents per Gallon)

Region/State	Heating Season						
	1990/91						1991/92
	October	November	December	January	February	March	
Average	130.6	129.7	126.2	121.6	116.3	107.6	
East Coast (PADD I)	132.2	131.1	128.5	124.3	119.7	111.2	
New England (PADD IX)	132.6	127.0	124.1	119.7	116.1	107.1	
Connecticut	131.6	134.1	130.6	126.0	122.8	113.0	
Maine	129.6	115.6	111.5	110.3	105.0	95.3	
Massachusetts	134.8	125.4	123.3	118.4	115.2	106.8	
New Hampshire	130.8	126.0	121.3	116.2	111.2	99.7	
Rhode Island	132.7	129.8	127.8	123.4	121.0	113.1	
Vermont	129.1	130.8	127.3	121.7	118.3	111.1	
Central Atlantic (PADD IY)	132.3	133.4	131.1	127.2	122.3	114.2	
Delaware	126.7	125.3	121.7	117.8	113.9	104.8	
District of Columbia	129.1	135.4	134.3	128.5	123.7	116.8	
Maryland	129.4	130.2	127.9	123.8	117.6	109.6	
New Jersey	134.7	135.1	131.7	128.4	124.0	114.9	
New York	137.1	138.9	136.6	133.0	128.0	121.2	
Pennsylvania	124.0	124.6	122.8	118.5	113.5	103.8	
Lower Atlantic (PADD IZ)	129.5	128.5	124.0	118.2	111.2	101.8	
North Carolina	128.2	127.0	122.2	118.1	110.8	102.4	
Virginia	131.1	130.2	125.9	118.4	111.7	101.2	
Midwest (PADD II)	122.9	122.6	115.5	108.5	100.3	90.7	
Illinois	123.5	119.9	112.3	104.3	95.8	86.6	
Indiana	126.3	123.0	115.2	109.2	100.4	90.6	
Iowa	117.8	117.9	110.1	98.5	90.5	80.5	
Michigan	127.4	127.0	118.8	111.8	105.1	95.0	
Minnesota	120.6	124.4	117.7	110.4	100.8	90.0	
Ohio	125.7	122.8	116.7	108.0	99.6	90.7	
Wisconsin	118.9	120.0	113.6	108.5	101.0	92.1	

P=Preliminary data.

NA=Not available.

Source: Based on data collected by State Energy Offices.

Figure 19. Residential Heating Oil Prices, New England

Source: Based on data collected by State Energy Offices.

Figure 20. Residential Heating Oil Prices, Central Atlantic

Source: Based on data collected by State Energy Offices.

Figure 21. Residential Heating Oil Prices, Lower Atlantic

Source: Based on data collected by State Energy Offices.

Figure 22. Residential Heating Oil Prices, Midwest

Source: Based on data collected by State Energy Offices.

Table 8. Residential Propane Prices by Region and State
(Cents per Gallon)

Region/State	Heating Season					
	1990/91					1991/92
	October	November	December	January	February	March
Average	106.3	105.3	102.0	100.2	93.9	88.4
East Coast (PADD I)	128.0	128.8	127.8	127.4	122.9	118.0
New England (PADD IX)	125.1	129.0	129.1	130.0	125.3	118.9
Connecticut	129.6	132.8	129.2	126.7	121.1	117.8
Maine	120.8	125.6	128.2	136.0	131.1	121.5
Massachusetts	127.6	133.0	132.5	130.1	126.3	121.1
New Hampshire	125.8	127.9	126.5	126.6	121.3	115.7
Rhode Island	133.4	140.5	143.1	143.4	138.2	130.1
Vermont	121.8	125.8	128.4	129.1	124.6	117.3
Central Atlantic (PADD IV)	136.0	136.4	136.2	135.8	132.2	128.6
Delaware	127.7	129.8	128.2	127.2	124.3	116.6
Maryland	131.6	135.6	134.8	135.8	134.1	125.6
New Jersey	136.7	137.8	136.6	135.9	131.2	125.5
New York	144.6	142.9	143.5	142.7	139.9	139.1
Pennsylvania	122.9	124.1	123.8	122.7	116.7	113.4
Lower Atlantic (PADD IZ)	123.7	121.7	118.9	117.1	112.1	107.4
North Carolina	124.3	120.4	116.7	115.8	109.8	103.6
Virginia	122.2	124.7	123.8	120.1	117.3	116.1
Midwest (PADD II)	94.8	93.0	88.3	85.8	78.6	72.8
Illinois	95.3	92.0	85.3	83.7	76.2	72.6
Indiana	96.2	99.5	97.5	96.3	91.9	88.5
Iowa	81.7	77.0	70.5	65.8	57.6	52.8
Kansas	82.9	80.2	71.2	67.8	57.6	53.0
Michigan	101.6	103.2	102.1	100.2	93.7	89.2
Minnesota	100.6	95.2	90.8	87.7	80.9	75.5
Missouri	93.0	90.6	85.5	81.9	74.4	68.6
Nebraska	78.0	75.3	69.3	66.5	57.4	51.3
North Dakota	79.7	79.2	75.7	76.4	67.6	56.1
Ohio	116.5	118.4	114.9	117.8	113.7	103.0
South Dakota	75.9	76.4	73.5	71.1	61.6	56.4
Wisconsin	99.7	98.8	94.7	91.3	83.7	77.4

P=Preliminary data.

Source: Based on data collected by State Energy Offices.

Figure 23. Residential Propane Prices, New England

Source: Based on data collected by State Energy Offices.

Figure 24. Residential Propane Prices, Central Atlantic

Source: Based on data collected by State Energy Offices.

Figure 25. Residential Propane Prices, Lower Atlantic

Source: Based on data collected by State Energy Offices.

Figure 26. Residential Propane Prices, Midwest

Source: Based on data collected by State Energy Offices.

Table 9. Wholesale Heating Oil Prices by Region and State
(Cents per Gallon)

Region/State	Heating Season						1991/92
	1990/91						
	October	November	December	January	February	March	
Average	105.2	91.9	85.8	77.5	72.6	64.5	
East Coast (PADD I)	105.5	91.1	86.6	78.7	75.0	66.8	
New England (PADD IX)	107.2	92.4	88.3	80.5	79.2	71.1	
Connecticut	106.9	91.8	88.1	80.3	79.0	71.5	
Maine	107.4	92.7	88.1	80.5	78.2	69.6	
Massachusetts	107.6	93.1	89.1	81.5	80.3	71.8	
New Hampshire	105.9	92.3	87.8	79.1	79.5	72.4	
Rhode Island	106.6	90.7	86.2	78.1	76.2	68.7	
Vermont	107.1	93.0	88.0	80.8	78.7	67.7	
Central Atlantic (PADD IV)	104.7	90.7	86.1	78.4	73.9	65.8	
Delaware	103.6	89.2	84.1	77.0	72.0	62.8	
District of Columbia	105.1	88.5	85.3	75.1	69.2	60.5	
Maryland	104.1	90.2	85.1	75.9	70.4	61.7	
New Jersey	104.0	90.0	85.7	78.1	74.3	66.4	
New York	105.6	91.4	87.2	80.2	75.6	67.6	
Pennsylvania	104.8	91.4	86.2	77.6	72.7	64.1	
Lower Atlantic (PADD IZ)	104.6	89.8	84.0	75.0	67.6	58.9	
North Carolina	104.4	89.7	83.9	75.2	68.0	59.2	
Virginia	104.7	89.9	84.1	74.8	67.4	58.5	
Midwest (PADD II)	104.6	94.3	83.3	73.6	64.9	57.3	
Illinois	104.1	93.2	82.4	73.6	63.6	55.9	
Indiana	104.7	91.8	83.2	73.3	65.7	57.5	
Iowa	105.0	95.9	82.6	73.0	65.2	58.2	
Kansas	105.3	94.7	81.7	70.8	63.6	56.9	
Michigan	103.0	94.5	83.8	73.1	64.5	56.3	
Minnesota	104.7	94.7	82.3	73.0	64.6	58.0	
Missouri	105.2	93.5	81.9	72.2	64.2	57.2	
Nebraska	105.5	95.6	82.4	71.9	64.9	58.1	
North Dakota	105.0	97.7	85.1	75.6	67.7	59.6	
Ohio	105.4	96.0	86.0	75.6	66.2	58.2	
South Dakota	105.8	98.4	86.7	76.0	69.3	60.9	
Wisconsin	104.8	93.2	82.1	73.7	64.0	56.7	

P=Preliminary data.

Sources: Based on terminal quotes collected by the Computer Petroleum Corporation, Inc.

Figure 27. Wholesale Heating Oil Prices, New England

Source: Based on terminal quotes collected by the Computer Petroleum Corporation, Inc.

Figure 28. Wholesale Heating Oil Prices, Central Atlantic

Source: Based on terminal quotes collected by the Computer Petroleum Corporation, Inc.

Figure 29. Wholesale Heating Oil Prices, Lower Atlantic

Source: Based on terminal quotes collected by the Computer Petroleum Corporation, Inc.

Figure 30. Wholesale Heating Oil Prices, Midwest

Source: Based on terminal quotes collected by the Computer Petroleum Corporation, Inc.

Table 10. Wholesale Propane Prices by Region and State
(Cents per Gallon)

Region/State	Heating Season						1991/92
	1990/91						
	October	November	December	January	February	March	
Average	64.2	52.8	45.4	41.5	31.5	32.7	
East Coast (PADD I)	65.7	56.2	50.0	46.9	38.6	38.7	
Central Atlantic (PADD IV)	66.3	56.5	50.8	47.9	39.3	39.7	
New York	66.8	56.9	51.3	48.7	39.7	40.2	
Pennsylvania	66.0	56.2	50.4	47.2	39.0	39.4	
Lower Atlantic (PADD IZ)	NA	NA	NA	NA	NA	NA	
North Carolina	64.8	55.6	48.9	45.6	37.6	37.1	
Midwest (PADD II)	63.8	52.1	44.4	40.1	29.9	31.3	
Illinois	65.5	52.8	44.5	38.6	29.2	31.3	
Indiana	64.6	54.6	48.7	44.9	37.3	37.6	
Iowa	64.7	51.8	43.9	38.6	28.3	30.4	
Kansas	51.8	49.7	41.9	36.9	26.1	28.0	
Minnesota	62.7	51.7	42.8	39.1	28.4	30.7	
Missouri	64.6	50.9	43.7	42.2	29.7	29.3	
Nebraska	66.0	51.8	44.1	38.8	27.9	30.0	
North Dakota	58.6	53.1	44.3	42.8	29.8	29.4	
Ohio	64.9	55.4	49.2	46.3	37.8	38.2	
South Dakota	64.2	52.6	44.3	39.0	28.3	30.5	
Wisconsin	65.1	53.4	44.8	40.2	30.2	32.2	

P=Preliminary data.

NA=Not available.

Source: Based on data collected by the Computer Petroleum Corporation, Inc.

Figure 31. Wholesale Propane Prices, Central Atlantic

Source: Based on data collected by the Computer Petroleum Corporation, Inc.

Figure 32. Wholesale Propane Prices, Lower Atlantic

Source: Based on data collected by the Computer Petroleum Corporation, Inc.

Figure 33. Wholesale Propane Prices, Midwest

Source: Based on data collected by the Computer Petroleum Corporation, Inc.

Table 11. U.S. Crude Oil and Petroleum Product Prices
(Cents per Gallon, Except Where Noted)

Report Period	Crude WTI ^a (Dollars per Barrel)	No. 2 Distillate				Propane	
		Spot ^a	Terminal ^b	Residential ^c	Diesel Retail ^d	Spot ^e	Residential ^c
Monthly							
01/91	25.23	75.0	77.2	121.6	140.0	36.2	100.2
02/91	20.48	70.7	67.5	116.3	133.0	30.0	93.9
03/91	19.90	61.8	58.9	107.6	125.7	32.5	88.4
04/91	20.83	56.2	58.9	96.9	122.7	32.3	69.8
05/91	21.23	55.0	57.7	92.5	122.3	33.3	66.0
06/91	20.18	53.5	55.2	89.1	122.2	27.4	62.2
07/91	21.44	57.8	57.9	NA	117.8	27.9	NA
Week Ending							
08/02/91	21.46	59.0	59.8	NA	NA	29.2	NA
08/09/91	21.50	58.5	60.6	NA	118.9	29.0	NA
08/16/91	21.44	59.3	61.3	NA	NA	30.9	NA
08/23/91	21.99	62.5	64.5	NA	118.9	32.9	NA
08/30/91	21.98	61.9	64.4	NA	NA	34.1	NA
09/06/91	21.84	62.0	64.8	NA	121.2	34.8	NA
Daily							
09/09/91	21.36	60.4	64.3	NA	NA	34.6	NA
09/10/91	21.44	59.6	63.9	NA	NA	35.4	NA
09/11/91	21.66	60.3	NA	NA	NA	35.4	NA
09/12/91	21.51	59.9	63.2	NA	NA	36.6	NA
09/13/91	21.71	60.6	63.0	NA	NA	37.1	NA
09/16/91	21.84	60.9	62.8	NA	NA	37.9	NA
09/17/91	21.73	60.0	62.8	NA	NA	38.6	NA
09/18/91	21.87	60.7	62.6	NA	NA	40.1	NA
09/19/91	21.79	60.8	62.6	NA	NA	39.4	NA
09/20/91	22.02	61.6	62.6	NA	NA	38.6	NA
09/23/91	22.20	62.8	62.6	NA	NA	39.9	NA
09/24/91	22.24	62.4	63.0	NA	NA	39.6	NA
09/25/91	22.11	62.5	63.3	NA	NA	38.6	NA
09/26/91	22.23	62.4	63.5	NA	NA	38.9	NA
09/27/91	22.42	62.9	63.7	NA	NA	39.4	NA

^a Source: Spot West Texas Intermediate (WTI) at Cushing, Oklahoma; No. 2 distillate in New York Harbor from Reuters.

^b Source: Computer Petroleum Corp. rack prices.

^c Source: Residential No. 2 distillate and propane prices from Energy Information Administration (EIA), *Petroleum Marketing Monthly*, and State Heating Oil and Propane Program starting October 7, 1991.

^d Source: Diesel Retail prices from *Lundberg PS*.

^e Source: Mt. Belvieu, Texas, spot propane prices from *Platts' Oilgram Price Report*.

Table 12. Petroleum Product Prices for Selected Cities
(Cents per Gallon)

Report Period	Chicago				Houston			
	No. 2 Distillate			Propane	No. 2 Distillate			Propane
	Spot ^a	Terminal ^b	Diesel Retail ^c	Terminal ^d	Spot ^a	Terminal ^b	Diesel Retail ^c	Terminal ^d
Monthly								
01/91	66.9	74.1	145.7	39.6	69.3	76.0	135.2	41.0
02/91	58.2	61.3	137.1	28.8	61.1	65.7	128.0	32.5
03/91	53.9	55.2	130.4	31.9	53.4	56.0	119.0	32.9
04/91	55.2	57.6	128.7	31.9	52.7	55.5	115.4	33.8
05/91	54.6	56.6	128.5	32.7	53.2	54.8	115.9	34.4
06/91	51.8	53.4	127.5	31.1	51.8	53.9	115.4	30.6
07/91	54.9	56.4	125.2	30.1	55.8	57.0	114.1	27.9
Week Ending								
08/02/91	56.2	58.2	NA	31.3	57.1	59.0	NA	29.6
08/09/91	56.7	58.1	126.9	30.8	56.7	59.2	114.6	30.0
08/16/91	57.6	58.5	NA	30.4	57.4	59.4	NA	30.5
08/23/91	61.8	62.4	128.8	31.9	61.1	62.8	116.2	31.5
08/30/91	60.7	61.5	NA	31.8	61.0	62.4	NA	33.0
09/06/91	60.0	62.0	129.0	32.5	60.3	62.9	116.6	35.5
Daily								
09/09/91	58.8	61.4	NA	32.5	58.7	61.9	NA	35.9
09/10/91	58.5	61.0	NA	32.6	58.4	61.3	NA	36.1
09/11/91	58.7	60.6	NA	33.3	58.7	60.9	NA	36.3
09/12/91	58.3	NA	NA	32.9	58.3	60.6	NA	36.6
09/13/91	58.8	60.1	NA	32.9	58.8	60.2	NA	36.8
09/16/91	59.3	60.2	NA	33.1	59.2	60.1	NA	38.0
09/17/91	58.2	60.3	NA	33.6	58.2	60.3	NA	38.1
09/18/91	59.0	59.9	NA	34.5	58.9	60.1	NA	39.6
09/19/91	59.0	60.2	NA	36.4	58.9	60.3	NA	40.8
09/20/91	59.2	60.2	128.6	36.5	59.6	60.4	116.2	41.1
09/23/91	60.4	61.3	NA	36.2	61.0	61.5	NA	41.0
09/24/91	59.3	61.3	NA	36.2	60.8	61.4	NA	41.0
09/25/91	59.0	61.5	NA	36.2	61.9	62.0	NA	41.0
09/26/91	59.6	62.0	NA	36.1	61.3	62.3	NA	40.9
09/27/91	60.7	62.2	NA	36.0	61.8	62.5	NA	40.8

See footnotes at end of table.

Table 12. Petroleum Product Prices for Selected Cities (Continued)
(Cents per Gallon)

Report Period	Los Angeles				New York			
	No. 2 Distillate			Propane	No. 2 Distillate			Propane
	Spot ^a	Terminal ^b	Diesel Retail ^c	Terminal ^d	Spot ^a	Terminal ^b	Diesel Retail ^c	Terminal ^d
Monthly								
01/91	71.6	74.3	140.9	60.1	75.0	84.0	155.3	48.8
02/91	64.9	73.1	137.1	42.9	70.7	76.0	149.4	40.0
03/91	54.4	58.9	127.3	32.3	61.8	68.0	145.1	41.8
04/91	56.1	60.7	124.1	30.6	56.2	61.7	139.3	41.7
05/91	56.5	60.8	126.3	31.3	55.0	59.4	133.6	42.1
06/91	52.1	53.3	124.7	31.1	53.5	58.2	130.5	38.1
07/91	55.4	56.3	121.3	29.9	57.8	60.7	131.5	35.5
Week Ending								
08/02/91	57.7	59.7	NA	29.5	59.0	63.4	NA	37.0
08/09/91	59.0	60.6	122.0	29.5	58.5	63.7	129.9	37.2
08/16/91	59.4	62.1	NA	29.6	59.3	63.7	NA	37.6
08/23/91	61.1	63.2	123.2	30.0	62.5	66.4	130.5	40.0
08/30/91	61.1	62.7	NA	30.3	61.9	65.9	NA	41.4
09/06/91	61.0	62.7	124.1	30.2	62.0	66.6	130.4	42.2
Daily								
09/09/91	60.0	62.9	NA	33.0	60.4	66.6	NA	42.7
09/10/91	59.8	62.9	NA	33.0	59.6	66.8	NA	42.6
09/11/91	59.3	63.1	NA	32.7	60.3	65.4	NA	43.1
09/12/91	58.5	62.7	NA	33.0	59.9	65.9	NA	42.7
09/13/91	57.9	62.4	NA	34.0	60.6	65.5	NA	42.9
09/16/91	58.0	62.1	NA	31.0	60.9	65.4	NA	44.3
09/17/91	56.9	61.7	NA	34.0	60.0	65.5	NA	44.0
09/18/91	56.5	61.5	NA	34.0	60.7	65.4	NA	45.2
09/19/91	56.8	60.8	NA	36.7	60.8	65.4	NA	40.8
09/20/91	56.3	60.6	124.0	36.7	61.6	65.3	131.1	47.7
09/23/91	58.5	60.3	NA	37.3	62.8	66.1	NA	47.4
09/24/91	58.1	60.2	NA	37.3	62.4	66.1	NA	47.4
09/25/91	58.1	60.0	NA	37.3	62.5	66.4	NA	47.5
09/26/91	58.6	59.8	NA	37.3	62.4	66.5	NA	47.3
09/27/91	59.3	59.8	NA	36.0	62.9	66.5	NA	47.5

NA=Not available.

^a Source: No. 2 distillate spot prices in Chicago, Houston, and Los Angeles, are from Telerate; New York spot prices are from Reuters.

^b Source: No. 2 distillate terminal prices in Chicago, Houston, Los Angeles, and New York are from Computer Petroleum Corp.

^c Source: Diesel Retail self-serve prices in Chicago, Houston, Los Angeles, and Long Island, New York are from Lundberg PS.

^d Source: Propane terminal prices in Lemont, Illinois; Mt. Belvieu, Texas; Los Angeles, California; and Selkirk, New York are from Computer Petroleum Corp.

Weather Summary

United States Weather Summary

6 - 10 Day Outlook - October 8 Through October 12, 1991

Temperatures are expected to be above normal in the region west of the Continental Divide and much above normal in the Central Valley of California. Normal temperatures are forecasted for most of New Mexico, Nebraska, the Dakotas, the regions of eastern Colorado and western Kansas, as well as the southern portion of Florida. Temperatures much below normal are expected from the Great Lakes eastward through Pennsylvania, western Maryland, New York, Vermont, and from central and eastern Texas eastward through northern Alabama. Elsewhere temperatures are forecasted to be below normal.

Precipitation amounts are expected to be above normal along the East Coast and for most of Florida. Normal amounts are forecasted for eastern Montana, northeastern Wyoming, and along the Canadian border from North Dakota to New England in addition to the region from eastern Pennsylvania southwestward through the central portions of Maryland, Virginia, the Carolinas, Georgia, the Florida Panhandle, and southern Texas. Elsewhere little or no precipitation is expected.

(Refer to Figures 34 and 35).

30 Day Outlook - October 1991

The 30 day outlook calls for at least a 55 percent chance of above-normal temperatures over Northern California and most of Oregon and Washington. Temperatures below normal are expected with at least a 55 percent chance in the Northeast, the Great Lakes, the Ohio Valley, and the Middle Atlantic states. Sub-normal temperatures increase to at least a 60 percent probability in the Central and Eastern Great Lakes regions, the Northern Middle Atlantic states, and in New England.

Remaining areas are expected to have temperatures near normal to climatological values.

(Refer to Figure 36).

90 Day Outlook - October Through December 1991

The 90 day outlook calls for at least a 55 percent chance of above normal temperatures over the eastern portion of the country, the interior southwest, and most of Montana. Probabilities for warmer than normal temperatures rise to 60 percent for the piedmont and coastal regions of the Middle and South Atlantic states.

Below normal temperatures with at least a 55 percent probability are projected for the southern portion of the Great Plains and the majority of the Rio Grande Valley. Furthermore, cooler weather is expected with chances as high as 60 percent over western Texas.

Remaining areas are expected to have temperatures near normal to climatological values.

(Refer to Figure 37).

Source: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Figure 34. 6 - 10 Day Temperature Outlook for October 8 through October 12, 1991

Source: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Figure 35. 6 - 10 Day Precipitation Outlook for October 8 through October 12, 1991

Source: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Figure 36. 30 Day Temperature Outlook for October 1991

Source: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Figure 37. 90 Day Temperature Outlook for October 1991 through December 1991

Source: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Appendix A

District Descriptions and Maps

Tank trucks are used to distribute heating oil to remote areas.

District Descriptions and Maps

The following are the Petroleum Administration for Defense (PAD) Districts.

PAD District I

East Coast: District of Columbia and the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, and the following counties of the State of New York: Cayuga, Tompkins, Chemung, and all counties east and north thereof. Also the following counties in the State of Pennsylvania: Bradford, Sullivan, Columbia, Montour, Northumberland, Dauphin, York, and all counties east thereof.

Appalachian No. 1: The State of West Virginia and those parts of the States of Pennsylvania and New York not included in the East Coast District.

Sub-PAD District I

New England (PADD 1X): The States of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

Central Atlantic (PADD 1Y): The District of Columbia and the States of Delaware, Maryland, New Jersey, New York, and Pennsylvania.

Lower Atlantic (PADD 1Z): The States of Florida, Georgia, North Carolina, South Carolina, Virginia, and West Virginia.

PAD District II

Indiana-Illinois-Kentucky: The States of Indiana, Illinois, Kentucky, Tennessee, Michigan, and Ohio.

Minnesota-Wisconsin-North and South Dakota: The States of Minnesota, Wisconsin, North Dakota, and South Dakota.

Oklahoma-Kansas-Missouri: The States of Oklahoma, Kansas, Missouri, Nebraska, and Iowa.

PAD District III

Texas Inland: The State of Texas except the Texas Gulf Coast District.

Texas Gulf Coast: The following counties of the State of Texas: Newton, Orange, Jefferson, Jasper, Tyler, Hardin, Liberty, Chambers, Polk, San Jacinto, Montgomery, Harris, Galveston, Waller, Fort Bend, Brazoria, Wharton, Matagorda, Jackson, Victoria, Calhoun, Refugio, Aransas, San Patricio, Nueces, Kleberg, Kenedy, Willacy, and Cameron.

Louisiana Gulf Coast: The following parishes of the State of Louisiana: Vernon, Rapides, Avoyelles, Pointe Coupee, West Feliciana, East Feliciana, Saint Helena, Tangipahoa, Washington, and all Parishes south thereof. Also the following counties of the State of Mississippi: Pearl River, Stone, George, Hancock, Harrison, and Jackson. Also the following counties of the State of Alabama: Mobile and Baldwin.

North Louisiana-Arkansas: The State of Arkansas and those parts of the States of Louisiana, Mississippi, and Alabama not included in the Louisiana Gulf Coast District.

New Mexico: The State of New Mexico.

PAD District IV

Rocky Mountain: The States of Montana, Idaho, Wyoming, Utah, and Colorado.

PAD District V

West Coast: The States of Washington, Oregon, California, Nevada, Arizona, Alaska, and Hawaii.

Petroleum Administration for Defense (PAD) Districts

Appendix B

Explanatory Notes

The cluster of pipes and valves that control the flow of oil at the mouth of an oil well is what oilmen call a "Christmas Tree."

Explanatory Notes

Note 1. Overview

The following Explanatory Notes are provided to assist in understanding and interpreting the data presented in this publication.

- Note 2. Monthly Data
- Note 3. Weekly Data
- Note 4. Price Data
- Note 5. Interpretation and Derivation of Average Inventory Levels

Note 2. Monthly Data

Data for distillate fuel oil and propane are extracted from selected surveys in the Monthly Petroleum Supply Reporting System (MPSRS). Refer to the *Petroleum Supply Monthly* for a detailed discussion of the MPSRS.

The forms that comprise the monthly data are:

Form Number	Name
EIA-810	<i>Monthly Refinery Report</i>
EIA-811	<i>Monthly Bulk Terminal Report</i>
EIA-812	<i>Monthly Product Pipeline Report</i>
EIA-814	<i>Monthly Imports Report</i>
EIA-816	<i>Monthly Natural Gas Liquids Report</i>

Note 3. Weekly Data

Distillate Fuel Oil

Data collected from the Weekly Petroleum Supply Reporting System (WPSRS) are used to develop estimates for distillate fuel oil.

The forms that comprise the WPSRS are:

Form Number	Name
EIA-800	<i>Weekly Refinery Report</i>
EIA-801	<i>Weekly Bulk Terminal Report</i>
EIA-802	<i>Weekly Product Pipeline Report</i>
EIA-803	<i>Weekly Crude Oil Report</i>
EIA-804	<i>Weekly Imports Report</i>

A sample of all petroleum companies report weekly data to the Energy Information Administration (EIA) on crude oil and petroleum products stocks, refinery inputs and production, and crude oil and petroleum product imports. The sample of companies that report weekly is selected from the universe of companies that report on the comparable monthly surveys.

Sampling

The sampling procedure used for the weekly system is the cut-off method. In the cut-off method, companies are ranked from largest to smallest on the basis of the quantities reported during some previous period. Companies are chosen for the sample beginning with the largest and adding companies until the total sample covers about 90 percent of the total, for each item and each geographic region for which weekly data are published.

Estimation and Imputation

After the company reports have been checked and entered into the weekly data base, explicit imputation is done for companies which have not yet responded. The imputed values are exponentially smoothed means of recent weekly reported values for this specific company. The imputed values are treated like reported values in the estimation procedure, which calculates ratio estimates of the weekly totals. First, the current week's data for a given product reported by companies in a geographic region are summed. (Call this weekly sum, W_i .) Next, the most recent month's data for the product reported by those same companies are summed. (Call this monthly sum, M_i .) Finally, let M_t be the sum of most recent month's data for the product as reported by all companies. Then, the current week's ratio estimate for that product for all companies, W_t , is given by:

$$W_t = \frac{M_i}{M_t} \cdot W_i$$

This procedure is used directly to estimate total weekly inputs to refineries and production. To estimate stocks of finished products, the preceding procedure is followed separately for refineries, bulk terminals, and pipelines. Total estimates are formed by summing over establishment types.

Weekly imports data are highly variable on a company-by-company basis or a week-by-week basis. Therefore, an exponentially smoothed ratio has been developed. The estimate of total weekly imports is the product of the

smoothed ratio and the sum of the weekly reported values and imputed values.

Propane

Data collected on the Form EIA-807, "Propane Telephone Survey" are used to develop estimates for propane.

Sampling

The sampling procedure used for Form EIA-807 is the cut-off method. In the cut-off method, establishments were ranked from largest to smallest on the basis of quantities reported (propane production, propane imports, propane stocks) during October 1989. Companies were chosen for the sample beginning with the largest and adding companies until the total sample covered about 80 percent of the total for each item and each geographic region (Petroleum Administration for Defense Districts I, IX, IY, IZ, II and III) for which data are published.

Estimation and Imputation

After the company reports have been checked and entered into the EIA-807 data base, imputation is done for companies which have not yet responded. The imputed values are equal to the latest reported data for a particular reporting unit. Response rates are over 90 percent so very little imputation is done.

After the data files have been edited and corrected, aggregation is done for net production, imports, and stocks by each geographic region. Estimation factors, which were derived from 1989 reported data, are then applied to each cell to generate published estimates.

Note 4. Price Data

The residential No. 2 heating oil and propane prices for a given State are based on the results of telephone surveys of a sample of marketers and refiners. Data are collected under the EIA State Heating Oil and Propane Program.

Sampling Methodology and Estimation Procedures

To estimate aggregate propane and No. 2 heating oil price data for a State, the sample weight and volume sales data were applied to the reported price, summed and divided by the sum of the weighted volume:

$$\sum_{j=1}^s \sum_{i=1}^{n_j} w_{ij} v_{ij} p_{ij} / \sum_{j=1}^s \sum_{i=1}^{n_j} w_{ij} v_{ij}, \quad \text{where } i =$$

respondent, n_j = sample size of stratum j , and s = number of strata, to obtain a volume weighted price.

Residential No. 2 Heating Oil

For the No. 2 heating oil price data, a sample design similar to that used for the Energy Information Administration (EIA) Form EIA-782B, "Resellers'/Retailers' Monthly Petroleum Product Sales Report" sample design was used. The sampling frame was an extract of approximately 11,000 companies from the Form EIA-863, "Petroleum Product Sales Survey" conducted in 1989 and containing 1988 sales volume information. A one-way stratified sample design using No. 2 residential distillate frame sales volumes by State, for each of the 27 States to be sampled, was used. Stratum boundaries were determined by the Dalenius-Hodges procedure. Sample weights were calculated as the inverse of the probability (N/n). Certainty strata were established based on sales volumes and the number of States in which the company has sales. The expected price coefficient of variation is one to two percent.

Residential Propane

Since no volume sales information existed to predetermine the volume sales of propane dealers, two strata for propane dealers was used. A certainty stratum of the known, large, multi-State dealers was created. These companies were identified using establishment lists obtained in deriving the frame. All other dealers were in a second stratum and a random sample from this stratum was selected. Sample weights were calculated as the inverse of the probability (N/n). The name and address list sampling frame was constructed by first extracting from the Form EIA-863, "Petroleum Product Sales Identification Survey," companies who marked the box on the survey indicating they sell propane. This was augmented by companies on the Office of Oil and Gas Master File who have the words propane or liquefied petroleum gas (LPG) in their name. In addition, companies who file the Form EIA-782A, "Refiners'/Gas Plant Operators Monthly Petroleum Product Sales Report," and report retail propane or the Form EIA-782C, "Monthly Report of Petroleum Products Sold into States for Consumption," and report propane, as well as companies that were active on the Form EIA-174, "Liquefied Petroleum Gas Survey," prior to its discontinuance, were included.

After unduplicating these companies, the initial frame file contained approximately 5,100 companies. Additional companies were obtained from an extract of a current Dun and Bradstreet file of SIC code 5984(9903), primary and secondary retail propane dealers, containing 3,283 names and addresses. Removal of duplicates within this file and between it and the initial frame file was performed using tailored automated match programs with manual review, and resulted in approximately 1,000 potential adds to the initial file. Similarly, additional names and addresses were furnished by industry associations and journals and by State Energy Offices, yielding another 7,429 names. Again, removal of duplicates through the match programs yielded an approximate potential add of 900 companies. Another 800 companies were identified as residing on the Master File but not previously selected as potential

propane sellers. Further matching, merging and unduplicating reduced the final total frame count to approximately 6,000 companies. Reseller/retailer propane price data were unavailable to calculate a target coefficient of variation. However, it was expected that residential propane price variances were similar to heating oil. Increases in variances were expected as a result of lack of detailed stratification, but were only expected to reach three to four percent.

Note 5. Interpretation and Derivation of Average Inventory Levels

The national inventory (stocks) graphs for distillate fuel oil and propane include features to assist in comparing current inventory levels with past inventory levels and with judgments of critical levels. Methods used in developing the average inventory levels and minimum operating levels are described below.

Average Inventory Levels

The charts displaying inventory levels of distillate fuel oil and propane (Figures 1 through 10) provide the reader with actual inventory data compared to an "average range" for the most recent 3-year period running from January through December or from July through June. The ranges also reflect seasonal variation for the past 7 years.

The seasonal factors, which determine the shape of the upper and lower curves, are estimated with a seasonal adjustment technique developed at the Bureau of Census (Census X-11). The seasonal factors are assumed to be stable (i.e., unchanging from year to year) and additive (i.e., the series is deseasonalized by subtracting the seasonal factor for the appropriate month from the reported inventory levels.) The intent of deseasonalization is to remove only annual variation from the data. Thus, deseasonalized series would contain the same trends, cyclical components, and irregularities as the original data. The seasonal factors are updated annually in October, using the 7 most recent year's final monthly data.

The seasonal factors are used to deseasonalize data from the most recent 3-year period (January-December or July-June). The average of the deseasonalized 36-month series determines the midpoint of the "average range." The standard deviation of the deseasonalized 36 months is then calculated after adjusting for extreme data points. The upper curve of the "average range" is defined as average plus the seasonal factors plus the standard deviation. The lower curve is defined as the average plus the seasonal factors minus the standard deviation. Thus, the width of the "average range" is twice the standard deviation. The ranges are updated every 6 months in April and October.

Glossary

Downstream processing units are used to upgrade petroleum products.

Definitions of Petroleum Products and Other Terms

Degree-Day Normals. Simple arithmetic averages of monthly or annual degree-days over a long period of time (usually the 30-year period 1951-1980). These may be simple degree-day normals or population-weighted degree-day normals.

Distillate Fuel Oil. A general classification for one of the petroleum fractions produced in conventional distillation operations. It is used primarily for space heating, on-and-off-highway diesel engine fuel including railroad engine fuel and fuel for agricultural machinery, and electric power generation. Included are products known as No. 1, No. 2, and No. 4 fuel oils; No. 1, No. 2, and No. 4 diesel fuels.

No. 1 Fuel Oil. A light distillate fuel oil intended for use in vaporizing pot-type burners. ASTM Specification D396 specifies for this grade maximum distillation temperatures of 400 degrees F at the 10-percent recovery point and 550 degrees F at the 90-percent point, and kinematic viscosities between 1.4 and 2.2 centistokes at 100 degrees F.

No. 2 Fuel Oil. A distillate fuel oil for use in atomizing-type burners for domestic heating or for moderate capacity commercial-industrial burner units. ASTM Specification D396 designates minimum and maximum distillation temperatures at the 90-percent recovery point of 540 degrees F and 640 degrees F, and kinematic viscosities between 2.0 and 3.6 centistokes at 100 degrees F.

No. 1 and No. 2 Diesel Fuel Oils. Distillate fuel oils used in compression-ignition engines, as designated in the ASTM Specification D975:

No. 1-D. A volatile distillate fuel oil with a maximum distillation temperature of 550 degrees F at the 90-percent recovery point for use in high-speed diesel engines generally operated under variations in speed and load. Includes type C-B diesel fuel used for city buses and similar operations. Properties are defined in ASTM Specification D975.

No. 2-D. A gas oil type distillate of lower volatility with minimum and maximum distillation temperatures at the 90-percent recovery point of 540 and 640 degrees F for use in high-speed diesel engines generally operated under uniform speed and load conditions. Includes Type R-R diesel fuel used for railroad locomotive engines, and

Type T-T for diesel-engine trucks. Properties are defined in ASTM Specification D975.

No. 4 Fuel Oil. A fuel oil for commercial burner installations not equipped with preheating facilities. It is used extensively in industrial plants. This grade is a blend of distillate fuel oil and residual fuel oil stocks that conforms to ASTM Specification D396 or Federal Specification VV-F-815C; with minimum and maximum kinematic viscosities between 5.8 and 26.4 centistokes at 100 degrees F. Also included is No. 4-D, a fuel oil for low and medium-speed diesel engines that conforms to ASTM Specification D975.

Heating Degree-Days. The number of degrees per day the daily average temperature is below 65 degrees F. The daily average temperature is the mean of the maximum and minimum temperature for a 24-hour period.

Population-Weighted Degree-Days. Heating or cooling degree-days weighted by the population of the area in which the degree-days are recorded. To compute national population-weighted degree-days, the Nation is divided into nine Census regions comprised of from three to eight States which are assigned weights based on the ratio of the population of the region to the total population of the Nation. Degree-day readings for each region are multiplied by the corresponding population weight for each region and these products are then summed to arrive at the national population weighted degree-day figure.

Propane (C₃H₈). A normally gaseous straight-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of -43.67 degrees F. It is extracted from natural gas or refinery gas streams. It includes all products designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial propane and HD-5 propane.

Propylene (C₃H₆). An olefinic hydrocarbon recovered from refinery processes or petrochemical processes.

Report Dates. The official report dates for the residential and wholesale price surveys are the first and third Mondays. The official day for the primary stock survey is 7 a.m. on the Friday preceding the report date.

Residential Heating Oil Price. The price charged for home delivery of No. 2 heating oil, exclusive of any discounts such as those for prompt cash payment. Prices do not include taxes paid by the consumer.

Residential Propane Price. The "bulk keep full" price for home delivery of consumer grade propane intended for use in space heating, cooking, or hot water heaters in residences.

United States. For the purpose of this report, the 50 States and the District of Columbia. Data for the Virgin Islands, Puerto Rico, and other U.S. territories are not included in the U.S. Totals.

Wholesale Price. The rack price charged for No. 2 heating oil; that is, the price charged customers who purchase No. 2 heating oil free-on-board at a supplier's terminal and provide their own transportation for the product.

END

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12/11/91